

MINUTES OF THE 114TH MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC), JHARKHAND HELD ON 25TH, 26TH, 27TH, 28TH AND 29TH JUNE, 2024.

The 114th meeting of State Level Expert Appraisal Committee (SEAC), Jharkhand was held on 25th, 26th, 27th, 28th and 29th June, 2024 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
3. Dr. Raju Kumar - Member
4. Shri Ashok Kumar Dubey, IFS (Retd.) - Member
5. Dr. Ajay Govind Bhatt - Member
6. Shri Srikant Verma, IFS - Member Secretary

SEIAA forwarded various projects to the SEAC for the technical appraisal after the last SEAC meeting held on 30.05.2024, 31.05.2024, 01st, 02nd & 03rd June, 2024. 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 : June 25th, 2024 [Tuesday]

A. District Magistrate -Cum- Deputy Commissioner, Ramgarh or through authorized representative.

i. Final District Survey Report (DSR) for Minor Minerals other than Sand Mining or River Bed Mining (Stone), Distt. Ramgarh .

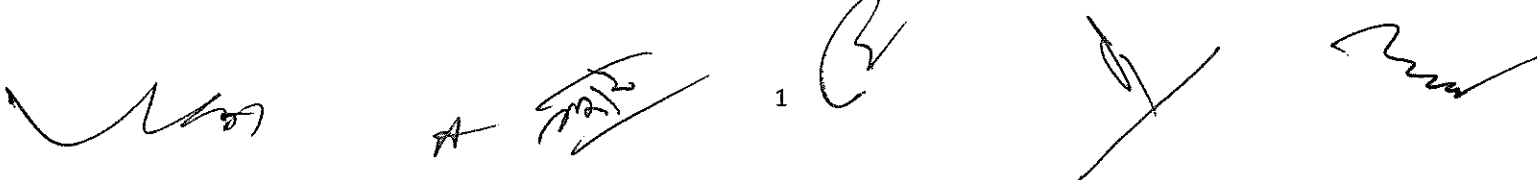
The Final DSR was submitted by District Magistrate -Cum- Deputy Commissioner, Ramgarh. He was represented by District Mining Officer, Ramgarh Shri Nishant Avishek at the SEAC meeting on 25.06.2024.

During the meeting the DMO, Ramgarh presented the DSR before the Committee. The DSR was appraised in light of S.O. no. 3611 (E), dated 25.07.2018 of MoEF&CC, Govt. of India.

The final DSR had been placed in the public domain for 21 days from the 20.10.2023. As per the Sub Divisional Committee no comments / observations were obtained.

The DSR has been prepared as per the format provided in the above notification. The DSR submitted has been approved by the Sub-Divisional Committee. All the aspects of the notification dated 25.07.2018 are incorporated in the DSR and found to be satisfactory.

Hence, the final DSR for Minor Minerals other than Sand Mining or River Bed Mining (Stone) of District Ramgarh is recommended to SEIAA for approval.

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B. Corrigendum EC letter for :

- i. **Murgadanga Stone Mine of M/s J.Z. Stone Works (Md Jafar Abbas And Md Zubair Alam) at Village : Murgadanga, Thana no. : 117, Anchal : Hiranpur, Distt. : Pakur, Jharkhand (2.80 Ha) (Proposal no. : SIA/JH/MIN/477159/2024)**

The PA's vide online application no. **SIA/JH /MIN /477159/2024** has requested for necessary correction in Environmental Clearance issued vide letter no. **EC/SEIAA/2022-23/2720 /2023/279**, dated 06.10.2023 with regard to category of project.

The project has been applied and appraised under **B1 category** in the State Expert Appraisal Committee, Jharkhand during its 100th meeting held on 09-14.01.2023 and SEIAA, Jharkhand has approved the ToRs in 101st meeting held on 23rd & 24th January, 2023. ToR for the project was issued by SEIAA, Jharkhand vide letter no. **EC/SEIAA/2022-23/2720/2023/370**, dated 30.01.2023. The final EIA / EMP submitted by PAs to SEIAA on 15.09.2023 and which was forwarded to SEAC on 16.09.2023 for appraisal.

Erroneously **category B2** was mentioned in the EC letter instead of **B1 category**.

The SEAC considered the same and recommends for issuance of corrigendum EC mentioning category **B1**. Other terms & conditions mentioned in the previous EC letter no. **EC/SEIAA/2022-23/2720 /2023/279**, dated 06.10.2023 shall remain the same.

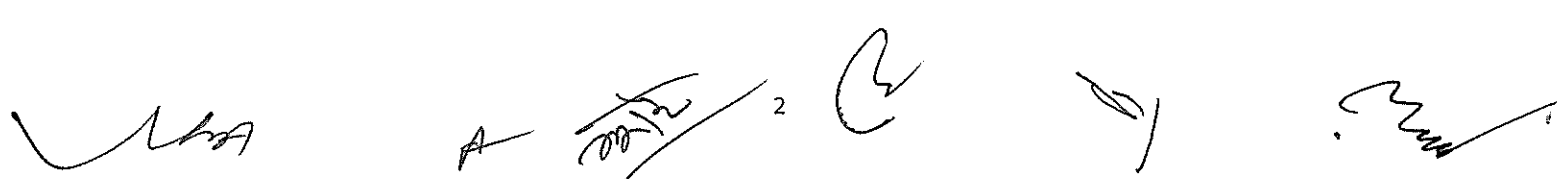
- ii. **Belpahari Stone Mine of M/s Guru Stone Product, Mouza : Belpahari & Suraidih, Tehsil : Hiranpur, Dist. : Pakur, Jharkhand (7.34 Ha). (Proposal No. : SIA/JH/MIN/ 482565/ 2024).**

The PA's vide online application no. **SIA/JH /MIN /482565/2024** has requested for necessary correction in Environmental Clearance issued vide letter no. **EC/SEIAA/2016-17/2022 /2017/196**, dated 30.10.2021 with regard to regard to category of project.

The project has been applied and appraised under **B1 category** in the State Expert Appraisal Committee, Jharkhand during its 65th meeting held on 07-09.01.2019 and SEIAA, Jharkhand has approved the ToRs in 66th meeting held on 22nd January, 2019. TOR for the project was issued by SEIAA, Jharkhand vide letter no. **EC/SEIAA/2016-17/2022/2017/74**, dated 07.02.2019. The final EIA / EMP submitted by PAs to SEIAA on 13.09.2021 and which was forwarded to SEAC on 13.09.2021 for appraisal.

Inadvertently category of the project was not mentioned in the EC letter.

The SEAC considered the same and recommends for issuance of corrigendum EC mentioning category **B1**. Rest other terms & conditions mentioned in the previous EC letter no. **EC/SEIAA/2016-17/2022 /2017/196**, dated 30.10.2021 shall remain the same.

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C. Consideration of proposals :

1. Brick Soil Mining for M/s Akriti Bricks, Village : Ekaguri, Thana : Senha, Thana no. : 190, Distt. : Lohardaga, Jharkhand (0.987 Ha).

(Proposal No : SIA/JH/MIN/ 469953/2024)

Project Category: B2 – Application for Environment Clearance

EC Application for: Earthwork / Soil Mining (1600 Cum Per Annum for using of making of 8,00,000 Bricks Per Annum)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 25.06.2024.

Project and Location Details:

Sl	Parameter	Details
1	Project Name	: Brick Soil Mining for M/s Akriti Bricks
2	Lessee:	: M/s Akriti Bricks Partner : Shambhu Singh and Kumari Mamta Singh
3	Lessee Address	: At-Chitri, P.O.-Daru, District-Lohardaga, Jharkhand-835302
4	Lease Area	: 0.987 Ha. Acres: 2.44
5	Type of Land	: Non Forest – Rayati Land
6	Project Cost	: Capital Cost : Rs. 4,99,500.00 Recurring Cost : Rs. 3,07,050.00
7	EMP Budget	: Capital Cost : Rs. 49,500.00 Recurring Cost : Rs. 2,58,250.00
8	CSR / CER Budget	: -
9	New or Expansion	: New Project
10	Mineable Reserves	: Cu.M.: 15520 cum
11	Mine Life	: 10 years
12	Man power	: 12
13	Water Requirement	: Total 4.0 KLD Including Domestic (0.4 KLD), Dust Suppression (2.6 KLD) & Horticulture (1 KLD) Source : Authorized Water Tanker from Municipal Bodies
14	Water Source	: From nearby villages/Nearest Canal by tankers
15	DG Set / power	: 0 KVA
16	Crusher	: --

17	Nearest Water Body	:	South Koel River (0.67 km in South direction)
18	Nearest Habitation	:	Danru village (2.26 m in East direction)
19	Nearest Rail Station	:	Lohardaga Railway Station, 8.28 Km in North direction
20	Nearest Air Port	:	Birsa Munda Airport, Ranchi, 66.66 km in East direction
21	Nearest Forest	:	Nil
22	Road & Highways	:	National Highway – 143A is about 2.58 km in West direction

CO-ORDINATES

1	Latitude	N23°22'37.92"	TO N23°22'43.77"
2	Longitude	E84°40'36.89"	TO E84°40'42.43"

LAND DETAILS

Khata no.	New Plot no.
41	1026 & 1028 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Senha (Lohardaga) vide letter no. 903), dated 18.09.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyar.
3	DMO	:	DMO, Lohardaga vide memo no. 1177/M, dated 04.10.2023 certified that other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide memo no. 1035, dated 16.09.2019 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Lohardaga Forest Division vide letter no. 1751, dated 03.10.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in District Survey Report (DSR) of Lohardaga District (Sl. no. 09, Page no. 25).

7	Gram Sabha	:	BDO, Senha vide letter no. 1391, Dated 13.10.2023 informed that Gram Sabha conducted on 05.10.2023.
8	Mine Plan Approval	:	Approved by DMO, Lohardaga vide Memo No. 1372/M, dated 28.11.2023.
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 Method, Manual
2	Quarry Area	:	5 years – 0.483 ha. Life of Mine – 10Year
3	Waste Generation	:	NA Life of Mine – 10Year
4	Stripping Ratio	:	NA
5	Working Days	:	200
6	Benches: size & No	:	1m x 1m
7	Elevation of Mine	:	Highest elevation: 665m AMSL Lowest elevation: 664m AMSL
8	Ground Level Elevation	:	664 m AMSL to 665 m AMSL
9	Ultimate Working Depth	:	2m
10	Water Table	:	647m AMSL in Pre Monsoon to 655m AMSL in Post Monsoon
11	Topography of Mine	:	Almost flat
12	Explosive Requirement	:	Nil
13	Diesel/Fuel requirement	:	Nil

Production Details

Year	Production of Recoverable Soil Volume (in Cum)	Production of Brick Blocks (in nos.)
1 st	1600	8,00,000
2 nd	1600	8,00,000
3 rd	1600	8,00,000
4 th	1600	8,00,000
5 th	1600	8,00,000
Total	8000	40,00,000

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Land Use:

Type of land use	Present Land Use (In Ha)	At the end of Plan Period (In Ha)	At the end of life of mines (In Ha)
Road	0.017	0.028	0
Blocked area due to road safety	0.006	0.006	0.006
Quarry	0	0.483	0.915
Safety Berm	0	0.066	0.066
Total Area in used	0.023	0.583	0.987
Balance unused Area	0.964	0.404	0
Total Applied Area	0.987	0.987	0.987

Protection Measures for Post Mine Closure Action Plan

The mine site will be properly fenced properly. A board of Do Not Enter, Only Authorized Access will be fixed near the water reservoir area and at the gate of the mine site.

1. A warning sign board will be erected at the site giving general information about the hazards at the site.
2. The periphery of the water reservoir pit will be secured by constructing a parapet wall or gabion walls.
3. Plantation is also proposed at the backfilled area along with around the benches.

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION	Area (Ha.)	No. of Trees
1	Safety Zone	0.066	165
2	Approach road	0	0
	Total	0.066	165

- 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.

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 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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- 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

- 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.

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.

Risk & Hazards Management

Risk Assessment

It is a small manual mining by tractor & haulage. No major risk is anticipated.

Some anticipated risks are briefed below;

Minor Injuries

In Course of project activities during excavation of soil and its loading into tractor. There might be some minor personal Injury.

Road Accident

In course of haulage of soil to Brick kiln by tractor, road accident may happen.

Disaster Management Plan

i) Road Safety

Tractor driven will be instructed to ensure that speed of tractor on public road should be restricted to 15 KMPH.

Haulage road would be repaired & maintained regularly.

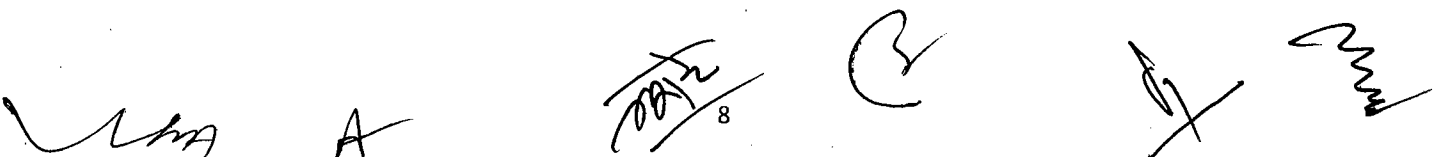
ii) An information centre would be maintained at office with telephone contact no. of local police station and hospital. In case of a road accident, police will be informed and arrangements would be made for medical aid to injured person.

iii) Arrangement for first aid to minor injuries to personnel working in the mine would be made in Temporary office.

Top Soil Management

During quarry development an amount of 1830 cum of fertile top-soil will be generated and this produced top-soil will be preserved temporarily by dumping. This preserved top-soil will be spread concurrently over the excavated part of the land after the end of each year production of brick soil and grass cultivation will be done on it.

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 for M/s Akriti Bricks, Village : Ekaguri, Thana : Senha, Thana no. : 190, Distt. : Lohardaga, Jharkhand (0.987 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I.

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Day 2 : June 26th, 2024 [Wednesday]

Consideration of proposals

1. Ektala Sand Ghat of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Village : Ektala & Narangi, Block : Raneshwar, Distt. : Dumka, Jharkhand (4.92 Ha).

(Proposal No : SIA/JH/MIN/ 483206/2024)

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

This is a new project which has been taken for appraisal on 26.06.2024.

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

ToR Application for: Proposed Capacity: 98,400 Cum. / annum or 1,59,408 TPA (dry basis).

Project and Location Details:

Sl. no.	Parameter	Details	
1	Project Name	Ektala Sand Ghat	
2	Lessee:	M/s Jharkhand State Mineral Development Corporation Ltd. (A Govt. of Jharkhand Enterprises)	
3	Lessee Address	Khanij Nigam Bhawan, Doranda, Ranchi – 834002 (Jharkhand)	
4	Lease Area	4.92 Ha.	Acres – 12.16 Acres
5	Type of Land	Non-Forest Government waste Land (River Bed)	
6	Project Cost	Capital Cost: Rs. 13.80 Lakhs	Recurring: 23.90 Lakhs / Year
7	EMP Budget	Capital: Rs 7.3 Lakhs	Recurring: 5.22Lakhs / Year
8	New or Expansion	New	
9	Mineable Reserves for 1 st year & subsequent year 60% of Replenished quantity	98,400 m ³ (dry basis)	Tonnes: 1,59,408 tonnes(dry basis)
10	Mine Life/ Lease Period	Mine life / Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.	
11	Man power	69	
12	Water Requirement	2.98 KLD (Drinking: 1.035 KLD, Dust Suppression: 0.748 KLD,	

		Plantation: 1.2 KLD)
13	Water Source	By authorised hired tankers
14	DG Set / power	NA
15	Crusher	NA
16	Nearest Water Body	On Mayurakshi River bed sand mining is proposed.
17	Nearest Habitation	Ektala – 0.5 km. – N direction
18	Nearest Rail Station	The nearest Railway station Siuri is located at a distance of about 13.62 Km in SE direction
19	Nearest Air Port	Dumka Airport, Dumka is situated at a distance of about 88 Km in N-W direction
20	Nearest Forest	More than 250 m, as per Forest Division. vide Letter no. – 1232, Dated - 25-05-2024
21	Road & Highways	Nearest village road is 0.18 km North direction from the lease area and this road after 2.71 km West direction connected with Dumka-Siuri road.

