MINUTES OF THE 110TH MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC), JHARKHAND HELD ON 17TH, 18TH, 19th 20th and 21ST OCTOBER, 2023.

The 110th meeting of State Level Expert Appraisal Committee (SEAC), Jharkhand was held on 17th, 18th, 19th, 20th and 21st October, 2023 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. Dr. Kirti Avishek - Member
3. Shri Niranjah Lal Agarwalla - Member
4. Dr. Raju Kumar - Member
5. Dr. Ajay Govind Bhatt - Member
6. Shri Srikant Verma, IFS - Secretary

SEIAA forwarded various projects to the SEAC for the technical appraisal after the last SEAC meeting held on 09th, 10th, 11th, 12th and 13th October, 2023. 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 : October 17th, 2023 [Tuesday]

A. Corrigendum EC letter for Grain Based Distillery with Cogeneration Plant of M/s Sheonarain Jaiswal Pvt. Ltd., Village : Balsiring, Tehsil : Namkum, Distt. : Ranchi, Jharkhand.

(Proposal No. SIA/JH /IND2 /305436/2023).

The PA's vide online application no. SIA/JH /IND2 /305436/2023 has requested for necessary correction in Environmental Clearance issued vide letter no. EC/SEIAA/2022-23/2737/2023/289, dated 06.10.2023 with regard to correction in fresh water requirement, the revised details is being given below :

Water Requirement

Total Water Input (KL)		Total Water Output (KL)	
Process water in fermentation	350	Steam condensate	145
DM water for boiler feed	215	Water in Spent wash	315
Soft water for vaccum pump and others	35	Thin Slope	80
Soft water makeup for cooling tower	110	CT evaporation and drift losses	150

Water in Grain	15	Boiler (Deaerator, Blowdown, drain) Losses	30
Miscellaneous Washing (Provisional)	5	Vaccum pump sealing / purge	5
TOTAL	**730**	Miscellaneous Washing (Provisional)	5
		TOTAL	**730**

Recycle and Utilization Streams (KL)	
Steam Condensate recycle for boiler	125 KLD
Thin slop recycle Slurry preparation and Liquefaction section	50 KLD
Process condensate recycle to process and CT	35 KLD
Vaccum pump water recirculation	30 KLD
Treated WW	175 KLD
Recycling/ re-utilization of water per day (Industrial Purposes)	400 KLD
Recycling/ re-utilization of water per day (Green Belt)	15 KLD
Total Recycling/ re-utilization of water per day	**415 KLD**
Fresh Water requirement for **Distillary**	**300 KLD**
Fresh Water for Cooling Tower Make-up **Cogeneration Plant**	30 KLD
Total Industrial Fresh Water Requirement	**330 KLD**
Domestic Use	10 KLD
Overall Fresh Water Requirement	**340 KLD**

"PAs have obtained permission from CGWA for withdrawal of 200 KLD. Total fresh water requirement is 340 KLD. The PAs must obtained permission from CGWA for withdrawal of the balance quantity before starting the project."

The SEAC considered the same and recommends for issuance of corrigendum EC with corrected details as stated above. Rest other terms & conditions mentioned in the previous EC letter no. EC/SEIAA/2022-23/2737/2023/289, dated 06.10.2023 shall remain the same.

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B. Consideration of Proposals

1. **Expansion of Forging Unit from 18,600 to 1,00,000 TPA and Fabrication & Assembly capacity 13,130 TPA of M/s Ramkrishna Forgings Limited (Unit - VII) at Industrial Area, Village : Dugni, Block : Seraikela, Distt. : Seraikela-Kharsawan, Jharkhand.**

   (Proposal No : SIA/JH/IND1/ 447334/2023)

   Name of the consultant : Vardan Environet, Gurugram, Haryana.

   This is an expansion project which has been taken for appraisal on 17.10.2023.

   Project Category : **B1** – The State Expert Appraisal Committee, Jharkhand deliberated the project during its 104th meeting held on 22-26.05.2023 and SEIAA, Jharkhand has approved the ToRs in 105th meeting held on 28th & 29th May, 2023. TOR for the project was issued by SEIAA, Jharkhand vide letter no. **EC/SEIAA/2023-24/2809/2023/118**, dated 09.06.2023. The final EIA / EMP submitted by PP to SEIAA on 12.10.2023 and which was forwarded to SEAC on 12.10.2023.

   M/s Ramkrishna Forging Limited (Unit-VII) has made an online application vide proposal no SIA/JH/IND1/447334/2023 dated 13.10.2023along with copy of EIA/EMP report, Form – 2 seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at 3(a) Metallurgical Industries under Category "B" of the schedule of EIA Notification, 2006 and appraised at State Level.

   The project is of M/s Ramkrishna Forgings Limited (Unit VII) to obtain environmental clearance for expansion of Forging Unit production capacity from 18,600TPA to 100,000TPA and Fabrication & Assembly capacity 13,130TPA at Plot No. 1988, Industrial Area, Village- Dugni, Block- Gamharia, District- Seraikela Kharsawan, State- Jharkhand

   Environmental Site Settings:

S. No.	Particulars	Details	Remarks
1	Total land	9.71 Ha [Private: 9.71 Ha]	Land Use: Industrial
2	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	Total area – 9.71 Ha (Acquired Land: 9.71 Ha) No additional land required for the project. Land documents have been submitted.	The land was allotted by JIADA, Adityapur
3	Existence of habitation & involvement of R&R, if any.	R & R is not applicable **Existence of Habitation** Project Site – Nil Study Area: Nearest Habitation **Habitation** | **Distance** | **Direction**	--

<table>
<tr><th>S. No.</th><th>Particulars</th><th colspan="2">Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>Dugni Village</td><td>0.3 NW</td><td></td></tr>
<tr><td>4</td><td>Land details</td><td colspan="2">Plot No. 1988</td><td>--</td></tr>
<tr><td>4</td><td>Latitude and Longitude of all corners of the project site.</td><td colspan="2"><table><tr><th>Points</th><th>Latitude</th><th>Longitude</th></tr><tr><td>A</td><td>22°45'37.58"N</td><td>86° 0'16.44"E</td></tr><tr><td>B</td><td>22°45'34.85"N</td><td>86° 0'6.50"E</td></tr><tr><td>C</td><td>22°45'34.79"N</td><td>85°59'57.14"E</td></tr><tr><td>D</td><td>22°45'37.52"N</td><td>85°59'57.30"E</td></tr><tr><td>E</td><td>22°45'41.81"N</td><td>85°59'58.74"E</td></tr><tr><td>F</td><td>22°45'48.70"N</td><td>86° 0'1.50"E</td></tr><tr><td>G</td><td>22°45'47.38"N</td><td>86° 0'4.35"E</td></tr><tr><td>H</td><td>22°45'42.07"N</td><td>86° 0'7.75"E</td></tr><tr><td>I</td><td>22°45'43.52"N</td><td>86° 0'11.65"E</td></tr></table></td><td>--</td></tr>
<tr><td>5</td><td>Elevation of the project site</td><td colspan="2">154 m above mean sea level</td><td>--</td></tr>
<tr><td>6</td><td>Involvement of Forest land, if any</td><td colspan="2">No involvement of Forest Land</td><td>--</td></tr>
<tr><td>7</td><td>Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area</td><td colspan="2">Project Site: No water bodies within the project site.
Study area<table><tr><th>Water Body</th><th>Distance</th><th>Direction</th></tr><tr><td>Sanjay River</td><td>0.03km</td><td>S</td></tr><tr><td>Kharkai River</td><td>5.2km</td><td>S</td></tr></table></td><td>--</td></tr>
<tr><td>8</td><td>Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area</td><td colspan="2">No National Park/ ESZ/ ESA/Wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve/ Reserve Forest within 10km radius of the project site.
Only few protected forests present within 10 km radius of the project.</td><td>--</td></tr>
</table>

Land Details :

Khata no.	Plot no.
529	1988

M/s RKFL established its Unit-VII after obtaining Consent to Establish (CTE) having ref no. JSPCB/HO/RNC/CTE-6642309/2019/678 dated 16.12.2019 from Jharkhand State Pollution Control Board (JSPCB) for the production of 28,300 TPA Forged Items and 13,130 TPA Fabrication & Assembly. Company obtained Consent to Operate (CTO) having ref no. JSPCB/HO/RNC/CTO-7556246/2020/1181 dated 28.07.2020 from JSPCB for the Assembly of Railway Parts – 13,130 TPA capacity. The company has obtained CTO valid till 31.03.2024 from JSPCB vide lt. no. JSPCB/HO/RNC/CTO-14964503/2023/1186 dt. 01.07.2023 for the production of 18,600TPA Forged Items and 13,130TPA Fabrication & Assembly.

The unit configuration and capacity of existing and proposed project is given as below:

Sl. No	Plant Facilities	Existing Production (TPA)	Proposed New Production (TPA)	Final Production (TPA)
	Forging Unit			
1.	2,000T Kurimoto Line	13,400	-	13,400
2.	3,000T Ajax Press Line	5,200	-	5,200
3.	Enomoto 630T Press	-	4500	4,500
4.	6,000T Press Line	-	13,700	13,700
5.	RA Shaft – Press Line	-	13,700	13,700
6.	Upsetter 5" (2 Nos.)	-	20,200	20,200
7	Upsetter 2.5" (1 Nos)	-	4,200	4,200
8.	Cold Forging Press 900T	-	11,400	11,400
9.	Cold Forging Press 1600T	-	13,700	13,700
Total		**18,600**	**81,400**	**100,000**
Fabrication & Assembly Unit				
Fabrication & Assembly		**13,130**	---	**13,130**

Existing & Additional Supporting Facilities:

All facilities and utilities will be upgraded as per requirement and matching with the production capacity of Forgings – 100,000 TPA, after expansion

- Heat Treatment Furnace –1x2 TPH & 1x4TPH (proposed)
- Heat Treatment Furnace (SQF), heating media Electricity (Propane is used as enrich gas): 3 x 1.5 Ton (Existing), Additional 12x1.5 Ton
- CNC machining and finishing line production capacity shall be enhanced to 175 Ton/day from existing 50 Ton /day
- Phosphating Line Production Capacity shall be enhanced to 100 Ton/day from existing 45 Ton /day

Sl. No	Plant Facilities	Existing Production (TPA)	Proposed New Production (TPA)	Final Production (TPA)
• Shot Blasting M/c Production Capacity shall be enhanced to 250 Ton/day from existing 120 Ton /day				

The details of the raw material requirement for the proposed expansion project along with its source and mode of transportation is given as below:

Sl. No	Raw Material	Quantity required per annum (TPA)			Source	Distance from the Site (km.)	Mode of Transportation
		Existing	Proposed	Total			
1.	Steel Billet/ rounds/ various grade steel	37,813	101,883	139,696	Jharkhand	100	Trucks
2.	Propane Gas	930	5,700	7,030	Kolkata	350	Trucks
3.	Oil for Quenching	3 kL/ annum	13 kL/ annum	16 kL/ annum	Gurugram	1400	Trucks
4.	Nitrogen Gas	3180 m^3	4200 m^3	7380 m^3	Jamshedpur	30	Trucks
5.	Oxygen Gas	34740 m^3	70000 m^3	104740 m^3	Jamshedpur	30	Trucks
6.	Corgan 18	47,153 m^3	95,000 m^3	142,153 m^3	Jamshedpur	30	Trucks
7.	Cutting Oil	7125 L	9000 L	16125 L	Jamshedpur	30	Trucks

The total requirement of makeup water for industrial and domestic purpose after the proposed expansion will be 370 KLD. The company will meet the water requirement from groundwater through bore well. Company has obtained NOC from Central Groundwater Authority (CGWA) having no. CGWA/NOC/IND/ORIG/2021/12728 dated 30.07.2021 and is valid till 29.07.2024.

Power requirement for the operation of the existing plant is 10 MW. At present, the power is sourced from Jamshedpur Utilities & Services Company Limited (JUSCO). The total power requirement for the proposed expansion is 14MW which will also be sourced from JUSCO. DG Sets of 1x1000 KVA and 1x500 KVA has already been installed in the plant.

Baseline Environmental Studies: 1st March 2023 to 31st May 2023

Parameters	Description	Permissible Level
Air Quality	• $PM_{2.5}$ 28.7 to 57.3 µg/m^3 • PM_{10} 52.4 to 86.5 µg/m^3 • SO2 9.6 to 25.6 µg/m^3 • NO2 16.2 to 39.1 µg/m^3 • CO 0.53 to 1.19 mg/m^3	60 µg/ m^3 100 µg/ m^3 80 µg/ m^3 80 µg/ m^3 2 mg/m^3

<table>
<tr><th>Parameters</th><th>Description</th><th>Permissible Level</th></tr>
<tr><td>Ground Water Quality</td><td>• pH varies from 7.42 to 7.87
• Total Hardness varies from 235.76 to 263.98 mg/l
• Total Dissolved Solids varies from 404 to 463 mg/l
• Chlorides varies from 92.85 to 112.01 mg/l
• Fluoride varies from 0.27 to 0.46 mg/l</td><td>6.5-8.5
200-600 mg/L
500-2000 mg/L
250-1000 mg/L
1.0-1.5 mg/L</td></tr>
<tr><td>Surface Water Quality</td><td>• pH varies from 7.55 to 7.93
• Dissolved Oxygen varies from 5.6 to 7.0 mg/l
• BOD varies from 6.46 to 31.0 mg/l
• COD varies from 21.09 to 75.0 mg/l</td><td>IS:2296 Class C Norms</td></tr>
<tr><td>Soil Quality</td><td>• pH varies from 7.25 to 7.48
• EC varies from 0.243 to 0.609 mS/cm
• Available nitrogen N 138.04 to 206.32 Kg/ha
• Organic matter 0.37 to 0.67%</td><td>----</td></tr>
<tr><td rowspan="2">Noise Level</td><td>Day Time (6:00 a.m. to 10:00 p.m.)
71.5Leo dB(A)
Night Time (10:00 p.m. to 6:00 a.m.)
65.8Leq dB(A)</td><td>75 Leq dB (A)
70 Leq dB (A)</td></tr>
<tr><td>Day Time (6:00 a.m. to 10:00 p.m.)
40.6 Leq dB(A) to 53.1Leq dB(A)
Night Time (10:00 p.m. to 6:00 a.m.)
30.9 Leq dB(A) and 42.5 Leq dB(A)</td><td>55 Leq dB (A)

45 Leq dB (A)</td></tr>
<tr><td>Traffic assessment study findings</td><td>The traffic study was carried at NH-43 (Adiyappur – Chalbasa Road) by pucca road of 0.43kms in North Direction
Transportation of Raw material, Fuel and Finished product will be done by Road.
Existing PCU is 4390 PCU/Day on NH-43 existing level of service (LOS) is:
<table>
<tr><th>Road</th><th>V (Volume in PCU/day)</th><th>C (Capacity in PCU/day)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>NH-43</td><td>4390</td><td>15000</td><td>0.29</td><td>B</td></tr>
</table>
• PCU load after proposed project will be 4924 PCU/Day (Existing 4390 + 584) for SH-13 and level of service (LOS) will be;</td><td></td></tr>
</table>

Parameters	Description	Permissible Level
	<table><tr><th>Road</th><th>V (Volume in PCU/day)</th><th>C (Capacity in PCU/day)</th><th>V/C Ratio</th><th>LOS</th></tr><tr><td>NH-43</td><td>4924</td><td>15000</td><td>0.33</td><td>B</td></tr></table> *Conclusion: Level of Service will be "B" i.e. Very Good for NH-43 including additional traffic due to proposed project.* *Note: Capacity as per IRC 64:1990 Guideline for capacity for roads in Rural Areas.*	
Flora and fauna	There are 12 Numbers of Schedule – I species *(Ratufa indica, Viverricula indica, Hystrix indica, Felis chaus, Cuon alpinus, Pteropus giganteus, Hyaena hyaena, Vulpus bengholensis, Daboia siamensis, Naja naja, Ptyas mucosus, Chameleon zeylanicus, Bubo bubo)* are found within the 10 km study area. The Wildlife Conservation Plan is prepared and a budget of Rs. 119.883 Lakhs has been allocated for Implementation of activities proposed under WLCP.	

The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

Units	Qty in TPA		Disposal practice
	Existing	Total after the Proposed Expansion	
Solid Wastes			
Rejects/boring scrap/ end cuts/ trimming/ Cutting Saw dust/ Scales from Descaler generated at Forging stage	2,800	23,383	Reject during initial inspection of raw materials will be returned to the suppliers. Other rejects will be sold to the outside Induction Furnace Plant
Turnings from Machine shop	4,650	24,975	Stored in covered shed and sold for recycle to supplier/other steel making industries
Shot Blasting Dust	30	1,000	Sold to Ferrous Sulphate Plant
Scrap Generation (fabrication /assembly unit)	3,283	3,283	Sold for recycle to supplier/ other steel making industries
Hazardous Wastes			
Sludge from Phosphating Process	6.5	20	Will be dried in sludge bed and packed in HDPE bags in secured room. Will be given

Units	Qty in TPA		Disposal practice
	Existing	Total after the Proposed Expansion	
Sludge from Spray Painting Booth	30	70	to the Cement company for co-processing in their kiln/TSDF after obtaining permission from JSPCB as per Sec. 9 of Hazardous and Other Wastes (Management & Transboundary), Rules, 2016
ETP Sludge	16	90	
Quenching Waste Oil	1 kl	10 kl	Will be given to the registered recycler
Recovered Coolant from ETP	8 kl	50 kl	It will be either used in-house for open gear lubrication or will be sold to register recycler.
Used Oil	0.8 kl	3.5 kl	

Public Consultation

Details of advertisement given	"Prabhat Khabar" and "The Times of India" on 29.08.2023
Date of public consultation	04.10.2023
Venue	'Dugni Panchayat Bhawan, Bajranbali Chowk, School Mod, Village: Dugni, P.O.: Kolabira, District: Seraikela-Kharsawan, Jharkhand
Presiding Officer	Shri Subodh Kumar, ADC Seriakela Kharsawan, Jharkhand
No. of Attendees	90
Major issues raised	The issues raised in the public hearing were Employment for the local people, Prevention of Pollution, Development of Schools & Roads and providing water, power, education and health care facilities

Action plan as per MoEF&CC O.M. dated 30/09/2020

Sl. No	Activities	Physical Targets
1.0	**Adoption of village Dongi for Socio-economic development**	
1.1	Road Development	Construction of Pucca road (Paver Blocks) in total of approx. 2km along with need based pucca drain for the internal road connecting village up to main road
1.2	Installation of Solar Street Lights	Installation of Fifty (50) nos. of solar lights in the in the village along the internal roads and at major locations. *(Solar light with GI pipe and installation)*

SL No	Activities	Physical Targets
1.3	Renovation of pond	First time shaping with excavation and slide slope stabilization, Construction of Bathing Ghat on one side with changing area, pair of toilets with septic tank and Beautificatinn of pond by plantation of 100 tress along boundory of pond along with Yearly Cleaning/Desilting of Pond
1.4	Installation of Bore-well	Installation 1 no. of bore well with 1no. of hand pump with water cum purifier system at Hanuman Temple
1.5	Waste Management	Construction of community dustbins at four locations in village
1.6		Distribution of household dustbin baskets in each house
1.7	Plantation	Plantation of 1500 no. of trees in total at different locations in village (School, Temple, Approach road sides, etc)
1.8	Previding Medical Facility	Organizing medical check-up camp yearly in the village and will provide free of cost medicine in the camp
1.9		Providing an ambulance equipped with specific medical equipments (Defibrillator, Oxygen cylinder, Resuscitation kit, Medicines, Surgical Items, stretcher etc.) for medical help of Village
1.10	Road Safety Measures	Installation of 10 no. of Wheel Mounted Foldable Barricades at different ipcations on road passing through the village
1.11		Construction of speed breakers at three locations on the road stretch passing through the village along with installation of sign boards of speed limit, etc
1.12	Development of High School	Development of Utkramit High School in village *(construction of one (1) classroom & along with maintenance of other classrooms, providing furniture & white boards in all classrooms, construction of separate Two (2) pair of toilets for boys & girls, development of playground in the school and installation of drinking water system (submersible pump and Water Cooler) in school)*
2.0	**Adoption of village Jambahal for Socio-economic development**	
2.1	Road Development	Construction of Pucca road (Paiver Blocks) for the internal road connecting village up to Nadi
2.2	Installation of Solar Street Lights	Installation of Twenty (20) nos. of solar lights in the village. *(Solar light with GI pipe and installation)*
2.3	Installation of Hand Pumps	Installation of Five (5) nos. of Mark-2 Hand Pumps
3.0	Installation of Hand Pumps	Installation of Five (5) of Mark-2 Hand Pumps each in village Gonda and Badakachada
4.0	Providing Medical Facility	Organizing medical check-up camp along with free of cost medicine in the village Gonda and Tildih

Sl. No	Activities	Physical Targets	
5.0	Road Safety Measures	Installation of 20 no. of Wheel Mounted Foldable Barricades for road safety on the road stretch of Kandra to Seraikela (7.5km distance)	
Year of Implementation and Cost (in Rs Lakhs)			Total Expenditure (Rs. In Lakhs)
1st Year	2nd Year	3rd Year	
Adoption of village Dungi for Socio-economic development			
60.0	--	--	60.0
--	20.0	--	20.0
18.0	1.0	1.0	20.0
--	1.5	--	1.5
--	--	12.0	12.0
--	--	5.0	5.0
--	--	7.50	7.50
3.0	3.0	3.0	9.0
--	12.0	--	12.0
1.5	--	--	1.5
2.0	--	--	2.0
--	--	60.0	60.0
Adoption of village Jambahal for Socio-economic development			
20.0	--	--	20.0
--	8.0	--	8.0
--	2.25	--	2.25
5.0	--	--	5.0
6.0	6.0	6.0	18.0
3.0	--	--	3.0

Sl. No	Activities		Physical Targets
128.5	53.75	94.5	266.75

Existing Capital Cost of the project was Rs. 219.99 Crs. The Capital cost of the proposed expansion is envisaged as Rs. 575.31Crs. and the Capital cost of the environmental protection measures (EMP) is proposed as Rs. 417.0 Lakhs. The annual recurring cost towards the environmental protection measured as proposed as Rs. 93.11 Lakhs.

The employment generation from the proposed expansion is 1100.

The details of cost for environmental protection measures are as follows:

Sl. No.	Environmental Protection Measures	Capital Cost Rs. In lakhs	Recurring Cost Rs. In lakhs/year
1.	**Air Pollution Measures**		
a.	*Water Sprinkling System*	14.0	2.4
2.	**Water Pollution Control Measures and Rainwater Harvesting**		
a.	*Sewage Treatment Plant*	74.0	14.4
b.	*Effluent Treatment Plant*	128.0	21.6
c.	*Rainwater Harvesting*	6.0	0.6
d.	*Rainwater Harvesting Tank*	100.0	3.6
3.	**Noise Pollution Control Measures**	5.0	0.75
4.	**Storage and Solid Waste Management**	12.0	27.0
5.	**Environmental Monitoring Program**	--	6.76
6.	**Occupational Health and Safety**	45.0	13.0

The greenbelt development will be carried out in 33% of the total plant area i.e. 3.20Ha. M/s RKFL (Unit-VII) has already developed 0.607Ha (6.25%) of the total plant area as greenbelt with1125 number of treas planted till date. The company is now proposing to plant additional 8250 trees to maintain a tree density of 2500 trees/ ha. A budget of Rs. 33.0 Lakhs will be spent towards the development of greenbelt and a budget of Rs. 3 0 Lakhs will be spent yearly for maintenance.

There is no violation under EIA, 2006/court case/show cause/direction, related to the project under consideration.

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	Land lease deed from JIADA dated 09.10.2018.

2	CO	:	The CO, Seraikela vide letter no. 123, dated 01.02.2019 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DFO Wild Life	:	DFO, Dalma Elephant Project vide letter no. 1166, dated 19.11.2019 certified that the proposed project site is outside Eco Sensitive Zone of Dalma Wildlife Sanctuary.
4	DFO Forest Distance	:	DFO, Seraikela Forest Division vide letter no. 2278, dated 03.11.2018 certified that the distance of notified forest is 500 meters from project site.
5	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-6642309 /2019/678, dated 16.12.2019.
6	Consent to Operate (CTO)	:	CTO granted by JSPCB vide : i. Ref. no. JSPCB/HO/RNC/CTO-7556246/2020/1181, dated 28.07.2020. ii. Ref no. JSPCB/HO/RNC/CTO-9770828/2021/1252, dated 07.10.2021. iii. Ref no. JSPCB/HO/RNC/CTO-14964503/2023/1186, dated 01.07.2023.
7	CGWA	:	No Objection Certificate (NOC) for Ground Water Abstraction vide NOC No. : CGWA/NOC/IND/ORIG/2021/12728, dated 30.07.2021.
8	Public Hearing	:	Public Hearing conducted on 04.10.2023.

Based on the presentation made and information provided, the Committee decided that the proposal for Expansion of Forging Unit from 18,600 to 1,00,000 TPA and Fabrication & Assembly capacity 13,130 TPA of M/s Ramkrishna Forgings Limited (Unit - VII) at Industrial Area, Village : Dugni, Block : Seraikela, Distt. : Seraikela-Kharsawan, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I alongwith following specific conditions :

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 (upto 20%) 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 33% of project area.

VII. Developers/Company to install STP of sufficient capacity such that all the sewer produced is treated and reused.

VIII. 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.

IX. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.

X. 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.

****

2. **Expansion of Existing MS Ingot/Billet production from 13200 TPA to 118800 TPA through existing 2x8T Furnace & installing additional 2x10T Furnaces along with CCM-1x2strand, Rad-4/7 and production of 29700 TPA to 117600 TPA by increasingRolling Mill capacity 1x20 TPH of M/s Mangalam Ispat at Plot no. IV/A-5 (P), Bokaro Industrial Area, Balidih, Village : Goraball, P.S. : Jaridih, Distt. : Bokaro, Jharkhand.**

(Proposal no. SIA/JH/IND1/447255/2023)

Name of the consultant : Vardan Environet, Haryana

This is a case of violation which has been taken for reappraisal on 17.10.2023.

The project is a violation case since the project proponent has started the construction without prior Environmental Clearance from State Environment Impact Assessment Authority (SEIAA), Jharkhand.

However, The Honourable Supreme court in its order dated 9th December 2021 in the matter of the Civil appeal No 7576-7577 of 2021 in the Electro steel Steels Limited Vs Union of India and Ors in its para 93 has inter- alia observed the following :

"The interim order passed by the Madras high Court appeurs to be misconceived. However, this court is not hearing an Appeal from that interim order. The interim stay passed by the Madras High court can have no application of operations of the Standard Operating Procedure to the projects in territories beyond the territorial jurisdiction of

Madras High court. However, final decision may have been taken in accordance with the Orders/ Rules prevailing prior to 7th July, 2021."

Thus, the SEIAA, Jharkhand, in the light of Ho'ble Supreme Court order dated 9th December 2021, Office Memorandum no. F.No.22-21/2020-IA.III[E 138949] dated 28.01.2022 of MoEF&CC, Govt. of India and Standard Operating Procedure (SOP) issued by MoEF&CC, Govt. of India vide its file number 22-21/2020-IA-III, dated 07.07.2021, the matter has been taken for consideration & recommendation of EC for violation projects.

Project Category : **B1 – The State Expert Appraisal Committee, Jharkhand deliberated the project during its 100th meeting held on 09 - 14 01 2023 and SEIAA, Jharkhand has approved the violation ToRs in 101st meeting held on 23rd & 24th January, 2023. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2022-23/2722/2023/401, dated 01.02.2023. The final EIA / EMP submitted by PP to SEIAA on 11.10.2023 and which was forwarded to SEAC on 12.10.2023.**

The project is of M/s Mangalam Ispatfor Expansion of existing MS Ingot/Billet production from 13,200 TPA (Consent Capacity) to 118800 TPA through existing 2x8T Furnace & installing additional 2x10T Furnaces along with CCM1x2strand, Rad- 4/7m. TMT Bars & Rolled Products production of 29700 TPA to 117600 TPA by increasing Rolling Mill capacity to 1x20TPH at Plot No. IV/A – 5(P), Bokaro Industrial Area, Balidih, Bokaro, Jharkhand within the existing plant premises of 3.20Ha (7.91 Acres).

Environmental Site Settings:

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>1</td><td>Total land</td><td>3.20Ha (Private: 3.20Ha)</td><td>Land Use: Industrial</td></tr>
<tr><td>2</td><td>Land acquisition details as per MoEF&CC O.M. dated 7/10/2014
Existence of habitation & involvement of R&R. If any.</td><td>No additional land required for the project. Land has already been acquired and under the possession of the company. Land documents have been submitted.

R&R is not applicable
Existence of Habitation
Project Site – Nil
Study Area: Nearest
<table>
<tr><th>Habitation</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Goraball</td><td>0.7</td><td>North East</td></tr>
</table></td><td>..</td></tr>
<tr><td>3</td><td>Latitude and Longitude of all corners of the project site.</td><td>
<table>
<tr><th>Points</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>23°40'58.27"N</td><td>86°03'32.11"E</td></tr>
<tr><td>B</td><td>23°40'55.51"N</td><td>86°03'30.05"E</td></tr>
</table></td><td>--</td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>C</td><td>23°40'50.42"N</td><td>86° 03'30.07"E</td></tr>
<tr><td>D</td><td>23°40'54.90"N</td><td>86° 03'29.59"E</td></tr>
<tr><td>E</td><td>23°40'54.68"N</td><td>86° 03'29.44"E</td></tr>
<tr><td>F</td><td>23°40'54.50"N</td><td>86° 03'28.93"E</td></tr>
<tr><td>G</td><td>23°40'55.34"N</td><td>86° 03'27.65"E</td></tr>
<tr><td>H</td><td>23°40'55.13"N</td><td>86° 03'27.60"E</td></tr>
<tr><td>I</td><td>23°40'53.52"N</td><td>86° 03'27.96"E</td></tr>
<tr><td>J</td><td>23°40'49.23"N</td><td>86° 03'31.93"E</td></tr>
<tr><td>K</td><td>23°40'54.56"N</td><td>86° 03'35.94"E</td></tr>
</table>
</td><td></td></tr>
<tr><td>4</td><td>Elevation of the project site</td><td>253 meters above mean sea level</td><td>--</td></tr>
<tr><td>5</td><td>Involvement of Forest land, if any</td><td>No involvement of Forest Land</td><td>--</td></tr>
<tr><td>6</td><td>Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area</td><td>Project Site: No water bodies within the project site.
Study area
<table>
<tr><th>Water Body</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Damodar River</td><td>5.7</td><td>NE</td></tr>
<tr><td>Garga Dam</td><td>3.5</td><td>SSE</td></tr>
<tr><td>Khanjo River</td><td>4.9</td><td>W</td></tr>
<tr><td>Garga River</td><td>6.5</td><td>SSW</td></tr>
</table>
</td><td>--</td></tr>
<tr><td>7</td><td>Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area</td><td>No National Park/ ESZ/ ESA/Wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve within 10km radius of the project site.

Only one protected forest present at 7.12Km (NE) of the project site</td><td>--</td></tr>
</table>

The Plant was installed in the year 2003 under the ownership of M/s Shree Hanuman Alloys Pvt. Ltd. after obtaining Consent to Establish (CTE) from Jharkhand State Pollution Control Board (JSPCB) vide ref. no. 3054 dt 17.05.2003 for the production of 50TPD MS Rods and another CTE was obtained from JSPCB vide ref. no. 3736 dt 16.11.2006 for the production of 40TPD MS Ingot &

Pencil Ingot. In the year 2018, the plant was purchased by M/s Mangalam Ispat through Bank Punjab National Bank under SARFESI Act 2002 vide sale agreement dated 24.08.2018. First CTO in the name of M/s Mangalam Ispat was obtained vide ref. no. JSPCB/HO/RNC/CTO-421591/2019/403 dt 26.02.2019 for the production capacity of 40TPD MS Ingots and 90TPD MS Rods. Presently, the company has CTO issued from JSPCB vide ref no. JSPCB/HO/RNC/CTO-7311239/2020/551 dated 03.03.2020 for production of 40TPD MS Ingots and 90TPD MS Rods, valid till 31.12.2024.

Khata No.	Plot No.	Area
42	2489(P)	0.23
50	2490(P)	0.33
	2487(P)	0.10
134	2491(P)	0.34
34	2492(P)	0.34
95	2493(P)	0.22
59	2494(P)	0.41
65	2495(P)	0.46
	2488(P)	0.18
123	2496(P)	0.08
23	2497(P)	0.16
	2499(P)	0.06
21	2498(P)	0.28
	2484(P)	0.12
	2486(P)	0.14
56	2481(P)	0.57
	2502(P)	0.18
147	2482(P)	0.15
177	2483(P)	0.15
	2485(P)	0.08
120	2501(P)	0.20
	2514(P)	0.07
125	2505(P)	0.06
Total		7.91

The unit configuration and capacity of existing and proposed project is given as below:

Sl. No	Plant Facilities	Existing Installed Units and Capacity			
		Non-Violation		Violation	
		Unit	Capacity TPA	Unit	Capacity TPA
1.	Induction Furnace and LRF	1x8T IF (5 cycles per day)	13,200 MS Ingots (@ 330 working days)	--	--
		--	--	1x8T IF (10 cycles per day)	26,400 MS Ingots (@ 330 working days)
		--	--	1x10T IF (10 Cycles per day)	33,000 MS Ingots/ Billets (@ 330 working days)
		--	--	--	--
2.	CCM	--	--	--	--
3.	Rolling Mill	90TPD	29,700	--	--
4.	Reheating Furnace	1x10 TPH	33,000	--	--
5.	Slag Crusher	10TPH	3,000	--	--

Proposed Units		Total After Expension		Remarks
Unit	Capacity TPA	Unit	Capacity TPA	
Augmentatinn of Existing 2x8T IF (10 Cycles per day)	Additional Production of 13,200 MS Ingots/ Billets (@ 330 working days)	2x8T IF +2x10T IF + 1x10T LRF (@330 Working Days)	118,800 MS Ingots/ Billets	Installed as per CTE dated 16.11.2006 and in operation as per CTO valid upto

Proposed Units		Total After Expansion		Remarks
Unit	Capacity TPA	Unit	Capacity TPA	
				31.12.2024 Unit installed prior to the purchase by M/s Mangalam Ispat and was in operation till 30.04.2023. Currently no in operation
--	--			Construction started but not operated till date
1x10T IF +1x10T LRF (10 Cycles per day) 1x2 Strand 4/7m rad	33,000 MS Ingots/ Billets (@ 330 working days)			Proposed under Expansion
Modification and Expansion to1x20TPH	Production after modification 117600	1x20TPH	117,600	Modification and Expansion of Rolling Mill for Hot Charging (Billet/ Ingot).
Augmentation of Existing 1x10TPH	Additional Capacity of 33,000	1x10TPH	66,000	HSD/LDO/FO will be used in place of Coal Increase in working hours from 10hours to 20 hours. Will be operated only in

Proposed Units		Total After Expansion		Remarks
Unit	Capacity TPA	Unit	Capacity TPA	
				emergencies
Augmentation of Existing 1x10TPH	Additional Capacity 27,000	10TPH	30,000	Increasing the Operating hours and number of operational Days

The details of the raw material requirement for the proposed expansion project along with its source and mode of transportation is given as below:

Raw Material	Consumption (TPA)				Source	Distance & Mode of Transportation
	Non-Violation	Violation	Proposed	Total After Expansion		
Induction Furnace with CCM						
Billets/Ingot	*13,200*	*26,400*	*79,200*	*1,18,800*		
Sponge Iron	10,560	21,120	63,360	95,040	Local Plant in Bokaro, Ramagarh, Giridih, etc.	40 to 120 Km By Road
Cast Iron/ Pig Iron	3,960	7,920	23,760	35,640		
Scrap	1,980	3,960	11,880	17,820		
Ferro Alloys	26	53	158	238		
Total	16,526	33,053	99,158	1,48,738		
Rolling Mill						
Rolled Products	*29,700*	--	*87,900*	*1,17,600*		
MS Billets	30,000	--	88,800	118,800	In House	Direct Charging from CCM

The total make-up water requirement of the plant after the proposed expansion is estimated to 182KLD (Non Violation 32KLD, Violation 31KLD, Proposed 119KLD). At present the water is sourced from Jharkhand Industrial Area Development Authority (JIADA), Bokaro Region Water Supply. A Letter dated 30.01.2022 has been given to Drinking Water and Sanitation Dept, Balidih, Bokaro by

IIADA for assuring the water supply of 182KLD from Garga Dam Pump House to M/s Mangalam Ispat.

Total requirement of power for the after proposed expansion is 13MVA (Non-Violation 4.5MVA, Violation 1.5MVA & Proposed 7MVA). Power requirement is met through Damodar Valley Corporation. Permission for the same will be obtained from DVC. One DG Set of 125kVA has been installed in the plant.

Baseline Environmental Studies: 1st December 2022 to 28th February 2023 and March 2023

Parameters	Description		Permissible Level
	Dec 2022 to Feb 2023	March 2023	
AAQ parameters at 8 Locations (min and max)	• PM2.5 34.1 to 48.8µg/m^3 • PM10 54.6 to 76.2µg/m^3 • SO2 13.0 to 26.7µg/m^3 • NO220.5 to 31.4 µg/m^3 • CO 0.8 to 1.5 mg/m^3	• PM2.5 27.2 to 46.5 µg/m^3 • PM10 53.6 to 75.9 µg/m^3 • SO2 11.8 to 23.5 µg/m^3 • NO212.6 to 29.6 µg/m^3 • CO 0.7 to 1.4 mg/m^3	60 µg/ m^3 100 µg/ m^3 80 µg/ m^3 80 µg/ m^3 02 mg/m^3
Ground Water Quality	• pH varies from to 7.60 to 7.75 • Total Hardness varies from 204.16 to 287.00 mg/l • TDS varies from 409.00 to 498.00 mg/l.	• pH varies from to 7.62 to 7.85 • Total Hardness varies from 205.18 to 289.00 mg/l • TDS varies from 407.00 to 500.00 mg/l.	6.5-8.5 200-600 mg/L 500-2000 mg/L
Surface Water Quality	• pH varies from to 7.63 to 7.84 • Dissolved Oxygen varies from 6.0 to 6.7 mg/l • BOD varies from 2.4 to 15.0 mg/l	• pH varies from to 7.58 to 8.01 • Dissolved Oxygen varies from 5.1 to 7.2 mg/l • BOD varies from 2.4 to 16.0 mg/l	IS:2296 Class C Norms
Soil Quality	• pH 7.41 to 7.7 • Potassium K 141.86 to 189.45 kg/ha • Available nitrogen N 159.46 to 205.11 (Kg/hec) • Organic matter 0.35% to 0.51%	• pH 7.42 to 7.82 • Potassium K 142.10 to 189.56 kg/ha • Available nitrogen N 139.10 to 205.36 (Kg/hec) • Organic matter 0.38% to 0.56 %	----
Noise Level	• Day Time (6:00 a.m. to 10:00 p.m.) 50.98 to 73.65 dB (A) • Night Time (10:00 p.m. to 6:00 a.m.) 41.88 to 68.84 dB (A)	• Day Time (6:00 a.m. to 10:00 p.m.) 51.1 to 73.20 dB (A) • Night Time (10:00 p.m. to 6:00 a.m.) 42.10 to 67.84 dB (A)	75 Leq dB (A) 70 Leq dB (A)
	• Day Time (6:00 a.m. to 10:00 p.m.) 47.98 to 53.75 dB (A) • Night Time (10:00 p.m. to 6:00 a.m.) 38.39 to 44.05 dB (A)	• Day Time (6:00 a.m. to 10:00 p.m.) 48.20 to 53.85 dB (A) • Night Time (10:00 p.m. to 6:00 a.m.) 39.10 to 44.20 dB (A)	55 Leq dB (A) 45 Leq dB (A)

<table>
<tr><th rowspan="2">Parameters</th><th colspan="2">Description</th><th rowspan="2">Permissible Level</th></tr>
<tr><th>Dec 2022 to Feb 2023</th><th>March 2023</th></tr>
<tr><td>Traffic assessment study findings</td><td colspan="2">
• The traffic study was carried at one location NH-320 at a distance of 1.4km in SSE Direction.
• Transportation of Raw material, Fuel and Finished product will be done by Road.
• Existing PCU is 3279PCU/Day in NH-320existing level of service (LOS) is:
<table>
<tr><th>Road</th><th>V (Volume in PCU/day)</th><th>C (Capacity in PCU/day)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>NH-320</td><td>3279</td><td>15000</td><td>0.22</td><td>B</td></tr>
</table>
• PCU load after proposed expansion project will be 4439 PCU/Day (Existing 3279 + 71) for NH-320. Level of service (LOS) will be after expansion will remain 'B'
<table>
<tr><th>Road</th><th>V (Volume in PCU/day)</th><th>C (Capacity in PCU/day)</th><th>V/C Ratio</th><th>LOS</th></tr>
<tr><td>NH-320</td><td>3350</td><td>15000</td><td>0.22</td><td>B</td></tr>
</table>
Conclusion: Level of Service will be "B" i.e. Very Good for NH-320 including additional traffic due to proposed project.
Note: Capacity as per IRC 64:1990 Guideline for capacity for roads in Rural Areas.
</td><td></td></tr>
<tr><td>Flora and fauna</td><td colspan="2">As per reconnaissance survey Few Schedule – I Species like Indian Python, Rat snake, Grey mongoose, Jackal etc. found within the 10km radius study area. Wildlife conservation plan is prepared and a budget of Rs. 71.72 Lakhs has been allocated for implementation of activities proposed under WLCP.</td><td>–</td></tr>
</table>

The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below

Units	Solid Wastes	Qty. In TPA			Disposal Practice
		Non Violation	Violation	Total after Expansion	
Induction Furnace	Slag	3,036	6,072	27,324	After metal recovery remaining crushed slag shall be will be supplied to vendors - use as aggregates for construction filling.
	Waste Lining	165	165	660	
CCM	Scale & End Cuts	132	264	1,188	Recycled In-house along with scrap in the induction furnace

Units	Solid Wastes	Qty. In TPA			Disposal Practice
		Npn Violation	Violation	Total after Expansion	
Bag Filter Dust from process	Dust from process	13	26	119	Partly recycled (metal content), Rest supplied outside for further in the construction work and filling.
Rolling Mill	End Cuts & Scales	303	--	1,200	Scales will be given to the nearby Sinter Plant and End Cuts will be charged back to the induction furnace.

Public Consultation

Details of advertisement given	"Times of India" on 18.07.2023& "Hindustan" on 19.07.2023
Date of public consultation	21.08.2023
Veriue	BIADA Bhawari, Balidih, Bokaro Steel City - 14, District Bokaro, State- Jharkhand
Presiding Officer	Mrs. Maneka, Director, Land and Rehabilitation, Bokaro, Jharkhand
Major issues raised	• The major issues raised in the Public Hearing is Employment to the Local People, Development of Area under CSR, Widening of road from Govind Market to Dalmia Cement Plant, Health Care Facility shall be provided in the area as there is no hospital nearby.

Action plan as per MoEF&CC O.M. dated 30/09/2020

Sl. No.	Activities	Year of Implementation (Budget in INR)			Total Expenditure (Rs.)
		1st Year	2nd Year	3rd Year	
1.	Maintenance of 1 km of Road between Dalmia Cement Plant and Govind Market for traffic and congestion free flow of vehicle.	6.0 Lakhs	6.0 Lakhs	--	12.0 Lakhs
2.	Providing 1 no. Mobile Medical Units to the Railway Hospital located in the Railway Colony provide health care covering the Village Balidih, Gorahall, Khurti	--	--	23.0 Lakhs	23.0 Lakhs
Total		6.0 Lakhs	6.0 Lakhs	23.0 Lakhs	35.0 Lakhs

Existing Capital Cost of project was Rs. 1,389.03 Lakhs(Violation Rs. 135.69 Lakhs+ Non-Violation Rs. 1253.34 Lakhs). The capital cost of the proposed project is envisaged as Rs. 876.83 Lakhs and the capital cost of the Environmental Protection Measures (EMP) is proposed as Rs. 214.04 Lakhs. The annual recurring cost towards the environmental protection measures as Rs. 28.43 Lakhs.

The employment generation from the proposed expansion is 70.

The details of cost for environmental protection measures are as follows:

Sl. No.	Environmental Protection Measures	Capital Cost Rs. in lakhs	Recurring Cost Rs. in lakhs/year
1	*Air Pollution Control Measures*		
	Augmentation of existing 1 no. of Bag Filter	10.0	1.5
	1 no. of Spark arrestor with Pulsejet type Bag Filter with proposed 2x10T Induction Furnace +1x10T LRF	50.0	3
	Recuperator with Reheating Furnaces	100.0	2.0
	Water Sprinkler (4 Nos.)	6.0	0.8
	Sub Total (A)	**166.0**	**7.3**
2	*Water Pollution Control Measures*		
	Installation of 3 no. of RWH Pit	7.5	0.5
	Sub Total (B)	**7.5**	**0.5**
3.	*Noise Pollution Control Measures*		
	Acoustic Enclosure or Separate housing for DG Set and Compressor	10.0	1.5
	Sub Total (C)	**10.0**	**1.5**
4.	*Storage and Solid Waste Management*		
	RCC flooring for storage raw materials and storage of Bag filter Dust, to avoid leaching	5.0	0.5
	Concrete platform with bund wall and oil collection system for storage of HSD, and other Oil Drums and Used Oil	2.0	0.5
	Sub Total (D)	**7.0**	**1.0**
5.	*Environment Monitoring Program*		

Sl. No.	Environmental Protection Measures	Capital Cost Rs. In lakhs	Recurring Cost Rs. In lakhs/year
	Cost of Monitoring of Environmental Parameters for Air, Water and Noise	--	4.68
	Monitoring of Performance of Pollution Control Equipment	--	2.0
	Occupational Health & Safety	--	2.0
	Socio-Economic Development	--	1 0
	Plantation	--	0.75
	Sub Total (E)	--	**10.43**
6.	***Occupational Health & Safety***	**11.0**	**6.5**
7.	***Greenbelt Development and Landscaping***	**12.54**	**1.20**
	Sub-Total (F)	**214.04**	**28.43**
8.	**Budget for implementation of commitments made to address the issues raised during the public hearing**		
(a)	Maintenance of Road	12.0	–
(b)	Provision of Mobile Medical Units	23.0	–
	Sub-Total (G)	**35.0**	–
	Total	**249.04**	**28.43**

Company has proposed to develop greenbelt on 1.06Ha of area (33% of the total plant area (3.20Ha)) by planting 3135 number of indigenous trees with local board leaf specification along the boundary and inside the plant area. Capital budget of Rs. 12.54 Lakhs will be spent on tree plantation and the budget of approx. Rs. 1.20 Lakhs/ annum shall be kept for yearly maintenance.

STATUTORY CLEARANCES

1	LOI/Lease docs	:	Lease Deed.
2	CO	:	The CO, Chas (Bokaro) vide memo no. 1924, dated 12.08.2022 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Pegster II.
3	DFO Wild Life	:	DFO Wildlife, Hazaribagh vide letter no. 1290, dated 14.07.2022 certified that the proposed project site is outside Eco Sensitive

			Zone of Parasnath & Topchanchi Wildlife Sanctuary.
4	DFO Forest Distance	:	DFO, Bokaro vide letter no. 2563, dated 10.09.2022 certified that the distance of notified forest is 100 meters from project site.
5	Emission Consent Order (ECO) & Discharge Consent Order (DCO)	:	i. ECO issued by JSPCB vide Ref. no. DB/8057/N-3633, dated 12.11.2002. ii. DCO issued by JSPCB vide memo no. DB/8294/W-3794, dated 21.06.2003.
6	No Objection Certificate (NOC) & Consent to Operate (CTO)	:	NOC granted by JSPCB vide : i. Ref. no. 3736, dated 16.11.2006. ii. Memo no. 3054, dated 17.05.2003. CTO granted by JSPCB vide : i. Memo no. D-3194 (C), dated 15.10.2013. ii Ref. no. PC/CTO/DHN/206359/0-965 (C), dated 08.04.2016. iii. Ref no.: JSPCB/HO/RNC/CTO-4215911/2019/403, dated 26.02.2019. iv. Ref. no. JSPCB/HO/RNC/CTO-7311239/2020/552, dated 03.03.2020.
7	Public Hearing	:	Public Hearing conducted on 21.08.2023.
8	Compliance report of CTO	:	Compliance report of CTO certified by Regional Officer, JSPCB, Dhanbad vide memo no. 1019, dated 12.08.2023.
9	Power Source	:	Power Source : Damodar Valley Corporation.

Summary of Violation under EIA Notification, 2006: At the time of purchase of plant by M/s Mangalam Ispat facilities present were 1x8T Induction Furnace (installed after obtaining CTE from JSPCB), 1x8T Induction Furnace (installed without obtaining CTE from JSPCB) and Rolling Mill (installed after obtaining CTE from JSPCB). During December, 2021 to February, 2022 M/s Mangalam Ispat under market/financial pressure and to make the plant operations economically viable, started construction of 1x10TInduction Furnace within the existing plant area of 3.20Ha (7.91 Acres). However, company never operated this 1x10T furnace till date.

As these units were installed (1x8T & 1x10T furnaces) and operated (only 1x8T furnace) without prior environmental clearance, Hence the project attracts provision of S.O. 804(E) issued by MoEF&CC dated 14.03.2017 and OM dated 07.07.2021 regarding SOP for Identification and handling for the projects under violations. The company has *suo-moto* reported violation to the JSPCB so the penalty will be halved as per the SOP dated 07.07.2021 M/s Mangalam Ispat will be submitting 0.5% of the Project Cost (i.e. Rs. 67,845) and 0.125% of the total turnover during the violation period (i.e. Rs. 15,84,600.94) as penalty for the violation activity in addition to Damage

Assessment Cost. The company has also prepared a Natural and Community Resource Augmentation Plan for 3 years and the details are mention in the table given below:

Cost of Penalty as per MoEF&CC OM dated 07.07.2021

Particulars	Value	Cost	Penalty Cost (as per *Suo-Moto*)
Turn Over	1,26,76,80,751.56	31,69,201.88	15,84,600.94
Total Project Cost	1,35,69,000	1,35,690	67,845
Total Penalty Cost (Rs.)			**16,52,445.94**

Environmental Compensation as per CPCB Guidelines (In Rs.)	
Environmental Compensation	1,05,37,500

- The penalty of Rs. 16,52,445.94 ~ say Rs. **16,52,446.00** will be deposited by a bank Demand Draft (DD) to JSPCB, Ranchi and
- The Bank Guarantee (BG) of above amount Rs. **1,05,37,500** will be deposited by as per norms to JSPCB, Ranchi.

On the basis of above the State Level Expert Appraisal Committee (SEAC), Jharkhand recommended an amount of rupees 1,05,37,500 as per CPCB guidelines towards remediation plan and natural & community resource augmentation plan to be spent within a period 03 years. The details of summary of Natural resource and Environmental / Ecological Damage assessment with budgetary provision for expenditure under the below mention head for remediation :-

Damage Remediation Plan

S. No.	Environment Component	Activity Description	Total Budgetary Provision in Rs.			
			1st Year	2nd Year	3rd year	Total
1	Land Environment	Assistance to farmers by providing seedlings, manure and Bio-fertilizers to villagers of Tantri, Bandhdih and Thakurtanr.	8,78,125 (Providing Bund maker, Ridger, Plough in Nagar panchayat of Balidih)			35,12,500
		Providing one tractor (Make Mahindra) with Bund maker, Ridger, plough for agriculture purpose to be	8,78,125 (providing seedlings, manure and Bio-fertilizers to villagers of	8,78,125 (providing seedlings, manure and Bio-fertilizers to villagers	8,78,125 (providing seedlings, manure and Bio-fertilizers to villagers	

S. No.	Environment Component	Activity Description	Total Budgetary Provision in Rs.			
			1st Year	2nd Year	3rd year	Total
		provided to Nagar panchayat of Balidih	Tantri)	of Bandhdih)	of Thakurtanr)	
Total			17,56,250	8,78,125	8,78,125	35,12,500

Natural Resource Augmentation Plan along with Budget

Sl. No.	Proposed Activities	Budget (Rs.)			
		1st Year	2nd Year	3rd Year	Total
1.	Installation of Bio-degradable waste converter (Make: Reddonatura, Capacity: 75 kg/day) in Gorabali	--	8,78,125	--	8,78,125
	Construction of Covered Drainage system along in the village Tantri and Pipradih	4,39,062.5 village Tantri	4,39,062.5 village Pipradih	--	8,78,125
	Construction of community dustbins at Four locations in village Goraball	8,78,125	--	--	8,78,125
	Distribution of household dustbin baskets in each village Gorabali	8,78,125	--	--	8,78,125
Total					35,12,500

Community Resource Augmentation Plant along with Budget

Sl. No.	Proposed Activities	Budget (Rs.)			
		1st Year	2nd Year	3rd Year	Total
1.	Development of Naw Prathmik School, Manjhaladih is at a distance of 0.31km in SE Direction (construction of one (1) classroom & along with maintenance of other classrooms, providing furniture & white boards in all classrooms, construction of separate Two (2)	35,12,500	--	--	35,12,500

	pair of toilets for boys & girls, development of playground in the school and installation of drinking water system (submersible pump and Water Cooler) in school)				

Damage Remediation, Natural Resource Augmentation Plan and Community Resource Augmentation Plan

Sl. No.	Aspects	Budget (Rs.)
A.	Cost of Damage Remediation Plan	3512500
B.	Natural Resource Augmentation Plan for 3 Years	3512500
C.	Community Resource Augmentation Plan for 3 Years	3512500
Total		**1,05,37,500**

I. Total budgetary provision with respect to remediation plan and natural and community resource augmentation plan is **Rs. 1,05,37,500**

II. Therefore, PAs shall be required to submit a bank guarantee of an amount of Rs. **1,05,37,500** towards remediation plan and natural and community resource augmentation plan with the Jharkhand State Pollution Control Board and evidence of the same submitted to SEtAA, Jharkhand prior to grant of EC. The evidence of submission of Bank Gurantee to Jharkhand State Pollution Control Board is submitted to SEAC vide letter dated 18.10.2023.

III. The bank guarantee shall be released after successful completion of remedition plan, duly recommanded by the SEAC, Regional Office MoEF&CC, Govt. of India and approval of regulatory authority. Remediation plan shall be completed in 03 years with the consultation of Local / Urban Bodies / State Govt. Deptt.

IV. Approval / permission from CGWA shall be obtained before drawing ground water for the project activities, if applicable. Jharkhand State Pollution Control Board shall not issue Consent to Operate (CTO) until the PAs obtains such permission.

V. PAs shall take necessary other clearances / permissions under various act and rules if any, from the respective authorities / departments.

VI. STP of adequate capacity shall be established within the project permises.

VII. Energy conservation measures adhearing to part of ECBC norms shall be complied with.

VIII. The penalty of Rupees 67,845 being 0.5% (Suo-Moto) of the project cost incurred till date (Rs. 1,35,69,000) Plus Rupees 15,84,601 being 0.125% of the total turn over till date (Rs. 1,26,76,80,752) shall be submitted to Jharkhand State Pollution Control Board in the form of demand draft and evidence of the same to be submitted to SEIAA, Jharkhand prior to grant of EC. The evidence of submission of Penalty amount to Jharkhand State Pollution Control Board is submitted to SEAC vide letter dated 18.10.2023.

IX. Action will be taken for the violation by the Jharkhand State Pollution Control Board under the provision of section 19 the Environment (Protection) Act, 1986.

Based on the presentation made and information provided, the Committee decided that the proposal for Expansion of Existing MS Ingot/Billet production from 13200 TPA to 118800 TPA through existing 2x8T Furnace & Installing additional 2x10T Furnaces along with CCM-1x2strand, Rod- 4/7 and production of 29700 TPA to 117600 TPA by Increasing Rolling Mill capacity 1x20 TPH of M/s Mangalam Ispat at Plot no. IV/A-5 (P), Bokaro Industrial Area, Balidih, Village : Gorabali, P.S. : Jaridih, Distt. : Bokaro, Jharkhand is recommended for grant of EC. The various **conditions for grant of EC is enclosed** as Annexure – I **alongwith** following specific conditions :

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 (upto 20%) 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 33% of project area.

VII. Developers/Company to Install STP of sufficient capacity such that all the sewer produced is treated and reused.

VIII. 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.

IX. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.

X. 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.

****

3. **Expansion of existing plant of 36000 TPA M.S. Billets / Ingots to a final configuration of Induction furnaces 2x10 T & 2x12 T (Billets / Ingots-145200 TPA) with Slag Crusher (10 TPH) – 33000 TPA, TMT Bars & Rolled Products – 165000 TPA and reheating furnace of 30 TPH (emergency use) of M/s Jai Prabhuji Iron & Steel Pvt. Ltd., Village : Kanshitanr, Tehsil : Govindpur, Distt. : Dhanbad, Jharkhand.**

(Proposal No. SIA/JH/IND1/448527 /2023).

Name of the consultant : Vardan Environet, Haryana

Project Category : **B1 – The State Expert Appraisal Committee, Jharkhand deliberated the project during its 100th meeting held on 09 - 14.01.2023 and SCIAA, 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/2022-23/2710/2023/373, dated 30.01.2023. The final EIA / EMP submitted by PP to SEIAA on 15.10.2023 and which was forwarded to SEAC on 16.10.2023.**

The project of M/s Jai Prabhuji Iron & Steel (P) Ltd for Enhancement of MS Billets Production from 36,000 TPA to 145,200 TPA through 2x10T & 2x12T Induction Furnaces (replacement of existing 1x3T & 2x6T Furnace by 2x10T+1x12T and installing additional 1x12T & 1x12T LRF), existing CCM (1x2 strand, Rad. - 4/7) along with installation of Slag crusher of 1x10TPH capacity (33,000TPA) and production of 165,000TPA TMT Bars & Rolled products by installing 1x25TPH Rolling Mill along with 1x30TPH Reheating Furnace (Coal/Furnace Oil fired) at Plot No C-21 to C-25 at Kandra Industrial Area, Tehsil- Govindpur, District -Dhanbad, Jharkhand.

Environmental Site Settings:

S. No.	Particulars	Details	Remarks
1.	Total land	1.975ha [Private: 1.975ha]	Land Use: 1.368Ha- Industrial 0.607Ha- Rayati Land
2.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	Existing Land: 1.368Ha (3.38Acres) Additional Land: 0.607Ha (1.50Acres) Total 1.975Ha (4.88Acres)land is under the possession of the company. Land documents have been submitted.	Additional land of 0.607Ha(1.50Acres) has been acquired for greenbelt development vide sale deed dated 12.10.2023
3.	Existence of habitation &involvement of R&R, if any.	R&R is not applicable **Existence of Habitation** Project Site – **Nil** Study Area	No Habitation or any other type settlement on additional land acquired

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th>Habitation</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Kandra</td><td>0.270</td><td>SE</td></tr>
</table>
</td><td></td></tr>
<tr><td>4</td><td>Land details</td><td>
<table>
<tr><th>Khata No.</th><th>Plot No.</th></tr>
<tr><td>19</td><td>81P, 78P, 95P, 101P, 102</td></tr>
<tr><td>18</td><td>82, 83, 85, 98P</td></tr>
<tr><td>4</td><td>84P, 79P, 420P, 108P</td></tr>
<tr><td>23</td><td>96P, 97, 103P, 104P</td></tr>
<tr><td>11</td><td>100</td></tr>
<tr><td colspan="2">Additional Land for Greenbelt development- 0.607 Ha.</td></tr>
<tr><th>Khata No.</th><th>Plot No.</th></tr>
<tr><td>32</td><td>150 (P),127</td></tr>
</table>
</td><td>-</td></tr>
<tr><td>5.</td><td>Latitude and Longitude of all corners of the project site.</td><td>
<table>
<tr><th colspan="3">Project Site 1.368Ha (3.38Acres)</th></tr>
<tr><th>Point</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>23°50'59.07"N</td><td>86°28'41.35"E</td></tr>
<tr><td>B</td><td>23°50'56.29"N</td><td>86°28'46.44"E</td></tr>
<tr><td>C</td><td>23°50'53.94"N</td><td>86°28'45.32"E</td></tr>
<tr><td>D</td><td>23°50'52.69"N</td><td>86°28'44.04"E</td></tr>
<tr><td>E</td><td>23°50'53.45"N</td><td>86°28'42.01"E</td></tr>
<tr><td>F</td><td>23°50'54.33"N</td><td>86°28'40.33"E</td></tr>
<tr><td>G</td><td>23°50'56.93"N</td><td>86°28'40.41"E</td></tr>
</table>
<table>
<tr><th colspan="3">Additional Land 0.607Ha (1.50Acres)</th></tr>
<tr><td>A</td><td>23°52'9.77"N</td><td>86°28'28.80"E</td></tr>
<tr><td>B</td><td>23°52'11.32"N</td><td>86°28'26.21"E</td></tr>
<tr><td>C</td><td>23°52'10.65"N</td><td>86°28'25.71"E</td></tr>
<tr><td>D</td><td>23°52'11.09"N</td><td>86°28'24.95"E</td></tr>
<tr><td>E</td><td>23°52'7.75"N</td><td>86°28'23.27"E</td></tr>
<tr><td>F</td><td>23°52'7.25"N</td><td>86°28'23.42"E</td></tr>
<tr><td>G</td><td>23°52'6.59"N</td><td>86°28'23.89"E</td></tr>
<tr><td>H</td><td>23°52'10.43"N</td><td>86°28'26.04"E</td></tr>
</table>
</td><td>-</td></tr>
<tr><td>6.</td><td>Elevation of the</td><td>222 m above mean sea level</td><td>-</td></tr>
</table>

S. No.	Particulars	Details	Remarks
	project site		
7.	Involvement of Forest land, if any	No Involvement of Forest Land	--
8.	Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc) exists within the project site as well as study area	**Project Site:** No water bodies within the project site **Study area** Khudia Nadi – 0.90 – NW	--
9.	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	None with 10 km radius of the project.	However, Wildlife Conservation Plan having budget of Rs 68.304Lakhs is prepared for the Schedule-I species present in 10km study area.

Company started production in the year 2005 after obtaining Consent To Establish (CTE) vide ref no. N-113 dated 19.02.2005 from Jharkhand State Pollution Control Board (JSPCB) for production of 51.5TPD MS Ingots. Another CTE was obtained vide ref no. N-559 dated 14.12.2005 from JSPCB for additional production of 20.35TPD MS Ingots. Company obtained Environmental Clearance vide letter No. J-11011/180/2010-IA II (I) dated 13.07.2011 from MoEF&CC, New Delhi for expansion of MS Ingots production from 21,600TPA MS Ingots to 36,000TPA MS Ingots and installation of Submerged Arc Furnaces (2x5MVA) for the production of 15,000TPA Silico-Manganese Ferro Alloy. Company obtained CTE only for the production of additional 48TPD MS Ingots vide ref no. B-2474 dated 12.09.2011 from JSPCB. Company has also obtained 'No Increase in Pollution Load (NIPL)' certificate from JSPCB vide letter having Ref. no. B-1156 dated 17.06.2022 for change of product from 36,000TPA MS Ingots to 36,000TPA MS Billets by Installing CCM and dropped installation of SAF for 15,000TPA Si-Mn production. Consent to Operate (CTO) for the production of 36000TPA was obtained from JSPCB vide letter no. JSPCB/HO/RNC/CTO-3706288/2018/1699 dated 30.10.2018 and valid up to 31.12.2023.

The unit configuration and capacity of existing and proposed project is given as below:

Sl.No	PlantFacilities	Existing Installed UnitsandCapacity		Proposed Units		
		Unit	CapacityTPA	Unit	Operation Days	Capacity TPA
		1x3T+2x6T		Replacement of Existing IF(1x3T+2x6T) by2x10T+1x12T	330	1,05,600 MSBillets

1.	Steel MeltingShop (IF-LRF-CCM)	1x2 strand, Rad.- 4/7	36,000TPA MSBillets	Installation ofadditional1x12T IF along with1x12TLRF	330	39,600 MSBillets
2.	ReheatingFurnace	--	--	(1x30TPH)	330	99,000
3.	RollingMill	--	--	1x25TPH	330	165000
4.	Slag CrusherUnit	--	--	1x10TPH	330	33000TPA (MetalRecovery-3180)

Total After Expansion		
Unit	Operation Days	Capacity TPA
IF:2x10T+2x12TLRF:1x12T	330	1,45,200 MSBillets
1x2 strand, Rad. -4/7	330	
(1x30) TPH	330	99,000
1x25 TPH	330	165000
1x10 TPH	330	33000TPA (MetalRecovery-3180)

The details of the raw material requirement for the proposed expansion project along with its source and mode of transportation is given as below:

Sl. No.	Item	Existing Requirement in TPA	Proposed Requirement in TPA	Total Requirement in TPA	Source	Distance & Mode of Transport
STEEL MELTING SHOP–(MS Billets 145,200 TPA)						
1.	Sponge Iron	28800	87360	116,160	LocalMarket inDhahbad	40to 120 kmbyRoad
2.	Pig Iron	10800	32760	43560		
3.	Scrap	5400	16380	21780		
4.	Ferro- alloys	72	218	290		
Total		45,072	136,718	181,790		

ROLLING MILL– (Long Rolled Product 165,000 TPA)						
1.	MSBillets	--	145,200	145,200	Hot Billets direct charging	Conveyor
		--	23,100	23,100	Purchased from nearby Plants	40 to 120 km by Road
	Total	--	168,300	168,300		
2.	Coal/Furnace Oil for re-heating furnace	--	11088TPA/ 3300KL	11088TPA/ 3300KL	Purchase from open market	40 to 120 km By Road

The total make-up water requirement of the plant is estimated at 198.8KLD. Presently company is sourcing 51KLD of ground water through bore-wells and is having permission for the same obtained from Central Ground Water Authority (CGWA) vide NOC CGWA/NOC/IND /ORIG/2021/10346 dated 20/01/2021 and valid up to 19/01/2024. Application having ref. no. 21-4/509/JH/IND/2019 dated 14.10.2023 has been submitted to Central Ground Water Authority (CGWA) to obtain the NOC for withdrawal of total 199 KLD of water through bore well and is under examination.

Total requirement of power for the after proposed expansion will be 25.0MVA. Existing requirement of power for the operation of existing units is 6.8MVA and requirement is met through DVC and permission for the same has been obtained. Permission for the additional power requirement shall also be obtained from DVC. One DG set of 625kVA will be installed along with the existing DG set of 625 kVA.

Baseline Environmental Studies: 1st December 2022 to 28th February 2023

Parameters	Description	Permissible Level
AAQ parameters at 8 Locations (min and max)	PM2.5 28.6 to 52.3 µg/m3 PM10 51.3 to 78.5 µg/m3 SO2 10.6 to 22.9 µg/m3 NO2 17.1 to 36.1 µg/m3 CO 0.51 to 1.14 mg/m3	60 µg/ m^3 100 µg/ m^3 80 µg/ m^3 80 µg/ m^3 02 mg/m^3
Ground Water Quality	pH varies from to 7.52 to 7.85 Total Haroness varies from 230.76 to 342.09mg/l Total Dissolved Solids varies from 402 to 456 mg/l. Chlorides varies from 91.85 to 112.11 mg/l Fluoride varies from 0.27 to 0.42 mg/l	6.5-8.5 200-600 mg/L 500-2000 mg/L 250-1000 mg/L 1.0-1.5 mg/L
Surface Water Quality	pH varies from 7.54 to 7.90 Dissolved Oxygen varies from 5.4 to 6.9 mg/l. BOD varies from 6.42 to 41.0 mg/l. COD varies from 21.09 to 84.0 mg/l.	IS:2296 Class C Norms
Soil Quality	pH varies from 7.22 to 7.49	----

<table>
<tr><th>Parameters</th><th>Description</th><th>Permissible Level</th></tr>
<tr><td></td><td>EC varies from 0.242 to 0.608 mS/cm
Potassium varies from 126.11 to 176.11 (Kg/ha)
Available nitrogen varies from 138.11 to 206.11 (Kg/ha)
Organic matter varies from 0.36% to 0.69%</td><td></td></tr>
<tr><td>Noise Level</td><td>1 Day Time (6:00 a.m. to 10:00 p.m.) 67.29 Leq dB(A)
Night Time (10:00 p.m. to 6:00 a.m.) 59.42 Leq dB(A)</td><td>75 Leq dB (A)
70 Leq dB (A)</td></tr>
<tr><td></td><td>7 Day Time (6:00 a.m. to 10:00 p.m.) 49.26 Leq dB(A) and 63.66 Leq dB(A)
Night Time (10:00 p.m. to 6:00 a.m.) 38.77 Leq dB(A) and 56.82 Leq dB(A)</td><td>55 Leq dB (A)
45 Leq dB (A)</td></tr>
<tr><td>Traffic assessment study findings</td><td>The traffic study was carried at two locations NH-2 (Delhi Kolkata Highway) at 300m road distance in SSW direction.
Transportation of Raw material, Fuel and Finished product will be done by Road.
Existing PCU is 3558.5PCU/Day on NH-2and existing level of service (LOS) is 'B'
<table>
<tr><th>Road</th><th>V (Volume in PCU/day</th><th>C (Capacity in PCU/day)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>NH-2</td><td>3558.5</td><td>15000</td><td>0.24</td><td>B</td></tr>
</table>
PCU load after proposed project will be 3693.5 PCU/Day (Existing 3558.5 + 135) for NH-2 level of service (LOS) will remain 'B'
<table>
<tr><th>Road</th><th>V (Volume in PCU/day)</th><th>C (Capacity in PCU/day)</th><th>V/C Ratio</th><th>LOS</th></tr>
<tr><td>NH-2</td><td>3693.5</td><td>15,000</td><td>0.25</td><td>B</td></tr>
</table>
Conclusion: Level of Service will be "B" i.e. Very Good for NH-2 including additional traffic due to proposed project.
Note: Capacity as per IRC 64:1990 Guideline for capacity for roads in Rural Areas.</td><td></td></tr>
<tr><td>Flora and fauna</td><td>There are four Schedules - I fauna Jackal, Russel Viper, Common Rat snake and Common Hill Myna are found in 10 km of the study area. Wildlife Conservation Plan is prepared and will be submitted to Chief Wildlife Warden, Jharkhand for approval. Total budget allocated for carrying out various activities for</td><td>-</td></tr>
</table>

Parameters	Description	Permissible Level
	conservation of species is Rs. 68.304Lakhs	

The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below

Units	SolidWastes	Qty. InTPA	DisposalPractice
InductionFurnace	Slag	31944	Willbesenttometalrecoveryplant.Aftermetalextraction(approx.10%metalrecovered)remainingcrushedmaterialwillbe supplied to road and buildingconstructioncompaniesforfilling.
	WasteLining	660	
	Scale& Endcuttings	2614	Recycled In-house along withscrapintheinductionfurnace.
RollingMill	Mill Scale &cuttings	3300	
Re-heatingFurnace (coalusedasfuel)	Ash&Bagfilterdust	490	Suppliedtofly-ashblock manufactures
BagFilterDustfromInductionFurnaces	Dust fromprocess	290	Willbe supplied to road and buildingconstructioncompaniesforfilling

Public Consultation

Details of advertisement given	"Hindustan Dhanbad" and "The Times of India" on dated 10.05.2023 and 11.05.2023
Date of public consultation	09.06.2023
Venue	Agrasen Bhawan, Upper Bazar. (Near Bank of India), Govindpur, Dist- Dhanbad, Jharkhand
Presiding Officer	Mr. Nand Kishore Gupta, Additional Collector, Dhanbad
No. of Attendees	65
Major issues raised	Employment, Area Development and Water facility

Action plan as per MoEF&CC O.M. dated 30/09/2020

Action plan for addressing the Public Hearing Commitments

Sl. No	Activities	Physical Targets
1.0	**Developmental Activities in nearby Village Bhitia & Village Saharjori**	
1A	Installation of Hand Pumps	Installation of Five (5) nos. of Mark-2 Hand Pumps (including boring) at different locations in each village Bhitia and Saharjori

Sl. No	Activities	Physical Targets
1B	Installation of Solar Street Lights	Installation of 25 nos. of solar lights in the village Bhitia. (Solar light with GI pipe and installation).
1C	Renovation of pond	Renovation of pond located in village Bhitia by carrying out first time shaping with excavation and slope stabilization and Beautification of pond by plantation of 200 trees along boundary of pond along with Yearly Cleaning/Desilting of Pond.
1D	Rainwater Harvesting Infrastructure	Construction of Rainwater Harvesting Structure at Aganwadi building of Bhitia village, which will involve Recharge pit construction along with installing necessary fachitres.
1E	Renovation of Temples	Renovation of Shiv Mandir in Village Bhitia and Shree Harihar Dham in Village Saharjori which will involve maintenance of building & painting and installation of One (1) no. of bore-well with water cooler cum purifier at each temple as drinking water facilities
1F	Providing Ambulance as Health Care Facility	Providing 1 No. of Ambulance with life support facilities i.e, Oxygen Supply unit with necessary accessories and Nebulizer along with stretches, which will stationed in the plant and will be 24x7 available for medical support to people of Village Bhitia & Saharjori
1G	Renovation of Govt. Middle School	Renovation of School will involve maintenance required in the building and painting, providing furniture & white boards in all classrooms, construction of separate Two (2) pair of toilets for boys & girls and installation of drinking water system (submersible pump and Water Cooler)
2.0	Developmental Activities in Govindpur	
2A	Installation of Hand Pumps	Installation of total of 4 no. of Mark-2 hand pumps (boring + Installation of hand pump) at different location in Govindpur (Kali Mandir, Rajkiykrit High School, Govt High school, Rajkiya Buniyadi Vidyalaya
2B	Providing Ambulance as Health Care Facility	Providing 1 No. of Ambulance with life support facilities i.e, Oxygen Supply unit with necessary accessories and Nebulizer along with stretches, to Govt Hospital Govindpur
2C	Renovation of Govt Middle School Govindpur	Renovation of School will involve maintenance required in the building and painting, providing furniture & white boards in all classrooms, construction of separate Two (2) pair of toilets for boys & girls and installation of drinking water system (submersible pump and Water Cooler)

Year of Implementation and Cost (in Rs Lakhs)			Total Expenditure (Rs. In Lakhs)
1st Year	2nd Year	3rd Year	
Developmental Activities in nearby Village Bhitia & Village Saharjori			

Year of Implementation and Cost (in Rs Lakhs)			Total Expenditure (Rs. In Lakhs)
1st Year	2nd Year	3rd Year	
2.0 village Bhitia	2.0 village Saharjori	--	4.0
10.0	--	--	10.0
7.0	0.50	0.50	8.0
5.0	--	--	5.0
5.0 village Bhitia	5.0 village Saharjori	--	10.0
12.0	--	--	12.0
--	15.0	--	15.0
Developmental Activities in Govindpur			
--	--	1.6	1.6
--	--	12.0	12.0
--	--	15.0	15.0
41.0	**22.5**	**29.1**	**92.6**

Existing Capital cost of project was Rs. 9.05 Crores. The capital cost of the proposed project is Rs. 57.10 Crores and the capital cost for environmental protection measures is proposed as Rs. 1.1909 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs 0.2765 Crores.