CO-ORDINATES



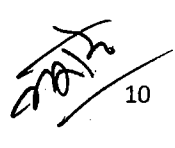



GPS Coordinates		
Point	Latitude	Longitude
A	23° 59' 57.951" N	87° 26' 05.930" E
B	24° 00' 06.128" N	87° 25' 52.610" E
C	24° 00' 09.283" N	87° 25' 54.262" E
D	24° 0' 0.91" N	87° 26' 7.96" E

LAND DETAILS

Khata no.	Plot no.
110	998
218	2875

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Auction letter has been issued by Joint Secretary, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)-117/2017-2090/M, dated 30.09.2022. According to provisions in Jharkhand State sand Mining Policy and
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		its amendment. JSMDCLtd. has been nominated as nodal agency for operating sand mines in category II.
2	CO	: The CO, Raneshwar (Dumka) vide letter no. 320/Ra., dated 17.05.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyani & Register II.
3	DMO	: DMO, Dumka vide memo no. 545/M, dated 04.05.2024 certified that 01 other balughat (38.45 Ha.) exists within 500 m radius from proposed project site.
4	DFO Wild Life	: DFO, Wildlife Division, Hazaribagh vide letter no. 867, dated 14.05.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Forest Distance	: Division Forest Officer, Dumka Forest Division vide letter no. 1232, dated 25.05.2024 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	: This project is mentioned in approved DSR of Dumka district (Page No. – 75, Point No.- 5)
7	Gram Sabha	: Gram Sabha conducted on 25.04.2024.
8	Mine Plan Approval	: Approved by District Mining Officer, Dumka vide Letter No. 548/M, dated 04.05.2024.
9	Qualified Person	: Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	Opencast Manual Method	
2	Quarry Area	4.92 Ha.	Mine life/Lease Period - Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining.
3	Waste Generation	00 cum	
4	Stripping Ratio	NA	
5	Working Days	200 per year	
6	Grid excavation	25x 25 (meter) ²	
7	Elevation of Mine	15.88 m AMSL (Pre-Monsoon) & 16.98 m AMSL (Post-Monsoon)	
8	Ground Level	18 M AMSL	

	Elevation	
9	Ultimate Working Depth	2.0 m
10	Water Table	12.88 m
11	Topography of Mine	Flat
12	Explosive Requirement	No. blasting required
13	Diesel/Fuel requirement	Not required for mining.

Production Details

Year	Production of Sand (cum)	Production of Sand (tonnes)
1 st	98,400	1,59,408

The development plan submitted along with the mining plan relates to mining operation during the first year.

Land Use (Plan period)

Sl. No.	Pattern of Utilization	Land Use (in Ha.)	Remarks
1	Mining Activities	4.92	Area may vary based on flow of water in the subsequent year.
2	Loss due to Active channel	0.0	<ol style="list-style-type: none"> 1. Distance from the bank should be 1/4th of River width and should not be less than 7.5 meters. 2. Mining shall be restricted within the central 3/4th width of the river/rivulet or 7.5 meters (inward) from River-bank but up to 10% of the width of the River. 3. Mining shall be restricted 60 % area for both side of river edge.
Total		4.92	

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No. of Trees
1	Along River Edge	457 m	152

2	Along Approach Road	187 m	248
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- 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

No solid waste is generated during the course of mining.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Sewage from rest shelter would be treated in Septic Tank soak pit.
- There is no other source for generation or discharge of trade effluent.

Air Quality Management

Sand will be mined manually. No mining equipment would be needed. However, diesel operated tippers/tractors would be used for transportation of sand from mine to stockyard.

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

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

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

- ✓ Regular water sprinkling on Approach road by using water tankers.
- ✓ Regular repair of Approach road
- ✓ All Trucks carrying Sand outside lease area will have PUC certificate.
- ✓ Transport tippers/traders moving on public road will be covered with tarpaulin.

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

Road accidents

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

Preventive Measures;

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

Preventive 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 minimise 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 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,

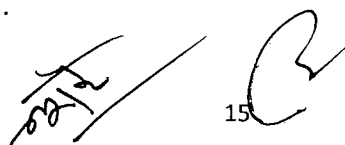
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utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul 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. 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.



k. Mining will be restricted upto 3 meter.

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 25, 26, 27, 28 & 29.06.2024, 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 along with following specific conditions as part of EIA / EMP report :

- I. Transportation from the river bed will be done using the existing road.
- II. The Mining Plan & EIA / EMP report has to be prepared and approved in consonance with Enforcement & Monitoring Guidelines for Sand Mining, 2020.
- III. Wet sand will not be transported.
- IV. Pre-monsoon data of current year is to be included in final EIA report.
- V. Satellite imagery with Geo-Cordinates of pre-monsoon (current year) to be included in the final EIA report.

2. Bijaypur Sand Ghat of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Village : Bijaypur, Ranga & Karamtola, Circle : Dumka, Distt. : Dumka, Jharkhand (2.81 Ha).

(Proposal No : SIA/JH/MIN/ 483244/2024)

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

This is a new project which has been taken for appraisal on 26.06.2024.

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

EC Application for: Proposed Capacity- 26,013.93cum/annum or 43,183.12TPA.

Project and Location Details:

Sl	Parameter	Details
1	Project Name	: BijaypurSand Ghat
2	Lessee:	: M/s Jharkhand State Mineral Development Corporation Ltd. (A Govt. of Jharkhand Enterprises)
3	Lessee Address	: Khanij Nigam Bhawan, Doranda, Ranchi – 834002 (Jharkhand)
4	Lease Area	: 2.81Ha Acres – 6.94Acres

5	Type of Land	:	Non-Forest Government waste Land (River Bed)
6	Project Cost	:	Capital Cost – Rs 13.4 Lakhs Recurring : 7.70 Lakhs / Year
7	EMP Budget	:	Capital: Rs 14.13 Lakhs Recurring: 3.99 lakhs / year
8	New or Expansion	:	New
9	Mineable Reserves for 1 st year & subsequent year 60% of Replenished quantity	:	cum.: 26,013.93 cum (dry basis) Tonnes: 43,183.12 tonnes (dry basis)
10	Mine Life	:	Mine life / Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
11	Man power	:	24
12	Water Requirement	:	5.18 KLD (Drinking: 0.36 KLD, Dust Suppression: 2.072 KLD, Plantation: 2.75KLD)
13	Water Source	:	By authorised hired tankers
14	DG Set / power	:	NA
15	Crusher	:	NA
16	Nearest Water Body	:	On MayurakshiRiver bed sand mining is proposed.
17	Nearest Habitation	:	Bijaypur, at 0.48KM in North-East direction.
18	Nearest Rail Station	:	Dumka Railway Station- 4.5 km in NE direction
19	Nearest Air Port	:	Deoghar Airport, Deoghar - 55.5 km in NW direction
20	Nearest Forest	:	More than 250 m, as per Forest Division. Letter No. – 510 Dated - 22/02/2023
21	Road & Highways	:	<ul style="list-style-type: none"> • Village road - 0.518 Km in NW direction • Dumka-Jamtara road – 0.5 Km in NE direction

CO-ORDINATES

GPS Coordinates		
Point	Latitude	Longitude
A.	24° 16' 09.218" N	87° 13' 07.642" E
B.	24° 16' 20.640" N	87° 12' 58.180" E
C.	24° 16' 22.134" N	87° 12' 59.728" E
D.	24° 16' 10.338" N	87° 13' 09.379" E

LAND DETAILS

Khata no.	Plot no.
47	1009, 1348 & 91

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Auction letter has been issued by Joint Secretary, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)-117/2017-2090/M, dated 30.09.2022. According to provisions in Jharkhand State sand Mining Policy and its amendment. JSMDCLtd. has been nominated as nodal agency for operating sand mines in category II.
2	CO	:	The CO, Dumka Sadar vide letter no. 1142/Ra., dated 23.12.2022 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyani & Register II.
3	DMO	:	DMO, Dumka vide memo no. 542/M, dated 04.05.2024 certified that 01 other balughat (4.68 Ha.) exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribagh vide letter no. 840, dated 11.05.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Dumka Forest Division vide letter no. 510, dated 22.02.2023 certified that the distance of forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Dumka district (Page No. – 75, Point No. - 09)
7	Gram Sabha	:	CO, Dumka Sadar vide letter no. 480/Ra., dated 02.05.2024 informed that Gram Sabha conducted on 30.04.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 554/M, dated 04.05.2024.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Manual Method
2	Quarry Area	:	2.81 Ha
			Mine life / Lease period i.e. 15.08.2025 as per provisions of

			Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
3	Waste Generation	:	00 cum
4	Stripping Ratio	:	NA
5	Working Days	:	200 per year
6	Grid Excavation	:	25m x 25m
7	Elevation of Mine	:	102.44m (Pre Monsoon) AMSL & 103.04 (Post Monsoon)
8	Ground Level Elevation	:	106m AMSL
9	Ultimate Working Depth	:	1 m
10	Water Table	:	99.4 m AMSL
11	Topography of Mine	:	Area represents river-bed.
12	Explosive Requirement	:	None. No blasting required
13	Diesel/Fuel requirement	:	Not required for mining.

Production Details

Year	Production of Sand (cum)	Production of Sand (tonnes)
1 st	26,013.93	43,183.12

The development plan submitted along with the mining plan relates to mining operation during the first year.

Land Use

Sl. No.	Pattern of Utilization	Land Used in present Plan period (in Ha.)	Remarks
1	Mining Activities	2.60	Area may vary based on flow of water in the subsequent year.
2	Loss due to Safety Zone	0.21	<ul style="list-style-type: none"> Distance from the bank should be 1/4th of River width and should not be less than 7.5 meters. Mining shall be restricted within

			the central 3/4thwidth of the river/rivulet or 7.5 meters (inward) from River-bank but up to 10% of the width of the River. <ul style="list-style-type: none"> • Mining shall be restricted 60 % area for both side of river edge.
Total		2.81	

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Along River Edge	676.96 Km	225
2	Along Approach Road	0.518Km	690

- 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

No solid waste is generated during the course of mining.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Sewage from rest shelter would be treated in Septic Tank soak pit.
- There is no other source for generation or discharge of trade effluent.

Air Quality Management

Sand will be mined manually. No mining equipment would be needed. However, diesel operated tippers/tractors would be used for transportation of sand from mine to stockyard.

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

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

Movement of tippers on Road – Movement of tippers 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 Sand outside lease area will have PUC certificate.
- ✓ Transport tippers/traders moving on public road will be covered with tarpaulin.

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

Road accidents

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

Preventive Measures;

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

Dust generation

No drilling involved

- Dust mask 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.

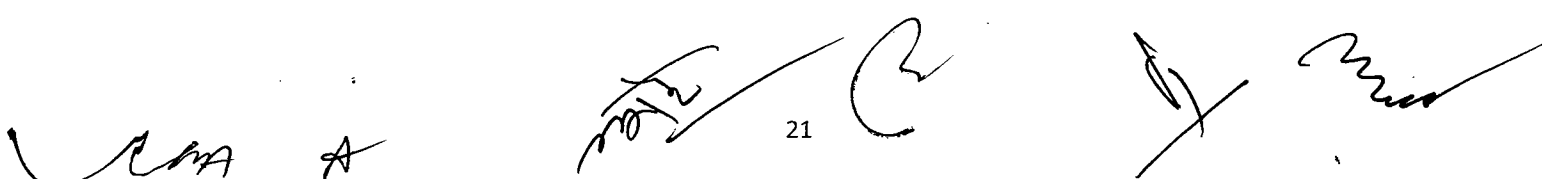
Preventive Measures

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.



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Preventive measures

Following mitigation measures would be taken to minimise 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 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

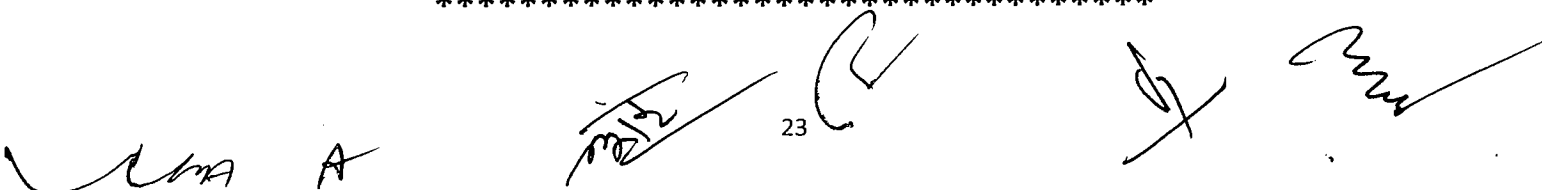


Undertaking submitted affirming:

- 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. 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.
- k. Mining will be restricted upto 3 meter.

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 25, 26, 27, 28 & 29.06.2024, 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 along with following specific conditions as part of EIA / EMP report :

- I. Transportation from the river bed will be done using the existing road.
- II. The Mining Plan & EIA / EMP report has to be prepared and approved in consonance with Enforcement & Monitoring Guidelines for Sand Mining, 2020.
- III. Wet sand will not be transported.
- IV. Pre-monsoon data of current year is to be included in final EIA report.
- V. Satellite imagery with Geo-Cordinates of pre-monsoon (current year) to be included in the final EIA report.

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3. Jasmata Sand Ghat - 2 of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Village : Jasmata, Circle : Pathargama, Distt. : Godda, Jharkhand (1.82 Ha).

(Proposal No : SIA/JH/MIN/ 483168/2024)

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

This is a new project which has been taken for appraisal on 26.06.2024.

Project Category : B2 – 1(a) Mining of Minerals : Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 10407.64 cum/annum or 17629.99 TPA (dry basis).

Project and Location Details:

Sl	Parameter	Details	
1	Project Name	: JasmataSand Ghat-2	
2	Lessee:	: M/s Jharkhand State Mineral Development Corporation Ltd. (A Govt. of Jharkhand Enterprises)	
3	Lessee Address	: Khanij Nigam Bhawan, Doranda, Ranchi – 834002 (Jharkhand)	
4	Lease Area	: 1.82Ha	Acres – 4.49Acres
5	Type of Land	: Non-Forest Government waste Land (River Bed)	
6	Project Cost	: Capital Cost – Rs 13.3 Lakhs	Recurring : 2.3 Lakhs / Year
7	EMP Budget	: Capital Cost: Rs 3.67 Lakhs	Recurring: 4.977 lakhs / year
8	New or Expansion	: New	
9	Mineable Reserves for 1 st year & subsequent year 60% of Replenished quantity	: 10407.64m ³ (dry basis)	Tonnes –17629.99tonnes(dry basis)
10	Mine Life	: Mine life / Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.	
11	Man power	: 9	
12	Water Requirement	: 1.28KLD (Drinking: 0.135 KLD, Dust Suppression: 0.432 KLD, Plantation: 0.714KLD)	
13	Water Source	: By authorised hired tankers	
14	DG Set / power	: NA	

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15	Crusher	:	NA
16	Nearest Water Body	:	On ChirRiver bed sand mining is proposed.
17	Nearest Habitation	:	Simariya Village 1.02 km at E direction
18	Nearest Rail Station	:	The nearest Railway station Godda Station is located at a distance of about 10.4 km in South-East direction
19	Nearest Air Port	:	Deoghar Airport, is situated at a distance of about 68.23 Km in South-West direction
20	Nearest Forest	:	More than 250 m, as per Forest Division. vide Letter No. – 22, Dated – 07/01/2023
21	Road & Highways	:	NH- 133 (Deoghar-Pirpainti) Road – 10.55 Km in East direction

CO-ORDINATES

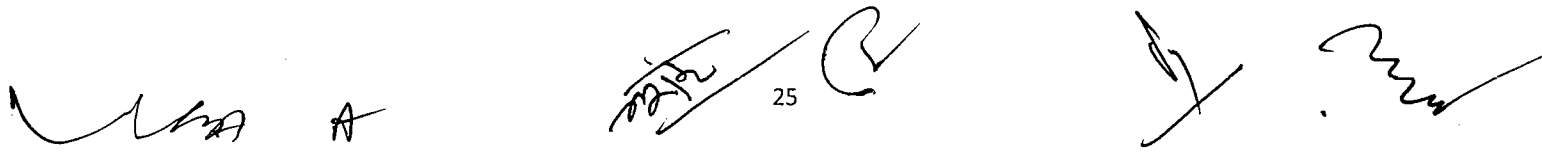
GPS Coordinates		
Point	Longitude	Latitude
A.	87° 8' 34.061" E	24° 54' 47.649" N
B.	87° 8' 36.323" E	24° 54' 48.365" N
C.	87° 8' 36.613" E	24° 54' 46.410" N
D.	87° 8' 41.742" E	24° 54' 40.739" N
E.	87° 8' 39.108" E	24° 54' 39.727" N
F.	87° 8' 36.509" E	24° 54' 43.128" N

LAND DETAILS

Khata no.	Plot no.
02	13

STATUTORY CLEARANCES

1	LOI / Lease docs	:	<p>The Auction letter has been issued by Joint Secretary, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)-117/2017-2090/M, dated 30.09.2022.</p> <p>According to provisions in Jharkhand State sand Mining Policy and its amendment. JSMDCLtd. has been nominated as nodal agency for operating sand mines in category II.</p>
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2	CO	:	The CO, Pathargama vide letter no. 25 A/Ra., dated 16.01.2023 has mentioned the plot no. of the project is recorded as "Nadi (River)" in R.S. Khatiyar.
3	DMO	:	DMO, Godda vide letter no. 700/M, dated 06.05.2024 certified that no other balughat exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Sahibganj Forest Division vide letter no. 1199, dated 19.06.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Godda Forest Division vide letter no. 22, dated 07.01.2023 certified that the distance of forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Godda district (Page No. – 83, Point No. - 15)
7	Gram Sabha	:	Gram Sabha conducted on 10.05.2024.
8	Mine Plan Approval	:	Approved by Assistant Mining Officer, Godda vide Memo No. 712/M, dated 11.05.2024.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Manual Method
2	Quarry Area	:	1.82 Ha Mine life/Lease Period - Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
3	Waste Generation	:	00 cum
4	Stripping Ratio	:	NA
5	Working Days	:	200 per year
6	Grid Excavation	:	25m x 25m
7	Elevation of Mine	:	0.75m (Pre Monsoon) AMSL to 1.05m (Post Monsoon)AMSL
8	Ground Level Elevation	:	2.5m AMSL
9	Ultimate Working Depth	:	0.7 m

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10	Water Table	:	-1m AMSL
11	Topography of Mine	:	Area represents river bed.
12	Explosive Requirement	:	None. No blasting required
13	Diesel/Fuel requirement	:	Not required for mining.

Production Details

Year	Production of Sand (cum)	Production of Sand(tonnes)
1 st	10,407.64	17,629.99

The development plan submitted along with the mining plan relates to mining operation during the first year.

Land Use (Plan period)

Sl. No.	Pattern of Utilization	Land Use (in Ha.)	Remarks
1	Mining Activities	1.49	Area may vary based on flow of water in the subsequent year.
2	Loss due to Safety Zone & River Channel	0.33	<ul style="list-style-type: none"> Distance from the bank should be 1/4th of River width and should not be less than 7.5 meters. Mining shall be restricted within the central 3/4th width of the river/rivulet or 7.5 meters (inward) from River-bank but up to 10% of the width of the River. Mining shall be restricted 60 % area for both side of river edge.
Total		1.82	

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Along River Edge	0.281Km	94
2	Along Approach Road	0.108 Km	144

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- 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

No solid waste is generated during the course of mining.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Sewage from rest shelter would be treated in Septic Tank soak pit.
- There is no other source for generation or discharge of trade effluent.

Air Quality Management

Sand will be mined manually. No mining equipment would be needed. However, diesel operated tippers/tractors would be used for transportation of sand from mine to stockyard.

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

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

Movement of tippers on Road – Movement of tippers 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 Sand outside lease area will have PUC certificate.
- ✓ Transport tippers/traders moving on public road will be covered with tarpaulin.

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;

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

Dust generation

No drilling involved

- Dust mass would be supplied to workers.
- Regular sprinkling of water on road

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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.

Preventive 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.

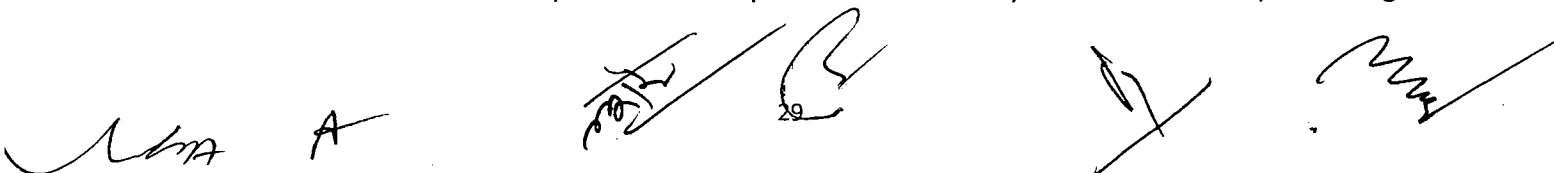
Preventive measures

Following mitigation measures would be taken to minimise 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 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



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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.

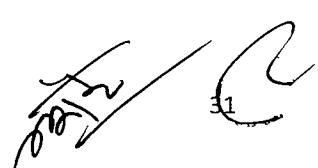
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- h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
- i. If any tree felling than necessary permission shall be taken from the competent authority.
- j. 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.
- k. Mining will be restricted upto 3 meter.

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 Jasmata Sand Ghat - 2 of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Village : Jasmata, Circle : Pathargama, Distt. : Godda, 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. The Environmental Clearance granted for lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
- II. Replenishment study shall be conducted during pre-monsoon and post monsoon every year and study report have to be submitted to SEIAA / SEAC, Jharkhand. The production shall be restricted to 60% of the replenished quantity or the proposed quantity in the mine plan, which ever is less.
- III. Suitable plant species of not less than 2 M height to be planted in area 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 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 checkup 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 within 6 monthly compliance report with Geo-Tagged photographs.
- VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted within 6 monthly compliance report.
- VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.



- IX. Project Authority will ensure that personal protective equipments such as protective clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel's.
- X. River Sand Mining shall not be done in rainy Season (mid June to mid October of each calendar year).
- XI. Dept. of Mines & Geology, Govt. of Jharkhand shall keep a strict vigil in the compliance of relevant provisions of applicable Jharkhand Minerals (Prevention of illegal mining, Transportation and Storage) Rule 2017 and its amendment especially scientific execution of mining plan (as approved by they themselves) and report violations if any is found as well as action taken for the same.
- XII. Project Proponent shall submit (to the SEIAA, Jharkhand, Regional Office of MoEF&CC at Ranchi, Jharkhand State Pollution Control Board) six monthly compliance report with evidence of the conditions within a fortnight after the end of every six month till validity period of Environmental Clearance.
- XIII. The project proponent before starting any activity / preparation of ground, on the leased area shall demarcate his lease hold by RCC pillars erected at the cost of lease holder after certification of the mining officer. On each pillar Geo-Coordinate and fore bearing / back bearing shall be written with permanent paint mark as described in the mining plan. All the pillars should remain intact at same geo-coordinate. Establishment / labeling of Benchmark at each pillars or ground control points.
- XIV. Extraction of sand beyond annual production capacity is not permitted.
- XV. The Project Proponent should undertake the sand mining limited to 03 meter (three meter) depth by exclusively manual method.
- XVI. The stacking area of mined-out sand which shall be situated near the mining site within a fenced area from all sides to avoid being spread in the nearby areas by high winds and the height of stacking should not exceed 2 meter. Transportation shall be confined to day time only that is from sunrise to sunset, to avoid inconvenience to local population in any manner.
- XVII. Mining activity shall not be done for mine lease where mining can cause danger to site of flood protection works, places of cultural, religious, historical and archaeological importance.
- XVIII. Project Proponent shall submit the annual replenishment report certified by an authorized agency.
- XIX. No labour camp shall be allowed in riverbed.
- XX. Provision shall be made for housing labour with all necessary infrastructure and facilities (outside mining Block and river-bed) such as fuel for cooking, toilets / mobile toilets, safe drinking water, First-Aid facilities, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- XXI. Labour & Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers shall be undertaken periodically to observe any adverse health impact due to exposure to dust and take corrective measures, if needed.

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- XXII. The Project Proponent shall make arrangements for safe drinking water, first aid facility along with anti-venom injection, in case of emergency for the workers.
- XXIII. Sand and gravel may be extracted across the entire active channel during the dry season.
- XXIV. Abandoned stream channels on the terrace and inactive floodplains be preferred rather than active channels and their deltas and flood plains. The stream should not be diverted to form the inactive channel.
- XXV. Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.
- XXVI. Sand and gravel shall not be allowed to be extracted where erosion may occur, such as at the concave bank.
- XXVII. Sand and gravel shall not be extracted up to a distance of 1 kilo meter (1 km.) from major bridges and highways on both sides, of five times (5x) of the span (x) of a bridge / public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a minimum of 250 meters on the upstream side and 500 meters on the downstream side.
- XXVIII. Sand and gravel could be extracted from the downstream of the sand bar at river bends.
- XXIX. Mining depth should be restricted to 3 meters and distance from the band should be $1/4^{\text{th}}$ of river width and should not be less than 7.5 meters.
- XXX. A buffer distance / unmined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed / prescribed by the regulatory authority shall be maintained.
- XXXI. River bed sand mining shall be restricted within the central $3/4^{\text{th}}$ width of the river/rivulet of 7.5 meters (inward) from river banks but up to 10% of the width of the river, as the case may be and decided by regulatory authority while granting Environmental Clearance in consultation with irrigation department. Regulating authority while regulating the zone of river bed mining shall ensure that the objective to minimize the effects of riverbank erosion and consequential channel migration are achieved to the extent possible. In general, the area for removal of minerals shall not exceed 60% of the mine lease area, and any deviation of relaxation in this regard shall be adequately supported by the scientific report.
- XXXII. Transportation from the river bed will be done using the existing road.
- XXXIII. The Mining Plan has been prepared and approved in consonance with Enforcement & Monitoring Guidelines for Sand Mining, 2020.
- XXXIV. Wet sand will not be transported.

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4. Tangidaha Stone Deposit of Shri Ajay Kumar Bhagat, Mauza : Tangidaha, Thana no. : 08, Thana : Maheshpur, Distt. : Pakur, Jharkhand (2.66 Ha).

(Proposal No. : SIA/JH/MIN/ 482560/2024).

The PAs through their consultant vide letter dated 26.06.2024 have requested for deferment of project stating that some correction are required to be done in the final EIA / EMP report submitted for appraisal.

Accordingly, the PAs are permitted to submit revised EIA / EMP report for consideration for grant of EC.

5. Paharpur Stone Mine of M/s Anantdhara Construction Pvt. Ltd., Mouza : Paharpur, P.O. : Benagaria, Panchayat : Saharpur, P.S. : Shikaripara, Dist. : Dumka, Jharkhand (1.80 Ha)

(Proposal No. : SIA/JH/MIN/ 483091/ 2024).

The PAs through their consultant vide letter dated 26.06.2024 have requested for deferment of project stating that some correction are required to be done in the final EIA / EMP report submitted for appraisal.

Accordingly, the PAs are permitted to submit revised EIA / EMP report for consideration for grant of EC.

6. Mahuabathan Stone Mine of M/s East India Stone Quarry (Prop. : Imran Khan), Village : Mahuabathan, Block : Boarijor, Thana : Rajabhita, Distt. : Godda, Jharkhand (2.54 Ha).

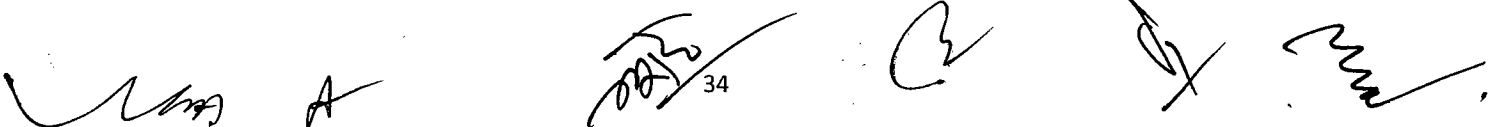
(Proposal No. : SIA/JH/MIN/ 482976/ 2024).

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

Project Category : B2 : 1 (a) Mining of Minerals : Application for Environmental Clearance (EC).

This is a new project which has been listed for appraisal on 26.06.2024.

During appraisal it was found that a few plot numbers in the DSR were not as per the plot numbers mentioned in Letter of Intent (LoI).

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Accordingly, the PAs were asked to get the correct plot numbers certified by the Deputy Commissioner, Godda.



The Deputy Commissioner, Godda vide letter no. 789/M, dated 27.06.2024 has certified the correct plot numbers of the project which are in concurrence with the plot numbers mentioned in the Letter of Intent (LoI).

The PAs submitted the above letter of DC to SEAC on 28.06.2024 and requested in person for consideration of the project. Accordingly, the project was taken up for appraisal on 28.06.2024.

EC Application for: Proposed Capacity- 26476 cum/annum or 76780 TPA

Project and Location Details:

Sl	Parameter	Details	
1	Project Name	: Mahuabathan Stone Mine	
2	Lessee:	: M/s East India Stone Quarry Project Proponent- Imran Khan, S/O Late Imam Box	
3	Lessee Address	: Village and Post – Asanbani, Thana – Raniswar, District – Dumka , State – Jharkhand , PIN – 816118	
4	Lease Area	: 2.54 Ha	
5	Type of Land	: Non Forest Raiyati Land	
6	Project Cost	Capital: 95.35 Lakhs	Recurring: 14.14 Lakhs per year
7	EMP Budget	Capital: 10.464 Lakhs	Recurring: 4.666 Lakhs per year
8	New or Expansion	: New	
9	Mineable Reserves	cum.: 1,87,959 cum	Tonnes: 5,45,081 tons
10	Mine Life	: 9 years.	
11	Man power	: 23 Person	
12	Water Requirement	: 7.056 KLD (Drinking: 0.34 KLD, Dust Suppression: 1.16 KLD, Plantation: 5.556 KLD)	
13	Water Source	: From Nearby villages by tankers	
14	DG Set / power	: 50 KVA DG Set Proposed	
15	Crusher	: NA	
16	Nearest Water Body	: Sundar Dam – 2.12 Km towards Southdirection	
17	Nearest Habitation	: MahuabathanVillage at 550 in SW direction	
18	Nearest Rail Station	: Godda Railway Station, at 26.4 km in SW direction	

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19	Nearest Air Port	:	Deoghar Airport, Deoghar is 94 km in SW direction.
20	Nearest Forest	:	DFO Godda, letter no.- 845 Dated- 15/06/2023 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.
21	Road & Highways	:	NH-133 (Godda-Payalapur road) is at a distance of 10.9 Km in West direction.

CO-ORDINATES

1	Latitude		From N 24° 58' 22.17821770"	To N 24° 58' 31.39166287"
2	Longitude		From E 087° 24' 19.27389524"	To E 087° 24' 16.08016708" E

LAND DETAILS

J.B. no.	Plot no.
03	436, 437, 474, 475 & 478
05	427, 428, 429, 430, 431, 435, 438, 440, 443 & 444

STATUTORY CLEARANCES

1	LOI / Lease docs.	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Godda vide memo no. 178/M, dated 10.02.2024.
2	CO	:	The CO, Boarijore vide letter no. 956/Ra., dated 31.12.2022 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyani & Register II.
3	DMO	:	DMO, Godda vide memo no. 758/M, dated 18.06.2024 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. 1219, dated 21.06.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Godda Forest Division vide letter no. 845, dated 15.06.2023 certified that the distance of reserved / protected forest land is more than 250 meter from proposed project site.

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6	DSR	:	This project is mentioned in approved District Survey Report (DSR) of Godda District (Sl. no. 09, Page no. 57). The Deputy Commissioner, Godda vide letter no. 789/M, dated 27.06.2024 has confirmed the plot number of the project which were not correctly mentioned in the DSR. The actual plot nos. are 443 & 444 (whereas the plot no. mentioned in the DSR is 414 which is not as per Letter of Intent (LoI) issued vide letter no. 178/M, dated 10.02.2024). Other plot numbers are correctly mentioned.
7	Gram Sabha	:	Gram Sabha conducted on 18.09.2022.
8	Mine Plan Approval	:	Approved by District Mining Officer, Godda vide Memo No. 734/M, dated 31.05.2024.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method
2	Quarry Area	:	2.54 Ha
			Life of Mine – 9 year
3	Waste Generation	:	16036cum
4	Stripping Ratio	:	1:0.19
5	Working Days	:	300
6	Benches: size & No	:	6 m x 6 m, No. of benches – 5
7	Elevation of Mine	:	134 - 122 AMSL
8	Ground Level Elevation	:	122 AMSL
9	Ultimate Working	:	93 AMSL
10	Water Table	:	84 m AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	32 kg Slurry explosives/day
13	Diesel/Fuel requirement	:	HSD – 208.4liters / day (62.52 KL/year)

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Production Details

Summary of Year wise Production					
Years	Production In Cum/Year	Production In Cum/Day	Removal of Waste Generation (Cum.) O.B.	Production In Tons/Year	Prod. In Tons./Day
1st	20800	69	9100	60320	201
2nd	22984	77	0	66654	222
3rd	19864	66	0	57606	192
4 th	16744	56	0	48558	162
5 th	26476	88	6936	76780	256
Total	106868	88 Max.	16036	309917	256 Max.

Land Use

Existing Land Use pattern

SL	Pattern	Existing Land Use (Ha.)
1	Mining Area	0.00
2	Office	0.00
3	Dumping	0.00
4	Road	0.00
5	Garland drain	0.00
6	Settling Pond	0.00
7	Green belt/ Safety Zone	0.00
8	Utilized	0.00
9	Unutilized	2.54
	TOTAL	2.54

Land Use Pattern for Proposed Plan Period:

SL	Pattern	Proposed Land Use (Ha)
1	Mining Area	1.46
2	Office	0.01
3	Haul Road	0.02
4	Garland drain	0.02
5	Safety Zone	0.76

6	Unutilized (including O.B.)	0.27
	TOTAL	2.54

Land Use Pattern after Life of the Mine:

Sl. No.	Pattern	Conceptual Stage Land Use (Ha)	Area to be converted in the conceptual period.
1	Mining Area + Haul Road (0.01 Ha.)	1.47	Partially Backfilling & then Water Body (Backfilling in Zone B upto 14 metre)
2	Office + Haul Road (0.01 Ha.)	0.02	Plantation
3	Garland Drain	0.02	---
4	Safety Zone	0.76	Plantation
5	Unutilized area	0.27	Plantation
	Total Area	2.54	
	Total Green Belt	1.05	41 percent area utilized for green belt area

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Safety Zone & Other reclaimed area	1.95 Ha	1680
2	Along Approach Road	0.13 km	172
TOTAL			1852

- 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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Solid Waste Management

During the plan period 16,036 O.B. will be removed, which will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Water Quality Management

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

Air Quality Management

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

Mitigation measures:

Use of Sharp Drill Bits

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

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

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

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

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

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

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

RISK ASSESSMENT

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

Hazard identification & Risk Analysis in Stone Mining operation

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

2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

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

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

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

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

Drilling Operations

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

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

Falls from the edge of a bench

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

While others may need to work at or near the edge of a working bench the person most at risk

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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.