Total employment in the plant after the proposed expansion will be 150. Existing manpower employed is 80.

The details of cost for environmental protection measures are as follows:

Sl. No.	Environmental Protection Measures	Proposed Rs. In Lakhs	
		Capital Cost	Recurring Cost
1	Air Pollution Control & Noise Management	73.5	11.2
2	Water Pollution Contiol Measures	18.0	2.30
3	Storage and Solid Waste Management	7.0	1.0
4.	Environment Monitoring Program	-	5.45
5.	Occupational Health & Safety	11.0	6.5
6.	Greenbelt Development	9.59	1.20
	Total	**119.09**	**27.65**
7.	Addressal of Public Consultation Concern	92.6	-

Sl. No.	Environmental Protection Measures	Proposed Rs. in Lakhs	
		Capital Cost	Recurring Cost
Total		211.69	27.65

Since this is an existing plant, company already developed 0.22Ha (0.54Acres) area as green cover having 150 no. of surviving trees in the plant premises. Due to unavailability of land within the plant premises, company has acquired an additional patch area 0.607Ha (1.50 Acres) vide sale deed dated 12.10.2023 for greenbelt development. A total area of 0.827 Ha (0.607Ha outside the plant +0.22Ha within the plant premises) will be developed as greenbelt, having total of 2068 number of trees (550 within the plant premises and 1518 outside the plant) with total capital investment of Rs. 9.59 Lakhs and recurring budget of Rs. 1.20 Lakhs per year. Company will be doing the total greenbelt development till the end of the year 2024.

There is no violation under EIA, 2006/court case/show cause/direction if any, related to the project under consideration.

STATUTORY CLEARANCES

1	LOI/Lease docs	:	Deed No. 8675 - 2.00 Acre - Dated: 10.12.2003. Deed No. 6808 - 1.38 Acre – Dated: 26.08.2004. Deed No. 1184/1108 – 1.50 Acre – Dated: 21.03.2018.
2	CO	:	The CO, Govindpur (Dhanbad) vide letter no. 1424, dated 20.11.2021 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DFO Wild Life	:	DFO Wildlife, Hazaribagh vide letter no. 1347, dated 11.07.2019 certified that the proposed project site is outside Eco Sensitive Zone of Topchanchi Wildlife Sanctuary.
4	DFO Forest Distance	:	DFO, Dhanbad vide letter no. 1678, dated 06.11.2018 certified that the distance of notified forest is 2037 meters from project site.
5	Consent to Operate (CTO)	:	CTO granted by JSPCB vide Ref. no. JSPCB/HO/RNC/CTO-3706288/2018/1699, dated 30.10.2018.
6	CGWA	:	i. No Objection Certificate (NOC) for Ground Water Abstraction vide NOC no. CGWA/NOC/IND/ORIG/2021/10346, dated 20.01.2021. ii. Application for withdrawal of total 199 KLD of water vide no. 21-4/509/JH/IND/2019, dated 14.10.2023.
7	Previous Environemental Clearance (EC)	:	Previous EC granted by MoEF&CC, Govt. of India vide F. No. J-11011/180/2010-IA.II (I), dated 13.07.2011

8	Public Hearing	:	Public Hearing conducted on 09.06.2023.
9	Power Permission	:	Agreement with DVC execute dated 26.12.2022.
10	Certified Compliance Report of CTO	:	Compliance Report certified by Regional Officer, JSPCB, Dhanbad vide memo no. 904, dated 20.07.2023.
11	No Increase in Pollution Load (NIPL)	:	No Increase in Pollution Load (NIPL) issued by JSPCB vide Ref. no. B-1156, dated 17.06.2022

Based on the presentation made and information provided, the Committee decided that the proposal for Expansion of existing plant of 36000 TPA M.S. Billets / Ingots to a final configuration of induction furnaces 2x10 T & 2x12 T (Billets / Ingots-145200 TPA) with Slag Crusher (10 TPH) – 33000 TPA, TMT Bars & Rolled Products – 165000 TPA and reheating furnace of 30 TPH (emergency use) of M/s Jai Prabhuji Iron & Steel Pvt. Ltd., Village : Kanshitanr, Tehsil : Govindpur, Distt. : Dhanbad, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I alongwith following specific conditions :

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 (upto 20%) 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 33% of project area.

VII. Developers/Company to install STP of sufficiept capacity such that all the sewer produced is treated and reused.

VIII. 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.

IX. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.

X. 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.

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4. **Brahmandungri Soapstone Mine of M/s Ganga Engineering, Village : Brahmandungri, Tehsil : Rajnagar, Distt. : Saraikela-Kharsawan, Jharkhand (31.36 Ha).**

(Proposal No : SIA/JH/MIN /444066/2023).

Name of the consultant : Vardan Environet, Haryana

Project Category : 81 – **Application for Environment Clearance**

EC Application for: Mining of Soapstone from Brahmandungri Soapstone mine with 42822.00 TPA Production capacity over a mine lease area of 31.36 ha located at Village– Brahmandungri, Tehsil- Rajnagar, District – Saraikela-Kharsawan, State- Jharkhand, Proposed by **M/s Ganga Engineering.**

This is a case of violation wh ch has been taken for reappraisal on 17.10.2023

The project is a violation case **wherein mining has been done without Prior Environmentel Clearance** from State Environment Impact Assessment Authority (SEIAA), Jharkhand.

However, The Honourable Supreme court in its order dated 9th December 2021 in the matter of the Civil appeal No 7576-7577 of 2021 in the Electro steel Steels Limited Vs Union of India and Ors in its para 93 has inter- alia observed the following :

> *"The interim order passed by the Madras high Court appears to be misconceived. However, this court is not hearing an Appeal from that interim order. The interim stay passed by the Madras High court can have no application of operations of the Standard Operating Procedure to the projects in territories beyond the territorial jurisdiction of Madras High court. However, final decision may have been taken in accordance with the Orders/ Rules prevailing prior to 7th July, 2021."*

Thus, the SEIAA, Jharkhand, in the light of Ho'ble Supreme Court order dated 9th December 2021, Office Memorandum no. F.No.22-21/2020-IA.III[E 138949] dated 28.01.2022 of MoEF&CC, Govt. of India and Standard Operating Procedure (SOP) issued by MoEF&CC, Govt. of India vide its file number 22-21/2020-IA-III, dated 07.07.2021, the matter has been taken for consideration & recommendation of EC for violation projects.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 102nd meeting held on 21-25.03.2023 and SEIAA, Jharkhand has approved the Violation ToRs in 103rd meeting held on 01st & 02nd April, 2023. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2022-23/2769/2023/24, date 12.04.2023. The final EIA / EMP submitted by PP to SEIAA on 18.09.2023 and which was forwarded to SEAC on 18.09.2023.

Previously the Mining Plan of the said mine was approved by the Regional Controller of Mines, Indian Bureau of Mines, Ranchi Region, Ranchi. The approval was given under the Letter No. CAL/SAR-KHAR/SST/MP-634 dated 22.11.2004. Now Scheme of mining including Progressive Minc Closure Plan is prepared for the period of 2020-21 to 2024-25.

Scheme of mining including Progressive Mine Closure Plan has been approved by DMG, Government of Jhackhand Dated 06.01 2023 vide letter no. 14/DDM.

Mining operation is being carried out in the area since 18.04.2007 without grant of Environment Clearance and the mining operations are closed since 2013.

Baseline data collection was completed from December 2022 to February 2023.

The summary of baseline data is given below.

Parameters	Baseline status
Ambient Air Quality	PM10 – 84.7 to 40.5 µg/m^3 PM2.5 – 49.8 to 23.8 µg/m^3 SO_2 – 12.5 to 5.1 µg/m^3 NO_x – 19.5 to 7.6 µg/m^3 CO – 0.81 to 0.45 mg/m^3
Noise Level	The Leq values for day time was observed to be 43.2 to 52.6 dB (A), while during night time 35.2 to 43.06 dB (A)
Water Quality	**Ground Water:** All the Parameters Like pH varies from 7.58 to 7.91, Total Hardness varies from 142.35 to 181.54 mg/l, Total Dissolved Solids varies from 336 to 397 mg/l, Chlorides – 75.61 to 102.34 mg/l etc. are found within the permissible limits. Bacteriological studies revealed the absence of Total coliform.
	Surface Water: All the Parameters Like pH varies from 7.38 to 7.97, Total Hardness varies from 315.7 to 587.15 mg/L, Total Dissolved Solids varies from 396 to 978 mg/L, Dissolved Oxygen – 5.7 mg/l to 6.8 mg/l etc. are found within the permissible limits. Total Coliform count is measured 400 to 1600 MPN/100ml.
Soil Quality	pH- 7.26 to 7.66 Organic matter- 0.40% to 0.60 % Electrical Conductance - 0.312 µS/cm to 0.45 µS/cm Available Nitrogen - 136.5 Kg/ha to 172.6 Kg/ha Available Phosphorous - 12.5 kg/ha to 20.12 kg/ha Available Potassium - 157.25 Kg/ha to 191.56 Kg/ha
Ecology and Biodiversity	No National Park, Wild Life Sanctuary, Bio-sphere Reserve, Elephant Reserve, Tiger Reserve is present within 10 km of mining lease area. Schedule-I species present in the study area However, a site specific WLCP has been prepared for conservation of Wildlife.
Socio Economic Survey	The proposed project will provide positive impact to the nearby area. The project will provide direct and indirect employment to nearby villagers.

Past production has been certified by Mining officer, Saraikela Kharsawan, Jharkhand vide letter no 243/M, dated 29.03.2019, Letter also states that the mining activity has been stopped since 2013.

Sr. No.	Previous Years	Production (MT)
1	2004-05	0.00
2	2005-06	0.00
3	2006-07	0.00
4	2007-08	83.00
5	2008-09	355.00
6	2009-10	362.00
7	2010 11	1736.00
8	2011-12	4040.600
9	2012-13	1400.00
10	2013-14	0.00
11	2014-15	0.00
12	2015-16	0.00
13	2016-17	0.00
14	2017-18	0.00

Project and Location Details:

Sl.	Parameter		Details
1	Project Name	:	Mining of Soapstone minor mineral from Brahmandungri Soapstone mine with 42822.00 TPA Production capacity over a ML area of 31.36 ha located at Village– Brahmandungri, Tehsil- Rajnagar, District – Saraikela-Kharsawan, State- Jharkhand, Proposed by M/s Ganga Engineering.
2	Lessee:	:	M/s Ganga Engineering, Authorized Signatory- Mr. Jitendra Agarwal Garg
3	Lease Address	:	Village– Brahmandungri, Tehsil- Rajnagar, District – Saraikela-Kharsawan, State- Jharkhand
4	Lease Area	:	Ha: 31.36 | Acres: 77.49

5	Type of Land	:	Non-Forest	
6	Project Cost	:	Rs. 1.518 Crore	
7	EMP Budget	:	Capital Cost: Rs 14.0 Lakhs Recurring Cost: Rs. 0.9 Lakhs	
8	New or Expansion	:	Violation	
9	Mineable Reserves	:	Cu.M.: 309114.2	Tonnes: 695506.95
10	Mine Life	:	17 Years	
11	Manpower	:	Direct- 50 Indirect- 100-150	
12	Water Requirement	:	26.9 KLD (Drinking: 2.0 KLD, Dust Suppression: 24 KLD & Plantation: 0.9 KLD)	
13	Water Source	:	Supplied through authorized tankers	
14	DG Set / power	:	Not Applicable	
15	Crusher	:	Not Applicable	
16	Nearest Water Body	:	Kharkai River - 3.5 km N Sitarampur Reservoir – 6.7 km NW Bhangbanga Nadi – 8.1 km SW	
17	Nearest Habitation	:	Bamdih – 0.46 km NW	
18	Nearest Rail Station	:	Adityapur Railway Station – 6.5 km NNE Direction	
19	Neatest Airport	:	Sonari Airport: 10 km in NNE Direction Birsa Munda Airport: 108 km in NW Direction	
20	Neatest Forest	:	Nandu PF – 1.6 km NE Kudada RF – 0.47 km SE Gotigoratola – 4.9 km SE Daraimachh PF – 1.5 km SW	
21	Road & Highways	:	SH 6 – 4.7 km NE Rajnagar Jugsalai Road – 2.0 km NW	

CO-ORDINATES

1	Latitude	:	From 22°43' 8.204"N	To 22°43' 33.860"N
2	Longitude	:	From 86° 08' 52.810"E	To 86° 08' 53.837"E

LAND DETAILS :

Khata No.	Khasra No.	Khata No.	Khasra No.
1	354, 355, 363, 365	27	316, 341, 343
4	338, 348	38	357, 358
8	302, 369, 370	41	339, 345, 259, 260, 261, 262, 263, 264, 323, 330, 334, 335, 356
10	272, 277, 282, 289, 307	54	238, 239

11	293, 294	57	241
12	290, 276	58	303, 304, 305, 310, 361, 362
13	292	59	318, 360
14	321, 322, 324, 325, 336, 236, 237, 242	60	344, 351, 352
16	340	61	328, 342, 327, 353, 371, 372
17	243	64	373
20	273, 274, 288, 295, 297, 300	65	271
20	279, 280, 284, 283, 287, 306, 308	66	376
21	268, 281	67	375
25	245, 347, 349, 337, 244, 256, 257, 258, 265, 346, 251, 252, 253, 254, 255, 246, 247, 248, 249, 250	76	319, 320, 326, 359, 367, 374, 315, 377, 240, 265, 267, 275, 298, 301, 309, 311, 317, 350

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	Mining lease was granted to M/s Ganga Engineering and the mining lease Brahmandungri Soapstone mine lease deed was executed on 07.05.2005 for a period of 20 years over an extent of 31.36 Ha
2	CO	:	The CO, Gamharia vide letter no. : 1097, dated 29.10.2021 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II. CO, Gamharia has also mentioned that the 15 houses exist at a distance of 200 m in North side, 35 houses at a distance of 25 m in East side and 08 houses at a distance of 35 m in West side. The total lease area is 77.46 acre whereas the mining quarry area at conceptual stage will be 23.71 acres. The PAs have submitted as follows : **Mitigation measures for nearby habitation :** • Obtained NOC from gram sabha for operation of the Soap Stone Mines. • Mine pit even at ultimate stage is more than 100 m from the mine boundary in direction of nearby habitations. • Green belt of minimum 30 m (including safety zone of 7.5 m) will be developed along the mine boundary in the said directions.

			• Only manual mining is proposed. No drilling or blasting – thus minimum noise & vibration envisaged at habitations. • Regular water sprinkling will be done for dust suppression due to mining activities. • Transportation of materials will not be done on the roads passing through these habitations.
3	DMO	:	DMO, Saraikela-Kharsawan vide letter no. 341/M, dated 06.06.2019 certified that no other mining lease area exists within 500 m radius from project site
4	DFO Wild Life	:	DFO, Dalma Elephant Project vide letter no. : 87, dated 29.01.2022 certified that the proposed project site is outside Eco Sensitive Zone of Dalma Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Seraikela Forest Division vide letter no. : 164, dated 27.01.2022 certified that the distance of notified forest is more than 250 m from project site.
6	DSR	:	The project is already mentioned in District Survey Report of West Singhbhum.
7	Gram Sabha	:	Gram Sabha conducted on 05.01 2022.
8	Mine Plan Approval	:	Mine plan approved by Deputy Director Mines, Kolhan Circle, Chaibasa vide letter no. 14/DDM, dated 06 01.2023.
9	Public Hearing	:	Public Hearing conducted by JSPCB on 04.09.2023.

WORKING DETAILS

1	Mining Method	:	Opencast Manual Mining	
2	Quarry Area	:	End of Life – 9.60 ha	Life of Mine – 17 Year
3	Waste Generation	:	5 years–31736 m^3	
4	Stripping Ratio	:	1:0.19	
5	Size of the Bench	:	1.5 m x 1.5 m	
6	Working Days	:	300 days/year	
7	Elevation range of the mine site	:	Minimum- 213 m RL Maximum- 945 m RL	
8	Topography of Mine	:	Gently Slope	
9	Explosive Requirement	:	Not applicable	
10	Diesel/Fuel requirement	:	Not applicable due to manual mining	

Production Details:

Year	Soil in m^3	O.B. in m^3	Wastes in m^3	Total Wastage in m^3	Total Soapstone in Tonnes
2020-21	00	00	00	00	00
2021-22	00	00	00	00	00
2022-23	9790.50	3916.20	00	13706.70	35245.80
2023-24	00	4300.50	00	4300.50	38704.50
2024-25	00	4758.00	00	4758.00	42822.00
Total	**9790.50**	**12974.70**	00	**22765.20**	116772.30

LAND USE

Sr. No	Activity	Present Land Use (ha)	After Five Year Land Use (ha)	At the end of lease period ha.
1.	Quarry	0.35	0.86	9.60
2.	Soil Dump	0.05	0.27	Nil
3.	Waste Dump including Parapet Wall & Garland Drain	Nil	0.59	Nil
4.	O.B Dump	0.07	Nil	Nil
5.	Mineral Stack	0.22	0.22	Nil
6.	Road	0.56	0.65	0.12
7.	Green Belt	Nil	1.08	2.89
8.	Total area in use	1.25	3.67	12.61
9.	Gairmazarua & Raiyati Land	30.11	27.69	18.75
	Grand Total	**31.36**	**31.69**	**31.36**

ENVIRONMENT MANAGEMENT

Green Belt Development

Year	Location	No. of Sapling to be Planted	Species	Place of Plantation
2020-21	Along Safety Barrier	Nil	Neem, Peepal, Mango, Shisham, Sirish, Babool, Gulmohar	Along the roads, safety barrier, on dumps
2021-22	Along Safety Barrier	Nil		
2022-23	Along Safety Barrier	200		
2023-24	Along Safety Barrier	200		
2024-25	Along Safety Barrier	200		

Solid Waste Management

Year	Soil in m^3	O.B. in m^3	Wastes inm^3	Total Wastage inm^3
2020-21	3559	1109	**1119**	5787
2021-22	00	6968	1039	8007
2022-23	00	8636	1127	9763
2023-24	4167	7797	1112	13076
2024-25	3569	7226	1104	**11899**
Total	**11295**	**31736**	**5501**	**48532**

Water Pollution Control Measures:

- The Ultimate Area of the Quarry will be 9.60 Ha at the end of life.
- Mining operation will be restricted to the depth of 25 meter from surface level.
- The clogged water during rainy season will be pumped out from the quarries and will be tested before discharge to nearby cultivated field. Apart from this, there is no change on water environment.

- There will be no wastewater generated from the mining operations. Only domestic waste water will be generated, which will be treated in septic tank/soak pits.

SW & GW Management:

1. Mining will not intersect the ground water table during the plan period.
2. The mining will not have any impact on the topography and the natural drainage of the surrounding area.

Air Pollution Control Measures:

- Dust suppression measures like spraying / sprinkling of water to keep the surface wet.
- Overloading of the truck / tractor trolleys will not be done.

As the only impact is due to transportation, through village roads, emphasis will be given on the following points:

1. Tractors-dumper will be well maintained from time to time and PUC certified vehicles will be used.
2. Timely maintenance of vehicles and their silencers to minimize vibration and sound.
3. Minimum use of horns in the village area and silence zone (if any) as applicable

Noise Pollution Control Measures:

1. Proper maintenance of all machines will be carried out, which help in reducing the generation of noise during operations.
2. Only transportation vehicles, for loading will be allowed.
3. Noise generated by equipments is intermittent and does not cause much adverse impact.
4. Periodical monitoring of noise will be done to adopt corrective actions wherever needed.
5. Plantation will be taken up along the approach roads. The plantation minimizes propagation of noise and also arrests dust.

Topsoil Management:

Yearly generation of soil/ fines will be used for plantation and as a upper layer on the dumps. Top soil (if any) will be stacked in the area in area earmarked for stacking.

There are no toxic elements present in the mineral which may contaminate the soil or water.

Risk & Hazard Identification

Risk assessment is the systematic study of uncertainties and risks encountered in various areas during any operation. It is a process to identify potential hazards, evaluate impacts and suggest mitigations. As part of managing the health and safety of business, we must control the risks in our workplace.

As the propused method of mining is manual mining only and no heavy machinery will be deployed, no drilling and blasting proposed, the risks and hazards will be reduced significantly.

Assess the Risk

Assessing the risk means working out how likely it is that a hazard will harm someone ahd how serious the harm could be. For example:

- Ask your supervisor for instructions and training before using equipment;
- Ask fpr help moving or lifting heavy objects;
- Tell your supervisor if you think a work practice could be dangerous.

IDENTIFICATION OF HAZARDS

There are various factors, which can cause disaster in the mines.
These hazards are as follows:

- Inundation- Filling of the mine pit due to excessive rains,
- Slope failures at the mine faces or stacks.
- Overburden handling
- Movement of trucks/ dumpers
- Fire explosion due to improper handling of electrical equipment.

Risks due to Failure of Pit Slope

In order to allay dangers due to open cast slope failure, final pit, slope stability estimations will be made for the existing mines. Determining the factor of safety, the slopes should be monitored at regular intervals to check for any possible failure.

Risk due to Handling of Overburden and Heavy Machinery

During the mining, most of the activities are done by the vehicles and the heavy machinery for mining and handling of the mineral. There is no overburden or waste will be generated during the first five year of mining operation. Heavy machinery also cause for accidents due to mechanical failure.

Risks of Accidents due to Trucks and Dumpers

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),
- Unsafe coupling and uncoupling of trailers,
- Untrained drivers,.
- Overturning vehicles.

To avoid such instances we will talk to the workers and their representatives and will involve them in the risk assessment process and tell them what to do, to reduce risk. 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.
- Road signs will be provided at each and every turning point up to the main road (wherever required)

The overburden dumps may cause landslides. High overburden dumps created at the quarry edge may cause sliding of the overburden dump or may cause failure of the pit slope due to excessive loading, thereby causing loss of life and property.

Movement of trucks and dumpers, if done properly may cause accidents and loss of life or property. Proper traffic arrangement shall be implemented.

At Mine Closure:

Small area of Water body (reservoir) will be left at mine site after backfilling more than 70% of the void area.
The water body will be properly fenced with barbed wire, so that no human or animal go near it.
The water reservoir will be used for augmentation of ground water recharge.

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. The plantation work will be completed within the third year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.

f. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.

g. 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.

h. If tree falling is required permission from computed authority should be obtained.

Public Hearing Action Plan

As per Ministry's OM dated 30.09.2020, the Ministry has decided to deliberate on the and commitments made by the project proponent to address the issues raised in the Public Hearing held on 04.09.2023. Hence, the activities proposed by M/s Ganga Engineering to address the issues raised in the Public Hearing vis-a-vis budget for the same is given below. Total budget for implementation of the activities is **Rs. 10.0 Lakh**

S. No	Proposed Activities under Public Hearing commitment scheme	Phasing of Allocated proposed Public Hearing commitment Budget, Rs. Lakh			
		1st Year	2nd Year	3rd Year	Total
1.	Distribution of Computers as Learning aid in Government School, Brahmandungri	5.0	-	-	5.0
2.	Providing funds for organizing Health Checkup Camps including Eye-Checkup, Blood Donation Camps, Child Health Monitoring etc.	1.5	1.0	1.0	3.5
3.	Providing funds to ITI & Polytechnic college for organizing skill training to students of nearby areas	0.5	0.5	0.5	1.5
Total		**7.0**	**1.5**	**1.5**	**10.0**

- **On the basis of above the State Level Expert Appraisal Committee (SEAC), Jharkhand recommended an amount of rupees 27,32,500 as per CPCB guidelines towards remediation plan and natural & community resource augmentation plan to be spent within a period 03 years. The details of summary of Natural resource and Environmental / Ecological Damage assessment with budgetary provision for expenditure under the below mention head for remediation :-**

Damage Assessment

Total damage cost due to violation on environmental attribute is given in table below:

S. No	Environmental attributes	Damage Cost Amount in Rs.
1	Air Environment	227396.38
2	Land Environment	1606500
3	Noise Environment	50000
4	Water Environment	719260
5	Ecology and Biodiversity	125000
Total Cost of Damage Assessment		**27,28,156.38**

The summary of amounts which will be spent for Remediation Plan, Natural Resource Augmentation Plan and Community Resource Augmentation Plan is given below:

Sl. No.	Description	Estimated cost
1	Remediation Plan	₹ 18,05,000
2	Natural Resources Augmentation Plan	₹ 4,37,500
3	Community Resources Augmentation Plan	₹ 4,90,000
Total Amount to be spent on Remediation Plan and Natural & Community Resource Augmentation Plan		**₹ 27,32,500**

I. Total budgetary provision with respect to remediation plan and natural and community resource augmentation plan is **Rs. 27,32,500**.

II. **Therefore,** PAs shall be required to submit a bank guarantee of an amount of Rs. **27,32,500** towards remediation plan and natural and community resource augmentation plan with the Jharkhand State Pollution Control Board and evidence of the same submitted to SEIAA, Jharkhand prior to grant of EC.

III. The bank guarantee shall be released after successful completion of remedition plan, duly recommended by the SEAC, Regional Office - MoEF&CC, Govt. of India and approval of regulatory authority. Remediation plan shall be completed in 03 years with the consultation of Local / Urban Bodies / State Govt. Deptt.

IV. Approval / permission from CGWA shall be obtained before drawing ground water for the project activities, if applicable. Jharkhand State Pollution Control Board shall not issue Consent to Operate (CTO) until the PAs obtains such permission.

V. PAs shall take necessary other clearances / permissions under various act and rules if any, from the respective authorities / departments.

VI. STP of adequate capacity shall be established within the project permises.

VII. Energy conservation measures adhearing to part of ECBC norms shall be complied with.

VIII. The penalty of Rupees **14,000** being **1%** of the project cost incurred till date **(Rs. 14.00 Lakh) Plus** Rs. 21,441.275 being **0.25%** of total turn over till date **(Rs. 85,76,510)** shall be submitted to Jharkhand State Pollution Control Board in the form of demand draft and evidence of the same to be submitted to SEIAA, Jharkhand prior to grant of EC.

IX. Action will be taken for the violation by the Jharkhand State Pollution Control Board under the provision of section 19 the Environment (Protection) Act, 1986.

Based on the presentation made and information provided, the Committee decided that the proposal for Brahmandungri Soapstone Mine of M/s Ganga Engineering, Village : Brahmandungri, Tehsil : Rajnagar, Distt. : Saraikela-Kharsawan, Jharkhand (31.36 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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5. **Enhancement of MS Billet production from 27,000 TPA to 148500 TPA through 3x15 T Induction Furnaces (by replacing existing 1x19 T Furnace wit 1x15 T & installing additional 2x15 T Furnaces along with CCM-2x2 strand, 4/7 radius) , and production of 145500 TPA TMT Bars & Rolled Products by installing Rolling Mills of 1x25 TPH capacity and reheating furnace of 30 TPH (emergency use) by M/s Shree Dwarikesh Ecotex Private Limited at Kandra Industrial Area, Village : Bhitla, Mouza : Kansitanr, Thana no. : 124, Thana :Govindpur, P.S. : Govindpur, Distt. : Dhanbad, Jharkhand.**

(Proposal No : SIA/JH/IND1/448804/2023).

Name of the consultant : Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar, Odisha.

This is an expansion project which has been taken for appraisal on 17.10.2023.

Project Category : **B1** – The State Expert Appraisal Committee, Jharkhand deliberated the project during its 102nd meeting held on 21 - 25.03.2023 and SEIAA, Jharkhand has approved the ToRs in 103rd meeting held on 01st & 02nd April, 2023. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2022-23/2784/2023/25, dated 12.04.2023. The final EIA / EMP submitted by PP to SEIAA on 15.10.2023 and which was forwarded to SEAC on 16.10.2023.

This is an expansion and enhancement proposal within the existing plant premises of 2.435 ha. The project of M/s Shree Dwarikesh Ecotex Private Limited is located at Kandra Industrial Area, village- Bhitla, Mauza – Kansitanr, Thana No. 124, P.S.-Govindpur. District –Dhanbad, Jharkhand.

The proposal is for Enhancement of MS Ingot/Billet production from 27,000 TPA to 148,500 TPA through 3 x 15T Induction Furnaces (by replacing existing 1 x 9 T Furnace with 1 x 15T & installing additional 2 x 15 T Furnaces along with CCM 1 x 2 strand, 4/7 radius), and production of 145,500 TPA TMT Bars & Rolled Products by installing Rolling Mills of 1 x 25 TPH Capacity and reheating furnace of 30 TPH (emergency use).

Land Details :

Khata No.	Plot No.
23	74 (P), 70 (P)
22	90, 91
18	88, 93 (P)
19	87 (P), 92, 94 (P), 95 (P)
04	89, 108 (P)

Environmental Settings of the Site :

S. No.	Particulars	Details	Remarks
1	Total Land	2.435 ha	Industrial Land
2	Land Acquisition Details	Land Leased from BIADA (Now JIADA): 1.82 ha. (4.497 Acre)	JIADA lease for 99 Years

		Land purchased: 0.615 ha (1.52 Acre)	Plantation land is registered in name of company
3	Existence of habitation & involvement of R&R, if any	No habitation is present within the project area.	R&R not applicable
4	Latitude and longitude of all corners of the project site	The project lies in between latitude 23°50'53.34"N to 23°50'57.24"N 86°28'34.10"E to 86°28'39.84"E	
5	Elevation of the project site	241 m to 242 m above mean sea level	
6	Involvement of forest land if any	No forest land is involved in the project	
7	Water body (River, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area	**Project Site:** RWH Structure in the northeast of the project site **Study Area:** Khudal Nadi is at 0.90 km in NW direction Although there are several minor ponds, no major ponds/reservoirs are present in the study area	
8	Existence of ESZ/ESA/National Park/Wildlife Sanctuary/Biosphere Reserve/Tiger Reserve/Elephant Reserve etc. if any within the study area	**Project located outside ESZ** **List of RF and PF:** Dhangi RF at 2.40 km SE	

The unit configuration and capacity of the proposed project is given below;

#	Plant Equipment /Facilities	Existing facilities		As per CTO dated 09.06.2022		Proposed Units		Final (Existing + Proposed)	
		Config.	Cap.	Config.	Cap.	Config.	Cap.	Config.	Cap.

1	Induction Furnace	1 x 9 T (will be replaced)	27,000 TPA	1 x 9 T (will be replaced by 1x15 T)	27,000 TPA	1 x 15 T (replacing existing) 2 x 15 T	1,48,500 TPA	3 x 15 T	M.S. Billets 1,48,500 TPA
	CCM	-	-	-	-	1x2 Strand Rad. 4/7 m		1x2 Strand Rad. 4/7 m	
2	Rolling Mill	-	-	-	-	1 x 25 TPH	1,45,500 TPA	1 x 25 TPH	TMT Bars & Rolled Products 1,45,500 TPA
3	Re-heating Furnace (for emergency)	-	-	-	-	1 x 30 TPH	99,000 TPA	1 x 30 TPH	99,000 TPA

The details of raw material requirement for the proposed project along with its source and mode of transportation is given below:

#	Raw Material/Fuel	Quantity required per annum			Unit	Source	Mode of Transport	Distance from project Site (km)	Linkage
		Existing	Expansion	Total					
Induction Furnace 1,48,500 TPA									
1.	Sponge Iron	2,160	1,16,640	1,18,800	TPA	Sponge iron plant	Road	30	Open market
2.	Pig Iron	810	43,740	44,550	TPA	In-house	Road	20	Open market

3.	Scrap	405	21,870	22,275	TPA	Local market	Road	45	Open market & in-house
4.	Ferro Alloys (SiMn/FeSi)	5.4	292	297	TPA	Local market	Road	40	Open market
Rolling Mill 1,45,500 TPA									
5.	Billet	-	1,48,500	1,48,500	TPA	Induction furnace	Hot charging	Within plant	-
Re-Heating Furnace 90,000 TPA									
6.	Coal or FO	-	11,088	11,088	TPA	Local market	Road	30	Open market
		-	3,300	3,300	KL	IOCL	Road	60	

The makeup water requirement for the proposed expansion is estimated as 148 KLD which will be sourced through groundwater. Total makeup water requirement at final stage after expansion will be 190 KLD.

Industrial wastewater will be about 12 KLD which will be treated in ETP approx. Domestic wastewater generated is envisaged as 10 KLD. It will be sent to soak pit.

The power requirement for the proposed expansion is envisaged as 22 MVA, which will be obtained from DVC.

Baseline Environmental Status

Period	March to May 2028
Air Environment	PM10 – 51.3 to 72.8 µg/m3, PM2.5 – 28.6 to 52.3 µg/m3, SO2 – 10.6 to 22.9 µg/m3, NOx – 17.1 to 36.1 µg/m3, CO – 0.5 to 1.14 mg/m3
AAQ Modelling max. incremental GLCs (with control measures)	PM10 – 1.53 µg/m3 at 890 m SSE PM2.5 – 0.818 µg/m3 at 1.29 km SSE SO2 – 6.13 µg/m3 at 1.35 km SSE NOx – 19.9 µg/m3 at 1.11 km SSE (SO2 & NOx values are of operation of Re-heating furnace with FO/Coal)

Groundwater Quality	pH – 7.52 to 7.85, Chloride – 91.8 to 112.1 mg/l, Total Hardness 230.7 to 342.09 mg/l, TDS - 402 to 456 mg/l
Surface Water Quality	pH – 7.54 to 7.90, DO – 5.4 to 6.9 mg/l, BOD – 6 to 41 mg/l
Noise Environment	Daytime: 41.2 to 73.2 dB(A) Nighttime: 34.2 to 68.2 dB(A)
Soil Environment	pH – 7.22 to 7.49, Conductivity – 0.242 to 0.608 mS, Potassium – 126.11 to 184.27 mg/kg, Nitrogen – 138.11 to 206.11 mg/kg, Phosphorus – 17.43 to 31.66 mg/kg

The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished below:

Facility	Waste	Quantity (TPA)	Quantity used in-house (TPA)	Quantity disposed outside (TPA)	Management
Solid Waste					
SMS	Slag / Impurities	31,185	31,185	-	After recovery of metal, disposed to construction contractors for road & construction filings.
	Waste Lining (Ramming Mass)	495	495	-	
	End cuts & CCM Scales	297	297	-	Recycle in Induction Furnace (used in house)
Rolling Mill	Scrap	2,474	2,474	-	
	Mill scale	146	146	-	
C&D Waste	Cement, Bricks, Mortar, etc (only during construction phase only)	609 Tons	-	500 Tons	Material like unbroken bricks, door hinges, sheets from sheds will be reused in the proposed

					plant and handled as per C&D Rules 2016
Hazardous Waste					
Used oil	Schedule- I Sl. No.- 5.1	0.2 KL/year	-	0.2 KL/year	Stored and disposed to Authorized recyclers as per norms.
ETP Sludge	Schedule- I Sl. No.- 4.1	0.165		0.165	

Public Consultation:

Details of advertisement	19.07.2023 in Hindustan and Times of India
Date of public consultation	29.08.2023
Venue	Agrasen Bhawan, Upper Bazar (Near Bank of India), Govindpur, District Dhanbad 828109, Jharkhand
Presiding Officer	Mr. Nand Kishore Gupta, Additional District Collector
Major Issues Raised	• Employment generation • Plantation • Repair of broken borewells

Action plan as per MoEF&CC O.M dated 30.09.2020.

S. No.	Physical Activity and Action Plan		Year Wise Proposed PH Compliance Budget (Rs. in Lakhs)			Total Amount (Rs. In Lakhs)	Detail of the Physical Target
	Name of the Activity	Total Physical Targets	1st Year	2nd Year	3rd Year		
A	**Drinking Water**						
1	Purified Drinking Water Facility at Public Places	4 Nos	5.50	5.50	11.00	22.00	In total 4 nos of Purified Drinking Water shall be installed at 4 Sub-Centres. Each Facility shall have a purifier

S. No	Physical Activity and Action Plan		Year Wise Proposed PH Compliance Budget (Rs. In Lakhs)			Total Amount (Rs. In Lakhs)	Detail of the Physical Target
	Name of the Activity	Total Physical Targets	1st Year	2nd Year	3rd Year		
							machine of Rs. 2,00,000/- and Civil Works cost shall be Rs. 3,50,000/-.The locations are Bhitia, Kasitanr, Asanbani, and Tentulitanr .
2	Hand pump/Bore Well with Syntax Tanks (New Unit/Repair of broken)	10 Nos	9.75	9.75	13.00	32.50	In total 10 nos of Hand pumps shall be installed/repaired at strategic public locations (schools/temples/PHC etc.) at Bhitiya Gram Panchayat
	Sub Total (Drinking Water)		**15.25**	**15.25**	**24.00**	**54.50**	
B	**Environment**						
1	Rain Water Harvesting in Govt. Schools and Govt. Institutions	5 Schools/ Institution/ Offices	0.90	0.90	0.90	2.70	Rain Water Harvesting shall be taken-up in 5 schools/Govt Offices/Govt Institutions @ Rs. 45,000/-
2	Plantation/Afforestation Drive (including sampling and protection like tree guard etc)	30 Schools/ Institution/ Offices	3.00	3.00	3.00	9.00	30 Schools or Govt. offices or Govt Institution shall be covered in Bhitiya Gram Panchayat with approximately 1500 Sampling (50 Saplings

S. No.	Physical Activity and Action Plan		Year Wise Proposed PH Compliance Budget (Rs. In Lakhs)			Total Amount (Rs. In Lakhs)	Detail of the Physical Target
	Name of the Activity	Total Physical Targets	1st Year	2nd Year	3rd Year		
							with Tree Guard @ Rs. 600/- shall be planted in each school/institution/offices.
	Sub Total (Environment)		**3.90**	**3.90**	**3.90**	**11.70**	
C	**Livelihood**						
1	Promotion of Income Generation Activities- Talloring & embroidery etc	100 Women	0.00	7.50	7.50	15.00	100 interested women beneficiaries within 10 SHG members of neighboring GP shall be trained within 2 years i.e. 5 Group with 10 member in each group shall be trained every year
2	Farmers input support for improving the yield for better return	150 Farmers	5.00	5.00	5.00	15.00	150 interested and selective farmers shall he provided with inputs for 3 years
	Sub Total (Livelihood)		**5.00**	**12.50**	**12.50**	**30.00**	
	Grand Total		**24.15**	**31.65**	**40.40**	**96.20**	

The existing capital cost of the project is Rs. 4.65 Crores, additional cost envisaged is Rs. 44.46 Crores. Final Project cost will be Rs. 49.11 Crores.

Cost for environmental protection measures is proposed as Rs. 2.63 Crores. The annual recurring cost towards the environmental protection measures is envisaged as Rs 0.48 Crores. The details of cost for environmental protection measures are follows:

#	Unit	Detail	Capital Cost (Rs. in Lakhs)		Operating Cost (Rs. in Lakhs)		Maintenance Cost (Rs. in Lakhs)		Recurring Cost (Rs. in Lakhs)	
			Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
1	Air	APCD (Bag filter, spark arrestor)	50	-	-	-	5	-	5	-
2	Waste water	ETP, Soak Pit	20	180	16.44	-	24.67	-	41.11	-
3	Noise	Mufflers, Acoustic Enclosures	1	0.8	0.5	0.5	0.3	0.3	0.8	0.8
4	Post Environmental Monitoring	Air, Water, Noise, & Soil, CAAQMS, Stack Monitoring	15	47.79	9	24.7	-	-	9	24.7
5	Greenbelt Development	Plantatibn	2	9.45	-	-	-	1.6	-	1.6
6	Occupational Health & Safety	Medical Health check-up, PPE, Fire safety	10	10	0.3	0.3	0.1	0.1	0.4	0.4
7	Public Hearing Compliances	Employment, Plantation and Drinking water facility		96.2						
8	Solar Power	Solar power	-	197.37	-	2	-	2	-	4

		plant								
	Sub-Total		**98**	**541.61**	**26.24**	**27.5**	**30.07**	**4**	**56.31**	**31.5**
	Total		**639.61**		**53.74**		**34.07**		**87.81**	

Total manpower requirement for the project will 150. Locals will be employed during the construction phase..

A 10 m wide greenbelt consisting of at least 3 trees around the plant boundary will be developed as greenbelt and green cover over 0.19 ha. Additionally, a 0.615 ha area has been identified for plantation outside the plant premises. Local and native species will be planted with a density of 2500 trees per hectare. A total of 2,364 saplings will be planted and nurtured over the combined area of 0.634 ha in 3 years. Total plantation area i.e., 0.634 ha. will be 44% of the plant area and approx. 33.1% of the total action area.

There are no violations, court cases, show cause or direction issued by any authority against the project as informed by project proponent.

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	Lease Deed.
2	CO	:	The CO, Govindpur (Dhanbad) vide letter no. 1167, dated 16.09.2021 has mentioned the plot no. of the project is not recorded as "Jungle Jharl" in R.S. Khatiyan & Register II.
3	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 1967, dated 14.11.2021 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
4	DFO Forest Distance	:	DFO, Dhanbad .Forest Division vide letter no. 2203, dated 02.12.2021 certified that the distance of reserved / protected forest is 500 meters from project site.
5	CGWA	:	No Objection Certificate (NOC) for Ground Water Abstraction issued by CGWA vide NOC no. CGWA/NOC/IND/ORIG /2021 /12085, dated 01.06.2021.
6	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref no. JSPCB/HO/RNC/CTE-8744396 /2020/389, dated 08.10.2020.
7	Consent to Operate (CTO)	:	CTO granted by JSPCB vide Ref. no. JSPCB/HO/RNC/CTO-13019451/2022/821, dated 09.06.2022.
8	Public Hearing	:	Public Hearing conducted on 29.08.2023.

Based on the presentation made and **information** provided, **the Committee decided that** the **proposal for Enhancement** of **MS Billet production from 27,000 TPA to 148500 TPA through 3x15 T Induction Furnaces (by replacing** existing **1x19 T Furnace wit 1x15 T & installing additional 2x15 T Furnaces along with** CCM-2x2 strand, 4/7 radius), and **production of 145500 TPA TMT Bars & Rolled Products by installing** Rolling Mills of **1x25 TPH capacity and** reheating **furnace of 30 TPH (emergency use) by M/s Shree Dwarikesh Ecotex Private Limited at Kandra Industrial Area, Village : Bhitia, Mouza :** Kansitanr, **Thana no. : 124, Thana :Govindpur, P.S. : Govindpur, Distt. : Dhanbad, Jharkhand is recommended for grant** of EC. **The various conditions for grant of EC is enclosed** as Annexure – I along with following specific conditions :

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 (upto 20%) 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 33% of project area.

VII. Developers/Company to install STP of sufficient capacity such that all the sewer produced is treated and reused.

VIII. 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.

IX. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.

X. 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.

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6. **Expansion of existing Tetangabad Sand Mining Lease from 0.2 to 0.30 MTPA of M/s Tata Steel Limited, Village : Tetangabad, P.S. : Dhanbad, Distt. : Dhanbad, Jharkhand (21.44 Ha).**

(Proposal No. SIA/JH/MIN/60065 /2021).

Name of the consultant : Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar, Odisha.

This is an expansion project which has been taken for appraisal on 17.10.2023.

The present proposal is Brownfield Project for Expansion of existing Dungri-Puttia Sand mining lease from 0.2 MTPA to 0.3 MTPA by exclusively manual method over Mine Lease Area of 34.66 ha (proposed working area 21.44 ha) located in Villages – Tetangabad, P.S.-Dhanbad, District – Dhanbad, Jharkhand.

The proposed project falls under Schedule 1 (a) (i) "Mining of Minerals", as Category B the EIA notification 2006 and its amendments thereof.

The proposed project is located village Tetangabad, P.S.-Dhanbad, District -- Dhanbad, Jharkhand The project lies in between latitude 23° 42' 5.35"N to 23° 42' 44.28"N and longitude 86° 19' 52.30"E to 86° 20' 46.86"E.

Khata no. & Plot no. of the project :

Khata no.	Plot no.
15	253 (P)

Land use planning for the proposed mining :

Land Use	As per Mine Plan			As proposed in Working Area	Percentage Working Area
	Existing	Proposed	End of Mine Life		
Excavation Area	Pre-mining land use consists of sand 22.43 ha, water flowing over 9.84 ha and 2.39 ha banks	27.33	27.33 reclaimed by river	21.44	61.86
Safety Zone		6.93	6.93	6.93	19.99
Road & infrastructure		0.4	0.4	0.4	1.15
Undisturbed Area (barrier for public bridge)		-	-	5.89	16.99
Total	36.44	36.44	34.66	34.66	100

Project cost is 20.0 lakhs. Employment Generation after the proposed project will be 9 direct employment and approximately 40 people will be employed contractually/temporarily. People will be recruited from the local areas nearby the project site.

The total water requirement after the proposed expansion will be 5.5 KLD. Water requirement will be met from authorized tankers.

Proposed production figures:

Year	As per Approved Mining Plan			As proposed in Working Area		
	Opening Balance after Replenishment/ year (MT)	Production as per mine plan (MT)	Balance Deposit (MT)	Opening Balance after Replenishment/ year (MT)	Production in Working Area* (MT)	Balance Deposit (MT)
2023	0.716	0.30	0.416	0.418	0.30	0.118
2024	0.716	0.30	0.416	0.418	0.30	0.118
2025	0.716	0.30	0.416	0.418	0.30	0.118
2026	0.716	0.30	0.416	0.418	0.30	0.118
2027	0.716	0.30	0.416	0.418	0.30	0.118
2028	0.716	0.30	0.416	0.418	0.30	0.118
2029	0.716	0.30	0.416	0.418	0.30	0.118
2030	0.716	0.30	0.416	0.418	0.30	0.118
2031	0.716	0.30	0.416	0.418	0.30	0.118
2032	0.716	0.30	0.416	0.418	0.30	0.118
2033	0.716	0.30	0.416	0.418	0.30	0.118
2034	0.716	0.30	0.416	0.418	0.30	0.118
2035	0.716	0.30	0.416	0.418	0.30	0.118
2036	0.716	0.30	0.416	0.418	0.30	0.118

Baseline data will be collected during October to December 2023 (Post-Monsoon Season). Same shall be used for preparation of EIA/EMP report for the project.

The proponent has mentioned that there is no court case or violation related to the project activity under EIA Notification and no forest land is involved. An undertaking regarding the same has been submitted by the project proponent.

Environment consultant Visiontek Consultancy Services Pvt. Ltd. (VCSPL) has been accredited by NABET, QCI as per the NABET Certificate No.: NABET/EIA/2023/RA 0209, dated 25.06.2021. – Valid up to 16th December 2023.

1	LOI / Lease docs	:	Lease deed excuted by Deputy Commissioner, Dhanbad on 29.06.1986 for the period of 20 years extended up to 2036 as per MMDR Amendment Act 2015.
2	CO	:	The CO, Putki (Dhanbad) vide letter no. 212, dated 29.05.2020 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R S. Khatuyan & Register II.
3	DMO	:	DMO, Dhanbad vide memo no. 1529/M, dated 07.07.2021 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 1621, dated 17.09.2020 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Dhanbad Forest Division vide letter no. 1867, dated 04.10.2020 certified that the distance of reserved / protected forest is 1350 meter from proposed project site.
6	DSR	:	This project is mentioned in District Survey Report (DSR) of Dhanbad district.
7	Mine Plan Approval	:	Approved by Ministry of Coal, Govt. of India vide Letter No. 13016/1/2014-PCA, dated 03.05.2019.

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 17, 18, 19, 20 & 21.10.2023, 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 III alongwith following specific condition :

I. The mining method exclusively manual is per Sustainable Sand Mining Guideline, 2016 of MoEF&CC, Govt. of India.

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7. **Brick Soil Mining of M/s Amit Bricks (Prop. : Shri Amit Kumar Gupta), Village : Andhradih, Circle : Ghaghra, Distt. : Gumla, Jharkhand (0.809 Ha).**

(Proposal No. SIA/JH/MIN/ 448768 /2023).

Applied Area: **2.00 Acres (0.809 Ha)**

Project Category: **B2 – Application for Environment Clearance**

EC Application for: **Soil : 1200 m^3/yr:**
6000 m^3 during plan period
Top soil : 695 m^3 during plan period.
DG Set :Not proposed
Mobile Crusher : Not proposed

Name of the consultam : Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar, Odisha.

This is a new project which bas been taken for appraisal on 17.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Andharadih Brick Clay Mining	
2	Lessee:	:	M/s Amit Bricks, Proprietor- Amit Kumar Gupta	
3	Lease Address	:	Mouza -Andharadih, Thana - Ghaghra,thana No.-74, District – Gumla, Sate-Jharkhand	
4	Lease Area	:	Ha:0.809	Acres:2.00
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Proposed: Rs. 13.89 Lakhs	
7	EMP Budget	:	Capital: Rs. 3 39 Lakhs	Recurring: Rs. 1.18 Lakhs/ year Monitoring cost: Rs. 0.30 Lakhs/year
8	CSR / CER Budget	:	Rs. 0.69 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.: 13031 Cu. M.	Tonnes: Nil
11	Mine Life	:	10 years	
12	Man power	:	10 Person	
13	Water Requirement	:	2.89 KLD (Drinking: 0.15 KLD, Dust Suppression & Plantation: 1.12 KLD)	
14	Water Source	:	Through Water Tanker –near by spring/Nala & Wells	
15	DG Set / power	:	Not Applicable	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	South Koel River – 7.52 km NE	
18	Nearest Habitation	:	Andharadih Village – 0.15 km SW direction from the mine site.	
19	Nearest Rail Station	:	Lohardaga Railway Station 29.50 Km NE direction from the mine site.	

20	Nearest Air Port	:	Birsa munda Airport, Ranchi 81.22 km NE direction from the mine site.
21	Nearest Forest	:	Kotamati RF – 6.02 km -N Chatamdag PF – 6.65 km - SW
22	Road & Highways	:	SH 143A – 0.23 km SE direction from the mine site.

CO-ORDINATES

1	Latitude	:	23° 13' 48.94" N	23° 13' 53.17" N
2	Longitude	:	84° 32' 09.27" E	84° 32' 13.97" E

LAND DETAILS

Khata No.	158
Plot No.	Old - 1287, 1288, 1289
	New - 1318, 1319, 1320
Area	2.00 Acre/ 0.809 ha.

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Ghaghra (Gumla) vide letter no. 861 (ii)/Ra, dated 07.10.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan.
3	DMO	:	DMO, Gumla vide memo no. 919/M, dated 11.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide letter no. 1029, dated 09.10.2023 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. 2648, dated 11.10.2023 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 Gumla district
7	Gram Sabha	:	Gram Sabha conducted on 07.10.2023.

8	Mine Plan Approval	:	Approved by DMO, Gumla vide Letter No. 917/M, dated 11.10.2023.

WORKING DETAILS

1	Mining Method	:	Opencast Manual Mining
2	Quarry Area	:	5 years– 0.358 ha
3	Waste Generation	:	5 years–Nil
4	Stripping Ratio	:	NA
5	Working Days	:	200 days/year
6	Benches: size & No	:	1m x 1.5m
7	Elevation of Mine	:	In 695 MSL
8	Ground Level Elevation		In 692MSL
9	Ultimate Working Depth	:	In 689MSL
10	Water Table	:	In 683 MSL
11	Topography of Mine	:	Approx flat area
12	Explosive Requirement	:	Not applicable
13	Diesel/Fuel requirement	:	Not applicable due to manual mining

PRODUCTION DETAILS

Year	Production Bricks Clay in cum per Annum	Topsoil removable in cum for 5 years
1st	1200	695
2nd	1200	
3rd	1200	
4th	1200	
5th	1200	
Total	**6000**	**695**

LAND USE

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha)	Land at the end of the plan period (Ha)	Land at the conceptual period(Ha)
1	Mining Activities	0.00	0.358	0.769
2	Safety Zone Green Belt	0.00	0.040	0.040

3	Used area	0.00	0.398	0.809
4	Unused area	0.809	0.411	0.00
	Total	0.809	0.809	0.809

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.04 Ha	100
2	Other Reclaimed Area	:	0.000	000
3	Haul /Approach Road	:	0.03 km	136 Tree both side approach road.

- 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

- Topsoil Generation will be 695 Cu.M. during the plan period. This preserved Top soil will be spread concurrently over the excavated part of the land after the end of each year production of brick and grass cultivation will be done on it.

Water Pollution Control Measures:

- Mining operation will be restricted to the depth of 2m from surface level.
- Quality of dug well will be monitored, to ensure the quality of water is not affected.

Air and Noise Pollution Control Measures:

- Dust suppression measures like spraying / sprinkling of water to keep the surface wet.
- Overloading of the truck / tractor trolleys will not be done.

As the only impact is due to transportation of soil through village roads, emphasis will be given on the following points:

- Carts or tractor-trolleys will be developed on village roads.
- Tractors-trolleys will be well maintained and PUC certified.

- Timely maintenance of vehicles and their silencers to minimize vibration and sound.
- Minimum use of horns in the village area and silence zone (if any) as applicable.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Brick Soil Mining of M/s Amit Bricks (Prop. : Shri Amit Kumar Gupta), Village : Andhradih, Circle : Ghaghra, Distt. : Gumla, Jharkhand (0.809 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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8. **Brick Soil Mining of M/s Ajay Bricks (Prop. : Shri Ajay Kumar Sahu), Village : Kotamati, Thana : Ghaghra, Distt. : Gumla, Jharkhand (0.607 Ha).**

(Proposal No. SIA/NH/MIN/ 448786 /2023).

Appfied Area: **1.50 Acres (0.607 Ha)**

Project Category: **B2 – Application for Environment Clearance**

EC Application for: **Soil : 1200 m^3/yr;**
6000 m^3 during plan period
Top soil : 695 m^3 during plan period.
DG Set :Not proposed
Mobile Crusher : Not proposed

Name of the consultant: Visiontek Consultancy Pvt. Ltd., Bhubneshwar

This is a new project which has been taken for appraisal on 17.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Kotamati Brick Clay Mining	
2	Lessee:	:	M/s Ajay Bricks, Proprietor- Ajay Kumar Sahu	
3	Lease Address	:	Mouza–Kotamati, Thana- Ghaghra, P.O - Nawdiha, District – Gumla, Sate-Jharkhand	
4	Lease Area	:	Ha:0.607	Acres:1.50
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Proposed: Rs. 13.00 Lakhs	
7	EMP Budget	:	Capital: Rs. 3.95 Lakhs	Recurring: Rs. 2.13 Lakhs/ year Monitoring cost: Rs. 0.30 Lakhs/year
8	CSR / CER Budget	:	Rs. 0.70 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.: 9710 Cu. M.	Tonnes: Nil
11	Mine Life	:	8 years	
12	Man power	:	10 Person	
13	Water Requirement	:	3.39 KLD (Drinking: 0.15 KLD, Dust Suppression & Plantation: 1.34 KLD)	
14	Water Source	:	Through Water Tanker –near by spring/Nala & Wells	
15	DG Set / power	:	Not Applicable	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	Ghaghra River – 0.38 km S Anriya Nadi – 1.85 km SE	
18	Nearest Habitation	:	Kotamati Village – 0.40 km NW direction from the mine site.	
19	Nearest Rail Station	:	Lohardaga Railway Station 24.02 Km NE direction from the mine site.	

20	Nearest Air Port	:	Birsa munda Airport, Ranchi 100 km NE direction from the mine site.
21	Nearest Forest	:	Naudiha RF – 1.21 km NE
22	Road & Highways	:	SH 143A – 1.23 km SE direction from the mine site.

CO-ORDINATES

1	Latitude	:	23° 16' 48.76" N	23° 16' 51.43" N
2	Longitude	:	84° 33' 15.85" E	84° 33' 19.60" E

LAND DETAILS

Khata No.	43
Plot No.	1088 (P)
Area	1.50 Acre / 0.607 ha.

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Ghaghra (Gumla) vide letter no. 860 (ii)/Ra, dated 07.10.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan.
3	DMO	:	DMO, Gumla vide memo no. 920/M, dated 11.10.2023 certified that 01 other mining lease area (1.53 Acre) exists within 500 m radius from proposed project site and total area is 3.03 Acre (1.227 Ha).
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide letter no. 1032, dated 09.10.2023 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. 2647, dated 11.10.2023 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 Gumla district.
7	Gram Sabha	:	Gram Sabha conducted on 06.09.2023.
8	Mine Plan Approval	:	Approved by DMO, Gumla vide Letter No. 918/M, dated 11.10.2023.

WORKING DETAILS

1	Mining Method	:	Opencast Manual Mining
2	Quarry Area	:	5 years– 0.358 ha
3	Waste Generation	:	5 years–Nil
4	Stripping Ratio	:	NA
5	Working Days	:	200 days/year
6	Benches: size & No	:	1m x 1.5m
7	Elevation of Mine	:	In 695 MSL
8	Ground Level Elevation	:	In 692MSL
9	Ultimate Working Depth	:	In 659MSL
10	Water Table	:	In 652 MSL
11	Topography of Mine	:	Approx flat area
12	Explosive Requirement	:	Not applicable
13	Diesel/Fuel requirement	:	Not applicable due to manual mining

PRODUCTION DETAILS

Year	Production Bricks Clay in cum per Annum	Topsoil removable in cum for 5 years
1st	1200	695
2nd	1200	
3rd	1200	
4th	1200	
5th	1200	
Total	**6000**	695

LAND USE

Category	Existing (Acres)	Proposed Land use for current plan period (Acres)	Proposed Land use for current plan period (Ha)	Land used at the conceptual stage i.e. end of mine life in (Ha)
Mining Activities	Nil	0.884	0.358	0.575
Topsoil storage, Road/ Infrastructure/etc.	0.000			

Safety Zone(2m)/Green Belt	Nil	0.079	0.032	0.032
Total Area in Used	**0.000**	**0.963**	**0.390**	**0.607**
Balance Unused Area	0.607	0.537	0.217	Nil
Total Applied Area	**0.607**	**1.50**	**0.607**	**0.607**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.032 Ha	80
2	Other Reclaimed Area	:	0.000	000
3	Haul /Approach Road	:	0.03 km	20 Tree both side approach road.

- Gablon Plantation work in the safety zone (7.5 m width around the proposod lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with sultahle species such as timber & fruit bearing etc. wiff be done in first year ot operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mino 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

- Topsoil Generation will be 695 Cu.M. during the plan period. This preserved Top soil will be spread concurrently over the excavated part of the land alter the end of each year production of brick and grass cultivation will be done on it.

Water Pollution Control Measures:

- Mining operation will be restricted to the depth of 2m from surface level.
- Quality of dug well will be monitored, to ensure the quality of water is not affected.

Air and Nofse Pollution Control Measures:

- Dust suppression ineasures like sprayking / sprinkling of water to keep the surface wet.
- Overloading of the truck / tractor trolleys will not be done.

As the only impact is due to transportation of soil through village roads, emphasis will be given on the following points:

- Carts or tractor-trolleys will be developed on village roads.
- Tractors-trolleys will be well maintained and PUC certified.
- Timely maintenance of vehicles and their silencers to minimize vibration and sound.
- Minimum use of horns in the village area and silence zone (if any) as applicable.

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 plautation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Brick Soil Mining of M/s Ajay Bricks (Prop. : Shri Ajay Kumar Sahu), Village : Kotamati, Thana : Ghaghra, Distt. : Gumla, Jharkhand (0.607 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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9. **Brick Soil Mining of M/s OMT Bricks (Prop. : Shri Jagdamba Sahu), Village : Kurdega, Thana : Basia, Distt. : Gumla, Jharkhand (1.07 Ha).**

(Proposal No. SIA/JH/MIN/ 448782 /2023).

Applied Area: **2.655 Acres (1.07 Ha)**

Project Category: **B2 – Application for Environment Clearance**

EC Application for: **Soil : 1584 m^3/yr;**
7920 m^3 during plan period
Top soil : 595 m^3 during plan period.
DG Set : Not proposed
Mobile Crusher : Not proposed

Name of the consultant: Visiontek Consultancy Pvt. Ltd., Bhubneshwar

This is a new project which has been taken for appraisal on 17.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Kurdega Brick Clay Mining	
2	Lessee:	:	M/s OMT Bricks, Propretor- Lukman Ansari	
3	Lease Address	:	Village- Kurdega, P.O. – Longa, Panchayat –Kurdega, Thana - Basia, District – Gumla , State – Jharkhand	
4	Lease Area	:	Ha: 1.07	Acres: 2.655
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Proposed: Rs. 13.94 Lakhs	
7	EMP Budget	:	Capital: Rs. 3.94 Lakhs	Recurring: Rs. 1.29 Lakhs/ year Monitoring cost: Rs. 0.30 Lakhs/year
8	CSR / CER Budget	:	Rs. 0.70 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.: 7906 Cu. M.	Tonnes: Nil
11	Mine Life	:	5 years	
12	Man power	:	28 Person	
13	Water Requirement	:	2.59 KLD (Drinking: 0.42 KLD, Dust Suppression -0.48, Plantation: 0.49 KLD & Process use – 1.20 KLD)	
14	Water Spurce	:	Through Authorized Water Tanker supplier – near by spring/Nala & wells	
15	DG Set / power	:	Not Applicable	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	South Koel River – 5.95 km - NE	
18	Nearest Habitation	:	Kurdega Village – 0.30 km W direction from the mine site.	
19	Nearest Rail Station	:	Kurkura Railway Station 15.29 Km SE direction from the mine site.	
20	Nearest Air Port	:	Birsa munda Airport, Ranchi 78.83 km NE direction from the mine	

			site.
21	Nearest Forest	:	Nil within 10 Km Buffer Zone
22	Road & Highways	:	SH 143D – 1.07 km -NW direction from the mine site.

CO-ORDINATES

1	Latitude	:	22° 48' 54.16" N	22° 48' 53.55" N
2	Longitude	:	84° 46' 40.53" E	84° 46' 49.77" E

LAND DETAILS

Khata No.	12
Plot No.	01
Area	2.655 Acre / 1.07 ha.

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Basia vide letter no. 477, dated 27.10.2020 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Gumla vide memo no. 921/M, dated 11.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide memo no. 43, dated 15.01.2021 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. 1635, dated 03.09.2020 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 Gumla district.
7	Gram Sabha	:	Gram Sabha conducted on 06.09.2020.
8	Mine Plan Approval	:	Approved by DMO, Gumla vide Letter No. 720/M, dated 14.11.2020.

WORKING DETAILS

1	Mining Method	:	Opencast Manual Mining
2	Quarry Area	:	5 years– 0.425 ha
3	Waste Generation	:	5 years–Nil
4	Stripping Ratio	:	NA
5	Working Days	:	200 days/year
6	Benches: size & No	:	1m x 1m
7	Elevation of Mine	:	In 633 MSL
8	Ground Level Elevation		In 631MSL
9	Ultimate Working Depth	:	In 630.5MSL
10	Water Table	:	In 625 MSL
11	Topography of Mine	:	Approx flat area
12	Explosive Requirement	:	Not applicable
13	Diesel/Fuel requirement	:	Not applicable due to manual mining

PRODUCTION DETAILS

Year	Production Bricks Clay in cum per Annum	Topsoil removable in cum for 5 years
1st	1584	595.00
2nd	1584	
3rd	1584	
4th	1584	
5th	1584	
Total	7920	595.00

LAND USE

Category	Present/Existing land use pattern in (Acre)	Existing land use pattern in (Ha)	Land at theehd of the plan period (Ha)	Land at theend of the plan period (Ha) (Actual)	Land at the conceptu al period (Ha)
Quarry	1.85 5	0.75	0.50	0.42 5	0.42 5
Top Soil Storage	0 20	0.08	0 10	0.10	0.10
Safety Barrier/Ber m	0.10	0.04	0.17	0.17	0.17

Chimney & Storage of casted Bricks	0.50	0.20	0.10	0.10	0.10
Unused	0.00	0.00	0.20	0.27 5	0.27 5
Total	2.65 5	1.07	1.07	1.07	1.07

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.17 Ha	000
2	Other Reclaimed Area	:	0.000	000
3	Haul /Approach Road	:	100 meter	66 Tree both side approach road.

- 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

- Topsoil Generation will be 595Cu.M. during the plan period. This preserved Top soil will be spread concurrently over the excavated part of the land after the end of each year production of brick and grass cultivation will he done oo it.

Water Pollution Control Measwes:

- Mining operation will be restricted to the depth of 2m from surface level.
- Quality of dug well will he monitored. in order to ensure the quality of water is not affected.

Air and Noise Pollution Control Measures:

- Dust suppression measures like spraying / sprinkling of water to keep the surface wet.
- Overloading of the truck / tractor trolleys will not be done.

As the only impact is due to transportation of soil through village roads, emphasis will be given on the following points.

- Carts or tractor-trolleys will be developed on village roads.
- Tractors-trolleys will be well maintained and PUC certified.
- Timely maintenance of vehicles and their silencers to minimize vibration and sound.
- Minimum use of horns in the village area and silence zone (if any) as applicable.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Brick Soil Mining of M/s OMT Bricks (Prop. : Shri Jagdamba Sahu), Village : Kurdega, Thana : Basia, Distt. : Gumla, Jharkhand (1.07 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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10. **Brick Soil Mining of M/s Ruby Bricks (Prop. : Md. Jubair Alam), Village : Jhargaon, Thana : Gumla, Distt. : Gumla, Jharkhand (1.088 Ha).**

(Proposal No. SIA/JH/MIN/ 448796 /2023).

Project Category: **B2 – Application for Environment Clearance**

EC Application for: **Soil: 1200 m^3/year;**
6000 m^3 during plan period
Top soil: 690 m^3 during plan period.
DG Set: Not proposed
Mobile Crusher: Not proposed

Name of the consultant: Visiontek Consultancy Pvt. Ltd., Bhubneshwar

This is a new project which has been taken for appraisal on 17.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Brick Clay Mining	
2	Lessee:	:	M/s Ruby Bricks, Proprietor- Md. Jubair Alam	
3	Lease Address	:	At Mouza–Jhargaon, Thana-Gumla, Thana No. – 34, District – Gumla, Jharkhand.	
4	Lease Area	:	Ha:1.088	Acres:2.69
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Rs. 13.50 Lakhs	
7	EMP Budget	:	Capital: Rs. 3.04 Lakhs	Recurring: Rs. 1.58 Lakhs/ year Monitoring cost: Rs. 0.30 Lakhs/year
8	CSR / CER Budget	:	Rs. 0.70 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.: 16468 Cu. M.	Tonnes. Nil
11	Mine Life	:	14 years	
12	Man power	:	10 Person	
13	Water Requirement	:	2.67 KLD (Drinking: 0.15 KLD, Dust Suppression & Plantation: 0.90 KLD)	
14	Water Source	:	Through Water Tanker –near by spring/Nala & Wells	
15	DG Set / power	:	Not Applicable	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	Annya Nadi – 1.50 km	
18	Nearest Habitation	:	Debidih Village – 0.44 km NW	
19	Nearest Rail Station	:	Lohardaga Railway Station – 37.35 km NE	
20	Nearest Air Port	:	Birsa Munda Airport – 83.03 km NE	
21	Nearest Forest	:	Anjan PF – 5.89 km SW	
22	Road & Highways	:	SH-143A – 0.46 km W	

CO-ORDINATES

1	Latitude	:	From 23°08'52.96" N	To 23°08'57.32"N
2	Longitude	:	From 84° 32' 01.80" E	To 84° 32' 05.91" E

LAND DETAILS

Khata No.	20
Plot No.	137 & 138
Area	2.69 Acre / 1.088 ha.

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Gumla (Sadar) vide letter no. 1259, dated 09.10.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Gumla vide memo no. 907/M, dated 09.10.2023 certified that 02 other mining lease area (2.50 Acre & 3.83 Acre) exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide letter no.1031, dated 09.10.2023 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. 2632, dated 10.10.2023 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 Gumla district.
7	Gram Sabha	:	Gram Sabha conducted on 03.10.2023.
8	Mine Plan Approval	:	Approved by DMO, Gumla vide Letter No. 916/M, dated 11.10.2023.

WORKING DETAILS

1	Mining Method	:	Opencast Manual Mining	
2	Quarry Area	:	5 years– 0.361 ha	Life of Mine – 14 years
3	Waste Generation	:	5 years–Nil	Life of Mine –14 years
4	Stripping Ratio	:	10:01	

5	Working Days	:	200 days/year
6	Benches: size & No	:	1m x 1.5m
7	Elevation of Mine	:	In 625 MSL
8	Ground Level Elevation		In 625 MSL
9	Ultimate Working Depth	:	In 622 MSL
10	Water Table	:	In 615 MSL and also 5.0 – 7.0 m bgl
11	Topography of Mine	:	Flat area
12	Explosive Requirement	:	Not applicable
13	Diesel/Fuel requirement	:	Not applicable due to manual mining

PRODUCTION DETAILS

Year	Production Bricks Clay in cum per Annum	Topsoil removable in cum for 5 years
1st	1200	690
2nd	1200	
3rd	1200	
4th	1200	
5th	1200	
Total	**6000**	**690**

LAND USE

Category	Existing (in Ha.)	Proposed Land use for the plan period during 5 years Plan Period (in Ha.)	Proposed Land use after life of mine (in Ha.)
Quarry	Nil	0.361	0.948
Road	0.015		
Plantation in Safety Barrier	Nil	0.04	0.14
Plantation in blocked area due to road	Nil	0.10	

safety			
Total area in used	**0.015**	**0.501**	**1.088**
Balance Area unused	2.675	0.587	Nil
Total applied area	**2.69**	**1.088**	**1.088**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	Location		Area/Length	No of Trees
1	Safety Zone	:	0.14 Ha	350
2	Other Reclaimed Area	:	0.000	000
3	Haul /Approach Road	:	0.053 meter	4 Tree both side approach road.

- 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 hearing etc. will he 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 he submitted with compliance report.

Solid Waste Management

- Top soil Generation will be 690 Cu.M during the life of Mine and will be preserved temporarily. This preserved Top soil will be spread concurrently over the excavated part of the land after the end of each year production of brick and grass cultivation will be done on it.

Water Pollution Control Measures:

- Mining operation will be restricted to the depth of 2m from surface level.
- Quality of dug well will be monitored, in order to ensure the quality of water is not affected.

Air and Noise Pollution Control Measures:

- Dust suppression measures like spraying / sprinkling of water to keep the surface wet.
- Overloading of the truck / tractor trolleys will not be done.

As the only impact is due to transportation of soil through village roads, emphasis will be given on the following points:

- Carts or tractor-trolleys will be developed on village roads.
- Tractors-trolleys will be well maintained and PUC certified.
- Timely maintenance of vehicles and their silencers to minimize vibration and sound.
- Minimum use of horns in the village area and silence zone (if any) as applicable.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Brick Soil Mining of M/s Ruby Bricks (Prop. : Md. Jubair Alam), Village : Jhargaon, Thana : Gumla, Distt. : Gumla, Jharkhand (1.088 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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11. Brick Soil Mining of M/s Kiran Bricks (Prop. : Md. Imtiyaj Ansari), Village : Basua, Thana : Gumla, Distt. : Gumla, Jharkhand (0.809 Ha).

(Proposal No. SIA/JH/MIN/ 448750 /2023).

Applied Area: 2.0 Acres (0.809 Ha)

Project Category: B2 – Application for Environment Clearance

EC Application for: Soil: 1200 m^3/yr;
6, 00,000 bricks/Annum
Top soil: 1618 m^3 during plan period.
DG Set: Not proposed
Mobile Crusher: Not proposed

Name of the consultant: Visiontek Consultancy Pvt. Ltd., Bhubneshwar

This is a new project which has been taken for appraisal on 17.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Basua Brick Earth Deposit	
2	Lessee:	:	M/s Kiran Bricks Proprietor- Md. Imtiyaj Ansari	
3	Lease Address	:	At: Mouza - Basua, Thana: Gumla, Thana No.:72 District – Gumla, Jharkhand	
4	Lease Area	:	Ha:0.809	Acres:2.0
5	Type of Land	:	Non-Forest – Rayati Land	
6	Project Cost	:	Rs. 15 Lakhs	
7	EMP Budget	:	Capital: Rs. 3.00 Lakhs	Recuring: Rs. 1.78 Lakhs/ year Monitoring cost: Rs. 0.30 Lakhs/year
8	CSR / CER Budget	:	Rs. 0.76 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.: 13,031 Cu. M.	Tonnes: Nil
11	Mine Life	:	11 Years Only	
12	Man power	:	10 Person	
13	Water Requirement	:	2.18 KLD (Drinking: 0.15 KLD, Dust Suppression & Plantation: 0.52 KLD, Process Use:0.12 KLD, Plantation-0.31 KLD)	
14	Water Source	:	Through Water Tanker –nearby spring/Nala & Wells	
15	DG Set / power	:	Not Applicable	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	Banki Nadi at 1.81 Km in North	
18	Nearest Habitation	:	Basua Village 0.22 km N direction from the mine site.	
19	Nearest Rail Station	:	Bakaspur Railway station 42.43 km SE direction from the mine site.	
20	Nearest Air Port	:	Birsa munda Airport, Ranchi 78.88 km NE direction from the mine site.	
21	Nearest Forest	:	Operi Jungle at 4.40 km NE direction from the mine site.	