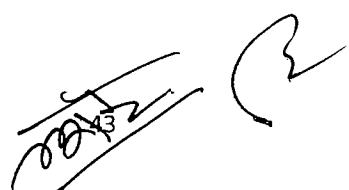
Accident at Site

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 Mahuabathan Stone Mine of M/s East India Stone Quarry (Prop. : Imran Khan), Village : Mahuabathan, Block : Boarjor, Thana : Rajabhita, Distt. : Godda, Jharkhand (2.54 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. 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.
- II. 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.
- III. 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.
- IV. 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.
- V. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.
- VI. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

NA - A

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Day 3 : June 27th, 2024 [Thursday]

Consideration of proposals

1. Proposed Langatu, Sikri, Pandaria, Barkagaon & Sirma Sand Deposit Project on Barkagaon River Bed of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Village : Langatu, Sikri, Pandaria, Barkagaon & Sirma, Block : Barkagaon, Distt. : Hazariabagh, Jharkhand (3.48 Ha).

(Proposal No : SIA/JH/MIN/ 483029/2024)

The proposal for mining and the details in the mine plan were not commensurate with details provided in the EC application.

Hence, revised application with correct data is to be submitted for consideration of EC.

The Proposal will be taken up for consideration after submission of the above.

2. Proposed Bairisal Sand Deposit Project on Barakar River Bed of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Village : Bairisal, Block : Barhi, Distt. : Hazariabagh, Jharkhand (4.70 Ha).

(Proposal No : SIA/JH/MIN/ 483020/2024)

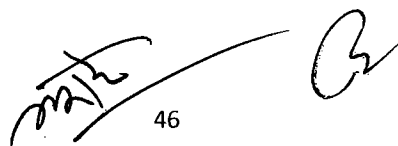
The proposal for mining and the details in the mine plan were not commensurate with details provided in the EC application.

Hence, revised application with correct data is to be submitted for consideration of EC.

The Proposal will be taken up for consideration after submission of the above.



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3. Proposed Gosain Balia & Harli Sand Deposit Project on Badmahi River Bed of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Village : Gosain Balia & Harli, Block : Barkagaon, Distt. : Hazariabagh, Jharkhand (1.00 Ha).

(Proposal No : SIA/JH/MIN/ 483008/2024)

The proposal for mining and the details in the mine plan were not commensurate with details provided in the EC application.

Hence, revised application with correct data is to be submitted for consideration of EC.

The Proposal will be taken up for consideration after submission of the above.

4. Selected Dhori (Lower) Open Cast Mine (2 MTPA) of M/S Central Coalfield at Village : Turio, Makoli, Tarmi, Tehsil : Bermo, Distt. : Bokaro, Jharkhand (211.82 Ha).

(Proposal no. : SIA/JH/CMIN/482390 /2024)

Name of the consultant: CMPDI, Kanke Road, Ranchi

This is an amendment project which has been taken for appraisal on 27.06.2024.

Project Category : B1 – 1(a) Mining of Minerals (Coal)

Application for: Amendment in EC of Selected Dhori (Lower) Open Cast Mine (Capacity: 2 MTPA, Area: 211.82 Ha)

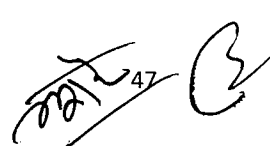
Selected Dhori (Lower) Open Cast Mine is a brown field project which has been under operation since nationalization. The project was accorded EC vide EC. No EC23B000JH130372 dated 08.02.2023 for a mine life of 08 years involving extraction of coal reserves from lower seams i.e. Seam Karo V, Karo III.

The current EC amendment proposal is regarding activities of Damage Remediation Plan (DRP) and Community Resource Augmentation Plan (CRAP) along with extension in timeline for completion of activities as per DRP and CRAP, for which project proponent is seeking Amendments in Environment Clearance, for which online application in Form-4 along with other related documents was submitted.

Current financial status of work as per DRP and CRAP is shown below:

Total fund to be utilized (in	Activity Completed	Activity Undergoing/ To be	Total Work completed or expected to be completed by CCL (in	Remaining amount that is to be utilized
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11.	Water Requirement	:	1762 KL/Day
12.	Water Source	:	Mine seepage & rain water stored in mine sump
13.	DG Set / power	:	It is envisaged that this project will receive power at 33 kV from Bokaro Thermal Power Station (BTPS) of DVC. For this, two nos. existing 33 kV overhead lines from BTPS to B&K Main-sub-station shall be extended up-to proposed quarry. A 33 kV energy meter shall be installed for recording its energy consumption. Approximate distance of the quarry from B&K Sub-station is approximately 5 km. Further, it is proposed to establish 1 no 2 X 5 MVA, 33/6.6 kV sub -station with provision for 2 nos. incoming 33 kV feeders and 12 nos. outgoing 6.6 kV feeders for supply of power to different power consuming equipment of the project.
14.	Crusher	:	No
15.	Nearest Water Body	:	Damodar River (0.15 KM)
16.	Nearest Habitation	:	Bermo (5 KM)
17.	Nearest Rail Station	:	Phusro (2 KM)
18.	Nearest Air Port	:	Ranchi (110 KM)
19.	Nearest Forest Land	:	Within Project boundary

CO-ORDINATES:

1	Latitude	From 23° 45' 30.50"N	To 23° 46' 33.91"N
2	Longitude	From 86° 01' 35.77"E	To 86° 02' 43.64"E

Working Details:

1	Mining Method	:	Shovel-dumper mining system has been envisaged for working this OC mine.
2	OC Mining Area	:	179.44 Ha
3	No of Seams considered	:	Karo Group of Seams III & V
4	Average Grade	:	Grade – 'W-III' for Karo Seam –III and 'G9' for Karo Seam-V
5	Life	:	8 Years
6	Coal Evacuation	:	It is proposed to transport coal from Mine to nearby Tarmi Railway Siding by covered tipping trucks. Total length of coal transportation road is around 2.60 kms. The said route is a dedicated mine road for coal transportation, free from any settlement on either side.
7	Maximum Depth of quarry	:	120 m
8	OB Dumping Strategy	:	Total overburden quantities estimated for Selected Dhori (Lower) OC is 66.00 Mcum of OB. Out of which about 9.72 Mcum of OB has been proposed to be rehandled from 4th year onwards. All the OB

		<p>removed will be backfilled within the quarry itself.</p> <p>The proposed dump height is maximum 60m from immediate surface level. Total two decks of height 30m each leaving 30m wide berms on each deck have been proposed and the final stage dump will attain a maximum RL of 270m.</p>
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Proposed Calendar Program:

Period	Year	Coal Production (Mt)	OB Removal (M.cum)	Stripping Ratio (cum/te)
Capacity built-up	1	0.50	3.70	7.41
	2	1.00	7.41	7.41
	3	1.50	10.18	6.79
Production	4	2.00	12.36	6.18
	5	2.00	11.40	5.70
	6	2.00	11.43	5.72
Tapering	7	1.20	6.66	5.55
	8	0.52	2.85	5.49
TOTAL		10.72	66.00	6.16

LAND DETAILS :

SN	Mouza	Thana No	Khata No	Plot No	Total Area (in Ha)
1	Makoli	69	1	114/119	78.236
2	Makoli	69	12	114/118	22.950
3	Turio	70	34	1	85.58
4	Turio	70	34	289	2.275
5	Tarmi	71	52	1	22.779
Total					211.820

Land Acquisition:

Project area of 211.82 Ha, on which Mine Plan and Mine Closure Plan has been prepared and approved by Board of Director of CCL, and for which EC dated 08.02.2023 was issued by SEIAA Jharkhand, is acquired vide C.B Act vide S.O. no: 645 dated 08.07.2022

Land Type Breakup:

SL	Pattern	Area (in Ha)
1	Notified Forest Land (Stage II obtained)	211.82
TOTAL		211.82

Land Use During Mining:

Description	Forest in Ha	Total Area in Ha.
Quarry	179.44	179.44

Industrial Area (Colony, Road, Offices etc)	5.06	5.06
Green Belt/ Safety Zone	24.15	24.15
Tisri Stream	1.48	1.48
Embankment	1.69	1.69
Total Land	211.82	211.82

Proposed Post Mining Land Use:

Sl. No	Land use During Mining		Post Mining Land Use Plan	
	Particulars	Area (Ha.)	Particulars	Area (Ha.)
1	Quarry	179.44	Internal dump reclaimed with Plantation	151.51
			Void filled with water	27.93
2	Infrastructure (CHP, Colony, Road)	5.06	Infrastructure for Future Use	5.06
3	Green Belt/Safety Zone	24.15	Plantation on Green Belt/Safety Zone	24.15
4	Water Bodies (Tisri Stream)	1.48	Undisturbed	1.48
5	Embankment against stream	1.69	Plantation on Embankment	1.69
Total Project Area		211.82	Total Project Area	211.82

Energy Conservation:

Special emphasis is laid at the project formulation stage to take all steps for conservation of electrical energy including power consumption and power demand or fuel consumption. All efforts have been made to incorporate energy conservation system and equipment to achieve this in the planning and installation stage itself.

- To reduce occurrence of maximum power demand of certain group of equipment at a time and improve the effective load factor, demand meters have been proposed in each circuit breaker controlling the feeders. This would reduce power demand of the project at the same level of power consumption and relieve the system of transmitting useless power.
- A special emphasis would be laid on the preventive maintenance of all electrical, mechanical equipment. Energy conservation is very much related to preventive maintenance. Therefore, the preventive maintenance would never be over looked. As part of management system, feedback is necessary for better performance of equipment and statistical information of breakdowns would help in upgrading maintenance practices, after meaningful and purposeful analysis resulting in saving of diesel and power.
- Energy efficient LED luminaires has been proposed for all types of illuminations. Energy efficient motors have been proposed as energy conservation measures.
- Periodical maintenance of equipment's, energy audits, optimization of distribution networks Promoting use of renewables and energy efficient appliances in Project and nearby villages.

PROPOSED MODIFICATION IN ACTIVITIES OF DRP & NCRAP IN EXISTING EC OF SELECTED DHORI (LOWER) OCM

1.) ACTIVITIES TO BE UNDERTAKEN BY CCL

SN	Head	ACTIVITIES & ALLOCATED FUND AS PER EXISTING EC		PROPOSED MODIFICATION IN ACTIVITIES TO BE UNDERTAKEN BY CCL				
		Activity under in Damage Remediation Plan (DRP) in Existing EC	Allocated Fund in the existing EC (Rs. in Lakhs)	Activity Completed	Fund Utilized in completed activity (Rs. in Lakhs)	Activity Undergoing/ To be undertaken	Fund to be Utilized (Rs. in Lakhs)	Total Fund (Rs. in Lakhs)
1	Water Environment	Construction of check dam across Tisri Nallah for ground recharge and other community purposes	100	1 st Check dam at Tisri Nala	64.71	2 nd Check dam at Tisri Nala	20.02	84.73
		Rainwater Harvesting by construction & beautification of ponds, wells etc. in nearby villages	1100	Beautification of Pond at Alargo	101.70	Beautification of Ponds	690.78	792.48
Total Water Environment (A)			1200		166.41		710.8	877.21
2	Ecology	Plantation in nearby villages along community buildings & barren lands (20 villages)	100	-	-	Plantation in nearby villages	100	100
Total Ecological Environment (B)			100				100	100
3	Air & Noise Environment	Additional Health Camps to monitor the respiratory and health status of nearby villages (20 villages * 2 Camps/Year * Rs 2 Lakh)	80	Organizing Health Camps	32.51	Organization of Health Camp	47.49	80
		Road Sweeping Machine for nearby villages (5 Machines * Rs 55 Lakhs)	275	-	-	1 No. of Road Sweeping Machine for nearby villages on HIRING MODE	119	119
Total Air & Noise Environment (C)			355		32.51		166.49	199

4	Land Environment	Community Solid waste collection bins in 20 villages	30	Community Solid waste collection bins	20.91	-	-	20.91
		Providing colour coded bins in schools, hospitals etc. (100 Numbers)	5	Providing colour coded bins in schools, hospitals etc	4.15	-	-	4.15
Total Land Environment (D)			35		25.06			25.06
5	Socio-Economic	Establishment of 5 Kayakalp schools for peripheral villages and corpus for sustainability of educational initiatives	4800	-	-	Establishment of 2 Nos. of Kayakalp schools	1257.41	1257.41
						Operation, Maintenance & other enabling works/infrastructures for 2 Nos. of Kayakalp School	531.32	531.32
Total Socio-Economic Environment (E)			4800				1788.73	1788.73
A. Total Cost of Damage Remediation Plan (DRP)= A+B+C+D+E			6490		223.98		2766.02	2990

2.) ACTIVITIES TO BE UNDERTAKEN BY DISTRICT ADMINISTRATION, BOKARO

S. N	Head	Proposed Activities for Damage Remediation Plan	Allocated Fund (Rs in Lakhs)
1	Water Environment	a. Preparation of Ground Water Management Intervention Plan and soil moisture Conservation Plan for Project Affected Areas and Nearby Villages.	500
		b. Implementation of Groundwater Management Intervention Plan	
		Establish a water hardness treatment plant in project- affected areas and nearby villages.	500
Total Water Environment			1000
2	Ecology	a. Creation and maintenance of Green Belt in mining-prone areas and Nearby Villages.	600
		b. Establish multiple mega nurseries and training centers to promote sustainable agriculture practices and afforestation in mining-affected areas.	500

		c. Establishment of medicinal plant Biodiversity Park in Govt. Land in Bermo region.	30
Total Ecological Environment			1130
3	Air & Noise	a. Installation of Continuous Ambient Air Quality Monitoring Stations (CAAQMS) in Phusro Region for continuous Air Quality Monitoring.	70
		b. Procurement of Multiple Truck mounted Fog Cannon Vehicles, which will be operated and maintained by Phusro Nagar Parishad.	200
Total Air & Noise Environment			270
A. Total Cost of Damage Remediation Plan (DRP) = 1+2+3			2400

S. N	Proposed Activities for CRAP	Allocated Fund (Rs in Lakhs)	Remarks
4	a. Construction of three Fully functional Residential Hostels for 200 candidates (100 boys, 100 girls) on Government land with a Library, Classroom, Computer and Communication Lab, etc., to cater to the project-affected Families in nearby Villages.	1500	
	b. Corpus for Operations and Management of all three Residential Hostels and Free Coaching for Competitive Exams for Five Years.	2000	
	a. Renovation, upgrading existing infrastructure, and Setting up Diagnostic Laboratory for Sadar Hospital Phusro, Bermo check-ups. b. 20 Contractual Paramedical Staff should be hired for a period of three years to conduct smooth operations in the hospital.	2100	Head-wise, Fund allocation is to be decided by the District Administration
	c. Renovation and Upgradation of CHC and PHC in Project-Affected Areas.		
	d. Procurement of 6 Telemedicine Vans to serve the PAF in nearby Villages.		
	e. Implementation of Adolescent Health Anemia Project for 50000 girls in one year f. Implementation of Cancer Screening Program for 500000 people g. Implementation of Health Entrepreneurship Program for 2 years		
<ul style="list-style-type: none"> Establishment of Residential & Daycare Centers for the Elderly and PwD People. Corpus for Operation and Management of Daycare Center for three Years. 	500		
Strengthening and upgradation of Existing Educational, Co-curricular, Recreational, and other infrastructures in the existing govt. schools in Nearby Villages.	2000		

<ul style="list-style-type: none"> a. Training, Capacity Building, and Market Linkages for Dokra Art Artisans. b. Bamboo and Cane Furniture Training for SHG Members c. Soft Skills Training for class 10th and Above students in Project Affected Areas and Nearby Villages. d. Advanced Computer Training for class 10th and above Girls of government Project Affected Areas. e. Teachers Training Conclave for Government School Teachers. 	600	Head-wise, Fund allocation is to be decided by the District Administration
B. Total cost of Community Resource Augmentation Plan = 4	8700	
C. Total cost of DRP & CRAP = A+B = 2400+8700	11100	

3.) SUMMARY OF DRP & CRAP: EXISTING & PROPOSED

SN	Activity Approved in DRP & CRAP in Existing EC	Allocated Fund in the existing EC (Rs in Lakhs)	Fund to be utilized by CCL after proposed Modification in the existing EC (Rs.in Lakhs)	Fund to be utilized through District Administration after proposed Modification in the existing EC (Rs. in Lakhs)	Total
1.	Cost of Damage Remediation Plan	6490	2990	2400	5390
2.	Cost of Community Resources Augmentation Plan	7600	0.00	8700	8700
a. Total Cost of DRP & CRAP		14090	2990	11100	14090

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The said land has been acquired under of C.B Act vide S.O. no: 645 dated 08.07.2022
2	CO	:	The CO, Chandrapura (Bokaro) vide letter no. 875, dated 09.09.2022 and CO, Bermo (Bokaro) vide letter no. 556, dated 05.09.2022 have mentioned the plot nos. of the project are recorded as "Jungle Jhari" in R.S. Khatiyani & Register II.
3	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 1906, dated 24.09.2022 certified that the said project is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
4	DFO Forest Distance	:	DFO, Bokaro Forest Division vide letter no. 2788, dated 30.09.2022 certified that the applied plots of proposed project site is forest land.
5	Mine Plan Approval	:	Ref No.: - CS/BM/509/2022/32, Dated: - 03.01.2022.

6	CGWA	:	NOC for Ground Water Abstraction vide NOC no. CGWA/NOC/ORIG /2021/13591, dated 01.11.2021.
7	Public Hearing	:	Public Hearing conducted on 27.08.2016.
8	Diversion of forest land	:	<ul style="list-style-type: none"> i. Stage-I granted MoEF, Govt. of India vide F. no. 8-122/90-FC, dated 03.01.1992 for area 143.05 ha. ii. Stage-II granted MoEF, Govt. of India vide F. no. 8-122/90-FC, dated 01.07.1996 for area 143.05 ha. iii. Stage-I granted MoEF, Govt. of India vide F. no. 8-69/2004-FC, dated 10.09.2004 for area 69.183 ha. iv. Stage-II granted MoEF, Govt. of India vide F. no. 8-69/2004-FC, dated 02.03.2009 for area 69.183 ha. v. Re-application for diversion of forest land vide proposal no. FP/JH/MIN/40575/2019, dated 17.05.2021 for area 143.05 ha.
9	Previous Environmental Clearance (EC)	:	<p>Previous violation EC granted by :</p> <ul style="list-style-type: none"> i. MoEF&CC, Govt. of India vide letter no. 23-80/2018-IA.III(M) dated 27.04.2020 (Bank Guarantee validity from 27.08.2019 to 26.08.2024) ii. SEIAA, Jharkhand vide letter no. EC/SEIAA/2022-23/2655/2022/364, dated 30.01.2023.

The SEAC, after deliberation with the Project Authorities is of the opinion that the additional time requested for implementation of Damage Remediation Plan (DRP) and Community Resource Augmentation Plan (CRAP) is justified.

SEAC recommends for extension of validity of Bank Guarantee submitted to JSPCB up to 25.08.2029 as requested by PAs.

All other terms and conditions mentioned in EC letter no. EC/SEIAA/2022-23/2655 /2022/364, dated 30.01.2023 shall remain the same.

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SEAC

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Day 4 : June 28th, 2024 [Friday]

Consideration of proposals

1. Haripur Sand Deposit (River bed of Tepra) of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Village : Haripur, Distt. : Dumka, Jharkhand (0.82 Ha).

(Proposal No : SIA/JH/MIN/ 473577/2024)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 28.06.2024.

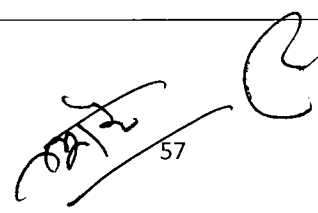
Project Category : B2 – 1(a) Mining of Minerals : Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 6,600 cum/Annum or 10,758 TPA

Project and Location Details:

Sl	Parameter	Details
1	Project Name	: Haripur Sand Deposit (River Bed of Tepra)
2	Lessee:	: M/s Jharkhand State Mineral Development Corporation Limited
3	Lessee Address	: Khanij Nigam Bhawan, Doranda, Ranchi – 834002, Jharkhand.
4	Lease Area	: 0.82 ha. Acres- 2.02 Acres
5	Type of Land	: Govt. Non-Forest (River Bed) Land
6	Project Cost	: Rs. 50 Lakhs
7	EMP Budget	: Capital: 4.70 Lakhs Recurring: 3.97 Lakhs / year
8	New or Expansion	: New
9	Mineable Reserves for 1 st year & subsequent year 60% of Replenished quantity	: 6600 Cum or 10758 Tonnes (Dry basis)
10	Mine Life	: Life of Mine/Lease Period i.e 15.08.2025 as per provision of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
11	Man power	: 10
12	Water Requirement	: 8.3KLD (Drinking: 0.10 KLD, Dust Suppression: 6.0 KLD, Plantation: 2.2 KLD)
13	Water Source	: From Nearby villages by tankers
14	DG Set / power	: NA
15	Crusher	: NA




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16	Nearest Water Body	:	Project lies on Tepra River.
17	Nearest Habitation	:	Haripur village, Approx. 180 meters towards North direction.
18	Nearest Railway Station	:	Basukinath Railway Station, Approx. 9.40 Km in North direction
19	Nearest Air Port	:	Deoghar Airport, approx. 38.63 km towards WNW direction.
20	Nearest Forest	:	PF Approx. 3.97 Km in NNE direction from mining lease. PF Approx. 4.20 Km in NE direction from mining lease.
21	Road & Highways	:	NH-114 A, Approx. 4.60 Km in South direction from mining lease.

CO-ORDINATES

1	Latitude	From 24°17'50.375" N	To 24°17'58.590" N
2	Longitude	From 87°03'40.128" E	To 87°03'49.882" E

LAND DETAILS

Khata no.	Plot no.
43	01, 216 & 217

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Auction letter has been issued by Joint Secretary, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)-117/2017-2090/M, dated 30.09.2022. According to provisions in Jharkhand State sand Mining Policy and its amendment. JSMDCLtd. has been nominated as nodal agency for operating sand mines in category II.
2	CO	:	The CO, Jarmundi (Dumka) vide letter no. 772/Ra., dated 03.05.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyar & Register II.
3	DMO	:	DMO, Dumka vide memo no. 581/M, dated 04.05.2024 certified that 01 other balughat (1.65 Ha.) exists within 500 m radius from proposed project site and total area is 2.47 Ha.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribagh vide letter no. 1188, dated 23.06.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Dumka Forest Division vide letter no. 510, dated 22.02.2023 certified that the distance of forest is more than

			250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Dumka district (Page No. – 83, Sl. No. - 19)
7	Gram Sabha	:	Gram Sabha conducted on 02.05.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 580/M, dated 11.05.2024.
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 Manual Method
2	Quarry Area	:	0.82 ha. or 2.02 Acres
			Life of Mine/Lease Period i.e 15.08.2025 as per provision of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
3	Waste Generation	:	00 Cum, as it is sand mining project.
4	Stripping Ratio	:	0:0
5	Working Days	:	200 Days
6	Benches: size & No	:	Bench height – 1.0m & Bench width - 20.0 m.
7	Elevation of Mine	:	161 mRL to 164 mRL.
8	Ground Level Elevation	:	161 mRL
9	Ultimate Working Depth	:	1.0 m
10	Water Table	:	NA
11	Topography of Mine	:	Area lying in river plain.
12	Explosive Requirement	:	None. No blasting required.
13	Diesel/Fuel requirement	:	Not required for mining.

Production Details

Year	Thickness (m)	Average Replenishment Rate	Production of sand (Cum)	Production of sand –MT

1 st	1	100%	6600	10758
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The Development Plan submitted along with the mine plan relates to mining operation during the first year.

Land Use

Type of Land	Area in (ha)
Forest Land	Nil
Govt. waste land (River)	0.82
Residential area	Nil
Company land	Nil
Private Land	Nil
Total	0.82

ENVIRONMENT MANAGEMENT

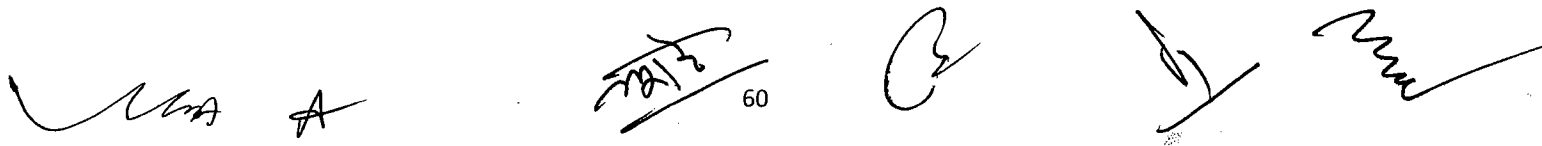
Green Belt Development

S. No.	Location	Area/Length	No. of Trees
1	Plantation along both sides of approach road	1000 m	1000
3	No. of Plants distributed with consultation local authorities/ village Panchayat	--	100

- 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.

Undertaking submitted affirming:

- Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
- 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.



 MA A 60 B D M

- 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. 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.
- k. 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.
- l. Transportation from the river bed to the NH-143D will be done using the existing road.
- m. The Mining Plan has been prepared and approved in consonance with Enforcement & Monitoring Guidelines for Sand Mining, 2020.
- n. Wet sand will not be transported.

Solid Waste Management

No solid waste is generated during the course of mining.

Water Quality Management

- A. Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- B. Sewage from rest shelter would be treated in Septic Tank soak pit.
- C. There is no other source for generation or discharge of trade effluent.

Air Quality Management

Sand will be mined manually. No mining equipment would be needed. However, diesel operated tippers/tractors would be used for transportation of sand from mine to stockyard.

- I. **Operation of Diesel Equipment's** – They generate Noxious gases. It will be ensured that all transport vehicles would be repaired & maintained regularly.
- II. **Loading of Product on tippers** – Water will be sprinkled on blasted Sand mass before they are loaded to trucks for transport.
- III. **Movement of tippers on Road** – Movement of tippers 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 Sand outside lease area will have PUC certificate.
- Transport tippers/traders moving on public road will be covered with tarpaulin.

RISK ASSOCIATED WITH PROJECT ACTIVITIES AND THEIR MITIGATION MEASURES ARE DISCUSSED 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

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

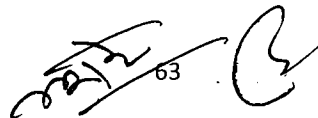
- Separate alignment for movement of loaded vehicles coming out of mine site
- Ensure speed restriction of 10 KMPH within mine site for incoming and outgoing tippers
- Regular maintenance and repair of haulage vehicles employed for sand transportation
- No overtaking of transportation vehicles within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

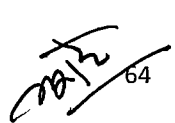
Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Haripur Sand Deposit (River bed of Tepra) of M/s Jharkhand State Mineral Development Corporation Limited (JSMDCLtd.), Village : Haripur,



Distt. : Dumka, Jharkhand (0.82 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. The Environmental Clearance granted for lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
- II. Replenishment study shall be conducted during pre-monsoon and post monsoon every year and study report have to be submitted to SEIAA / SEAC, Jharkhand. The production shall be restricted to 60% of the replenished quantity or the proposed quantity in the mine plan, which ever is less.
- III. Suitable plant species of not less than 2 M height to be planted in area 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 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 checkup 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 within 6 monthly compliance report with Geo-Tagged photographs.
- VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted within 6 monthly compliance report.
- VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.
- IX. Project Authority will ensure that personal protective equipments such as protective clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel's.
- X. River Sand Mining shall not be done in rainy Season (mid June to mid October of each calendar year).
- XI. Dept. of Mines & Geology, Govt. of Jharkhand shall keep a strict vigil in the compliance of relevant provisions of applicable Jharkhand Minerals (Prevention of illegal mining, Transportation and Storage) Rule 2017 and its amendment especially scientific execution of mining plan (as approved by they themselves) and report violations if any is found as well as action taken for the same.
- XII. Project Proponent shall submit (to the SEIAA, Jharkhand, Regional Office of MoEF&CC at Ranchi, Jharkhand State Pollution Control Board) six monthly compliance report with evidence of the conditions within a fortnight after the end of every six month till validity period of Environmental Clearance.
- XIII. The project proponent before starting any activity / preparation of ground, on the leased area shall demarcate his lease hold by RCC pillars erected at the cost of lease











holder after certification of the mining officer. On each pillar Geo-Coordinate and fore bearing / back bearing shall be written with permanent paint mark as described in the mining plan. All the pillars should remain intact at same geo-coordinate. Establishment / labeling of Benchmark at each pillars or ground control points.

- XIV. Extraction of sand beyond annual production capacity is not permitted.
- XV. The Project Proponent should undertake the sand mining limited to 03 meter (three meter) depth by exclusively manual method.
- XVI. The stacking area of mined-out sand which shall be situated near the mining site within a fenced area from all sides to avoid being spread in the nearby areas by high winds and the height of stacking should not exceed 2 meter. Transportation shall be confined to day time only that is from sunrise to sunset, to avoid inconvenience to local population in any manner.
- XVII. Mining activity shall not be done for mine lease where mining can cause danger to site of flood protection works, places of cultural, religious, historical and archaeological importance.
- XVIII. Project Proponent shall submit the annual replenishment report certified by an authorized agency.
- XIX. No labour camp shall be allowed in riverbed.
- XX. Provision shall be made for housing labour with all necessary infrastructure and facilities (outside mining Block and river-bed) such as fuel for cooking, toilets / mobile toilets, safe drinking water, First-Aid facilities, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- XXI. Labour & Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers shall be undertaken periodically to observe any adverse health impact due to exposure to dust and take corrective measures, if needed.
- XXII. The Project Proponent shall make arrangements for safe drinking water, first aid facility along with anti-venom injection, in case of emergency for the workers.
- XXIII. Sand and gravel may be extracted across the entire active channel during the dry season.
- XXIV. Abandoned stream channels on the terrace and inactive floodplains be preferred rather than active channels and their deltas and flood plains. The stream should not be diverted to form the inactive channel.
- XXV. Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.
- XXVI. Sand and gravel shall not be allowed to be extracted where erosion may occur, such as at the concave bank.
- XXVII. Sand and gravel shall not be extracted up to a distance of 1 kilo meter (1 km.) from major bridges and highways on both sides, of five times (5x) of the span (x) of a bridge / public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a

minimum of 250 meters on the upstream side and 500 meters on the downstream side.

- XXVIII. Sand and gravel could be extracted from the downstream of the sand bar at river bends.
- XXIX. Mining depth should be restricted to 3 meters and distance from the band should be $1/4^{\text{th}}$ of river width and should not be less than 7.5 meters.
- XXX. A buffer distance / unmined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed / prescribed by the regulatory authority shall be maintained.
- XXXI. River bed sand mining shall be restricted within the central $3/4^{\text{th}}$ width of the river/rivulet of 7.5 meters (inward) from river banks but up to 10% of the width of the river, as the case may be and decided by regulatory authority while granting Environmental Clearance in consultation with irrigation department. Regulating authority while regulating the zone of river bed mining shall ensure that the objective to minimize the effects of riverbank erosion and consequential channel migration are achieved to the extent possible. In general, the area for removal of minerals shall not exceed 60% of the mine lease area, and any deviation of relaxation in this regard shall be adequately supported by the scientific report.

2. Pandu Sand Deposit (River bed of Bania) of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Village : Pandu, Distt. : Khunti, Jharkhand (2.80 Ha).

(Proposal No : SIA/JH/MIN/ 471927/2024)

The PAs vide letter dated 28.06.2024 stated that the MDO and the project consultant have desired to make certain technical changes in the presentation before the SEAC.

Accordingly, the PAs has requested for deferment of the proposal. The SEAC will take up the proposal for consideration for EC after submission of fresh details.



3. Cheigari Sand Deposit of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Village : Cheigari, Anchal : Ghaghra, Distt. : Gumla, Jharkhand (8.80 Ha).

(Proposal No : SIA/JH/MIN/ 471937/2024)

Name of the consultant : P & M Solution, Noida, U.P.

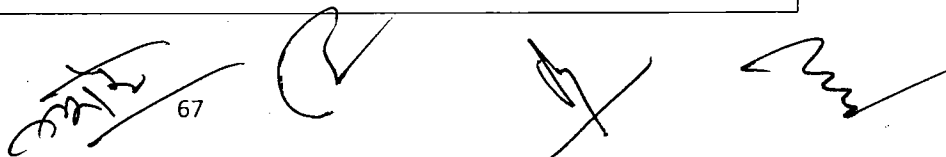
This is a new project which has been taken for appraisal on 28.06.2024.

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

EC Application for: Proposed Capacity- 93600 cum per annum or 246168 TPA

Project and Location Details :

Sl	Parameter	Details
1	Project Name	: Cheigari Sand Deposit (In The River Bed of South Koel)
2	Lessee	: M/s Jharkhand State Mineral Development Corporation Limited
3	Lessee Address	: Khanij Nigam Bhawan, Doranda, Ranchi – 834002, Jharkhand.
4	Lease Area	: 8.80 ha. Acres- 21.74 Acres
5	Type of Land	: Govt. non forest (river) land
6	Project Cost	: Rs. 100 Lakhs
7	EMP Budget	: Capital: 6.383 lakh Recurring: 4.80 Lakh
8	New or Expansion	: New
9	Mineable Reserves for 1 st year & subsequent year 60% of Replenished quantity	: 93600 cum or 246168 tons (Dry basis)
10	Mine Life	: Life of Mine/Lease Period i.e 15.08.2025 as per provision of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
11	Man power	: 33
12	Water Requirement	: 11.51 ~ 11.60 KLD (Drinking: 0.33 KLD, Dust Suppression: 8.24 KLD, Plantation: 2.94 KLD)
13	Water Source	: From Nearby villages by tankers
14	DG Set / power	: NA
15	Crusher	: NA
16	Nearest Water Body	: Project lies on South Koel River.
17	Nearest Habitation	: Cheigari Village Approx 0.62 km towards WSW direction.