22	Road & Highways	:	NH-143 A - 4.52 km W direction from the mine site.

CO-ORDINATES

1	Latitude	:	From 23°03'03.56" N	To 23°08'07.49" N
2	Longitude	:	From 84°34'26.78" E	To 84°34'31.30"E

LAND DETAILS

Khata No.	339
Plot No.	2294 (P)
Area	2.00 Acre / 0.809 ha.

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Gumla (Sadar) vide letter no. 1272, dated 09.10.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Gumla vide memo no. 830/M, dated 22.09.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide letter no.1063, dated 12.10.2023 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. 2591, dated 06.10.2023 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 Gumla district.
7	Gram Sabha	:	Gram Sabha conducted on 27.09.2023.
8	Mine Plan Approval	:	Approved by DMO, Gumla vide Letter No. 925/M, dated 13.10.2023.

WORKING DETAILS

1	Mining Method	:	Opencast Manual Mining

2	Quarry Area	:	5 years– 0.358 ha	Life of Mine – 0.759 ha
3	Waste Generation	:	5 years–Nil	Life of Mine –11 years
4	Stripping Ratio	:	NA	
5	Working Days	:	200 days/year	
6	Benches: size & No	:	1m x 1.5 m	
7	Elevation of Mine	:	In 644 MSL	
8	Ground Level Elevation	:	In 644 MSL	
9	Ultimate Working Depth	:	In 644 m to 642 m MRL	
10	Water Table	:	In 634 MSL and also 5-8 m bgl	
11	Topography of Mine	:	Flat area	
12	Explosive Requirement	:	Not applicable	
13	Diesel/Fuel requirement	:	Not applicable due to manual mining	

PRODUCTION DETAILS

Year	Production Bricks Clay in cum per Annum	Topsoil removable in cum for 5 years
1st	1200	1618
2nd	1200	
3rd	1200	
4th	1200	
5th	1200	
Total	**6000**	**1618**

LAND USE

Category	Existing (Acres)	Existing (ha.)	Proposed Plan Period (Acres)	Proposed Plan Period (ha.)	Conceptual Plan (ha.)
Quarry Area	0.00	0.00	0.884	0.358	0.759 (Converted to levelled land with topsoil spread)
Topsoil storage, Road/ Infrasturer./	0.00	0.00	0.024 (including	0.01 (including	0.01 (including water body)

etc.			water body)	water body)	
Berm Area& Plantation	0.00	0.00	0.098	0.040	0.040
Unutilized Area	2.0	0.809	0.991	0.401	0.00
Total Area	**2.00**	**0.809**	**2.0**	**0.809**	**0.809**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.040 Ha	100
2	Other Reclaimed Area	:	0.000	000
3	Haul /Approach Road	:	0.16 km	10/ Tree both side approach road.

- 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

- Top soil Generation will be 1618 Cu.M., during the life of Mine. This preserved Top soil will be spread concurrently over the excavated part of the land after the end of each year production of brick and grass cultivation will be done on it.

Water Pollution Control Measures:

- Mining operation will be restricted to the depth of 2m from surface level.
- Quality of dug well will be monitored, in order to ensure the quality of water is not affected.

Air and Noise Pollution Control Measures:

- Dust suppression measures like spraying / sprinkling of water to keep the surface wet.
- Overloading of the truck / tractor trolleys will not be done.

As the only impact is due to transportation of soil through village roads, emphasis will be given on the following points:

- Carts or tractor-trolleys will be developed on village roads.
- Tractors-trolleys will be well maintained and PUC certified.
- Timely maintenance of vehicles and their silencers to minimize vibration and sound
- Minimum use of horns in the village area and silence zone (if any) as applicable.

Undertaking submitted affirming:

a. Ground water will be used only for domestic porpose and not be used for any mining activities or any other use.
b. The District Survey Report has beep prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Brick Soil Mining of M/s Kiran Bricks (Prop. : Md. Imtiyaj Ansari), Village : Basua, Thana : Gumla, Distt. : Gumla, Jharkhand (0.809 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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12. **Brick Soil Mining of M/s Sneha Bricks (Prop. : Shri Sardhan Sahu), Village : Kumbakera, Thana no. : 126, Distt. : Simdega, Jharkhand (1.39 Ha).**

(Proposal No. SIA/JH/MIN/ 448819 /2023).

Applied Area: 3.44 Acres (1.39 Ha)

Project Category: B2 – Application for Environment Clearance

EC Application for: Soil:1584 m^3/year;
7920 m^3 during plan period
Top soil:1188 m^3 during plan period.
DG Set: Not proposed
Mobile Crusher: Not proposed

Name of the consultant: Visiontek Consultancy Pvt. Ltd., Bhubneshwar

This is a new project which has been taken for appraisal on 17.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Brick Clay Mining	
2	Lessee:	:	M/s Sneha Bricks, Proprietor- Shri Sardhan Sahu	
3	Lease Address	:	Mouza/Village :Kumbakera, Thana No. – 126, District – Simdega, Jharkhand	
4	Lease Area	:	Ha:1.39	Acres:3.44
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Rs. 16.40 Lakhs	
7	EMP Budget	:	Capital: Rs. 4.54Lakhs	Recurring: Rs. 3.01Lakhs/ year Monitoring cost: Rs. 0.30 Lakhs/year
8	CSR / CER Budget	:	Rs. 0.80Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	19740Cu. M.	Tonnes: Nil
11	Mine Life	:	13 years	
12	Man power	:	45 Person	
13	Water Requirement	:	4.85KLD (Drinking: 0.675KLD, Dust Suppression & Plantation: 2.52KLD)	
14	Water Source	:	Through Water Tanker –nearbyspring/Nala&Wells	
15	DG Set / power	:	Not Applicable	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	Tarkighagh Nadi, 4.08 km S	
18	Nearest Habitation	:	Lasia – 0.80 km NE	
19	Nearest Rail Station	:	Kurkura Railway Station – 15.46 km NE	
20	Nearest Air Port	:	Birsa Munda Airport – 83.35 km NE	
21	Nearest Forest	:	Sakio RF – 2.22 km NE	

22	Road & Highways	:	SH-143A – 0.46 km W

CO-ORDINATES

1	Latitude	:	From 22°39'44.26" N	To 22°39'55.01"N
2	Longitude	:	From 84° 51' 49.59" E	To84° 51' 49.10" E

LAND DETAILS

Khata No.	87	74
Plot No.	05	06 & 20
Area	3.44 Acre / 1.39 ha.	

STATUTORY CLEARANCES

1	LOI / Lease docs		Land agreement made.
2	CO	:	The CO, Kolebira vide letter no. 404 (ii)/Ra, dated 23.07.2019 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Simdega vide letter no. 528/M, dated 10.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide memo no. 1292, dated 22.11.2019 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Simdega Forest Division vide letter no. 249, dated 01.02.2019 certified that the distance of notified forest is 3500 meter from proposed project site.
6	DSR	:	This project is mentioned in District Survey Report (DSR) of Simdega disuict.
7	Gram Sabha	:	Gram Sabha conducted on 15.12.2018.
8	Mine Plan Approval	:	Approved by DMO, Simdega vide memo no. 135/M, dated 13.02.2019.

WORKING DETAILS

1	Mining Method	:	Opencast Manual Mining	
2	Quarry Area	:	5 years– 0.742 ha	Life of Mine – 13 years

3	Waste Generation	:	5 years–Nil	Life of Mine –13 years
4	Stripping Ratio	:	10:01	
5	Working Days	:	200 days/year	
6	Benches: size & No	:	1m x 1.5m	
7	Elevation of Mine	:	In 479 MSL	
8	Ground Level Elevation		In 479MSL	
9	Ultimate Working Depth	:	In 479MSL	
10	Water Table	:	In 469.85MSL and also 5.0 – 7.0 m bgl	
11	Topography of Mine	:	Flat area	
12	Explosive Requirement	:	Not applicable	
13	Diesel/Fuel requirement	:	Not applicable due to manual mining	

PRODUCTION DETAILS

Year	Production Bricks Clay in cum per Annum	Topsoil removable in cum for 5 years
1st	1584	1188
2nd	1584	
3rd	1584	
4th	1584	
5th	1584	
Total	7920	1188

LAND USE

Category	Existing (in Ha.)	Proposed Land use for the plan period during 5 years Plan Period (in Ha.)	Proposed Land use after life of mine (in Ha.)
Quarry	Nil	0.742	0.742
Top Soil Storage Area	Nil	0.049	0.049
Storage of Casted Bricks	Nil	0.147	0.147
Berm/Fencing	Nil	0.049	0.049

Plantation			
Kiln Area	Nil	0.404	0.404
Total area in used	**0.00**	**1.39**	**1.39**
Balance Area unused	0.00	Nil	Nil
Total applied area	**1.39**	**1.39**	**1.39**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	Location		Area/Length	No of Trees
1	Safety Zone	:	0.049 Ha	122
2	Other Reclaimed Area	:	0.000	000
3	Haul /Approach Road	:	0.20 meter	134Tree both side approach road.

- 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

- Top soil Generation will be 1188Cu.M during the life of Mine and will be preserved temporarily. This preserved Top soilwill be spread concurrently over the excavated part of the land after the end of each year production of brick and grass cultivation will be done on it.

Water Pollution Control Measures:

- Mining operation will be restricted to the depth of 2m from surface level.
- Quality of dug well will be monitored, in order to ensure the quality of water is not affected.

Air and Noise Pollution Control Measures:

- Dust suppression measures like spraying / sprinkling of water to keep the surface wet.
- Overloading of the truck / tractor trolleys will not be done.

As the only impact is due to transportation of soil through village roads, emphasis will be given on the following points:

- Carts or tractor-trolleys will be developed on village roads.
- Tractors-trolleys will be well maintained and PUC certified.
- Timely maintenance of vehicles and their silencers to minimize vibration and sound.
- Minimum use of horns in the village area and silence zone (if any) as applicable.

Undertaking submitted affirming:

a. Ground water will he 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 he 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 he 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 gablon plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Brick Soil Mining of M/s Sneha Bricks (Prop. : Shri Sardhan Sahu), Village : Kumbakera, Thana no. : 126, Distt. : Simdega, Jharkhand (1.39 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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13. Brick Soil Mining of M/s Abhed Bricks (Prop. : Shri Ganga Sagar Sahu), Village : Tangar Shikwar, Thana : Ghaghra, Thana no. : 89, Distt. : Gumla, Jharkhand (2.00 Ha).

(Proposal No. SIA/JH/MIN/ 448939 /2023).

Applied Area: 4.95 Acres (2.00 Ha)

Project Category: B2 – Application for Environment Clearance

EC Application for: Soil : 1584 m^3/yr;
7920 m^3 during plan period
Top soil : 2400 m^3 during plan period.
DG Set : Not proposed
Mobile Crusher : Not proposed

Name of the consultant: Visiontek Consultancy Pvt. Ltd., Bhubneshwar

This is a new project which has been taken for appraisal on 17.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Tangar Brick Clay Mining	
2	Lessee:	:	M/s Abhed Bricks, Proprietor- Sri Ganga Sagar Sahu	
3	Lease Address	:	Village- Tangar Shikwar, P.O. – Ghaghra, Panchayat –Tangar, Thana - Ghaghra, District – Gumla , State – Jharkhand	
4	Lease Area	:	Ha: 2.00	Acres: 4.95
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Proposed: Rs. 13.94 Lakhs	
7	EMP Budget	:	Capital: Rs. 3.94 Lakhs	Recurring: Rs. 1.20 Lakhs/ year Monitoring cost: Rs. 0.30 Lakhs/year
8	CSR / CER Budget	:	Rs. 0.70 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.: 31960 Cu. M.	Tonnes: Nil
11	Mine Life	:	5 years	
12	Man power	:	43 Person	
13	Water Requirement	:	2.83 KLD (Drinking: 0.65 KLD, Dust Suppression -0.76 KLD, Plantation: 0.69 KLD & Process use – 1.20 KLD)	
14	Water Source	:	Through Authorized Water Tanker supplier	
15	DG Set / power	:	Not Applicable	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	South Koel River – 0.20 km- N	
18	Nearest Habitation	:	Naudiha Village – -06km NW direction from the mine site.	
19	Nearest Rail Station	:	Lohardaga Railway Station 22.91 Km SE direction from the mine site.	
20	Nearest Air Port	:	Birsa munda Airport, Ranchi 76.20 km NE direction from the mine site.	

21	Nearest Forest	:	Nil within 10 km Buffer Zone
22	Road & Highways	:	Bhusar-Ghaghra Road – 0.57 km W

CO-ORDINATES

1	Latitude	:	23° 16' 24.00" N	23° 16' 28.2" N
2	Longitude	:	84° 34' 47.00" E	84° 34' 51.5" E

LAND DETAILS

Khata No.	71
Plot No.	450 & 451
Area	1.37 Acre / 0.55 ha.

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Gumla (Sadar) vide letter no. 840 (ii)/Ra, dated 05.10.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Gumla vide memo no. 866/M, dated 30.09.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide lettor no. 992, dated 03.10.2023 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. 420, dated 05.02.2019 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 Gumla district.
7	Gram Sabha	:	Gram Sabha conducted on 01.10.2023.
8	Mine Plan Approval	:	Approved by DMO, Gumla vide Letter No. 580/M, dated 04.06.2019.

WORKING DETAILS

1	Mining Method	:	Opencast Manual Mining
2	Quarry Area	:	5 years– 1.198 ha
3	Waste Generation	:	5 years–Nil
4	Stripping Ratio	:	NA
5	Working Days	:	200 days/year
6	Benches: size & No	:	2m x 1m
7	Elevation of Mine	:	In 621 MSL
8	Ground Level Elevation		In 621MSL
9	Ultimate Working Depth	:	In 619 MSL
10	Water Table	:	In 613 MSL
11	Topography of Mine	:	Approx flat area
12	Explosive Requirement	:	Not applicable
13	Diesel/Fuel requirement	:	Not applicable due to manual mining

PRODUCTION DETAILS

Year	Production Bricks Clay in cum per Annum	Topsoil removable in cum for 5 years
1st	1584	2400 cum
2nd	1584	
3rd	1584	
4th	1584	
5th	1584	
Total	**7920**	**2400 cum**

LAND USE

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha)	Land at the end of the plan period (Ha)	Land at the conceptual period(Ha)
1	Mining Activities	Nil	1.20	1.28(Area reclaimed as cultivation land
2	Safety Zone Green Belt	0.08	0.08	0.08

3	Storage of casted bricks	Nil	0.24	0.24
4	Top Soil Storage	Nil	0.08	Nil
5	Kiln	0.40	0.40	0.40
6	Mine Road	0.00	0.00	0.00
7	Unutilized Area	1.52	Nil	Nil
	Total	2.00	2.00	2.00

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.08 Ha	53
2	Other Reclaimed Area	:	0.000	000
3	Haul /Approach Road	:	0 meter	NA

- 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

- Topsoil Generation will be 2400 Cu.M. during the plan period. The topsoil shall be used for progressive backfilling during mining operation. This preserved Top soil will be spread concurrently over the excavated part of the land after the end of each year production of brick and grass cultivation will be done on it.

Water Pollution Control Measures:

- Mining operation will be restricted to the depth of 2m from surface level.
- Quality of dug well will be monitored, in order to ensure the quality of water is not affected.

Air and Noise Pollution Control Measures:

- Dust suppression measures like spraying / sprinkling of water to keep the surface wet.
- Overloading of the truck / tractor trolleys will not be done.

As the only impact is due to transportation of soil through village roads, emphasis will be given on tbe followmg points:

- Carts or tractor-trolleys will be developed on village roads.
- Tractors-trolleys will be well maintained and PUC certified.
- Timely maintenance of vehicles and their silencers to minimize vibration and sound.
- Minimum use of horns in the village area and silence zone (if any) as applicable.

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 Suivey 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 m 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. Tbe 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 complotod 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 conditron 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. Sudable 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 desrgned to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Brick Soil Mining of M/s Abhed Bricks (Prop. : Sbri Ganga Sagar Sahu), Village : Tangar Shikwar, Thana : Ghaghra, Thana no. : 89, Distt. : Gumla, Jharkhand (2.00 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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Day 2 : October 18th, 2023 [Wednesday]

Consideration of Proposals

1. **Chainpur Stone Deposit of M/s Shree Bhole Minerals (Prop. : Shri Rajesh Kumar Singh), Village : Chainpur, Tehsil : Chas, Distt. : Bokaro, Jharkhand (2.12 Ha).**

(Proposal No. SIA/JH/MIN/ 448843 /2023).

Applied Area : **5.24 Acres (2.12 Ha)**

Project Category : **B1 – Application for TOR**

TOR Application for : **Total Excavation – Stone – 80,726 cum**
Annual Production – 75464 m^3/2,11,301 TPA
Gritty soil – 8504 m3 in life of mine (5 years)
Intercalated Waste – 8843 m3 in life of mine (5 years)
DG Set - Not proposed
Mobile Crusher: Not proposed

Name of the consultant : Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar, Odisha.

This is a new project which has been taken for appraisal on 18.10.2023.

PROJECT & LOCATION DETAILS

Sl.	Parameter		Details	
1	Project Name	:	Chainpur Stone Deposit	
2	Lessee:	:	M/s Sbree Bhole Minerals (Shri Rajesh kumar Singh)	
3	Lease Address	:	In village-Chainpur, Thana- Balidih, Thana No.- 37, District Bokaro, State- Jharkhand	
4	Lease Area	:	Ha: 2.12	Acres: 5.24
5	Type of Land	:	Non-Forest – Rayati Barren Land	
6	Project Cost	:	Approx. Rs 100.8 lakhs	
7	New or Expansion	:	New	
8	Mineable Reserves	:	3,77,270 cum.	Tonnes: 10,56,355
9	Mine Life	:	5 years only (proposed lease period is of 5 years)	
10	Manpower	:	51 Person	
11	Water Requirement	:	6.69 kLD (Domestic -1.02 kLD, Plantation-2.25 kLD, Dust Suppression-3.42 kLD)	
12	Water Source	:	Supply Tankers	
13	DG Set / power	:	Not Proposed/Not Applicable	
14	Crusher	:	Not proposed/Not Applicable	
15	Nearest Water Body	:	NH Nadi, 4.09 km SE	
16	Nearest Habitation	:	Brough Village – 0.47 km NE	

17	Nearest Railway Station	:	Radhagaon Railway Station – 3.0 Km E	
18	Nearest Airport	:	Birsa Munda Airport, Ranchi- 81.00 km (SW)	
19	Nearest Forest	:	Talmu PF Fairly Dense Jungle of Sal Tree	7.52 km S 8.22 km W
20	Road & Highways	:	NH-320– 5.60 km NE	

CO-ORDINATES

1	Latitude	:	23°35' 37.27"N	23°35' 44.38"N
2	Longitude	:	86°3' 27.68"E	86°3' 33.60"E

LAND DETAILS :

Khata No.	Plot No.	Area (Acre)
02	943	5.24

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Bokaro vide memo no. 1682/Khanan, dated 29.09.2023.
2	CO	:	The CO, Chas (Bokaro) vide letter no. 763, dated 11.03.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Bokaro vide memo no. 1759/Khanan, dated 13.10.2023 certified that 02 othar mining fease area (5.37 Acre & 5.57 Acre) exists within 500 m radius from proposed project site and total area is 16.18 Acre (more than 5 Ha).
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 1404, dated 10.07.2023 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. 1700, dated 22.07.2023 certified that the distance of notified forest is 1200 meter from proposed project site.
6	DSR	:	This project is mentioned in District Survey Report (DSR) of Bokaro

			district.
7	Gram Sabha	:	BDO, Chas (Bokaro) vide letter no. 906, dated 12.08.2023 informed that Gram Sabha conducted on 24.01.2023.
8	Mine Plan Approval	:	Approved by DMO, Bokaro vide Memo No. 1733/M, dated 07.10.2023.

WORKING DETAILS

1	Mining Method	:	Opencast Mechanized Mining	
2	Quarry Area	:	1.67 ha (Plan Period)	
3	Waste Generation	:	Gritty Soil – 8504 cum (plan period) Intercalated Waste – 19855 cum	Life of Mine – 5 years (Proposed lease period is of 5 years)
4	Stripping Ratio	:	18:01	
5	Working Days	:	300 days/year	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine (Maximum)	:	In 270 m MSL	
8	Elevation of Mine (Minimum)		In 268 m MSL	
9	Ultimate Working Depth	:	In 216 m MSL	
10	Water Table	:	In 209 m MSL	
11	Topography of Mine	:	Gently sloping and Undulating	
12	Explosive Requirement	:	Slurry – 126 kg/day	

PRODUCTION DETAILS

year	gritty soil in cum	gritty soil in ton	intercalated waste in cum	intercalated waste in ton	stone production in cum	stone production in tonnes
1	4237	6356	1770	4956	33627	94153
2	0	0	1770	4956	33635	94177
3	2182	3273	1769	4953.2	33612	94114
4	480	720	1763	4936.4	33495	93784
5	0	0	1771	4958.8	33636	94180
Total	**8504**	**10349**	**8843**	**24760.4**	**168005**	**470408**

LAND USE

Type of Land	Present Land Use (in Ha)	At the End of Plan Period (In Ha)	At the end of Mine (In Ha)	Conceptual Period (In Ha)		
				Backfill	Water Body	Plantation
Quarry	Nil	1.554 (including backfilling 0.216ha & Stone pitching wall – 0.005ha)	1.554 (including backfilling 0.216ha & Stone pitching wall – 0.005ha)	0.186	0.807	0.561
Greenbelt within Safety Barrier	Nil	0.874	0.874	0.186	-	0.874
Approach Road	0.094	Nil	Nil	-		
Total Area in Use	0.094	2.12	2.12	0.186	0.807	1.435
Balanced Area unused	2.334	Nil	Nil	-	-	-
Total Applied Area	2.12	2.12	2.12	2.12		

ENVIRONMENT MANAGEMENT

Green Belt Development

Sl.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.43 Ha	1765
2	Other Reclaimed Area	:	0.000	000
3	Haul /Approach Road	:	0.08 km	64 Trees both side approach road.

- 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

- Overburden Generation will be in form of gritty soil 8504 cum and intercalated waste of 19855 cum. during the life of mine. The gritty soil will be removed and will be simultaneously used in road dressing, plantation & maintenance of road.

Risk Assessment

Activity	Hazard	Probability	Severity	Mitigation
Temporary storage of Explosives	Unintended Explosions	Remote	Catastrophic	Continuous observation by guards and no
Charging of Explosives	Unintended explosion or exposure	Remote	Catastrophic	Charging of explosives by authorized personnel only
Blasting	Hit by fly rock (bodily injuries)	Occasional	Major	Alarm will be sounded before firing of explosives
Bench Formation	Slope failure due to lack of bench face stability (bodily injuries)	Occasional	Major	Bench will be formed as per Mine Plan
Transportation	Vehicle Accident (bodily injuries)	Probable	Major	Road signs, traffic management and vehicles will be operated at
Mine closure	Falling in the mine pit post closure	Probable	Major	Development of fences around the mine for

Water Pollution Control Measures:

- Negligible impact envisaged on surface water and ground water due to mining, as no discharge of effluents or intersection of ground water.
- No major surface water body within 1 km radius of the project site.
- Post-project the quarry area will serve as a reservoir, which will be a source of water for the nearby areas.
- Garland drains shall be developed to divert storm water flowing into the mine pit.

Air and Noise Pollution Control Measures:

- Water sprinkling shall be done on the haul roads.
- Plantation to be done in the safety zone develop a green belt along the ML boundary.

- Sharp drill will be used and wet drilling will be followed.
- Controlled blasting – Nonel technology will he used.
- Overloading will be prohibited while transporting. Water sprinkling will be taken up.
- Plantation along transportation route will be done.
- Regular monitoring of Air quality & PUC for vehicle will be carried out.

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 hy the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 17, 18, 19, 20 & 21.10.2023, 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 III.

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2. **Kelyadabar Stone Deposit of M/s Jyoti Minerals (Prop. : Shri Mohan Lal Jain), Village : Kelyadabar, Thana : Pindrajora, Distt. : Bokaro, Jharkhand (2.84 Ha).**

(Proposal No. SIA/JH/MIN/ 448875 /2023).

Applied Area : 7.02 Acres (2.84 Ha)

Project Category : B2 – Application for Environment Clearance

EC Application for : Total Excavation – Stone – 39,545 m^3 / 1,04,292 TPA
Annual Production – 32,939 m^3/92,228 TPA
Gritty soil – 7326 m3 in life of mine (5 years)
Intercalated Waste – 8660 m3 in life of mine (5 years)
DG Set - Not proposed

Mobile Crusher: Not proposed

Name of the consultant : Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar, Odisha.

Tbis is a new project which has heen taken for appraisal on 18.10.2023.

PROJECT & LOCATION DETAILS

Sl.	Parameter		Details	
1	Project Name	:	Kelyadabar Stone Deposit	
2	Lessee:	:	M/s Jyoti Minerals(Shri Mohan lal Jain)	
3	Lease Address	:	Mouza -Kelyadabar, Thana –Pindrajora, Thana No. – 139, District – Bokaro, Jharkhand	
4	Lease Area	:	Ha: 2.84	Acres: 7.02
5	Type of Land	:	Non-Forest – Rayati Barren Land	
6	Project Cost	:	Rs. 122.85 Lakhs	
7	EMP Budget	:	Capital Cost Rs. 16.25 lakhs Recurring Cost Rs. 4.00 lakhs	Monitoring cost: Rs. 0.90 Lakhs/year
8	CSR / CER Budget	:	Rs. 3.07 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	3,29,086 cum.	Tonnes: 9,21,440
11	Mine Life	:	10 years only	
12	Manpower	:	38 Person	
13	Water Requirement	:	10.826 kLD (Domestic -3.04 kLD, Plantation- 4.266 kLD, Dust Suppression- 3.52 KLD)	
14	Water Source	:	Supply Tankers	
15	DG Set / power	:	Not Proposed/Not Applicable	
16	Crusher	:	Not proposed/Not Applicable	

17	Nearest Water Body	:	Gobai nadi – 0.23 km S	
18	Nearest Habitation	:	Kelyadabar Village – 0.58 km NW	
19	Nearest Railway Station	:	Pundag Railway Station – 13.58 km E	
20	Nearest Airport	:	Birsa Munda Airport, Ranchi- 94.21 km NW	
21	Nearest Forest	:	Banekdih PF Sijua PF	4.37 km E 3.00 km S
22	Road & Highways	:	SH– 18 m SW	

CO-ORDINATES

1	Latitude	:	23° 30' 53.236" N	23° 30' 59.903" N
2	Longitude	:	86° 13' 20.582" E	86° 13' 31.436" E

LAND DETAILS :

Khata No.	Plot No.	Area (Acre)
56	1722, 1721 & 1729	7.02
138	1731 (P)	

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Bokaro vide memo no. 1710/Khanan, dated 06.10 2023.
2	CO	:	The CO, Chas (Bokaro) vide letter no. 2509, dated 16.09.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Bokaro vide memo no. 1722/Khanan, dated 06.10.2023 certified that 01 other mining lease area (4.46 Acre) exists within 500 m radius from proposed project site and total area is 11.48 Acre.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 2470, dated 12.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Forest	:	Division Forest Officer, Bokaro Forest Division vide letter no. 2184, dated 27.09.2023 certified that the distance of notified forest is 1000

	Distance		meter from proposed project site.
6	DSR	:	This project is mentioned in DSR of Bokaro District as a potential area and same has been also certified by DMO, Bokaro vide letter no. 1758/Khanan, dated 13.10.2023.
7	Gram Sabha	:	BDO, Chas (Bokaro) vide letter no. 1143, dated 27.09.2023 informed that Gram Sabha conducted on 17.09.2023.
8	Mine Plan Approval	:	Approved by DMO, Bokaro vide Memo No. 1752/M, dated 12.10.2023.

WORKING DETAILS

1	Mining Method	:	Opencast Mechanized Mining	
2	Quarry Area	:	2.11 ha (Plan Period)	
3	Waste Generation	:	Gritty Soil – 7326 cum (plan period) Intercalated Waste – 8660 cum	Life of Mine – 5 years (Proposed lease period is of 5 years)
4	Stripping Ratio	:	18:01	
5	Working Days	:	300 days/year	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine (Maximum)	:	In 208 m MSL	
8	Elevation of Mine (Minimum)		In 205 m MSL	
9	Ultimate Working Depth	:	In 178 m MSL	
10	Water Table	:	In 171 m MSL	
11	Topography of Mine	:	Gently sloping and Undulating	
12	Explosive Requirement	:	Slurry – 63 kg/day	
13	Diesel/Fuel requirement	:	Diesel - 50 liter/day	

PRODUCTION DETAILS

Year	Removal of Gritty Soil		Intercalated Waste	Production of Stone	
	In Cum	In Tonnes	In Cum	In Cum	In Tonnes
1st	4950	7425	1730	32865	92023
2nd	1196	1794	1732	32916	92164

3rd	000	000	1731	32887	92084
4th	1000	1500	1734	32939	92228
5th	180	270	1733	32929	92201
Total	**7326**	**10989**	**8660**	**164536**	**460700**

LAND USE

Type of Land	Present Land Use (in Ha)	At the End of Plan Period (In Ha)	At the end of Mine (In Ha)	Conceptual Period (In Ha)			
				Backfill	Stone pitching wall	Water Body	Plantation
Quarry	Nil	1.53 (including backfilling 0.11 Ha & stone pitching wall 0.016 Ha)	2.11 (including backfilling 0.176 Ha & stone pitching wall 0.016 Ha)	0.038	0.002	2.07	-
Greenbelt within Safety Barrier	Nil	0.73	0.73	-	-	-	0.730
Road	0.15	Nil	Nil	-	-	-	-
Total Area in Use	0.15	2.26	2.84	0.038	0.002	2.070	0.73
Balanced Area unused	2.69	0.58	Nil	-	-	-	-
Total Applied Area	2.84	2.84	2.84		2.84		

ENVIRONMENT MANAGEMENT

Green Belt Development

Sl.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.73 Ha	1825
2	Other Reclaimed Area	:	0.000	000
3	Haul /Approach Road	:	0.46 km	180 Trees both side approach road.

- 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 he maintained and will be submitted with compliance report.

Solid Waste Management

- Overburden Generation will be in form of gritty soil 7326 cum and intercalated waste of 10989 cum. during the life of mine. The gritty soil will he removed and will be simultaneously used in road dressing, plantation & maintenance of road.

Risk Assessment

Activity	Hazard	Probability	Severity	Mitigation
Temporary storage of Explosives	Unintended Explosions	Remote	Catastrophic	Continuous observation by guards and no unauthorized
Charging of Explosives	Unintended explosion or exposure	Remote	Catastrophic	Charging of explosives by authorized personnel only
Blasting	Hit by fly rock (bodily injuries)	Occasional	Major	Alarm will be sounded before firing of explosives
Bench Formation	Slope failure due to lack of bench face stability (bodily injuries)	Occasional	Major	Bench will be formed as per Mine Plan
Transportation	Vehicle Accident (bodily injuries)	Probable	Majbr	Road signs, traffic management and vehicles will be operated at limited speed
Mine closure	Falling in the mine pit post closuro	Probable	Major	Development of fences around the mine for safety

Water Pollution Control Measures:

- Negligible impact envisaged on surface water and ground water due to mining, as no discharge of effluents or intersection of ground water.
- No major surface water body within 1 km radius of the project site.
- Post-project the quarry area will serve as a reservoir, which will be a source of water for the nearby areas.
- Garland drains shall be developed to divert storm water flowing into the mine pit.

Air and Noise Pollution Control Measures:

- Water sprinkling shall be done on the haul roads.
- Plantation to be done in the safety zone develop a green belt along the ML boundary.
- Sharp drill will be used and wet drilling will be followed.
- Controlled blasting – Nonel technology will be used.
- Overloading will be prohibited while transporting. Water sprinkling will be taken up.
- Plantation along transportation route will be done.
- Regular monitoring of Air quality & PUC for vehicle will be carried out.

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 Conceptoal stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as 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 Kelyadabar Stone Deposit of M/s Jyoti Minerals (Prop. : Shri Mohan Lal Jain), Village : Kelyadabar, Thana : Pindrajora, Distt. : Bokaro, Jharkhand (2.84 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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3. **Khutri Stone Deposit of M/s Karni Stone (Prop. : Shri Bhagwan Singh), Village : Khutri, Thana : Jaridih, Distt. : Bokaro, Jharkhand (2.428 Ha).**

(Proposal No. SIA/JH/MIN/ 448765 /2023).

Applied Area : 6.00 Acres (2.428 Ha)

Project Category : B2 – Application for Environment Clearance

EC Application for : Total Excavation – Stone – 1,05,465 TPA
Annual Production – 33,636 m^3/94,180 TPA
Gritty soil – 6899 m3 in life of mine (5 years)
Intercalated Waste – 8843 m3 in life of mine (5 years)
DG Set – Not proposed
Mobile Crusher: Not proposed

Name of the consultant : Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar, Odisha.

This is a new project which has been taken for appraisal on 18.10.2023.

PROJECT & LOCATION DETAILS

Sl.	Parameter		Details	
1	Project Name	:	Khutri Stone Deposit	
2	Lessee:	:	M/s Karni Stone (Shri Bhagwan Singh)	
3	Lease Address	:	Mouza – Khutri, Thana – Jaridih, Thana No. – 08, District – Bokaro, State Jharkhand	
4	Lease Area	:	Ha: 2.428	Acres: 6.00
5	Type of Land	:	Non-Forest – Rayati Barren Land	
6	Project Cost	:	Rs. 105.32 Lakhs	

7	EMP Budget	:	Capital: Rs. 2.633 Lakhs	Monitoring cost: Rs. 19.0 Lakhs/year
8	CSR / CER Budget	:	Rs. 2.633 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	1,68,084 cum.	Tonnes: 4,70,634
11	Mine Life	:	5 years only (proposed lease period is of 5 years)	
12	Manpower	:	32 Person	
13	Water Requrement	:	10.038 kLD (Domestic -2.56 kLD, Plantation-4.37 kLD, Dust Suppression-3.11)	
14	Water Source	:	Supply Tankers	
15	DG Set / power	:	Not Proposed/Not Applicable	
16	Crusher	:	Not proposed/Not Applicable	
17	Nearest Water Body	:	Damodar River - 4.35 km N	
18	Nearest Habitation	:	Khutri Village – 1.17 km SE	
19	Nearest Railway Station	:	Tupkadih Railway Station – 3.73 Km E	
20	Nearest Airport	:	Birsa Munda Airport, Ranchi- 83.68 km (SW)	
21	Nearest Forest	:	Choragaco PF	8.30 km North
22	Road & Highways	:	Dumri-Bermo Road – 1.17 km SE	

CO-ORDINATES

1	Latitude	:	23° 42' 33.869" N	23° 42' 41.141" N
2	Longitude	:	86° 01' 32.699" E	E 86° 01' 39.269" E

LAND DETAILS :

Khata No.	Plot No.	Area (Acre)
24	10	6.00
66	2 & 2813 (P)	
60	4, 5 & 6	
86	11	

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer,

			Bokaro vide memo no. 1683/Khanan, dated 29.09.2023.
2	CO	:	The CO, Jaridih (Bokaro) vide letter no. 453, dated 23.06.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan.
3	DMO	:	DMO, Bokaro vide memo no. 1756/Khanan, dated 13.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 1403, dated 10.07.2023 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. 1988, dated 30.08.2023 certified that the distance of notified forest is 900 meter from proposed project site.
6	DSR	:	This project is mentioned in DSR of Bokaro District as a potential area and same has been also certified by DMO, Bokaro vide letter no. 1757/Khanan, dated 13.10.2023.
7	Gram Sabha	:	BDO, Jaridih (Bokaro) vide letter no. 1241, dated 08.09.2023 informed that Gram Sabha conducted on 08.09.2023.
8	Mine Plan Approval	:	Approved by DMO, Bokaro vide Memo No. 1732/M, dated 07.10.2023.

WORKING DETAILS

1	Mining Method	:	Opencast Mechanized Mining	
2	Quarry Area	:	1.554 ha (Plan Period)	Life of Mine – 5 years (Proposed lease period is of 5 years)
3	Waste Generation	:	Gritty Soil – 6899 cum (plan period) Intercalated Waste – 8843cum	
4	Stripping Ratio	:	15:01	
5	Working Days	:	300 days/year	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine (Maximum)	:	In 274 m MSL	
8	Elevation of Mine (Minimum)		In 266 m MSL	
9	Ultimate Working Depth	:	In 238 m MSL	

10	Water Table	:	In 231-218 m MSL
11	Topography of Mine	:	Gently sloping and Undulating
12	Explosive Requirement	:	Slurry – 63 kg/day
13	Diesel/Fuel requirement	:	DieseL- 50 liter/day

PRODUCTION DETAILS

year	gritty soil in cum	gritty soil in ton	intercalated waste in cum	intercalated waste in ton	stone production in cum	stone production in tonnes
1	4237	6356	1770	4956	33627	94153
2	0	0	1770	4956	33635	94177
3	2182	3273	1769	4953.2	33612	94114
4	480	720	1763	4936.4	33495	93784
5	0	0	1771	4958.8	33636	94180
Total	**6899**	**10349**	**8843**	**24760.4**	**168005**	**470408**

LAND USE

Type of Land	Present Land Use (In Ha)	At the End of Plan Period (In Ha)	At the end of Mine (In Ha)	Conceptual Period (In Ha)		
				Backfill	Water Body	Plantation
Quarry	Nil	1.554 (including backfilling 0.216ha & Stone pitching wall – 0.005ha)	1.554 (including backfilling 0.216ha & Stone pitching wall – 0.005ha)	0.186	0.807	0.561
Greenbelt within Safety Barrier	Nil	0.874	0.874	0.186	-	0.874
Approach Road	0.094	Nil	Nil	-		
Total Area in	0.094	2.428	2.428	0.186	0.807	1.435

Use						
Balanced Area unused	2.334	Nil	Nil	-	-	-
Total Applied Area	2.428	2.428	2.428	2.428		

ENVIRONMENT MANAGEMENT

Green Belt Development

Sl.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.874 Ha	2185
2	Other Reclaimed Area	:	0.000	000
3	Haul /Approach Road	:	0.20 km	134 Trees both side approach road.

- Gabion Plantation work in the safety zone (7.5 m width around the pruposed 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.

Risk Assessment

Activity	Hazard	Probability	Severity	Mitigation
Temporary storage of Explosives	Unintended Explosions	Remote	Catastrophic	Continuous observation by guards and no
Charging of Explosives	Unintended explosion or exposure	Remote	Catastrophic	Charging of explosives by authorized personnel only
Blasting	Hit by fly rock (bodily injuries)	Occasional	Major	Alarm will be sounded before firing of explosives
Bench Formation	Slope failure due to lack of bench face stability (bodily injuries)	Occasional	Major	Bench will be formed as per Mine Plan

Transportation	Vehicle Accident (bodily injuries)	Probable	Major	Road signs, traffic management and vehicles will be operated at
Mine closure	Falling in the mine pit post closure	Probable	Major	Development of fences around the mine for

Solid Waste Management

- Overburden Generation will be in form of gritty soil 6899 cum and intercalated waste of 8843 cum. during the life of mine. The gritty soil will be removed and will be simultaneously used in road dressing, plantation & maintenance of road.

Water Pollution Control Measures:

- Negligible impact envisaged on surface water and ground water due to mining, as no discharge of effluents or intersection of ground water.
- No major surface water body within 1 km radius of the project site.
- Post-project the quarry area will serve as a reservoir, which will be a source of water for the nearby areas.
- Garland drains shall be developed to divert storm water flowing into the mine pit.

Air and Noise Pollution Control Measures:

- Water sprinkling shall be done on the haul roads.
- Plantation to be done in the safety zone develop a green belt along the ML boundary.
- Sharp drill will be used and wet drilling will be followed.
- Controlled blasting – Nonel technology will be used.
- Overloading will be prohibited while transporting. Water sprinkling will be taken up.
- Plantation along transportation route will be done.
- Regular monitoring of Air quality & PUC for vehicle will be carried out.

Undertaking submitted affirming:

a. Ground water will he 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 watec bodies fo prevent any human or animals falling in to the water hodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or otber 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 Khutri Stone Deposit of M/s Karni Stone (Prop. : Shri Bhagwan Singh), Village : Khutri, Thana : Jaridih, Distt. : Bokaro, Jharkhand (2.428 Haj is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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4. **Piska Stone Deposit of M/s Silver Stone (Partner : Shri Manoj Kumar Singhania), Village : Piska, Tehsil : Ormanjhi, Distt. : Ranchi, Jharkhand (1.052 Ha).**

(Proposal No. SIA/JH/MIN/ 448694 /2023).

Project Category : **B2 – Application for Environment Clearance**

EC Application for : **Boulder Stone: 18599.31 Cu.M./ Year i.e. 50,219.14 TPA**

Name of the consultant: Crystal Consultants, Ranchi

This is a new project which has been taken for appraisal on 18.10.2023.

PROJECT AND LOCATION DETAILS:

Sl. No.	Parameter		Details
1	ProjectName	:	Piska Stone Mine
2	Lessee:	:	M/s Silver Stone, (Partner: Sri Manoj Kumar Singhania)
3	Lease Address	:	Mouza–Piska,Thana–Ormanjhi District–Ranchi,State–Jharkhand.

4	Lease Area	:	Ha: 1.052 ha.	Acres: 2.60 Ac.
5	Type ofLand	:	Non Forest–Rayati Land	
6	Project Cost	:	87.50 Lakhs	
7	EMPBudget	:	Capital:7.50 Lakhs	Recurring: 3.50 Lakh / year
8	CSR / CERBudget	:	NA	
9	NeworExpansion	:	New Project	
10	MineableReserves	:	Cu.M.: 85,163.7	Tonnes: 2,29,942
11	Mine Life	:	05 years	
12	Manpower	:	17	
13	WaterRequirement	:	08.00 KLD (Drinking:1.00 KLD, Dust Suppression: 6.00 KLD, Plantation:1.00 KLD)	
14	WaterSource	:	Dug well for drinking & Village pond / Closed mine/ River water for dust suppression /green belt	
15	DG Set / power	:	Not required	
16	Crusher	:	Not withinmineleasearea	
17	NearestWaterBody	:	Getalsud Dam 8KM/ Swarnrekha River – 12 km.	
18	NearestHabitation	:	Manatu Village:2.00KM; Ormanjhi:08KM	
19	Nearest RailStation	:	BIT-18KM	
20	Nearest AirPort	:	Ranchi -32KM	
21	Nearest Forest	:	Not within 250m	
22	Road & Highways	:	NH20-0.50KM;	

CO-ORDINATES

1	Latitude	:	From 23° 32'23.4502" N	To 23° 32'28.1088" N
2	Longitude	:	From 85° 29'32.4578" E	To 85° 29'40.0004" E

LAND DETAILS

Khata No.	Plot No.
86	114, 115 (P), 181, 182 & 183
08	184 (P), 185 & 189
44	186 (P), 187 (P) & 188

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Ranchi vide letter no. 1180/M, dated 11.10.2023.
2	CO	:	The CO, Ormanjhi (Ranchi) vide letter no. 829 (ii), dated 27.09.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.

3	DMO	:	DMO, Ranchi vide memo no. 1189/M, dated 11.10.2023 certified that 01 other mining lease area (1.60 Acre) exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide letter no. 978, dated 30.09.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Focest Distance	:	Division Forest Officer, Ranchi Forest Division vide letter no. 3887, dated 09.10.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	The DC – cum – District Magistrate, Ranchi vide letter no. 1191/M, dated 11.10.2023 has informed that this project is part of District Survey Report (DSR) of Ranchi district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	BDO, Ormanjhi (Ranchi) vide letter no. 1245 (ii), dated 07.10.2023 informed that Gram Sabha conducted on 05.10.2023.
8	Mine Plan Approval	:	Approved by DMO, Ranchi vide memo no. 1199/M, dated 12.10.2023.

Working Details

1	Mining Method	:	Opencast Mechanized.
2	Quarry Area	:	Plan period–0.608ha.
3	Waste Generation	:	Plan period–11,409m^3
4	Stripping Ratio	:	0.08 (over all stripping ratio)
5	Working Days	:	300
6	Benches: Size & No	:	6mx6m and 4 benches.
7	Elevation of Mine	:	673 m AMSL
8	GroundLevelElevation	:	650 m AMSL
9	UltimateWorkingDepth	:	640 m AMSL
10	WaterTable	:	630 m AMSL
11	Topography of Mine	:	Gentle slope from South-West to North-East.
12	Explosive Requirement	:	8,370 kg/year
13	Diesel/Fuel requirement	:	Transport Vehicle & Machineries- 120 Litre/day,(DG set not required)

ProductionDetails

Year	Productionof stone(Cum)	Productionof stone(Tonne)	OB (Cum)	Bench AMSL in Meters
1st	16,245.00	43,861.50	3315.00	670–658

2nd	16,569.90	44,738.73	3434.10	664–652
3rd	16,957.50	45,785.25	2110.50	652–646
4th	18,599.31	50,218.14	1667.40	646-640
5th	16,758.00	45,246.60	882.00	640-640
Total	**83,847.00**	**2,29,850.22**	**11,409**	

LandUse

SL	Paltern	Existing Land Use (Ha)	ProposedCurrent Plan Period (Ha)	Proposed Land Use at End of Life of Mine (Ha)	Land Usageat Conceptual Stage
1	Mining Area	0.00	0.608	0.541	Water Body
2	Dump	0.00	0.000	0.067	Green Belt (back filled)
3	Office/Store	0 00	0.000	0.000	-
4	Crusher	0.00	0.000	0.000	-
5	Road	0.00	0.000	0.000	-
6	Safety Zone	0.00	0.444	0.444	Green Belt
7	Unutilized	1.052	0.000	0.000	-
	TOTAL	**1.052**	**1.052**	**1.052**	

Protection Measures for Post Mine Closure Action Plan

The mine site will be properly fenced properly. A poard 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 poriphery 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.

Total Ware Reservoir Potential in Post Mine Closure

=Area x Ultimate Depth

= 0.541 x 100 x 100 sqm x 10 m (Below surface level)

= 54,100 cum.

ENVIRONMENT MANAGEMENT

Green Belt Development

Sl. No.	LOCATION		Area/Length	No. of Trees
1.	Safety Zone	:	0.444 ha	475 trees
2.	Other Reclaimed Area	:	0.067 ha	75 trees (Conceptual stage)
3.	Haul/Approach Road	:	50 m	50 trees

- 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. Incase any inter section is likely, mining activities will be stopped 10m above the Ground Water Table.
- The rain water during rainy season will be collected ina 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.
- Garland drain shall be made in the outer part of safety barrier 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 in to the lease area from out side or from inside the lease area to the out side
- Domesticwastewaterwillnotbegenerated.
- Its hall been sured 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 he 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 hy tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal pratective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, 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, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2

C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Freqoent	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,	Remote	Minor	16

		Exposure to Dust			

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

Preventive Measures:

Face Stability

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

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

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

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

Falls from the edge of a bench

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

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

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench

- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

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

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

Noise Generation during drilling

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

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

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

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

Blasting Operations

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

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

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during 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 perindically 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 sterage 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 he 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 m: ntained.
i. If any tree felling than necessary permission shall be taken from the compet ·nt authority.
j. Slopc of the Water bodies to be stahilized usIng gabion plaitation created ; (the end of life of the mine.
k. Suitahle safety protection measures shall be taken around the water bodies to prevent any human or animals falllng in to the water bodics created at the end of life of the mine.
l. Personal protective equipments such as protectmg clothing, helmet, goggles or other garments or equipments designed to protect from injury or Infection will be prpvided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Piska Stone Deposit of M/s Silver Stone (Partner : Shri Manoj Kumar Singhania), Village : Piska, Tehsil : Ormanjhi, Distt. : Ranchi, Jharkhand (1.052 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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5. **Brick Soil Mining for M/s Shree Ganpati Bricks (Prop. : Shri Shrawan Kumar Jaiswal), Village : Jhakhra, Thana : Sehha, Thana no. : 165, Distt. : Lohardaga, Jharkhand (0.918 Ha).**

(Proposal No. SIA/JH/MIN/ 448806 /2023).

Project Category: B2 – Application for Environment Clearance
EC Application for: Earthwork / Soil Mining
(1200 Cum Per Annum & 6,00,000 Bricks Per Annum)

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

This is a new project which nas been taken for appraisal on 18.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter	Details
1	Project Name	: BRICK SOIL MINING FOR M/s SHREE GANPATI BRICKS
2	Lessee:	: M/S SHREE GANPATI BRICKS PROPRIETOR: SHRAWAN KUMAR JAISWAL
3	Lease Address	: AT VILLAGE – JHAKHRA, THANA – SENHA, DISTRICT – LOHARDAGA, STATE – JHARKHAND, PIN CODE. - 835302.

4	Lease Area	:	0.918 Ha.	Acres: 2.27 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	6.00 Lakhs	
7	EMP Budget	:	Capital: 1 Lakhs	Recurring: 2.05 Lakh / year
8	CSR / CER Budget	:	-	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 14890 cum	Tonnes:
11	Mine Life	:	12 years	
12	Man power	:	10	
13	Water Requirement	:	6.0 KLD=0.4 KLD (Drinking & Domestic Uses) + 1.6 (Plantation) KLD + 4.0 KLD (Dust Suppression).	
14	Water Source	:	From nearby villages/Nearest Canal by tankers	
15	DG Set / power	:	0 KVA	
16	Crusher	:	--	
17	Nearest Water Body	:	The nearest distance from the applied area to Koel River is 5.10 Km in eastern direction.	
18	Nearest Habitation	:	Jhakhra 1.5km	
19	Nearest Rail Station	:	Lohardaga Railway Station (17.00 km in South West direction).	
20	Nearest Alc Port	:	Birsa Munda Airport, Ranchi (65 Km approx.) in South East direction.	
21	Nearest Forest	:	Nil	
22	Road & Highways	:	NH-143 is about 4.30 Km away from the applied area.	

CO-ORDINATES

1	Latitude		From N23°20'8.22"	To N23°20'13.08"
2	Longitude		From E84°34'56.60"	To E84°34'59.10"

LAND DETAILS

Khata No.	110
Plot No.	393 & 394

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Senha, (Lohardaga) vide letter no. 902, dated 18.09.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.

3	DMO	:	DMO, Lohardaga vide memo no. 1164/M, dated 03.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide letter no. 1016, dated 05.10.2023 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. 1700, dated 22.09.2023 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.
7	Gram Sabha	:	Gram Sabha conducted on 18.09.2023.
8	Mine Plan Approval	:	Approved by DMO, Lohardaga vide memo no. 1227/M, dated 13.10.2023.

Working Details

1	Mining Method	:	Opencast Method, Manual	
2	Quarry Area	:	5 years – 0.358 ha.	Life of Mine – 10Year
3	Waste Generation	:	1750 cum (topsoil)	Life of Mine – 10 Year
4	Stripping Ratio	:	NA	
5	Working Days	:	200	
6	Benches: size & No	:	1m x 1m	
7	Elevation of Mine	:	Highest elevation: 673m AMSL Lowest elevation: 672m AMSL	
8	Ground Level Elevation		672-673 m AMSL	
9	Ultimate Working Depth	:	2m	
10	Water Table	:	665m AMSL in Pre Monsoon to 668m 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.)
1st	1200	6,00,000
2nd	1200	6,00,000

3rd	1200	6,00,000
4th	1200	6,00,000
5th	1200	6,00,000
Total	6000	30,00,000

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)
Quarry	00.00	0.358	0.875
Green Belt Within Safety Barrier	00.00	0.043	0.043
Total area in use	**00.00**	**0.401**	**0.918**
Balance area unused	0.918	0.517	00.00
Total Applied area	**0.918**	**0.918**	**0.918**

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.

- A warning sign board will be erected at the site giving general information about the hazards at the site.
- The periphery of the water reservoir pit will be secured by constructing a parapet wall or gabion walls.
- 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	0.043	245
2	Approach road	0.03	100
	Total	**0.046**	**345**

- 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.
- 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.

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 Shree Ganpati Bricks (Prop. : Shri Shrawan Kumar Jaiswal), Village : Jhakhra, Thana : Senha, Thana no. : 165, Distt. : Lohardaga, Jharkhand (0.918 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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6. **Brick Soil Mining for M/s Mayur Bricks (Prop. : Shri Sunil Bhagat), Village : Todar, Thana : Senha, Thana no. : 192, Distt. : Lohardaga, Jharkhand (0.404 Ha).**

(Proposal No. SIA/JH/MIN/ 448795 /2023).

Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Earthwork / Soil Mining**
(1200 Cum Per Annum & 6,00,000 Bricks Per Annum)

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

This is a new project which has been taken for appraisal on 18.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details
1	Project Name	:	BRICK SOIL MINING FOR M/s MAYUR BRICKS
2	Lessee:	:	M/S MAYUR BRICKS PROPRIETOR: SUNIL BHAGAT

3	Lease Address	:	AT VILLAGE – TODAR, THANA -- SENHA, DISTRICT – LOHARDAGA, STATE – JHARKHAND, PIN CODE. - 835302.	
4	Lease Area	:	0.404 Ha.	Acres: 1 00 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	6.00 Lakhs	
7	EMP Budget	:	Capital: 1.00 Lakhs	Recurring: 2.05 Lakh / year
8	CSR / CER Budget	.	-	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M - 6460 Cum	Tonnes:
11	Mine Life	:	5 years	
12	Man power	:	10	
13	Water Requirement	:	6.0 KLD=0.4 KLD (Drinking & Domestic Uses) + 1 6 (Plantation) KLD + 4.0 KLD (Dust Suppression).	
14	Water Source	:	Hired Tankers from Authorise sources.	
15	DG Set / power	:	0 KVA	
16	Crusher	:	--	
17	Nearest Water Body	:	The nearest distance from the applied area to South Koel River is 3.10 Km in east direction.	
18	Nearest Habitation	:	Todar 0.5 km towards South-East direction	
19	Nearest Rail Station	:	Lohardaga Railway Station 10.00 km in West direction.	
20	Nearest Air Port	:	Birsa Munda Airport, Ranchi 60 Km in South-East direction.	
21	Nearest Forest	:	Chitrauli Protected Forest in approx. 2.0 km in SW direction.	
22	Road & Highways	:	NH-143A is about 1.20 Km away from the applied area.	

CO-ORDINATES

1	Latitude		From N23°24'28.78"	To N23°24'31.45"
2	Longitude		From E84°40'58.60"	To E84°41'01 66"

LAND DETAILS

Khata No.	130
Plot No.	93/108 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Senha, (Lohardaga) vide letter no. 855, dated 12.09.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.

3	DMO	:	DMO, Lohardaga vide memo no. 1176/M, dated 04.10.2023 certified that no other mining lease area exists witbin 500 m radius from proposed project site.
4	DPO Wild Life	:	DFO, Wildlife Ranchi vide letter no. 1020, dated 05.10.2023 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. 1292, dated 17.07.2023 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.
7	Gram Sabha	:	BDO, Senha vide letter no. 1348, dated 05.10.2023 informed that Gram Sabha conducted on 20.09.2023.
8	Mine Plan Approval	:	Approved by DMO, Lohardaga vide memo no. 1225/M, dated 13.10.2023.

Working Details

1	Mining Method	:	Opencast Method, Manual	
2	Quarry Area	:	5 years – 0.358 ha.	Life of Mine – 5Year
3	Waste Generation	:	700 cum (topsoil)	Life of Mine – 5 Year
4	Stripping Ratio	:	NA	
5	Working Days	:	200	
6	Benches: size & No	:	1m x 1m	
7	Elevation of Mine	:	Highest elevation: 694m AMSL Lowest elevation: 693m AMSL	
8	Ground Level Elevation		693-694 m AMSL	
9	Ultimate Working Depth	:	2m	
10	Water Table	:	671m AMSL in Pre Monsoon to 679m 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.)
1st	1200	6,00,000

2nd	1200	6,00,000
3rd	1200	6,00,000
4th	1200	6,00,000
5th	1200	6,00,000
Total	**6000**	**30,00,000**

Land Use Pattern ;

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)
Quarry	00.00	0.358	0.358
Green Belt Within Safety Barrier	00.00	0.025	0.025
Total area in use	***00.00***	***0.383***	***0.383***
Balance area unused	0.404	0.021	0.021
Total Applied area	**0.404**	**0.404**	**0.404**

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.

- A warning sign board will be erected at the site giving general information about the hazards at the site.
- The periphery of the water reservoir pit will be secured by constructing a parapet wall or gabion walls.
- 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	0.025	245
2	Approach road	0.024	80
	Total	**0.049**	**325**

- 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 setting tank.
- Garland drain shall he 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 he 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 he 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 he stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall he 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 injory 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, Prindpal 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 Mayur Bricks (Prop. : Shri Sunil Bhagat), Village : Todar, Thana : Senha, Thana no. : 192, Distt. : Lohardaga, Jharkhand (0.404 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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7. **Brick Soil Mining for M/s Wave Bricks (Prop. : Md. Fajal Khan), Village : Henila, Thana : Kuru, Thana no. : 64, Distt. : Lohardaga, Jharkhand (0.987 Ha).**

(Proposal No. SIA/JH/MIN/ 448739 /2023).

Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Earthwork / Soil Mining**
(1200 Cum Per Annum & 6,00,000 Bricks Per Annum)

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

This is a new project which has been taken for appraisal on 18.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details
1	Project Name	:	BRICK SOIL MINING FOR M/s WAVE BRICKS
2	Lessee:	:	M/s WAVE BRICKS PROPPIETOR: MD. FAZAL KHAN

3	Lease Address	:	AT VILLAGE – HANJLA, THANA – KURU, DISTRICT – LOHARDAGA, STATE – JHARKHAND, PIN CODE. - 835213.	
4	Lease Area	:	0.987 Ha.	Acres: 2.44 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	6.50 Lakhs	
7	EMP Budget	:	Capital: 1.00 Lakhs	Recurring: 2.05 Lakh / year
8	CSR / CER Budget	:	-	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 16170 Cum	Tonnes:
11	Mine Life	:	13 years	
12	Man power	:	10	
13	Water Requirement	:	6.0 KLD=0.4 KLD (Drinking & Domestic Uses) + 1.6 (Plantation) KLD + 4.0 KLD (Dust Suppression).	
14	Water Source	:	From nearby villages/Nearest Canal by tankers	
15	DG Set / power	:	0 KVA	
16	Crusher	:	--	
17	Nearest Water Body	:	The nearest distance from the applied area to Dhangarha River is 8.20 Km in north direction.	
18	Nearest Habitation	:	Henjla 0.50 Km away	
19	Nearest Rail Station	:	Lohardaga Railway Station 17.50 km in West direction.	
20	Nearest Air Port	:	Birsa Munda Airport, Ranchi 55.00 Km in South-East direction.	
21	Nearest Forest	:	Henjla Protected Forest in approx. 300m	
22	Road & Highways	:	NH-75 is about 0.50 Km away from the applied area.	

CO-ORDINATES

1	Latitude		From N23°32'38.73"	To N23°32'41.07"
2	Longitude		From E84°52'53.75"	To E84°53'00"

LAND DETAILS

Khata No.	47
Plot No.	465 & 481

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Kuru vide letter no. 1068, dated 29.09.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S.

		:	Khatiyan & Register II.
3	DMO	:	DMO, Lohardaga vide memo no 1190/M, dated 06.10.2023 certified that 01 other mining lease area (0.94 Acre) exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide letter no. 1027, dated 09.10.2023 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. 1778, dated 07.10.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentionned in District Survey Report (DSR) of Lohardaga district.
7	Gram Sabha	:	BDO, Kuru, Lohardaga vide letter no. 1214, dated 06.10.2023 informed that Gram Sabha conducted on 23.09.2023.
8	Mine Plan Approval	:	Approved by DMO, Lohardaga vide memo no. 1230/M, dated 13.10.2023.

Working Details

1	Mining Method	:	Opencast Metbod, Manual	
2	Quarry Area	:	5 years – 0.354 ha.	Life of Mine – 10Year
3	Waste Generation	:	1890 cum (topsoil)	Life of Mine – 10 Year
4	Stripping Ratio	:	NA	
5	Working Days	:	200	
6	Benches: size & No	:	1m x 1m	
7	Elevation of Mine	:	Highest elevation: 701m AMSL Lowest elevation: 700m AMSL	
8	Ground Level Elevation		700-701 m AMSL	
9	Ultimate Working Depth	:	2m	
10	Water Table	:	682m AMSL in Pre Monsoon to 690m 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.)
1st	1200	6,00,000
2nd	1200	6,00,000
3rd	1200	6,00,000
4th	1200	6,00,000
5th	1200	6,00,000
Total	**6000**	**30,00,000**

Land Use Pattern ;

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)
Quarry	00.00	0.358	0.720
Green Belt Within Safety Barrier	00.00	0.036	0.036
Total area in use	**00.00**	**0.394**	**0.987**
Balance area unused	0.987	0.362	00.00
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.

- A warning sign board will be erected at the site giving general information about the hazards at the site.
- The periphery of the water reservoir pit will be secured by constructing a parapet wall or gabion walls.
- 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	0.036	245

2	Approach road	0.0246	34
	Total	**0.046**	**317**

- 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 watec table. In case any intersection is likely, mining activities willbe 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 supnression 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 bc 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 dischacge 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 plahtation.
- It shall be ehsured that quality of drinking water for the worker is hyglenic and good sanitation system shall be made available.

Air Quality Management

- All machineries and transport vebicles 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 pollotion 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 ahv 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 ceport issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the prosentation 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 Wave Bricks (Prop. : Md. Fajal Khan), Village : Henjla, Thana : Kuru, Thana no. : 64, Distt. : Lohardaga, Jharkband (0.987 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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8. **Brick Soil Mining for M/s Risu Bricks (Prop. : Shri Vivek Kumar), Village : Durhul, Thana : Kisko, Thana no. : 116, Distt. : Lohardaga, Jharkhand (0.56 Ha).**

(Proposal No. SIA/JH/MIN/ 448771 /2023).

Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Earthwork / Soil Mining**
(1200 Cum Per Annum & 6,00,000 Bricks Per Annum)

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

This is a new project which has been taken for appraisal on 18.10.2023

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	BRICK SOIL MINING FOR M/s RISU BRICKS INCLUDING KILN	
2	Lessee:	:	M/s RISU BRICKS PROPRIETOR: VIVEK KUMAR	
3	Lease Address	:	AT VILLAGE – DURHUL, THANA – KISKO, DISTRICT – LOHARDAGA, STATE – JHARKHAND, PIN CODE. - 835302.	
4	Lease Area	:	0.56 Ha.	Acres: 1.39 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	6.00 Lakhs	
7	EMP Budget	:	Capital: 0.50 Lakhs	Recurring: 2.05 Lakh / year
8	CSR / CER Budget	:	-	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 9570.60 Cum	Tonnes:
11	Mine Life	:	5 Years	
12	Man power	:	10	
13	Water Requirement	:	6.0 KLD=0.4 KLD (Drinking & Domestic Uses) + 1.6 (Plantation) KLD +4.0 KLD (Dust Suppression).	
14	Water Source	:	From nearby villages/Nearest Canal by tankers	
15	DG Set / power	:	0 KVA	
16	Crusher	:	--	
17	Nearest Water Body	:	The nearest distance from the applied area to Shankh River is 4.00 Km in east direction.	
18	Nearest Habitation	:	Durhu 0.5km away	
19	Nearest Rail Station	:	Barkichanpi Railway Station 7.00 km in West direction.	
20	Nearest Air Port	:	Birsa Munda Airport, Ranchi 72.00 Km in South-East direction.	
21	Nearest Forest	:	Pakhar Reserve Forest in approx. 0.7 km in NW direction.	
22	Road & Highways	:	Chandwa Road is about 6.00 Km away from the applied area.	

CO-ORDINATES

1	Latitude	:	From N23°32'53"	To N23°32'54.07"
2	Longitude	:	From E84°39'38.1"	To E84°39'39.6"

LAND DETAILS

Khata No.	71
Plot No.	109

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Kisko (Lohardaga) vide letter no. 700, dated 05.10.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Lohardaga vide memo no. 980/M, dated 01.08.2023 certified that no other mining lease area exists within 500 m radius from preposed project sire.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide letter no. 1144, dated 15.12.2021 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. 3000, dated 21.09.2021 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.
7	Gram Sabha	:	Gram Sabha conducted on 08.10.2023.
8	Mine Plan Approval	:	Approved by DMO, Lohardaga vide letter no. 390/M, dated 08.10.2021.

Working Details

1	Mining Method	:	Opencast Method, Manual	
2	Quarry Area	:	5 years – 0.354 ha.	Life of Mine – 5Year
3	Waste Generation	:	700 cum (topsoil)	Life of Mine – 5 Year
4	Stripping Ratio	:	NA	
5	Working Days	:	200	
6	Benches: size & No	:	1m x 1m	
7	Elevation of Mine	:	715m AMSL	
8	Ground Level Elevation		715m AMSL	
9	Ultimate Working Depth	:	2m	
10	Water Table	:	706m AMSL in Pre Monsoon to 702m 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.)
1st	1584.00	6,00,000
2nd	1584.00	6,00,000
3rd	1584.00	6,00,000
4th	1584.00	6,00,000
5th	1584.00	6,00,000
Total	**7920.00**	**30,00,000**

Land Use Pattern ;

Category	Land Use Pattern after Proposed Plan Period (5 Years Plan Period): Area in Ha.	Land Use Pattern after Life of the Mine: Area in Ha.
Quarry	0.396	0.396
Plantation in Safety Barrier	0.03	0.03
Road	0.003	0.003
Chimney	0.10	0.10
Balance Unused Area	0.03	0.03
Total Applied Area	**0.56**	**0.56**

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.

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

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION	Area/Length	No. of Trees
1	Safety Zone	0.030 Ha.	105

- 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.
- 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 sospended 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.

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 Risu Bricks (Prop. : Shri Vivek Kumar), Village : Durhul, Thana : Kisko, Thana no. : 116, Distt. : Lohardaga, Jharkhand (0.56 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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9. **Khora Brick Earth Mining for M/s Sahu Bricks (Prop. : Shri Satyanarayan Sahu), Village : Khora, Tehsil : Gumla, Distt. : Gumla, Jharkhand (1.573 Ha).**

(Proposal No. SIA/JH/MIN/ 448737 /2023).

Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Earthwork / Soil Mining**

(1200 Cum Per Annum & 6,00,000 Bricks Per Annum)
Name of the consultant: Crystal Consultants, Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 18.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	BRICK SOIL MINING FOR M/s Sahu Bricks (Khora Brick Earth MINE) INCLUDING KILN	
2	Lessee:	:	M/S SAHU BRICKS (KHORA BRICK EARTH MINE) PROPRIETOR: SATYANARAYAN SAHU	
3	Lease Address	:	AT VILLAGE – KHORA, THANA – GUMLA, DISTRICT – GUMLA, STATE – JHARKHAND, PIN CODE. - 835207	
4	Lease Area	:	1.573 Ha.	Acres: 3.88 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	6.00 Lakhs	
7	EMP Budget	:	Capital: 1.00 Lakhs	Recurring: 2.05 Lakh / year
8	CSR / CER Budget	:	-	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 20610Cum	Tonnes:
11	Mine Life	:	14 years	
12	Man power	:	16	
13	Water Requirement	:	6.0 KLD=0.4 KLD (Drinking & Domestic Uses) + 1.6 (Plantation) KLD + 4.0 KLD (Dust Suppression).	
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, Approx. 8.00 Km towards East direction	
18	Nearest Habitation	:	Gumla at about 08 km away	
19	Nearest Rail Station	:	Lohardaga Railway Station., approx.45 km towards East direction.	
20	Nearest Air Port	:	Birsa Airport Ranchi, approx. 100 km towards South-East direction.	
21	Nearest Forest	:	Nil	
22	Road & Highways	:	Sisai - Gumla Road is at a distance of 0.3 Km	

CO-ORDINATES

1	Latitude		From N23°03'49.01"	To N23°03'55.00"
2	Longitude		From E84°36'40.69"	To E84°36'46.62"

LAND DETAILS

Khata No.	Plot No.
422	5004 & 5005
428	5009

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Gumla (sadar) vide letter no. 1047, dated 26.10.2019 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Gumla vide memo no. 922/M, dated 11.10.2023 certified that 01 other mining lease area (2.34 Acre) exists within 500 m radius from proposed project site and total area is 6.21 Acre (2.51 Ha).
4	DFO Wild life	:	DFO, Wildlife Ranchi vide memo no. 1293, dated 22.11.2019 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. 2781, dated 22.10.2019 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 Gumla district
7	Gram Sabha	:	Gram Sabha conducted on 29.10.2019.
8	Mine Plan Approval	:	Approved by DMO, Gumla vide letter no. 765/M, dated 03.12.2020.

Working Details

1	Mining Method	:	Opencast Method, Manual	
2	Quarry Area	:	5 years – 0.354 ha.	Life of Mine – 14Year
3	Waste Generation	:	1000 cum (topsoil)	Life of Mine – 14 Year
4	Stripping Ratio	:	NA	
5	Working Days	:	200	
6	Benches: size & No	:	1m x 1m	
7	Elevation of Mine	:	610m AMSL	
8	Ground Level Elevation		697-698 m AMSL	
9	Ultimate Working Depth	:	2m	
10	Water Table	:	598m AMSL in Pre Monsoon to 602m 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.)
1st	1500	6,00,000
2nd	1500	6,00,000
3rd	1500	6,00,000
4th	1500	6,00,000
5th	1500	6,00,000
Total	**7500**	**30,00,000**

Land Use Pattern ;

Type of land use	Present Land Use (In Ha)	At the end of Plan Period (In Ac.)	At the end of life of mines (In Ha)
Quarry	00.00	1.908	2.927
Green Belt Within Safety Barrier	00.00	0.253	0.253
Total area in use	**00.00**	**2.161**	**3.180**
Balance area unused	3.180	1.019	0.00
Total Applied area	**3.180**	**3.180**	**3.180**

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.

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

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION	Area/Length	No. of Trees
1	Safety Zone	0.253 Ha.	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 b/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.
- 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 affowing 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 ba submitted with tbe first compliance report.
f. The plantation work will be completed within thé first year of opération. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Khora Brick Earth Mining for M/s Sahu Bricks (Prop. : Shri Satyanarayan Sahu), Village : Khora, Tehsil : Gumla, Distt. : Gumla, Jharkhand (1.573 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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10. Brick Soil Mining for M/s Tanya Bricks (Prop. : Shri Rajesh Prasad), Village : Buti, Thana : Senha, Thana no. : 165, Distt. : Lohardaga, Jharkhand (0.756 Ha).

(Proposal No. SIA/JH/MIN/ 448800 /2023).

Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Earthwork / Soil Mining**

(1200 Cum Per Annum & 6,00,000 Bricks Per Annum)

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

This is a new project which has been taken for appraisaf on 18.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details
1	Project Name	:	BRICK SOIL MINING FOR M/s TANYA BRICKS

2	Lessee:	:	M/s TANYA BRICKS PROPRIETOR: RAJESH PRASAD	
3	Lease Address	:	AT VILLAGE – BUTI, THANA – SENHA, DISTRICT – LOHARDAGA, STATE – JHARKHAND, PIN CODE. -835302.	
4	Lease Area	:	0.756 Ha.	Acres: 1.87 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	6.00 Lakhs	
7	EMP Budget	:	Capital: 0.85 Lakhs	Recurring: 2.05 Lakh / year
8	CSR / CER Budget	:	-	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 12240Cum	Tonnes:
11	Mine Life	:	10 years	
12	Man power	:	10	
13	Water Requirement	:	6.0 KLD=0.4 KLD (Drinking & Domestic Uses) + 1.6 (Plantation) KLD + 4.0 KLD (Dust Suppression).	
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, approx. 5.10 Km in eastern direction	
18	Nearest Habitation	:	Jhakhra, which is situated at about 1.15 km.	
19	Nearest Rail Station	:	LOHARDAGA Railway Station 17km	
20	Nearest Air Port	:	Birsa Airport Ranchi, approx. 65 km.	
21	Nearest Forest	:	Nil	
22	Road & Highways	:	NH-143 is about 4.30 Km away.	

CO-ORDINATES

1	Latitude		From N23°20'04.43"	To N23°20'8.97"
2	Longitude		From E84°35'42.32"	To E84°35'45.21"

LAND DETAILS

Khata No.	119
Plot No.	05

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Senha vide letter no. 905, dated 18.09.2023 has mentioned

			the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Lohardaga vide memo no. 1160/M, dated 03.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide letter no. 1017, dated 05.10.2023 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. 1718, dated 27.09.2023 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.
7	Gram Sabha	:	BDO, Senha vide letter no. 1344, dated 05.10.2023 informed that Gram Sabha conducted on 16.09.2023.
8	Mine Plan Approval	:	Approved by DMO, Lohardaga vide memo no. 1226/M, dated 13.10.2023.

Working Details

1	Mining Method	:	Opencast Method, Manual	
2	Quarry Area	:	5 years – 0.358 ha.	Life of Mine – 10Year
3	Waste Generation	:	1440 cum (topsoil)	LHe of Mine – 10 Year
4	Stripping Ratio	:	NA	
5	Working Days	:	200	
6	Benches: size & No	:	1m x 1m	
7	Elevation of Mine	:	Highest elevation: 673m AMSL Lowest elevation: 672m AMSL	
8	Ground Level Elevation		672-673 m AMSL	
9	Ultimate Working Depth	:	2m	
10	Water Table	:	665m AMSL in Pre Monsoon to 663m 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.)
1st	1200	6,00,000
2nd	1200	6,00,000
3rd	1200	6,00,000
4th	1200	6,00,000
5th	1200	6,00,000
Total	**6000**	**30,00,000**

Land Use Pattern ;

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)
Quarry	00.00	0.358	0.720
Green Belt Within Safety Barrier	00.00	0.036	0.036
Total area in use	***00.00***	***0.394***	***0.756***
Balance area unused	0.756	0.362	00.00
Total Applied area	**0.756**	**0.756**	**0.756**

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.