18	Nearest Rail Station	:	Lohrdaga Railway Station approx. 23.0 Km in North direction.
19	Nearest Air Port	:	Birsa Munda Airport approx. 69.50 km towards East direction.
20	Nearest Forest	:	Open mixed Jungle Approx. 3.50 Km in ESE direction from mining lease Open mixed Jungle Approx. 3.60 Km in SE direction from mining lease
21	Road & Highways	:	NH-143A Approx. 8.20 Km in NW direction from mining lease.

CO-ORDINATES

1	Latitude	From 23° 14' 18.4096" N	To 23° 14' 45.0530" N
2	Longitude	From 84° 38' 54.4623" E	To 84° 39' 16.9900" E

LAND DETAILS

Khata no.	Plot no.
124	567 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Auction letter has been issued by Joint Secretary, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)-117/2017-2090/M, dated 30.09.2022. According to provisions in Jharkhand State sand Mining Policy and its amendment. JSMDL Ltd. has been nominated as nodal agency for operating sand mines in category II.
2	CO	:	The CO, Ghaghra (Gumla) vide letter no. 75 /Ghaghra, dated 25.01.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyani & Register II.
3	DMO	:	DMO, Gumla vide memo no. 351/M, dated 06.05.2024 certified that no other balughat exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Ranchi vide letter no. 450, dated 08.06.2024 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Gumla Forest Division vide letter no. 1497, dated 24.05.2024 certified that the distance of forest is more than 250 meter from proposed project site.

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6	DSR	:	This project is mentioned in approved DSR of Gumla district (Page No. – 65, Sl. No. - 06)
7	Gram Sabha	:	Gram Sabha conducted on 22.06.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Gumla vide Letter No. 322/M, dated 27.04.2024.
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 manual Method
2	Quarry Area	:	8.80 ha. or 21.74 Acres
			Life of Mine/Lease Period i.e 15.08.2025 as per provision of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
3	Waste Generation	:	00 cum, as it is sand mining project.
4	Stripping Ratio	:	0:0
5	Working Days	:	200 Days
6	Bench: size & No	:	Bench height – 2.0 m & Bench width - 20.0 m.
7	Elevation of Mine	:	589 mRL to 585 mRL (maximum 2.0 m)
8	Ground Level Elevation	:	585 mRL
9	Ultimate Working Depth	:	2.0 m
10	Water Table	:	NA
11	Topography of Mine	:	Area lying in river plain.
12	Explosive Requirement	:	None. No blasting required.
13	Diesel/Fuel requirement	:	Not required for mining.

Production Details

Year	Thickness (m)	Average Replenishment Rate	Production of sand(Cum)	Production of sand –MT
1st	2	100	93600	246168

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[Signature]

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The Development Plan submitted along with the mine plan relates to mining operation during the first year

Land Use

Type of Land	Area in (ha)
Forest Land	Nil
Govt. waste land (River)	8.80
Residential area	Nil
Company land	Nil
Private Land	Nil
Total	8.80

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Plantation along both sides of approach road	1374 m	1374
2	No. of Plants distributed with consultation local authorities/ village Panchayat	-	100

- 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.

Undertaking submitted affirming:

- Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
- 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.
- 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
- 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. 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.
- k. 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.
- l. Transportation from the river bed to the NH-143A will be done using the existing road.
- m. The Mining Plan has been prepared and approved in consonance with Enforcement & Monitoring Guidelines for Sand Mining, 2020.
- n. Wet sand will not be transported.

Solid Waste Management

- No solid waste is generated during the course of mining.

Water Quality Management

- A. Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- B. Sewage from rest shelter would be treated in Septic Tank soak pit.
- C. There is no other source for generation or discharge of trade effluent.

Air Quality Management

Sand will be mined manually. No mining equipment would be needed. However, diesel operated tippers/tractors would be used for transportation of sand from mine to stockyard.

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II. **Loading of Product on tippers** – Water will be sprinkled on blasted Sand mass before they are loaded to trucks for transport.

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- Regular repair of Haul road
- All Trucks carrying Sand outside lease area will have PUC certificate.
- Transport tippers/traders moving on public road will be covered with tarpaulin.

RISK ASSOCIATED WITH PROJECT ACTIVITIES AND THEIR MITIGATION MEASURES ARE DISCUSSED 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

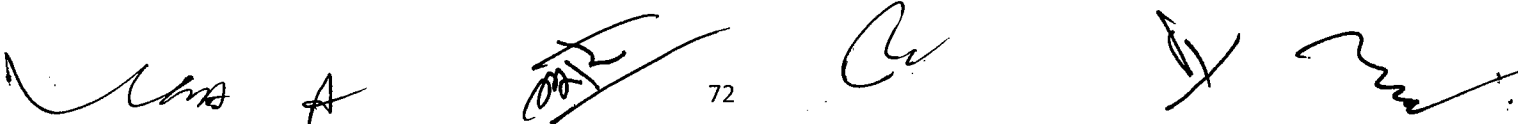
Accident at Site

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



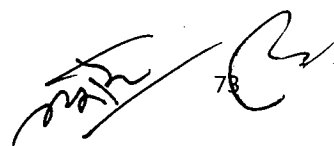

- Proper maintenance of haulage roads

Transportation

The usual method of transporting minerals from the working face is by 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.

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 25, 26, 27, 28 & 29.06.2024, 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.

4. Expansion of proposed Residential cum Commercial Project "Palm Hills" of M/s Nishith Keshari Construction Pvt. Ltd., Village : Bajra, Thana no. : 140, Distt. : Ranchi, Jharkhand.

(Proposal No : SIA/JH/INFRA2/ 482415/2024)

Project Category: 8(a) Category B2 – Application for Environment Clearance (EC).

EC Application for: Expansion of Residential cum commercial Project "Palm Hills" of M/s Nisith Keshari Constructions Pvt. Ltd.: Total built-up area 90000 sq m (Existing= 71000 sq m & Proposed=19000 sq m).

Name of the consultant: P & M SOLUTION, Noida, U.P.

This is an expansion project which has been taken for appraisal on 28.06.2024.

Project is classified as Category 8(a) as per EIA Notification as the built up area is less than 1,50,000 sq m and development area is less than 50 ha.

Project and Location Details:

Parameters	Description
Plot Area	18680.71sq m (1.86 ha/4.61 acres)
Project Cost	INR 98.0 Crores
Built-up Area (@2.99 F.A.R)	90000 sq m (Existing= 71000 sq m & Proposed=19000 sq m)
Green Belt (@ 15 % of plot area)	2802.10 sq m
Population	3153
Domestic Water Requirement	277 KLD
Fresh Water Requirement	194 KLD
Wastewater Generation	238 KLD
Treatment facility if waste water	STP of 350 KLD or STP (sewage treatment plant facility of Ranchi Smart City)
Total Municipal Waste	1437 kg/day
Power Requirement	Maximum power demand for the project during Construction and operation phase is estimated to be 150 KVA and 3000 KVA (Existing= 2500 & Proposed= 500 KVA) respectively. Source of power will be Jharkhand State Electricity board.
DG Sets	DG set of 1000 KVA (2*500 KVA)
RWH Pits	4 nos.
Parking Number	827 Nos. (745 Existing & 82 Proposed)

Nearest Road	Itki Road (approx. 40 m, S)
Nearest Railway Station	Ranchi Junction Railway station (approx 7.7 km, SE)
Nearest Airport	Birsa Munda Airport (Ranchi), (approx 7.4 km, SE)
Nearest Hospitals	<ul style="list-style-type: none"> • Radha Rani Mission Hospital (200 m, E) • Devkamal Hospital (1.2 km, E)

CO-ORDINATES

S.No.	Point in image	Latitude	Longitude
1.	A	23°22'23.07"N	85°15'32.44"E
2.	B	23°22'21.44"N	85°15'32.55"E
3.	C	23°22'20.08"N	85°15'32.47"E
4.	D	23°22'25.43"N	85°15'33.03"E
5.	E	23°22'19.22"N	85°15'33.43"E
6.	F	23°22'27.61"N	85°15'33.75"E
7.	G	23°22'20.33"N	85°15'34.46"E
8.	H	23°22'21.12"N	85°15'34.68"E
9.	I	23°22'24.45"N	85°15'33.81"E
10.	J	23°22'26.95"N	85°15'35.69"E
11.	K	23°22'24.90"N	85°15'35.69"E
12.	L	23°22'25.58"N	85°15'35.88"E
13.	M	23°22'20.14"N	85°15'35.93"E
14.	N	23°22'18.01"N	85°15'36.69"E
15.	O	23°22'18.68"N	85°15'37.67"E

Land Details :

Existing	
Khata no.	Plot no.
42	21/1339, 24, 25, 35, 37, 39, 43, 54
149	52
150	55

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151	28, 29, 30
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Expansion	
Khata no.	Plot no.
42	46, 45, 44
148	50, 47
150	55

AREA STATEMENT

S No.	Description	Area (sq m) as per previous EC (sq m/Nos.)	Area (Sq m) as per expansion Block F (Sq m/Nos.)	Area (Sq m) as per expansion Bungalow (Sq m/Nos.)	Total (Sq m/Nos.)
A.	Total Plot area	14306.5	4374.21		18680.71
B.	Proposed Ground Coverage (@33.93 % of plot area)	4600.0 (Both for existing & proposed)			
C.	Proposed FAR	47211.45	13500	1300	62011.45
D.	Non FAR	23788.55	4000	200	27988.55
E.	Built-Up area	71000	17500	1500	90000
F.	Commercial area	3400			
G.	Green Area (29 % of the plot area)	3475	2019.39		5494.39
H.	No of Dwelling units	400	88	2	490
I.	Height	45.0	42.3	12.6	45.0 (Highest)

COMPARISON TABLE

S.No.	Name	Existing details as per EC grant	Proposed details (Expansion)	Details after Existing and proposed
1	Plot area	14306.5 sqm	4374.21 sqm	18680.71 sqm
2	Built-Up area	71000 sqm	19000 sqm	90000 sqm
3	Green area	3475 sqm (24.9 % of plot area)	2019.39 sqm (10.62 % of plot area)	5494.39 (29 % of plot area)
4	Population	2540	613	3153
5	STP Capacity	280 KLD	70 KLD	350 KLD
6	Total Municipal waste	1142 kg/day	295 kg/day	1437 kg/day
7	Power requirement	2500 KVA	500 KVA	3000 KVA

8	DG Set	500 KVA	500 KVA	1000 KVA
9	Parking details	745 nos.	82 nos.	827 KVA

Statutory Clearances :

1	DFO Forest Distance	:	DFO, Ranchi Forest Division vide letter no. 2139, dated 09.05.2022 and letter no. 1890, dated 01.06.2024 certified that the distance of reserved / protected forest is more than 250 meters from project site.
2	DFO wildlife	:	DFO, Wildlife Division, Ranchi vide letter no. 328, dated 02.04.2022 and letter no. 385, dated 16.05.2024 certified that proposed project site is out side Eco Sensitive Zone of Palkot Wildlife Sanctuary.
3	CO certificate	:	The CO, Hehal, Ranchi vide letter no. 282(ii), dated 16.03.2022 and letter no. 511 (ii), dated 29.05.2024 have mentioned the plot no. of the project is not recorded as "Jangle Jhari" in Khatiyani.
4	AAI NOC	:	Airport authority of India issued NOC vide NOC ID no. RANC/EAST/B/ 110921/634028, dated 12.11.2021.
5	Building Plan	:	Conceptual Plan submitted.
6	Fire Department	:	A Fire Advisory has been issued by Fire Department, Jharkhand, Ranchi, vide memo no. 3303/Tech./2022, dated 31.08.2022.
7	Previous Environmental Clearance (EC)	:	Previous EC granted by SEIAA, Jharkhand vide letter no. EC/SEIAA/2022-23/2631/2022/248, dated 02.09.2022.
8	Compliance report of Environmental Clearance (EC)	:	Compliance report of Environmental Clearance (EC) Self certified by Project Authority.
9	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTE-14229924/2023/32, dated 19.01.2023.

Water Requirement Details

Category	Population/Area(sq m)/Capacity	Standard(LPCD)	Water Requirement -KLD	Fresh Water Requirement -KLD	Recycled Water requirement-KLD
Domestic					
Residents	2557	100	256	179	77

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Staff	366	45	17	12	5
Visitors	230	15	4	3	1
Total Domestic Water Demand			277	194	83
Landscap e	5494.39 sq m	6 l/day	33	0	33
DG Cooling	1000 KVA	0.91/KVA/ hr	8	--	8
Fire Fighting	--	--	1	--	1
Total			319	194	125

(D.G. sets operation period is 8 hrs.)

Wastewater Calculations

Category	Total Quantity (KLD)
Fresh water Req.	194
Flushing water Req.	83
Sewage generation (@80% of the fresh water consumption + 100% flushing water)	238
Capacity of STP	350
Recovered water from STP (80% of Waste water)	191
1. Flushing	68
2. Landscaping	33
3. DG Cooling	8
4. Fire Fighting	1
5. Road Washing/ Car washing/ Discharge to Sewer	81

Solid Waste Requirement

S. No	Description	Occupancy/ Area	kg/capit a/day	Total Solid Waste Generation (kg/day)	Recyclable (kg/day)	Non- Recyclable (kg/day)
1.	Residents	255 7	0.5	1279	895	384
2.	Staff	366	0.25	92	64	28
3.	Visitors	230	0.15	35	24	11
4.	Landscape waste	1.35 acres	0.2	0.27	0	0.27
5.	STP sludge	350 KLD	--	30	30	-
Total Waste Generated				1436.27 ~1437	1013	423.27~424

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 2802.10 sq m (15 % 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.

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 colored 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

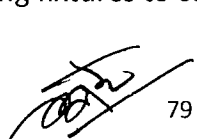

During Construction Phase

- 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. 350 KLD or STP (sewage treatment plant facility of Ranchi City) 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.

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- Approx. 159 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

- Solar panels will be used in street Lights, Common area, Pumping area (solar panels will be used to save around 10% of the total power requirement.

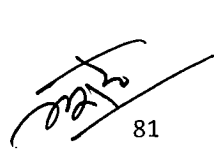
Undertaking

- An affidavit stating that no construction work.
- An undertaking that 238 KLD recycles waste water generated at Expansion of Residential cum commercial Project "Palm Hills" located at Plot No. 21/1339, 24, 25, 28, 29, 30, 35, 37, 39, 43, 52, 54, 44, 45, 46, 47, 50, 55, Khata No. 42, 148, 150, Mauza-Bajra, Thana no. 140, Thana- Sukhdeonagar, Block Hehal Ranchi, Jharkhand shall be met from M/s Nisith Keshari Constructions Pvt. Ltd.
- An undertaking that 3000 kVA Power requirement in Expansion of Residential cum commercial Project "Palm Hills" located at Plot No. 21/1339, 24, 25, 28, 29, 30, 35, 37, 39, 43, 52, 54, 44, 45, 46, 47, 50, 55, Khata No. 42, 148, 150, Mauza-Bajra, Thana no. 140, Thana- Sukhdeonagar, Block Hehal Ranchi, Jharkhand shall be met from M/s Nisith Keshari Constructions Pvt. Ltd.

Based on the presentation made and information provided, the Committee decided that the proposal for Expansion of proposed Residential cum Commercial Project "Palm Hills" of M/s Nishith Keshari Construction Pvt. Ltd., Village : Bajra, Thana no. : 140, Distt. : Ranchi, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure -III alongwith the following specific conditions :

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- I. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.
- II. 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.
- III. All raw material to be stored only under covered shed.
- IV. 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.
- V. Developers to promote energy conservation measures such that it offsets not less than 02 % of connected load. It is to be achieved by solar panels etc meeting ECBC norms.
- VI. Trees should be developed & maintained not less than 15% of project area.
- VII. Organic Waste Converter (OWC) to be installed of sufficient capacity such that all organic waste (bio degradable) generated is composted at source only.
- VIII. Developers/Company to install STP of sufficient capacity such that all the sewer produced is treated and reused.
- 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 Collection centre should be located in isolated and preferably unmanned area. Movement of the vehicle carrying waste should be under tarpaulin covered condition only. Route of vehicle should be such that it avoids residential 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.
- XV. A cycling tract to be provided in residential complex so as to save on fuel and make in campus movement environment friendly.


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5. Kairasai Brick Clay Mining Project of Shri Sanjay Kumar Paramanik, Mouza : Kairasai, Thana no. : 1518, P.S. : Kowali / Potka, Anchal : Potka, Distt. : East Singhbhum, Jharkhand (0.672 Ha).

(Proposal No : SIA/JH/MIN/ 481308/2024)

Project Category: B2 – Application for Environment Clearance (EC)

EC Application for: Proposed Capacity-1,560 Cum soil/Annum or 6,00,000 Bricks/Annum.

Name of the consultant: P & M Solution, Noida, UP.

This is a new project which has been taken for appraisal on 28.06.2024.