- A warning sign board will be erected at the site giving geoeral information about the hazards at the site.
- The periphery of the water reservoir pit will be secured by constructing a parapet wall or gabion walls.
- 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	0.036	245

2	Approach road	0.01	34
	Total	**0.046**	**279**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approacb coad 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 he 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 watec table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainv season will be collected in a nit and shall be used for dust suppression and plantation. Excess water, if any shafl be discharged in natural stream after settling of suspended particles in the plt. 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 sertle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls snall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the nutside
- For domestic waste water Septic Tank with Soak Plt 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 bygienic and good sanitation system shaif be maoe 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 whle transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading arco 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 Authocities 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 Autborities and all necessary steps will be taken in tbis 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 bo completed within the first year of operation. Tbereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will he done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / eduipment 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 he taken from the competent authority.
j Slope of the Water bodies to be stabilized using gabion plantation created at tbe 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 injory or infectinn will be poovided to working personnel.

Based on the presentation made and information provided, tbe Committee in the light of Hon'ble NGT, Prindpal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided thaf tbe proposal for Brick Soil Mining for M/s Tanya Bricks (Prop. : Shri Rajesh Prasad), Village : Buti, Thana : Senha, Thana no. : 165, Distt. : Lohardaga, Jbarkhand (0.756 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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11. Brick Soil Mining for M/s New Gold Bricks (Prop. : Shri Jawed Gouhar), Village : Chetar, Thana : Kuru, Thana no. : 62, Distt. : Lohardaga, Jharkhand (0.74 Ha).

(Proposal No. SIA/JH/MIN/ 448726 /2023).

Project Category: **B2 – Application for Environment Clearance**

EC Application for: **Earthwork / Soil Mining (1200 Cum Per Annum & 6,00,000 Bricks Per Annum)**

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

This is a new project which has been taken for appraisal on 18.10 2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	BRICK SOIL MINING FOR M/s New Gold Bricks	
2	Lessee:	:	M/s NEW GOLD BRICKS PROPRIETOR: JAWED GOUHER	
3	Lease Address	:	AT VILLAGE – CHETAR, THANA – KURU, DISTRICT – LOHARDAGA, STATE – JHARKHAND, PIN CODE. - 835213.	
4	Lease Area	:	0.74 Ha.	Acres: 1.83 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	6.00 Lakhs	
7	EMP Budget	:	Capital: 0.35 Lakhs	Recurring: 2.05 Lakh / year
8	CSR / CER Budget	:	-	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 11583 cum	Tonnes:
11	Mine Life	:	10 years	
12	Man power	:	10	
13	Water Requirement	:	6.0 KLD=0.4 KLD (Drinking & Domestic Uses) + 1.6 (Plantation) KLD + 4.0 KLD (Dust Suppression).	
14	Water Source	:	From nearby villages/Nearest Canal by tankers	
15	DG Set / power	:	0 KVA	
16	Crusher	:	--	
17	Nearest Water Body	:	The nearest distance from the applied area to Sapahi Nadi is 1.23 Km in South direction	
18	Nearest Habitation	:	Henjla 2.36km	
19	Nearest Rail Station	:	Barkichanpi Railway Station near about 12.98 km in East direction.	
20	Nearest Air Port	:	Birsa Munda Airport, Ranchi 53 km in South-East direction.	
21	Nearest Forest	:	Nil	
22	Road & Highways	:	The nearest National Highway, NH-39 is near about 920m away from the applied area in North direction.	

CO-ORDINATES

1	Latitude		From N23°31'39.51"	To N23°31'41.67"
2	Longitude		From E84°51'33.32"	To E84°51'38.65"

LAND DETAILS

Khata No.	**14**
Plot No.	**190**

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Kuru vide letter no. 1031, dated 14.09.2023 has mentioned the plot no. of the pcoject is not recorded as "Jungle- Jhari" in R.S. Khathyan & Register II.
3	DMO	:	DMO, Lohardaga vide memo no. 1153/M, dated 03.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide letter no. 988, dated 03.10.2023 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. 1727, dated 29.09.2023 certified that the distance of reserved / protected forust is more tban 250 meter from pcoposed project site.
6	DSR	:	This project is mentioned in District Survey Report (DSR) of Lohardaga district.
7	Gram Sabha	:	BDO, Kuru, Lohardaga vide letter no. 1138/Sa., dated 21.09.2023 informed that Gram Sabha conducted on 19.09.2023.
8	Mine Plan Approval	:	Approved by DMO, Lohardaga vide memo no. 1183/M, dated 05.10.2023.

Working Details

1	Mining Method	:	Opencast Method, Manual	
2	Quarry Area	:	5 years – 0.681 ha.	Life of Mine – 10Year
3	Waste Generation	:	705 cum (topsoil)	Life of Mine – 10 Year
4	Stripping Ratio	:	NA	
5	Working Days	:	200	
6	Benches: size & No	:	1m x 1m	
7	Elevation of Mine	:	Highest elevation: 690m AMSL Lowest elevation: 689m AMSL	
8	Ground Level Elevation		689-690 m AMSL	
9	Ultimate Working Depth	:	2m	
10	Water Table	:	670m AMSL in Pre Monsoon to 678m 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.)
1st	1200	6,00,000
2nd	1200	6,00,000
3rd	1200	6,00,000
4th	1200	6,00,000
5th	1200	6,00,000
Total	**6000**	**30,00,000**

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)
Quarry	0.015	0.360	0.681
Blocked area due to Well Safety	0.018	0.041	0.041
Green Belt Within Safety Barrier	0.033	0.018	0.018
Total area in use	**0.707**	**0.419**	**0.740**
Balance area unused	0.740	0.321	Nil
Total Applied area	**0.015**	**0.740**	**0.740**

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.

- A warning sign board will be erected at the site giving general information about the hazards at the site.
- The periphery of the water reservoir pit will be secured by constructing a parapet wall or gabion walls.
- 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	0.041	105
2	Approach road	0.004	12
	Total	0.045	117 trees

- 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 samo 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 reuuired 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 add allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage systein. 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 add 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.

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 New Gold Bricks (Prop. : Shri Jawed Gouhar), Village : Chetar, Thana : Kuru, Thana no. : 62, Distt. : Lohardaga, Jharkhand (0.74 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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12. Brick Soil Mining for M/s Gold Plus Bricks (Prop. : Shri Pankaj Choudhary), Village : Chandkopa, Thana : Senha, Thana no. : 145, Distt. : Lohardaga, Jharkhand (1.33 Ha).

(Proposal No. SIA/JH/MIN/ 448695 /2023).

Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Earthwork / Soil Mining (1200 Cum Per Annum & 6,00,000 Bricks Per Annum)**
Name of the consultant: Crystal Consultants, Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 18.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	BRICK SOIL MINING FOR M/S GOLD PLUS BRICKS	
2	Lessee:	:	M/S GOLD PLUS BRICKS PROPRIETOR. PANKAJ CHOUDHRY	
3	Lease Address	:	AT VILLAGE – CHANDKOPA, THANA – SENHA, DISTRICT – LOHARDAGA, STATE – JHARKHAND, PIN CODE. - 835302	
4	Lease Area	:	1.33 Ha.	Acres: 3.29 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	8.00 Lakhs	
7	EMP Budget	:	Capital: 1 Lakhs	Recurring: 2.05 Lakh / year
8	CSR / CER Budget	:	-	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 21698 cum	Tonnes:
11	Mine Life	:	18 years	
12	Man power	:	10	
13	Water Requirement	:	6.0 KLD=0.4 KLD (Drinking & Domestic Uses) + 1.6 (Plantation) KLD + 4.0 KLD (Dust Suppression).	
14	Water Source	:	From nearby villages/Nearest Canal by tankers	
15	DG Set / power	:	0 KVA	
16	Crusher	:	--	
17	Nearest Water Body	:	The nearest distance from the applied area to Banki River is 2.40 km in South-West direction	
18	Nearest Habitation	:	Chandkopa 1.50 km	
19	Nearest Rail Station	:	Lohardaga Railway Station 5.00 km in West direction.	
20	Nearest Air Port	:	Birsa Munda Airport, Ranchi 70 Km in South-East direction.	
21	Nearest Forest	:	Nil	
22	Road & Highways	:	NH-143A is about 1.90 Km away from the applied area.	

CO-ORDINATES

1	Latitude		From N23°26'15.61"	To N23°26'19.88"

2	Longitude		From E84°38'59.42"	To E84°39'07.05"

LAND DETAILS

Khata No.	**164**
Plot No.	918

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Senha vide letter no. 895, dated 16.09.2023 has mentibned the plot no. of tbe project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Lohardaga vide memo no. 1161/M, dated 03.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide memo no. 1019, dated 05.10.2023 certified tbat tbe 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. 1691, dated 21.09.2023 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.
7	Gram Sabha	:	BDO, Senha vide letter no. 1347, dated 05.10.2023 informed that Gram Sabha conducted on 18.09.2023.
8	Mine Plan Approval	:	Approved by DMO, Lohardaga vide memo no. 1229/M, dated 13.10.2023.

Working Details

1	Mining Method	:	Opencast Method, Manual	
2	Quarry Area	:	5 years – 1.271 ha.	Life of Mine – 18Year
3	Waste Generation	:	2542 cum (topsoil)	Life of Mine – 18 Year
4	Stripping Ratio	:	NA	
5	Working Days	:	200	
6	Benches: size & No	:	1m x 1m	

7	Elevation of Mine	:	Highest elevation: 710m AMSL Lowest elevation: 709m AMSL
8	Ground Level Elevation		709-710 m AMSL
9	Ultimate Working Depth	:	2m
10	Water Table	:	771m AMSL in Pre Monsoon to 679m 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.)
1st	1200	6,00,000
2nd	1200	6,00,000
3rd	1200	6,00,000
4th	1200	6,00,000
5th	1200	6,00,000
Total	**6000**	**30,00,000**

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)
Quarry	0.00	0.358	1.271
Green Belt Within Safety Barrier	0.00	0.059	0.059
Total area in use	**0.00**	**0.417**	**1.330**
Balance area unused	0.00	0.913	0.00
Total Applied area	**1.330**	**1.330**	**1.330**

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.

- A warning sign board will be erected at the site giving general information about the hazards at the site.

- The periphery of the water reservoir pit will be secured by constructing a parapet wall or gabion walls.
- 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	0.059	245
2	Approach road	0.0244	82
	Total	**0.0834**	**327 trees**

- 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 he 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.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and alluwed 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 he 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.

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 Gold Plus Bricks (Prop. : Shri Pankaj Choudhary), Village : Chandkopa, Thana : Senha, Thana no. : 145, Distt. : Lohardaga, Jharkhand (1.33 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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13. **Kedla Opencast Project (1.35 MTY) of M/s Central Coalfields Limited (CCL), Village : Kedla, P.O. : Kedla, Mandu, Distt. : Ramgarh, Jharkhand (189.05 Ha).**

(Proposal No. SIA/JH/CMIN/ 448502/2023).

Project Category: **B1 – Application for Environment Clearance**

EC Application for: **Opencast Coal Mining: 1.35 MTPA in an area of 189.05 Ha**

Name of the consultant: CMPDIL, Ranchi

This is a violation project which has been taken up for appraisal in the light of S.O. 804(E), dated 14.03.2017 of MoEF&CC, Govt. of India on 18.10.2023.

Kedla Opencast Project is an existing coal mining project under Hazaribagh Area located in the West Bokaro Coalfields, falling in Ramgarh district of Jharkhand. The mine achieved maximum production of 0.79 MT in 1989-90 & 0.373 MT in 1993-94.

Earlier, Terms of Reference (Violation) was issued by MoEF&CC vide F.No. 23-244/2018- IA(II)(V) Dated: 22.10.2019 for a capacity of 1.35 MTPA within an area of 1084.49 Ha. However, the said proposal involved 773.08 Ha of vacant land, which majorly constituted of un-diverted forest land. Therefore, to expedite environment clearance, a revised mining plan has been prepared after excluding vacant land, for a revised project area of 189.05 Ha. Accordingly, MoEP&CC issued the amendment of terms of references for Kedla Opencast Project with 1.35 MTPA (Normative/Peak) in a project area of 189.05 Ha on 08.08.2023.

Public Hearing of the project was held on 06.10.2023 and Final EIA/EMP of Kedla Opencast Project has been prepared as per the ToR Prescribed by MoEF&CC, incorporating the minutes of public hearing.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Kedla Opencast Project	
2	Project Proponent	:	Shri Satish Kumar Trivedi, Project Officer, Kedla OCP	
3	Address	:	Village: Kedla, Anchal: Mandu , Dist.: Ramgarh, Jharkhand	
4	Area	:	Ha: 189.05 ha	Acres: 467.14 Acres
5	Type of Land	:	Forest Land: 116.29 Ha & Non-Forest Land: 72.76 Ha	
6	Project Cost	:	10112 Lakhs	
7	EMP Budget	:	Capital: 771.21 Lakhs	Recurring: 129.02 Lakh / year
8	PH Compliance Budget	:	Rs. 427 Lakhs (for compliance of action plan of Public Hearing)	
9	New or Expansion	:	New Project under violation category	
10	Mineable Reserves	:	Cu.M.: 24.35 Million Cu. M.	Tonnes: 10.8 Million Tonnes
11	Mine Life	:	08 years	
12	Man power	:	330	
13	Water Requirement	:	760 KL/Day (Industrial Demand: 420 KLD & Domestic Demand: 340 KLD)	

14	Water Source	:	Mine Water
15	DG Set / power	:	0.06 MW (Kedla feeders from Central substation, Basantpur)
16	Crusher	:	No
17	Nearest Water Body	:	Kedla Stream (within Project boundary)
18	Nearest Habitation	:	Kedla Basti (0.5 KM)
19	Nearest Rail Station	:	Dania (5.5 KM)
20	Nearest Air Port	:	Ranchi (90 KM)
21	Nearest Forest	:	Within Project boundary
22	Road & Highways	:	NH 20

CO-ORDINATES:

1	Latitude		From 23°47'24" N	To 23°48'09" N
2	Longitude		From 85°34'59" E	To 85°36'14" E.

STATUTORY CLEARANCES:

1	LOI/Lease docs	:	Land has been Acquired under Coal Bearing Areas (Acquisition and Development) Act, 1957: 1. S.O. Notification 3687 dated 13.09.1983 2. S.O. Notification 1754 dated 15.05.1996 3. S.O. Notification 343 dated 05.02.2004
2	CO	:	The CO, Mandu vide letter no. 2275, dated 27.12.2022 has mentioned the plot no. of the project is recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DFO Forest Distance	:	Division Forest Officer, Ramgarh Forest Division vide letter no. 74, dated 10.01.2023 certified that the distance of demarcated forest is Zero (0) meter from proposed project site.
4	DFO Wild Life		DFO, Wildlife Hazaribagh vide letter no. 163, dated 24.01.2023 certified that the proposed project site is outside Eco Sensitive Zone of Hazaribagh Wildlife Sanctuary.
5	Mine Plan Approval	:	Ref No.: - CS/BM/517/2022/290, Dated: -24.08.2022.
6	Terms of Reference (ToR)	:	ToR granted by MoEF&CC, Govt. of India vide 23-244/2018-IA (III) (V) dated 22.10.2019 & Amendment ToR vide 23-244/2018-IA (III) (V) 08.08 2023
7	NOC from CGWA	:	NOC no. : CGWA/NOC/MIN/ ORIG/2021/13999 Dated: 09.12.2021 valid up to 08.12.2023.

8	Forest Clearance	:	Stage -I forest clearance vide letter no. 8-55/2003 Dated 23.08.2004
9	Public Hearing	:	Public Hearing conducted on 06.10.2023

Working Details:

1	Mining Method	:	Shovel-Dumper Combination through inclined Slicing Method
2	Quarry Area	:	146.29
3	Waste Generation	:	24.35 Million Cu. M.
4	Stripping Ratio	:	2.20 Cu.M/Te
5	Working Days	:	365
6	Depth of quarry	:	100 m (maximum)
7	No of Seams considered	:	07 (Seam VII Top, Seam VII Bottom, Seam VII Com, Seam VII+VI, Seam V A, Seam V, Seam IV)
8	Grade	:	Coking (Washery Grade – IV)

Production Details: Since Inception

Financial Year	Coal Production (MTPA)	Financial Year	Coal Production (MTPA)	Financial Year	Coal Production (MTPA)
1993-94	0.373	2003-04	0.333	2013-14	0.256
1994-95	0.255	2004-05	0.402	2014-15	0.360
1995-96	0.392	2005-06	0.426	2015-16	0.303
1996-97	0.326	2006-07	0.462	2016-17	0.170
1997-98	0.384	2007-08	0.452	2017-18	0.252
1998-99	0.450	2008-09	0.457	2018-19	0.175
1999-2000	0.490	2009-10	0.486	2019-20	0.0065
2000-01	0.376	2010-11	0.75	2020-21	0
2001-02	0.326	2011-12	0.648	2021-22	0
2002-03	0.330	2012-13	0.405	2022-23	0

Proposed Calendar Program:

Year	Coal Production (MT)	OB Removal (MCum)	Stripping Ratio (cum/Te)
1	1.35	2.34	1.73
2	1.35	2.34	1.73

3	1.35	3.28	2.43
4	1.35	3.28	2.43
5	1.35	3.28	2.43
6	1.35	3.28	2.43
7	1.35	3.28	2.43
8	1.35	3.28	2.43
Total	**10.8**	**24.35**	**2.26**

LAND DETAILS:

Forest Land:

SN	Village	Thana No.	Khata No.	Plots No.	Remarks
1	Kedla	160	1	620(P), 1199(P), 1205	Stage -I FC obtained for 61.55 Ha. of Forest land vide letter no. 8-55/2003 Dated 23.08.2004
2	Kedla	160	10	1185, 1186, 1187, 1188, 1189, 1190, 1191, 1192, 1193, 1194, 1195	
3	Kedla	160	12	1196, 1197, 1198	

GM JJ Land:

SN	Village	Thana No.	Khata No.	Plots No.	Remarks
1	Kedla	160	1	620(P), 673, 720, 741(P), 792(P), 810, 963(P), 1054(P), 1142(P), 1199(P)	Stage-I FC obtained for 54.74 Ha. of GM JJ Land vide letter no. 8-55/2003 Dated 23.08.2004.

Non-Forest Land:

SN	Village	Thana No.	Khata No.	Plots No.
1	Kedla	160	1	489, 491, 526P, 534, 547P, 565, 583, 600P, 605P, 609P, 610, 618, 619, 654, 659, 664, 675, 680, 682, 695, 719, 732, 756, 773P, 794P, 799, 800, 803, 807, 809, 813, 821, 823, 830, 841, 855, 859, 862, 864, 868, 888, 890, 892, 897, 901, 904, 905, 906, 926, 927, 936, 939, 941, 943, 946, 961, 996, 999, 1000, 1048, 1052, 1060, 1069, 1070, 1073, 1075, 1081, 1083, 1090, 1092, 1104, 1112, 1116, 1122, 1126P, 1127, 1132, 1134P, 1135, 1136P, 1137, 1139, 1151,

SN	Village	Thana No.	Khata No.	Plots No.
				1164, 1166, 1167, 1169, 1214
2	Kedla	160	2	532P, 575, 825
3	Kedla	160	3	488P, 556, 584, 589P, 590P, 934, 998
4	Kedla	160	5	601P, 879, 915
5	Kedla	160	6	769, 770P, 771, 772, 793P, 795P, 796, 797, 801, 802, 804, 805, 806, 952P
6	Kedla	160	7	537, 539, 543, 560, 638, 639, 645, 652, 661, 670, 686, 689, 692, 694, 700, 704, 757, 758, 761, 762, 764, 819, 861, 869, 873, 910, 917, 919, 920, 992P, 1003, 1056, 1102, 1103
7	Kedla	160	8	569, 570, 572, 574, 685, 701, 702, 703
8	Kedla	160	9	611, 612, 617, 948, 1041, 1059
9	Kedla	160	10	533, 710, 721, 722, 723, 724, 725, 726P, 727, 728, 729, 730P, 731P, 733, 826, 827, 832, 833, 835, 937, 938, 940, 945, 947, 994P, 1001, 1002, 1061, 1062,
10	Kedla	160	12	554, 714, 818, 950, 1007, 1011, 1038P, 1063, 1064, 1072, 1080
11	Kedla	160	14	1037, 1044
12	Kedla	160	15	951P, 955P, 959P, 960, 962P
13	Kedla	160	17	490, 536, 546, 626, 627, 630, 631, 635, 643, 646, 650, 658, 660, 668, 669, 690, 696, 697, 707, 708, 820, 853, 854, 863, 912, 1047, 1057
14	Kedla	160	18	944, 1033P, 1034P, 1035P, 1049P, 1050, 1053, 1055, 1076, 1077, 1078, 1079, 1082, 1084
15	Kedla	160	19	1119, 1120, 1121, 1148, 1152, 1155, 1162
16	Kedla	160	21	1182P, 1183, 1184
17	Kedla	160	22	494, 541, 542, 551, 559, 561, 577, 581, 595P, 604, 606, 633, 636, 648, 691, 754, 765, 815, 817, 824, 842, 844, 847, 849, 851, 865, 870, 871, 894, 896, 898, 902, 907, 918, 921, 923, 924, 928, 932, 935,

SN	Village	Thana No.	Khata No.	Plots No.
				1045, 1098, 1100
18	Kedla	160	25	564, 616, 858, 878, 880, 1074
19	Kedla	160	27	812, 836, 949, 1005, 1010P, 1039, 1040
20	Kedla	160	29	698, 699, 705, 711, 837, 838, 850, 876, 877, 882, 884, 886, 887, 889, 909, 942
21	Kedla	160	32	495, 548, 549, 550, 712, 713, 715, 716, 717, 718, 798, 814, 834, 867, 993P, 1065, 1066, 1067, 1068, 1071, 1085, 1086, 1087, 1088, 1089, 1091, 1093, 1094, 1095, 1096, 1097, 1099, 1111, 1113, 1114, 1115, 1117, 1209
22	Kedla	160	33	535P, 540, 544, 545, 566, 567, 568, 571, 573, 576, 622, 634, 640, 663, 665, 674, 676, 677, 678, 679, 681, 683, 684, 687, 688, 759, 760, 763, 811, 822, 829, 856, 857, 860, 930, 1004, 1051, 1144, 1145, 1146, 1150
23	Kedla	160	34	1106, 1107, 1109, 1110, 1163, 1165, 1168, 1170, 1171
24	Kedla	160	39	642, 653, 655, 656, 662, 667, 671, 672, 1108
25	Kedla	160	42	1006, 1123, 1124, 1125, 1128, 1129, 1130, 1131, 1133, 1138, 1140
26	Kedla	160	43	706, 840, 848, 874, 875, 881, 883, 885, 911, 1118
27	Kedla	160	45	493, 558, 562, 563, 613, 624, 625, 628, 629, 1105
28	Kedla	160	46	552, 553, 555, 651, 709, 839, 913, 1042, 1043
29	Kedla	160	47	808, 925, 933, 995, 997
30	Kedla	160	48	585, 586, 1143, 1147, 1149, 1153, 1154, 1156, 1157, 1158, 1159, 1160, 1161, 1208
31	Kedla	160	49	492, 538, 557, 578, 579, 580, 582, 602, 603, 607, 614, 615, 621, 623, 632, 637, 641, 644, 647, 649, 657, 666, 693, 755, 766P, 816, 828, 843, 845, 846, 852, 866, 872, 891, 893, 895, 899, 900, 903, 908, 914, 916, 922, 929, 931, 1046, 1101

SN	Village	Thana No.	Khata No.	Plots No.
32	Kedla	160	50	1141
33	Kedla	160	52	588P, 831
34	Kedla	160	53	1058

Land Type Breakup:

SL	Pattern	Area (in Ha)	Remarks
1	Notified Forest Land	61.55	Stage -I FC obtained for 116.29 Ha. of Forest land vide letter no. 8-55/2003 Dated 23.08.2004.
2	GM Jungle Jhari	54.74	
3	Non-Forest Land	72.75	
	TOTAL	**189.05**	

Land Use:

SL	Pattern	Proposed Current Plan Period (Ha)
1	Quarry	146.29
2	OB Dump	35.22
3	Safety Zone	5.34
4	Road	2.20
	TOTAL	**189.05**

Post-Mining Landuse Plan:

During Mining			Post Mining	
SN	Particular	Total Area (in Ha.)	Particular	Total Area (in Ha.)
1	Quarry	146.29	Plantation (Shrubs/Herbs/Bamboo)/Grassing on Backfilled Area	83.53

			Void filled with water	62.76
2	OB Dump	35.22	Plantation/Grassing on OB Dump	35.22
3	Safety Zone/Green Belt	5.34	Plantation on Green Belt/Safety Zone	5.34
4	Road	2.20	Road for future Use	2.20
Total Area		**189.05**	**Total Area**	**189.05**

ENVIRONMENT MANAGEMENT PLAN:

Green Belt Development & Reclamation Plan:

Year	Green Belt& Safety Zone		External Dump		Backfilled Area		Total		Total Plantation cost
	Area (Ha)	Trees (000)	Area (Ha)	Trees (000)	Area (Ha)	Trees (000)	Area (Ha)	Trees (000)	
Y1	5.34	13.35	0.00	0.00	0.00	0.00	5.34	13.35	16.02
Y3	0.00	0.00	20.00	50.00	0.00	0.00	20.00	50.00	60.00
Y4	0.00	0.00	15.22	38.05	0.00	0.00	15.22	38.05	45.66
Y5	0.00	0.00	0.00	0.00	5.00	12.50	5.00	12.50	15.00
Y6	0.00	0.00	0.00	0.00	10.00	25.00	10.00	25.00	30.00
Y7	0.00	0.00	0.00	0.00	10.00	25.00	10.00	25.00	30.00
Y8	0.00	0.00	0.00	0.00	10.00	25.00	10.00	25.00	30.00
Post Closure Y1	0	0	0.00	0.00	15.00	9.28	15.00	9.28	45.00
Post Closure Y2	0	0	0.00	0.00	15.00	18.53	15.00	18.53	45.00
Post Closure Y3	0	0	0.00	0.00	18.53	37.05	18.53	37.05	55.59
Grand Total	**5.34**	**13.35**	**35.22**	**88.05**	**83.53**	**152.36**	**124.09**	**253.76**	**372.27**

Water Quality Management:

a) **Existing Measures:**

- Workshop effluent is being treated at ETP consisting of Sequential Settling ponds.

- 02 nos. of rainwater harvesting structure installed at PO Office of Kedla and Keld Guest House.
- A Water Treatment Plant (WTP) with a capacity is operational.
- 1700 m garland drain along the haul exists.

b) **Proposed Measures:**

Activity	Details	Total Cost in Rs. Lakhs
Effluent Treatment Plant	Revamping of existing ETP	10.00
Water Treatment Plant	Revamping of existing WTP	20.00
Toe wall and garland drain/ catch drain	Toe wall, garland drain and catch drains around the active and stabilized OB Dumps, quarry and other industrial settlements.	50.00
Sedimentation Tank	01 Nos. of Sedimentation tank to arrest run-off before discharge of water into nearby stream	20.00
Rainwater Harvesting	02 nos. of Rainwater harvesting at E&M Workshop and Excavation Workshop.	10.00
Piezometer	02 nos. of piezometer	14.00
Total Cost of proposed Water Pollution & Conservation Measures		**124**

Diversion of Existing Stream/Nala:

- Easterly flowing Kedla Stream, a seasonal stream, passes through the mine area requiring diversion after 5th Year of Mine operation.
- Till 5th Year, this Stream will be conserved by maintaining a safe distance of more than 60m.
- The nallah diversion work will be taken up only after getting statutory clearance by concerned departments.
- A diversion route (2.6 KM) for Kedla Stream has been proposed based on the topography, wherein the Kedla Nala will be diverted to meet existing Jharna Stream in the south to eventually draining into Bokaro river.

Coal Transportation Route:

- It has been proposed to convey coal from mine to Kedla Washery through road using covered tipping trucks (6.5 km Length).

Air Quality Management:

a) **Existing Measures:**

- 01 no. of 28 kL mobile sprinkler has been deployed for dust suppression

- Control Blasting is practiced. Drills are equipped with wet drilling arrangement.
- Regular plantation of trees has been done on the old stabilized dumps with the collaboration of State Forest Department.
- CAAQMs at nearby Parej OCP (within 5 KM of Kedla OCP) have been installed for continuous monitoring of pollution load in the region.
- Personnel working in the mine have been provided with dust masks.
- Adequate firefighting arrangements at all critical points.

b) **Proposed Measures:**

Activity	Details	Total Cost in Rs. Lakhs
Wind Barriers (5 m Height)	1000 m along mine boundary in south-west of mine lease to protect nearby human settlements specially Kedla Basti	100.00
Fixed Sprinkler	At Coal Stock yard	20.00
Truck Mounted Fog Canons	01 nos. of Fog cannon for dust control at coal transportation road.	45.00
Air Quality Monitoring	1 no. of Continuous Ambient Air Quality Monitoring System	70.00
Total Cost of proposed Air Pollution prevention measures		**235**

Solid Waste Management:

a) Overburden 24.35 Million Cu. M. will be generated which will be stored at the stipulated place and will be utilized as per approved mine closure plan.

Wildlife Management Plan and Budgetary Provision:

a) There are no National parks, Sanctuaries, Biosphere Reserves, Wildlife corridors, Tiger/Elephant reserves (existing as well as proposed), within 10 km of the mine lease area.
b) 10 nos. of Schedule I species found in the study area. A conservation plan in this regard has been prepared and submitted to Wildlife (Hazaribagh).

Component	Provision in Lakhs
Provision of training & awareness of Quick response team for rescue and rehabilitations.	05
Equipment for Patrolling such as Surveillance camera (8 No.), Watch Tower (4 No.)	10
Bamboo and Bauhinia species Plantation inside the forest area to keep elephants	05

inside forest and also gap plantations in forest patches with mixed native species.	
Anti-depredation measures like Underground storage units for crop/mahua storage)	8.0
Waterhole with automatic solar operated bore well (02 nos.)	10
Any other measures in consultation with Forest Dept.	2.0
Total	**40 Lakhs**

Total EIA/EMP Expenditure:

- Total Capital Environmental Management Cost has been estimated as Rs. 771.27 Lakhs.
- Whereas the annual recurring management cost is assessed to be around t29.02 Lakhs.

SN	Particulars	Annual Revenue Cost (Rs Lakh)
1	Environmental Monitoring Cost	84.02
2	Plantation Maintenance Cost	05.00
3	Operation and Maintenance of Air Pollution control Measures	10.00
4	Revenue cost on Flora-Fauna Conservation	05.00
5	Maintenance cost for ETP and WTP	15.00
6	Maintenance of RWH, catch drains and storm water drains.	10.00
Total Revenue Cost		**129.02**

Provision of Final Mine Closure:

- Around 39.68 Crs has been deposited for carrying out progrossive and final mine closure activities.

Provision of Action Plan of Public Hearing:

- Public consultation including public hearing was conducted on 06.10.2023 through JSPCB as per the as per the provisions/procedure contained in the EIA notification, 2006.
- A detailed compliance of issues raised in PH along with budgetary provision and timeline for Rs. 4.27 Crs has been prepared.

Status of Demand Raised under Common Cause Judgement in respect of Kedla OCP:

- Demand Notice was issued for Kedla OCP on 23.11.2017.
- Revision application (RA Application No.27 of 2018-PCA) in respect of Kedla Opencast Project was filed before Revisional Authority of Ministry of Coal Hearing for Revision Application No.27 was held on 22.01.2018 before the Revisional Authority, Coal Tribunal, Ministry of Coal, Government of India and Stay Order for the demand notices was issued on 22.01.2018.

Provision of LNG/CNG based Mining Machinery:

- Mine machinery and trucks proposed in this project are majorly of electric/ HSD fuel based. Presently use of LNG/ CNG in HEMM in coal sector has been taken up as a pilot/ experimental scale. Further scale up will depend on outcome of the pilot study.

Energy Conservation:

- 3 MW solar power plant is proposed on Slurry Pond of Kedla Washety. (eOffice No. 1170492)
- 06 nos. of Electrical Vehicles have been hired for 03 years. (Contract No : GEMC/511687768221922 dated 03.05.2023). Further, additional 06 nos. of E-vehicles shall be hired in coming years.
- Periodical maintenance of equipment's, energy audits, optimization of distribution networks Promoting use of renewables and energy efficient appliances in Project and nearby villages.
- Energy Audit is being carried out to assess the specific Energy consumption and planning of Y-o-Y reduction targets

On the basis of above the State Level Expert Appraisal Committee (SEAC), Jharkhand recommended an amount of rupees 6,68,00,000 as per CPCB guidelines towards remediation plan and natural & community resource augmentation plan to be spent within a period 03 years. The details of summary of Natural resource and Environmental / Ecological Damage assessment with budgetary provision for expenditure under the below mention head for remediation :-

SN	Head	Activity Proposed	Total (₹)
1	Water Environment	Construction & installation of RO Plants for supply of treated drinking water at villages Nawadih, Parsaheda, Kedla Chowk and Lahtungari	₹ 1,00,00,000
2		Deepening and pitch bouldering of existing pond Lahtungari near DAV School	₹ 50,00,000
3		Provision of Check dam at Parsabeda	₹ 30,00,000
Total Water Environment			**₹ 1,80,00,000**
4	Ecology	Distribution of 10,000 Fruit bearing plants in nearby villages viz. Nawadih, Kedla Basti, Parsaheda, Kedla Chowk, Dhelghada, Lahtungari, Mahuadhoda, Jharnabasti etc.,	₹ 10,00,000
Total Ecological Environment			**₹ 10,00,000**

5	Air & Noise Environment	Additional Health Camps to monitor the respiratory and E&T health status of nearby villages.	₹ 6,00,000
6		Additional avenue Plantation (6.0 Km) along with gabions and maintenance in subsequent years on village road connecting Kedla OCP to Kedla Washery.	₹ 90,00,000
Total Air Environment			**₹ 96,00,000**
7	Land Environment	Providing colour coded bins in schools & hospitals in nearby villages	₹ 3,00,000
Total Land Environment			**₹ 3,00,000**
8	Socio-Economic	Development of football ground with provision of toilets, seating arrangement, provision of boundary wall	₹ 1,00,00,000
9		Organizing Football & Volleyball events	₹ 9,00,000
10		Construction of 1 nos. Community/ Marriage halls (20 m X 50 m) at Kedla	₹ 75,00,000
11		Providing Computers at Adivasi Club, OAV School, Navprathmik Vidyalaya Nawadih, Santhal Upel Club, Panchayat Sachiwalay Kedla Madhya, Panchayat Sachiwalay Kedla Dakshini, Utkramit Madhya Vidyalay Parsabeda.	₹ 20,00,000
12		Provision of toilets at Sunday Bazar, Budh Bazar near Durga Mandap, Bhelghada near Santhal open club, Kali Mandir with regular cleaning and maintenance	₹ 60,00,000
Total Socio-Economic Environment			**₹ 2,64,00,000**
Total Fund for remediation measures			**₹ 5,53,00,000**

Proposed budgetary provisions for Natural and Community Resource Augmentation Plan

Sl. No.	Head	Activity Proposed	Total
1	Natural Resource Augmentation Plan	Renovation of 10 no. of wells/ponds Kedla Madhya and Kedla Dakshini	₹ 20,00,000
2	Community Resource Augmentation Plan	Providing solar lamps for street lighting at Kedla Madhya and Kedla Dakshioi village (100 Nos Approx.)	₹ 15,00,000
3		Arrangement of smart classes at nearby schools of Kedla Madhya and Kedla Dakshini	₹ 10,00,000
4		Operation of 2 number of school buses for nearby	₹ 30,00,000

		villages	
5		Open Gymnasium cum Park at Kedla Nagar	₹ 40,00,000
Total Fund for Natural & Community Resource Augmentation Plan (NCRAP)			**₹ 1,15,00,000**

Grand Total: Rs. 5,53,00,000 + ₹ 1,15,00,000= ₹ 6,68,00,000 (Six Crore Sixty Eight Lakhs Only

I. Total budgetary provision with respect to remediation plan and natural and community resource augmentation plan is **Rs. 6,68,00,000**

II. Therefore, PAs shall be required to submit a bank guarantee of an amount of Rs. **6,68,00,000** towards remediation plan and natural and community resource augmentation plan with the Jharkhand State Pollution Control Board and evidence of the same submitted to SEIAA, Jharkhand prior to grant of EC.

III. The bank guarantee shall be released after successful completion of remedition plan, duly recommended by the SEAC, Regional Office - MoEF&CC, Govt of India and approval of regulatory authority. Remediation plan shall be completed in 03 years with the consultation of Local / Urban Bodies / State Govt. Deptt.

IV. Approval / permission from CGWA shall be obtained before drawing ground water for the project activities, if applicable. Jharkhand State Pollutipn Control Board shall not issue Consent to Operate (CTO) until the PAs obtains such permission.

V. PAs shall take necessary other clearances / permissions under various act and rules if any, from the respective authorities / departments.

VI. STP of adequate capacity shall be established within the project premises.

VII. Energy conservation measures adhearing to part of ECBC norms shall be compiled with.

VIII. Action will be taken for the violation by the Jharkhand State Pollution Control Board under the provision of section 19 the Environment (Protection) Act, 1986.

Based on the presentation made and information provided, the Committee decided that the proposal for Kedla Opencast Project (1.35 MTY) of M/s Central Coalfields Limited (CCL), Village : Kedla, P.O. : Kedla, Mandu, Distt. : Ramgarh, Jharkhand (189.05 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – IV alongwith following specific conditions :

I. Water cannon, fixed type sprinklers, portable sprinklers and truck mounted water sprinklers tp be provided for dust suppression in all dust prone areas.

II. All loading and unloading points of coal to be fitted with ADS system of dust suppression

III. All haul kuccha roads to be kept moistened using chemical dosed water only such that no fugitive emission from tho road becomes air borne.

IV. Dust suppression actions to be commensurate with NCAP 2019 and ensure that Ambient Particulate matter levels is reduced by 40% by 2026.

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14. **Lakhipahari Stone Mine of M/s Maa Anandmayi Stone Works (Prop. : Shri Vivekanand Tiwari), Village : Lakhipahari, Thana : Pakur (14), Distt. : Pakur, Jharkhand (1.34 Ha).**

(Proposal No. SIA/JH/MIN/ 448927 /2023).

Project Category : **B2 – Application for Environment Clearance (Expansion E.C.)**

EC Application for : **44835 cum / year (max)**
Overburden: 7875 cum. during plan period.
DG Set: NA
Crusher- Not proposed

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

This is an expansion project which has been taken for appraisal on 18.10.2023.

PROJECT and LOCATION Details:

Sl.	Parameter		Details	
1	Project Name	:	Lakhipahari Stone Mine Project Type – Stone Mines (Basalt Rock)	
2	Lessee:	:	M/s Maa Anandmayi Stone Works; Prop- Vivekanand Tiwari	
3	Lease Address	:	Village- Lakhipahari, Block Office and Thana- Pakur, Thana No.- 14, District- Pakur,	
4	Lease Area	:	Ha:1.34	Acres:3.315
5	Type of Land	:	Non-Forest – Raiyati Land	
6	Project Cost	:	99Lakhs	
7	EMP Budget	:	Capital: Rs. –5.79Lakhs	Recurring: Rs. 1.64Lakhs/ year
8	CSR / CER Budget	:	NA	
9	New or Expansion	:	Expansion	
10	Mineable Reserves	:	Cu.M.:3,05,130	Tonnes: 8.54,364
11	Mine Life	:	7.29Years say 7 Years	
12	Manpower	:	27Person	
13	Water Requirement	:	10.19 KLD (Drinking:0.40 KLD, Dust Suppression: 4 KLD, Plantation:5.79 KLD)	
14	Water Source	:	Water will be sourced from local vendor and abandoned Mine through Water Tanker for Dust Suppression and Plantation and permission from gram panchyat will be taken to fulfil water requirement for mining operation after the grant of Environment clearance.	
15	DG Set / power	:	Nil.	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	Tori Nadi – 0.120 Km (South)	

18	Nearest Habitation	:	Lakhipahari – 0.78 Km (N)
19	Nearest Rail Station	:	Pakur Railway station at 6.89 km (SE).
20	Nearest Airport	:	Sidhu Kanhu Airport, 73 km SW direction from the lease area.
21	Nearest Forest	:	DFO, Pakur, Division letter no.-1325, Dated- 30.10.2019 certified that the distance of reserved / protected forest is more than 250 m from proposed project site..
22	Road & Highways	:	NH-113A,at 2.64 km (South), NH-113A,at 2.64 km (South)

CO-ORDINATES

Geo-Coordinates of all corner points of Demarcated Block Boundary (GPS Co-ordinates) Datum. WGS 84

Corner Point	Latitude	Longitude
1	24° 40' 23.63" N	87° 47' 58.58" E
	To	
2	24° 40' 23 83" N	87° 47' 57.06" E

LAND DETAILS :

J. B. No.	Plot No.
14	89, 90, 91
13	93
49	113 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease deed 21.05.2021 to 20.05.2031
2	CO	:	The CO, Pakur vide letter no. 1517/Ra, dated 22.10.2019 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Pakur vide memo no. 1939/M, dated 28.08.2023 certified that 01 other mining lease area (5.46 Acre) exists within 500 m radius from proposed project site and total area is 8.775 Acre (3.55 Ha).
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 2344, dated 31.10.2019 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Lake Bird Sanctuary.
5	DFO Forest	:	Division Forest Officer, Pakur Forest Division vide letter no. 1325, dated 30.10.2019 certified that the distance of reserved / protected

	Distance		forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in District Survey Report (DSR) of Pakur district.
7	Gram Sabha	:	BDO, Pakur vide letter no. 1876/Vi, dated 04.10.2019 informed that Gram Sabha conducted on 03.10.2019.
8	Mine Plan Approval	:	Approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Memo No. 440/DDM, dated 13.10.2023.
9	Production Report	:	Production figure issued by DMO, Pakur vide memo no. 1940/M, dated 28.08.2023.
10	Consent to Esthlish (CTE)	:	CTE Issued by JSPCB vide Ref. no. : JSPCB/HO/RNC/CTE-10833418 /2021 /273, dated 19.10.2021.
11	Consent to Operate (CTO)	:	CTO issued by JSPCB vide Ref. no. : JSPCB/RO/DMK/CTO-11469302 /2021/202, dated 17.11.2021.
12	Previous Environmental Clearance (EC)	:	Previous EC granted by SEIAA, Jharkhand vide letter no. EC/SEIAA/ 2020-21/2294/2021/155, dated 27.01.2021.
13	Compliance report of previous EC	:	Compliance report certified by Regional Office cum Laboratory, JSPCB, Dumka vide Ref. ho. : 3002, dated 07.10.2023.

WORKING DETAILS

1	Mining Method	:	Opencast MechanizedMining	
2	Quarry Area	:	Plan period –2.07 acres	Conceptual stage –2.07 acres
3	Waste Generation	:	Plan Period : 7875 Cum.	Conceptual Stage –7875 Cum.
4	Stripping Ratio	:	1:0,02	
5	Working Days	:	300 days/year	
6	Benches: size & No	:	6 m x 6 m, No. of benches -4	
7	Elevation of Mine	:	101 – 99 AMSL	
8	Ground Level Elevation	:	99 AMSL	
9	Ultimate Working Depth	:	76 m	
10	Topography of Mine	:	Gently sloping area	
11	Explosive Requirement	:	40 Kg Slurry explosives/day	
12	Diesel/Fuel	:	1044 liters / day (313.2 KL/year)	

	requirement		

PRODUCTION DETAILS

Years	Production in Cum/Year	O.B Production in cum/Year	Production in Tons/Year	Bench RL in meters
2023-2024	41475	5145	116130	A-A' - 44mTO 43 m RL (OB) A-A' - 43m TO 37m RL (Stone)
2024-2025	27930	2730	78204	A-A' - 44mTO 43 m RL (OB) A-A' – 43m TO 37m RL (Stone)
2025-2026	41475	0	116130	A-A : 37m to 31m RL (Stone)
2026-2027	44835	0	125538	A-A : 37m to 31m RL (Stone)
2027-2028	37590	0	105252	A-A : 31m to 25m RL (Stone)
Total	**176302**	**7875**	**493644**	**Depth – 19 m including 1m OB**

LAND USE

ExistingLand Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (acres)
1	Mining Activities	0.990
2	Offices/ Store etc.	0.010
3	Dumping	0.000
4	Mining Road	0.040
5	Garland drain	0.100
6	Settling pond	0.020
7	Green belt/Safety Zone	1.010
8	Stone Stock yards	0.00

Total	3.315

Land Use Pattern for Current Plan Period:

Sl. No.	Pattern of Utilization	Proposed Land use for current plan period (acres)
1	Mining Activities	2.070
2	Offices/ Store /crusher/ Magazine etc.	0.010
3	Dumping	0.000
4	Mining Road	0.040
5	Garland drain	0.100
6	Settling pond	0.020
7	Green belt/Safety Zone	1.010
8	Stone Stock yards	0.000
Total		3.315

Land Use Pattern after Life of the Mine:

Sl. No.	Pattern of Utilization	Land used at the conceptual stage ie end of mine life in (acres)	Area to be converted in the conceptual period.
1	Mining Activities	2.070	Water body
2	Offices/ Store /crusher/ Magazine etc.	0.010	Plantation
3	Dumping	0.000	Plantation
4	Mining Road	0.040	-
5	Garland drain	0.100	-
6	Settling Tank	0.020	-
7	Green belt/Safety Zone	1.010	Green Belt

8	Stone Stock yards	0.000	
Total		**3.315**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Green Belt& Other reclaimed area	:	0.41 Ha	1025
2	Haul /Approach Road	:	0.20Km.	133 Trees both side approach road.

- 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

- 7875 cum overburden will be generated in mining plan period which will used in maintenance of mine road and village road.

Water Pollution Control Measures:

- Mining operation willbe restricted to the depth of 19 m from surface level.
- Quality of dug well will be monitored, in order to ensure the quality of water is not affected.

Air and Noise Pollution Control Measures:

- Dust suppression measures like spraying / sprinkling of water to keep the surface wet.
- Overloading of the truck / tractor trolleys will not be done.

As the only impact is due to transportation of soil through village roads, emphasis will be given on the following points:

- Carts or tractor-trolleys will be developed on village roads.
- Tractors-trolleys will be well maintained and PUC certified.
- Timely maintenance of vehicles and their silencers to minimize vibration and sound.
- Minimum use of horns in the village area and silence zone (if any) as applicable.

RISK ASSESSMENT

HAZARD IDENTIFICATION & RISK ASSESSMENT (HIRA)

The entire mining operation will be done under the supervision of the Mines Engineer/Mines manager having second class mines manager's certificate of competency and supported by a team of competent persons. Nevertheless, the following natural/industrial problems may by encountered during the mining operation:

- Accident due to Blasting / Fly-rock generation
- Slope failure at Mine faces
- Accident due to sliding of Over Burden dumps
- Accident due to Transportation or movement of heavy machineries
- Operation ofminingequipment
- Accident due to use of explosive
- Accident due to storage of Fuel
- Filling of Mine due to excessive rain

RISK AND MITIGATION MEASURES

BLASTING

Risk

- Most of the accidents from blasting occur due to the generation of fly-rocks,a s they may sometimes go even beyond the danger zone, mainly due to over charging of the shot-holes or as a resultof certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations.
- Vibrations also lead to displacement of adjoining areas. Dust and noise are also problems commonly encountered during blasting operatlens.
- Risk associated with storago and use of explosive

Mitigation Measures

- Adequate charge per bole with delay blasting will be used to minimizo fly-rock, vibration and noise
- Before starting charging, clear audible warning signals by Sirens will he given so thal people nearby can take shelter.
- Blasting will be done during the lunch interval, i.e. from 1.00 to2.00 pm.
- Holes will be drilled in square/scattered pattern.
- Shof firing will be usually done with the help of safety fuse & ordinary detonator/ electric shotfiring with delay detonators as per requirement.
- Adequate shelters or other protective structures shall be provided to the workers at all times;

- The shot fired shall give sufficient warning hy effective signal over the entire area falling within a radius of 500 m
- Proper, safe and caroful handling and use of explosives by competent Blasters having Blaster's Certificate of Competency Issued by DGMS
- Conventional explosives shall be used in their original cartridge packing and such cartridge shall not be cut to remove explosive for making cartridge of different size.
- Explosives shall be conveyed in special containers.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

OVER BURDEN

Risk

The overburden dumps may cause landslides. High overburden dumps created at the quarry edge may cause sliding of the overburden dump or may cause failure of the pit slope due to excessive loading, thereby causing loss of life and property. Siltation of surface water may also cause run-off from overburden dumps.

Mitigation Measures

- To prevent the failure of overbucden slopes, especially during the rainy season, proper garland drain & hund are constructed around the dump.
- To prevent this, heignt of overburden dumps will he restricted. Further, no stone or loose rock or loose tree will be allowed to remain within 3 meters of the edge of the quarry. To prevent siltation of suitace water, retaining wall will be constructed on thc down side of each OB dump.

ACCIDENTS DUE TO TRANSPORTATION AND MOVEMENT OF MINING MACHINERIES

Risk

Most of the accidents occur during transportation hy tippers/ trucks and movement of Mining machineries.

Operations of Jackhammers are often attributahle to mechanical failures and buman errors.

Mitigation Measures

- This can be prevented by regular training of all vehicle /machinerv drivers/ operators, regular maintenance of equipment and ensuring safe operations.
- All safety precautions and pcovision of MMR 1961 shall be strictly followed during all mining operations.
- Regular maintenance and testing of all mining equipment as per manufacturer's guidelines.

- All transportation within the main working area should be carried out under the direct supervision and control of the management;
- The vehicles must be maintained in good repairs and checked thoroughly at least once a week by a competent person authorized for this purpose by the management;
- Broad signs should be provided at each and every turning point specially for the guidance of the drivers of vehicles.
- To avoid dangers while reversing the trackless vehicles, especially at the embankment and tripping points, all areas for reversing of lorries should, as far as possible, be made man free, and there should be a light and sound device to indicate reversing of trucks; and
- A statutory provision of the fence, constant education, training etc. will go a long way in reducing the incidence of such accidents.

FUEL STORAGE

No major storage of fuel envisaged in the mining lease area

WATER LOGGING

Risk

Filling of mine pit with excessive rain

Mitigation Measures

- Provision of adequate capacity pumps for pumping out water from the mining pit with standby arrangements.
- Checking and regular maintenance of garland drainage and earthen bunds to avoid any inflow of surface water into the mine pit.
- Proper drainage will be maintained to eliminate inundation of working pits during rains from run-off water. Suitable garland drain will be provided around pit along with sedimentation pits on each side.
- There is no danger of flood or inundation as the ground level is well below the plateau top, where mining will be carried out.

SAFETY MEASURES AT THE PROPOSED MINE

- The opencast mines have been planned for working with shovel tipper system which requires proper benching not only for slope stability but also for movement of tippers and other heavy machinery. The inclination of the quarry sides at the final stage i.e. at the dip most point will not exceed 400 to the horizontal. (This angle is measured between the line joining the toe of the bottom most bench to the crest of the top most bench and the horizontal line);
- The gradient of the haul road inside the pit, access trench and on the dumps will not be steeper than 1 in 16

- The slope of the sides of the OB dump to the horizontal will not exceed 300, and the height of the OB dumps has been restricted to a max of 3 m;
- The quarries will be protected by garland drains around the periphery for storm water drainage;
- A minimum safe distance of 100-m will be kept between the surface edge of the quarry and the nearest public building, roads etc. When the surface edge of the quarry approaches within a limit of 300 m from any road, public building special permission from DGMS will he taken to conduct controlled blasting to prevent damage/injury to public life and property;
- All mining operations both within the quarry and outside will be conducted as per tbe conditions laid down by DGMS and under the strict supervision of competent persons appointed under Metalliferous Mines Regulations, 1961.

CARE AND MAINTENANCE DURING TEMPORARY DISCONTINUANCE:

In case of emergency arise as situation of temporary discontinuance due to court order or due to statutory requirements or any other unforeseen circumstances pit will be fenced and locked properly so as no one can enter in pit. All plantation will be protected with all due care for their survival. Maintenance and monitoring of discontinued mining operations i.e. maiotenance of haul roads, will be done in view of re-open in near future.

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 hy 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 hy 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 he maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within tbe 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 protertive equipments such as protecting clothing, helmet, goggles or othor garments or equipments designed to protect from injury or infection will he 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 Lakhipahari Stone Mine of M/s Maa Anandmayi Stone Works (Prop. : Shri Vivekanand Tiwari), Village : Lakbipahari, Thana : Pakur (14), Distt. : Pakur, Jharkhand (1.34 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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15. Patki Stone Mine of M/s Hansda Enterprises (Prop. : Shri Dilip Kumar Yadav), Village : Patki, P.O. + P.S. : Peterwar, Anchal : Peterwar, Distt. : Bokaro, Jharkhand (1.45 Ha).

(Proposal No. SIA/JH/MIN/ 448939 /2023).

Applied Area	**: 3.58 Acres (1.45 ha.)**
Project Category	**: B2 – Application for Environment Clearance (New EC)**
EC Application for	**: 14025 cum. / year (max)** **Overburden:5778 Cum.** **DG Set: NA** **Crusher- Notproposed**

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

This is a new project which has been taken for appraisal on 18.10.2023.

PROJECT and LOCATION Details:

Sl.	Parameter		Details
1	Project Name	:	Patki Stone Mine Project Type – Stone Mine
2	Lessee:	:	Proprietor: Shri Hiralal Manjhi

3	Lease Address	:	Village- Patki, Block Office – Petarwar, Thana-Petarwar (07), District – Bokaro, State – Jharkhand.	
4	Lease Area	:	Ha:1.45	Acres: 3.58
5	Type of Land	:	Non-Forest – Raiyati Land	
6	Project Cost	:	95.7Lakhs	
7	EMP Budget	:	Capital: Rs. -4.443Lakhs	Recurring: Rs. 1.74Lakhs/ year
8	CSR / CER Budget	:	NA	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.:64292	Tonnes:173588
11	Mine Life	:	6.73 Years say 7 Years	
12	Manpower	:	17Person	
13	Water Requirement	:	12.85 KLD (Drinking:0.25 KLD, Dust Suppression: 5.2 KLD, Plantation:7.40 KLD)	
14	Water Source	:	Water will bo sourced from nearest local vendor through Water Tanker for Dust Suppression and Plantation and pomission from gram panchayat will he taken to fulfill water requirement for mining operation after the grant uf Environment clearance.	
15	DG Set / power	:	Nil.	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	Damodar River – 4.63 in North Direction	
18	Nearest Habitation	:	PatkiVillage	
19	Nearest Rail Station	:	Gumia - Train station, at 12.24 km N	
20	Nearest Airport	:	Ranchi, Airport at 135 km SW Direction.	
21	Nearest Forest	:	DFO Bokaro letter no.-2566 Dated- 10.09.2022 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.	
22	Road & Highways	:	MDR (Gumia-PetarwarRoad) at 2.62 km East Direction	

CO-ORDINATES

Corner Point	Latitude	Longitude
1	23°41'41.610" N	85°49'12.904" E
2	23°41'42.082" N	85°49'13.501" E
3	23°41'41.275" N	85°49'14.467" E
4	23°41'40.747" N	85°49'14.312" E
5	23°41'40.607" N	85°49'14.741" E
6	23°41'40.486" N	85°49'15.059" E
7	23°41'40.165" N	85°49'15.348" E

8	23°41'40.867" N	85°49'16.026" E
9	23°41'40.606" N	85°49'17.506" E
10	23°41'40.754" N	85°49'17.697" E
11	23°41'40.884" N	85°49'18.613" E
12	23°41'40.024" N	85°49'19.750" E
13	23°41'40.733" N	85°49'20.205" E
14	23°41'40.623" N	85°49'20.905" E
15	23°41'40.486" N	85°49'21.452" E
16	23°41'39.579" N	85°49'21.186" E
17	23°41'39.188" N	85°49'20.857" E
18	23°41'38.695" N	85°49'20.549" E
19	23°41'39.024" N	85°49'19.429" E
20	23°41'38.300" N	85°49'18.082" E
21	23°41'38.462" N	85°49'17.975" E
22	23°41'38.831" N	85°49'18.073" E
23	23°41'39.362" N	85°49'18.033" E
24	23°41'39.743" N	85°49'17.527" E
25	23°41'39.700" N	85°49'17.409" E
26	23°41'39.044" N	85°49'17.479" E
27	23°41'38.589" N	85°49'17.112" E
28	23°41'38.665" N	85°49'15.913" E
29	23°41'38.695" N	85°49'14.613" E
30	23°41'38.921" N	85°49'13.816" E
31	23°41'39.205" N	85°49'13.236" E
32	23°41'39.482" N	85°49'12.932" E
33	23°41'40.377" N	85°49'12.483" E
34	23°41'41.096" N	85°49'12.336" E

LAND DETAILS :

Khata No.	Plot No.
24	96

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Bokaro vide memo no. 415/Khanan, dated 25.02.2023.
2	CO	:	The CO, Peterwar vide letter no. 76, dated 01.02.2022 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan.
3	DMO	:	DMO, Bokaro vide memo no. 1697/M, dated 04.10.2023 certified that

			no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 1300, dated 04.07.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Forest Distaince	:	Division Forest Officer, Bokaro Forest Division vide letter no. 2566, dated 10.09.2022 certified that the distance of notified forest is 300 meter from proposed project site.
6	DSR	:	This project is mentioned in District Survey Report of Bokaro District.
7	Gram Sabha	:	BDO, Peterwar vide letter no. 1233, dated 24.09.2022 informed that Gram Sahha conducted on 13.09.2022.
8	Mine Plan Approval	:	Approved by DMO, Bokaro vide Memo No. 1670/M, dated 22.09.2023.

WORKING DETAILS

1	Mining Method	:	Opencast Mechanized Mining	
2	Quarry Area	:	Plan period – 1.67 acres	Conceptual stage –1.97 acres
3	Waste Generation	:	Plan Period :5778 Cum	Conceptual Stage –0 Cum.
4	Stripping Ratio	:	1:04	
5	Working Days	:	300 days/year	
6	Benches: size & No	:	6 m x 6 m, No. of benches -4	
7	Elevation of Mine	:	293-291 mRL	
8	Ground Level Elevation		291 mRL	
9	Ultimate Working Depth	:	20 m	
10	Water Table	:	249mRL	
11	Topography of Mine	:	Gently sloping area	
12	Explosive Requirement	:	7.5 kg Slurry explosives/day	
14	Diesel/Fuel requirement	:	628 liters / day (188.4 KL/year)	

PRODUCTION DETAILS

SUMMARY OF YEARWISE OF PRODUCTION						
Years	Production In Cum/Year	Production In Cum/Day	O.B Production In Cum/Year	Production In Tons/Year	Prod. In Tons. /Day	Bench RL in meters

1st	9240	31	1890	24948	83	A-A' (293-287)
2nd	10620	35	930	28674	96	B-B' (293-287) A-A'(287-281)
3rd	14025	47	2703	37868	126	C-C' (294-288)
4th	4835	16	255	13055	44	D-D' (295-289) A-A' (281-275) B-B' (281-275)
5th	9009	30	0	24324	81	C-C' (288-282)
Total	**47729**	**32**	**5778**	**128868**	**86**	**20**

ExistingLand Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (acres)
1	Mining Activities	0
2	Offices/ Store /Magazine etc.	0
3	Dumping	0
4	Mining Road	0
5	Garland drain	0
6	Settling Pond	0
7	Green belt/Safety Zone	0
8	Unutilized	3.58
Total		3.58

Land Use Pattern for Current Plan Period:

Sl. No.	Pattern of Utilization	Proposed Land use for current plan period (acres)
1	Mining Activities	1.67
2	Offices/ Store /Magazine etc.	0.01
3	Dumping	0.07
4	Mining Road	0.04
5	Garland drain	0.18
6	Settling Pond	0.01
7	Green belt/Safety Zone	1.17
8	Unutilized	0.43
Total		3.58

Land Use Pattern at the Conceptual Stage i.e. end of mine life:

Sl. No.	Pattern of Utilization	Land used at the conceptual stage ie end of mine life in (acres)	Area to be converted in the conceptual period.
1	Mining Activities	1.97	Water body 1.97
2	Offices/ Store /Magazine etc.	0.01	-
3	Dumping	0.07	-
4	Mining Road	0.04	Water body
5	Garland drain	0.18	-
6	Settling Pond	0.01	-
7	Green belt/Safety Zone	1.17	Plantation
8	Unutilized	0.13	Plantation
	Total	3.58	-

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Green Belt & Other reclaimed area	:	0.523 Ha	1307
2	Haul /Approach Road	:	0.26 Km.	174 Trees both side approach road.

- 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

- 5778 cum overburden will be generated in mining plan period which will used in maintenance of mine road and village road.

Water Pollution Control Measures:

- Mining operation willbe restricted to the depth of 20m from surface level.
- Quality of dug well will be monitored, in order to ensure the quality of water is not affected.

Air and Noise Pollution Control Measures:

- Dust suppression measures like spraying / sprinkling of water to keep the surface wet.
- Overloading of the truck / tractor trolleys will not be done.

As the only impact is due to transportation of soil through village roads, emphasis will be given on the following points:

- Carts or tractor-trolleys will be developed on village roads.
- Tractors-trolleys will be well maintained and PUC certified.
- Timely maintenance of vehicles and their silencers to minimize vibration and sound.
- Minimum use of horns in the village area and silence zone (if any) as applicable.

RISK ASSESSMENT

HAZARD IDENTIFICATION & RISK ASSESSMENT (HIRA)

The entire mining operation will be done under the supervision of the Mines Engineer/Minos manager having second class mines manager's certificate of competency and supported by a team of competent persons. Nevertheless, the following natural/industrial problems may by encountered during the mining operation:

- Accident due to Blasting / Fly-rock generation
- Slope failure at Mine faces
- Accident due to sliding of Over Burden dumps
- Accident due to Transportation or movement of heavy machineries
- Operation ofminingequipment
- Accident due to use of explosive
- Accident due to storage of Fuel
- Filling of Mine due to excessive rain

RISK AND MITIGATION MEASURES

BLASTING

Risk

- Most of the accidents from blasting occur due to the generation of fly-rocks,a s they may sometimes go even beyond the danger zone, mainly due to over charging of the shot-holes or as a resultof certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations.

- Vibrations also lead to displacement of adjoining areas. Dust and noise are also problems commonly encountered during blasting operations.
- Risk associated with storage and use of explosive

Mitigation Measures

- Adequate charge per hole with delay blasting will be used to minimize fly-rock, vibration and noise
- Before starting charging, clear audible warning signals by Sirens will be given so that people nearby can take shelter.
- Blasting will be done during the lunch interval, i.e. from 1.00 to2.00 pm.
- Holes will be drilled in square/scattered pattern.
- Shot firing will be usually done with the help of safety fuse & ordinary detonator/ electric shotfiring with delay detonators as per requirement.
- Adequate shelters or other protective structures shall be provided to the workers at all times;
- The shot fired shall give sufficient warning by effective signal over the entire area falling within a radius of 500 m
- Proper, safe and careful handling and use of explosives by competent Blasters having Blaster's Certificate of Competency issued by DGMS
- Conventional explosives shall be used in their original cartridge packing and such cartridge shall not be cut to remove explosive for making cartridge of different size.
- Explosives shall be conveyed in special containers.
- The holes which have been charged with explosives will not he left unattended till blasting is completed.

OVER BURDEN

Risk

The overburden dumps may cause landslides. High overburden dumps created at the quarry edge inay cause sliding of the overburden dump or may cause failure of the pit slope due to excessive loading, thereby causing loss of life and property Siltation of surface water may also cause run-off from overburden dumps.

Mitigation Measures

- To prevent the failure of overburden slopes, especially during the rainy season, proper garland drain & bund are constructed around the dump.
- To prevent this, height of overburden dumps will be restricted. Further, no stone or loose rock or loose tree will be allowed to remain within 3 meters of the edge of the quarry. To

prevent siltation of surface water, retaining wall will be constructed on the down side of each OB dump.

ACCIDENTS DUE TO TRANSPORTATION AND MOVEMENT OF MINING MACHINERIES

Risk

Most of the accidents occur during transportation by tippers/ trucks and movement of Mining machineries.

Operations of jackhammers are often attributable to mechanical failures and human errors.

Mitigation Measures

- This can be prevented by regular training of all vehicle /machinery drivers/ operators, regular maintenance of equipment and ensuring safe opecations
- All safety procautions and provision of MMR 1961 shall be strictly followed during all mining opecations.
- Regular maintenance and testing of all mining equipment as per manufacturer's guideiines.
- All transportation within the main working area should be carried out under the direct supervision and control of the management;
- The vehicles must be maintained in good repairs and checked thoroughly at least once a week by a competent person authorized for this purpose by the management;
- Broad signs should be provided at each and every turning point specially for the guidance of tbe.drivers of vehicles.
- To avoid dangers while reversing the trackless vehicles, especially at the embankment arid tripping points, all areas for reversing of lorries should, as far as possible, be made man free, and there should be a light and sound device to indicate reversing of trucks; and
- A statutory provision of the fence, constant education, training etc. will go a long way in reducing the incidence of such accidents.

FUEL STORAGE

No major storage of fuef envisaged in the mining lease area

WATER LOGGING

Risk

Filling of mine pit with excessive rain

Mitigation Measures

- Provision of adequate capacity pumps for pumping out water from the mining pit with standby arrangements.

- Checking and regular maintenance of garland drainage and earthen bunds to avoid any inflow of surface water into the mine pit.
- Proper drainage will be maintained to eliminate inundation of working pits during rains from run-off water. Suitable garland drain will be provided around pit along with sedimentation pits on each side.
- There is no danger of flood or inondation as the ground level is well below the plateau top, where mining will be carried out.

SAFETY MEASURES AT THE PROPOSED MINE

- The opencast mines have been planned for working with shovel tipper system which requires propec benching not only for slope stability but also foc movement of tippers and other heavy machinery. The inclination of the quarry sides at the finial stage i.e. at the dip most point will not exceed 400 to the horizontal. (This angle is measured betwecn the line joining the toe of the bottom most bench to the crest of the fop most bench and the horizontal line);
- The gradient of the haul road inside the pit, access trench and on the dumps will not be steeper than 1 in 16
- The slope of the sides of the OB dump to the horizontal will not exceed 300, and tho height of the OB dumps has heen restrioted to a max of 3 m;
- The quarries will be protected by garland drains around the periphery for storm water drainage;
- A minimum safe distance of 100-m will bo kept between the surface edge of the quarry and the nearest public buliding, roads etc. When the surface edge of the quarry approaches within a limit of 300 m from any road, public building special permission from DGMS will be taken to conduct controlled blasting to prevent damage/injury to public life and property;
- All mining operations both within the quarry and outside will be conducted as por the conditions laid down by DGMS and under the strict supervision of compotent persons appointed under Metalliferous Mines Regufations, 1961.

CARE AND MAINTENANCE DURING TEMPORARY DISCONTINUANCE:

In case of emergency arise as situation of temporary discontinuance due to court order or due to statutory requirements or any other unforeseen circumstances pit will be fenced and locked properly so as no one can enter in pit. All plantation will be protected with all due care for their survival. Maiotenance and monitoring of discontinued mining operations i.e. maintenance of haul roads, will be done in view of re-open in near future.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Patki Stone Mine of M/s Hansda Enterprises (Prop. : Shri Dilip Kumar Yadav), Village : Patki, P.O. + P.S. : Peterwar, Andhal : Peterwar, Distt. : Bokaro, Jharkhand (1.45 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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16. **Dhekjora Stone Deposit of Shri Suresh Marandi, Mouza : Dhekjora, Circle : Govindpur, Distt. : Dhanbad, Jharkhand (0.809 Ha).**

(Proposal No. SIA/JH/MIN/448730/2023).

Applied Area :2.00 ACRES (0.809Ha.)

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

EC Application for : 8319.15Cum / year (max)
Overburden:2008 Cum. during plan period.
DG Set: NA
Crusher- Notproposed

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

This is a new project which has been taken for appraisal on 18.10.2023.

PROJECT and LOCATION Details:

Sl.	Parameter		Details	
1	Project Name	:	Dhekjora Stone Doposit Project type – Stone Mine	
2	Lessee:	:	Shri Suresh Marandi	
3	Lease Address	:	Mouza-Dhekjora, Circle – Govindpuc , District – Dhanbad, State – Jharkhand	
4	Lease Area	:	Ha:0.809	Acres:2 00
5	Type of Land	:	Non-Forest – Raiyati Land	
6	Project Cost	:	89.21Lakhs	
7	EMP Budget	:	Capital: Rs. -6.29Lakhs	Recurring: Rs. 1.40 Lakhs/ year
8	CSR / CER Budget	:	NA	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.:36584.6	Tonnes:98778.42 Tonnes
11	Mine Life	:	4.38 say 5 years	
12	Manpower	:	18Person	
13	Water Requirement	:	8.05 KLD (Drinking:0.27 KLD, Dust Suppression: 4 KLD. Plantation:3.78 KLD)	
14	Water Source	:	Water will be sourced from nearest local vendor through Water Tanker for Dust Suppression and Plantation and permission from gram panchayat will be taken to fulfill water requirement for mining operation alter the grant of Environment clearance.	
15	DG Set / power	:	Nil.	

16	Crusher	:	Not Applicable
17	Nearest Water Body	:	Barakar River- 13 km - NE
18	Nearest Habitation	:	Dhekjoravillage
19	Nearest Rail Station	:	Dhanbad Railway Station – 13 Km in Sdirection from the ML area.
20	Nearest Airport	:	BirsaMunda Airport, Ranchi-145 Km in SW direction.
21	Nearest Forest	:	DFO Dhanbad Division letter no.-888 Dated- 01.04.2023 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.
22	Road & Highways	:	Jamtara-Dhanbad road which is passing at a distance of 1 km North from the applied lease area.

CO-ORDINATES

Geo-Coordinates of all corner points of Demarcated Block Boundary (GPS Co-ordinates) Datum: WGS 84		
Corner Point	**Latitude**	**Longitude**
1	23°53'43.09908" N	86°30'40.89647" E
	To	
2	23°53'42.71140" N	86°30'41.54076" E

LAND DETAILS :

Khata No.	Plot No.
09	1454 & 1455

STATUTORY CLEARANCES

1	IOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dhanbad vide letter no. 1085/M, dated 05.07.2023.
2	CO	:	The CO, Govindpur (Dhanbad) vide letter no. 508, dated 29.03.2023 has meritioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Dhanbad vide memo no. 1570/M, dated 06.10.2023 certified that no other mining lease area exists within 500 m cadius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 1255, dated 03.07.2023

			certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Dhanbad Forest Division vide letter no. 888, dated 01.04.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	The DC, Dhanbad vide letter no. 1572/M, dated 06.10.2023 has informed that this project is part of District Survey Report (DSR) of Dhanbad district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	Mukhiya, Mahubani vide letter dated 06.03.2023 informed that Gram Sahha conducted on 06.03.2023.
8	Mine Plan Approval	:	Approved by DMO, Dhanbad vide Memo No. 1575/M, dated 06.10.2023.

WORKING DETAILS

1	Mining Method	:	Opencast MechanizedMining	
2	Quarry Area	:	Plan period – 0.442 Ha	Conceptual stage –0.442 Ha
3	Waste Generation	:	Plan Period : 2008 Cum.	
4	Stripping Ratio	:	1:0.02	
5	Working Days	:	300 days/year	
6	Benches: size & No	:	6m x 6m, No. of benches -4	
7	Elevation of Mine	:	277 – 275 AMSL	
8	Ground Level Elevation		275 AMSL	
9	Ultimate Working Depth	:	24 m	
10	Water Table	:	186 AMSL	
11	Topography of Mine	:	Gently sloping area	
12	Explosive Requirement	:	7.5Kg Slurry explosives/day	
13	Diesel/Fuel requirement	:	HSD – 1156 liters / day (346.8 KL/year)	

PRODUCTION DETAILS

Years	Production In Cum/Year	O.B Production in cum. /Year	Production In Tons/Year	Bench RL in meters
1st	8319.15	819	22544.90	220-216

2nd	8314.40	352	22532.02	222-210
3rd	8318.20	612	22542.32	220-210
4th	8317.50	225	22526.88	222-204
5th	2318	0	6281.78	210-198
Total	**35582.25**	**2008**	**96427.90**	**24m**

LAND USE

Existing Land Use pattern

Sl.No.	Pattern of Utilization	Present/Existing land use pattern in (Ha)
1	Mining Activities	0.00
2	Mining Road	0.00
3	Green belt/Safety Zone	0.00
4	Unutilized	0.809
Total		**0.809**

Land Use Pattern for Current Plan Period:

Sl No.	Pattern of Utilization	Present/Existing land use pattern in (Ha)
1	Mining Activities	0.442
2	Green belt/Safety Zone	0.367
3	Unutilized	0.000
Total		**0.809**

Land Use Pattern after Life of the Mine:

Sl. No.	Pattern of Utilization	Land used at the conceptual stage ie end of mine life in (acres)	Area to be converted in the conceptual period.
1	Mining Activities	0.442	(0.167 Ha) Water body
2	Green belt/Safety Zone	0.367	Plantation
3	Unutilized	0.000	-
Total		**0.809**	

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Green Belt& Other reclaimed area	:	0.367 Ha.	918
2	Haul /Approach Road	:	0.51Km.	340 Trees both side approach road.