Project and Location Details :

Sl	Parameter	Details	
1.	Project Name	: Kairasai Brick Clay Mining Project	
2.	Lessee:	: Shri Sanjay Kumar Paramanik S/o Angsuman Paramanik	
3.	Lease Address	: R/o- Village- Kairasai, Post- Chakri, P.S.- Kowali District- East-Singhbhum, 831002 (Jharkhand)	
4.	Lease Area	: 0.672 ha	Acres-1.66 Acres
5.	Type of Land	: Non Forest – Raiyati Land	
6.	Project Cost	: Rs. 20 Lakhs	
7.	EMP Budget	: Capital:4.06 Lakh	Recurring: 3.91 Lakh / year
8.	New or Expansion	: New	
9.	Mineable Reserves	: Cum.: 8992 Cum	Tonnes: 13488 Tonnes
10.	Mine Life	: 5.8 Years	
11.	Man power	: 23	
12.	Water Requirement	: 7.39 ~ 7.40 KLD (Drinking: 0.23KLD,Dust Suppression:5.02 KLD, Plantation:2.14 KLD)	
13.	Water Source	: From Nearby villages by tankers	
14.	DG Set / power	: NA	
15.	Crusher	: No crusher	
16.	Nearest Water Body	: Ramgarh Nadi, Approx. 1.0 km towards NW direction. Gudra Nadi, Approx. 0.22 km towards East direction.	
17.	Nearest Habitation	: Kairasai, Approx. 0.83 km towards South direction.	
18.	Nearest Rail Station	: Haludpukur Railway Station at a distance of 7.5 km towards NNW direction from site.	
19.	Nearest Air Port	: Birsa Munda Airport, Ranchi at a distance of 121.2 km in NW direction from mine site.	

20.	Nearest Forest	:	Jojobih Reserve Forest, Approx. 6.77 km towards SW direction Toardungri Reserve Forest, Approx. 5.15 km towards SW direction Open Mixed Jungle, Approx. 4.50 km towards SE direction Protected Forest, Approx. 6.9 km towards East direction Protected Forest, Approx. 7.95 km towards NE direction
21.	Road & Highways	:	NH-220, Approx, 6.83 km towards WNW direction.

CO-ORDINATES

1	Latitude		From 22°32'19.91"N	To 22°32'20.81"N
2	Longitude		From 86°10'34.77"E	To 86°10'30.58"E

LAND DETAILS

Khata No	Plot No
86	133 (P) & 117 (P)
101	115, 124, 127, 125, 121, 123, 126 & 116

STATUTORY CLEARANCES :

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Potka, East Singhbhum vide letter no. 560, dated 14.08.2018 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyani.
3	DMO	:	DMO, East Singhbhum, Jamshedpur vide letter no. 905/khanan, dated 10.11.2022 certified that no other lease area exists within 500 m radius from proposed project.
4	DFO Dalma Elephant Project	:	DFO, Dalma Elephant Project vide letter no. 1979, dated 20.12.2021 certified that the proposed project site is out side Eco Sensitive Zone of Dalma Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Jamshedpur Forest Division vide letter no. 2898, dated 28.08.2018 certified that the distance of reserved / protected forest is more than 250 m from the project site.
6	DSR	:	The project is mentioned in approved District Survey Report

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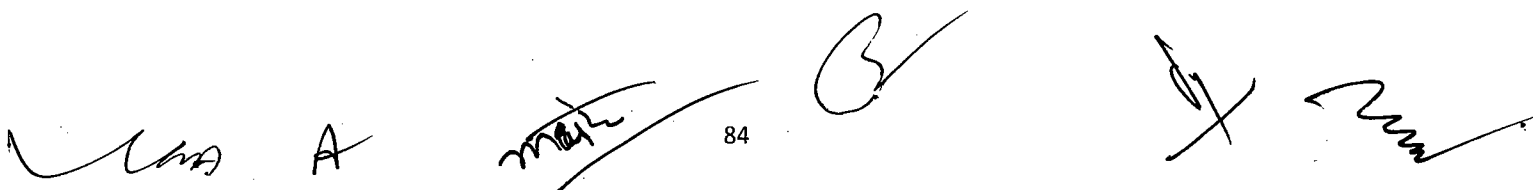
			(DSR) of District East Singhbhum (Page no. 41, Sl. no. 22).
7	Gram Sabha	:	Gram Sabha conducted on 21.06.2023.
8	Mine Plan Approval	:	Approved by Assistant Mining Officer, West Singhbhum, Chaibasa vide letter no. Camp 2/M dated 18.09.2023.
9	Qualified Person	:	Md. Tauseef Warsi vide e-mail dated 28.06.2024 affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Manual Mining method
2	Quarry Area	:	0.672 Ha Life of Mine – 5.8 Years
3	Waste Generation	:	0.0cu.m
4	Stripping Ratio	:	0: 0
5	Working Days	:	180
6	Bench: size & No	:	--
7	Elevation of Mine	:	202 AMSL to 201 AMSL
8	Ground Level Elevation	:	--
9	Ultimate Working Depth	:	2 mtr.
10	Water Table	:	--
11	Topography of Mine	:	Area represents undulating topography
12	Explosive Requirement	:	--
13	Diesel/Fuel requirement	:	--

Production Details

Year	Production of Clay in Cum	Production of Clay in Tonnes	Removal of top soil in Cum	Nos. of Bricks in Lac
1 st	1560	2340	168.6	6.0
2 nd	1560	2340	Nil	6.0
3 rd	1560	2340	Nil	6.0
4 th	1560	2340	Nil	6.0
5 th	1560	2340	Nil	6.0
Total	7800	11700	168.6	30.0



Land Use

Pattern of Utilization	Existing (Ha)	At the End of Plan Period (Ha)	After Life of mine (Ha)
Mining Pit Quarry	Nil	0.45	0.592 (Used as a Cropping)
Brick Kiln	Nil	0.11	Demolish Brick Kiln
Approach road	Nil	0.01	0.00
Dump or Soil Stacked	Nil	0.01	0.00
Office or rest shelter etc.	Nil	0.01	0.00
Safety Zone	Nil	0.08 (Plantation)	0.08 (Plantation)
Balance Area	0.672	0.002	0.00
Total	0.672	0.672	0.672

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	LOCATION	Area/Length	No of Trees
1	Safety Zone	0.08 ha	200
2	Haul /Approach Road	0.770 km	770
3	No. of Plants distributed in Anganwadi, Panchayat Bhawan or in schools	--	100

- 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

- It is proposed that the total wastes will be dumped at site & will be used in maintenance of road.

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

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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.

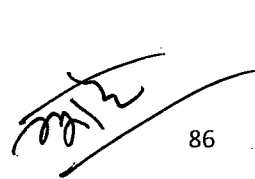
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

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.
- 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.

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. 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.



- k. 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 Kairasai Brick Clay Mining Project of Shri Sanjay Kumar Paramanik, Mouza : Kairasai, Thana no. : 1518, P.S. : Kowali / Potka, Anchal : Potka, Distt. : East Singhbhum, Jharkhand (0.672 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I

6. Lakhipahari Stone Mine of Shri Mukhleshur Alam, Village : Lakhipahari, P.S. : Pakur, Distt. : Pakur, Jharkhand (2.21 Ha).

(Proposal No : SIA/JH/MIN/ 480858/2024)

The PAs vide letter dated 28.06.2024 have requested for deferment of project stating that some technical correction are required to be done in the proposal submitted for appraisal.

Accordingly, the PAs are permitted to submit the fresh details pertaining to the project for consideration for grant of EC.

7. Lakhipur Stone Mine of M/s Shri Om Prakash Pandey, Village : Lakhipur, P.S. : Chandankiyari, Distt. : Bokaro, Jharkhand (1.94 Ha).

(Proposal No : SIA/JH/MIN/ 483284/2024)

Project Category: B2 – 1 (a) Mining of Minerals : Application for Environment Clearance (EC)

EC Application for: Boulder Stone: 29400 Cu.m / Year i.e. 85260 TPA

Waste: Nil

DG Set: No

Name of the consultant: P & M Solution, Noida, UP.

This is a new project which has been taken for appraisal on 28.06.2024.



Project and Location Details:

Sl	Parameter	Details	
1	Project Name	:	Lakhipur Stone Mine
2	Lessee:	:	M/s Shri Om PrakashPandey, Proprietor -ShriOm PrakashPandey.
3	Lease Address	:	Mouza- Lakhipur, Thana:Chandankiyari, Dist.:Bokaro, Jharkhand
4	Lease Area	:	Ha: 1.94 Ha Acres:4.80 Acres
5	Type of Land	:	Non Forest – Rayati Land
6	Project Cost	:	39.50 Lakhs
7	EMP Budget	:	Capital: 12.50 Lakhs Recurring: 4.00 Lakh / year
8	CSR / CER Budget	:	Rs. 2.00 Lakhs
9	New or Expansion	:	New Project
10	Mineable Reserves	:	Tonnes:107135 CU.M
11	Mine Life	:	10.43 say 11 years
12	Man power	:	43
13	Water Requirement	:	12 KLD (Drinking: 2KLD,Dust Suppression:4 KLD, Plantation:6KLD)
14	Water Source	:	From Nearby villages by tankers
15	DG Set / power	:	No
16	Crusher	:	No
17	Nearest Water Body	:	River 4.10 KM
18	Nearest Habitation	:	Lakhipur Village: 1.0 KM;Bokaro 25 KM
19	Nearest Rail Station	:	<i>Sbewbabudih</i> (20.08 km) North
20	Nearest Air Port	:	Ranchi: 135 KM SW direction
21	Nearest Forest	:	PF 4 KM in North direction
22	Road & Highways	:	NH- 218, Approx. 5.13 km. west direction State Highway SH-12, Approx. 9.5 Km North direction

CO-ORDINATES

1	Latitude	From 23° 28' 57.259"N	To 23° 29' 2.774"N
2	Longitude	From 86° 21' 11.636" E	To 86° 21' 05.345" E.

LAND DETAILS

Khata no.	Plot no.
35	55, 56, 57, 60 & 61
36	41, 42, 43, 44, 45, 46, 47, 50, 62, 63, 64, 65, 66, 67, 68, 69 & 73

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Bokaro vide memo no. 888/Khanan, dated 29.03.2022.
2	CO	:	The CO, Chandankiyari (Bokaro) vide letter no. 363, dated 02.07.2021 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyari.
3	DMO	:	DMO, Bokaro vide memo no. 1804/Khanan, dated 15.09.2022 certified that no other mining lease exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2525, dated 17.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Bokaro Forest Division vide letter no. 3177, dated 16.11.2021 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 Bokaro District (Sl. no. 19, Page no. 73).
7	Gram Sabha	:	BDO, Chandankiyari (Bokaro) vide letter no. 1384 dated 29.08.2023 informed that Gram Sabha conducted on 26.07.2023.
8	Mine Plan Approval	:	Approved by District Mining Officer, Bokaro vide Memo No. 966/M, dated 22.06.2024.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi Mechanized. Jack Hammer, Drilling & Blasting to be used
2	Quarry Area	:	5 years-2.06 Ac Life of Mine - 2.06 Ac
3	Waste Generation	:	5 years- Nil Life of Mine - Nil
4	Stripping Ratio	:	
5	Working Days	:	300
6	Bench: size & No	:	5m x 5m
7	Elevation of Mine	:	In AMSL
8	Ground Level Elevation	:	In AMSL
9	Ultimate Working	:	173mBL (Hence forth In AMSL)

	Depth	:	
10	Water Table	:	165mRL (Hence forth In AMSL) & also bgl
11	Topography of Mine	:	Plain
12	Explosive Requirement	:	17.25/Day
13	Diesel/Fuel requirement	:	

Production Details

Year	Production of stone (Cum)	Production of stone (Tons)	Bench RL in Meters
1 st	12585	36497	200-198
2 nd	29400	85260	205-198
3 rd	22200	64380	198-193
4 th	26800	77720	193-183
5 th	13600	39440	183-178
Total	104585	303297	

Land Use

Sl.No.	Pattern of Utilization	Area (Acres)	Proposed Land Use at End of Life of Mine (Ac)	Land Usage at Conceptual Stage
1	Mining Activity	2.06	2.06	Water Body 2.49
2	Offices	0.00	0.00	
3	Dumping	0.00	0.00	
4	mining Road	0.08	0.08	Water Body
5	Garland drain	0.20	0.20	
6	Settling Tank	0.03	0.03	
7	Green Belt	1.80	1.80	Plantation
8	Stone rock yard	0.00	0.00	
9	Unutilized	0.63	0.63	Plantation
Total		4.80	4.80	

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION	Area/Length	No of Trees
1	Safety Zone	: 0.73 ha	1825 trees @ 2500 trees per ha
2	Other Reclaimed Area	: NIL	NIL

3	Haul /Approach Road	:	0.4KM	266 trees on both sides – 3 m distance
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- 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 waste to be generated during life of mine.

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.
- 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

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. 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.
- k. 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.

RISK ASSESSMENT

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

Hazard identification & Risk Analysis in Stone Mining operation

The bottom of the page contains several handwritten signatures and initials. From left to right, there is a signature that appears to be 'UMA', the letter 'A', a signature that looks like 'M/A', the number '92', a signature that looks like 'B', a signature that looks like 'A', and a signature that looks like 'Uma'.

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.

NMA A

MTH

C

X

mm

- 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.

During the presentation the following documents were sought :

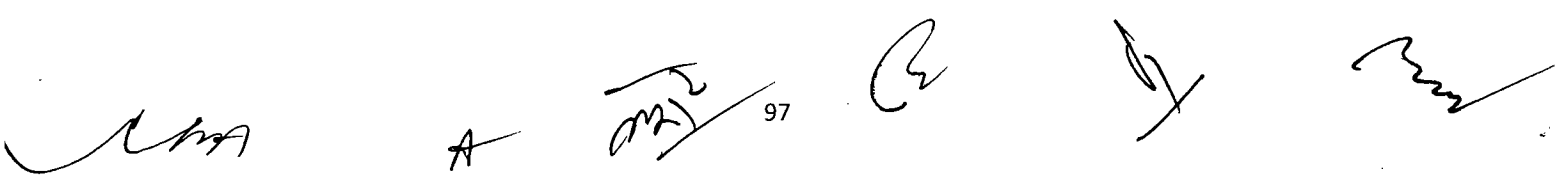
- i. Copy of Form-2.
- ii. 5 KM buffer area map showing state boundary.
- iii. Geological plan & section showing safety zone.
- iv. Evacuation Road map showing proposed & existing road.
- v. Land use plan showing existing, proposed 5 year & ultimate land use.
- vi. Proposed mine showing blasting shall be done by outsource agency.

- vii. Ultimate working section showing the gap between ultimate quarry floor and water table.
- viii. EMP for protection of adjacent pond.

The Project Authorities have submitted the above mentioned documents.

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 Laxhipur Stone Mine of M/s Shri Om Prakash Pandey, Village : Laxhipur, P.S. : Chandankiyari, Distt. : Bokaro, Jharkhand (1.94 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. Project Authorities must ensure implementation of all necessary protective measures to ensure protection of the adjacent pond from deterioration due to the mining activities of the project. Such measures are to be implemented with concurrence of the Gram Sabha and any other local bodies before commencing the mining activity. The measures proposed in the EMP submitted are also to be fully implemented.
- II. 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.
- III. 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.
- IV. 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.
- V. 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.
- VI. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.
- VII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.



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8. Pratappur Stone Deposit of M/s B.M. Stone Works (Partners : Morful Haque & Belal Sheikh), Village : Pratappur, P.S. : Hiranpur, Distt. : Pakur, Jharkhand (2.44 Ha).

(Proposal No : SIA/JH/MIN/ 474903/2024)

Name of the consultant: P & M SOLUTION, Noida, U.P.

This is a new project which has been taken for appraisal on 28.06.2024.

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

TOR Application for: Proposed Capacity- 61936 cum/annum or 179614.40 TPA

Project and Location Details:

Sl	Parameter	Details
1	Project Name	: Pratappur Stone Deposit (Area- 2.44 Ha or 6.03 Acres)
2	Lessee:	: M/s B.M. Stone Works Partners- Morful Haque & Belal Sheikh
3	Lease Address	: Near Village – Pratappur, P.S - Hiranpur, District – Pakur, Jharkhand
4	Lease Area	: 2.44 Ha Acres- 6.03 Acres
5	Type of Land	: Non- Forest (Raiyati Land)
6	Project Cost	: Rs. 50 Lakhs
7	EMP Budget	: Capital: Rs. 4.56 Lakhs Recurring: Rs. 5.10 Lakhs/year
8	New or Expansion	: New
9	Mineable Reserves	: 618970 cum or 1795013 tones
10	Mine Life	: 10 years
11	Man power	: 27
12	Water Requirement	: 8.20 KLD, (Drinking: 0.27 KLD, Dust Suppression: 4.28 KLD, Plantation: 3.56 KLD)
13	Water Source	: From Nearby villages by tankers
14	DG Set / power	: 500 KVA
15	Crusher	: No Crusher
16	Nearest Water Body	: Torai Nadi, Approx. 3.74 km towards SSE direction of mine site
17	Nearest Habitation	: Pratappur, Approx. 300 meters towards North direction.
18	Nearest Railway Station	: Kotalpukur Railway station, approx. 7.21 km towards NE direction
19	Nearest Air Port	: Deoghar Airport approx. 112 km towards WSW direction.