- 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 only 2008 cum overburden will be generated in mining plan period which will used in maintenance of mine road and village road.

Water Pollution Control Measures:

- Mining operation willbe restricted to the depth of 25m from surface level.
- Quality of dug well will be monitored, in order to ensure the quality of water is not affected.

Air and Noise Pollution Control Measures:

- Dust suppression measures like spraying / sprinkling of water to keep the surface wet.
- Overloading of the truck / tractor trolleys will not be done.

As the only impact is due to transportation of soil through village roads, emphasis will be given on the following points:

- Carts or tractor-trolleys will be developed on village roads.
- Tractors-trolleys will be well maintained and PUC certified.
- Timely maintenance of vehicles and their silencers to minimize vibration and sound.
- Minimum use of horns in the village area and silence zone (if any) as applicable.

RISK AND MITIGATION MEASURES

BLASTING

Risk

- Most of the accidents from blasting occur due to the generation of fly-rocks,a s they may sometimes go even beyond the danger zone, mainly due to over charging of the shot-holes or as a resultof certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations.
- Vibrations also lead to displacement of adjoining areas. Dust and noise are also problems commonly encountered during blasting operations.
- Risk associated with storage and use of explosive

Mitigation Measures

- Adequate charge per hole with delay blasting will be used to minimize fly-rock, vibration and noise
- Before starting charging, clear audible warning signals by Sirens will be given so that people nearby can take shelter.
- Blasting will be done during the lunch interval, i.e. from 1.00 to2.00 pm.
- Holes will be drilled in square/scattered pattern.
- Shot firing will be usually done with the help of safety fuse & ordinary detonator/ electric shotfiring with delay detonators as per requirement.
- Adequate shelters or other protective structures shall be provided to the workers at all times;
- The shot fired shall give sufficient warning by effective signal over the entire area falling within a radius of 500 m
- Proper, safe and careful handling and use of explosives by competent Blasters having Blaster's Certificate of Competency issued by DGMS
- Conventional explosives shall be used in their original cartridge packing and such cartridge shall not be cut to remove explosive for making cartridge of different size.
- Explosives shall he conveyed in special containers.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

OVER BURDEN

Risk

The overburden dumps may cause landslides. High overburden dumps created at the quarry edge may cause sliding of the overburden dump or may cause failure of the pit slope due to excessive loading, thereby causing loss of life and property. Siltation of surface water may also cause run-off from overburden dumps.

Mitigation Measures

- To prevent the failure of overburden slopes, especially during the rainy season, proper garland drain & bund are constructed around the dump.
- To prevent thrs, height of overburden dumps will be restricted. Further, no stone or loose rock or loose tree will be allowed to remain within 3 meters of the edge of the quarry. To prevent siltation of surface water, retaining wall will be constructed on the down side of each OB dump.

ACCIDENTS DUE TO TRANSPORTATION AND MOVEMENT OF MINING MACHINERIES

Risk

Most of the accidents occur during transportation by tippers/ trucks and movement of Mining machineries.

Operations of jackhammers are often attributable to mechanical failures and human errors.

Mitigation Measures

- This can bo prevented by regular training of all vehicle /machinery drivers/ operators, regular maintenance of equipment and ensuring safe operations.
- All safety precautions and provision of MMR 1961 shall be strictly followed during all mining operations.
- Regular maintenance and testing of all mining equipment as per manufacturer's guidelines.
- All transportation within the main working area should be carried out under the direct supervision and control of the management;
- The vehicles must be maintained in good repairs and checked thoroughly at least once a week by a competent person authorized for this purpose by the management;
- Broad signs should be provided at each and every turning point specially for the guidance of the drivers of vehicles.
- To avoid dangers while reversing the trackless vehicles, especially at the embankment and tripping points, all areas for reversing of lorries should, as far as possible, be made man free, and there should he a light and sound device to indicate reversing of trucks; and
- A statutory provision of the fence, constant education, training etc. will go a long way in reducing the incidence of such accidents.

FUEL STORAGE

No major storago of fuel envisaged in the mining lease area

WATER LOGGING

Risk

Filling of mine pit with excessive rain

Mitigation Measures

- Provision of adequate capacity pumps for pumping out water from the mining pit with standby arrangements.
- Checking and regular maintenance of garland drainage and earthen bunds to avoid any inflow of surface water into the mine pit.
- Proper drainage will be maintained to eliminate inundation of working pits during rains from run-off water. Suitable garland drain will be provided around pit along with sedimentation pits on each side.
- There is no danger of flood or inundation as the ground level is well below the plateau top, where mining will be carried out.

SAFETY MEASURES AT THE PROPOSED MINE

- The opencast mines have been planned for working with shovel tipper system which requires proper benching not only for slope stability but also for movement of tippers and other heavy machinery. The inclination of the quarry sides at the final stage i.e. at the dip most point will not exceed 400 to the horizontal. (This angle is measured between the line joining the toe of the bottom most bench to the crest of the top most bench and the horizontal line);
- The gradient of the haul road inside the pit, access trench and on the dumps will not be steeper than 1 in 16
- The slope of the sides of the OB dump to the horizontal will not exceed 300, and the height of the OB dumps has been restricted to a max of 3 m;
- The quarries will be protected by garland drains around the periphery for storm water drainage;
- A minimum safe distance of 100-m will be kept between the surface edge of the quarry and the nearest public building, roads etc. When the surface edge of the quarry approaches within a limit of 300 m from any road, public building special permission from DGMS will be taken to conduct controlled blasting to prevent damage/injury to public life and property;
- All mining operations both within the quarry and outside will he conducted as per the conditions laid down by DGMS and under the strict supervision of competent persons appointed under Metalliferous Mines Regulations, 1961.

CARE AND MAINTENANCE DURING TEMPORARY DISCONTINUANCE:

In case of emergency arise as situation of temporary discontinuance due to court order or due to statutory requirements or any other unforeseen circumstances pit will be fenced and locked properly so as no one can enter in pit. All plantation will he protected with all due care for their survival. Maintenance and monitoring of discohtinued mining operations i.e. maintenance of haul roads, will be done in view of re-open in near future.

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 / clusfer 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 he 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 suppressioh 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 malotained.
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 plaitation 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 fallipg in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'hle NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Dhekjora Stone Deposit of Shri Suresb Marandi, Mouza : Dhekjora, Circle : Govindpur, Distt. : Dhanbad, Jharkhand (0.809 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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17. Simrakola Stone Mine of M/s Rajhir Construction Private Limited, Village : Simrakola, Thana No. : 100, Thana : Poreyahat, Distt.- : Godda, Jharkhand (1.27 Ha.).

(Proposal No.- SIA/JH/MIN/ 440390/2023).

Applied Area :3.14 ACRES (1.27Ha.)

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

EC Application for : 51,765Cum / year (max)
Overburden:12875 Cum. during plan period.
DG Set: NA

Crusher- Notproposed

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

This is a new project which has been taken for appraisal on 18.10.2023.

PROJECT and LOCATION Details:

Sl.	Parameter		Details	
1	Project Name	:	SimrakolaStone Mine Project Type – Stone Mine	
2	Lessee:	:	**M/S RAJBIR CONSTRUCTION PVT. LTD.** **DIRECTOR- 1) Sri Bimal Kumar Agarwal** **2) Shri Bir Kumar Agarwal**	
3	Lease Address	:	Village- Simrakola, Thana No.-100, Thana- Poreyahat, District- Godda, Jharkhand	
4	Lease Area	:	Ha:1.27	Acres:3.14
5	Type of Land	:	Non-Forest – Raiyati Land	
6	Project Cost	:	95.70 Lakhs	
7	EMP Budget	:	Capital: Rs. -6.59 Lakhs	Recurring: Rs. 1.64 Lakhs/ year
8	CSR / CER Budget	:	NA	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.:2,14,650	Tonnes:6,22,485Tonnes
11	Mine Life	:	4.14 say 5 years only.	
12	Manpower	:	26 Person	
13	Water Requirement	:	10.98 KLD (Drinking:0.39 KLD, Dust Suppression: 4 KLD, Plantation:6.59 KLD	
14	Water Source	:	Water will be sourced from nearest local vendor through Water Tanker for Dust Suppression and Plantation and permission from gram panchayat will be taken to fulfill water requirement for mining operation after the grant of Environment clearance.	
15	DG Set / power	:	Nil.	

16	Crusher	:	Not Applicable
17	Nearest Water Body	:	Chir Nadi – 4.90 km- NW
18	Nearest Habitation	:	Simrakola Village
19	Nearest Rail Station	:	Hansdiha Railway Station at 3.00 Km in South direction
20	Nearest Airport	:	Deoghar Airport, Deoghar – 45 Km-South-West Direction.
21	Nearest Forest	:	DFO Godda Division letter no.-235 Dated- 07.02.2020 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.
22	Road & Higbways	:	State Highway (SH-19) Bhagalpur - Dumka Road is about 2.04 Km in W direction

CO-ORDINATES

Geo-Coordinates of all corner points of Demarcated Block Boundary
(GPS Co-ordinates) Datum: WGS 84

Corner Point	Latitude	Longitude
1	24°38'17.67" N	87°05'08.17" E
2	24°38'17.92"N	87°05'07.01"E
3	24°38'21.14" N	87°05'08.07" E
4	24°38'21.84" N	87°05'06.62" E
5	24°38'22.27" N	87°05'06.14" E
6	24°38'23.71" N	87°05'05.81" E
7	24°38'24.66" N	87°05'06.32" E
8	24°38'25.16" N	87°05'06.79" E
9	24°38'23.45" N	87°05'08.55" E
10	24°38'22.73" N	87°05'10.45" E
11	24°38'21.78" N	87°05'11.48" E

LAND DETAILS :

Khata No.	Plot No.
24	387 & 401

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Godda vide memo no. 735 /M, dated 11.05.2020.

2	CO	:	The CO, Podaiyahat vide letter no. 52, dated 08.02.2020 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Godda vide memo no. 300/M, dated 03.03.2022 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 memo no. 2044, dated 12.10.2023 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. 235, dated 07.02.2020 certified that the distance of notified forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in District Survey Report of Godda District.
7	Gram Sabha	:	Gram Sabha conducted on 23.07.2019.
8	Mine Plan Approval	:	Approved by DMO, Godda vide Memo No. 927/M, dated 20.07.2023.

WORKING DETAILS

1	Mining Method	:	Opencast Mechanized Mining	
2	Quarry Area	:	Plan period – 0.77 Ha.	Conceptual stage – 0.77 Ha.
3	Waste Generation	:	Plan Period :12,875Cum.	Conceptual Stage –12,875 Cum.
4	Stripping Ratio	:	1:0.06	
5	Working Days	:	300 days/year	
6	Benches: size & No	:	6m x 6m, No. of benches -4	
7	Elevation of Mine	:	224-223 AMSL	
8	Ground Level Elevation		223 AMSL	
9	Ultimate Working Depth	:	200 AMSL	
10	Water Table	:	121 AMSL and	
11	Topography of Mine	:	Gently sloping area	
12	Explosive Requirement	:	48Kg Slurry explosives/day	
13	Diesel/Fuel requirement	:	HSD – 996 liters / day (298.8 KL/year)	

PRODUCTION DETAILS

SUMMARY OF YEARWISE OF PRODUCTION						
Years	Production In Cum/Year	Production In Cum/Day	O.B Production In Cum/Year	Production In Tons/Year	Prod. In Tons./Day	Bench RL in meters
1st	50395	168	12875	146146	487	A-A': 167-166 (O.B.) B-B': 167-166 (O.B.) A-A': 166-160 (Stone) B-B': 166 -160 (Stone)
2nd	36975	123	0	107228	357	A-A': 160-154 (Stone) B-B': 166-160 (Stone)
3rd	51765	173	0	150119	500	B-B' : 160-154 (Stone)
4th	28475	95	0	82578	275	A-A' 154-148 (Stone) B-B': 154-148 (Stone)
5th	42840	143	0	124236	414	B-B':154-148 (Stone) B-B': 148-142(Stone)
Total	210450		12875	610305		Depth - 25 m (Including 1 m O.B.)

LAND USE

ExistingLand Use pattern

SLNo.	Pattern	Existing Land Use (Acres)	Existing Land Use (Ha)
1	Mining Area	0.00	0.00
2	Office	0.00	0.00
3	Dumping	0.00	0.00
4	Road	0.00	0.00
5	Garland drain	0.00	0.00
6	Settling Pond	0.00	0.00
7	Green belt/ Safety Zone	0.00	0.00
8	Utilized	0.00	0.00
9	Unutilized	3.14	1.27
	TOTAL	3.14	1.27

Land Use Pattern for Current Plan Period:

SL No.	Pattern	Land Use (Acres)	Land Use (Ha.)
1	Mining Area	1.90	0.77
2	Office	0.05	0.02
3	Dumping	0.10	0.04

4	Road	0.02	0.01
5	Garland drain	0.08	0.03
6	Settling Pond	0.03	0.01
7	Green belt/ Safety Zone	0.88	0.36
8	Unutilized	0.08	0.03
	TOTAL	3.14	1.27

Land Use Pattern after Life of the Mine:

SL No.	Pattern	Land Use (Acres)	Land Use (Ha.)	Area to be converted in the conceptual period.
1	Mining Area	1.90	0.77	Water body
2	Office	0.05	0.02	Green Belt
3	Dumping	0.10	0.04	Green Belt
4	Road	0.07	0.01	Green Belt
5	Garland drain	0.08	0.03	-
6	Settling Pond	0.03	0.01	
7	Green belt/ Safety Zone	0.88	0.36	Greenbelt
8	Unutilized	0.08	0.03	Greenbelt
	TOTAL	3.14	1.27	

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Green Belt& Other reclaimed area	:	0.46 Ha.	1150
2	Haul /Approach Road	:	0.25Km.	168 Trees both side approach road.

- 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 only 12875 cum overburden will be generated in mining plan period which will used in maintenance of mine road and village road O.B. Dump of total area 0.04 Ha. has been proposed.

Water Pollution Control Measures:

- Mining operation willbe restricted to the depth of 25m from surface level.
- Qurality of dug well will be inonitored, in order to ensure the quality of water is not affected.

Air and Noise Pollution Control Measures:

- Dust suppression measures like spraying / sprinkling of water to keep the surface wet.
- Overloading of the truck / tractpr trolleys will not be done.

As the only impact is due to transportation of soil through village roads, emphasis will be given on the following points:

- Carts or tractor-trolleys will be developed on village roads.
- Tractors-trolleys will be well maintained and PUC certified.
- Timely maintenance of vehicles and their silencers to minimize vibration and sound.
- Minimum use of Horns in the village area and silence zone (if any) as applicable.

RISK AND MITIGATION MEASURES

BLASTING

Risk

- Most of the accidents from blasting occur due to the generation of fly-rocks.a s they may sometimes go even beyond the danger zone, mainly due to over charging of the shot-holes or as a resultof certain special features of the local ground. Flying rocks are encountered during Initial and final blasting operations.
- Vibrations also lead to displacement of adjoining areas. Dust and noise are also problems commonly encountered during blasting operations.
- Risk associated with storage and use of explosive

Mitigation Measures

- Adequate charge per hole with delay blasting will be used to minimize fly-rork, vibration and noise
- Before stacting charging, clear audible warning signals by Sirens will be given so that people nearby can take sheher.
- Blasting will be done during the lunch interval, i.e. from 1.00 to2.00 pm.

- Holes will be drilled in square/scattered pattern.
- Shot firing will be usually done with the help of safety fuse & ordinary detonator/ electric shotfiring with delay detonators as per requirement.
- Adequate shelters or other protective structures shall be provided to the workers at all times;
- The shot fired shall give sufficient warning by effective signal over the entire area falling within a radius of 500 m
- Proper, safe and careful handling and use of explosives by competent Blasters having Blaster's Certificate of Competency issued by DGMS
- Conventional explosives shall he used in their original cartridge packing and such cartridge shall not be cut to remove explosive for making cartridge of different size.
- Explosives shall be conveyed in special containers.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

OVER BURDEN

Risk

The overburden dumps may cause landslides. High overburden dumps created at the quarry edge may cause sliding of the overburden dump or may cause failure of the pit slope due to excessive loading, thereby causing loss of life and property. Siltation of surface water may also cause run-off from overburden dumps.

Mitigation Measures

- To prevent the failure of overburden slopes, especially during the rainy season, proper garland drain & bund are constructed around the dump.
- To prevent this, height of overburden dumps will be restricted. Further, no stone or loose rock or loose tree will be allowed to remain within 3 meters of the edge of the quarry. To prevent siltation of surface water, retaining wall will be constructed on the down side of each OB dump.

ACCIDENTS DUE TO TRANSPORTATION AND MOVEMENT OF MINING MACHINERIES

Risk

Most of the accidents occur during transportation by tippers/ trucks and movement of Mining machineries.

Operations of jackhammers are often attributable to mechanical failures and human errors.

Mitigation Measures

- This can be prevented by regular training of all vehicle /machinery drivers/ operators, regular maintenance of equipment and ensuring safe operations.

- All safety precautions and provision of MMR 1961 shall be strictly followed during all mining operations.
- Regular maintenance and testing of all mining equipment as per manufacturer's guidelines.
- All transpoctation within the main working area should be carried out under tbe direct supervision and conirol of the management;
- The vehicfes must be maintained in gond repairs and checked thoroughly at least once a week by a competent person authorized for this purpose by the mainagemeiit;
- Broad signs should be provided at each arid every turning point specially for the guidance of the drivers of vehicles.
- To avoid darigers while reversing the trackless vehicles, especially at the embankment and tripping points, all areas for reversing of lorries should, as far as possible, be made man free, and there should be a light aiid sourid device to indicate reversing of trucks; and
- A statutory provision of the fence, constant education, trainiiig etc. will go a long way in reducing the incidence of sucb accidents.

FUEL STORAGE

No major storage of fuel envisaged in tbe mining lease area

WATER LOGGING

Risk

Filling of mine pit with excessive rain

Mitigation Measures

- Provision of adequate capacity punips foi pumping out water froro the mining pit with standby arrangements.
- Checking and regular maintenance of garland drainage and eacthen bunds to avoid any inflow of surface water into the mine pit
- Proper drainage will be maintained to eliminate inundation of working pits duriiig rains from run-off water. Suitable garland drain will be provided around pit along with sedimentation pits on each side.
- There is no danger of flood or inundation as the ground level is well below the plateau top, where mining will be carried out.

SAFETY MEASURES AT THE PROPOSED MINE

- The opencast mines bave been planned for working with shovel tipper system which requires proper benching not only for slope stability but also for movement of tippers and other heavy machinery. The inclination of the quarry sides at the final stage i.e. at the dip most point will not exceed 400 to the

horizontal. (This angle is measured between the line joining the toe of the bottom most beoch to the crest of the top most bench and the horizontal line);

- The gradient of the haul road inside the pit, access treoch and on the dumps will not be steeper than 1 in 16
- The slope of the sides of tbe OB dump to the horizontai will not exceed 300, aod the height of the OB dumps has been restricted to a max of 3 m;
- The quarries will be protected by garland drains around the periphery for storm water drainage;
- A minimum safe distance of 100-m will be kept between the surface edge of the quarry and the nearest public building, roads etc. When the surface edge of the quarry approaches within a limit of 300 m from any road, public building special permission from DGMS will be taken to conduct controlled blasting to prevent damage/injury to public life and property;
- All mining operations both within the quarry and outside will be conducted as per the conditions laid down by DGMS and under the strict supervision of competent persons appointed under Metalliferous Mioes Regulations, 1961.

CARE AND MAINTENANCE DURING TEMPORARY DISCONTINUANCE:

In case of emergency arise as situation of temporary discontinuance due to court order or due to statutory requirements or any other unforeseen cirrumstances pit will be fenced and locked properly so as no one cah enter in pit. Alf pfantatioo will be protected with all due care for their survival. Maintenance and monitoring of discontinued mining operatioos i.e. maiotenance of haul roads, will be done in view of re-open in near future.

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 hy 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 Autborities and all neressary steps will be taken in this regard
d. The Boundary Pilfars of tbe proposed mine lease area will be maintained properly.
e. One day post monsoon haseline data refated 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 aad transport vehirles should be maintained in good condition and annuafly tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentatioo made and information provided, the Committee In the light of Hon'ble NGT, Principal Bonch, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided thet the proposal for Simrakola Stone Mine of M/s Rajbir Construction Private Limited, Village : Simrakola, Thana No. : 100, Thana : Poreyahat, Distt.- : Godda, Jharkhand (1.27 Ha.) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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18. Asna Stone Mine of M/s Sarveshwari Stone Mines, Village : Asna, Thana No. : 204, Circle : Govindpur, Distt. : Dhanbad, Jharkhand (1.602 Ha.).

(Proposal No. SIA/JH/MIN/ 448738/2023).

Applied Area	**:3.96 ACRES (1.602 Ha.)**
Project Category	**: B2 – Application for Environment Clearance (New EC)**
EC Applfcation for	**: 59420.79 MT/Annum & 22007.70 Cum Per Year** **Overburden: 8102.00 Cum. during plan period.** **DG Set: NA** **Crusher- Notproposed**

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

This is a new project which has been taken for appraisal on 18.10.2023.

PROJECT and LOCATION Details:

Sl.	Parameter		Details
1	Project Name	:	Asna Stone Mine Project Type – Stone Mine

2	Lessee:	:	**M/s Sarveshwari Stone Mines** **Director- Shri Mihir Kumar Mandal**	
3	Lease Address	:	Village- Asna, Thana No.-204, Circle-Govindpur, District-Dhanbad, State-Jharkhand.	
4	Lease Area	:	Ha: 1.602 ha	Acres: 3.96 Acres
5	Type of Land	:	Non-Forest – Raiyati Land	
6	Project Cost	:	95.00 Lakhs	
7	EMP Budget	:	Capital: 9.51Lakhs	Recurring: 1.64 Lakhs
8	CSR / CER Budget	:	NA	
9	New or Expansion	:	New	
10	Mineable Reserves	:	155017.2 Cum	Tonnes: 418546.44Tons
11	Mine Life	:	6.96 years say 7years	
12	Manpower	:	19Person	
13	Water Requirement	:	13.78 KLD (Drinking: 0.28 KLD, Dust Suppression: 4.00 KLD, Plantation:9.50 KLD)	
14	Water Source	:	Water will be sourced from nearest local vendor through Water Tanker for Dust Suppression and Plantation and permission from gram panchayat will be taken to fulfil water requirement for mining operation after the grant of Environment clearance.	
15	DG Set / power	:	Nil.	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	Khudiyanadi – 1.5 km- NW direction.	
18	Nearest Habitation	:	AsnaVillage	
19	Nearest Rail Station	:	ChhotaAmbana Railway station –10.00 km – South	
20	Nearest Airport	:	Dhanbad Airport, Dhanbad – 18 Km-west direction.	
21	Nearest Forest	:	More than 250 m, as per forest division. Letter no – 2494, Dated- 10-12-2020	
22	Road & Highways	:	Govindpur- Jantara road is about 04 Km in North direction	

CO-ORDINATES

Geo-Coordinates of Maximum and Minimum points of Demarcated Block Boundary (GPS Co-ordinates) Datum: WGS 84		
Corner Point	**Latitude**	**Longitude**
Point	**Latitude**	**Longitude**
1.	23° 51' 11.6885" N	086° 35' 43.9095" E
To		

2	23° 51' 06.0554" N	086° 35' 46.7670" E

LAND DETAILS

KHATA NO.	PLOT NO.
28	4208, 4210, 4211
80	4198, 4200, 4209, 4193
265	4202, 4190, 4191
334	4224, 4226
382	4184
122	4185
176	4189
210	4222, 4215
316	4199, 4201, 4203
67	4186
371	4205. 4206
156	4204, 4218
255	4188, 4196, 4216, 4217
54	4219
184	4197
109	4195
41	4192, 4194
257	4187
63	4265

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dhanbad vide letter no. 1078/M, dated 05.07.2023.
2	CO	:	The CO, Govindpur (Dhanbad) vide memo no. 230, dated 07.02.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Dhanbad vide memo no. 1228/M, dated 31.07.2023 certified that no other mining lease area exists within 500 m radius from

			proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 2494, dated 10.12.2022 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Dhanbad Forest Division vide letter no. 2747, dated 03.12.2022 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	The DC, Dhanbad vide letter no. 1572/M, dated 06.10.2023 has informed that this project is part of District Survey Report (DSR) of Dhanbad district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	Mukhiya, Tilabani Gram Panchayat vide letter no. 72/2022, dated 31.12.2022 informed that Gram Sabha conducted on 31.12.2022
8	Mine Plan Approval	:	Approved by DMO, Dhanbad vide Memo No. 1574/M, dated 06.10.2023.

WORKING DETAILS

1	Mining Method	:	Opencast MechanizedMining	
2	Quarry Area	:	Plan period – 0.800 ha.	Conceptual stage –1.002 ha.
3	Waste Generation	:	Plan Period :8102.00Cum.	Conceptual Stage –8102 Cum.
4	Stripping Ratio	:	01:0.019	
5	Working Days	:	300 days/year	
6	Benches: size & No	:	6m x 6m, No. of benches -5	
7	Elevation of Mine	:	186-185 mRL	
8	Ground Level Elevation		186-185 mRL	
9	Ultimate Working Depth	:	28.5 m	
10	Water Table	:	35-40 m	
11	Topography of Mine	:	Gently sloping area	
12	Explosive Requirement	:	48 Kg Slurry explosives/day	
13	Diesel/Fuel requirement	:	996 liters / day (298.8 KL/year)	

PRODUCTION DETAILS

Years	Production In Cum/Year	Production In Ton/Day	0.8 Production In Cum/Year
1st	21389.25	57750.98	6162.00
2nd	21633.40	58410.18	1300.00
3rd	21605.85	58335.8	0.00
4th	22007.70	59420.79	0.00
5th	17415.40	47021.58	640.0
Total	104051.60	280939.30	8102.00

LAND USE

ExistingLand Use pattern

Pattern of utilization	Existing land use (Ha.)
Excavation	Nil
Waste dump	Nil
Road	Nil
Plantation (green belt)	Nil
Total	Nil
Un-used area	1.602

Land Use Pattern for Current Plan Period:

Pattern of utilization	At the end of plan period (ha.)
Excavation	0.800
Road	0.003
Plantation (green belt/ safety zone)	0.597
Used area	1.400
Un-used area	0.202
Total	1.602

Land Use Pattern after Life of the Mine:

Pattern of utilization	At conceptual period (ha.)
Excavation	1.002 (water body)
Road	0.003
Plantation (green belt/ safety zone)	0.597
Total	1.602
Un-used area	Nil

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Green Belt& Other reclaimed area	:	0.697 Ha.	1742
2	Haul /Approach Road	:	0.25Km.	160Trees both side approach road.

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease houndary) 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 Jbarkhand. Records of same to be maintained and will be submitted with compliance report.

Solid Waste Management

- There is only 8102.00cum overburden will be generated in mining plan period which will used in maintenance of mine road and village road.

Water Pollution Control Measures:

- Mining operation willbe restricted to the depth of 30m from surface level.
- Quality of dug well will be monitored, in order to ensure the quality of water is not affected.

Air and Noise Pollution Control Measures:

- Dust suppression measures like spraying / sprinkling of water to keep the surface wet.
- Overloading of the truck / tractor trolleys will not be done.

As the only impact is due to transportation of soil through village roads, emphasis will be given on the following points:

- Carts or tractor-trolleys will be developed on village roads.
- Tractors-trolleys will be well maintained and PUC certified.
- Timely maintenance of vehicles and their silencers to minimize vibration and sound.
- Minimum use of boms in the village area and silence zone (if any) as applicable.

RISK AND MITIGATION MEASURES

BLASTING

Risk

- Most of the accidents from blasting occur due to the generation of fly-rocks,a s they may sometimes go even beyond the danger zone, mainly due to over charging of the shot-holes or as a resultof certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations.
- Vibrations also lead to displacement of adjoining areas. Dust and noise are also problems commonly encountered during blasting operations.
- Risk associated with storage and use of explosive

Mitigation Measures

- Adequate charge per hole with delay blasting will be used to minimize fly-rock, vibration and noise
- Before starting charging, clear audible warning signals by Sirens will be given so that people nearby can take shelter.
- Blasting will be done during the lunch interval, i.e. from 1.00 to2.00 pm.
- Holes will be drilled in square/scattered pattern.
- Shot firing will be usually done with the help of safety fuse & ordinary detonator/ electric shotfiring with delay detonators as per requirement.
- Adequate shelters or other protective structures shall be provided to the workers at all times;
- The shot fired shall give sufficent warning by effective signal over the entire area falling within a radius of 500 m
- Proper, safe and careful handling and use pf explosives by competent Blasters having Blaster's Certificate of Competency issued by DGMS
- Conventional explosives shall be used in their original cartridge packing and such cartridge sball not be cut to remove explosive for making cartridge of different size.
- Explosives shall be conveyed in special containers.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

OVER BURDEN

Risk

The overburden dumps may cause landslides. High overburden dumps created at the quarry edge may cause sliding of the overburden dump or may cause failure of the pit slope due to excessive loading thereby causing loss of life and property. Siltation of surface water may also cause run-off from overburden dumps.

Mitigation Measures

- To prevent the failure of overburden slopes, especially during the rainy season, proper garland drain & bund are constructed around the dump.
- To prevent this, height of overburden dumps will be restricted. Further, no stone or loose rock or loose tree will be allowed to remain within 3 meters of the edge of the quarry. To prevent siltation of surface water, retaining wall will be constructed on the down side of each OB dump.

ACCIDENTS DUE TO TRANSPORTATION AND MOVEMENT OF MINING MACHINERIES

Risk

Most of the accidents occur during transportation by tippers/ trucks and movement of Mining machineries.

Operations of jackhammers are often attributable to mechanical failures and human errors.

Mitigation Measures

- This can be prevented by regular training of all vehicle /machinery drivers/ operators, regular maintenance of equipment and ensuring safe operations.
- All safety precautions and provision of MMR 1961 shall be strictly followed during all mining operations.
- Regular maintenance and testing of all mining equipment as per manufacturer's guidelines.
- All transportation within the main working area should be carried out under the direct supervision and control of the management;
- The vehicles must be maintained in good repairs and checked thoroughly at least once a week by a competent person authorized for this purpose by the management;
- Broad signs should be provided at each and every turning point specially for the guidance of the drivers of vehicles.
- To avoid dangers while reversing the trackless vehicles, especially at the embankment and tripping points, all areas for reversing of lorries should, as far as possible, be made man free, and there should be a light and sound device to indicate reversing of trucks; and
- A statutory provision of the fence, constant education, training etc. will go a long way in reducing the incidence of such accidents.

FUEL STORAGE

No major storage of fuel envisaged in the mining lease area

WATER LOGGING

Risk

Filling of mine pit with excessive rain

Mitigation Measures

- Provision of adequate capacity pumps for pumping out water from the mining pit with standby arrangements.
- Checking and regular maintenance of garland drainage and earthen bunds to avoid any inflow of surface water into the mine pit.
- Proper drainage will be maintained to eliminate inundation of working pits during rains from run-off water. Suitable garland drain will be provided around pit along with sedimentation pits on each side.
- There is no danger of flood or inundation as the ground level is well below the plateau top, where mining will be carried out.

SAFETY MEASURES AT THE PROPOSED MINE

- The opencast mines have been planned for working with shovel tipper system which requires proper benching not only for slope stability but also for movement of tippers and other heavy machinery. The inclination of the quarry sides at the final stage i.e. at the dip most point will not exceed 400 to the horizontal. (This angle is measured between the line joining the toe of the bottom most bench to the crest of the top most bench and the horizontal line);
- The gradient of the haul road inside the pit, access trench and on the dumps will not be steeper than 1 in J6
- The slope of the sides of the OB dump to the horizontal will not exceed 300, and the height of the OB dumps has been restricted to a max of 3 m;
- The quarries will be protected by garland drains around the periphery for storm water drainage;
- A minimum safe distance of 100-m will be kept between the surface edge of the quarry and the nearest public building, roads etc. When the surface edge of the quarry approaches within a limit of 300 m from any road, public building special permission from DGMS will be taken to conduct controlled blasting to prevent damage/injury to public life and propecty;
- All mining operations both within the quarry and outside will be conducted as per the conditions laid down by DGMS and under the strict supervision of competent persons appointed under Metalliferous Mines Regulations, 1961.

CARE AND MAINTENANCE DURING TEMPORARY DISCONTINUANCE:

In case of emergency arise as situation of temporary discontinuance due to court order or due to statutory requirements or any other unforeseen circumstances pit will be fenced and locked properly so as no one can enter in pit. All plantation will be protected with all due care for their survival. Maintenance and monitoring of discontinued mining operations i.e. maintenance of haul roads, will be done in view of re-open in near future.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Asna Stone Mine of M/s Sarveshwari Stone Mines, Village : Asna, Thana No. : 204, Circle : Govindpur, Distt. : Dhanbad, Jharkhand (1.602 Ha.) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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19. **Nindra Stone Mine of Shri Rohit Yadav, Village : Nindra, Thana No. : 315, Thana : Chandwa, Distt. : Latehar, Jharkhand (1.89 Ha).**

(Proposal No. SIA/JH/MIN/447360/2023).

Applied Area : **4.67 Acres (1.89ha.)**

Project Category : **82 – Application for Environment Clearance (New EC)**

EC Application for : **42500 cum / year (max)**
Overburden: 11955 cum.
DG Set: NA
Crusher- Notproposed

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

This is a new project which has been taken for appraisal on 18.10.2023.

PROJECT and LOCATION Details:

Sl.	Parameter		Details	
1	Project Name	:	Nindra Stone Mine Project Type – Stone Mine	
2	Lessee:	:	**Proprietor: Shri Rohit Yadav**	
3	Lease Address	:	Village- Nindra, Thana No.-315, Thana-Chandwa, District-Lathehar, Jharkhand	
4	Lease Area	:	Ha:1.89	Acres: 4.67
5	Type of Land	:	Non-Forest – Raiyati Land	
6	Project Cost	:	90.2 Lakhs	
7	EMP Budget	:	Capital: Rs. –4.356 Lakhs	Recurring: Rs. 1.64 Lakhs/ year
8	CSR / CER Budget	:	NA	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.:1,77,139	Tonnes:4,78,275
11	Mine Life	:	5 years.	
12	Manpower	:	26 Person	
13	Water Requirement	:	10.45 KLD (Drinking:0.39 KLD, Dust Suppression: 2.8 KLD, Plantation:7 26 KLD)	
14	Water Source	:	Water will be sourced from nearest local vendor Water Tanker for Dust Suppression and Plantation and permission from gram panchayat will be taken to fulfill water requirement for mining operation after the grant of Environment clearance.	
15	DG Set / power	:	Nil.	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	Damodar River – 6.08 km- North	
18	Nearest Habitation	:	NindraVillage	
19	Nearest Rail Station	:	Nindra. Railway Station, Lapra at 1.41 km North direction	

20	Nearest Airport	:	Ranchi, Airport, 60 km SE direction.
21	Nearest Forest	:	DFO Ranchi letter no.-5048 Dated- 28.12.2020 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.
22	Road & Highways	:	MDR (Chandwa-Mc-Clusiganj road), at 0.32 km North Direction

CO-ORDINATES

Point	Latitude	Longitude
1	23° 38' 25.814" N	084° 55' 21.954" E
2	23° 38' 25.587" N	084° 55' 22.774" E
3	23° 38' 26.584" N	084° 55' 23.048" E
4	23° 38' 26.250" N	084° 55' 23.692" E
5	23° 38' 26.008" N	084° 55' 23.419" E
6	23° 38' 25.216" N	084° 55' 23.775" E
7	23° 38' 24.572" N	084° 55' 23.988" E
8	23° 38' 24.705" N	084° 55' 24.628" E
9	23° 38' 24.871" N	084° 55' 25.078" E
10	23° 38' 23.985" N	084° 55' 24.744" E
11	23° 38' 23.359" N	084° 55' 24.679" E
12	23° 38' 23.251" N	084° 55' 24.726" E
13	23° 38' 22.135" N	084° 55' 22.749" E
14	23° 38' 22.405" N	084° 55' 22.360" E
15	23° 38' 22.185" N	084° 55' 21.327" E
16	23° 38' 22.239" N	084° 55' 21.219" E
17	23° 38' 22.491" N	084° 55' 21.115" E
18	23° 38' 22.707" N	084° 55' 21.136" E
19	23° 38' 22.851" N	084° 55' 21.172" E
20	23° 38' 22.851" N	084° 55' 21.579" E
21	23° 38' 23.078" N	084° 55' 21.885" E
22	23° 38' 23.100" N	084° 55' 22.346" E
23	23° 38' 23.236" N	084° 55' 22.386" E
24	23° 38' 23.424" N	084° 55' 22.350" E
25	23° 38' 23.370" N	084° 55' 21.601" E
26	23° 38' 23.388" N	084° 55' 21.172" E
27	23° 38' 23.636" N	084° 55' 20.996" E
28	23° 38' 23.672" N	084° 55' 20.838" E
29	23° 38' 23.614" N	084° 55' 20.650" E
30	23° 38' 23.532" N	084° 55' 19.866" E
31	23° 38' 23.402" N	084° 55' 19.506" E
32	23° 38' 24.518" N	084° 55' 17.191" E
33	23° 38' 25.224" N	084° 55' 15.844" E
34	23° 38' 26.026" N	084° 55' 16.377" E

35	23° 38' 26.664" N	084° 55' 16.694" E
36	23° 38' 27.020" N	084° 55' 16.827" E
37	23° 38' 26.916" N	084° 55' 17.742" E
38	23° 38' 26.498" N	084° 55' 18.987" E
39	23° 38' 26.012" N	084° 55' 19.801" E
40	23° 38' 25.940" N	084° 55' 20.038" E
41	23° 38' 26.145" N	084° 55' 20.222" E
42	23° 38' 25.879" N	084° 55' 20.982" E
43	23° 38' 26.221" N	084° 55' 21.129" E

LAND DETAILS :

Khata No.	Plot No.
07	139
16	137
14	134

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Latehar vide letter no. 442/M, dated 04.03.2021.
2	CO	:	The CO, Chandwa, Latehar vide letter no. 484, dated 03.12.2020 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan.
3	DMO	:	DMO, Latehar vide memo no. 1062/M, dated 16.10.2023 certified that 01 other mining lease area (2.55 Acre) exists within 500 m radius from proposed project site and total area is 7.22 Acre.
4	DFO Wild Life	:	Deputy Director, Palamau Tiger Project, North Division, Modininagar vide letter no. 492, dated 01.07.2021 certified that the proposed project site is outside Eco Sensitive Zone of Betla National Park & Palamao Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Ranchi Forest Division vide letter no. 504, dated 28.10.2020 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 Latehar

			district.
7	Gram Sabha	:	BDO, Chandwa vide letter no. 1625, dated 13.11.2020 informed that Gram Sahha conducted on 10.11.2020.
8	Mine Plan Approval	:	Approved by DMO, Latehar vide Letter No. 1033/M, dated 12.10.2023.

WORKING DETAILS

1	Mining Method	:	Opencast MechanizedMining	
2	Quarry Area	:	Plan period – 1.19Ha.	Conceptual stage –1.19 Ha.
3	Waste Generation	:	Plan Period :11955	Conceptual Stage –11955 Cum.
4	Stripping Ratio	:	1:0.10	
5	Working Days	:	300 days/year	
6	Benches: size & No	:	6 m x 6 m, No. of benches -5	
7	Elevation of Mine	:	521-519AMSL	
8	Ground Level Elevation		519 AMSL	
9	Ultimate Working Depth	:	498 AMSL	
10	Water Table	:	487 AMSL and	
11	Topography of Mine	:	Gently sloping area	
12	Explosive Requirement	:	40 kg Slurry explosives/day	
13	Diesel/Fuel requirement	:	1108 liters / day (332.4 KL/year)	

PRODUCTION DETAILS

Year	Production In Cum/Year	Production In Cum/Day	O.B Production in Cum/Year	Production In Tons/Year	Prod. In Tons. /Day	Bench RL in meters
1st	42500	142	11955	114750	383	A-A'- 477-476 1M O.B. B-B' – 478-477 1M O.B. C-C'- 479-478 1M O.B. O-D' – 479-478 1M O.B. A-A' – 476-470 STONE 6M B-B' – 477-471 STONE 6M C-C' – 478-472 STONE

						6M
2nd	32615	109	0	88061	294	D-D' – 478-472 STONE 6M A-A' – 470-464 STONE 6M
3rd	40236	134	0	108637	362	B-B' – 471-465 STONE 6M C-C' – 472-466 STONE 6M D-D' – 472-466 STONE 6M
4th	38333	128	0	103499	345	A-A' – 464-458 STONE 6M B-B' – 465-459 STONE 6M C-C' – 466-460 STONE 6M D-D' – 466-460 STONE 6M
5th	23102	77	0	62375	208	A-A' – 458-452 STONE 6M B-B' – 459-453 STONE 6M C-C' – 460-454 STONE 6M D-D' – 460-454 STONE 6M
Total	176786	142 (max.)	11955	114750 (Max.)	383 (Max.)	25 meter maximum depth

ExistingLand Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (acres)
1	Mining Activities	0.00
2	Offices/ Store etc	0.00
3	Dumping	0.00
4	Mining Road	0.00
5	Garland drain	0.00
6	Settling Tank	0.00
7	Green belt/Safety Zone	0.00
8	Unutilized	4.67
Total		4.67

Land Use Pattern for Current Plan Period:

Sl. No.	Pattern of Utilization	Proposed Land use for current plan period (acres)
1	Mining Activities	2.94
2	Offices/ Store etc.	0.01
3	Dumping	0.06
4	Mining Road	0.04
5	Garland drain	0.19
6	Settling Tank	0.05
7	Green belt/Safety Zone	1.20
8	Unutilized	0.18
	Total	**4.67**

Land Use Pattern after Life of the Mine:

Sl. No.	Pattern of Utilization	Land used at the conceptual stage ie end of mine life in (acres)	Area to be converted in the conceptual period.
1	Mining Activities	2.94	Water body
2	Offices/ Store etc.	0.01	Plantation
3	Dumping	0.06	Plantation
4	Mining Road	0.04	Water body
5	Garland drain	0.19	-
6	Settling Tank	0.05	-
7	Green belt/Safety Zone	1.20	Green Belt
8	Unutilized	0.18	Plantation
	Total	**4.67**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Green Belt& Other reclaimed area	:	0.49 Ha	1225
2	Haul /Approach Road	:	0.34Km.	227 Trees both side approach road.

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- 11955 cum overburden will be generated in mining plan period which will used in maintenance of mine road and village road.

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- Mining operation willbe restricted to the depth of 26m from surface level.
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k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as 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 Nindra Stone Mine of Shri Rohit Yadav, Village : Nindra, Thana No. : 315, Thana : Chandwa, Distt. : Latehar, Jharkhand (1.89 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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20. **Pirdag Stone Mine of Shri Umesh Kumar Singh, Village : Pirdag, Thana : Chandwa, Thana No. : 291, Distt. : Latehar, Jharkhand (1.07 Ha).**

(Proposal No. SIA/JH/MIN/448931/2023).

Applied Area	**:2.65 ACRES (1.07 Ha.)**
Project Category	**: B2 – Application for Environment Clearance (New EC)**
EC Application for	**: 7898 cum. per year (max) & 21325 MT/Annum** **Overburden:4529 Cum. during plan period.** **DG Set: NA** **Crusher- Notproposed**

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

This is a new project which has been taken for appraisal on 18.10.2023.

PROJECT and LOCATION Details:

Sl.	Parameter		Details	
1	Project Name	:	Pirdag Stone Mine Project Type – Stone Mine	
2	Lessee:	:	**Director- Shri Umesh Kumar Singh** **S/O Late Ganesh Singh**	
3	Lease Address	:	Village- Pirdag, Thana- Chandwa, Thana No- 291, District- Latehar, Jharkhand	
4	Lease Area	:	Ha:1.07 ha	Acres:2.65 Acres
5	Type of Land	:	Non-Forest – Raiyati Land	
6	Project Cost	:	90.00 Lakhs	
7	EMP Budget	:	Capital: 8.10 Lakhs	Recurring: 1.64 Lakhs
8	CSR / CER Budget	:	NA	
9	New or Expansion	:	New	
10	Mineable Reserves	:	82,558 Cum	30,577.2Tons
11	Mine Life	:	5 years.	
12	Manpower	:	26Person	
13	Water Requirement	:	13.29 KLD (Drinking: 0.39 KLD, Dust Suppression: 4.8 KLD, Plantation:8.1 KLD)	
14	Water Source	:	Water will be sourced from Nearest local vendor through Water Tanker for Dust Suppression and Plantation and permission from gram panchayat will be taken to fulfill water requirement for mining operation after the grant of Environment clearance.	
15	DG Set / power	:	NIL.	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	Saphi Nala- 2.85 km in South-East direction.	
18	Nearest Habitation	:	Pirdag, Village	
19	Nearest Rail Station	:	Barkichanpi, Railway Station, at 5.72 km South-East direction.	
20	Nearest Airport	:	Ranchi, Airport, 72 km SE direction.	
21	Nearest Forest	:	DFO Wildlife division Medininagar, Letter no.- 615 Dated- 28/07/2021 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.	
22	Road & Highways	:	NH-39 (Ranchi-Daltonganj road), at 1.20 km East Direction	

CO-ORDINATES

Geo-Coordinates of all corner points of Demarcated Block Boundary (GPS Co-ordinates) Datum: WGS 84		
Corner Point	**Latitude**	**Longitude**
Point	Latitude	Longitude
P1	23° 35' 22.470" N	084° 46' 27.981" E
P2	23° 35' 22.058" N	084° 46' 27.878" E
P3	23° 35' 20.821" N	084° 46' 27.551" E
P4	23° 35' 20.780" N	084° 46' 27.469" E
P5	23° 35' 20.818" N	084° 46' 27.375" E
P6	23° 35' 20.816" N	084° 46' 27.246" E
P7	23° 35' 20.679" N	084° 46' 27.086" E
P8	23° 35' 20.667" N	084° 46' 26.725" E
P9	23° 35' 19.858" N	084° 46' 26.481" E
P10	23° 35' 19.859" N	084° 46' 26.780" E
P11	23° 35' 19.906" N	084° 46' 27.038" E
P12	23° 35' 20.060" N	084° 46' 27.298" E
P13	23° 35' 20.063" N	084° 46' 27.550" E
P14	23° 35' 19.957" N	084° 46' 27.800" E
P15	23° 35' 19.959" N	084° 46' 27.936" E
P16	23° 35' 19.220" N	084° 46' 28.036" E
P17	23° 35' 19.115" N	084° 46' 28.378" E
P18	23° 35' 18.965" N	084° 46' 28.670" E
P19	23° 35' 18.904" N	084° 46' 28.959" E
P20	23° 35' 18.324" N	084° 46' 28.636" E
P21	23° 35' 18.068" N	084° 46' 28.694" E
P22	23° 35' 17.733" N	084° 46' 28.557" E

P23	23° 35' 17.405" N	084° 46' 28.318" E
P24	23° 35' 17.366" N	084° 46' 27.745" E
P25	23° 35' 17.275" N	084° 46' 27.463" E
P26	23° 35' 17.058" N	084° 46' 27.390" E
P27	23° 35' 16.781" N	084° 46' 27.658" E
P28	23° 35' 16.400" N	084° 46' 28.217" E
P29	23° 35' 15.529" N	084° 46' 27.944" E
P30	23° 35' 15.607" N	084° 46' 27.594" E
P31	23° 35' 15.766" N	084° 46' 26.877" E
P32	23° 35' 15.895" N	084° 46' 26.530" E
P33	23° 35' 16.141" N	084° 46' 26.236" E
P34	23° 35' 18.639" N	084° 46' 26.339" E
P35	23° 35' 19.980" N	084° 46' 26.056" E
P36	23° 35' 21.132" N	084° 46' 25.670" E
P37	23° 35' 22.374" N	084° 46' 25.304" E
P38	23° 35' 22.387" N	084° 46' 26.999" E
P39	23° 35' 22.385" N	084° 46' 27.235" E
P40	23° 35' 22.549" N	084° 46' 27.380" E

LAND DETAILS :

Khata No.	Plot No.
15	29 (P), 32 (P) & 33 (P)
02	31

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Latehar vide letter no. 433/M, dated 04.03.2021.

2	CO	:	The CO, Chandwa, Latehar vide letter no. 367, dated 07.10.2020 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan.
3	DMO	:	DMO, Latehar vide memo no. 987/M, dated 26.09.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	Deputy Director, Palamau Tiger Project, North Division, Medininagar vide letter no. 615, dated 28.07.2021 certified that the proposed project site is outside Eco Sensitive Zone of Betla National Park & Palamau Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Latehar Forest Division vide letter no. 1602, dated 26.12.2020 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 Latehar district.
7	Gram Sabha	:	BDO, Chandwa vide letter no. 1305, dated 14.09.2020 informed that Gram Sabha conducted on 08.09.2020.
8	Mine Plan Approval	:	Approved by DMO, Latehar vide Letter No. 1050/M, dated 14.10.2023.

WORKING DETAILS

1	Mining Method	:	Opencast Semi MechanizedMining	
2	Quarry Area	:	Plan period – 6.56 acre	Conceptual stage –2.65 acrea
3	Waste Generation	:	Plan Period :4529Cum.	Conceptual Stage –0 Cum.
4	Stripping Ratio	:	01:0.5	
5	Working Days	:	300 days/year	
6	Benches: size & No	:	3m x 3m, No. of benches -4	
7	Elevation of Mine	:	546-529	
8	Ground Level Elevation		529 AMSL	
9	Ultimate Working Depth	:	13m	
10	Water Table	:	25-30m	
11	Topography of Mine	:	Gently sloping area	
12	Explosive Requirement	:	12Kg Slurry explosives/day	
13	Diesel/Fuel requirement	:	792 liters / day (237.6 KL/year)	

PRODUCTION DETAILS

Year	Production of Stone		Production Per Day			Removal of O.B.	
	Cum	T.F.	Tonnes	Cum	Tonnes	Cum	Production per day cum (O.B.
1st	7500	2.7	20250	25	68	1140	4
2nd	6892	2.7	18608	23	62	2660	9
3rd	7898	2.7	21325	26	71	729	2
4th	5108	2.7	13792	17	46	0	0
5th	3123	2.7	8432	10	28	0	0
Total	30521	2.7	82407	20	55	4529	9

LAND USE

ExistingLand Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (acres)
1	Mining Activities	0.00
2	Offices/ Store etc.	0.00
3	Dumping	0.00
4	Mining Road	0.00
5	Garland drain	0.00
6	Settling Tank	0.00
7	Green belt/Safety Zone	0.00
8	Stone Stock yards	0.00
9	Unutilized	2.65
	Total	6.56

Land Use Pattern for Current Plan Period:

Sl. No.	Pattern of Utilization	Proposed Land use for current plan period (acres)

1	Mining Activities	1.55
2	Offices/ Store etc.	0.00
3	Dumping	0.00
4	Mining Road	0.06
5	Garland drain	0.15
6	Settling Tank	0.02
7	Green belt/Safety Zone	0.87
8	Stone Stock yards	0.00
9	Unutilized	0.00
Total		6.56

Land Use Pattern after Life of the Mine:

Sl. No.	Pattern of Utilization	Land used at the conceptual stage ie end of mine life in (acres)	Area to be converted in the conceptual period.
1	Mining Activities	1.55	Water body
2	Offices/ Store etc.	0.00	-
3	Dumping	0.00	- -
4	Mining Road	0.06	Water body
5	Garland drain	0.15	-
6	Settling Tank	0.02	-
7	Green belt/Safety Zone	0.87	Green Belt
8	Stone Stock yards	0.00	
9	Unutilized	0.00	-
Total		2.65	-

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Green Belt& Other reclaimed area	:	0.83 Ha.	1450

2	Haul /Approach Road :	0.30Km.	170Trees both side approach road.

- 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 hearing 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 only 4529 cum overburden will be generated in mining plan period which will used in maintenance of mine road and village road.

Water Pollution Control Measures:

- Mining operation willbe restricted to the depth of 30m from surface level.
- Quality of dug well will be monitored, in order to ensure the quality of water is not affected.

Air and Noise Pollution Control Measures:

- Dust suppression measures like spraying / sprinkling of water to keep the surface wet.
- Overloading of the truck / tractor trolleys will not be done.

As the only impact is due to transportation of soil through village roads, emphasis will he given on the following points:

- Carts or tractor-trolleys will be developed on village roads.
- Tractors-trolleys will be well maintained and PUC certified.
- Timely maintenance of vehicles and their silencers to minimize vibration and sound.
- Minimum use of horns in the village area and silence zone (if any) as applicable.

RISK AND MITIGATION MEASURES

BLASTING

Risk

- Most of the accidents from blasting occur due to the generation of fly-rocks,a s they may sometimes go even beyond the danger zone, mainly due to over charging of the shot-holes or as a resultof certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations.

- Vibrations also lead to displacement of adjoining areas. Dust and noise are also problems commonly encountered during blasting operations.
- Risk associated with storage and use of explosive

Mitigation Measures

- Adequate charge per hole with delay blasting will be used to minimize fly-rock, vibration and noise
- Before starting charging, clear audible warning signals by Sirens will be given so that people nearby can take shelter
- Blasting will he done during the lunch interval, i.e. from 1.00 to2.00 pm.
- Holes will be drilled in square/scattered pattern.
- Shot firing will be usually done with the help of safety fuse & ordinary detonator/ electric shotfiring with delay detonators as per requirement.
- Adequate shelters or other protective structures shall be provided to the workers at all times;
- The shot fired shall give sufficient warning by effective signal over the entire area falling within a radius of 500 m
- Proper, safe and careful handling and use of explosives by competent Blasters having Blaster's Certificate of Competency issued by DGMS
- Conventional explosives shall be used in their original cartridge packing and such cartridge shall not be cut to remove explosive for making cartridge of different size.
- Explosives shall be conveyed in special containers.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

OVER BURDEN

Risk

The overburden dumps may cause landslides. High overburden dumps created at the quarry edge may cause sliding of the overburden dump or may cause failure of the pit slope due to excessive loading, thereby causing loss of life and property. Siltation of surface water may also cause run-off from overburden dumps.

Mitigation Measures

- To prevent the failure of overburden slopes, especially during the rainy season, proper garland drain & bund are constructed around the dump.
- To prevent this, height of overburden dumps will be restricted. Further, no stone or loose rock or loose tree will be allowed to remain within 3 meters of the edge of the quarry To

prevent siltation of surface water, retaining wall will be constructed on the down side of each OB dump.

ACCIDENTS DUE TO TRANSPORTATION AND MOVEMENT OF MINING MACHINERIES

Risk

Most of the accidents occur during transportation by tippers/ trucks and movement of Mining machineries.

Operations of Jackhammers are often attributable to mechanical failures and human errors.

Mitigation Measures

- This can be prevented by regular training of all vehicle /machinery drivers/ operators, regular maintenance of equipment and ensuring safe operations.
- All safety precautions and provision of MMR 1961 shall he strictly followed during all mining operations.
- Regular maintenance and testing of all mining equipment as per manufacturer's guidelines.
- All transportatioh within tne main working area should be carried out under the direct supervision and control of the management;
- The vehicles must be maintained in good repairs and checked thoroughly at least once a week by a competent person authorized for this purpose hy the management;
- Broad signs should bo provided at each and every turning point specially for the guidance of the drivers of vehicles.
- To avoid dangers while reversing the trackless vehicles, especially at the embankment and tripping points, all areas for reversing of lorries should, as far as possible, be made man free, and there should be a light and sound device to indicate reversing of trucks; and
- A statutory provision of the fence, constant education, training etc. will go a long way in reduring the incidence of such accidents.

FUEL STORAGE

No major storage of fuel envisaged in the mining lease area

WATER LOGGING

Risk

Filling of mine pit with excessive rain

Mitigation Measures

- Provision of adequate capacity pumps for pumping out water from the mining pit with standby arrangements.

- Checking and regular maintenance of garland drainage and earthen bunds to avoid any inflow of surface water into the mine pit.
- Proper drainage will be maintained to eliminate inundation of working pits during rains from run-off water. Suitable garland drain will be provided around pit along with sedimentation pits on each side.
- There is no danger of flood or inundation as the ground level is well below the plateau top, where mining will be carried out.

SAFETY MEASURES AT THE PROPOSED MINE

- The opencast mines have been planned for working with shovel tipper system which requires proper benching not only for slope stability but also for movement of tippers and other heavy machinery. The inclination of the quarry sides at the final stage i.e. at the dip most point will not exceed 400 to the horizontal. (This angle is measured between the line joining the toe of the bottom most bench to the crest of the top most bench and the horizontal line);
- The gradient of the haul road inside the pit, access trench and on the dumps will not be steeper than 1 in 16
- The slope of the sides of the OB dump to the horizontal will not exceed 300, and the height of the OB dumps has been restricted to a max of 3 m;
- The quarries will be protected by garland drains around the periphery for storm water drainage;
- A minimum safe distance of 100-m will be kept between the surface edge of the quarry and the nearest public building, roads etc. When the surface edge of the quarry approaches within a limit of 300 m from any road, public building special permission from DGMS will be taken to conduct controlled blasting to prevent damage/injury to public life and property;
- All mining operations both within the quarry and outside will be conducted as per the conditions laid down by DGMS and under the strict supervision of competent persons appointed under Metalliferous Mines Regulations, 1961.

CARE AND MAINTENANCE DURING TEMPORARY DISCONTINUANCE:

In case of emergency arise as situation of temporary discontinuance due to court order or due to statutory requirements or any other unforeseen circumstances pit will be fenced and locked properly so as no one can enter in pit. All plantation will be protected with all due care for their survival. Maintenance and monitoring of discontinued mining operatinns i.e. maintenance of haul roads, will be done in view of re-open in near future.

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 heen prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes arc noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Pirdag Stone Mine of Shri Umesh Kumar Singh, Village : Pirdag, Thana : Chandwa, Thana No. : 291, Distt. : Latehar, Jharkhand (1.07 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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21. 555 Bricks of Shri Jitendra Singh, Mouza : Ranikudar, Thana : T Tanger, Thana No. - 111, Distt. : Simdega, Jharkhand (1.137 Ha).

(Proposal No. SIA/JH/MIN/448647 /2023).

Applied Area : **2.81 ACRES(1.137Ha.)**

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

EC Application for : **1584 cum / 6 Lakh Bricks Per annum**

DG Set: NA

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

This is a new project which has been taken for appraisal on 18.10.2023.

PROJECT and LOCATION Details:

Sl.	Parameter		Details	
1	Project Name	:	555 Brick Project Type – Soil Mine	
2	Lessee	:	**Director- Sri Jitendra Singh**	
3	Lease Address	:	Mouza- Ranikudar, Thana- Thethi Tanger,Thana (No.) - 111, Dist-Simdega,Jharkhand	
4	Lease Area	:	Ha:1.137	Acres: 2.81
5	Type of Land	:	Non-Forest – Raiyati Land	
6	Project Cost	:	15.40 Lakhs	
7	EMP Budget	:	Capital: Rs –5.50 Lakhs	Recurring: Rs. 1.30Lakhs/ year
8	CSR / CER Budget	:	NA	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.:12870	
11	Mine Life	:	9Years	
12	Manpower	:	20 Person	
13	Water Requirement	:	2.83 KLD	
14	Water Source	:	Water will be sourced from Nearest local vendor through Water Tanker for Dust Suppression and Plantation and permission from gram panchayat will be taken to fulfill water requirement for mining operation after the grant of Environment clearance.	
15	DG Set / power	:	Nil.	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	Sankh River is about 8 km in NW	
18	Nearest Habitation	:	RanikudarVillage	
19	Nearest Rail Station	:	Banno Railway station– 55 km	
20	Nearest Airport	:	Ranchi Airport 165 kms	
21	Nearest Forest	:	DFO Simdega Division letter no -3168, Dated- 26.12.2019 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.	
22	Road & Highways	:	Dumri-Gumla road (MDR) at 0.07 Km West	

CO-ORDINATES

Geo-Coordinates of all corner points of Demarcated Block Boundary (GPS Co-ordinates) Datum: WGS 84		
Corner Point	**Latitude**	**Longitude**
1	22°33'26.00" N	84°28'12.9" E
To		
2	22°33'32.3" N	84°28'15.2" E

LAND DETAILS :

Khata No.	Plot No.
53	250, 251 & 252

STATUTORY CLEARANCES :

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Thethaitangar vide letter no. 09 (ii)/Ra, dated 03.01.2020 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Simdega vide memo no. 187/M, dated 28.05.2020 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide memo no. 104, dated 06.02.2020 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Simdega Forest Division vide letter no. 3168, dated 26.12.2019 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	The project is mentioned in District Survey Report of Simdega District.
7	Gram Sabha	:	Gram Sabha conducted on 20.10.2019.
8	Mine Plan Approval	:	Approved by DMO, Simdega vide Memo No. 977/M, dated 21.03.2020.

WORKING DETAILS

1	Mining Method	:	Opencast mining	
2	Quarry Area	:	Plan period – 0.611 Ha	Conceptual stage –0.611 Ha
3	Working Days	:	200 days/year	
4	Topography of Mine	:	Gently sloping area	

PRODUCTION DETAILS

Year	Production of Recoverable Soil in cum	Production of Bricks Block in no.
1st	1584	600000
2nd	1584	600000
3rd	1584	600000
4th	1584	600000
5th	1584	600000
Total	7920	3000000

LAND USE

ExistingLand Use pattern

SL	Pattern	Existing Land Use (Ha)
1	Quarrying	0.00
2	Berm area/ Fencing and plantation	0.00
4	Unutilized	1.137
	TOTAL	1.137

Land Use Pattern for Current Plan Period:

SL	Pattern	Land Use (Ha)
1	Quarrying	0.611
2	Berm area/ Fencing and plantation	0.032
3	Unutilized	0.494
	TOTAL	1.137

Land Use Pattern after Life of the Mine:

SL	Pattern	Land Use (Ha)
1	Quarrying	0.611
2	Berm area/ Fencing and plantation	0.032
3	Unutilized	0.494
	TOTAL	1.137

ENVIRONMENT MANAGEMENT

Green Belt Development

Total No of plants- 80+150=230

- 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 overburden will be generated in mining plan period which will used in maintenance of mine road and village road.

Water Pollution Control Measures:

- Quality of dug well will be monitored, in order to ensure the quality of water is not affected.

Air and Noise Pollution Control Measures:

- Dust suppression measures like spraying / sprinkling of water to keep the surface wet.
- Overloading of the truck / tractor trolleys will not be done.

As the only impact is due to transportation of soil through village roads, emphasis will be given on the following points:

- Carts or tractor-trolleys will be developed on village roads.
- Tractors-trolleys will be well maintained and PUC certified.
- Timely maintenance of vehicles and their silencers to minimize vibration and sound.
- Minimum use of horns in the village area and silence zone (if any) as applicable.

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 he 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 he complered within the first year of operation. Thereafter tbe same will he maintained up to tbe Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will he done for effective dust suppression within tbe 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 tban 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 tbe mine.
k. Suitable safety protection measures shall be taken around the water hodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Perspnal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will he 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 555 Bricks of Shri Jitendra Singh, Mouza : Ranikudar, Thana : T Tanger, Tbana No. - 111, Distt. : Simdega, Jharkhand (1.137 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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22. Marmar Sand Ghat in the River Bed of Damodar of M/s Jharkhand State Mineral Development Corporation Ltd. (JSMDC), Village : Marmar, Tehsil : Latehar, Distt. : Latehar, Jharkhand (2.10 Ha).

(Proposal No. SIA/JH/MIN/ 448809 /2023).

Applied Area : 5.19 ACRES (2.10 Ha.)

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

EC Application for : 24074.29 m^3 per year & 40926.29 TPA

Overburden : N.A.

DG Set : N.A.

Crusher - Not proposed

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

This is a new project which has been taken for appraisal on 18.10.2023.

PROJECT and LOCATION Details:

Sl. No.	Parameter		Details	
1	Project Name	:	Marmar sand Ghat in the River-bed of Damodar.	
2	Lessee:	:	Jharkhand State Mining Development Corporation Ltd.	
3	Lease Address	:	Village - Marmar, P.S. - Latehar, District - Latehar, Jharkhand.	
4	Lease Area	:	Ha: 2.10	Acres: 5.19
5	Type of Land	:	Non-Forest (River-bed)	
6	Project Cost	:	40.00 Lakhs	
7	EMP Budget	:	8.50 Lakhs	
8	CSR/CER Budget	:	N. A.	
9	New or Expansion	:	New	
10	Mineable Reserves	:	M^3: 24074.29	Tonnes: 14161.34
11	Mine Life	:	1 years	
12	Manpower	:	26 Person	
13	Water Requirement	:	5.19 KLD (Drinking: 0.39 KLD, Dust Suppression: 4.8 KLD)	
14	Water Source	:	This water will be supplied from the nearby sources surface or groundwater sources througb tankers or by private tankers. Additional water will also be required for plantation purpose.	
15	DG Set / power	:	Nil	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	Damodar River.	
18	Nearest Habitation	:	Marmar Village	
19	Nearest Rail Station	:	Mahuamilan Railway Station – 4.5 Km in South-West direction	
20	Nearest Airport	:	Birsa Munda Airport, Ranchi -150 Km in West direction	

21	Nearest Forest	:	DFO Latehar Division on dated - 24/02/2023, certified that the distance of reserved/protected forest is more than 250 m from proposed project site
22	Road & Highways	:	NH-22, 9.14 km in West direction

CO-ORDINATES:

Latitude	Longitude
23° 40' 34.826" N	84° 50' 23.190" E
23° 40' 33.734" N	84° 50' 21.110" E
23° 40' 34.299" N	84° 50' 20.339" E
23° 40' 36.210" N	84° 50' 23.336" E
23° 40' 37.175" N	84° 50' 24.768" E
23° 40' 37.943" N	84° 50' 26.306" E
23° 40' 38.687" N	84° 50' 27.587" E
23° 40' 39.571" N	84° 50' 29.067" E
23° 40' 41.047" N	84° 50' 32.125" E
23° 40' 41.320" N	84° 50' 33.311" E
23° 40' 41.618" N	84° 50' 34.778" E
23° 40' 41.586" N	84° 50' 35.580" E
23° 40' 41.813" N	84° 50' 36.861" E
23° 40' 42.292" N	84° 50' 39.289" E
23° 40' 40.962" N	84° 50' 38.784" E
23° 40' 40.015" N	84° 50' 32.900" E
23° 40' 36.554" N	84° 50' 26.210" E

LAND DETAILS :

Khata No.	Plot No.
72	619

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by Incharge Sand, JSMDC Ltd., Ranchi vide letter no. 646/M, dated 26.05.2023.
2	CO	:	The CO, Chandwa vide letter no. 141, dated 24.02.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jbari" in R.S. Khatiyan.

3	DMO	:	DMO, Latehar vide memo no. 1044, dated 13.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	Deputy Director, Palamau Tiger Project, North Division, Medininagar vide letter no. 1020, dated 23.09.2023 certified that the proposed project site is outside Eco Sensitive Zone of Betla National Park & Palamau Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Latehar Forest Division vide letter no. 349, dated 24.02.2023 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 Latehar district.
7	Gram Sabha	:	Gram Sabha conducted on 14.08.2023.
8	Mine Plan Approval	:	Approved by DMO, Latehar vide Letter No. 1025/M, dated 11.10.2023.

WORKING DETAILS

1	Mining Method	:	Opencast exclusively Manual Mining	
2	Quarry Area	:	Plan period 1.34 Ha.	Conceptual stage 2.10 Ha.
3	Waste Generation	:	This is a sand mining project so there is no generation of waste.	
4	Stripping Ratio	:	N. A.	
5	Working Days	:	200 days/year	
6	Benches: size & No	:	This is a Sand mining project.	
7	Elevation of Mine	:	As per the statutory requirement River-bed Sand mining cannot be done more than 3m or water level whichever is less. In this Sand Ghat, the operational depth has been kept 1.80 m only.	
8	Ground Level Elevation			
9	Density of Sand	:	1.70m	
10	Water Table	:	As per the statutory requirement River bed Sand mining cannot be done more than 3m or water level whichever is less. In this Sand Ghat, the operational depth has been kept 1.80m only.	
11	Topography of Mine	:	Almost plain area.	
12	Explosive Requirement	:	N. A	
13	Diesel/Fuel requirement	:	N. A.	

PRODUCTION DETAILS

PRODUCTION DETAILS		
No. working days in a year	200.00	Days
Proposed Sand Production (in m^3)	24074.29	Per Annum
Production (in m^3)	120.37	Per Day
Density of Sand	1.70	Tonne/m^3
Production (in Tonnes)	204.63	Per day
Production (in Tonnes)	40926.29	Per Annum

LAND USE

Sl. No.	Pattern of Utilization	Land Used in present 5 Years Plan period (in Ha.)	
1	Mining Activities	1.34	Area may vary based on flow of water in the subsequent year.
2	Mining Road/Haul road	0.00	To be properly maintained with Plantation in both sides
3	Loss due to Safety Zone	0.76	Distance from the bank should be 1/4th of River width and should not he less than 7.5 meters. Mining shall be restricted within the central 3/4th width of the river/rivulet or 7.5 meters (toward) from River-bank but up to 10% of the width of the River.
Total		2.10	

ENVIRONMENT MANAGEMENT

Green Belt Development:

Greenhelt development along the access road (avenue plantation in 3 rows) at Sand mining site.

Sl. No.	Development Year	No. of Trees
1	1st Year	20
2	2nd Year	20
3	3rd Year	40
4	4th & 5th Year	Maintenance

Solid Waste Management:

- There is no generation of waste. Hence protection of waste dump is not required.

Water Pollution Control Measures:

- Mining operation willhe restricted to tho depth of 3m from surface level.

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of Sand in the river bed. River stream will not be diverted to form in active channels.

- The contractor will follow all guidelines and rules for proper and scientific method of mining during the period of extracting the Sand.

Air and Noise Pollution Control Measures:

- Water sprinklers along the haul road & Transport route.
- Green belt along ML/Safety zone boundary.
- Ambient air quality monitoring will be carried out (every 3 month).
- Tractors-tcolleys will be well maintained and PUC certified.
- Timely maintenance of vehicles and their silencers to minimize vibration and sound.
- Minimum use of horns in the village area and silence zone (if any) as applicable.

- 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 hearing 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.

RISK ASSESSMENT

HAZARD IDENTIFICATION & RISK ASSESSMENT (HIRA):

- The possibility of inundation/flooding of the mines are very high during monsoon or during heavy rains as the mine area lies in the river-bed.
- There is danger to the trucks and othec machineries due to flooding.
- There is danger to the workers working in the mines.

Mitigation

- Mining will be done durog the non-monsoon periods (October-June); therefore, problem of inundation is not likely to happen.
- There will be mechanism/warning system of heavy rains and discharges from the upstream dams.

OVER BURDEN

- There is no generation of waste. Hence protection of waste dump is not required.

ACCIDENTS DUE TO TRANSPORTATION AND MOVEMENT OF MINING MACHINERIES

Risk

Most of the accidents occur during transportation by tippers/ trucks and movement of Mining machineries.

Operations of jackhammers are often attributable to mechanical failures and human errors.

Mitigation Measures

- This can be prevented by regular training of all vehicle/machinery drivers/operators, regular maintenance of equipment and ensuring safe operations.
- All safety precautions and provision of MMR 1961 shall be strictly followed during all mining operations.
- Regular maintenance and testing of all mining equipment as per manufacturer's guidelines.
- All transportation within the main working area should be carried out under the direct supervision and control of the management;
- The vehicles must be maintained in good repairs and checked thoroughly at least once a week by a competent person authorized for this purpose by the management;
- Broad signs should be provided at each and every turning point specially for the guidance of the drivers of vehicles.
- To avoid dangers while reversing the trackless vehicles, especially at the embankment and tripping points, all areas for reversing of lorries should, as far as possible, be made man free, and there should be a light and sound device to indicate reversing of trucks; and a statutory provision of the fence, constant education, training etc. will go a long way in reducing the incidence of such accidents.

FUEL STORAGE

Not Applicable.

WATER LOGGING

Not Applicable.

Undertaking submitted affirming:

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

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

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Marmar Sand Ghat in the River Red of Damodar of M/s Jharkhand State Mineral Development Corporation Ltd. (JSMDC), Village : Marmar, Tebsil : Latehar, Distt. : Latehar, Jharkhand (2.10 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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23. **Mohanpur Stone & Soil Mine of Shri Ajay Kumar Pathak, Village : Mohanpur, Thana no. : 104, Thana : Herhanj, Distt. : Latehar, Jharkhand (2.45 Ha).**
(Proposal No. SIA/JH/MIN/ 448833 /2023).

Applied Area	**: 6.06ACRES (2.45Ha.)**
Project Catagory	**: B2 – Application for Environment Clearance (New EC)**
EC Application for	**: 39888cum / year (max)** **Overburden:9324 cum. during plan period.** **DG Set: 60 KVA D.G. Set proposed** **Crusher- 80 TPH Capacity**

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

This is a new project which has been taken for appraisal on 18.10.2023.

PROJECT and LOCATION Details:

Sl.	Parameter		Details
1	Project Name	:	Mohanpur Stone & Soil Mine

			Project Type – Stone and Soil Mine along with Crusher	
2	Lessee:	:	Shri Ajay Kumar Pathak	
3	Lease Address	:	Village- Mohanpur, Thana- Herhanj. Thana No- 104, District-Lathehar, Jharkhand	
4	Lease Area	:	Ha:2.45	Acres: 6.06
5	Type of Land	:	Non-Forest – Raiyati Land	
6	Project Cost	:	90.2Lakhs	
7	EMP Budget	:	Capital: Rs. –8.16 Lakhs	Recurring: Rs. 1.64Lakhs/ year
8	CSR / CER Budget	:	NA	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.:235890	Tonnes:636903
11	Mine Life	:	7.13Years say 8 Years	
12	Manpower	:	25Person	
13	Water Requirement	:	12.53 KLD (Drinking:0.37 KLD, Dust Suppression: 4 KLD, Plantation:8.16 KLD)	
14	Water Source	:	Wate Water will be sourced frem Nearest local vendor through Water Tanker for Dust Suppression and Plantation and permission from gram panchayat will be taken to fulfill water requirement for mining operation after the grant of Environment clearance.	
15	DG Set / power	:	60 KVA D.G. Set proposed	
16	Crusher	:	80 TPH Capacity	
17	Nearest Water Body	:	Auranga River – 22.04 km-West	
18	Nearest Habitation	:	MohanpurVillage	
19	Nearest Rail Station	:	Lathehar Railway Station, at 19.35 km SW direction.	
20	Nearest Airport	:	Airport Ranchi, Airport, 95 km SE direction from the lease area.	
21	Nearest Forest	:	DFO Latehar letter no.-1189 Dated- 12.05.2021 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.	
22	Road & Highways	:	MDR (Lathehat-Nawada road), at 0.51 km West Direction.	

CO-ORDINATES

Point	Latitude	Longitude
1	23° 50' 28.120" N	084° 36' 36.671" E
2	23° 50' 29.617" N	084° 36' 36.971" E
3	23° 50' 31.428" N	084° 36' 37.391" E
4	23° 50' 31.256" N	084° 36' 38.196" E

5	23° 50' 31.118" N	084° 36' 38.481" E
6	23° 50' 30.937" N	084° 36' 38.705" E
7	23° 50' 30.865" N	084° 36' 39.119" E
8	23° 50' 30.900" N	084° 36' 39.615" E
9	23° 50' 30.850" N	084° 36' 39.798" E
10	23° 50' 30.712" N	084° 36' 39.949" E
11	23° 50' 30.705" N	084° 36' 40.321" E
12	23° 50' 30.618" N	084° 36' 40.737" E
13	23° 50' 30.700" N	084° 36' 41.285" E
14	23° 50' 30.544" N	084° 36' 41.859" E
15	23° 50' 30.575" N	084° 36' 42.390" E
16	23° 50' 30.417" N	084° 36' 42.888" E
17	23° 50' 30.241" N	084° 36' 43.449" E
18	23° 50' 30.068" N	084° 36' 43.960" E
19	23° 50' 29.409" N	084° 36' 43.868" E
20	23° 50' 29.281" N	084° 36' 44.348" E
21	23° 50' 29.289" N	084° 36' 45.036" E
22	23° 50' 29.241" N	084° 36' 45.551" E
23	23° 50' 29.097" N	084° 36' 45.754" E
24	23° 50' 28.903" N	084° 36' 45.935" E
25	23° 50' 28.549" N	084° 36' 46.006" E
26	23° 50' 28.240" N	084° 36' 45.868" E
27	23° 50' 27.997" N	084° 36' 45.715" E
28	23° 50' 28.073" N	084° 36' 45.491" E
29	23° 50' 28.212" N	084° 36' 45.293" E
30	23° 50' 28.052" N	084° 36' 45.195" E
31	23° 50' 28.002" N	084° 36' 45.327" E
32	23° 50' 27.783" N	084° 36' 45.443" E
33	23° 50' 27.516" N	084° 36' 45.512" E
34	23° 50' 27.528" N	084° 36' 45.132" E
35	23° 50' 26.703" N	084° 36' 44.581" E
36	23° 50' 27.037" N	084° 36' 43.762" E
37	23° 50' 27.375" N	084° 36' 43.275" E
38	23° 50' 27.780" N	084° 36' 43.005" E
39	23° 50' 28.374" N	084° 36' 43.223" E
40	23° 50' 28.617" N	084° 36' 42.936" E
41	23° 50' 28.825" N	084° 36' 42.248" E
42	23° 50' 28.808" N	084° 36' 42.110" E
43	23° 50' 28.289" N	084° 36' 42.104" E
44	23° 50' 28.139" N	084° 36' 41.961" E

45	23° 50' 28.081" N	084° 36' 41.787" E
46	23° 50' 27.948" N	084° 36' 41.736" E
47	23° 50' 27.539" N	084° 36' 41.742" E
48	23° 50' 27.302" N	084° 36' 41.621" E
49	23° 50' 27.201" N	084° 36' 41.514" E
50	23° 50' 27.109" N	084° 36' 41.385" E
51	23° 50' 27.063" N	084° 36' 40.990" E
52	23° 50' 27.044" N	084° 36' 40.677" E
53	23° 50' 26.814" N	084° 36' 40.596" E
54	23° 50' 26.533" N	084° 36' 40.421" E
55	23° 50' 26.557" N	084° 36' 39.427" E
56	23° 50' 26.504" N	084° 36' 38.911" E
57	23° 50' 26.620" N	084° 36' 38.297" E
58	23° 50' 26.755" N	084° 36' 37.752" E
59	23° 50' 27.940" N	084° 36' 37.731" E

LAND DETAILS :

KHATA NO.	PLOT NO.
04	397(P)
15	448

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Latehar vide letter no. 232/M, dated 12.03.2022.
2	CO	:	The CO, Herhanj vide letter no. 344, dated 22.12.2021 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Latehar vide letter dated 19.02.2022 certified that no other mining lease area exists within 500 m radius from proposed project site
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 2524, dated 17.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Lawalong Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Latehar Forest Division vide letter no 1189, dated 12.08.2021 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 Latehar district.
7	Gram Sabha	:	BDO, Herhanj vide letter no. 922, dated 22.12.2021 informed that Gram Sabha conducted on 17.12.2021.
8	Mine Plan Approval	:	Approved by DMO, Latehar vide Letter No. 1051/M, dated 14.10.2023.

WORKING DETAILS

1	Mining Method	:	Opencast MechanizedMining	
2	Quarry Area	:	Plan period – 3.58 acres	Conceptual stage –3.58 acres
3	Waste Generation	:	Plan Period :9324Cum.	Conceptual Stage –9324 Cum.
4	Stripping Ratio	:	1:0.02	
5	Working Days	:	300 days/year	
6	Benches: size & No	:	6m x 6m, No. of benches -5	
7	Elevation of Mine	:	443 – 441 AMSL	
8	Ground Level Elevation	:	441 AMSL	
9	Ultimate Working Depth	:	24 m	
7	Topography of Mine	:	Gently sloping area	
8	Explosive Requirement	:	32Kg Slurry explosives/day	
9	Diesel/Fuel requirement	:	1044 liters / day (313.2 KL/year)	

PRODUCTION DETAILS

SUMMARY OF YEARWISE OF PRODUCTION						
Years	Production In Cum/Year	Production In Cum/Day	O.B Production in cum/Year	Production In Tons/Year	Prod. In Tons. /Day	Bench RL In meters
1st	39888	133	8424	107698	359	A-A' (442-436 m R.L)
2nd	26914	90	900	72668	242	B-B' (438-432 m R.L) & A-A' (436-430 m R.L)
3rd	25207	84	0	68059	227	A-A' (436-430m R.L), B-B' (432-426m R.L)
4th	39240	131	0	105948	353	A-A' (430-424 m R.L)

5th	33984	113	0	91757	306	A-A' (424-418 m R.L)
Total	**165233**		**9324**	**446129**		**24**

LAND USE

Existing Land Use pattern

Sl No.	Pattern of Utilization	Present/Existing land use pattern in (acres)
1	Mining Activities	0.00
2	Offices/ Store etc.	0.00
3	Mining Road	0.00
4	Proposed Crusher	0.00
5	Garland drain	0.00
6	Settling Tank	0.00
7	Green belt/Safety Zone	0.00
8	Unutilized	6.06
	Total	**6.06**

Land Use Pattern for Current Plan Period:

Sl. No.	Pattern of Utilization	Proposed Land use for current plan period (acres)
1	Mining Activities	3.58
2	Offices/ Store etc.	0.01
3	Mining Road	0.04
4	Proposed Crusher	0.25
5	Garland drain	0.20
6	Settling Tank	0.03
7	Green belt/Safety Zone	1.32
8	Unutilized	0.63
	Total	**6.06**

Land Use Pattern after Life of the Mine:

Sl. No.	Pattern of Utilization	Land used at the conceptual stage le end of mine life in (acres)	Area to be converted m the conceptual period.
1	Mining Activities	3.58	Water body
2	Offices/ Store etc.	0.01	Plantation
3	Mining Road	0.04	Water body
4	Proposed Crusher	0.25	Crusher

5	Garland drain	0.20	-
6	Settling Tank	0.03	-
7	Green belt/Safety Zone	1.32	Green Belt
8	Unutilized	0.63	Plantation
Total		6.06	-

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Green Belt& Other reclaimed area	:	0.53 Ha.	1325
2	Haul /Approach Road	:	0.46Km.	307 Trees both side approach road.

- 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 he undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Recprds of same to be maintained and will be submitted with compliance report.

Solid Waste Management

- 9324 cum overburden will be generated in mining plan period which will used in maintenance of mine road and village road.

Water Pollution Control Measures:

- Mining operation willbe restricted to the depth of 24m from surface level.
- Quality of dug well will be monitored, in order to ensure the quality of water is not affected.

Air and Noise Pollution Control Measures:

- Dust suppression measures like spraying / sprinkling of water to keep the surface wet.
- Overloading of the truck / tractor trolleys will not be done.

As the only impact is due to transportation of soil through village roads, emphasis will be given on the following points:

- Carts or tractor-trolleys will he developed on village roads.
- Tractors-trolleys will be well maintained and PUC certified.

- Timely maintenance of vehicles and their silencers to minimize vibration and sound.
- Minimum use of horns in the village area and silence zone (if any) as applicable

RISK AND MITIGATION MEASURES

BLASTING

Risk

- Most of the accidents from blasting occur due to the generation of fly-rocks,a s they may sometimes go even beyond the danger zone, mainly due to over charging of the shot-holes or as a resultof certain special features of thc local ground. Flying rocks are encountered ducing initial and final blasting operations
- Vibrations also lead to displacement of adjoining areas. Dust and noise are also problems commonfy encountered during bfasting operations.
- Risk associated with storage and use of explosive

Mitigation Measures

- Adequate charge per hole with delay blasting will he used to minimize fly-cock, vibration and noise
- Before starting charging, clear audible warning signals by Sirens will be given so that people nearby can take shelter.
- Blasting will be done during the lunch interval, i.e from 1.00 to2.00 pm.
- Holes will be drilled in square/scattered pattern.
- Shot firing will he usually done with the help of safety fuse & ordinary detonator/ electric shotfiring with delay detonators as per requirement.
- Adequate shelters or othec protective structures shall be provided to the workers at all times;
- The shot fired shall give sufficient warning hy effective signal over the entire area falling within a radius of 500 m
- Propec, safe and cacefol handling and use of explosives by competent Blasters having Blaster's Certificate of Competency issued hy DGMS
- Conventional explosives shall be used in their original cartridge packing and such cartridge shall not be cut to remove explosive for making cartridge of diffecent size.
- Explosives shall be conveyed in special containers.
- The holes which have been charged with explosives will not be left unattonded till blasting is completed.

OVER BURDEN

Risk

The overburden dumps may cause landslides. High overburden dumps created at the quarry edge may cause sliding of the overburden dump or may cause failure of the pit slope due to excessive loading, thereby causing loss of life and property. Siltation of surface water may also cause run-off from overburden dumps.

Mitigation Measures

- To preveot the failure of overburden slopes, especially ducing the rainy season, proper garland drain & bund are constructed aroond the dump.
- To prevent this, height of overburden dumps will be restricted. Further, no stone or loose rock or loose tree will be allowed to remain within 3 meters of the edge of the quarry. To prevent siltation of surface water, retaining wall will he constructed on the down side of each OB dump.

ACCIDENTS DUE TO TRANSPORTATION AND MOVEMENT OF MINING MACHINERIES

Risk

Most of the accidents occur during transportation by tippers/ trucks and movement of Mining machineries.

Operations of jackhammers are often attributable to mechanical failures and human errors.

Mitigation Measures

- This can be prevented by regular training of all vehicle /machinery drivers/ operators, regular maintenance of equipment and ensuing safe operations.
- All safety precautions and provision of MMR 1961 shall be strictly followed during all mining operations.
- Regular maintenance and testing of all mining equipment as per manufacturer's guidelines.
- All transportation within the main working area should be carried out under the direct supervision and control of the management;
- The vehicles must be maintained in good repairs and checked thoroughly at least once a week by a competent person authorized for this purpose by the management;
- Broad signs should be provided at each and every turning point specially for the guidance of the drivers of vehicles.
- To avoid dangers while reversing the trackless vehicles, especially at the embankment and tipping points, all areas for reversing of lorries should, as far as possible, be made man free, and there should be a light and sound device to indicate reversing of trucks; and

- A statutory provision of the fence, constant education, training etc. will go a long way in reducing the incidence of such accidents.

FUEL STORAGE

No major storage of fuel envisaged in the mining lease area

WATER LOGGING

Risk

Filling of mine pit with excessive rain

Mitigation Measures

- Provision of adequate capacity pumps for pumping out water from the mining pit with standby arrangements.
- Checking and regular maintenance of garland drainage and earthen bunds to avoid any inflow of surface water into the mine pit.
- Proper drainage will be maintained to eliminate inundation of working pits during rains from run-off water. Suitable garland drain will be provided around pit along with sedimentation pits on each side.
- There is no danger of flood or inundation as the ground level is well below the plateau top, where mining will be carried out.

SAFETY MEASURES AT THE PROPOSED MINE

- The opencast mines have been planned for working with shovel tipper system which requires proper benching not only for slope stability but also for movement of tippers and other heavy machinery. The inclination of the quarry sides at the final stage i.e. at the dip most point will not exceed 400 to the horizontal. (This angle is measured between the line joining the toe of the bottom most bench to the crest of the top most bench and the horizontal line);
- The gradient of the haul road inside the pit, access trench and on the dumps will not be steeper than 1 in 16
- The slope of the sides of the OB dump to the horizontal will not exceed 300, and the height of the OB dumps has been restricted to a max of 3 m;
- The quarries will be protected by garland drains around the periphery for storm water drainage;
- A minimum safe distance of 100-m will be kept between the surface edge of the quarry and the nearest public building, roads etc. When the surface edge of the quarry approaches within a limit of 300 m from any road, public building special permission from DGMS will be taken to conduct controlled blasting to prevent damage/injury to public life and property;
- All mining operations both within the quarry and outside will be conducted as per the conditions laid down by DGMS and under the strict supervision of competent persons appointed under Metalliferous Mines Regulations, 1961.

CARE AND MAINTENANCE DURING TEMPORARY DISCONTINUANCE:

In case of emergency arise as situation of temporary discontinuance due to court order or due to statutory requirements or any other unforeseen circumstances pit will be fenced and locked properly so as no one can enter in pit. All plantation will be protected with all due care for their survival. Maintenance and monitoring of discontinued mining operations i.e. maintenance of haul roads, will be done in view of re-open in near future.

Undertaking submitted affirming:

a. Ground water will be used only for domestic porpose 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 hy 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 he completed within the first year of operation. Thereafter the same will he 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 he 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 hodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Mohanpur Stone & Soil Mine of Shri Ajay Kumar Pathak, Village : Mohanpur, Thana no. : 104, Thana : Herhanj, Distt. : Latehar, Jharkhand (2.45 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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24. **Tasu Stone Mine of M/S Shristi Works Pvt. Ltd., Village : Tasu, Thana No. :105, Thana : Herhanj, Distt. : Latehar, Jharkhand (1.06 Ha.)**

(Proposal No. SIA/JH/MIN/448941/2023).

Applied Area : 2.63ACRES(1.06Ha.)

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

EC Application for : 6508cum / year (max)
Overburden:3264 cum. during plan period.
DG Set: NA
Crusher- Notproposed

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

This is a new project which has been taken for appraisal on 18.10.2023.

PROJECT and LOCATION Details:

Sl.	Parameter		Details	
1	Project Name	:	Tasu Stone Mine Project Type – Stone Mine	
2	Lessee:	:	Proprietor: Shri AbhishekAnand	
3	Lease Address	:	Village-Tasu, P.O. &Thana-Herhanj, Anchal- Herhanj , District- Lathehar, Jharkhand	
4	Lease Area	:	Ha. 1.06 ha	Acres. 2.63 Acres
5	Type of Land	:	Non-Forest – Raiyati Land	
6	Project Cost	:	71.50Lakhs	
7	EMP Budget	:	Capital: Rs. –5.50Lakhs	Recurring: Rs. 1.85Lakhs/ year
8	CSR / CER Budget	:	NA	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.:23210	Tonnes:62667
11	Mine Life	:	5.01 Years say 5 Years	
12	Manpower	:	21	
13	Water Requirement	:	7.09 KLD (Drinking:0.31 KLD, Dust Suppression: 1.28 KLD, Plantation:5.50 KLD)	
14	Water Source	:	Water will be sourced from Nearest local vendor through Water Tanker for Dust Suppression and Plantation and permission from gram panchayat will be taken to fulfill water requirement for mining operation after the grant of Environment clearance.	
15	DG Set / power	:	Nil.	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	SukriNadi – 3.54 km- South	

18	Nearest Habitation	:	TasuVillage
19	Nearest Rail Station	:	Lathehar - Train station, at 19.85 km SW
20	Nearest Airport	:	Ranchi, Airport at 95 km SW Direction.
21	Nearest Forest	:	More than 250 m, as per forest division. Letter no -1120 Dated- 30.05.2023
22	Road & Highways	:	MDR (Lathehat-Nawada road), at 1.56 km West Direction.

CO-ORDINATES

Geo-Coordinates of all corner points of Demarcated Block Boundary (GPS Co-ordinates) Datum: WGS 84		
Corner Point	**Latitude**	**Longitude**
1	23° 50' 42.327" N	84° 37' 21.604" E
	To	
2	23° 50' 42.590" N	84° 37' 21.364" E

LAND DETAILS :

Khata No.	Plot No.
81	522 (P), 523 (P) & 525

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Latehar vide letter no. 1015/M, dated 07.10.2023.
2	CO	:	The CO, Herhanj vide letter no. 239, dated 02.09.2023 has mentioned the plot no. pf the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Latehar vide memo no. 1024/M, dated 11.10.2023 certified that 01 ether mining lease area (4.63 Acre) exists within 500 m raditus from proposed project site and total area is 7.26 Acre.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 2523, dated 17.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Lawalong Wildlife Sanctuary.
5	DFO Forest	:	Division Forest Officer, Latehar Forest Division vide letter no. 1120,

	Distance		dated 30.05.2023 certified that the distance of reserved / protected forest is mpre than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in District Survey Report (DSR) of Latehar distnct.
7	Gram Sabha	:	BDO, Herhanj vide letter 1159, dated 02.09.2023 informed that Gram Sahha conducted on 29.07.2023.
8	Mine Plan Approval	:	Approved by DMO, Latehar vide Letter No. 1053/M, dated 14.10 2023

WORKING DETAILS

1	Mining Method	:	Opencast MechanizedMining	
2	Quarry Area	:	Plan period – 1.22 acres	Conceptual stage –1.22 acres
3	Waste Generation	:	Plan Period :3264Cum.	Conceptual Stage –0 Cum.
4	Stripping Ratio	:	10:07	
5	Working Days	:	300 days/year	
6	Benches: size & No	:	5m x 5m, No. of benches -4	
7	Elevation of Mine	:	440-439 mRL	
8	Ground Level Elevation	:	439 mRL	
9	Ultimate Working Depth	:	16 m	
10	Topography of Mine	:	Gently sloping area	
11	Explosive Requirement	:	26Kg Slurry explosives/day	
12	Diesel/Fuel requirement	:	1044 liters / day (313.2 KL/year)	

PRODUCTION DETAILS

SUMMARY OF YEARWISE OF PRODUCTION						
Years	Production In Cum/Year	Production In Cum/Day	O.B Production in cum/Year	Production In Tons/Year	Prod. In Tons. /Day	Bench RL in meters
1st	4564	15	1467	12323	35	A-A': 439-438 (O.B.) D-D': 436-435 (O.B.) A-A': 438-435 (Stone) A-A': 435-432 (Stone) D-D': 435-432 (Stone)

2nd	3841	13	0	10371	40	D-D': 432-429 (Stone) D-D': 429-426 (Stone)
3rd	4466	15	1797	12058	227	B-B': 438-438 (O.B.) C-C': 437-436 (O.B.) E-E': 436-435 (O.B.) B-B': 437-434 (Stone) C-C': 436-433 (Stone) E-E': 435-432 (Stone)
4th	6508	22	0	17572	59	B-B': 434-431 (Stone) C-C': 433-430 (Stone) E-E': 432-429 (Stpne) C-C': 430-427 (Stone)
5th	3742	12	0	10103	34	C-C': 427-424 (Stone) E-E': 429-426 (Stone) C-C': 424-421 (Stone)
Total	23121	0	3264	62427	0	Depth -- 16 m (including 1 m O.B.)

LAND USE

ExistingLand Use pattern

Si. No.	Pattern of Utilization	Present/Existing land use pattern in (acres)
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/	0.00

	Safety Zone	
8	Utilized	0.00
9	Unutilized	2.63
Total		**2.63**

Land Use Pattern for Current Plan Period:

Sl. No	Pattern of Utilization	Proposed Land use for current plan period (acres)
1	Mining Area	1.22
2	Office	0.00
3	Dumping	0.00
4	Road	0.02
5	Garland drain	0.18
6	Settling Tank	0.02
7	Green belt/ Safety Zone	1.10
8	Unutilized	2.63
Total		**2.63**

Land Use Pattern after Life of the Mine:

Sl. No.	Pattern of Utilization	Land used at the conceptual stage ie end of mine life in (acres)	Area to be converted in the conceptual period.
1	Mining Area	1.22	Water body
2	Office	0.00	-
3	Dumping	0.00	-
4	Road	0.02	Water Body
5	Garland drain	0.18	-
6	Settling Pond	0.02	
7	Green belt/ Safety Zone	1.10	Greenbelt
8	Unutilized	0.09	-
Total		**2.63**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Green Belt& Other reclaimed area	:	0.09 Ha.	225
2	Haul /Approach Road	:	0.08Km.	40Trees both side approach road.

- 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 schodule 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

- 3264 cum overburden will be generated in mining plan period which will used in maintenance of mine road and village road.

Water Pollution Control Measures:

- Mining operation willbe restricted to the depth of 16m from surface level.
- Quality of dug well will be monitored, in order to ensure the quality of water is not affected.

Air and Noise Pollution Control Measures:

- Dust suppression measures like spraying / sprinkling of water to keep the surface wet.
- Overloading of the truck / tractor trolleys will not be done.

As the only impact is due to transportation of soil through village roads, emphasis will be given on the following points:

- Carts or tractor-trolleys will be developed on village roads.
- Tractors-trolleys will be well maintained and PUC certified.
- Timely maintenance of vehicles and their silencers to minimize vibration and sound.
- Minimum use of borns in the village area and silence zone (if any) as applicable.

RISK AND MITIGATION MEASURES

BLASTING

Risk

- Most of the accidents from blasting occur due to the generation of fly-rocks,a s they may sometimes go even beyond the danger zone, mainly due to over charging of the shot-holes or as a resultof certain special features of the focal ground. Flying rocks are encountered during initial and fhial blasting operations.
- Vibrations also lead to displacement of adjoining areas. Dust and noise are also problems commonly encountered during blasting operations.
- Risk associated with storage and use of explosive

Mitigation Measures

- Adequate charge per hole with delay blasting will be used to minumize fly-rock, vibration and noise
- Before starting charging, clear audible warning signals by Sirens will be given so that people nearby can take shelter.
- Blasting will be done during the lunch interval, i.e. from 1.00 to2.00 pm.
- Holes will be drilled in square/scattered pattern.
- Sbot firing will be usually done witb the help of safety fuse & ordinary detonator/ efectric shotfiring witb delay dotonators as per requirement.
- Adequate shelters or other protective structures sball be provided to the workers at all times;
- The shot fired shall give sufficrent warning by effective signal over the entire area falling within a radius of 500 m
- Proper, safe and careful handllog and use of explosives by competent Blasters having Blaster's Certificate of Competency issued by DGMS
- Conventional explosives shall be used in their original cactridge packing and such cartridge shall not be cut to remove explosive for making cartridge of differeot size.
- Explosives shall be conveyed in special containers.
- The holes which bave been charged with explosives will not be left unatteoded till blasting is completed.

OVER BURDEN

Risk

The overburden dumps may cause landslides. High overburden dumps created at the quarry edge may cause sliding of the overburden dump or may cause failure of the pit slope due to excessive loading, therehy causing loss of life and property. Siltation of surface water may also cause cun-off from overburden dumps.

Mitigation Measures

- To prevent the failure of overburden slopes, especially during the rainy season, propec garland drain & bund are constructed around the dump.
- To prevent this, height of overburden dumps will be restricted. Further, no stone or loose rock or loose tree will be allowed to remain within 3 meters of the edge of the quarry. To prevent siltation of surface water, retaining wall will be constructed on the down side of each OB dump.

ACCIDENTS DUE TO TRANSPORTATION AND MOVEMENT OF MINING MACHINERIES

Risk

Most of the accidents occur during transportation by tippers/ trucks and movement of Mining machineries.

Operations of jackhammers are often attributable to mechanical failures and human errors.

Mitigation Measures

- This can be prevented by regulac training of all vehicle /machinery drivers/ operators, regular maintenance of equipment and ensuring safe operations.
- All safety precautions and provision of MMR 1961 sball be strictly followed during all mining operations.
- Regular maintenance and testing of all mining equipment as per manufacturer's guidelines.
- All transportation within tbe main workiog area should be carried out under tbe direct supervision and control of the management;
- The vehicles must be maintained in good repairs and checked thoroughly at least once a week by a competent person authorized for this purpose by the management;
- Broad signs shoufd be provided at each and every turning point specially for the guidance of the drivers of vehicles.
- To avoid dangers while reversing the trackless vehicles, especially at the embankment and tripping points, all areas for reversing of lorries should, as far as possible, be made man free, and there should be a light and sound device to indicate reversing of trucks; and
- A statutory provision of tbe fence, constant education, training etc. will go a long way in reducing the incidence of such accidents.

FUEL STORAGE

No major storage of fuel envisaged in the mining lease area

WATER LOGGING

Risk

Filling of mine pit with excessive rain

Mitigation Measures

- Provision of adequate capacity pumps for pumping out water from the mining pit with standby arrangements.
- Checking and regular maintenance of garland drainage and earthen bunds to avoid any inflow of surface water into the mine pit.
- Proper drainage will be maintained to eliminate inundation of working pits during rains from run-off water. Suitable garland drain will he provided around pit along with sedimentation pits on each side.
- There is no danger of flood or inundation as the ground level is well below the plateau top, where mining will be carried out.

SAFETY MEASURES AT THE PROPOSED MINE

- The opencast mines have been planned for working with shovel tipper system which requires proper benching not only for slope stability but also for movement of tippers and other heavy machinery. The inclination of the quarry sides at the final stage i.e. at the dip most point will not exceed 400 to the horizontal. (This angle is measured between the line joining the toe of the bottom most bench to the crest of the top most bench and the horizontal line);
- The gradient of the haul road inside the pit, access trench and on the dumps will not be steeper than 1 in 16
- The slope of the sides of the OB dump to the horizontal will not exceed 300, and the height of the OB dumps has been restricted to a max of 3 m;
- The quarries will be protected by garland drains around the periphery for storm water drainage;
- A minimum safe distance of 100-m will be kept between the surface edge of the quarry and the nearest public building, roads etc. When the surface edge of the quarry approaches within a limit of 300 m from any road, public building special permission from DGMS will be taken to conduct controlled blasting to prevent damage/injury to public life and property;
- All mining operations both within the quarry and outside will be conducted as per the conditions laid down by DGMS and under the strict supervision of competent persons appointed under Metalliferous Mines Regulations, 1961.

CARE AND MAINTENANCE DURING TEMPORARY DISCONTINUANCE:

In case of emergency arise as situation of temporary discontinuance due to court order or due to statutory requirements or any other unforeseen circumstances pit will be fenced and locked properly so as no one can enter in pit. All plantation will be

protected with all due care for their survival. Maintenance and monitoring of discontioued mining operations i.e. maintenance of baul roads, will be done in view of re-open in near future.

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.
h. 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 / duster area report issued hy the mines department, tben the applicable laws / rules will be binding on tbe Project Authorities and all necessary steps will be taken in tbis regard
d. The Boundary Pillars of the proposed mine lease area will be maintained propedy.
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 tbe first year of operation. Therearter tbe 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 cecnrds 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 tbe mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Tasu Stone Mine of M/S Shristi Works Pvt. Ltd., Village : Tasu, Thana No. :105, Thana-Herhanj, Distt. : Latehar, Jharkhand (1.06 Ha.) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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25. Tentoposi Stone Deposit of M/s Aarohi Impex & Trade Links, Mouza: Tentoposi, Thana No.: 241, Thana: Saraikela Distt. : Saraikela-Kharsawan, Jharkhand (2.24 Ha).

(Proposal No. SIA/JH/MIN/448940 /2023).

PP did not turn up in the meeting. Hence, the proposal was deferred to next meeting.

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26. Stone Mine of M/s Vaishnavi Udyog (Prop. : Shri Bishwajeet Kumar), Village : Bardohi, Thana no. : 205, Distt. : Dhanbad, Jharkhand (0.95 Ha).

(Proposal No. SIA/JH/MIN/ 448650/2023).

Project Category : B2– Applied for Environmental Clearance.

EC Application for : Stone Mining for production of 45031.14 tons per annum.

Name of the consultant : AWS Envirotech (OPC) Pvt Ltd, Lucknow, U.P.

This is a new project which has been taken for appraisal on 18.10.2023.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Stone Mining	
2	Lessee:	:	Lessee- M/s Vaishnavi Udyog (Proprietor- Sri Bishwajeet Kumar), S/o Sri Dharani Dhar Mandal, R/o- Village – Barwa adda, PO- Kalyanpur & P.S – Barwa adda District - Dhanbad, State Jharkhand	
3	Lease Address	:	Mouza- Bardohi, PS- Govindpur District- Dhanbad, State- Jharkhand	
4	Lease Area	:	0.95 Ha	Acres- 2.36 Acre
5	Type of Land	:	Private Rayati Land	
6	Project Cost	:	Rs. 43 Lakhs	
7	EMP Budget	:	Capital: 3.48 Lakhs	Recurring: 2.24 Lakhs/year
8	CSR/CER Budget		0.86 Lac	
9	New or Expansion	:	New	
10	Mineable Reserves	:	3,92,906.70 tonnes	
11	Mine Life	:	8.73 or 9 years	
12	Man power	:	10	

13	Water Requirement	:	3.96 KLD (Drinking: 0.15 KLD, Dust Suppression: 1.5 KLD, Plantation: 2.31 KLD)
14	Water Source	:	Water will be sourced from Abandoned mines through the water tanker for dust suppression and plantation water will be sourced from a bore well within the lease area for drinking and domestic consumptions.
15	DG Set / power	:	NA
16	Crusher	:	NA
17	Nearest Water Body	:	Barakar River at approx. 15 km towards NE direction
18	Nearest Habitation	:	Bardohi at 1.0 km towards NNE direction
19	Nearest Rail Station	:	Pradhankhunta Junction Railway Station, approx. 11.2 km in SW direction
20	Nearest Air Port	:	Deoghar Airport, approx. 75 km towards North direction.
21	Nearest Forest	:	Nil
22	Road & Highways	:	NH-419 at 5.2 km towards NW- direction NH-19 at 3.7 km towards SSW- direction

CO-ORDINATES-

Latitude	Longtitude
23°50'26.66" to 23°50'32.63" N	86°35'48.95" to 86°35'53.89" E

Land Details:

Khata No.	Plot No
88	4401 (P), 4403 (P)
182	4402

Statutory Clearances:

1	LOI/Lease docs	The Letter of Intent (LOI) has been issued by District Mining Officer, Dhanbad vide letter no. 1079/M, dated 05.07.2023.
2	CO	The CO, Govindpur (Dhanbad) vide letter no.: 399, Govindpur; dated 11.03.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster Certificate	District Mining Officer, Dhanbad vide memo no. 1451/M., Dhanbad, dated 12.09.2023 certified that there is no other mining

		lease area exists within 500 m periphery from proposed project site.
4	DFO Wild Life	DFO, Wildlife Hazaribagh vide letter no.: 1257, dated 03.07.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Forest Distance	DFO, Dhanbad vide letter no.: 890, dated 01.04.2023 certified that the distance of reserved / protected Forest is more than 250 meter from proposed project site.
6	DSR	The DC, Dhanbad vide letter no. 1572/M, dated 06.10.2023 has informed that this project is part of District Survey Report (DSR) of Dhanbad district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	Gram Sabha conducted on 26.09.2023.
8	Mine Plan Approval	Approved by District Mining Officer, Dhanbad vide memo no. 1609/M, dated 12.10.2023.

Working Details

1	Mining Method	:	Opencast. Semi mechanized Mining method, wagon drill with blasting	
2	Quarry Area	:	0.56 ha	Life of Mine – 8.73 years
3	Waste Generation	:	Almost nil; weathered rock with mixed soil may be generated, which will be used for road development	
4	Stripping Ratio	:	0:1	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m, Bench No 1 to 5 (Conceptual period depth)	
7	Elevation of Mine	:	192m AMSL to 190m AMSL	
8	Ground Level Elevation	:	200m AMSL	
9	Ultimate Working Depth	:	166m AMSL	
10	Water Table	:	154 m AMSL	
11	Topography of Mine	:	Area represents a small hillock	
12	Explosive Requirement	:	68 Kg/day	
13	Diesel/Fuel requirement	:	150 litre/day	

Production Details

Section	Bench RL	Sectional Area (m^2)	Length of influence (m)	Volume (m^3)	95% Recovery	TF	Stones (tons)
A-B	191 184	102 (15.63x6.47)	71	7242	6879.9	2.7	18575.73
A-B	190-184	166 (26.28x6.17)	71	11786	11196.7	2.7	30231.09
A-B	190-184	462 (83.35x6.17)	38	17556	16678.2	2.7	45031.14
A-B	184-178	212 (35.33x6)	59	12508	11882.6	2.7	32083.02
A-B	184-178	457 (77.93x6)	28	12796	12156.2	2.7	32821.74
Total							**158742.72**

Land Use

Type of land use (at conceptual period)	Area (Ha)
Quarry Area	0.56
Infrastructure	0.00
Garland drain	0.00
Green Belt	0.39
Settling Tank	0.00
Total	**0.95**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.39 ha	663
2	Haul/Approach Road	:	160 m	107

- 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

- Waste Generation is almost nil, however if generated will be weathered rocks mixed with loose soil that will be used for maintenance of Haul/approach 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 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 etc shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.

L4	Remote / Moderate	May occur If conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur If conditions exist. Has occurred within lasL 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.
- 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 contiouously 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 tho mining operations yet the way they are used is an exrellent example of how risk assessment is properly applied. Eor example, persons holding blasters certificate granted by DGMS witb proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is sperialisL 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 bnt a few of the steps nocessary to ensure its safe use.
- Poorly designed shots can result in mishres, early ignitron 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 authorited persons to prevent carrying of match box, lights, mohile phones, cigarette or Bidl etc. will be put in place.
- Explosives shall he conveyed in special rontainers
- 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 rcsort 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 equipments are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining acea, 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 coad 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 coad (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 he maintained in good condition and annually tested for fitness and PUC and records to be maintained.

i. If any tree felling than necessary permissinn shall be taken from the competent authority.

j. Slope of the Water bodies to be stabilized using gabion plantation cceated at the end of life of the mine.

k. Snitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Stone Mine of M/s Vaishnavi Udyog (Prop. : Shri Bishwajeet Kumar), Village : Bardohi, Thana no. : 205, Distt. : Dhanbad, Jharkhand (0.95 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

1

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Day 3 : October 19th, 2023 (Thursday)

Consideration of Proposals

1. **Tundahutu Stone Deposit of M/s Maa Ugratara Construction (Partner : Shri Shailesh Kumar Singh), Village : Tundahutu, Thana : Balumath, Thana no. : 61, Distt. : Latehar, Jharkhand (1.46 Ha).**

   (Proposal No. SIA/JH/MIN/448925/2023).

   Project Category: B2 – Application for Environment Clearance
   EC Application for: Stone; 15,480 Cu.M. / year i.e 43,345 Tonnes / year
   Name of the Consultant: M/s P & M Solution, Noida -201301 UP.
   This is a new project which has been taken for appraisal on 19.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Tundahutu Stone Deposit of M/s Maa Ugratara Construction	
2	Applicant Address:	:	M/s Maa Ugratara Construction Partners :1) Sri Shailesh Kumar Singh At Village. - Komar, P.O. + P.S. - Balumath, Dist. – Latehar, State – Jharkband, Pin. – 829202. 2) Sri Ravi Kumar Singh At 258, Panchayat Balumath, P.O. + P.S. – Balumath, District – Latehar, State – Jharkhand, Pin. – 829202.	
3	Applied Area Address :	:	In Mouza - Tundahutu, Thana. – Balumath, Thana No. - 61, District – Latehar, Jharkhan	
4	Applied Area	:	Ha: 1.46 Hectares	Acres: 3.62 Acres
5	Type of Land	:	Non Forest – Raiyati Land	
6	Project Cost	:	44 Lakhs	
7	EMP Budget	:	Capital: 7.77 Lakhs	Recurring: 9.87 Lakh / year
8	CSR / CER Budget	:	Rs. 0.88 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.: 1,54,485 Cu. M.	Tonnes: 4,32,559 Tonnes
11	Mine Life	:	10 years	
12	Man power	:	30	
13	Water Requirement	:	12.33 KLD Drinking: 0.30 KLD, Dust Suppression: 5.25 KLD, Plantation: 6.78 KLD	
14	Water Source	:	From nearby authorized sources.	
15	DG Set / power	:	No	
16	Crusher	:	No	

17	Nearest Water Body	:	Pukchu Dam is situated near about 6.35 Km aerial away in the East direction from the applied area.
18	Nearest Habitation	:	Itke Village is situated approx. 1.68 Km aerial distance away in North West direction.
19	Nearest Rail Station	:	Tori Railway Station is situated approx. 24.77 Km aerial distance away in South -West direction.
20	Nearest Air Port	:	Birsa Munda International Airport, Ranchi, Jharkhand is situated approx. 78.90 Km aerial distance away in South - East direction.
21	Nearest Forest	:	Nearest forest land is more than 250m away from the proposed project.
22	Road & Highways	:	Highway: NH-22 is about 5.04 Km aerial distance away from the applied area in West direction Approach Road: Itki – Rahea Road is about 0.40 Km away.

CO-ORDINATES

1	Latitude	:	From N 23°52'52.90"	To N 23°52'57.23"
2	Longitude	:	From E 84°50'55.02"	To E 84°51'05.18"

LAND DETAILS

Khata No. -	**6**	**15**	**41**
Plot Nos. –	59	77	61 & 79

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Latehar vide letter no. 84/M dated 15.01.2021.
2	CO	:	The CO, Barlatu vide letter no. 165, dated 22.09.2020 and letter no. 509, dated 07.10.2023 have mentioned the plot no. of the project is not recorded as "Jangle Jhari" in R.S. Khatiyan or Register II.
3	DMO	:	DMO, Latehar vide memo no. 1060/M, dated 16.10.2023 certified that one other mining lease area (2.85 Acre) exists within 500 m radius from proposed project site & total lease area is 6.47 Acres (2.62 Ha).
4	DFO Wild Life	:	DFO, Wild Life Hazaribagh vide letter no. 1582, dated 15.09.2021 certified that the proposed project site is outside Eco Sensitive Zone of Betla National Park, Mahuadanr Wolf Sanctuary & Palamau Tiger Reserve.
5	DFO Forest	:	Division Forest Officer, Latehar Forest Divison vide letter no. 1607, dated 26.12.2020 certified that the distance of reserved / protected

	Distance		forest is more than 250 meter from proposed project site.
6	DSR	:	Project's name is mentioned in District Survey report (DSR) Latehar.
7	Gram Sabha	:	Gram Sabha conducted on 16.08.2020.
8	Mine Plan Approval	:	Approved by the District Mining Officer, Latehar vide Letter No. 1048/M dated 14.10.2023.

Working Details

1	Mining Method	:	Opencast Mechanized Mining.	
2	Quarry Area	:	5 years – 0.64 Ha	Life of Mine – 0.89 Ha
3	Waste Generation	:	5 years–8790 Cu.M (Gritty Soil & Intercalated Waste)	Life of Mine – 13,454 Cu.M (Gritty Soil & Intercalated Waste)
4	Stripping Ratio	:	1 : 0.04	
5	Working Days	:	300 Days	
6	Benches: size & No	:	Size: 6m x 6m, No. – 5.	
7	Elevation of Mine	:	Highest RL 576m AMSL, Lowest RL 573m AMSL	
8	Ground Level Elevation	:	573m AMSL	
9	Ultimate Working Depth	:	546m AMSL	
10	Water Table	:	537m AMSL	
11	Topography of Mine	:	Gently sloping land.	
12	Explosive Requirement	:	18.9 Tons/year	
13	Diesel/Fuel requrement	:	42 KL/year (140 Litres/day)	

Production Details

Year	Production of stone		Removal of Gritty Soil (Cum)	Intercalated Waste Generation (CuM)	Bench RL in Meters
	(Cum)	(Tonne)			
1st Year	15390	43092	1530	810	576m – 570m
2nd Year	15419	43172	924	812	576m – 570m
3rd Year	15457	43281	1396	814	576m – 564m
4th Year	15480	43345	Nil	815	570m – 558m
5th Year	15440	43233	876	813	564m – 558m 576m – 570m
Total	**77186**	**216123**	**4726**	**4064**	

Land Use

SL	Pattern	Existing Land Use (Ha)	Proposed Current Plan Period (Ha)	Proposed Land Use at End of Life of Mine (Ha)	Proposed Land Use at End of Life of Mine (Ha)	Land Usage at Conceptual Stage
1	Mining Area (Quarry)	Nil	0.64 (including backfilling 0.20 Ha)	0.89 (including backfilling 0.298 Ha)	0.89	Water body
2	Green Belt Within Safety Barrier	Nil	0.57	0.57	0.57	Plantation
3	Road	0.03	0.02	--	--	--
4	Unutilized	1.43	0.23	Nil	Nil	--
	TOTAL	1.46	1.46	1.46	1.46	

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	Location		Area / Length	No of Trees
1	Safety Zone	:	0.57 Ha	1425 trees @ 2500 trees per Ha
2	Haul / Approach Road	:	0.16 Ha i.e. Length 0.40 Km width 2m X both side	268 trees on both sides – 334 plan per km or 3m center to center spacing

- Gablon Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road 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

- Waste (Gritty Soil & Intercalated Waste) Generation will he 13,454 Cu.M. during the life of Mine.
- The area is covered with a layer of gritty soil of about 0.5nr in thickness. During quarry development in 1st & 2nd gritty soil and intercalated waste will be removed and this soil & waste will be temporarily dumped [Area – 0.047 Ha, (L x W x H = 26m x 18m x 5m), Area – 0.035 Ha, (L x W x H =23m x 15m x 5m)) at the west part of the area with suitable precautions like constructing parapet wall, garland drain & in 3rd & 4th year removed intercalated waste will be used in haul road dressing & In 5th year removed gritty soil, intercalated waste & existing

dumped material will be backfilled within the exhausted quarry. In conceptual period removed gritty soil & intercalated wasted will be backfill within the exhausted quarry.

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 he 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 applied 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 he maintained.
- Water sprinkling will he 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

Risk & Hazards

Following are the associated Risk and Hazards associated with the stone mining process

- Accident due to explosives.
- Accident due to operation of heavy mining equipment.
- Fall of animal in to abundant pit.

Mitigation Measures

In order to take care of above hazard/disasters, the following control measures will be adopted:

- Opencast mechanized method of mining will be adopted.
- Working will be carried out in one shift of 8 hours during day time only.
- No explosive will be stored at mine site.
- All applicable rules of MMR 1961, Mines Act-1952, Mines Rules 1955, MCR-1960, MCDR-1988 will be followed for safe, scientific & systematic working.
- The working will be done under the supervision of a Qualified Mines Manager.
- The height and width of the benches maintain prdperly.

- Working of mine will be done as per approved plans.
- Permanent fencing will be provided at the top edge of opencast working.
- All protective equipment of a type approved by the DGMS will be provided to the workers viz, foot wear, helmets, ear plug, dust mask, gloves, gorgles, shin guards etc.

Water Reservoir Safety Management

- Proper Barbed wire fencing will be done all around the project site to restrict the common animals to enter into the area.
- 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 the life of the mine.

Mitigation Measures for Tundahutu Stone Deposit of M/s Maa Ugratara Construction, in Mouza - Tundahutu, Thana. – Balumath, Thana No. – 61, District – Latehar, Jharkhand, over an area of 3.62 Acres (1.46 Ha).

Settling tank and garland drain will be provided in the West direction. Calculation for settling tank has been given below

Settling Tank Design calculation for the proposed project:-

Total water accumulates in the mine is as follows:

Total Area :-	1.46 Ha
Water reservoir at ultimate stage :-	0.89 Ha
Rest of the area :-	0.57 Ha
Direct catchment area is :-	0.89 Ha
Considered only 60% area from the Rest area as a catchment area :-	0.342 Ha
Total area available	1.232 Ha

Surface runoff in the pit Qz = CIA
Where C= runoff co efficient = 0.195
I = Monsoon annual rainfall =1.13 m
A = Area in Ha = 1.232 Ha

Total surface runoff from the catchment area (q) = 0.195 X 1.13 X 1.232 Ha X 10000 = 2715 cum

Design of sedimentation tank
Total annual yield is 2715 cum
Hence per day yield is 1729 cum / 120 (rainy days) = 23 cum

Garland drain along with settling tank will be maintained in the boundary side to prevent siltation of low lying areas and in rush of water into the mine. The size of the drain will be 830 m x 2.0 m x 1.5 m. The settling tank will be 1 in number of size 10m in length, 5m in width and 2m in depth separated into two chambers

Hence the drain, settling tank and sump is of sufficient capacity.

Check dam will be also constructed. It will be worked as small barriers built across the direction of water flow.
In this condition zero discharge will be maintained. Hence there will be no damages caused due to mining in the catchment area of the river / nalla falling in study area as the ground water recharge rate is higher than the extraction rate of mining region.

Water accumulated in the mine pit will be used for dost suppression. This water will also be made available to villagers on demand for irrigation purpose after testing. No discharge of water will be made to any surface water course.

Proper Barbed wire fencing will be done all around the project site to cestrict the common animals to enter into the area.

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 water required for the mining activities shall he supplied by the tanker from nearby authorized sources.
c. The District Survey Report (DSR) is issued by the competent authority. We will abide by any directives issued by any court of law in future.
d. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then tbe applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
e. The Boundary Pillars of the proposed mine applied area will be maintained properly.
f. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
g. Tbe plantation work will be completed within tbe first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
h. Sufficient water spray using water tankers will be done for effective dust suppression within the mine applied area and on haul roads.
i. 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.
j. If any tree felling than necessary permission shall be taken from the competent authority.
k. Slope of the water bodies to be stabilized using gabion plantation crated at the end of the life of the mine.
l. Suitable safety protection measures sball be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of the life of the mine.
m. Personal protective equipments such as protecting clothing, helmet, goggles or other garments for 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 Tundahutu Stone Deposit of M/s Maa Ugratara Construction (Partner : Shri Shailesh Kumar Singh), Village : Tundahutu, Thana : Balumath, Thana no. : 61, Distt. : Latehar, Jharkhand (1.46 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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2. **Tasu Stone & Morrum Deposit of Partner : Shri Sanjay Kumar Singh & Shri Shamshad Ansari, Village : Tasu, Thana : Herhanj, Thana no. : 105, Distt. : Latehar, Jharkhand (1.87 Ha).**

(Proposal No. SIA/JH/MIN/448904/2023).

Project Category: B2 – Application for Environment Clearance

EC Application for: Stone: 16,310 Cu.M. / year i.e 45,667 Tonnes / year

Morrum: 2079 Cu.M. / year i.e 3326 Tonnes / year

Name of the Consultant: M/s P & M Solution, Noida -201301 UP.

This is a new project which has been taken for appraisal on 19.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details		
1	Project Name	:	Tasu Stone & Morrum Deposit of Sri Amit Kumar		
2	Applicant Address:	:	Partner 1) Sri Sanjay Kr Singh At Village – Bhatchatra, P.O. – Besra, P.S. – Balumath, District - Latehar, Jharkhanad, Pin Code – 829202 Partner 2) Shamshad Ansari At Village – Nawagarh, P O – Nawagarh, P.S. – Latehar, District - Latehar, Jharkhanad, Pin Code- 829207		
3	Applied Area Address :	:	In Mouza – Tasu, Thana – Herhanj, Thana No. – 105, District - Latehar, Jharkhand		
4	Applied Area	:	Ha: 1.87 Hectares		Acres: 4.63 Acres
5	Type of Land	:	Non Forest – Raiyati Land		
6	Project Cost	:	32 Lakhs		
7	EMP Budget	:	Capital: 8.96 Lakhs		Recurring: 10.11 Lakh / year
8	CSR / CER Budget	:	Rs. 0.64 Lakhs		
9	New or Expansion	:	New		
10	Mineable Reserves	:	Stone	Cu.M.: 1,62,914 Cu. M.	Tonnes: 4,56,158 Tonnes
			Morrum	Cu.M.: 4870 Cu. M.	Tonnes: 7792 Tonnes
11	Mine Life	:	10 years		
12	Man power	:	32		
13	Water Requirement	:	13.79 KLD Drinking: 0.32 KLD, Dust Suppression: 5.98 KLD, Plantation: 7.49 KLD		
14	Water Source	:	From nearby authorized sources.		
15	DG Set / power	:	No		
16	Crusher	:	No		
17	Nearest Water Body	:	Bhalmanda Nadi is flowing near about 0.98 Km away in the East direction of the applied area		
18	Nearest Habitation	:	Tasu village is situated approx. 0.68 Km aerial distance away in North East direction.		

19	Nearest Rail Station	:	Latehar Railway Station is situated approx 20.78 Km aerial distance away in South West direction.
20	Nearest Air Port	:	Birsa Munda International Airport, Ranchi, Jharkhand is situated approx. 92.32 Km aerial distance away in South-East direction.
21	Nearest Forest	:	Nearest forest land is more than 250m away from the proposed project.
22	Road & Highways	:	Highway: SH-10 is about 5.86 Km aerial distance away from the applied area in North East direction Approach Road: Kasiadih - Tasu Road is about 0.48 Km away.

CO-ORDINATES (as per DGPS survey report)

1	Latitude	:	From N 23°50'43.95566"	To N 23°50'50.77792"
2	Longitude	:	From E 84°37'27.48929"	To E 84°37'32.90106"

LAND DETAILS

Khata No. -	47
Plot Nos. –	419

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Latehar, vide letter no 1795/M dated 20.09.2021.
2	CO	:	The CO, Herhanj, Latehar vide letter no. 253, dated 04.08.2021 has mentioned the plot no. of the project is not recorded as "Jangle Jhari" in R.S. Khatiyan or Register II.
3	DMO	:	DMO, Latehar vide memo no. 996/M, dated 30.09.2023 certified that one other mining lease area (2.63 Acre) exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 1969, dated 14.11.2021 certified that the proposed project site is outside Eco Sensitive Zone of Betla National Park, Mahuadanr Wolf Sanctuary & Palamau Tiger Reserve
5	DFO Forest Distance	:	Division Forest Officer, Latehar Forest Division vide letter no. 1190, dated 12.08.2021 certified that the distance of reserved / protected forest is more than 250 m from proposed project site

6	DSR	:	Project's name is mentioned in District Survey report (DSR) Latehar.
7	Gram Sabha	:	Gram Sabha conducted on 01.08.2021.
8	Mine Plan Approval	:	Approved by the District Mining Officer, Latehar vide Letter No. 1042/M dated 13.10.2023.

Working Details

1	Mining Method	:	Opencast Mechanized Mining.	
2	Quarry Area	:	5 years – 1.25 Ha	Life of Mine – 1.25 Ha
3	Waste Generation	:	5 years–4285 Cu.M (Intercalated Waste)	Life of Mine – 8570 Cu.M (Intercalated Waste)
4	Stripping Ratio	:	1 : 0.02	
5	Working Days	:	300 Days	
6	Benches: size & No	:	Size: 6m x 6m, No. – 6.	
7	Elevation of Mine	:	Highest RL 438m AMSL, Lowest RL 435m AMSL	
8	Ground Level Elevation	:	435m AMSL	
9	Ultimate Working Depth	:	402m AMSL	
10	Water Table	:	393m AMSL	
11	Topography of Mine	:	Gently sloping land.	
12	Explosive Requirement	:	9.45 Tons/year	
13	Diesel/Fuel requirement	:	42 KL/year (140 Litres/day)	

Production Details

Year	Production of stone		Production of Morrum		Intercalated Waste Generation (CuM)	Bench RL in Meters
	(Cum)	(Tonne)	(Cum)	(Tonne)		
1st Year	16,272	45,563	2079	3326	857	438m – 432m
2nd Year	16,250	45,499	1394	2231	855	438m – 432m
3rd Year	16,282	45,588	1396	2234	856	438m – 426m
4th Year	16,310	45,667	Ni	Ni	859	432m – 426m
5th Year	16,293	45,619	Nl	Ni	858	432m – 426m
Total	**81,407**	**2,27,936**	**4869**	**7791**	**4285**	

Land Use

SL	Pattern	Existing Land Use (Ha)	Proposed Current Plan Period (Ha)	Proposed Land Use at End of Life of Mine (Ha)	Proposed Land Use at End of Life of Mine (Ha)	Land Usage at Conceptual Stage

1	Mining Area (Quarry)	Nil	1.25	1.25	1.25	Water Body
2	Green Belt Within Safety Barrier	Nil	0.62	0.62	0.62	Plantation
3	Road	0.013	--	--	--	--
4	Unutilized	1.857	Nil	Nil	Nil	--
	TOTAL	**1.87**	**1.87**	**1.87**	**1.87**	

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	Location		Area / Length	No of Trees
1	Safety Zone	:	0.62 Ha	1550 trees @ 2500 trees per Ha
2	Haul / Approach Road	:	0.192 Ha i.e. Length 0.48 Km width 2m X both side	322 trees on both sides – 334 plan per km or 3m center to center spacing

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road 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

- Waste (Intercalated Waste) Generation will be 8570 Cu.M. during the life of Mine.
- During quarry development in every year some amount of intercalated waste will be removed and this will be used for haul road dressing.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the applied 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 he 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 he 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 he put in practice
- Ambient air pollution monitoring shall be carried out every six months

Risk & Hazards

Following are the associated Risk and Hazards associated with the stone mining process

- Accident due to explosives.
- Accident due to operation of heavy mining equipment.
- Fall of animal in to abundant pit.

Mitigation Measures

In order to take care of above hazard/disasters, the following control measures will be adopted:

- Opencast mechanized method of mining will be adopted.
- Working will be carried out in one shift of 8 hours during day time only.
- No explosive will be stored at mine site.
- All applicable rules of MMR 1961, Mines Act-1952, Mines Rules 1955, MCR-1960, MCDR-1988 will be followed for safe, scientific & systematic working.
- The working will be done under the supervision of a Qualified Mines Manager.
- The height and width of the benches maintain properly.
- Working of mine will be done as per approved plans.
- Permanent fencing will be provided at the top edge of opencast working.
- All protective equipment of a type approved by the DGMS will be provided to the workers viz, foot wear, helmets, ear plug, dust mask, gloves, goggles, shin guards etc.

Water Reservoir Safety Management

- Proper Barbed wire fencing will be done all around the project site to restrict the common animals to enter into the area.
- 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 the life of the mine.

Mitigation Measures for Tasu Stone & Morrum Deposit of Partners Sri Sanjay Kumar Singh & Shamshad Ansari, In Mouza – Tasu, Thana – Herhanj, Thana No. – 105, District - Latehar, Jharkhand, over an area of 4 63 Acres (1.87 Ha).

Settling tank and garland drain will be provided in the North West direction. Calculation for settling tank bas been given below

Settling Tank Design calculation for the proposed project:-

Total water accumulates in the mine is as follows:

Total Area :-	1.87 Ha
Water reservoir at ultimate stage :-	1.25 Ha
Rest of the area :-	0.62 Ha
Direct catchment area is :-	1.25 Ha
Considered only 60% area from the Rest area as a catchment area :	0.372 Ha
Total area available	1.622 Ha

Surface runoff in the pit Qz = CIA
Where C= runoff co efficient = 0.195
I = Monsoon annual rainfall =1.13 m
A = Area in Ha = 1.622 Ha

Total surface runoff from the catchment area (q) = 0.195 X 1.13 X 1.622 Ha X 10000 = 3574 cum

Design of sedimentation tank
Total annual yield is 3574 cum
Hence per day yield is 3574 cum / 120 (rainy days) = 30 cum

Garland drain along with settling tank will be maintained in the boundary side to prevent siltation of low lying areas and in rush of water into the mine. The size of the drain will be 920 m x 2.0 m x 1.5 m. The settling tank will be 1 in number of size 10m in length, 5m in width and 2m in depth separated into two chambers

Hence the drain, settling tank and sump is of sufficient capacity.

Check dam will be also constructed. It will be worked as small barriers built across the direction of water flow.
In this condition zero discharge will be maintained. Hence there will be no damages caused due to mining in the catchment area of the river / nalla falling in study area as the ground water recharge rate is higher than the extraction rate of mining region.

Water accumulated in the mine pit will be used for dust suppression. This water will also he made available to villagers on demand for irrigation purpose after testing. No discharge of water will he made to any surface water course.

Proper Barbed wire fencing will be done all around the project site to restrict the common animals to enter into the area.

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 water required for the mining activities shall be supplied by the tanker from nearby authorized sources.
c. The District Survey Report (DSR) is issued by the competent authority. I will abide by any directives issued by any court of law in future.
d. 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
e. The Boundary Pillars of the proposed mine applied area will be maintained properly.
f. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
g. 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.
h. Sufficient water spray using water tankers will be done for effective dust suppression within the mine applied area and on haul roads.
i. 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.
j. If any tree felling than necessary permission shall be taken from the competent authority.
k. Slope of the water bodies to be stabilized using gabion plantation crated at the end of the life of the mine.
l. 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 the life of the mine.
m. Personal protective equipments such as protecting clothing, helmet, goggles or other garments for 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 Tasu Stone & Morrum Deposit of Partner : Shri Sanjay Kumar Singh & Shri Shamshed Ansari, Village : Tasu, Thana : Herhanj, Thana no. : 105, Distt. : Latehar, Jharkhand (1.87 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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3. **Hardag Stone Deposit of Smt. Manjusha Lal, Village : Hardag, Thana : Ranchi, Distt. : Ranchi, Jharkhand (1.08 Ha).**

(Proposal No. SIA/JH/MIN/448773/2023).

Project Category: B2 – Application for Environment Clearance

EC Application for: Stone: 18,363 Cu.M. / year i.e 51,418 Tonnes / year

Name of the Consultant: M/s P & M Solution, Noida -201301 UP.

This is a new project which has been taken for appraisal on 19.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Hardag Stone Deposit of Smt. Manjusha Lal	
2	Applicant Address:	:	Smt. Manjusha Lal W/o- Sri Neeraj Kumar Lal At – Tulsi Bhawan, Pawan Colony, Hinoo, Thana - Doranda, District - Ranchi, State - Jharkhand, Pin Code – 834002	
3	Applied Area Address :	:	In Mouza - Hardag, Thana – Ranchi, Thana No. - 275, District - Ranchi, Jharkhand	
4	Applied Area	:	Ha: 1.08 Hectares	Acres: 2.67 Acres
5	Type of Land	:	Non Forest – Raiyati Land	
6	Project Cost	:	20 Lakhs	
7	EMP Budget	:	Capital: 3.06 Lakhs	Recurring. 4.27 Lakh / year
8	CSR / CER Budget	:	Rs. 0.40 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.: 91,609 Cu. M.	Tonnes: 2,56,504 Tonnes
11	Mine Life	:	5 years (4 years 11 months)	
12	Man power	:	25	
13	Water Requirement	:	6.09 ~ 6.10 KLD Drinking: 0.25 KLD, Dust Suppression: 2.98 KLD, Plantation: 2.86 KLD	
14	Water Source	:	From nearby authorized sources.	
15	DG Set / power	:	No	
16	Crusher	:	No	
17	Nearest Water Body	:	Kanchi River is flowing approx 0.84 km away towards SSW direction of applied area.	
18	Nearest Habitation	:	Hajam village is situated approx. 0.69 Km aerial distance away in South East direction.	
19	Nearest Rail Station	:	Balasiring Railway station is situated approx. 8.08 Km aerial distance away in NNW direction.	
20	Nearest Air Port	:	Birsa Munda International Airport, Ranchi, Jharkhand is situated approx. 12.80 Km aerial distance away in North direction.	
21	Nearest Forest	:	Nearest forest land is 950m away from the proposed project.	
22	Road & Highways	:	Highway: NH-20 is about 2.05 Km aerial distance away from the applied area in West direction.	

CO-ORDINATES (as per DGPS survey report)

1	Latitude	:	From N23°11'53.57"	To N23°12'00.80"
2	Longitude	:	From E85°18'30.21"	To E85°18'34.98"

LAND DETAILS

Khata No.	56	57
Plot Nos.	1974,1978, 1983, 1984, 1985, 1981	1980, 1982

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Ranchi vide letter no. 1162/M dated 05.10.2023.
2	CO	:	The CO, Namkum, Ranchi vide letter no. 1452(ii), dated 07.08.2023 has mentioned the plot no. of the project is not recorded as "Jangle Jhari" in R.S. Khatiyan or Register II.
3	DMO	:	DMO, Ranchi vide memo no. 1170/M, dated 06.10.2023 certified that two other mining lease area (3.59 Acre & 6.00 Acre) exists within 500 m radius from proposed project site and total area is 12.26 Acre.
4	DFO Wild Life	:	DFO, Wild Life, Ranchi vide letter no. 734, dated 08.08.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Ranchi Forest Division vide letter no. 2914, dated 02.08.2023 certified that the distance of notified forest is 950 meter from proposed project site.
6	DSR	:	The DC – cum - District Magistrate, Ranchi vide letter no. 1176/M, dated 07.10.2023 has informed that this project is part of District Survey Report (DSR) at Ranchi district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	Gram Sabha conducted on 28.07.2023.
8	Mine Plan Approval	:	Approved by the Assistant Mining Officer, Ranchi vide Memo No. 1173/M dated 07.10.2023.

Working Details

1	Mining Method	:	Opencast Mechanized Mining.	
2	Quarry Area	:	5 years – 0.48 Ha	Life of Mine – 0.48 Ha
3	Waste Generation	:	5 years– 5672 Cu.M (Gritty Soil & Intercalated Waste)	Life of Mine – 5672 Cu.M (Gritty Soil & Intercalated Waste)
4	Stripping Ratio	:	1 : 0.02	

5	Working Days	:	300 Days
6	Benches: size & No	:	Size: 6m x 6m, No. – 4.
7	Elevation of Mine	:	Highest RL 602m AMSL. Lowest RL 599m AMSL
8	Ground Level Elevation	:	599m AMSL
9	Ultimate Working Depth	:	578m AMSL
10	Water Table	:	568m AMSL
11	Topography of Mine	:	Gently sloping land
12	Explosive Requirement	:	9.45 Tons/year
13	Diesel/Fuel requirement	:	42 KL/year (140 Litres/day)

Production Details

Year	Production of stone		Removal of Gritty Soil (Cum)	Intercalated Waste Generation (CuM)	Bench RL in Meters
	(Cum)	(Tonne)			
1st Year	18321	51298	Nil	964	602m - 596m
2nd Year	18321	51298	Nil	964	602m – 596m
3rd Year	18335	51338	Nil	965	602m – 590m
4th Year	18269	51152	Nil	902	596m – 584m
5th Year	18363	51418	850	967	602m – 578m
Total	**91609**	**256504**	**850**	**4822**	

Land Use

Sl	Pattern	Existing Land Use (Ha)	Proposed Current Plan Period (Ha)	Proposed Land Use at End of Life of Mine (Ha)	Land Usage at Conceptual Stage
1	Mining Area (Quarry)	Nil	0.48 (including backfilling 0.052 Ha)	0.48	Water body
2	Green Belt Within Safety Barrier	Nil	0.50	0.50	Plantation
3	Road	0.01	--	--	--
4	Blocked area due to Electric Line safety	0.10	0.10	0.10	Public Use
5	Unutilized	0.97	Nil	Nil	--
	TOTAL	**1.08**	**1.08**	**1.08**	

ENVIRONMENT MANAGEMENT

Green Belt Development

Sl.	Location		Area / Length	No of Trees
1	Safety Zone	:	0.50 Ha	1250
2	Haul / Approach Road	:	0.08 Km	80
3	Distributed in Anganwadi, Panchayat Bhawan or in schools		–	100

- Gahlon Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road 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

- Waste (Gritty Soil & Intercalated Waste) Generation will be 5672 Cu.M. during the life of Mine.
- The southern portion of the applied area is covered with a layer of gritty soil and in north portion stone is exposed up to the surface. During quarry development in 1st, 2nd, 3rd & 4th year intercalated waste will be removed and this will be used in haul road dressing & in 5th year removed gritty soil & intercalated waste soil will be backfilled within the exhausted quarry

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the applied 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 etc shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months

Risk & Hazards

Following are the associated Risk and Hazards associated with the stone mining process

- Accident due to explosives.
- Accident due to operation of heavy mining equipment.
- Fall of animal in to abundant pit.

Mitigation Measures

In order to take care of above hazard/disasters, the following control measures will be adopted:

- Opencast mechanized method of mining will be adopted.
- Working will be carried out in one shift of 8 hours during day time only.
- No explosive will be stored at mine site.
- All applicable rules of MMR 1961, Mines Act-1952, Mines Rules 1955, MCR-1960, MCDR-1988 will be followed for safe, scientific & systematic working.
- The working will be done under the supervision of a Qualified Mines Manager.
- The height and width of the benches maintain properly.
- Working of mine will be done as per approved plans.
- Permanent fencing will be provided at the top edge of opencast working.
- All protective equipment of a type approved by the DGMS will be provided to the workers viz, foot wear, helmets, ear plug, dust mask, gloves, goggles, shin guards etc.

Water Reservoir Safety Management

- Proper Barbed wire fencing will be done all around the project site to restrict the common animals to enter into the area.
- 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 the life of the mine.

Mitigation Measures for Hardag Stone Deposit of Smt. Manjusha Lal, in Village – Hardag, Thana-Ranchi, Thana No. – 275, District- Ranchi, Jharkhand, over an area of 2.67 Acres (1.08 Ha).

Settling tank and gatland drain will be provided in the South East direction. Calculation for settling tank has been given below

Settling Tank Design calculation for the proposed project:-

Total water accumulates in the mine is as follows:

Total Area :-	1.08 Ha
Water reservoir at ultimate stage :-	0.48 Ha
Rest of the area :-	0.50 Ha
Direct catchment area is :-	0.48 Ha
Considered only 60% area from the Rest area as a catchment area :-	0.30 Ha
Total area available	0.78 Ha

Surface runoff in the pit Qz = CIA

Where C= runoff co efficient = 0.195

I = Monsoon annual rainfall =1.09 m

A = Area in Ha = 0.78 Ha

Total surface runoff from the catchment area (q) = 0.195 X 1.09 X 0.78 Ha X 10000 = 1658 cum

Design of sedimentation tank

Total annual yield is 1658 cum

Hence per day yield is 1658 cum / 120 (rainy days) = 14 cum

Garland drain along with settling tank will be maintained in the boundary side to prevent siltation of low lying areas and in rush of water into the mine. The size of the drain will be 690 m x 2.0 m x 1.5 m. The settling tank will be 1 in number of size 5 m in length, 5 m in width and 2 m in depth separated into two chambers

Hence the drain, settling tank and sump is of sufficient capacity.

Check dam will be also constructed. It will be worked as small barriers built across the direction of water flow.

In this condition zero discharge will be maintained. Hence there will be no damages caused due to mining in the catchment area of the river / nalla falling in study area as the ground water recharge rate is higher than the extraction rate of mining region.

Water accumulated in the mine pit will be used for dust suppression. This water will also be made available to villagers on demand for irrigation purpose after testing. No discharge of water will be made to any surface water course.

Proper Barbed wire fencing will be done all around the project site to restrict the common animals to enter into the area.

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 water required for the mining activities shall be supplied by the tanker from nearby authorized sources.
c. The letter issued in respect of District Survey Report (DSR), is issued by the competent authority. I will abide by any directives issued by any court of law in future.

d. 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

e. The Boundary Pillars of the proposed mine applied area will be maintained properly.

f. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.

g. 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.

h. Sufficient water spray using water tankers will be done for effective dust suppression within the mine applied area and on haul roads.

i. 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.

j. If any tree felling than necessary permission shall be taken from the competent authority.

k. Slope of the water bodies to be stabilized using gabion plantation crated at the end of the life of the mine.

l. 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 the life of the mine.

m. Personal protective equipments such as protecting clothing, helmet, goggles or other garments for 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 Hardag Stone Deposit of Smt. Manjusha Lal, Village : Hardag, Thana : Ranchi, Distt. : Ranchi, Jharkhand (1.08 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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4. **Brick Soil Mining of M/s Bhole Bhandari Bricks (Prop. : Shri Ashok Kumar Gupta), Village : Gorainjor, P.S. : Kersai, Distt. : Simdega, Jharkhand (1.71 Ha).**

(Proposal No. SIA/JH/MIN/ 448849/2023).

Project Category: B2 – Application for Environment Clearance

EC Application for: Soil: 1200 Cu.M. / Year i.e. Bricks 6,00,000 Numbers / year.

Name of the consultant: M/s P & M SOLUTION, NOIDA, UP 201301.

This is a new project which has been taken for appraisal on 19.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Brick Soil Mining For M/s Bhole Bhandari Bricks	
2	Applicant Address:	:	M/s Bhole Bhandari Bricks Proprietor: Sri Ashok Kumar Gupta At – Parkala, P.O. - Khinda, Thana- Kurdeg, District – Simdega, State – Jharkhand, Pin Code – 835212.	
3	Lease Address :	:	In Mouza – Gorairjor, Thana – Kersai, Thana No. – 28, District – Simdega, Jharkhand	
4	Applied Area	:	Ha: 1.71 Hectares	Acres: 4.23 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	20 Lakhs	
7	EMP Budget	:	Capital: 4.24 Lakhs	Recurring: 3.97 Lakh / year
8	CSR / CER Budget	:	Rs. 0.40 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.: 21,894 Cu. M.	
11	Mine Life	:	18 years	
12	Man power	:	10	
13	Water Requirement	:	7.98~8.0 KLD (Drinking: 0.10 KLD, Dust Suppression: 4.64 KLD, Plantation: 3.24 KLD	
14	Water Source	:	From nearby authorized sources.	
15	DG Set / power	:	No	
16	Crusher	:	No	
17	Nearest Water Body	:	Sankh River is flowing approx 4.45 Km away in East Direction.	
18	Nearest Habitation	:	Gorairjor village is situated approx. 1.42 Km aerial distance away in South direction.	
19	Nearest Rail Station	:	Biramitrapur Railway Station at a distance of 54.56 km towards East direction from site	
20	Nearest Air Port	:	Rourkela Airport, Rourkela, at a distance of 67.65 km in ESE direction from mine site.	
21	Nearest Forest	:	Nearest Forest land is more than 250m away from the proposed project.	
22	Road & Highways	:	Highway: NH-143 is near about 26.42 Km away in North East direction.	

CO-ORDINATES

1	Latitude		From 22°34'00.80"N	To 22°34'07.31"N
2	Longitude		From 84°14'23.08"E	To 84°14'30.20"E

LAND DETAILS

Khata No.	64
Plot Nos.	397

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made
2	CO	:	The CO, Kersai vide letter no. 136/Ra, dated 18.02.2022 has mentioned the plot no. of the project is not recorded as "Jangle Jhari" in R.S. Khatiyan or Register II.
3	DMO	:	DMO, Simdega vide memo no. 521/Khanan, dated 07.10.2023 certified that no other lease exists within 500 m radius from proposerl project site.
4	DFO Wild Life	:	DFO Wildlife Ranchi vide letter no. 1034, dated 09.10.2023 certified that the propnsed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Simdega Forest Division vide letter no. 2473, dated 29.08.2022 certified that the distance of reserved / protect forest is more than 250 m from proposed project site.
6	DSR	:	Project's name is mentioned in District Survey report (DSR) Simdega
7	Gram Sabha	:	BDO, Kersai vide letter no. 174/Ra, dated 18.02.2022 informed that Gram conducted on 10.02.2022.
8	Mine Plan Approval	:	Approved by the District Mining officer, Simdega vide Letter no. 520/Mining, dated 07.10.2023.