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20	Nearest Forest	:	Belpahari PF, Approx. 1.78 Km in WNW direction. Protected Forest, Approx. 8.48 Km in NW direction of mine site
21	Road & Highways	:	NH-133A, Approx. 3.40 km in WSW direction.

CO-ORDINATES

1	Latitude	From 24°41'47.51" N	To 24°41'54.42" N
2	Longitude	From 87°46'06.93" E	To 87°46'15.08" E

LAND DETAILS

Khata no.	Plot no.
06	567 (P), 569 (P), 570, 571, 572 & 573
08	580, 588, 589 (P), 590 & 591
10	566 (P), 568 (P), 598 & 599

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 2687/M, dated 20.12.2023.
2	CO	:	The CO, Hiranpur vide letter no. 446/Ra., dated 25.08.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyani & Register II and also mentioned that the habitation of 28 houses within 500 meters of proposed project site.
3	DMO	:	DMO, Pakur vide memo no. 121/M, dated 19.01.2024 certified that 04 other mining lease area (6.55 Acre, 2.60 Acre, 6.98 Acre & 5.81 Acre) exists within 500 m radius from proposed project site and total area is 27.97 Acre (11.32 Ha).
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 3070, dated 22.12.2022 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Pakur Forest Division vide letter no. 1504, dated 30.09.2021 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.

6	DSR	:	The DMO, Pakur has been certified vide memo no. 258/M, dated 16.02.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 40, Page no. 119).
7	Gram Sabha	:	BDO, Hiranpur vide letter no. 139/Vi., dated 18.02.2022 Informed that Gram Sabha conducted on 15.02.2022.
8	Mine Plan Approval	:	Approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Memo No. 46/DDM, dated 24.04.2024.
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	:	Opencast Mechanized Method
2	Quarry Area	:	2.44 Ha / 6.03 Acres Life of Mine – 10 Years
3	Waste Generation	:	5051.00 cum waste 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	:	53 AMSL to 52 AMSL
8	Ground Level Elevation	:	52 AMSL
9	Ultimate Working Depth	:	22 AMSL (30 mbgl)
10	Water Table	:	10-12 AMSL (42-40 mbgl)
11	Topography of Mine	:	Area represents a flat topography.
12	Explosive Requirement	:	110kg/day
13	Diesel/Fuel requirement	:	110 litre/day

Production Details

Year	Production of Stone in cum	Production of Stone in tones	Waste (cum) in plan period	Bench (AMSL)
1st	53550.00	155295.00	1651.00	53 – 46
2nd	54230.00	157267.00	1695.00	53 – 46
3rd	56950.00	165155.00	1705.00	52 – 46
4th	61620.00	178698.00	-	46 – 40
5th	61936.00	179614.40	-	46 – 40
Total	288286.00	836029.40	5051.00	

Land Use

Pattern of Utilization	Existing (Ha)	After five years Plan period (Ha)	After life of mine (Ha)
Quarry	-	1.86	1.86 (Entire area will be converted into Rain water harvesting)
Mine Road	0.006	Comes under qry	Comes under qry
Safety Zone	-	0.58 (Plantation)	0.58 (Plantation)
Total	0.006	2.44	2.44
Balance	2.434	-	-
Lease hold area	2.44 Ha		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.58 ha.	1450
2	Along Approach Road	:	230 m	230
3	No. of Plants distributed in Anganwadi, Panchayat Bhawan or in schools	:	--	100

- 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

Total 5051.00 cum waste generated during this Mining Plan period, so there is no requirement of waste dumping Plan for this mining plan but it will be used for village road and approach road maintenance

Water Quality Management

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

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		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, thereby 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, injury or 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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- 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.

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- 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

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- 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.

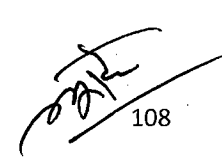
Transportation

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.



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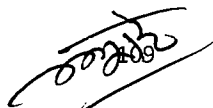
- c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
- d. The Boundary Pillars of the proposed mine lease 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. 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.
- k. 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.

Baseline data has been generated from 1st March, 2024 to 31st May, 2024.

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 25, 26, 27, 28 & 29.06.2024, 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 along with following specific condition :

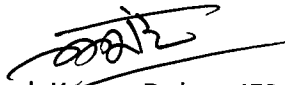
- i. The detailed EMP is to be prepared for the Habitation existing within an area of 500 meter radius of proposed project boundary. This EMP is to be included in EIA report.








The meeting concluded with thanks to all present.



Ashok Kumar Dubey, IFS (Retd.)
Member



Dr. Ajay Govind Bhatt
Member



Niranjan Lal Agarwalla
Member



Dr. Raju Kumar
Member



Srikant Verma, IFS
Member Secretary



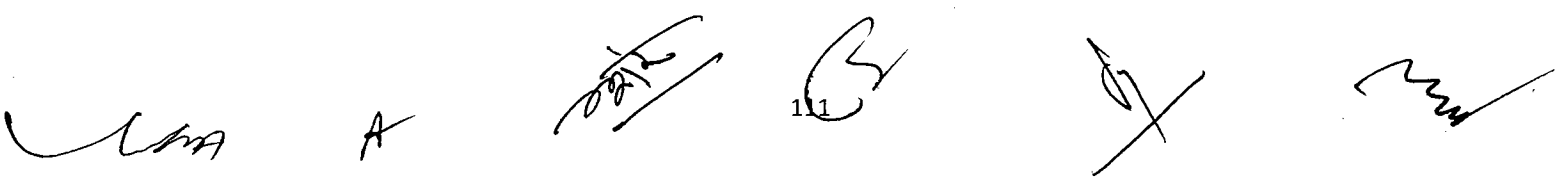
Ashok Kumar Singh, IFS (Retd.)
Chairman

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. GodavermanThirumulpadvs 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.

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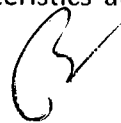
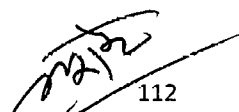
- x. The Project Proponent shall obtain consents from all the concerned land owners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.
- xi. The Project Proponent shall follow the mitigation measures provided in MoEF&CC's Office Memorandum No. Z-11013/57/2014-IAII (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](http://www.Environmentclearance.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



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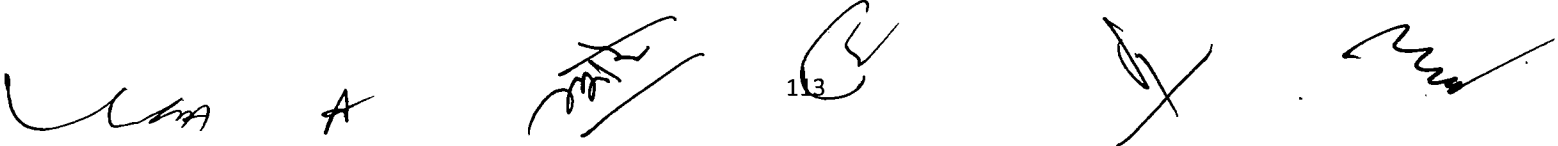


data shall be digitally displayed within 03 months in front of the main Gate of the mine site.

- 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 all 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

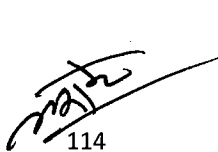
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water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. 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.



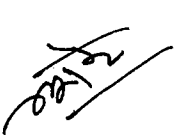



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- ii. The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations 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 PP shall 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

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- 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

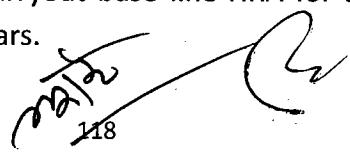
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- selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for protection and care of trees.
- 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. 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. And 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.

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- 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

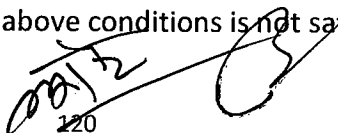
Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.

X. Corporate Environment Responsibility (CER)

- i. The activities and budget earmarked for Corporate Environmental Responsibility (CER) as per Ministry's O.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

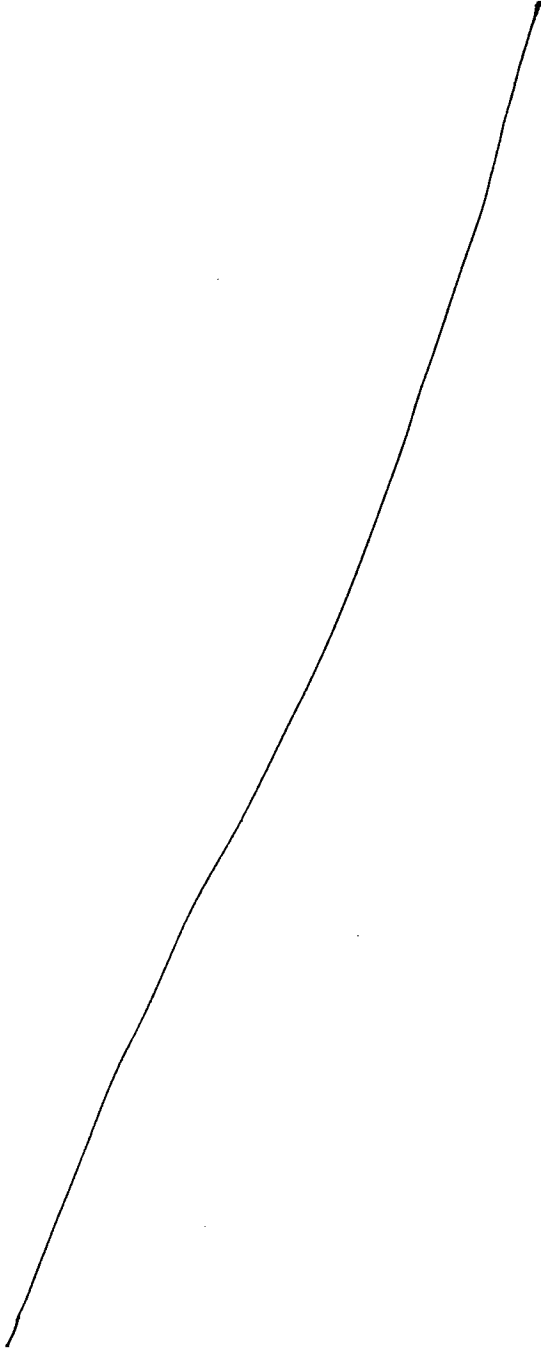
- i. The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.
- ii. The Project Authorities should inform to the Regional Office regarding 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.



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- 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.



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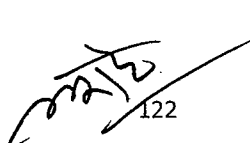

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The TORs prescribed for undertaking detailed EIA study are as follows:

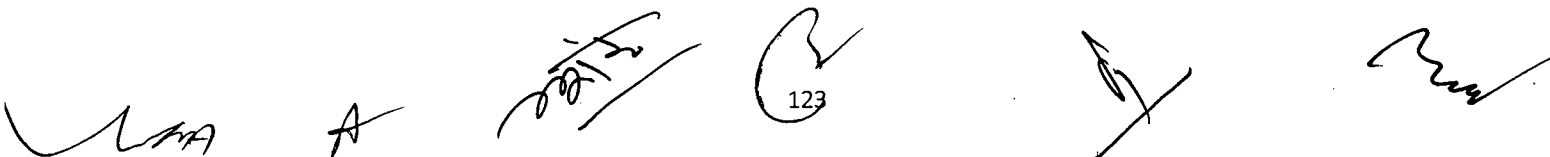
- i. Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production 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.

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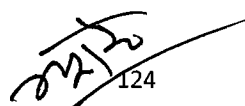
- x. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass 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

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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

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- 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

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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 :-

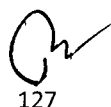
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- a) Executive Summary of the EIA/EMP Report
 - b) All documents to be properly referenced with index and continuous page numbering.
 - c) Where data are presented in the Report especially in Tables, the period in which the data were collected and 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.

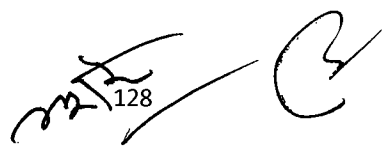


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I. Statutory Compliance

- 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,



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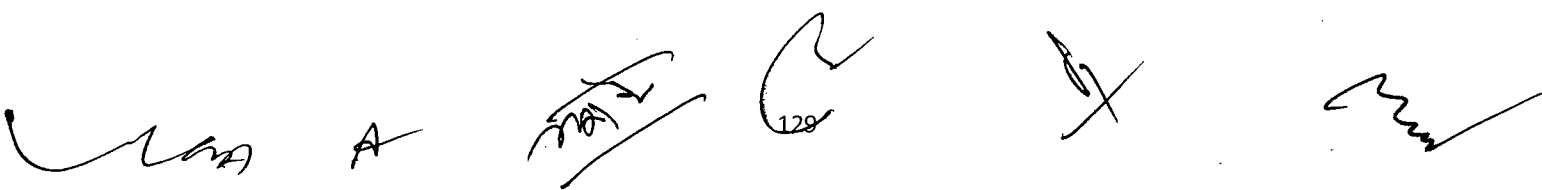


safe drinking water, medical health care, etc. The housing may be in the form of temporary structures to be removed after completion of the project.

- 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.



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- 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, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.
- vi. Sand, murrum, 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

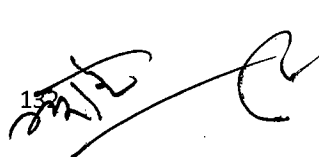
- other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water.
- ii. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.
 - iii. Total fresh water use shall not exceed 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.



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- 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.



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- 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.

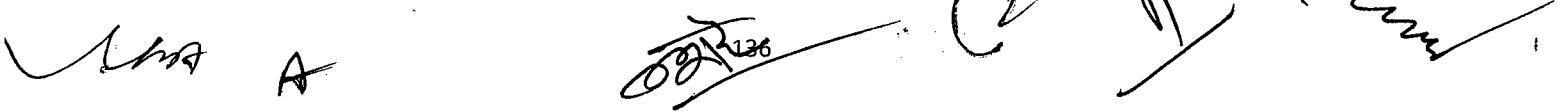
- v. Occupational health surveillance of the workers shall be done on a regular basis.
- vi. A First Aid Room shall be provided in the project both during construction and operations of the project.

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

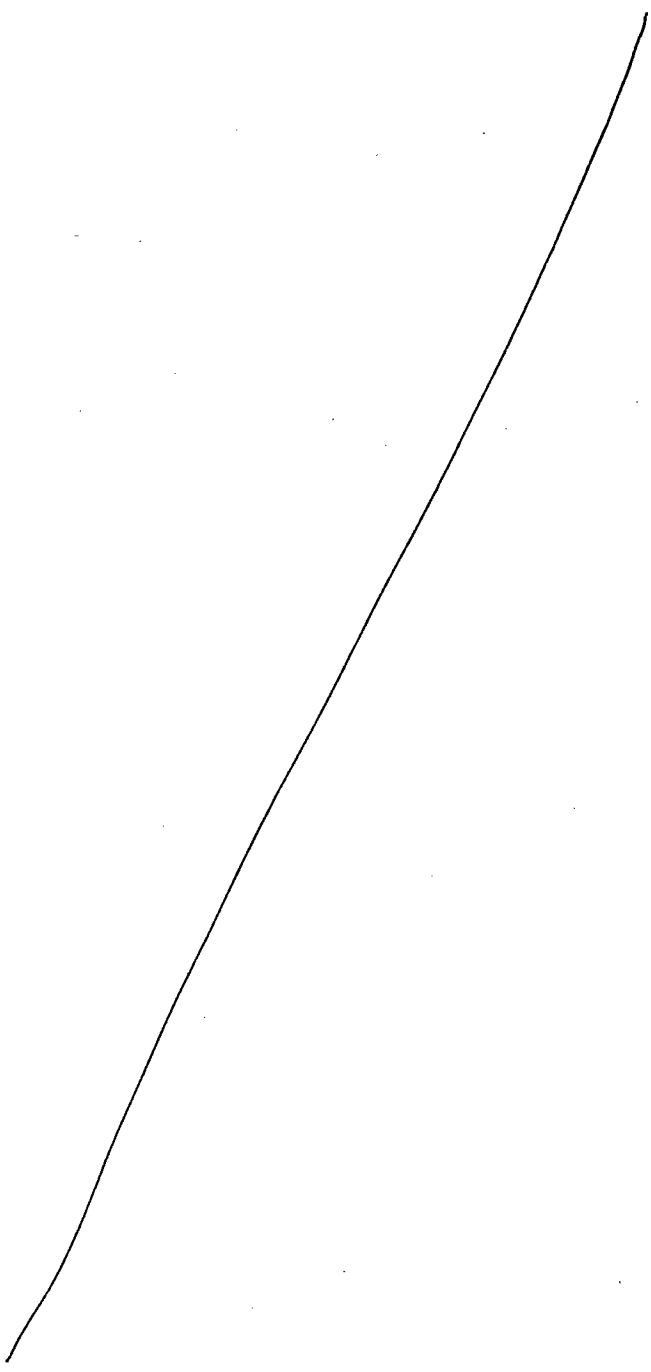
- i. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC/SEIAA website where it 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.

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- 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.



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