Working Details

1	Mining Method	:	Opencast Manual Mining and transportation by tippers.	
2	Quarry Area	:	5 years – 0.367 Ha	Life of Mine – 1.262 Ha
3	Waste Generation	:	5 years– 690 Cu.M (Top Soil)	Life of Mine – 2484 Cu.M (Top Soil)
4	Stripping Ratio	:	1 : 0.12	
5	Working Days	:	200 Days	
6	Benches: size & No	:	Size: 1m X 1.5m, No. - 2	
7	Elevation of Mine	:	Highest RL 400m AMSL, Lowest RL 397m AMSL	
8	Ground Level Elevation		397m AMSL	
9	Ultimate Working	:	395m AMSL	

	Depth		
10	Water Table	:	385m AMSL
11	Topography of Mine	:	Flat Land.
12	Explosive Requirement	:	No
13	Diesel/Fuel requirement	:	4 KL/year (20 Litres/day)

Production Details

Year	Production of Sub Soil (Cum)	Production of Bricks (Numbers)	Top Soil Generation (CuM)	Bench RL in Meters
1st Year	1200	6,00,000	138	399m – 397m
2nd Year	1200	6,00,000	138	399m – 397m
3rd Year	1200	6,00,000	138	398m – 396m
4th Year	1200	6,00,000	138	398m – 396m
5th Year	1200	6,00,000	138	398m – 396m
Total	**6000**	**30,00,000**	**690**	

Land Use

SL	Pattern	Existing Land Use (Ha)	Proposed Current Plan Period (Ha)	Proposed Land Use at End of Life of Mine (Ha)	Proposed Land Use at End of Life of Mine (Ha)	Land Usage at Conceptual Stage
1	Mining Area (Quarry)	Nil	0. 367	1.262	1.262	Grass cultivation will be done on it
2	Green Belt Within Safety Barrier	Nil	0.448	0.448	0.448	Plantation
3	Road	0.01	0.014	--	--	
4	Unutilized	1.70	0.881	Nil	Nil	
	TOTAL	1.71	1.71	1.71	1.71	

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	Location		Area/Length	No of Trees
1	Safety Zone	:	0.448 Ha	1120
2	Haul /Approach Road	:	0.40 Km	400
3	Distributed in Anganwadi, Panchayat Bhawan or in schools	:	--	100

- Gabion Plantation work in the safety zone (7.5m 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 m 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

- Waste (Top soil) Generation will be 2484 Cu.M. during the life of Mine.
  The fertile top soil will be preserved temporarily by dumping and then it will be spread concurrently over the excavated part of the land after the end of each year lifting up of brick soil and grass cultivation will be done on it.

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 durihg raihy season will be collected in a pit and shall be use for dust suppression and plaulation. Excess water, if any shall be discbarged in natural stream after settlmg 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 sball he made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settliing stispended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing kito 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 sball 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

- No drilling and blasting is proposed.
- Water sprinkling will be dune 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 dono
- Use of personal protective equipment like dust mask etc shall be put in practice
- Amblent air pollution monitoring shall be carried out every six months

Top Soil Waste Management

- The fertile top soil will be preserved temporarily by dumpling and grass plantation will be done over it to maintoin the top soil fertility. This top soil will be spread over the lahd after removal of brick soil to use for furtber crop cultivation.

Risk & Hazards

- Pall of animal in to abundant pit.

Risk & Hazards Mitigation Measures

- Opencast mechanized method of mining will be adopted.
- Working will be carried out in one shift of 8 bours during day time only.

- All applicable rules of MMR 1961, Mines Act-1952, Minies Rules 1955, MCR-1960, MCDR-1988 will be followed for safe, scientific & systematic working.
- The beight and width of the benches maintain properly.
- Working of mine will be done as per approved plans.
- Permanent fencing will be provided at the top edge of opencast working.
- All protective equipment of a type approved by the DGMS will be provided to the workers viz, foot wear, helmets, ear plug, dust mask, gloves, goggles, shin guards etc.
- Proper Barbed wire fencing will be done all around the project site to restrict the common animals to enter into the area.

Undertaking submitted affirming:

a. Ground water will be used only fer domestic purpose and not be used fer any mining activities or any other use.
b. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
c. The water required for the mining activities shall be supplied by the tanker from nearby authorized sources.
d. The District Survey Report (DSR) is issued by the competent authority. I will abide by any directives issued by any court of law in future.
e. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, tben the applicable laws / rules will be binding on me and all necessary steps will be taken in this regard
f. The Boundary Pillars of the proposed mine applied area will be maintained properly.
g. One day post monsoon baseline data related to environment monitoring will be submitted witb the first compliance report.
b. The plantation work will be completed within the first year of operation. Tbereafter the same will be maintained up to the Conceptual stage of the Mine.
i. Sufficient water spray using water tankers will be done for effective dust suppression within the mine applied area and on haul roads.
j. All the mining equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
k. If any tree felling than necessary permission shall be taken from the competent authority.
l. Proper Barbed wire fencing will be done all around tbe project site to restrict the common animals to enter into the area.
m. Personal protective equipments such as protecting clothing, helmet, goggles or other garmehts for 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 tbat the proposal for Brick Soil Mining of M/s Bhole Bhandari Bricks (Prop. : Shri Ashok Kumar Gupta), Village : Gorainjor, P.S. : Kersal, Distt. : Simdega, Jharkhand (1.71 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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5. **Kadaiya Stone Deposit of M/s S.B.A. Minerals, Village : Kadaiya, Circle : Tundi, Distt. : Dhanbad, Jharkhand (2.306 Ha).**

(Proposal No. SIA/JH/MIN/305713/2023).

Project Category: **B2 – Application for Environment Clearance (Amendment)**
EC Application for: **Proposed Capacity- 35238.00 cum/annum or 90385.47 TPA**

The Kadaiya Stone Deposit has been previously Environment clearance granted by SEIAA vide letter no. EC/SEIAA/2023-24/2795/2023/63, dated 02.05.2023 with production capacity of 55555.80 cum/annum or 150000.68 TPA. Now, the proposal has been applied for the Environment clearance (Amendment, Category B2) under production capacity of 35238.00 cum/annum or 90385.47 TPA within same mining lease area.

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

This is an amendment project which has been taken for appraisal on 19.10.2023.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Kadaiya Stone Deposit	
2	Lessee:	:	M/s S.B.A Minerals (Partners- Sri Santosh Kumar Munshi, Sri Binod Kumar & Sri Ankit Kumar Singh)	
3	Lease Address	:	Village – Kadaiya, Circle - Tundi, District – Dhanbad, State - Jharkhand	
4	Lease Area	:	2.306 ha	Acres- 5.70 Acres
5	Type of Land	:	Non Forest – Raiyati Land	
6	Project Cost	:	Rs. 40Lakhs	
7	EMP Budget	:	Capital: 4.8875 Lakhs	Recurring: 3.27 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 158976.63 cdm	Tonnes: 407775.06 tons
10	Mine Life	:	4.51 years	
11	Man power	:	22	
12	Water Requirement	:	10 KLD (Drinking: 0.22 KLD, Dust Suppression: 4.95 KLD, Plantation: 4.78 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	500 kVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Khudia Nadi at a distance of 5.73 Km in SE direction.	
17	Nearest Habitation	:	Kadaiya, at 490 meters	
18	Nearest Rail	:	Dhanbad Railway station, approx. 12.40 km towards S direction.	

	Station		
19	Nearest Air Port	:	Dhanbad Airport, approx. 7.60 km towards S direction.
20	Nearest Forest	:	Reserve Forest - Approx. 4.60 km towards NE direction of mine site. Simra Hill - Approx. 3.70 km towards North direction of mine site.
21	Road & Highways	:	SH – 13 - Approx. 8.50 km in East direction NH – 19 Approx. 5.75 km in South direction.

CO-ORDINATES

1	Latitude		From 23°54'10.60" N	To 23°54'18.13" N
2	Longitude		From 86°26'02.79" E	To 86°26'15.54" E

LAND DETAILS :

Khata No.	Plot No.
23	223
24	224
189	225, 226, 227, 472, 478, 479, 480

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by DMO, Dhanbad vide memo no. 22/M, dated 05.01.2023.
2	CO	:	The CO, Tundi (Dhanbad) vide letter no. : 587, dated 18.11.2022 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Dhanbad vide memo no. 218/M, dated 14.02.2023 certified that no other mining lease area exists within 500 m radius from proposed projeet site.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. : 1749, dated 03.09.2022 certified that tbe proposed project site is outside Eco Sensitive Zone of Parasnatb & Topcbanchi Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Dhanbad Forest Division vide letter no. : 1971, dated 30.08.2022 certified that the distance of reserved / protected forest is 1600 meter from proposed project site.
6	DSR	:	The DC – cum – District Magistrate, Dhanbad vide letter no. 205/M,

			dated 13.02.2023 has informed that this project is part of District Survey Report (DSR) of Dhanbad district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	Gram Sabha conducted on 22.11.2022.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dhanbad vide memo no. 1559/M dated 03.10.2023.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by SEIAA vide letter no. EC/SEIAA/2023-24/2795/2023/63, dated 02.05.2023.

Working Details

1	Mining Method	:	Opencast other than fully mechanized (OTFM) Method	
2	Quarry Area	:	2.306 ha. Or 5.70 Acres	Life of Mine – 4.51 years
3	Waste Generation	:	23280.5 cum or 59714.48 tons	
4	Stripping Ratio	:	1: 0.15	
5	Working Days	:	300	
6	Benches: size & No	:	6m to width not less than 10m	
7	Elevation of Mine	:	246 AMSL to 232 AMSL	
8	Ground Level Elevation	:	232 AMSL	
9	Ultimate Working Depth	:	222 AMSL	
10	Water Table	:	212 AMSL (20 mbgl)	
11	Topography of Mine	:	Area represents undulating topography	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	110 litre/day	

Production Details

Year	Production of stone (cum)	Production of stone (tons)	Total Waste in (cum)	Bench RL in Meters
1st	35120.00	90082.80	8140.00	240mRL - 234mRL
2nd	33302.25	88741.31	3512.75	234mRL - 222mRL
3rd	35238.00	90385.47	4148.90	234mRL - 222mRL
4th	32867.15	88741.31	4501.85	234mRL - 222mRL
5th	17423.00	47042.10	2977.00	234mRL - 222mRL
Total	**153950.4**	**404992.99**	**23280.5**	

Land Use

Type of Land Use	Existing (ha)	During Plan Period (ha)	During Conceptual Period/after closure of mines (ha)
Excavation	--	1.366	1.366 (0.1 ha area shall be Backfilled, 0.715 Ha. Converted in to water Reservoir for Rain Water Harvesting, 0.551 ha. shall be left as dead bench)
Road	--	--	--
Waste Dump	--	--	--
Safety Zone	--	0.94 (Plantation)	0.94 (Plantation)
Total	--	2.306	2.306
Untouched Area	2.306	-	-
Total Lease Hold Area	**2.306**	**2.306**	**2.306**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.940 ha	2350
2	Along Approach Road		0.043 km	43

- 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 he 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 23280.5 cum waste generated during the plan period part of the waste shall be utilized for the maintenance the village road and making of approach road, haul road etc. No area has been selected for waste dumping.

Water Quality Management

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

- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done perrodically 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 he done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, 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, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13 25

Hazard identification & Risk Analysis in Stone Mining operation

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

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

Preventive Measures:

Face Stability

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

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

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

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

Falls from the edge of a bench

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

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

Control Measures

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

Dust generation during drilling

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

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

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

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

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

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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.
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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.
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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
- Tyre 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 toil 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.
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Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Kadaiya Stone Deposit of M/s S.B.A. Minerals, Village : Kadaiya, Circle : Tundi, Distt. : Dhanbad, Jharkhand (2.306 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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6. **Gobardhasa – A Stone Block of M/s Najir Gaon Fuels (Prop. : Shri Manjur Ali), Village : Gobardhasa, Thana : Kolebira, Distt. : Simdega, Jharkband (0.404 Ha).**

(Proposal No. SIA/JH/MIN/448615/2023).

Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Proposed Capacity- 2812 cum/annum or 7030 TPA**

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

This is a new project which has been taken for appraisal on 19.10.2023.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Gobardhasa - A Stone Block	
2	Lessee:	:	M/S NAJIR GAON FUELS, (Prop. - Manjur Ali)	
3	Lease Address	:	Village- Gobardhasa ,Thana- Kolebira . District – Simdega, Jharkhand	
4	Lease Area	:	0.404 ha	Acres- 1.0 Acre
5	Type of Land	:	Non- Forest (GM Land)	
6	Project Cost	:	Rs. 40 Lakhs	
7	EMP Budget	:	Capital: 1.77 Lakhs	Recurring: 4.27 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 13132 cum	Tonnes: 32830 tons
10	Mine Life	:	6.34 or 7 years	
11	Man power	:	32	
12	Water Requirement	:	3.56 KLD (Drinking: 0.32 KLD, Dust Suppression: 1.72 KLD, Plantation: 1.52 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	200 k VA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Gobardhasa Lake - Approx. 2.10 km towards East direction of mine site.	
17	Nearest Habitation	:	Gamhar Toli village, at 300 meters	
18	Nearest Rail Station	:	Konaroan Railway station, approx. 24.85 km towards SE direction.	
19	Nearest Air Port	:	Birsa Munda Airport, approx. 95.60 km towards NE direction.	
20	Nearest Forest	:	Protected Forest - Approx. 0.59 Km in N direction of mine site. Protected Forest - Approx 1.10 Km in NW direction of mine site.	

			Protected Forest - Approx 3.55 Km in N direction of mine site. Protected Forest - Approx 3.90 Km in W direction of mine site
21	Road & Highways	:	NH-143, Approx. 2.90 km In East direction.

CO-ORDINATES

1	Latitude		From 22° 41' 34.868" N	To 22° 41' 33.214" N
2	Longitude		From 84° 39' 19.723" E	To 84° 39' 22.494" E

LAND DETAILS :

Khata No.	Plot No.
54	92 (P)

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by Directorate of Mines, Mines & Geology Deptt., Govt. of Jharkhand vide Letter no. Kha. Ni (Nilami) - 34/2022, 1998, dated 20.09.2022.
2	CO	:	The CO, Kolebira vide letter no. : 53 (Ir)/Ra, dated 18.01.2023 has mentioned the plot no of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan& Register II.
3	DMO	:	DMO, Simdega vide memo no. 516/M, dated 06.10.2023 certified that no other mining lease area exists within 500 m radius of proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi, vide letter no. : 613, dated 06.07.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Simdega Forest Division vide letter no. : 1620, dated 26.08.2015 certified that the distance of notified forest is more than 250 meter from proposed project site.
6	DSR	:	The project site is mentioned in District Survey Report (DSR) of Simdega District.
7	Gram Sabha	:	Gram Sabha conducted on 27.07.2015.

8	Mine Plan Approval	:	Approved by District Mining Officer, Simdega vide letter no. 522/Mining, dated 07.10.2023.

Working Details

1	Mining Method	:	Opencast Manual method	
2	Quarry Area	:	0.404Ha / 1.0 Acre	Life of Mine – 6.34 or 7 years
3	Waste Generation	:	Nil	
4	Stripping Ratio	:	1: 0.00	
5	Working Days	:	300	
6	Benches: size & No	:	3m to 3m	
7	Elevation of Mine	:	607 AMSL to 602 AMSL	
8	Ground Level Elevation	:	602 AMSL	
9	Ultimate Working Depth	:	593 AMSL	
10	Water Table	:	575 AMSL (35 mbgl)	
11	Topography of Mine	:	Area represents gently slop of chhonagpur gneiss trending is NW - SE.	
12	Explosive Requirement	:	70 kg/day	
13	Diesel/Fuel requirement	:	70 litre/day	

Production Details

Year	Production of stone (cum)	Production of stone (tons)	Bench RL in Meters
1st	1776	4440	605mRL - 602mRL
2nd	2546	6365	605mRL - 602mRL
3rd	1320	3300	602mRL - 599mRL
4th	2812	7030	602mRL - 599mRL
5th	1296	3240	599mRL - 593mRL
Total	9750	24375	

Land Use

Type of Land	Present Land Use (Ha)	At the end of Plan period (Ha)	At the End of Conceptual Period (Ha)	At the End of Mine (In ha.)
Mining Area	--	0.180	0.180	Water Body
Dump	--	--	--	--

Road	--	--	--	--
Safety Zone	--	0.224	0.224	-
Unutilized Area	0.404	--	--	--
Total Applied Area	**0.404**	**0.404**	**0.404**	--

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Safety Zone	0.224 ha	560
2	Along Approach Road	0.100 km	100
3	Plants distributed in schools, Anganwadi or in Panchayat Bhawan	--	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

No Overburden or waste will be generated during the Plan Period. Therefore, there is no requirement of waste dumping Plan for this mining plan period.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.

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

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will he 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 miherals 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 he put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likellhood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has orcurred 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 tbereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment

C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard Identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6

6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

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

Preventive Measures:

Face Stability

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

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
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k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as 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 Gobardhasa – A Stone Block of M/s Najir Gaon Fuels (Prop. : Shri Manjur Ali), Village : Gobardhasa, Thana : Kolebira, Distt. : Simdega, Jharkhand (0.404 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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7. **Gobardhasa – B Stone Block of Shri Pramod Kumar Nag, Village : Gobardhasa, Thana : Kolebira, Distt. : Simdega, Jharkhand (0.404 Ha).**

(Proposal No. SIA/JH/MIN/448571/2023).

Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Proposed Capacity- 4128 cum/annum or 10320 TPA**

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

This is a new project which has been taken for appraisal on 19.10.2023.

Project and Location Details :

Sl	Parameter		Details
1	Project Name	:	Gobardhasa - B Stone Block
2	Lessee:	:	Shri Pramod Kumar Nag
3	Lease Address	:	Village– Gobardhasa ,Thana- Kolebira , District – Simdega.

			Jharkhand	
4	Lease Area	:	0.404 ha	Acres- 1.0 Acre
5	Type of Land	:	Non- Forest (GM Land)	
6	Project Cost	:	Rs. 40 Lakhs	
7	EMP Budget	:	Capital: 3.04 Lakhs	Recurring: 4.27 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 37969 cum	Tonnes: 94922 tons
10	Mine Life	:	10.48 or 11 years	
11	Man power	:	39	
12	Water Requirement	:	5.01 KLD (Drinking: 0.39 KLD, Dust Suppression: 2.7 KLD, Plantation: 1.92 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	200 k VA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Gobardhasa Lake - Approx. 1.91 km towards East direction of mine site.	
17	Nearest Habitation	:	Gamhar Toli village, at 300 meters	
18	Nearest Rail Station	:	Konaroa Railway station, approx. 24.90 km towards SE direction.	
19	Nearest Air Port	:	Birsa Munda Airport, approx. 95.60 km towards NE direction.	
20	Nearest Forest	:	Protected Forest – Approx 0.61 Km in NW direction of mine site. Protected Forest - Approx 0.96 Km in N direction of mine site.	
21	Road & Highways	:	NH-143, Approx. 2.08 km in SE direction.	

CO-ORDINATES

1	Latitude	From 22° 41' 32.934" N	To 22° 41' 34.161" N
2	Longitude	From 84° 39' 24.475" E	To 84° 39' 27.708" E

LAND DETAILS :

Khata No.	Plot No.
54	92 (P)

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by Directorate of Mines, Mines & Geology Deptt., Govt. of Jharkhand vide Letter no. Kha. Ni.

			(Nilami) - 48/2022, 1996. dated 20.09.2022.
2	CO	:	The CO, Kolebira vide letter no. : 54 (ii)/Ra, dated 18.01.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S Khatiyan& Register II.
3	DMO	:	DMO, Simdega vide memo no. 517/M, dated 06.10.2023 certified that no other mining lease area exists within 500 m radius of proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide letter no. : 614, dated 06.07.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Simdega Forest Division vide letter no. : 2226, dated 14.11.2015 certified that the distance of notified forest is more than 250 meter from proposed project site.
6	DSR	:	The project is mentioned in District Survey Report (DSR) of Simdega District.
7	Gram Sabha	:	Gram Sabha conducted on 01.06.2016.
8	Mine Plan Approval	:	Approved by District Mining Officer, Simdega vide letter no. 523/M dated 07.10 2023.

Working Details

1	Mining Method	:	Opencast Manual method	
2	Quarry Area	:	0.404Ha / 1.0 Acre	Life of Mine – 10.48 or 11 years
3	Waste Generation	:	Nil	
4	Stripping Ratio	:	1: 0.00	
5	Working Days	:	300	
6	Benches: size & No	:	3m to 3m	
7	Elevation of Mine	:	605 AMSL to 600 AMSL	
8	Ground Level Elevation	:	600 AMSL	
9	Ultimate Working Depth	:	585 AMSL	
10	Water Table	:	575 AMSL (35 mbgl)	
11	Topography of Mine	:	Area represents gently hilli slope area.	
12	Explosive Requirement	:	70 kg/day	

13	Diesel/Fuel requirement	:	70 litre/day

Production Details

Year	Production of stone (cum)	Production of stone (tons)	Bench RL in Meters
1st	3225.2	8063	600mRL - 597mRL
2nd	3311.2	8278	600mRL - 597mRL
3rd	3311.2	8278	600mRL - 597mRL
4th	4128	10320	597mRL - 594mRL
5th	4128	10320	597mRL - 594mRL
Total	18103.6	45259	

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	After life of mine (Ha)
Quarry	0.000	0.230	0 240 (Entire area shall be left as water reservoir)
Road	0.000	0.010	0 0
Waste Dump	-	Nil	Nil
Saftey Zone	0.00	0.164 (Plantation)	0.164 (Plantation)
Unutilized	0.404	0.00	0.00
Total	**0.404**	**0.404**	**0.404**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.164 ha	410
2	Along Approach Road		0.450 km	450
3	Plants distributed in schools, Anganwadi or in Panchayat Bhawan		--	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 he 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 Overburden or waste will be generated during the Plan Period. Therefore, there is no requirement of waste dumping Plan for this mining plan period.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will he stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall he 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 sbaff he 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.he put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, 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, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Pruhable)	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	25	20	15	10	5

(Insignificant)					

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 coostantly injecting a jet of water at the drill hit 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. willbe put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shallnot be carried in the same container
- The holes which have been charged with explosives willnot 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 smonth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine read 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 bedies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Goberdhasa – B Stone Block of Shri Pramod Kumar Nag, Village : Gobardhasa, Thana : Kolebira, Distt. : Simdega, Jharkhand (0.404 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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8. **Brahmandiha Stone Deposit of M/s Jai Maa Mansa Stone Mines (Partners : Shri Niwas Kumar Tiwary & Shri Shiv Ratan Sangai), Village : Brahmandiha, Circle : Topchanchi, Distt. : Dhanbad, Jharkhand (1.36 Ha).**

(Proposal No. SIA/JH/MIN/305718/2023).

Project Category : **B2 – Application for Environment Clearance (Amendment)**
EC Application for : **Proposed Capacity- 20657.75 cum / annum or 55775.93 TPA**

The Brahmandiha Stone Deposit has been previously Environmental clearance granted by SEIAA vide letter no. EC/ SEIAA//2023-24/2801/2023/65, dated 02.05.2023 with production capacity of 22230.3 cum / annum or 60021.86 TPA. Now, the proposal has been applied for the Environment clearance (Amendment, Category B2) under production capacity of 20657.75 cum/annum or 55775.93 TPA within same mining lease area.

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

This is an amendment project which has been taken for appraisal on 19.10.2023.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Brahmandiha Stone Deposit	
2	Lessee:	:	M/S Jai Maa Mansa Stone Mines (Partners - Sri Niwas Kumar Tiwari, & Sri Shiv Ratan Sangai)	
3	Lease Address	:	Village – Brahmandiha, Circle – Topchanchi, District- Dhanbad Jharkhand	
4	Lease Area	:	1.36 ha	Acres- 3.37 Acres
5	Type of Land	:	Non Forest – Raiyati Land	
6	Project Cost	:	Rs. 30 Lakhs	
7	EMP Budget	:	Capital: 5.104 Lakhs	Recurring: 3.27 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 133085.5 cum	Tonnes: 359330.85 tons
10	Mine Life	:	5.96 or say 6 years	
11	Man power	:	17	
12	Water Requirement	:	9.73 ~10.0 KLD(Drinking: 0.17 KLD, Dust Suppression: 6.06 KLD, Plantation: 3.5 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	200 KVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Katri Nadi, Approx. 0.32 km towards SW direction of mine site	
17	Nearest Habitation	:	Brahmandiha, at approx 0.68 km towards North direction.	
18	Nearest Rail Station	:	Matari Railway station, approx. 5.33 km towards SW direction.	

19	Nearest Air Port	:	Dhanbad Airport, approx.16.30 km towards ESE direction.
20	Nearest Forest	:	Tundi RF - Approx. 2.89 km towards NE direction of mine site. Nara RF – Approx. 3.67 km towards North direction of mine site.
21	Road & Highways	:	NH - 19, Approx. 0.90 km in North direction.

CO-ORDINATES

1	Latitude		From 23°52'37.69" N	To 23°52'42.55" N
2	Longitude		From 86°16'18.93" E	To 86°16'25.18" E

LAND DETAILS :

Khata No.	Plot No.
67	1113, 1114, 1115
135	1109, 1118, 1125, 1127
108	1116, 1117, 1126

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by DMO, Dhanbad vide memo no. 170/M, dated 09.02.2023.
2	CO	:	The CO, Topchanchi (Dhanbad) vide letter no. : 723, dated 23.12.2022 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Dhanbad vide memo no. 234/M, dated 20.02.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. : 1660, dated 26.08.2022 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchachi Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Dhanbad Forest Division vide letter no. : 1655, dated 19.07.2022 certified that the distance of notified forest is 260 m from proposed project site.

6	DSR	:	The DC – cum – District Magistrate, Dhanbad vide letter no. 205/M. dated 13.02.2023 has informed that this project is part of District Survey Report (DSR) of Dhanbad district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	Mukhiya, Brahmandiha Topchanchi (Dhanbad) vide letter no. 101, dated 19.12.2022 has informed that Gram Sabha conducted on 19.12.2022.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dhanbad vide memo no. 1602/M dated 09.10.2023.
9	Previous EC	:	Previous EC granted by SEIAA vide letter no. EC/ SEIAA//2023-24/2801/2023/65, dated 02.05.2023

Working Details

1	Mining Method	:	Opencast other than fully mechanized (OTFM) Method	
2	Quarry Area	:	1.36 ha. or 3.37 Acres	Life of Mine – 5.96 or say 6 years
3	Waste Generation	:	13208.20 cum or 35662.14 tons	
4	Stripping Ratio	:	1: 0.007	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	244 AMSL to 250 AMSL	
8	Ground Level Elevation	:	244 AMSL	
9	Ultimate Working Depth	:	226 AMSL	
10	Water Table	:	211 AMSL (15 mbgl)	
11	Topography of Mine	:	Area represents hillock topography	
12	Explosive Requirement	:	90 kg/day	
13	Diesel/Fuel requirement	:	90 litre/day	

Production Details

Year	Production of stone (cum)	Production of stone (tons)	Total Waste in (cum)	Bench RL in Meters
1st	20657.75	55775.93	3920.25	244 mRL – 238 mRL
2nd	22313.60	60246.72	3386.40	244 mRL – 238 mRL
3rd	20120.05	54324.14	3087.95	244 mRL – 232 mRL
4th	18798.60	50756.22	989.40	232 mRL – 226 mRL

5th	13550.80	36587.16	1324.20	232 mRL – 226 mRl
Total	**95440.80**	**257690.16**	**13208.20**	

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	Conceptual stage (Ha) (after life of mine)
Excavation	-	0.646	0.918
Road	-	0.005	
Waste Dump	-	0.067	-
Plantation (Green Belt)	-	0.445 (Within safety zone)	0.445 (Within safety zone)
Total Applied Area	-	**1.36**	**1.36**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.445 ha	1112
2	Along Approach Road		0.640 km	640

- 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 b/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 Jharkband. Records of same to be maintained and will be submitted with compliance report.

Solid Waste Management

Total 13208.20 cum or 35662.14 tons waste generated during the plan period 50% of the waste shall be utilized for maintenance the village road and making the approach road, haul road and 50% part of the waste shall be temporarily dump on the Southern side of applied area.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of

suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.

- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

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

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, 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, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard Identification & Risk Analysis in Stone Mining operation

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

	of Explosives	Explosion			
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
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- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

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 compotent 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 durlng 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 carred out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case dure to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provrded 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 drll oporator.

The risk is highest at older machines. Newer large drilling machines aro 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 hot 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 respicator 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 he 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 moviog 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 otfrer use.

b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Brahmandiha Stone Deposit of M/s Jai Maa Mansa Stone Mines (Partners : Shri Niwas Kumar Tiwary & Shri Shiv Ratan Sangai), Village : Brahmandiha, Circle : Topchanchi, Distt. : Dhanbad, Jharkhand (1.36 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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9. Pipaljori Stone Deposit of M/s Lakhmani Stone Product, Village : Pipaljori, P.S. : Pakur, Distt. : Pakur, Jharkhand (0.84 Ha).

(Proposal No. SIA/JH/MIN/448883/2023).

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

This is a new project which has been taken for appraisal on 19.10.2023.

Project Category : **B1 –** The State Expert Appraisal Committee, Jharkhand deliberated the project during its 101st meeting held on 21 - 24.02.2023 and SEIAA, Jharkhand has approved the ToRs in 102nd meeting held on 17th & 18th March, 2023. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2022-23/2754/2023/467, dated 24.03.2023. The final EIA / EMP submitted by PP to SEIAA on 16.10.2023 and which was forwarded to SEAC on 16.10.2023.

EC Application for : Proposed Capacity – 29500 cum/annum or 73750.00 TPA

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Pipaljori Stone Deposit	
2	Lessee:	:	M/S Lakhmani Stone Product (Partner- Sri Ritin Lakhmani, Sri Devaanand Lakhmani, Shri Gopi Chand Lakhmani, Shrr Jaikrshan Lakhmani, Shri Ravish Lakhmani) AT + P.O.- Sindhipara, P.S. – Pakur, District - Pakur, Jharkhand	
3	Lease Address	:	Village – Pipaljori, P.S.- Pakur, District – Pakur, Jharkhand	
4	Lease Area	:	0. 84 ha	Acres- 2.08 Acres
5	Type of Land	:	Non Forest – Raiyati Land	
6	Project Cost	:	Rs. 20 Lakhs	
7	EMP Budget	:	Capital: 6,16,500 Lakhs	Recurring: 3,27,000 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	Cu.m.: 29500 cum	Tonnes: 73750.00 tons
10	Mine Life	:	4.90 ~ 5.0 years	
11	Man power	:	20	
12	Water Requirement	:	11.58 ~ 11.60 KLD(Drinking: 0.20 KLD, Dust Suppression: 7.59 KLD, Plantation: 3.79 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	60 KVA	
15	Crusher	:	Nil	
16	Nearest Water Body	:	Torai Nadi - Approx. 7.72 km towards N direction of mine site. Banslol Nadi Approx. 9.33 km towards SE direction.	
17	Nearest Habitation	:	Pipaljori, 0.50 km	
18	Nearest Rail Station	:	Nagarnabr Train station, approx. 2.85 km toward E direction.	
19	Nearest Air Port	:	Birsa Munda Airport, approx. 292.0 km towards SW direction.	
20	Nearest Forest	:	Protected Forest near Bara Mahulan Village, Approx. 4.80 km towards W direction of mine site. Protected Forest near Mohanpur Village, Approx. 2.10 km towards SW direction of mine site.	
21	Road & Highways	:	NH-133A, NH-133A, Approx. 5.45 km. in N direction.	

CO-ORDINATES

1	Latitude		From 24°35'19.11"N	To 24°35'23.46"N
2	Longitude		From 87°50'19.48"E	To 87°50'26.60"E

LAND DETAILS

Khata no.	Plot no.
12	586 (P), 588 (P), 589, 590 & 591 (P)
30	587

STATUTORY CLEARANCES

1	LOI/Lease docs	:	The LoI has been issued by District Mining Office, Pakur vide letter no 1101/M , dated 09.07.2021.
2	CO	:	The CO, Pakur vide letter no. 1738/Ra, dated 11.11.2020 has mentioned the plot no. of the project is not recorded as "Jangle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Pakur vide memo no. 1495/M, dated 26.08.2020 certified that 05 other lease area (11.78 acre, 37.25 acre, 11.96 acre, 11.80 acre & 10.75 acre) exists within 500 m radius from proposed project and total area is 85.62 acre or 34.65 ha.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 481, dated 08.08.2021 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Pakur Forest Division vide letter no. 794 dated 19.05.2021 distance of reserved / protected forest is more than 250 m from proposed project site.
6	DSR	:	The DC-cum-District Magistrate, Pakur vide letter no 1412/M dated 12.08.2021 has informed that this project is part of District Survey Report (DSR) of Pakur district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	BDO, Pakur vide letter no. 2746/Vi, dated 13.11.2020 informed that Gram Sabha conducted on 28.10.2020.
8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide memo no. 1699/M, dated 24.09.2021

9	Public Hearing	:	Public Hearing conducted on 06.09.2023.

Working Details

1	Mining Method	:	Opencast other than fully mechanized (OTFM) Mining method	
2	Quarry Area	:	5 years – 0.84 ha	Life of Mine – 4.90 ~ 5.0 years
3	Waste Generation	:	5 years– 910 cu.m or 2275 tons	
4	Stripping Ratio	:	1: 0.03	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6 m	
7	Elevation of Mine	:	24 AMSL to 25 AMSL	
8	Ground Level Elevation	:	24 AMSL	
9	Ultimate Working Depth	:	11 AMSL	
10	Water Table	:	5 AMSL (10mbgl)	
11	Topography of Mine	:	Area represents a small hillock	
12	Explosive Requirement	:	8kg/day	
13	Diesel/Fuel requirement	:	90 litre/day	

Production Details

Year	Production of stone (Tonnes)	Production of stone (Cum)	Waste Generation (CuM)	Bench RL in Meters
1st	57500.0	23000.0	730	25 mRL – 23 mRL
2nd	60750.0	24300.0	-	25 mRL – 23 mRL
3rd	65000.0	26000.0	-	23 mRL – 17 mRL
4th	73750.0	29500.0	-	17 mRL – 11 mRL
5th	73750.0	29500.0	180	24 mRL – 17 mRL
Total	**330750.0**	**132300.0**	**910**	

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	Conceptual stage (Ha) (after life of mine)
Quarry	-	0.456	0.456ha

Road	0.22	0.006	0.006
Waste Dump	-	-	-
Infrastructure	-	-	-
Safety Zone Plantation	-	0.378	0.378
Total	-	**0.84**	**0.84**
Balance Area	0.818	-	-
Lease Hold Area	**0.84**	**0.84**	**0.84**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.378 ha	945
2	Haul /Approach Road	:	0.95 km	950

Year	Safety Zone Area (in Hectare)/No. of Plants	Plantation along both sides of Approach road	Location
1st Year	0.378/945	950	Approach road –950 nos – along both sides of approach road at spacing of 2 m.
2nd year	Care / Protection of Plants		
3rd year			
4th year			
5th Year			
Total	**945**	**950**	
Total no. of plants	**1895**		

- 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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Dust generation during drilling

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

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

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

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

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

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

Blasting Operations

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

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

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
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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 he 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 he carried in the same container

- The holes which have been charged with explosives will not be left unattended till blasting is completed.

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Health bazards 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 cesort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

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- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
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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 frpm 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 accideot to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
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- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.

- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
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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 bas 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 Pcoject Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposod 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 gablon plantation croated at the end of life of the mine.
k. Suitable safetv 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 uther 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 Pipaljori Stone Deposit of M/s Lakhmani Stone Product, Village : Pipaljori, P.S. : Pakur, Distt. : Pakur, Jharkhand (0.84 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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10. **Dhowadangal & Bhimpur Stone Mine of Shri Kaysuddin Shekh, Village : Dhowadangal & Bhimpur, P.S. : Maheshpur, Distt. : Pakur, Jharkhand (2.63 Ha).**

(Proposal No. SIA/JH/MIN/447104/2023).

Project Category: **B2 – Application for Environment Clearance (Expansion)**
FC Application for: **Existing Capacity - 42883.92 cum/year or 120075 TPA**
After Expansion Capacity- 74996.32 cum/year or 209989.71 TPA

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

This is an expansion project which has been taken for appraisal on 19.10.2023

The Dhowadangal & Bhimpur Stone Mine has been previously EC granted by SEIAA vide letter no. EC/SEIAA/2020-21/2289/2020/137, dated 15.05.2021 with production capacity 42883.92 cum/year or 120075 TPA. Now, the proposal has been applied for the Environment clearance (Expansion, Category B2) under production capacity of 74996.32 cum/year or 209989.71 TPA within same mining lease area

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Dhowadangal & Bhimpur Stone Mine	
2	Lessee:	:	Sri Kaysuddin Shekh At- Village Singadda, P.O.- Chengadanga, P.S. -Malpahari, Dist. - Pakur, Jharkhand	
3	Lease Address	:	Village – Dhowadangal & Bhimpur , District – Pakur, Jharkhand	
4	Lease Area	:	2.63 ha	Acres- 6 50 Acres
5	Type of Land	:	Non Forest – Raiyati Land	
6	Project Cost	:	Rs. 50 Lakhs	
7	EMP Budget	:	Capital: 5.54 Lakhs	Recurring: 4.27 Lakh / year
8	New or Expansion	:	Expansion	
9	Mineable Reserves	:	Cu.m.: 536429.85 cum	Tonnes: 1502003.58 tons
10	Mine Life	:	7.2 years	
11	Man power	:	21	
12	Water Requirement	:	10.80 KLD (Drinking: 0.21 KLD, Dust Suppression: 5.81 KLD, Plantation: 4.77 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	200 k VA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Bansoli River, Approx. 9.30 km towards S direction of mine site	
17	Nearest Habitation	:	Dhawadangal, Approx. 710 metres	

18	Nearest Rail Station	:	Rajgram Railway Station, approx. 15.03 km towards ESE direction
19	Nearest Air Port	:	Deoghar Airport, approx. 104.31 km towards W direction.
20	Nearest Forest	:	Open Scrub Protected Forest, Approx. 2.12 km in ENE direction of mine site.
21	Road & Highways	:	NH-133 A, Approx. 9.78 km in NNE direction.

CO-ORDINATES

1	Latitude		From 24° 34' 19.93" to N	To 24° 34' 34.05" N
2	Longitude		From 87°43' 17.89"E	To 87°43' 24.63" E

LAND DETAILS

Khata no.	Plot no.
18	835 (P)
13	845
24	849
05	850 (P)
11	729 & 731

STATUTORY CLEARANCES

1	LOI/Lease docs	:	Lease deed : 23.05.2021 to 22.05.2031.
2	CO	:	The CO, Maheshpur vide letter no. 834/Ra, dated 21.10 20219 has mentioned the plot no. of the project is not recorded as "Jangle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Pakur vide memo no. 2277/M, dated 12.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 2173, dated 10.10.2019 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Lake Bird Sanctuary.
5	DFO Forest Distance	:	DFO, Pakur Forest Division vide letter no. 1224 dated 01.10.2019 certified that the distance of reserved / protected forest is more

			tha 250 meter from project site.
6	DSR	:	The DC-cum-District Magistrate, Pakur has informed that this project is part of District Survey Report (DSR) at Pakur district.
7	Gram Sabha	:	BDO, Maheshpur vide letter no. 1294/Vi., dated 12.09.2019 informed that Gram Sabha conducted on 05.09.2019.
8	Mine Plan Approval	:	Approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Memo no 361/DDM, dated 20.07.2023
9	Consent to Establish (CTE)	:	CTE granted by JSPCB vide Ref. no. – JSPCB/HO/RNC/CTE - 10823995/2021/348, dated 08.12.2021.
10	Consent to Operate	:	CTO granted by JSPCB vide Ref. no. JSPCB/RO/DMK/CTO - 11794429/2021/217, dated 27.12.2021.
11	Certified EC Compliance	:	Compliance report certified by JSPCB vide Ref. no . 2030, dated 29.09.2023.
12	Provious EC		Previous EC granted by SEIAA vide letter no. EC/SEIAA/2020-21 /2289 /2020/137, dated 15.01.2021.
13	Previous production figure	:	Previous production figure issued by DMO, Pakur vide memo no. 2278/M, dated 12.10.2023.

WORKING DETAILS

1	Mining Method	:	Opencast semi mechanized method	
2	Quarry Area	:	2.63 Ha or 6.50 Acres	Life of Mine – 7.2 years
3	Waste Generation	:	5 years–25507.58 cum or 71421 224 tons	
4	Stripping Ratio	:	1: 0.08	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	135 AMSL to 136 AMSL	
8	Ground Level Elevation	:	120 AMSL	
9	Ultimate Working Depth	:	112 AMSL	
10	Water Table	:	100 AMSL (20 mbgl)	
11	Topography of Mine	:	Area represents a small hillock	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	110 litre/day	

PRODUCTION DETAILS

S No	Year	Previous Production in (EC) in Cum	Previous Production in (EC)	Proposed Production for Expansion in Cum	Proposed Production for Expansion	Benches in mRL
1	1st Year	42212.14	118194 Tons	--	--	--
2	2nd Year	42612.14	119314 Tons	--	--	--
3	3rd Year	42435.00	118818 Tons	74920.8	209778.24 Tons	130mRL
4	4th Year	42847.85	119974 Tons	74920.8	209778.24Tons	124mRL
5	5th Year	42883.92	120075 Tons	74996.32	209989.71Tons	124mRL – 118mRL

LAND USE

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	Conceptual stage (Ha) (after life of mine)
QUARRY	0.183	1.121	1.840 (Entire area shall be left as water reservoir)
ROAD	0.100	0.026	0.0
WAST DUMP	-	0.270	0.0
Crusher	-	-	-
S. Z. PLANTATION	0.00	0.300	0.79
Total	**0.283**	**1.717**	**2.630**
UNUSED AREA	2.347	0.913	0.00
LEASE HOLD AREA	**2.63**	**2.63**	**2.63**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.79 ha	2385
2	Haul /Approach Road	:	0.31km	310
3	Plants distributed in schools, Panchayat	:	--	100

	Bhawan or in Anganwadi			

- 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 2x2 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 replacemeht, protection and watering shall be undertaken for the life of mine as per norms and schedule issued hy PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of saine to be maintained and will bc submitted with compliance report.

Solid Waste Management

It has been calculated that total 25507.58 cum in-situ, 31884.48 cum loose and 22907.93 compact waste shall be generated during this modified plan period. The 50% of waste generated during the plan period i.e. 13550.90 cum Waste (compact) shall be utilized for approach & haul road maintenance. The rest (50%) 13550.90 cum waste (compact) snall be temporarily dumped in eastern part of the lease area, the maximum height of dump shall be 6m and it will cover 0.270 ha area.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above tbe 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 discbarged 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 hecollected in garland drain and allowed to settle in a small pit for settling suspendedparticles before allowing discharge to natural drainage system. Cbeck 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 e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, 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, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)

C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard Identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Mmor	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 engagad 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
- Locse sides are properly dressed
- No free, 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

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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.

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- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
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i. If any tree felling than necessary pormission shall he 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 pretection measures shall be taken around the water bodies to prevent any human or animals falling m to the water bodies created at the end of life ut the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or otber 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 Dhowadangal & Bhimpur Stone Mine of Shri Kaysuddin Shekh, Village : Dhowadangal & Bhimpur, P.S. : Mabeshpur, Distt. : Pakur, Jharkhand (2.63 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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11. Khesmi Alias Purana Nagar Stone Deposit of M/s Purnanagar Stone Mines (Partners : Md. Alauddin & Shri Mahendra Mehta), Village : Khesmi Alias Purana Nagar, Thana : Nawalsahi, Distt. : Koderma, Jharkhand (U.57 Ha).

(Proposal No. SIA/IN/MIN/448764/2023).

Project Category: **B2 – Application for Environment Clearance**

EC Application for: **Proposed Capacity- 10080.00 cum/annum or 27216.00 TPA**

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

This is a new project which has been taken for appraisal on 19.10.2023.

Project and Location Details :

Sl	Parameter		Details
1	Project Name	:	Khesmi Alias Purana Nagar Stone Deposit
2	Lessee:	:	M/s Purnanagar Stone Mines Partners- 1) Md. Alauddin, S/o- Kaim Miyan 2) Sri Mahenda Mehta, S/o- Sri Badri Mehta
3	Lease Address	:	M/s Purnanagar Stone Mines Partners- 1) Md. Alauddin, S/o- Kaim Miyan 2) Sri Mahenda Mehta, S/o- Sri Badri Mehta

			At- Koderma, State-Jharkhand	
4	Lease Area	:	0.57 ha	Acres- 1 41 Acre
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost	:	Rs. 30 Lakhs	
7	EMP Budget	:	Capital: 3.27 Lakhs	Recurring: 2.77 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 99400.18 cum	Tonnes: 268380.5 tons
10	Mine Life	:	10 years	
11	Man power	:	27	
12	Water Requirement	:	6.20 KLD (Drinking: 0.27 KLD, Dust Suppression: 3.76 KLD, Plantation: 2.12 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Sakri Nadi - Approx 1.04 km towards NNW direction of mine site	
17	Nearest Habitation	:	Khesmi Alias Purana Nagar, at 180 meters	
18	Nearest Rail Station	:	Nawadih Railway station, approx. 2.51 km towards E direction.	
19	Nearest Air Port	:	Birsa Munda Airport, approx. 129.67 km towards SSWdirection.	
20	Nearest Forest	:	Debipur Protected Forest- Approx .3.95 km towards N direction	
21	Road & Highways	:	SH-13 , Approx. 2.90 km in NNW direction..	

CO-ORDINATES

1	Latitude		From 24°24'27.71" N	To 24°24'30.40" N
2	Longitude		From 85°47'26.16" E	To 85°47'30.04" E

LAND DETAILS :

Khata No.	Plot No.
95	2089

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The LoI has been issued by DMO, Koderma vide memo no. 1585/M, dated 21.08.2023.
2	CO	:	The CO, Markacho (Koderma) vide letter no. : 489, dated 11.09.2023 has mehtioned the plot no. of the project is hot recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Koderma vide memo no. 1921/M,dated 10.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagvide letter no. : 2257, dated 03.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Koderma Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Koderma Forest Division vide letter no. : 3843, dated 13.09.2023 certified that the distance of notified forest is 350 meter from proposed project site.
6	DSR	:	The DC – cum – District Magistrate, Koderma vide letter no. 1912/M, dated 09.10.2023 has informed that this project is part of District Survey Report (DSR) of Koderma district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	Gram Sabha conducted on 14.09.2023
8	Mine Plan Approval	:	Approved by DMO, Koderma vide letter no. 1917, dated 10.10.2023.

Working Details

1	Mining Method	:	Opencast other than fully mechanized (OTFM) Method	
2	Quarry Area	:	0.57 Ha / 1.41 Acre	Life of Mine – 10 years
3	Waste Generation	:	2610.00 cum or 7047 tons	
4	Stripping Ratio	:	1:0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	370 AMSL to 371 AMSL	
8	Ground Level Elevation	:	370 AMSL m RL (10-15mbgl)	
9	Ultimate Working Depth	:	346 AMSL	
10	Water Table	:	335 AMSL	
11	Topography of Mine	:	Area represents flat topography.	
12	Explosive Requirement	:	90kg/day	

13	Diesel/Fuel requirement	:	90 litre/day

Production Details

Year	Production of stone (cum)	Production of stone (tons)	Bench RL in Meters
1st	8700.00	23490.00	371mRL - 364mRL
2nd	9500.00	25650.00	370mRL - 364mRL
3rd	9700.00	26190.00	370mRL - 364mRL
4th	9990.00	26973.00	364mRL - 358mRL
5th	10080.00	27216.00	364mRL - 358mRL
Total	**47970.00**	**129519.00**	

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	Conceptual stage (Ha) (after life of mine)
Quarry	-	0.370	0.370
Road	0.006	(Comes under qry)	(Comes under qry)
S.Z. (Greenbelt)	-	0.200 (Plantation)	0.200 (Plantation)
Total	**0.006**	**0.57**	**0.57**
Balance	0.564	-	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.200 ha	1060
2	Along Approach Road		0.46 km	460

- Gahion 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

Pit layout has been shown in development plan & section and there is 2610.00 cumwaste generated during this Mining Plan period, so there is no requirement of wastedumping Plan for this mining plan but it will be used for village road and approachroad maintenance.

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 sball 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 Sepfic Tank with Soak Pit shall he provided, dischargefrom Soak Pit, If any shall be used for plantation.
- It shall be enstred 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 usad 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 vehide under control. Records for some to be maintained.
- Water sprnkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray hy 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:

Prohability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.

L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, 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, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Changing 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 hy 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 he fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will he 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 he used so that the vibrations do not damage the structures/houses if the quarrying operatioos are closa to human habitation.
- Blasting shall be conducted only during favourable weather condtions 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 he 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 coirectly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initrator 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 transfor 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
- Tbe boles 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 transportatioo.
- 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 oe carried out directly under the supervision and control of inanagement.
- 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 he completed within the first year of operation. Thereafter the same will he maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Khesmi Alias Purana Nagar Stone Deposit of M/s Purnanagar Stone Mines (Partners : Md. Alauddin & Shri Mahendra Mehta), Village : Khesmi Alias Purana Nagar, Thana : Nawalsahi, Distt. : Koderma, Jharkhand (0.57 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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12. Chumba Stone & Soil Mine of Shri Amit Kumar, Village : Chumba, Thana : Balumath, Thana no. : 31, Distt. : Latehar, Jharkhand (1.299 Ha).

(Proposal No. SIA/JH/MIN/448864/2023).

Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Proposed Capacity of Stone: 27446cum/Annum Or 76849 TPA**
Proposed Capacity of Soil: 8411 Cum/Annum Or 12617 TPA

Name of the consultant : P & M Solution, Noida, Uttar Pradesh.
This is a new project which has been taken for appraisal on 19.10.2023.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Chumba Stone & Soil Mine	
2	Lessee:	:	Shri Amit Kumar	
3	Lease Address	:	Village: Chumba, Thana No.-31, Thana- Balumath, District: Latehar, State - Jharkhand	
4	Lease Area	:	1.299 ha	Acres- 3.21 Acre
5	Type of Land	:	Non- Forest (Raiyati Land)	
6	Project Cost	:	Rs. 30 Lakhs	
7	EMP Budget	:	Capital: 3.77 Lakhs	Recurring: 4.27 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 202481.42 cum of Stone 7887.5 cum of Soil	Tonnes: 566948 tons of Stone 22085 Tonnes of Soil
10	Mine Life	:	7.7 years	
11	Man power	:	34	
12	Water Requirement	:	7.34 ~ 7.40 KLD (Drinking: 0.34 KLD, Dust Suppression: 4.1 KLD, Plantation: 2.9 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	200 kVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Amanat River, Approx 3 km towards NW direction of mine site	
17	Nearest Habitation	:	Chumba village, at 500 meters.	
18	Nearest Rail Station	:	Mahuamilan Railway station, approx. 32.40 km towards South direction.	
19	Nearest Air Port	:	Birsa Munda Airport, approx. 89.40 km towards SE direction.	
20	Nearest Forest	:	Protected Forest, Approx 3.0 km towards N direction of mine site. Protected Forest, Approx 1.0 km towards S direction of mine site. Behat Protected Forest, Approx 2.5 km towards S direction of mine site. Protected Forest, Approx 1.2 km towards E direction of mine site.	

21	Road & Highways	:	NH 99: Approx. 2.0 km. in SE direction.

CO-ORDINATES

1	Latitude	From 23°57'32.417"N	To 23°57'36.132"N
2	Longitude	From 84°47'31.420"E	To 84°47'37.163"E

LAND DETAILS:

Khata No.	Plot No.
97	609
98	610, 633

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by DMO, Latehar vide Letter no. - 1181/M, dated 03.07.2021.
2	CO	:	The CO, Bariyatu vide letter no. : 36, dated 25.01.2021 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Latehar vide memo no. 1028/M, dated 12.10.2023 certified that no other mining lease area exists within 500 m radius of proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. : 991, dated 07.06.2022 certified that the proposed project site is outside Eco Sensitive Zone of Lawalong Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Latehar Forest Division vide letter no. : 1608, dated 26.12.2020 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	The proposed project site is mentioned in District Survey Report (DSR) of Latehar District.
7	Gram Sabha	:	Gram Sabha conducted on 21.07.2020.
8	Mine Plan Approval	:	Approved by District Mining Officer, Latehar vide letter no. 1016/M, dated 07.10.2023.

Working Details

1	Mining Method	:	Opencast mechanized method
2	Quarry Area	:	1.299 ha. or 3.21 Acres Life of Mine – 7.7 years
3	Waste Generation	:	14723 cum or 41224.4 tons
4	Stripping Ratio	:	1: 0.008
5	Working Days	:	300
6	Benches: size & No	:	6m to 6m
7	Elevation of Mine	:	514 AMSL to 516 AMSL
8	Ground Level Elevation	:	514 AMSL
9	Ultimate Working Depth	:	496 AMSL
10	Water Table	:	489 AMSL (25 mbgl)
11	Topography of Mine	:	Area represents a small hillock topography.
12	Explosive Requirement	:	90 kg/day
13	Diesel/Fuel requirement	:	90 litre/day

Production Details

Year	Production of Stone in cum	Production of Stone in tonnes	Production of Soil in cum	Production of Soil in Tonnes	Bench RL in Meters
1st	27437	76824	8411	12617	516 mRL – 508 mRL
2nd	27427	76796	6312	9468	515 mRL – 508 mRL
3rd	27446	76849	00	00	508 mRL – 502 mRL
4th	27438	76826	00	00	508 mRL – 502 mRL
5th	27445	76846	00	00	508 mRL – 502 mRL
Total	**137193**	**384141**	**14723**	**22085**	

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	After life of mine (Ha)
Quarry	–	0.88	0.88 (entire area will be convert as water reservoir)

Road	--	0.01	0.01
Waste Dump	--	--	--
Safety Zone	--	0.40 Plantation	0.40 Plantation
Total	0.0	1.299	1.299
Balance	1.299	0.0	0.0
Lease Hold Area	1.299	1.299	1.299

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Safety Zone	0.40 ha	1000
2	Along Approach Road	0.35 km	350
3	Plants distributed in schools, Anganwadi or in Panchayat Bhawan	--	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 14723 cum or 41224.4 tons soil during the plan period will be generated. During plan period soil will be excavated and sale to market. Dump will not be proposed in Whole 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 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 extractur or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, 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, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard Identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock	Occasional	Major	6

		(Bodily Injury)			
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

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

Preventive Measures:

Face Stability

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

- Overall slope angles of benches will be maintained at 45°
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Drilling Operations

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

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

Falls from the edge of a bench

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

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

Control Measures

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

Dust generation during drilling

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

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

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

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

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

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

Blasting Operations

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

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

- Blast hole geometry shall be properly designed.

- Blast site shall be wetted before and after blasting operations are completed
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during 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.
1. 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 Chumba Stone & Soil Mine of Shri Amit Kumar, Village : Chumba, Thana : Balumath, Thana no. : 31, Distt. : Latehar, Jharkhand (1.299 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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13. **Chaldhoba Stone Deposit of M/s Captain Anand Mines and Minerals (Prop. : Shri Captain Anand), Village : Chaldhoha, Thana : Baliyapur, Distt. : Dhanbad, Jharkhand (2.63 Ha).**

(Proposal No. SIA/JH/MIN/448752/2023).

Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Proposed Capacity- 41507.4 cum/annum or T12069.98 TPA**

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

This is a new project which has been taken for appraisal on 19.10.2023.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Chaldhoba Stone deposit	
2	Lessee:	:	M/S Captain Anand mines and minerals Prop – Sri Captain Anand	
3	Lease Address	:	Village – Chaldhoba, Thana – Baliyapur, District- Dhanbad Jharkhand	
4	Lease Area	:	2.63 ha	Acres- 6.50 Acre
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost	:	Rs. 50Lakhs	
7	EMP Budget	:	Capital: 2.66 Lakhs	Recurring: 4.27 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 347082.5 cum	Tonnes: 937122.75 tons
10	Mine Life	:	8.36 years.	
11	Man power	:	27	
12	Water Requirement	:	7.24~7.20 KLD (Drinking: 0.27KLD, Dust Suppression: 5.21 KLD, Plantation: 1.76KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	500KVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Ghi Nadi- Approx. 5.6 km towards ENE direction of mine site.	
17	Nearest Habitation	:	Dolabar – approx. 0.54 km towards SSE direction	
18	Nearest Rail Station	:	Chhota Ambana Railway station, approx.3.06 km towards NNE direction.	
19	Nearest Air Port	:	Dhanbad Airport, approx. 15.65 km towards NW direction.	
20	Nearest Forest	:	Protected Forest, Approx. 4.77 km towards WNW direction of mine site.	
21	Road & Highways	:	Deuli – Khairpal road, Approx. 15.65 km. in NW direction.	

CO-ORDINATES

1	Latitude		From 23°44'35.06" N	To 23°44'43.22" N
2	Longitude		From 86°32'51.14" E	To 86°32'59.74" E

LAND DETAILS :

Khata No.	Plot No.
8	4030,
196	4029(P), 4056(P), 4062(P), 4069, 4070, 4071 & 4072

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The LOI has been issued by DMO Dhanbad vide letter no. 1196/, dated 28.07.2023.
2	CO	:	The CO, Baliapur, Dhanbad letter no. : 667, dated 27.06.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan& Register II.
3	DMO	:	DMO, Dhanbad memo no. 1601/M, dated 09.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. : 1221, dated 26.06.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchahchi Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Dhanbad Forest Division vide letter no. : 1411, dated 24.05.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	The DC, Dhanbad vide letter no. 1572/M, dated 06.10.2023 has informed that this project is part of District Survey Report (DSR) at Dhanbad district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	Gram Sabha conducted on 29.04.2023.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dhanbad memo no.1604/M, dated 11.10.2023.

Working Details

1	Mining Method	:	Opencast mechanized Method	
2	Quarry Area	:	2.63 hectare or 6.50 acre	Life of Mine – 8.36 years.
3	Waste Generation	:	31693 cum or 85571.1Tons	
4	Stripping Ratio	:	01: 0.04	

5	Working Days	:	300
6	Benches: size & No	:	6m to 6m
7	Elevation of Mine	:	181 mRL to 180 mRL
8	Ground Level Elevation	:	180 mRL
9	Ultimate Working Depth	:	up to 156 mRL
10	Water Table	:	up to 140 mRL (15mbgl)
11	Topography of Mine	:	gently sloping land with rock mass of Granite - gneiss
12	Explosive Requirement	:	110kg/day
13	Diesel/Fuel requirement	:	110 litre/day

Production Details

Year	Production of Stone		Intercalated Waste in plan period (m^3)		O.B. in plan period (m^3)
	in cum	in tons	Insitu	Compact	
1st	27740.00	74898.00	1460.00	1551.25	6205.00
2nd	31800.00	81567.00	1590.00	1689.38	6757.50
3rd	40346.50	108935.55	2123.50	2256.22	-
4th	39767.95	107373.47	2093.05	2223.87	-
5th	41507.40	112069.98	2184.60	2321.14	-
Total	181161.85	484844.00	9451.15	10041.85	12200.00

Land Use

Type of Land	Present Land Use (Ha)	At the end of Plan period (Ha)	At the End of Conceptual Period (Ha
Quarry	0.040	1.090	2.013 (backfilling & converted into rain water harvesting)
Road	0.080	0.003	(Comes under Qry)

Proposed Dump	0.00	(Removed & backfilling)	-
Safety Zone	0.00	0.617	0.617
TOTAL	0.048	1.710	2.63
Balance	**2.562**	**0.920**	----

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No	Location		Area/Length	No of Trees
1	Safety Zone		0.167ha	420
2	Along Approach Road		360m	360
3	No. of plants distributed in Schools, Anganwadi or 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.

Solid Waste Management

Total 31693 cum or 85571.1Tons waste shall he generated during this plan period During quarry advancement gritty soil & intercalated waste will be removed and this will be temporarily dumped within the applied area and m conceptual period backfilled within the exhausted quarry.

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 he use for dust suppression and plantation.Excess water, if any shall be discharged in natural stream after settling of suspended particles io 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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- The vibrations should be monitored periodically in consultation with the local Mining authorities.

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Explosives hy virtue of their nature have the potential for the most sorious and catastrophic accidents in the mining operations yet tbe 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 tbat the face is properly surveyed, holes correctly drilled, direction logged, the weight nf explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessaiy 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 sball be strictly in accordance witb tbe 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 provent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, moblie 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 he 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 tho bazards that come along with the presence of vehicles at the workplare (e.g.reversing operations, loading) can cause harm if not properly bandled. Among some of the factors that may make vehicle accidents more likely are:

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

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

Transportation

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

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

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.

f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Chaldhoba Stone Deposit of M/s Captain Anand Mines and Minerals (Prop. : Shri Captain Anand), Village : Chaldhoba, Thana : Baliyapur, Distt. : Dhanbad, Jharkhand (2.63 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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14. Fatehpur Stone Deposit of M/s Kusum Stone Works (Prop. : Shri Deepak Kumar Gupta), Village : Fatehpur, Thana : Topchanchi, Distt. : Dhanbad, Jharkhand (2.833 Ha).

(Proposal No. SIA/JH/MIN/448880/2023).

Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Proposed Capacity- 52003.95 cum/anhum or 140410.67 TPA**
Name of the consultant : P & M Solution, Noida, Uttar Pradesh.
This is a new project which has been taken for appraisal on 19.10.2023.

Project and Location Details :

Sl	Parameter		Details
1	Project Name	:	Fatehpur Stone Deposit
2	Lessee:	:	M/s Kusum Stone Work Proprietor- Sri Deepak Kumar Gupta
3	Lease Address	:	M/s Kusum Stone Works Proprietor- Sri Deepek Kumar Gupta, Address - Village + PO. -Domchanch, P.S. - Domchanch, District

			Koderma, Jharkhand.	
4	Lease Area	:	2.833ha	Acres- 7.00 Acre
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost	:	Rs. 35 Lakhs	
7	EMP Budget	:	Capital: 9.49 Lakhs	Recurring: 3.27 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 512019.6cum	Tonnes: 1382452.92 tons
10	Mine Life	:	10 years	
11	Man power	:	25	
12	Water Requirement	:	17.90 KLD(Dnoking: 0.25 KLD, Dust Suppression. 11 KLD, Plantation: 6.64 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Jamunia River- Approx3.63 km In SW direction.	
17	Nearest Habitation	:	Fatehpur Alias Khantdih. at 810 meters	
18	Nearest Rail Station	:	Nichitpur Railway station, approx. 7.04 km towards South direction.	
19	Nearest Air Port	:	Dhanbad Airport, approx15.48 km towards ESE direction.	
20	Nearest Forest	:	Nath Protected Forest- Approx 4.25 Km in N direction	
21	Road & Highways	:	NH - 9, Approx. 0.93 km in N direction.	

CO-ORDINATES

1	Latitude		From 23° 53' 21.048" N	To 23° 53'28.180"N
2	Longitude		From 86°17'8.129" E	To 86°17'12.355"E

LAND DETAILS :

Khata No.	Plot No.
56	2332 (P)
89	2344 (P)
93	2372 (P), 2329, 2353, 2354, 2358, 2361 (P), 2366, 2369 & 2371

94	2314
116	2331
136	2315, 2359 & 2370
164	2330 & 2360
170	2313 (P)
174	2312

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The LoI has been issued by DMO, Dhanbad vide letter no. 1084/M, dated 05.07.2023.
2	CO	:	The CO, Topchanchi (Dhanbad) vide letter no. : 143, dated 04.03.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Dhanbad vide memo no. 1334/M, dated 21.08.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Hazaribag vide letter no. : 1674, dated 03.08.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Dhanbad Forest Division vide letter no. : 621, dated 06.03.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	The DC, Dhanbad vide letter no. 1572/M, dated 06.10.2023 has informed that this project is part of District Survey Report (DSR) of Dhanbad district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	Gram Sabha conducted on 24.04.2023
8	Mine Plan Approval	:	Approved by DMO, Dhanbad vide memo no. 1603/M, dated 09.10.2023.

Working Details

1	Mining Method	:	Opencast other than fully mechanized (OTFM) Method	
2	Quarry Area	:	2.833Ha / 7.00 Acre	Life of Mine – 10 years
3	Waste Generation	:	36909.95 cum or 99656.86 tons	

4	Stripping Ratio	:	1:0.11
5	Working Days	:	300
6	Benches: size & No	:	6m to 6m
7	Elevation of Mine	:	251 AMSL to 256 AMSL
8	Ground Level Elevation	:	225 AMSL m RL (3.90mbgl)
9	Ultimate Working Depth	:	231 AMSL
10	Water Table	:	221.1AMSL
11	Topography of Mine	:	Areaprepresentsa small hillock.
12	Explosive Requirement	:	110kg/day
13	Diesel/Fuel requirement	:	110 litre/day

Production Details

Year	Production of stone (cum)	Production of stone (tons)	Bench RL in Meters
1st	50250.25	135675.68	259mPL - 253mRl
2nd	51049.20	137832.84	253mRL - 247mRL
3rd	52003.95	140410.67	247mRl - 235mRL
4th	51334.20	138602.34	259mRL - 253mRL
5th	49258.45	136281.02	259mRL - 247mRL
Total	**253896.05**	**688802.54**	

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	Conceptual stage (Ha) (after life of mine)
Excavation	0.0	1.999 (0.103ha shall be backfilled)	2.001 (0.171ha area shall be backfilled and 1.538 ha area shall he left as water reservoir).
Waste Dump	0.0	Nil (waste dump to be removed and backfilled)	Nil (waste dump to he removed and backfilled)
Road	0.0	0.002	0.0
Infrastructure (Crusher)	0.0	Nil (to be shifted in quarry' bottom)	Nil (to be shifted in quarry' bottom)
Safety Zone	0.0	0.832 (Plantation)	0.832 (Plantation)
Total	0.0	2.833	2.833
Unused Area	2.833	0.00	0.0
Total Applied Area	2.833	2.833	2.833

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.832ha	3320
2	Along Approach Road		1.14 km	1140

- Gablon 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 has been calculated that total 37966.00 cum in situ, 47457.50 cum loose & 40338.88 cum compact waste shall be generated during the plan period. During the 1st & 2nd year all the generated waste shall be used in making and maintenance of new approach road and haul road, 3rd year onwards the generated waste during the particular year and waste materials of temporarily dump shall be removed and backfilled in exhausted portion of quarry in western part, and it will cover 0.103ha area..

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation.Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, 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 good sanitation system shall be made available.

Air Quality Management

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

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, 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, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard Identification & Risk Analysis in Stone Mining operation

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

7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

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

Preventive Measures:

Face Stability

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

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

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

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

Falls from the edge of a bench

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

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

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench

- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restcicted 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 he 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 acound dcilling equipment will be contintiously 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 allnwed inside the designaled 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 he ensured tbat newly updated machines will be used for drilling.

Other control measures will include training operators and providng them with ear protection, although tbe 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 featuces of the local ground.

Flying rocks are cncountered 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 sball be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting snall be conducted only during favourable weatber 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 interpceted as being harmful dust and noise which is emitted ducing surface mining operations. All suitable steps and precautions will be undertaken to enstire 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 he maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.

e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order datad 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Fatehpur Stone Deposit of M/s Kusum Stone Works (Prop. : Shri Deepak Kumar Gupta), Village : Fatehpur, Thana : Topchanchi, Distt. : Dhanbad, Jherkhand (2.833 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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15. Bherajori Stone Deposit of Mohammad Naim Ansari, Village : Bharajori, Thana : Chandankiyari, Distt. : Bokaro, Jharkhand (0.607 Ha).

(Proposal No. SIA/JH/MIN/448959/2023).

Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Proposed Capacity- 5217 cum/annum or 14608 TPA**

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

This is a new project which has been taken for appraisal on 19.10.2023.

Project and location Details :

Sl	Parameter		Details
1	Project Name	:	Bharajori Stone Deposit

2	Lessee:	:	Molrainmad Naim Ansari	
3	Lease Address	:	Village – Bharajori, Thana- Chandankiyari, District- Bokaro, State - Jharkhand	
4	Lease Area	:	0.607 ha	Acres- 1.50 Acre
5	Type of Land	:	Non- Forest (Raiyati Land)	
6	Project Cost	:	Rs. 20 Lakhs	
7	EMP Budget	:	Capital: 2.54 Lakhs	Recurring: 4.27 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 26060 cum	Tonnes: 72966 tons
10	Mine Life	:	5 years	
11	Man power	:	20	
12	Water Requirement	:	4.96 ~ 5.0 KLD (Drinking: 0.30 KLD, Dust Suppression: 2.67 KLD, Plantation: 1.99 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	200 kVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Tasharkuan Nadi, Approx 0.15 km towards East direction of mine site.	
17	Nearest Habitation	:	Bharajori village, at 600 meters	
18	Nearest Rail Station	:	Bhojudih Railway station, approx. 18.70 km towards NE direction.	
19	Nearest Air Port	:	Birsa Munda Airport, Ranchi, approx. 105. 50 km towards WSW direction.	
20	Nearest Forest	:	Protected Forest, Approx. 1.0 km towards North direction of mine site. Protected Forest, Approx. 4.70 km towards NE direction of mine site	
21	Road & Highways	:	NH-218 at Approx. 1.42 km. in West direction.	

CO-ORDINATES

1	Latitude	From 23°30'17.9429" N	To 23°30'20.0919" N
2	Longitude	From 86°20'16.4523" E	To 86°20'22.0335" E

LAND DETAILS:

Khata No.	Plot No.
339	1946 (P)

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by DMO, Bokaro vide memo no. - 1631/Khanan, dated 22.06.2020.
2	CO	:	The CO, Chandankiyari vide letter no. : 955, dated 05.11.2019 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan.
3	DMO	:	DMO, Bokaro vide memo no. 2445/Khanan, dated 11.12.2020 certified that no other mining lease area exists within 500 m radius of proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Hazaribhag vide letter no. : 158, dated 27.01.2021 certified that the proposed project site is outside Eco Sensitive Zone of Topchanchi & Parasnath Wildlife sanctuary.
5	DFO Forest Distance	:	DFO, Bokaro Forest Division vide letter no. : 1002, dated 24.03.2019 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.
6	DSR	:	The proposed project site is mentioned in District Survey Report (DSR) of Bokaro District.
7	Gram Sabha	:	Mukhiya, Chandnakiyari vide letter no. 711, dated 26.01.2020 informed that Gram Sabha conducted on 26.01.2020.
8	Mine Plan Approval	:	Approved by District Mining Officer, Bokaro vide memo no. 1450/M, dated 11.08.2023.

Working Details

1	Mining Method	:	Opencast mechanized method	
2	Quarry Area	:	0.607 Ha or 1.50 Acre	Life of Mine – 5 years
3	Waste Generation	:	3124 cum or 6468.3 tons	
4	Stripping Ratio	:	1: 0.04	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	140 AMSL to 142 AMSL	

8	Ground Level Elevation	:	140AMSL
9	Ultimate Working Depth	:	130 AMSL
10	Water Table	:	123 AMSL (17 mbgl)
11	Topography of Mine	:	Area represents a flat topography.
12	Explosive Requirement	:	70 kg/day
13	Diesel/Fuel requirement	:	70 litre/day

Production Details

Year	Production of sfone (cum)	Production of stone (tons)	Bench RL in Meters
1st	5206	14577	142 mRL – 136 mRL
2nd	5217	14608	142 mRL – 136 mRL
3rd	5206	14577	142 mRL – 136 mRL
4th	5217	14608	142mRL – 130 mRL
5th	5196	14551	136 mRL – 130 mRL
Total	26042	72921	

Land Use

Pattern of Utilization	Existing (ha)	At the End of Plan Period (ha)	After life of mine (Ha)
Quarry	--	0.337	0.337 (entire area will be left as water reservoir)
Safety Zone	--	0.270 (Plantation)	0.270 (Plantation)
Road	0.006	--	--
Total Area in Use	0.006	0.607	0.607
Balanced Area unused	0.601	0.00	0.00
Total Applied Area	0.607	0.607	0.607

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.270 ha	675
2	Along Approach Road		0.22 km	220
3	Plants distributed in schools, Anganwadi or in Panchayat Bhawan		--	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 1753 cum or 2629.5 Tonnes gritty Soil and 1371 cum or 3838.8 Tonnes intercafated waste shall be generated during this plan Period. The During quarry development in 1st, 2nd,3rd & 4th gritty soil aod interrafated waste will be removed and this soil will be used in hauf road dressing & plantation & in 5th year removed intercalated waste will he used In haul road dressing.

Water Quality Management

- Mining is planned to above tne ground water table. In case any lotersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collocted in a pit and shall he use for dust suppression and plantation. Excess water, if any snall be discnarged in naturaf stream alter settling of suspended particles in the pit. Pomp having required capacity wifl he installed to fift accumulated rain water from working pit and pumped tu 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 naturaf drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the fease 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 pfantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shalf be made availabfe.

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 drifling and regrinding will be done periodically to reduce the dust generation.
- Controfled bfasting to reduce dust emission and reduction in NOx emission

- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, 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, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)

C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	**High Risk**	1-4
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone Mining operation

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

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

Preventive Measures:

Face Stability

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

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

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

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

Falls from the edge of a bench

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

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

Control Measures

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

Dust generation during drilling

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

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

Noise Generation during drilling

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

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

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

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

Blasting Operations

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

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

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during 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
- Tire 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 ccossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall he 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 heen 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 Authocities 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 refated 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 he maintained.
i. If any tree felling thao 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 he taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Prihcipal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Bharajori Stone Deposit of Mohammad Naim Ansari, Village : Bharajori, Thana : Chandankiyari, Distt. : Bokaro, Jharkhand (0.607 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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16. Tangartoli - A Stone Block of M/s Najir Gaon Fuels (Prop. : Shri Manjur Ali), Village : Tagartoli, Thana : Kolebira, Distt. : Simdega, Jharkhand (0.404 Ha).

(Proposal No. SIA/JH/MIN/ 448534/2023).

Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Proposed Capacity- 1950 cum/annum or 4875 TPA**

Name or the consultant : P & M Solution, Noida, Uttar Pradesh.

This is a new project which has been taken for appraisal on 19.10.2023.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Tangartoli - A Stone block	
2	Lessee:	:	M/S NAJIR GAON FUELS Manjur Ali Address - Muslim Mohalla, Post and Thana - Kolebira, District - Simdega, Jharkhand	
3	Lease Address	:	Village – Tangartoli, Thana - Kolebira, District – Simdega, State- Jharkhand	
4	Lease Area	:	0.404 ha	Acres- 1.0 Acres
5	Type of Land	:	Non- Forest (GM Land)	
6	Project Cost	:	Rs. 50 Lakhs	
7	EMP Budget	:	Capital: 1.54 Lakhs	Recurring: 4.27 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 19734 cum	Tonnes: 49335 tons
10	Mine Life	:	10.12 or 10 years	
11	Man power	:	12	
12	Water	:	3.78 KLD (Drinking: 0.12 KLD, Dust Suppression: 2.17 KLD,	

	Requirement		Plantation: 1.49 KLD)
13	Water Source	:	From Nearby villages by tankers
14	DG Set / power	:	200 k VA
15	Crusher	:	No crusher
16	Nearest Water Body	:	Sakia Dam - Approx. 3.98 km towards NNE direction of mine site.
17	Nearest Habitation	:	Kanjoga village, ar 1.0 meter.
18	Nearest Rail Station	:	Kurkura Railway station, approx. 17.50 km towards ENE direction.
19	Nearest Air Port	:	Birsa Munda Airport, approx. 83.30 km towards NE direction.
20	Nearest Forest	:	Protected Forest - Approx. 3.20 km towards WSW direction of mine site. Protected Forest - Approx. 4.95 km towards WSW direction of mine site. Protected Forest - Approx. 4.95 km towards South direction of mine site.
21	Road & Highways	:	NH 143 D, Approx. 2.25 km. in WNW direction

CO-ORDINATES

1	Latitude		From 22°45'24.641" N	To 22°45'23.167" N
2	Longitude		From 84°45'31.474" E	To 84°45'32.289" E

LAND DETAILS :

Khata No.	Plot No.
67	702 (P)

STATUTORY CLEARANCES :

1	LOI/Lease docs	.	The Letter of Intent (LoI) has been issued by Directorate of Mines, Deptt. of Mines & Geology, Govt. of Jharkhand vide Letter no. Kha. Ni. (Nilami) - 32/2022,929, dated 27.04.2023.
2	CO	:	The CO, Kolebira vide letter no. - 89 (ii)/Ra, dated 30.09.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Simdega vide letter no. 499/M, dated 26.09.2023 certified that no other mining lease area exists within 500 m radius of proposed project site.

4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. : 1056, dated 11.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Simdega Forest Division vide letter no. : 228, dated 03.02.2016 certified that the distance of notified forest is more tha 250 meter from proposed project site.
6	DSR	:	The proposed project site is mentioned in District Survey Report (DSR) of Simdega District.
7	Gram Sabha	:	Gram Sabha conducted on 09.08.2015.
8	Mine Plan Approval	:	Approved by District Mining Officer, Simdega vide memo no. 510/Mining, dated 04.10.2023.

Working Details

1	Mining Method	:	Opencast manaul method	
2	Quarry Area	:	0.404 ha. or 1.0 Acre	Life of Mine – 10.12 or 10 years
3	Waste Generation	:	Nil	
4	Stripping Ratio	:	1: 0.00	
5	Working Days	:	300	
6	Benches: size & No	:	3m to 3m	
7	Elevation of Mine	:	578 AMSL to 576 AMSL	
8	Ground Level Elevation	:	576 AMSL	
9	Ultimate Working Depth	:	561 AMSL	
10	Water Table	:	545 AMSL (30 mbgl)	
11	Topography of Mine	:	Area represents gently slop of chhonagpur Geniss trending is W-E.	
12	Explosive Requirement	:	70 kg/day	
13	Diesel/Fuel requirement	:	70 litre/day	

Production Details

Year	Production of stone (cum)	Production of stone (tons)	Bench RL in Meters
1st	1950	4875	578mRL - 575mRL
2nd	1950	4875	578mRL - 572mRL
3rd	1950	4875	575mRL - 572mRL
4th	1950	4875	575mRL - 572mRL

5th	1950	4875	572mRL - 569mRL
Total	9750	24375	

Land Use

Type of Land	Present Land Use (Ha)	At the end of Plan period (Ha)	At the End of Conceptual Period (Ha)	At the End of Mine (in ha.)
Mining Activities	--	0.226	0.226	Water Body
Offices/Store etc.	--	--	--	--
Dumping	--	--	--	--
Mining Road	--	0.008	0.008	--
Garland Drain	--		--	--
Settling Tank	--	--	--	--
Greenbelt/Safety Zone	--	0.17 (Plantation)	0.17 (Plantation)	Plantation
Stone Stock yards	--	--	--	--
Unutilized Area	--	--	--	--
Total Applied Area	**0.404**	**0.404**	**0.404**	--

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.170 ha	425
2	Along Approach Road		0.220 km	220
3	Plants distributed in schools, Anganwadi or in Panchayat Bhawan		--	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

No Overburden or waste will be generated during the Plan Period. Therefore, there is no requirement of waste dumping Plan for this mining plan period.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

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

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, 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, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

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

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

Falls from the edge of a bench

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

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

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- 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.

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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.

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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)
- Untained dcivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall he 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 bc done on mine road and haul road to avoid suspension of dust.
- All transportation within tbe mine lease area should be carried out directly under the supervision and control nf management.
- The vebicles 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 tbe 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 utber use.
b. The District Survey Report has been prepared by a competent authority. Project Autborities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding tbe contiguous / cluster area report issued hy the mines department, then the applicable laws / rules will be hinding on the Project Authorities and all necessary steps will he taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained propedy.
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 sproy using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
b. 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 sball he 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 snall be taken around the water bodies to prevent any buman or aolmals falling in to the water bodies created at the end of life of the inine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury qr 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 Tangartoli - A Stone Block of M/s Najir Gaon Fuels (Prop. : Shri Manjur Ali), Village : Tagartoli, Thana : Kolebira, Distt. : Simdega, Jharkhand (0.404 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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17. **Bara Panchkuli Stone Mine of M/s Shah Stone (Prop. : Md. Moinul Haque), Village : Bara Panchkuli, P.S. : Barhait, Distt. : Sahibganj, Jharkhand (1.66 Ha).**

(Proposal No. SIA/JH/MIN/ 448755/2023).

Project Category: **B2 – Application for Environment Clearance (re-appraisal of Environment Clearance issued by DEIAA, Sahibganj)**
EC Application for: **Proposed Capacity- 7515.0 cum/year or 22545 TPA**

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

The project has been granted EC by DEIAA, Sahibganj vide letter no. EC/DEIAA/2017-18/127, dated 29.06.2017.

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

This is re-appcarsal of the EC issued by DEIAA, Sahibganj which bas been taken up for consideration on 23.09.2023. As per O.M. dated 12 12.18 issued by MOEF & CC projects fall in category B2.

Existing haseline condition as per monitoring report submitted by PP is as follows PM10 -85.9 $\mu g/m^3$ PM 2.5-48.4 $\mu g/m^3$ SO2-21.7 NO2- 42.3$\mu g/m^3$. All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Plantation has been done.

Production detail as per letter no. 1012/ M dated 05.10.2023 by D.M.O. sahebganj is within the permissible limit of EC.

The compliance report of previous EC has been certified by Regional Office –cum- Laboratory, JSPCB, Dumka Ref. no.2152, Dated 10.10 2023.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Bara Panchkuli Stone Mine	
2	Lessee:	:	M/S Shah Stone (Proprietor- Md. Moinul Haque) At- Hatpara Road, PO + PS - Barharwa, District - Sahibganj, Jharkhand	
3	Lease Address	:	Village – Bara Panchkuli, P.S- Barhait, District – Sahibganj, State- Jharkhand	
4	Lease Area	:	1.66 ha	Acres- 4.12 Acre
5	Type of Land	:	Non Forest – Raiyati Land	
6	Project Cost	:	Rs 50 Lakhs	
7	EMP Budget	:	Capital: 5.295 Lakhs	Recurring: 4.27 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 74921.00 cum	Tonnes: 224763.00 tons
10	Mine Life	:	3.38 or 3.50 years	
11	Man power	:	33	

12	Water Requirement	:	10.30 KLD (Drinking: 0.33 kLD, Dust Suppression: 5.74 KLD, Plantation: 4.22 KLD)
13	Water Source	:	From Nearby villages by tankers
14	DG Set / power	:	200 KVA
15	Crusher	:	No crusher
16	Nearest Water Body	:	Gumani Nadi - Approx. 1.85 km towards East direction of mine site
17	Nearest Habitation	:	Bara Panchkull village, at 390 meters in East direction
18	Nearest Rail Station	:	Barharwa Junction Railway Station, approx. 8.20 km towards ESE direction.
19	Nearest Air Port	:	Deoghar Airport, approx. 110.10 km towards SW direction.
20	Nearest Ferest	:	Open Mixed Jungle - Approx 4.40 km. in ENE direction of mine site. Open Mixed Jungle - Approx 2.15 km. in SE direction of mine site.
21	Road & Highways	:	NH- 133A, Approx. 7.95 km In East direction.

CO-ORDINATES

1	Latitude		From 24°51'51.39" N	To 24°52'00.87" N
2	Longitude		From 87°41'31.78" E	To 87°41'37.42" E

LAND DETAILS :

Khata No	Plot No
59	48(P), 49(P), 50(P) & 62(P)

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	Lease deed : 29.01.2016 to 28.01.2026.
2	CO	:	The CO, Barhait vide letter no. 176, dated 30.08.2016 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Sahibganj vide memo no. 1013/M, dated 05.10.2023 certified that one other mining lease area (7.00 Acre) exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO-cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1966, dated 05.10.2023 certified that the proposed

			project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Forest Distance	:	DFO, Sahibganj Forest Division vide memo no. 115, dated 19.01.2017 certified that the distance of notified forest is 250 m from proposed project site.
6	DSR	:	This Project is mentioned in District Survey Report of Sahibganj District.
7	Gram Sabha	:	Gram Sabha conducted on 18.12.2015.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj, vide memo no. 426/M, dated 27.01.2016.
9	Consent to Establish (CTE)	:	CTE granted by JSPCB vide Ref. no. – JSPCB/HO/RNC/CTE - 2259970/2018/553, dated 23.05.2018.
10	Consent to Operate (CTO)	:	CTO granted by JSPCB vide Ref. no. JSPCB/RO/DMK/CTO - 9875794/2021/76, Dated 13.03.2021.
11	Certified EC Compliance	:	EC compliance report certified by Regional Office –cum- Laboratory, JSPCB, Dumka Ref. no.2152, Dated 10.10.2023.
12	Previous EC	:	Previous EC granted by DEIAA, Sahibganj vide letter no. EC/DEIAA/2017-18/127, dated 29.06.2017.
13	Previous Production Figure	:	Previous production figure issued by DMO, Sahibganj vide memo no. 1012/M, dated 05.10.2023.

Working Details

1	Mining Method	:	Opencast semi mechanized method	
2	Quarry Area	:	1.66 Ha or 4.12 Acres	Life of Mine – 3.38 or 3.50 years
3	Waste Generation	:	2400 cum or 7200 tons	
4	Stripping Ratio	:	1: 0.06	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	155 AMSL to 141 AMSL	
8	Ground Level Elevation	:	141 AMSL	
9	Ultimate Working Depth	:	123 AMSL	
10	Water Table	:	80 AMSL (20-25 mbgl)	
11	Topography of Mine	:	Area represents a gently hill track.	

12	Explosive Requirement	:	90 kg/day
13	Diesel/Fuel requirement	:	90 litre/day

Production Details

Year	Production of stone in Tons
1st	22545
2nd	22479
3rd	22428
4th	22494
5th	22473
Total	**112419**

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	During Conceptual Period/after closure of mines (ha)
Quarry	0.555	1.025 (0.014 ha. crusher comes under)	1.025 (Entire area shall be left as water reservoir for Rain Water Harvesting)
Road	0.003	0.003	0.003
Safety Zone	0.00	0.632 (Plantation)	0.632 (Plantation)
Total	**0.558**	**1.66**	**1.66**
Balanced Area	1.102	--	--
Total Area	**1.66**	**1.66**	**1.66**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.632 ha	1580
2	Along Approach Road		0.430 km	430

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 2400 cum or 7200 tons waste generated during the plan period which shall be used in making and maintenance of haul road and village road, so there is no requirement of waste dumping Plan for this mining plan period because it is used for village & haul 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 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to ceduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.

- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, 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, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1

C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

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Hazard Identification & Risk Analysis in Stone Mining operation

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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 minerals 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 luw speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road sball 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 tbe 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 bas been prepared by a competent authority Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as protecting clothing, helmet, goggles or other garmeots or equipments designed to protect from injury or infection will he 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 Bara Panchkuli Stone Mine of M/s Shah Stone (Prop. : Md. Moinul Haque), Village : Bara Panchkuli, P.S. : Barhait, Distt. : Sahibganj, Jharkhand (L66. Ha) is recommended for grant of EC. During the appraisal the Committee observed that present status of greenbelt, Dust Suppression measures and use of PPE's was not upto the mark. The various conditions for grant of EC is enclosed as Annexure – II alongwith following specific conditions for improving the environmental performance :

I. **Trees 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 ot any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.**

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18. **Moti Brick Clay Mine of M/s Moti Bricks (Prop. : Shri Chandra Sahu), Village : Heshal, Distt. : Lohardaga, Jharkhand (0.906 Ha).**

(Proposal No. SIA/JH/MIN/ 448956/2023).

Project Category: B2 – Application for Environment Clearance Clearance (re-appraisal of Environment Clearance issued by DEIAA, Lohardaga)

EC Application for: Proposed Capacity- 1584 cum soil/season or 600000 Bricks/season

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

The project has been granted EC by DEIAA, Lohardaga vide letter no. EC/DEIAA/2017-18/277/M, dated 02.04.2018

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

This is re-appraisal of the EC issued by DEIAA, Lohardaga which has been taken up for consideration on 23.09.2023. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Dust suppression is being carried out on regular basis.

Plantation has been done.

The compliance report of previous EC has been certified by JSPCB, Regional Office, Dhurwa, Ranchi vide Ref. no. 541, dated 19.10.2023.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Moti Brick Clay Mine	
2	Lessee:	:	M/s Moti Bricks Prop. - Sn Chand Sahu	
3	Lease Address	:	Village – Heshal, District- Lohardaga, State- Jharkhand	
4	Lease Area	:	0.906 ha.	Acres- 2.24 Acres
5	Type of Land	:	Non Forest – Raiyati Land	
6	Project Cost	:	Rs. 20 Lakhs	
7	EMP Budget	:	Capital: 2.08 Lakhs	Recurring: 4.045 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 18096.00 cum	Tonnes: 27144.00 tons
10	Mine Life	:	5 seasons	
11	Man power	:	15	
12	Water Requirement	:	3.991 KLD(Drinking: 0.15 KLD, Dust Suppression: 2.061 KLD, Plantation: 1.78 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	200 KVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Shankh Nadi- Approx. 2 km W direction of mine site Kisko Nadi - Approx. 2.5 km SW direction of mine site	
17	Nearest Habitation	:	Hesal village, at 210 meters	
18	Nearest Rail Station	:	Barkichanpi Railway Station at a distance of 3.8 km towards NNE direction from site.	
19	Nearest Air Port	:	Birsa Munda Airport, Ranchi at a distance of 65 km in ESE	

			direction from mine site.
20	Nearest Forest	:	Protected Forest - Approx 1.23 km. in East direction of mine site.
21	Road & Highways	:	NH-143A, Approx. 3.5 km towards E direction.

CO-ORDINATES

1	Latitude		From 23°31'09.2" N	To 23°31'07.0" N
2	Longitude		From 84°42'56.06" E	To 84°42'59.1" E

LAND DETAILS :

Khata No.	Plot No.
174	1484, 1483

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The mining lease agreement has been signed for brick clay mining for 04 years 11 months, dated 25.07.2019.
2	CO	:	The CO, Lohardaga, vide letter no. :1560, dated 08.09.2017 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan.
3	DMO	:	DMO, Lohardaga vide memo no. 1175/M, dated 04.10.2023 certified that no other mining lease area exists witbin 500 m radius from proposed project site.
4	DFO Wild life	:	DFO, Wildlife Ranchi vide letter no. : 1018, dated 05.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Lohardaga Forest Division vide letter no. : 3572, dated 25.09.2017 certified that the distance of notified forest is more than more than 250 meter from proposed project site.
6	DSR	:	This proposed project site is mentioned in District Survey Report (DSR) of Lohardaga District.
7	Gram Sabha	:	BDO, Lohardaga vide letter no. 929, dated 12.09.2017 informed that Gram Sabha conducted on 17.07.2017.
8	Mine Plan Approval	:	Approved by Assistant Mining Officer, Lohardaga vide memo no. 931, dated 05.09.2017.

9	Certified EC compliance report	:	EC Compliance report certified by JSPCB, Regional Office, Dhurwa, Ranchi vide Ref. no. 541, dated 19.10.2023.
10	Previous EC	:	Previous EC granted by DEIAA, Lohardaga vide letter no. EC/DEIAA/2017-18/277/M, dated 02.04.2018.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTE-14821461/2023/164, dated 12.03.2023
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTO-16201786/2023/1516, dated 31.08.2023

Working Details

1	Mining Method	:	Opencast Manual Method	
2	Quarry Area	:	0.906 ha. or 2.24 Acres	Life of Mine – 5 seasons
3	Waste Generation	:	Nil	
4	Stripping Ratio	:	1: 0.00	
5	Working Days	:	225	
6	Benches: size & No	:	1m to 1m	
7	Elevation of Mine	:	672 AMSL	
8	Ground Level Elevation	:	672 AMSL	
9	Ultimate Working Depth	:	670 AMSL	
10	Water Table	:	645 (15mbgl)	
11	Topography of Mine	:	Area represents undulatory land with rock mass of Igneous body.	
12	Explosive Requirement	:	--	
13	Diesel/Fuel requirement	:	70 litre/day	

Production Details

Total excavation of brick earth in cum/season	Number of bricks /season
1584.00	600000
1584.00	600000
1584.00	600000
1584.00	600000
1584.00	600000

Land Use

Pattern of Utilization	Existing (Ha)	At the End of Plan Period
Quarrying	Nil	3960 m2
Storage of casted bricks	Nil	Comes under excavation
Safety Zone	Nil	2682 m2 (Plantation)
Road	Nil	372 m2 (for plan period)
Total Area	0.016	7014 m2
Balance area	**0.890**	**2046 m2**
Total Lease hold area	**0.906**	**9060 m2**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Safety Zone	0.2682ha	670
2	Along Approach Road	0.12 km	120
3	No. of Plants distribated in Anganwadi, Panchayat Bhawan or in schools	--	100

- Gablon 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 2x2 m with suitable species such as timber & fruit hearing 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 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 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

- All 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 pollotion monitoring sball be carried out every six months

Undertaking submitted affirming:

a. Ground water will be osed 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 monitering 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 projecting 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 Moti Brick Clay Mine of M/s Moti Bricks (Prop. : Shri Chandra Sahu), Village : Heshal, Distt. : Lohardaga, Jharkhand (0.906 Ha) is recommended for

grant of EC. During the appraisal the Committee observed that present status of greenbelt, Dust Suppression measures and use of PPE's was not upto the mark. The various conditions for grant of EC is enclosed as Annexure – I) alongwith following specific conditions for improving the environmental performance :

I. Trees 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. Pre employment Occupational health check up for employees to be done and thereafter ot annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.
III. 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.
IV. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.
V. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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19. Hondaga Brick Clay Deposit of M/s Dev Bricks (Prop. : Shri Lal Mukul Nath Sahdev), Village : Hondaga, Thana : Kisko, Distt. : Lohardaga, Jharkhand (1.044 Ha).

(Proposal No. SIA/JH/MIN/ 448936/2023).

Project Category: B2 – Application for Environment Clearance
EC Application for: Proposed Capacity-1200cum Soil/year or 1800 tonnes Soil/Year.

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

This is a new project which has been taken for appraisal on 10.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1.	Project Name	:	Hondaga Brick Clay Deposit	
2.	Lessee:	:	M/s Dev Bricks Prop.-Sri Lal Mukul Nath Sahdev	
3.	Lease Address	:	Gram+P.O.+ P.S.- Kisko, Dist.- Lohardaga, Jharkhand.	
4.	Lease Area	:	1.044 ha	Acres-2.58 Acres

5.	Type of Land	:	Non Forest – Raiyati Land	
6.	Project Cost	:	Rs. 20 Lakhs	
7.	EMP Budget	:	Capital:3.51 Lakh	Recurring: 3.82 Lakh / year
8.	New or Expansion	:	New	
9.	Mineable Reserves	:	Cum.: 15452 Cum	Tonnes: 20087.6 tons
10.	Mine Life	:	9.8 seasons	
11.	Man power	:	36	
12.	Water Requirement	:	6.791 ~ 6.8 KLD (Drinking: 0.36 KLD, Dust Suppression: 3.915 KLD, Plantation:2.516KLD)	
13.	Water Source	:	From Nearby villages by tankers	
14.	DG Set / power	:	-	
15.	Crusher	:	No crusher	
16.	Nearest Water Body	:	Kisko Nadi, Approx. 0.69 km SSW direction.	
17.	Nearest Habitation	:	Hondanga , Approx. 0.50 km towards East direction..	
18.	Nearest Rail Station	:	Barkichanpi Railway Station at a distance of 5.77 km towards NE direction from site.	
19.	Nearest Air Port	:	Birsa Mundo Airport, Ranchi at a distance of 69.00 km In East direction from mine site.	
20.	Nearest Forest	:	Protected Forest : Approx 3.64 km towards NNE direction Protected Forest : Approx 4.27 km towards East direction.	
21.	Road & Highways	:	NH-143 A, Approx, 6.32 km towards East direction.	

CO-ORDINATES

I	Latitude		From 23°31'18.47"N	To 23°31'21.36"N
2	Longitude		From 84°41'10.76"E	To 84°41'16.14"E

LAND DETAILS

Khata no.	Plot no.
94	143

STATUTORY CLEARANCES

1	LOI/Lease docs	:	Land agreement made.
2	CO	:	The CO, Kisko, Lohardaga vide letter no.676, dated 20.09.2023 has

			mentioned that the plot of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Lohardaga, vide letter no. 1209/M, Dated 11-10-2023 certified that total lease within 500 m radius from proposed project is less than 5 Ha.
4	DFO Wildlife	:	DFO Wildlife Ranchi, vide letter no. 1030, dated 09.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Lohardaga, vide letter no. 1536, dated 25.08.2023 certified that the distance of reserved / protected forest is more than 250 meter from the project site.
6	DSR	:	The proposed project site is mentioned in District Survey Report (DSR) of Lohardaga District.
7	Gram Sabha	:	BDO, Kisko, Lohardaga vide letter no. 931, dated 22.09.2023 informed that Gram Sabha conducted on 22.09.2023.
8	Mine Plan Approval	:	Approved by DMO, Lohardaga vide memo no. 1213/M, dated 11.10.2023

Working Details

1	Mining Method	:	Opencast Manual Mining method	
2	Quarry Area	:	1.044 ha	Life of Mine – 9.8 Season
3	Waste Generation	:	0.0 cu.m	
4	Stripping Ratio	:	1:0	
5	Working Days	:	150	
6	Benches: size & No	:	--	
7	Elevation of Mine	:	--	
8	Ground Level Elevation	:	--	
9	Ultimate Working Depth	:	--	
10	Water Table	:	642mRL	
11	Topography of Mine	:	Area represents almost flat land	
12	Explosive Requirement	:	--	
13	Diesel/Fuel requirement	:	90 litre/day	

Production Details

Year	Total excavation of brick earth in cum/season	Number of bricks	Total excavation of brick earth
			MT=Cum x 1.3
1st	1584.00	600000	2059.20
2nd	1584.00	600000	2059.20
3rd	1584.00	600000	2059.20
4th	1584.00	600000	2059.20
5th	772.0	600000	1003.60
Total	7108.0	30,00,000	9240.4

Land Use

Pattern of Utilization	Existing (Ha)	At the end of Plan Period (ha)	At Conceptual period (Ha)
Excavation	0 0	0.396	0.396
Road	0.0	0.004	0.004
Berm	0.0	0.026	0.026
Safety Zone	0.0	0.303 (Plantation)	0.303 (Plantation)
Total	0.0	0.729	0.729
Unused Area	**1.044**	**0.315**	**0.315**
Total Lease Area	**1.044**	1.044	**1.044**

ENVIRONMENT MANAGEMENT

Green Belt Development

S.No.	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.303ha	758
2	Haul /Approach Road	:	0.40 km	400
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 settling of suspendedparticles in the pit. Pump having required capacity will be installed to liftaccumulated rain water from working pit and pumped to the settling tank.
- It shall be ensured that quality of drinking water for the worker is hygienic and 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 he 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 he carried out every six months

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not he 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 he taken in this regard

d. The Boundary Pillars of the proposed mine lease area will be maintained properly.

e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.

f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.

g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.

h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.

i. If any tree felling than necessary permission shall be taken from the competent authority.

j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Hondaga Brick Clay Deposit of M/s Dev Bricks (Prop. : Shri Lal Mukul Nath Sahdev), Village : Hondaga, Thana : Kisko, Distt. : Lohardaga, Jharkhand (1.044 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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20. Brick Soil Mining of M/s Mata Bricks (Prop. : Shri Pradeep Sahu), Village : Dubang, Thana : Kuru, Distt. : Lohardaga, Jharkhand (0.80 Ha).

(Proposal No. SIA/JH/MIN/ 447222/2023).

Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Proposed Capacity-1584.00 cum soil/season or 2376 tons/season**

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

This is a new project which has been taken for appraisal on 19.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1.	Project Name	:	M/S Mata Bricks Clay Mine	
2	Lessee:	:	M/s Mata Bricks (Prop. – Sri Pardeep Sahu, S/O- Sri Basant Sahu)	
3	Lease Address	:	Village – Dubang, Thana - Kuru, Thana No. – 11, District Lohardaga, State- Jharkhand.	
4	Lease Area	:	0.80 ha	Acres-2.01 Acres
5	Type of Land	:	Non Forest – Raiyati Land	
6	Project Cost	:	Rs. 30 Lakhs	
7	EMP Budget	:	Capital: 2.555Lakh	Recurring: 4.045 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	Cum.: 10082.00 Cum	Tonnes: 15123 tons
10	Mine Life	:	5 seasons	
11	Man power	:	15	
12	Water Requirement	:	4.87 ~ 4.90 KLD (Drinking: 0.15 KLD, Dust Suppression: 2.64 KLD, Plantation:2.08 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Mugaldaha Nadi, Approx. 6.97 km North direction.	
17	Nearest Habitation	:	Chhotkichanpi village, Approx. 50 m towards North direction.,	
18	Nearest Rail Station	:	Barkichanpi Railway Station at a distance of 1.46 km towards WSW direction from site.	
19	Nearest Air Port	:	Birsa Munda Airport, Ranchi at a distance of 64.51km in ESE direction from mine site.	
20	Nearest Forest	:	Bandhua Protected Forest: Approx. 3.41 km towards N direction. Pirdag Protected Forest: Approx 4.85 km towards NE direction. Kundgada Reserve Forest, Approx. 3.65 km NW direction.	
21	Road & Highways	:	NH-39, Aprox, 5.40 km towards E direction.	

CO-ORDINATES

1	Latitude		From 23° 33' 14.00"N	To 23° 33' 16.74" N
2	Longitude		From 84° 44' 50.48"E	To 84° 44' 54.55" E

LAND DETAILS

Khata no.	Plot no.
17	342

STATUTORY CLEARANCES

1	LOI/Lease docs	:	The mining lease agreement has been signed for brick clay mining for ten years, dated 01-11-2018.
2	CO	:	The CO, Kuru vide letter no. 626, dated 18.09.2019 has mentioned that the plot no. of proposed project is not recorded as "Jungle Jhati" in Khatiyan.
3	DMO	:	DMO, Lohardaga, vide memo no. 1156/M, Dated 03.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wildlife	:	DFO, Wildlife Ranchi vide letter no. 982, dated 30.09.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Lohardaga vide letter no. 98, dated 18.01.2020 certified that the distance of reserved / protected forest is more than 250 meter from the project site.
6	DSR	:	This proposed project is mentioned in District Survey Report (DSR) of Lohardaga District.
7	Gram Sahba	:	BDO, Kuru, Lohardaga vide letter no.887/Sa. Dated 19.10.2019 informed that Gram Sabha conducted on 10.08.2019
8	Mine Plan Approval	:	Approved by Assistant Mining Officer, Lohardaga vide Memo no. 539/M, dated 20.07.2019

Working Details

1	Mining Method	:	Open Cast manual method	
2	Quarry Area	:	0.80 ha	Life of Mine – 5 seasons
3	Waste Generation	:	Nil	
4	Stripping Ratio	:	1: 0	
5	Working Days	:	225	
6	Benches: size & No	:	--	
7	Elevation of Mine	:	From 652 MSL	
8	Ground Level Elevation	:	652 MSL	

9	Ultimate Working Depth	:	649 MSL
10	Water Table	:	635 MSL
11	Topography of Mine	:	Area represents flat land
12	Explosive Requirement	:	–
13	Diesel/Fuel requirement	:	70 litre/day

Production Details

Total excavation of brick earth in cum/season	Number of bricks/season	Total excavation of brick earth MT=Cum x 1.5
1584.00	600000	2376
1584.00	600000	2376
1584.00	600000	2376
1584.00	600000	2376
1584.00	600000	2376

Land Use

Pattern of Utilization	Existing (Ha)	At the end of Plan Period (ha)
Quarrying	Nil	0.397
Storage of casted bricks	Nil	Comes under excavation
Plantation at safety Zone	Nil	0.30 (Plantation)
Road	0.003	0.003 comes under excavation)
Total Area	**0.003**	**0.70**
Balanced Area	0.797	0.10
Total area	**0.80**	**0.80**

ENVIRONMENT MANAGEMENT

Green Belt Development

S.No.	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.30ha	750
2	Haul /Approach Road	:	0.19Km	190
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 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 settling of suspended particles in the pit Pump having required capacity will he 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

- All 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 he 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 watec tankers will be done for effective dust suppression within the mine lease area and on haul roads.

h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.

i. If any tree felling than necessary permission shall be taken from the competent authority.

j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Brick Soil Mining of M/s Mata Bricks (Prop. : Shri Pradeep Sabu), Village : Dubang, Thana : Kuru, Distt. : Lohardaga, Jharkhand (0.80 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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21. Agardih Mandhaniya Stone Mine of Md. Azad, Mauza : Agardih Mandhaniya, Sub-Division : Manika, Distt. : Latehar, Jharkhand (1.854 Ha).

(Proposal No. SIA/JH/MIN/ 447243/2023).

Name of the consultant: Ocean-Enviro Management Solutions (India) Pvt. Ltd., Ghaziabad, Uttar Pradesh.

This is a new project which has been taken for appraisal on 19.10.2023.

Project Category: B2 – Application for Stone Quarry

EC Application for: Stone:39234 cum/Annum or109855 Tonnes/Annum

Crusher not proposed in Applied Area

DG Set: Not Requirement

Mobile Crusher: NA

Project and Location Details:

S.No	Parameter		Details	
1	Project Name	:	Agardih Mandhaniya Stone Mine	
2	Applicant	:	Shri Md Azad	
3	Lease Address	:	Mauza-Agardih Mandhaniya, Thana- Manika, Thana no.-128, District- Latehar, Jharkhand	
4	Lease Area	:	Ha: 1.854 Ha	Acres: 4.58 Acres
5	Type of Land	:	Non Forest – Raiyati Land	
6	Project Cost	:	59.23Lakhs	
7	EMP Budget	:	Capital: 5.53Lakhs	Recurring: 3.5 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	Cu.M.: 288684 Cum/Annum	Tonnes: 808315 tonnes
10	Mine Life	:	7.4 Years	
11	Man power	:	23	
12	Water Requirement	:	Total water requirement is about 7.03KLD, Drinking water (human) about0.75, water sprinkling (Source-Near Canal/Water Tanker)3.02 about , Plantation about 3.26 KLD	
13	Water Source	:	The drinking water will be available from nearby village by tractor tank manually by labours at the site.	
14	DG Set / power	:	Not Required	
15	Crusher	:	No	
16	Nearest Water Body	:	Kathautia damis about 2.03 km in NWdirection.	
17	Nearest Habitation	:	Agardih Mandhaniya rs about 0.81 km inNNE direction.	
18	Nearest Rail Station	:	Chhipadohar Railway Stationis about 15.59 km in SW direction.	
19	Nearest Airport	:	Gaya International Airport is about 113.08 km in NNE direction.	
20	Nearest Forest	:	Betla Protected Forest is about 8.16 km in WSW direction.	
21	Road & Highways	:	NH-39 is about 1.16 km in WNW direction.	

CO-ORDINATES

Point no	Latitude	Longitude
1	23°53'40.01"N	84°19'44.14"E
2	23°53'40.61"N	84°19'42.95"E
3	23°53'40.90"N	84°19'42.57"E
4	23°53'40.99"N	84°19'42.29"E
5	23°53'41.06"N	84°19'41.86"E
6	23°53'41.29"N	84°19'41.96"E

7	23°53'41.35"N	84°19'41.68"E
8	23°53'41.47"N	84°19'41.15"E
9	23°53'41.67"N	84°19'41.13"E
10	23°53'42.75"N	84°19'41.39"E
11	23°53'42.92"N	84°19'41.49"E
12	23°53'42.58"N	84°19'42.13"E
13	23°53'42.31"N	84°19'42.70"E
14	23°53'42.01"N	84°19'43.46"E
15	23°53'42.18"N	84°19'43.80"E
16	23°53'42.07"N	84°19'44.08"E
17	23°53'42.23"N	84°19'44.51"E
18	23°53'42.11"N	84°19'44.99"E
19	23°53'41.90"N	84°19'45.45"E
20	23°53'41.65"N	84°19'45.77"E
21	23°53'41.40"N	84°19'45.80"E
22	23°53'41.37"N	84°19'46.29"E
23	23°53'41.45"N	84°19'47.13"E
24	23°53'40.89"N	84°19'47.33"E
25	23°53'40.79"N	84°19'47.56"E
26	23°53'40.56"N	84°19'47.56"E
27	23°53'39.62"N	84°19'46.97"E
28	23°53'39.44"N	84°19'46.96"E
29	23°53'39.37"N	84°19'47.15"E
30	23°53'39.41"N	84°19'47.44"E
31	23°53'39.55"N	84°19'47.65"E
32	23°53'39.45"N	84°19'48.16"E
33	23°53'39.36"N	84°19'48.62"E
34	23°53'39.21"N	84°19'48.49"E
35	23°53'38.95"N	84°19'48.40"E
36	23°53'38.14"N	84°19'48.04"E
37	23°53'37.80"N	84°19'48.08"E
38	23°53'37.62"N	84°19'47.95"E
39	23°53'37.45"N	84°19'47.94"E
40	23°53'36.90"N	84°19'47.56"E
41	23°53'36.79"N	84°19'47.34"E
42	23°53'36.86"N	84°19'47.05"E
43	23°53'36.41"N	84°19'46.74"E
44	23°53'36.48"N	84°19'46.65"E
45	23°53'36.28"N	84°19'46.47"E
46	23°53'36.39"N	84°19'46.26"E
47	23°53'36.59"N	84°19'45.96"E
48	23°53'36.88"N	84°19'45.66"E
49	23°53'36.99"N	84°19'45.46"E
50	23°53'37.08"N	84°19'45.07"E
51	23°53'37.00"N	84°19'44.85"E
52	23°53'36.99"N	84°19'44.63"E
53	23°53'37.07"N	84°19'44.51"E

54	23°53'37.48"N	84°19'44.58"E
55	23°53'37.65"N	84°19'44.68"E
56	23°53'37.70"N	84°19'44.80"E
57	23°53'37.80"N	84°19'44.93"E
58	23°53'37.96"N	84°19'45.03"E
59	23°53'38.45"N	84°19'45.25"E
60	23°53'38.81"N	84°19'45.34"E
61	23°53'38.98"N	84°19'44.98"E
62	23°53'38.84"N	84°19'44.68"E
63	23°53'38.36"N	84°19'43.88"E
64	23°53'38.75"N	84°19'43.95"E

LAND DETAILS:

Khata No.	Plot No.
66	398
61	399, 474
02	485
44	486
18	487

STATUTORY CLEARANCES:

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by DMO, Latehar vide memo no. 1076/M, Dated 15.10.2020.
2	CO	:	The CO, Manika vide letter no. : 227, dated 10.09.2020 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Latehar vide memo no. 1029/M, dated 12.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Palamau Tiger North Division Medininagar vide letter no. : 97, dated 28.01.2021 certified that the proposed project site is outside Eco Sensitive Zone of Betla National Park & Palamau Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Latehar Forest Division vide letter no.: 709, dated 01.07.2021 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project name is mentioned in District Survey Report of Latehar District.
7	Gram Sabha	:	Gram Sabha dated 02.01.2020.
8	Mine Plan Approval	:	Approved by District Mining Officer, Latehar vide letter no 1019/M, dated 09.10.2023.

Working Details

1	Mining Method	:	MECHANIZED	
2	Lease Area	:	1.854 ha	Life of Mine – 7.4 years
3	Waste Generation	:	5 years–3862 Cu.M	
4	Stripping Ratio	:	1:0.01	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Highest Elevation of lease Area	:	329 in AMSL	
8	Lowest Elevation of lease Area		328 m in AMSL	
9	Ultimate Working Depth	:	24 m	
10	Water Table	:	30 m	
11	Topography of Mine	:	Uneven land	
12	Explosive Requirement	:	44 Kg/Day	

Production Details

Year	Generation of Waste/O.B in cum	Production of Stone in Cum	Production of Stone in Tonnes	Grade/Uses
1st	2340	39196	109749	Construction & Road
2nd	1522	39186	109721	Construction & Road
3rd	00	39192	109738	Construction & Road
4th	00	39204	109771	Construction & Road
5th	00	39234	109855	Construction & Road
Total	3862	**196012**	**548834**	
Maximum Production proposed- 39234CPA/109855TPA				
Stripping Ration in (m3/t)- 1:0.01				

Land Use

LAND USE PATTERN			
	Existing	First to Fifth Years	After Life of Mine
Category	**Area in Hectares**	**Area in Hectares**	**Area in Hectares**
Quarry	00	1.27	1.27 Ha Area will convert water reservoir(Water will be accumulated in pit 288684cum)
Haul Road	00	0.024	0.024
Proposed Crusher	00	00	Not Proposed
Green belt in Safety Zone	00	0.56	0.56
Dump with Parapet wall & Garland drain	00	0.00	00
Reclaimed Area	00	00	OB will be used for haul road and plantation
Total area in use	00	**1.854**	**1.854**
Balance unused area	00	0.00	0.00
Total Applied Lease Area	00	**1.854**	**1.854**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.56 Ha	896 trees @ 1600 trees per ha
2	Other Reclaimed Area	:	NIL	NIL
3	Haul /Approach Road	:	350m	280

- 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 ceport.

Solid Waste Management

- There is waste to be generated 10% Mine waste will be generated, during life of mine which will be reclaimed after 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 06 m 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 he 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 he maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for watec spray by tankers on 'kaccba' road sball 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 he used for any mining activities or any olfier use.
h. 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 tbis 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 tbe first compliance report.
f. Tbe 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 irsing gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water hodies 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 gauments or equipments designed to protect from injury or intection will be provided to working personhel.

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 Agardih Mandhaniya Stone Mine of Md. Azad, Mauza : Agardih Mandhaniya, Sub-Division : Manika, Distt. : Latehar, Jharkhand (1.854 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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22. **Sadhwadih Stone Mine of Smt. Indu Devi, Mauza : Sadhwadih, Thana : Manika, Distt. : Latehar, Jharkhand (1.635 Ha).**

(Proposal No. SIA/JH/MIN/ 447221/2023).

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

This is a new project which has been taken for appraisal on 19.10.2023

Project Category: **B2 – Applicatipn for Stone Quarry**

EC Application for: **Stone:33201 Cu.M. Per Annum / 92963 Ton Per Annum**
Crusher not proposed in Applied Area
DG Set: Not Requirement
Mobile Crusher: NA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Sadhwadih Stone Mine	
2	Applicant	:	Smt. Indu Devi	
3	Lease Address	:	Village/Mauza– Sadhwadih, Thana no.- 130, Thana- Manika , District- Latehar; State Jharkhand	
4	Lease Area	:	Ha: 1.635	Acres: 4.04 Acres
5	Type of Land	:	Non Forest – Raiyati Land	
6	Project Cost	:	52.50 Lakhs	
7	EMP Budget	:	Capital: 4.39 Lakhs	Recurring: 3.1 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves		236220 Cu.M.:	Tonnes: 661416Tonnes
10	Mine Life	:	7.1 years	
11	Man power	:	22	
12	Water Requirement	:	Total water requirement is about 6.94 KLD, Drinking water (human) about 0.66, water sprinkling (Source-Near Canal/Water Tanker) about 3.02, Plantation about 3.26 KLD	
13	Water Source	:	The drinking water will be available from nearby village by tractor tank manually by labors at the site.	
14	DG Set / power	:	Required	
15	Crusher	:	No	
16	Nearest Water Body	:	Bhalwahi Nalaabout 1.68 Km in SSW direction	
17	Nearest Habitation	:	Sadhwadih about 0.23km in NE direction	
18	Nearest Rail Station	:	Hehegara Halt Railway Station is about 13.71 Km in SSW direction.	
19	Nearest Air Port	:	Gaya International airport is about 112.94 km in NNE direction	
20	Nearest Forest	:	RF is about 9.05 Km in WNW direction	
21	Road & Highways	:	NH-39 is 2.72 km in SW direction	

CO-ORDINATES

1	Latitude	:	From 23°53'14.47331133"N	To 23°53'13.70140324"N
2	Longitude	:	From 84°20'57.43840580"E	To 84°20'57.09160388"E

LAND DETAILS:

Khata No.	Plot No.
48	1090
09	1091,1232

STATUTORY CLEARANCES:

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by DMO, Latehar vide letter no. 1842/M, dated 05.10.2021.
2	CO	:	The CO, Manika vide letter no.: 363, dated 03.08.2021 has mentioned the plot no.of the project is not recorded as "Jungle Jhari" in Khatiyan.
3	DMO	:	DMO, Latehar vide memo no. 1030/M, dated 12.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	Deputy Director, Palamau Tiger Project, North Division, Medininagar vide letter no.: 1217, dated 29.12.2021 certified that the proposed project site is outside the Eco Sensitive Zone of Betla National Park & Palamau Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Latehar Forest Division vide letter no.: 1601, dated 26.12.2020 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project name is mentioned in District Survey Report of Latehar District.
7	Gram Sabha	:	BDO, Manika vide letter no. 970, dated 08.09.2021 informed that Gram Sabha conducted on 28.09.2020.
8	Mine Plan Approval	:	Approved by District Mining Officer, Latehar no. 1018/M, dated 09.10.2023.

Working Details

1	Mining Method	:	MECHANIZED	
2	Quarry Area	:	1.64 ha	Life of Mine – 7.1 years
3	Waste Generation	:	5 years– 1440 Cu.M	
4	Stripping Ratio	:	1:0.01	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Highest Elevation of lease Area	:	363 In AMSL	
8	Lowest Elevation of lease Area		362 m In AMSL	
9	Ultimate Working Depth	:	24m	
10	Water Table	:	30 m	

11	Topography of Mine	:	Uneven land
12	Explosive Requirement	:	44 Kg/Day

Production Details

Year	Generation of waste/O.B in Ton	Production of stone in (Cum)	Production of stone in (Ton)
1st	898	33152	92826
2nd	542	33201	92963
3rd	00	33180	92904
4th	00	33187	92924
5th	00	33147	92812
Total	**1440**	**165867**	**464429**

Land Use

LAND USE PATTERN			
	Existing	First to Fifth Years	After Life of Mine
Category	Area in Hectares	Area in Hectares	Area in Hectares
Quarry	00	1.17	1.17Ha Area will convert water reservoir(Water will be accumulated in pit 236220 cum)
Haul Road	00	0.02	0.02
Proposed Crusher	00	00	Not Proposed
Green belt in Safety Zone	00	0.45	0.45
Dump with Parapet wall & Garland drain	00	00	0
Reclaimed Area	00	00	OB will be used for haul road and plantation
Total area in use	**00**	**1.64**	**1.64**
Balance unused area	00	0	0
Total Applied Lease Area	**00**	**1.64**	**1.64**

ENVIRONMENT MANAGEMENT

Green Belt Development

Sl.	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.45 Ha	720 trees @ 1600 trees per ha
2	Other Reclaimed Area	:	NIL	NIL
3	Haul /Approach Road	:	180 m	144 trees

- 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 waste to be generated 10% Mine waste will be generated, during life of mine which will be reclaimed after 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 06 m 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 he 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 cain 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 sanitatron 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 vehirle under control. Records for same to be maintained.
- Water spcinkling will be done on haul road to control emission of dust while transporting minerals and waste. Piovision for water spray by tankers on 'kaccha' road sball 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. Gcound water will be used only for domestic purpose and not be used for any mining activities or any other use.

b. The District Survey Report has been prepared by a competent authority Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Sadhwadih Stone Mine of Smt. Indu Devi, Mauza : Sadhwadih, Thana : Manika, Distt. : Latehar, Jharkhand (1.635 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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23. Proposed Group Housing "Blue Erra" of M/s Laablue Lifespace Pvt. Ltd., Mouza : Sirdol, Namkum, Distt. : Ranchi, Jharkhand.

(Proposal No. SIA/JH/INFRA2/ 448845/2023).

Name of the consultant: Rian Enviro Private Limited, Patna, Bihar

This is a new project which has been taken for appraisal on 19/10/2023.

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

Laablue Life space Pvt. Ltd. is proposed to develop Group Housing Project **"Blue Erra"**on thetotal land area measuring **18530.9 sqm (A, B, C, D + EWS Block)**located at **Mauza-Sirdol, Namkum, Dist.-Ranchi, Jharkhand**. The total build-up area is**86838sqm.**

SalientFeatures of the Project

Sr. No.	Particulars	
1.	Latitude	**23°18'32.38"N**
2.	Longitude	**85°23'21.88"E**
3.	Plot area	18530.9 Sqm (Main Block-16537.6 Sqm. + EWS-1993.3 Sqm)
4.	**Proposed FAR @3.22**	**53187.2 Sqm.**
5.	Total residential built-up area Proposed	80730.5 Sqm.
6.	Total EWS/LIG Built-up Area	6107.65qm.
7.	**Total Built-up Area**	**86838 Sqm.**
8.	**Total Parking Required @ 25 % of FAR B/U Area.**	**13296.75 sqm**
9.	**Total Parking Proposed**	**15695 sqm**
10.	Greenbelt area @ 15.09 %	2496.08 Sqm.
11.	Ground Coverage	8840.17 Sqm.
12.	Rain Water Harvesting Pits (with size)	6 Nos. (15.71 Cumec)
13.	STP Capacity	310 KLD
14.	Maximum Height of the Building (m)	Approx. 63 m
15.	Power Requirement	3766 KW
16.	Power Backup	3 DGs of 500 KVA
17.	Total Water Requirement	~293 KLD
18.	Fresh/Domestic Water Requirement	~175 KLD
19.	Reuse of Recycled Water	~206 KLD
20.	Waste Water Generated	~258 KLD
21.	Solid Waste Generated (Operational)	~1416 Kg/day
22.	Biodegradable Waste (Operational)	~850 Kg/day
23.	Non-Biodegradable Waste (Operational)	~566 Kg/day
24.	Number of Tower	04 (A, B, C, D) & 1 EWS Block
25.	Basement	0
26.	Stories	4 Blocks-G+19 1 EWS Block- G+10
27.	Total Cost of the project:	160 Crore
28.	EMP Budget	During Construction: Capital: 31 Lakhs

			Recurring: 15 Lakhs
			Operational Cost: Capital: 123 Lakhs Recurring: 20.5 Lakhs
29.	Construction Phase:	i) Water Requirement & Source	Fresh water – 9 KLD Treated wastewater-12 KLD Source: Tanker water supply
		ii) STP (Modular)	20 KLD

Khata no. & Plot no. of the project :

Khata no.	Plot no.
39, 93 & 96	202, 623, 624, 625, 626, 627, 628, 629, 630, 631, 203, 211, 212, 213, 214, 628/1218 & 210

Detailed Area Statement

S. No.	Project Detail	Area		Percentage
1	Plot area Block (A, B, C, D)	16537.6	sqm	..
2	Plot Area For EWS/ LIG	1993.3		
3	**Total Plot Area**	**18530.9**		
4	Total residential built-up area Proposed	80730.5	sqm	..
5	Total EWS/LIG Built-up Area	6107.6	sqm	..
6	**Total Built-up Area Provided**	**86838**	**sqm**	
7	**Total F.A.R Achieved @ 3.22**	**57920**	**sqm**	
8	Green Belt Area	2496.08	sqm	15.09%
9	Total Ground Coverage	8840.17	sqm	53.45%
10	Road	1189.65	sqm	7.19%
11	Internal road, Services & Shop Plaza	4011.78	sqm	24.25%

Details of Site Surroundingsand Connectivity

Connectivity & Site Surroundings			
S. No.	Description		Distance and Direction
1.	Nearest Junction Nearest Railway Station	NamkonRasilway station Ranchi function	Approx.4.80 Km towards NNW. Approx. 7.0 Km towards NW.
2.	Nearest Airport	Birsa Munda Airport, Ranchi	Approx. 6.30 km towards West.

3.	Nearest Village	Kalinagar Sidroll Barganwa	Approx. 1.0 Km towards NW. Approx. 0.50 Km towards East. Approx. 1.40 Km towards NW.
4.	Nearest Highway/Roads	New Link Road Tara Marg NH-39	Adjacent to Site. Approx. 0.25 KM towards ENE. Approx. 1.75 KM towards ENE.
5.	Nearest School & College	Government Middle School Madani Public School Play Garden Public School Namkun High School	Approx. 0.40 Km towards East. Approx. 0.50 Km towards ENE. Approx. 0.90 Km towards SSE. Approx. 1.65 Km towards NW.
6.	Nearest Hospital	ShamodaikSawasthKendra CRC Ranchi Buniyadiswasth Kendra RajkiyaAushadalya Doranda	Approx. 1.70 Km towards NW. Approx. 3.0 Km towards NW. Approx. 5.0 Km towards WSW. Approx. 7.85 Km towards WNW.
7.	Places of worship	Shri Sai Mandir Hanuman Mandir Shri Durga mata mandir	Approx. 0.30 Km towards WSW. Approx. 0.35 Km towards NNE. Approx. 0.60 Km towards East.
8.	Water Bodies	Subamarekha River Potpoto River	Approx. 3.65 Km towards WNW Approx. 13.25 Km towards NNW.
9.	Nearest Town	Ranchi	Approx. 9.0 Km towards WNW.
10.	Reserve Forest/ Zoo	Ormanghi Zoo	Approx. 9.0 Km towards WNW.

Details of Building Blocks

Block	3.5 BHK	3 BHK	2 BHK	1BHK	Total No. of units	Population	No. of Floors	Height of the Building
Wing A	35	35	35		105	595	G+19	Max. 63.0 meter
Wing B	36	35	..		71	426	G+19	Max. 63.0 meter
Wing C		140			140	840	G+19	Max. 63.0 meter
Wing D	71		35		106	601	G+19	Max.63.0 meter
(Commercial) Ground Floor		..	...		...	110	G+19	Max. 63.0 meter
EWS/LIG			40	40	80	360	G+10	Max. 63.00 meter
Total					502	2932		

Calculation of Population

Block	Flat	No. of Units	Population
Residential Block	502	7/6/5/4	2822
Visitors	10% of Residential Population		282
Commercial block	---		110
Visitors (10 sqm of the commercial shop B.U Area)	1153 sqm		115
Total			**3329**

Parking Details

Sl. No.	Details	Area(SQM)	ECS
1.	Residential Parking area Required @ 25% of FAR BUA	13296.75	--
2.	Total Parking Area Required	13296.75	--
3.	Total Parking Provided at Ground Floor	7216.7	Cars: 270 Two wheelers: 110
4.	Total Parking Provided at 1st Floor	8478.3	Car: 222 Two wheelers: 299
5.	Total Parking Provided	15695	Cars: 492 Two wheelers: 409 EWS: 40

Calculation of Green belt

Total Plot Area	16537.6 Sqm
Greenbelt area provided @ ~15.09 % of Plot Area	2496.08 Sqm
Total No. of Trees required to be Planted @ 1 tree per 80 Sqm. of Plot Area	206.71 Say 207 Nos.
Trees to be planted	3 tier plantation will be done as much as possible. 1 meter plantation will be done in internal road.

Details of Water Requirement

S. No.	Description	No. of units/Area in Sqm	Unit Population	Population	Unit water consumption (lpcd)	Total water required (kl)	Fresh water required (kld)	Flushing (kld)	Total Wastewater (kld) (80% of domestic +100% Total flushing)

1	Wing A	105	7/6/5/4	595	100	59500	35700	23,800.00	52360
2	Wing B	71	7/6/5/4	426	100	42600	25560	17,040.00	37488
3	Wing C	140	7/6/5/4	840	100	84000	50400	33,600.00	73920
4	Wing D	106	7/6/5/4	601	100	60100	36060	24,040.00	52888
5	EWS/LIG	80	7/6/5/4	360	100	36000	21600	14,400.00	31680
	Visitors @10% of total Population			282	15	4230	2820	1,410.00	3666
6	Commercial Unit	22	5	110	45	4950	2200	2,750.00	4510
	Visitors (10 sqm of the commercial shop & U Area			115	15	1725	1150	575.00	1495
	Total					**2,93,105**	**1,75,490**	**1,17,615**	**258007**
	KLD					**293 KLD**	**175 KLD**	**118 KLD**	**258 KLD**
	Reuse of treated water								
	Greenbelt	2496.08 Sqm.	...	...	3 liter/sqm of Landscape area	8			
	DG Set	1500 KVA			2 lt./KVA/6 hr	3			
		Subtotal II				11			
		Grand Total I+II				304			

Energy Conservation Measures

S. No.	Net Energy saved	
1.	Solar power generation will be @ 5% of total power consumption and lighting will be done in the common areas, Signages, entry gates and boundary walls etc	188 KVA
2.	LED Based lighting will be done in the dwelling units	31.912 KVA
3.	Usage of energy efficient Lift (VVVF non gear lifts)	24 KVA
4.	**Total Energy saved**	**244 KVA (6.47%)**
5.	**Total Energy consumption**	**3766 KVA**
6.	**Energy saving in Residence Envelope Transmittance Value (RETV)**	**15 %**
7.	**Energy saving in Lighting Common Area, Exterior & Parking and lighting Control**	**5%**
8	**Total Energy saving**	**27 %**

502

STATUTORY CLEARANCES:

1	DFO Forest Distance	:	DFO, Ranchi Forest Division vide letter no. **1347**, dated **08.04.2023** certified thet the distance of reserved / protected forest is more than **250** meter from proposed project site.
2	DFO Wild Life	:	DFO, Wildlife Ranchi Division vide letter no. **338**, dated 17.04.2023 certifred that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
3	CO certificate	:	The CO, Namkum (Ranchi) vide letter no. **1794 (ii)**, dated **17.10.2023** has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II
4	AAI NOC	:	Airport Authority of India issued a height clearance NOC vide its NOC no. - RANC/EAST/111122/725858, dated 07.12.2022 valid Upto 06.12.2030.
5	Fire Department	:	A fire advisory has been issued by Fire Department, Jharkhad, Ranchi vide memo no. **1552/Tech./2023, dated 19.03.2023.**
6	Building Plan	:	Conceptual Plan submitted.

Based on the presentation made and information provided, the Committee decided that the proposal for Proposed Group Housing "Blue Erra" of M/s Laablue Lifespace Pvt. Ltd., Mouza : Sirdol, Namkum, Distt. : Ranchi, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure –V alongwith the following specific conditions :

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%) consumptinn 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 he 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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Day 4 : October 20th, 2023 [Friday]

A. Deputy Commissioner, Sahibganj or through authorized representative

I. Final District Survey Report (DSR) of Sand, Sahibganj.

The DSR was submitted by Deputy Commissioner, Sahibganj. He was represented by District Mining Officer, Sahibganj Shri Bibhuti Kumar.

During the meeting the DMO, Sahibganj presented the DSR before the Committee. The DSR was appraised considering the following aspects alongwith other conditions of Enforcement and Monitoring Guidelines for Sand Mining (EMGSM), 2020 / Hon'ble Apex Court in Civil Appeal no. 3661-3662/2020, Pawan Kumar vs State of Bihar & ors, Hon'ble NGT in O.A. no. 54/2022/EZ, Bhumi Adhigrahan Visthapan Avam Punarvas Kisan Samiti vs State of Jharkhand & ors and they have affirmed the following :

1. The final DSP submitted is duly signed by all members of the Sub Divisional Committee and the Consultant. All the pages of the DSR are signed by the authorized officer of the Sub Divisional Committee.
2. The final DSR consists of the complete potential area and is demarcated as Potential Resource Area (PRA) / Sand Leases / Ghats as per EMGSM guideline 2020.
3. The replenishment study of pre & post monsoon period is included in final DSR.
4. The final DSR had been placed in the public domain for 01 (One) month from the 01.07.2023. As per the Sub Divisional Committee no comments / observations were obtained.
5. Demand and supply of the river bed material has been provided. The future demand for next 05 years is included in the final DSR.
6. The PRA / Sand Leases / Ghats have not been proposed on the confluence / meanders / concavieties /active channels of the river.
7. Khata & Khasra numbers of the lease area certified by the concerned Circle Officer (CO) are incorporated in the final DSR.
8. The distance of PRA / Sand leases / Ghats from the Forest / Wildlife Protected area / Birds Sanctuary/ Wildlife Sanctuary / National Park / Eco Sensitive Zone has been verified and certified by the concerned DFOs of the respective Territorial and Wildlife division.
9. A report detailing the presence of aquatic animal in the river in proximity of the proposed PRA / Sand Leases / Ghats is included in the final DSR.
10. The proposed PRA / Sand Leases / Ghats meet the siting criteria of State Pollution Control Board / SEIAA.
11. High resolution color satellite images of the proposed potential sand mining areas are included in final DSR
12. Bulk density and specific gravity of sand sample data has been provided by NABL accredited laboratory.
13. Cluster and contiguous cluster formation as per EMGSM guidelines, 2020 has been included in the Annexures.

14. Mining is restricted to 3/4th of the river width and 60% of the mineable reserve.
15. Transportation routes for movement of sand are provided in the final DSR.
16. All the annexures as per EMGSM guidelines, 2020 are included in the final DSR.
17. An undertaking with reference to Point no. 9.3 of the EMGSM guidelines, 2020 regarding monitoring of mining near inter-district or inter-state boundary has been provided.
18. The representative of the Sub Divisional Committee along with the Consultants have affirmed that all the guidelines of EMGSM guidelines, 2020 / Hon'ble Apex Court in Civil Appeal no. 3661-3662/2020, Pawan Kumar vs State of Bihar & ors, Hon'ble NGT in O.A. no. 54/2022/EZ, Bhumi Adhigrahan Visthapan Avam Punarvas Kisan Samiti vs State of Jharkhand & ors have been followed in preparation of the final DSR.

The final DSR (sand) of District Sahibganj is recommended to SEIAA for approval.

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B. <u>Deputy Commissioner, Garhwa or through authorized representative.</u>

I. <u>Final District Survey Report (DSR) for Minor Minerals other than Sand Mining or River Bed Mining (Stone), Distt. Garhwa .</u>

The Final DSR was submitted by Deputy Commissioner, Garhwa. He was represented by District Mining Officer, Garhwa Shn Nand Deo Baitha at the SEAC meeting on 20.10.2023.

During the meeting the DMO, Garhwa 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 30.08.2023. As per the Sub Divisional Committee no comments / observations were obtained.

During appraisal the DMO, Garhwa have affirmed the following:

i. Block wise impact on the environment w.r.t. Air, Water, Noise, Soil, Flora & Fauna, Land use, Agriculture, Forest etc. due to the mining activities alongwith the corresponding remedial measures to mitigate the identified impacts.
ii. Proposal for reclamation of the mined out area.
iii. Details of risk assessment and disaster management plan due to the mining activities.
iv. To include the data of the primary study carried out for preparation of DSR.

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 Garhwa is recommended to SEIAA for approval.

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C. Consideration of Proposals

1. **LIG & EWS Housing Project of M/s Sagun Ishaan Infra Developers Pvt. Ltd., Village : Simaliya, Tehsil : Ratu, Distt. : Ranchi, Jharkhand.**

   (Proposal No. SIA/JH/INFRA2/ 448855/2023).

   Project Category: 8 (a) Category B2 – Application for Environment Clearance
   EC Application for: Proposed Low income and EWS housing project: Total built-up area 24639.85sq m.

   Name of the consultant:P & M SOLUTION, Noida

   This is a new project which has been taken for appraisal on 20.10.2023.

   PROJECT and LOCATION Details:

Parameters	Description
Plot Area	5228.98sq.m (0.52 ha/1.29 acres)
Project Cost	INR 28Crores
Built-up Area (@3.45F.A.R)	24639.85sq. m.
Green Area (@ 20% of plot area)	915sq m
Population	1186
Water Requirement	115.5KLD
Fresh Water Requirement	81 KLD
Wastewater Generation	108 KLD
STP Capacity	110 KLD
Total Municipal Waste	591.1kg/day

Power Requirement	Maximum power demand for the project during construction and operation phase is estimated to be 100 KVA and 1500 KVA respectively. Source of power will be Jharkhand State Electricity
DG Sets	1 set of DG sets of total capacity400
RWH Pits	22nos.
Parking Area	188 no.s of cars for residents, 19 car parking for visitors and 241 two-wheeler parking
Nearest Hospitals	Amnta Hospitals & Research centre (2.5 km,N)
Nearest Water Bodies	Ratu pond (3 6 km, NW) Karko Dam (5.98 km,E)

CO-ORDINATES

Point in Image	Latitude	Longitude
A	23°22'59.85"N	85°14'14.65"E
B	23°22'59.65"N	85°14'15.67"E
C	23°22'59.29"N	85°14'15.90"E
D	23°22'54.88"N	85°14'14.17"E
E	23°22'55.38"N	85°14'12.94"E
F	23°22'56.84"N	85°14'13.55"E
G	23°22'57.52"N	85°14'14.37"E
Centre	23°22'57.04"N	85°14'14.48"E

LAND DETAILS

Khata No.	RS Plot No.
228	1109
	1151
	1152
	1165
	1166

	1167

AREA STATEMENT

S. No.	Description	Area (sq m)
1.	Plot Area	5228.98
2.	Common plot area	648.32
3.	Net Plot Area	4574.66
4.	Permissible Ground Coverage (@50% of plot area)	2611 49
5.	Proposed Ground Coverage (@26.72% of plot area)	1395.36
6.	Permissible FAR (@3.5 of plot area)	18280.43
7.	Proposed FAR (@3.5 of plot area)	18270.26
8.	Proposed Non-FAR area	24639.85
9.	Built-up Area	24639.85
10.	Basement Area	4406.08
11.	Green Area (@ 20% of net plot area)	915
12.	Nos. of Dwelling units	228
	Block A	84
	Block B	63
	Block C	81
13.	Height (m)	43 m
14.	Floor details	
	Block A	B+G+11
	Block B	G+10
	Block C	G+10

STATUTORY CLEARANCES

1	DFO Wildlife	:	DFO, Wildlife Ranchi vide letter no. 1065 dated 12.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
2	DFO Forest	:	DFO, Ranchi Forest Division vide letter no.3963 dated 13.10.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.

3	CO certificate	:	The CO, Ratu, Ranchi vide letter no. 651 (ii), dated 12.10.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
4	Fire Department	:	A fire advisory has been issued by Fire Department, Jharkhad, Ranchi vide vide memo no. 5386/Tech./2023, dated 18.09.2023.
5	Building Plan	:	Conceptual plan submitted.

Water and waste water Requirement Details

Category	Population/Area (sq m)/Capacity	Standard (LPCD)	Water Requirement-KLD	Fresh Water Requirement-KLD	Recycled Water requirement-KLD
Domestic					
Residents	1140	100	114	80	34
Staff	23	45	1	0.7	0.3
Visitors	23	15	0.5	0.3	0.2
Total Domestic Water Demand			115.5	81	34.5 ~35
Landscape	915 sq m	6 l/sq m	6	0	6
Road Washing & Misc	--	--	5	0	5
Total	--	-	126.5 ~127	81 81	45.5 ~46

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

Wastewater Calculations

Category	Total Quantity (KLD)
Fresh water Req.	81
Flushing water Req.	35
Sewage generation (@90% of the fresh water consumption + 100% flushing water)	108
Capacity of STP	110
Recovered water from STP (80% of Waste water)	86
1. Flushing	35
2. Landscaping	6
3. Road Washing & Misc	6
4. Discharge to Sewer	40

Solid Waste Requirement

S. No	Description	Occupancy/Area	kg/capita/day	Total Solid Waste Generation (kg/day)	Non-Recyclable (Kg/day)	Recyclable (kg/day)
1.	Residents	1140	0.5	570	342	228
2.	Staff	23	0.25	6	4	2
3.	Visitors	23	0.15	4	2	2
4.	Landscape waste	0.23 acres	~0.2	0.1	0.1	0
5.	STP sludge	108 KLD Sewage	--	11	11	0
Total Waste Generated				591.1 ~591	359.1 ~359	232

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 915 sq m (20% of the plot area) Out of which Green belt area is 783.447 sq.m i.e. 15 % of the plot area and landscape area is 131.55 sq.m i.e. 5 %. 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 anproved 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. 110KLD is proposed for treatment of wastewater.
- Treated waste water would be reused for Horticulture, DG/HVAC cooling, flushing, fire fighting.
- Use of water efficient plumbing fixtures to conserve water.
- Approx.81 KLD of fresh water is required during operational phase of the project.

Air Quality Management

- Warehouse/stock yard will be provided for storage of construction material
- Covering of stored construction materials with tarpaulin covers which will be resold to authorized construction material handling agency for reuse.
- Covering of trucks carrying construction materials.
- Dust suppression by water sprinkling.
- Adequate maintenance of construction equipment & vehicles.
- Wheel wash facility at the entry/exit of the site to prevent dust emissions.
- Periodical Ambient Air Quality Monitoring.
- PUC Certified vehicles.
- Glow signs Speed Limits to 20 kmph to reduce emissions on site will be displayed at the important junctions.

Energy conservation

- Energy will be conserved via solar power & LED of at least12 % of the total power requirement.

Undertaking

1. An affidavit stating that no construction work.
2. An undertaking that 86KLD recycles waste water generated at Proposed low income and EWS housing project at Simaliya, Plot No. 1109, 1151, 1152, 1165, 1166 & 1167, Khata No. 228, Thana No 139, Thana Ratu, District Ranchi, Jharkhand.
3. An undertaking that 1500 kVA Power requirement in Proposed low income and EWS housing project at Simaliya, Plot No. 1109, 1151, 1152, 1165, 1166 & 1167, Khata No. 228, Thana No 139, Thana Ratu, District Ranchi, Jharkhand.

Based on the presentation made and information provided, the Committee decided that the proposal for LIG & EWS Housing Project of M/s Sagun Ishaan Infra Developers Pvt. Ltd., Village : Simaliya, Tehsil : Ratu, Distt. : Ranchi, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure –V alongwith the following specific conditions :

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 ntilization, optinum 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 uf 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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2. **Proposed Residential Project at Ranchi Smart City of plot no. 25 of M/s Big Realtors JV, Village : Jagannathpur, Tehsil : Namkum, Distt. : Ranchi, Jharkhand.**

(Proposal No. SIA/JH/INFRA2/ 448802/2023).

Project Category: B(a) Category B2 – Application for Environment Clearance
EC Application for: Residential Project located in Ranchi Smart City of plot no. 25 of M/S Big Realtors JV: Total built-up area 149000 sq m.
Name of the consultant: P & M SOLUTION, Noida

This is a new project which has been taken for appraisal on 20.10.2023.

PROJECT and LOCATION Details:

Parameters	Description
Plot Area	30351.4sq.m (3.035 ha/7.50 acres)
Project Cost	INR 275 Crores
Built-up Area (@3.5 F.A.R)	1,49,000 sq. m.
Green Area (@ 16% of plot area)	4856.22 sq m
Population	3612
Water Requiremeht	396KLD
Fresh Water Requirement	252 KLD
Wastewater Generation	297KLD
STP Capacity	300 KLD
Total Municipal Waste	1760kg/day
Power Requirement	Maximum power demand for the project during operation phase is estimated to be 2500 kVA respectively. Source of power will be Jharkhand State Electricity Board.
DG Sets	DG set of 1500 kVA
RWH Pits	16 nos.
Parking Area	10000 Sq. m
Nearest Road	45m Wide Sector Road (Adjacent, South) Dhurwa Road (320 m, WNW) NH 39 (4.56 km, SW)
Nearest Railway Station	Ranchi Junction (6.21 km, NE) Hatia Railway Station (1KM, ENE)
Nearest Airport	Birsa Munda Airport (2.95 km, ENE)

Nearest Hospitals	Paras HEC Hospital (1.99 km, WNW)
Nearest Water Bodies	HEC Talab (2.78 km, SSW) Dhurwa Dam (4.12 km, WSW) Kanke Dam (9.63 km, North)

CO-ORDINATES

Point in Image	Latitude	Longitude
A	23°18'24.17"N	85°17'52.16"E

LAND DETAILS

Khata No.	RS PlotNo.	
3	1284	Part
3	1289	Part
7	1291	Part
7	1292	Part
8	1665	Part
8	1666	Part
10	1286	Part
10	1372	Part
10	1373	Part
10	1374	Part
10	1377	Part
10	1667	Part
18	1287	Full
28	1285	Part
38	1274	Full
68	1288	Part
68	1272	Full
68	1275	Full
68	1276	Full
68	1277	Full
68	1278	Part
68	1297	Part
68	1298	Part
68	1299	Part
72	1669	Full
72	1670	Part

72	1671	Part
73	1279	Part
73	1280	Part
73	1365	Part
73	1366	Part
73	1367	Part
75	1363	Part
75	1364	Full
75	1368	Part
75	1369	Part
94	1359	Part
129	1378	Part
129	1654	Part
129	1674	Part
137	1273	Part
137	1301	Part
156	1271	Full
157	1270	Full
158	1269	Part
165	1358	Part
165	1677	Part
167	1675	Part
169	1281	Part
171	1678	Part

AREA STATEMENT

S. NO.	DESCRIPTION	AREA (SQ M)
A.	**Total plot area**	**30,351.40**
B.	Permissible Ground Coverage (@ 35% of plot area)	10,623.00
C.	Proposed Ground Coverage (@ 35 % of plot area)	10,623.00
D.	**Proposed FAR (@ 3.50)**	1,06,230.00
E.	Non FAR Area (Staircase, Lift, Balcony, Ramp, Accessory Use, 2 Basement Parking)	42770.00
F.	**Built-up Area (D+E)**	**1,49,000.00**
G.	Green Area (@16% of plot area)	4856.22
H.	Paved area(@ 40% of plot area)	12140.56
I.	Open Area	3035.14
J.	Height (m)	70 m
K.	No of Dwelling Units	750

STATUTORY CLEARANCES

1	DFO Wildlife	:	DFO, Wildlife Ranchi vide letter no. 736 dated 24.08 2022 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
2	DFO Forest	:	DFO, Ranchi Forest Division vide letter no. 1273, dated 22.12.2018 certified that the distance of reserved / protected forest is 1300 meter from proposed project site.
3	CO certificate	:	The CO, Namkum, Ranchi vide letter no. 29 (ii), dated 07.01.2019 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
4	AAI NOC	:	Airport Authority of India NOC for height clearance vide NOC Id-RANC/EAST/B/062823/766501, dated 08.08.2023 valid upto 07.08.2031.

Water Requirement Details

Category	Population/ Area (sq m)/Capacity	Standard (LPCD)	Water Requirement (KLD)	Fresh Water Requirement (KLD)	Recycled Water requirement(KLD)
Domestic					
Residents	3375	100	338	237	101
Staff	68	45	4	3	1
Visitors	169	15	3	2	1
Total Domestic Water Demand			**345**	**242**	**103**
Swimming pool	1 Unit	-	**10**	**10**	
Landscape	4856.22sqm	6ltr/sqm	29	-	29
Fire Fighting			**1**	-	**1**
DG cooling	1500 KVA	0.9 l/kVA/hr	11	-	11
Total		-	**396**	**252**	**144**

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

Wastewater Calculations

Category	Total Quantity (KLD)
Domestic(fresh) water Req.	242
Fresh water (swimming pool)	10
Flushing water Req.	103
Sewage generation (@80% of the Domestic + 100% flushing water requirement)	297
Capacity of STP	**300**
Recovered water from STP (90% of Waste water)	267
• Flushing	103
• Landscaping	29
• Fire Fighting	1
• OG cooling	11
• Sewer	123

Solid Waste Requirement

S. No	Description	Occupancy/Area	kg/capita/day	Total Solid Waste Generation (kg/day)	Recyclable (kg/day)	Non-Recyclable (kg/day)
1.	Residents	3375	0.5	1688	1350	338
2.	Staff	68	0.25	17	14	3
3.	Visitors	169	0.15	26	21	5
4.	Landscape waste	1.19 acres	2.74 kg/acres	1	1	-
5.	STP sludge	300KLD	--	28	28	-
Total Waste Generated				1760	1414	346

ENVIRONMENT MANAGEMENT

Green Belt Development

- Combination of local trees and sbrubs are planned within the project site.
  - Total green area provided at the site is 4856.22 sq m (16% 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 stocage of construction material.
- Excavated top soil will be stored in temporary constructed soil bank and will he reused for landscaping of the project
- Remaining soif will be utilized for refilling/road work/raising of site level at locations.
- There will be "Refuse Containers" at site for the management of demestic 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 he 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. 300KLD is proposed for treatment of wastewater.
- Treated waste water would be reused for Flushing, Landscaping, Road Washing &Misc
- Use of water efficient plumbing fixtures to conserve water.

- Approx. 252 KLD of fresh water is required during operational phase of the project.

Air Quality Management

- Warehouse/stock yard will be provided for storage of construction material
- Covering of stored construction materials with tarpaulin covers which will be resold to authorized construction material handling agency for reuse.
- Covering of trucks carrying construction materials.
- Dust suppression by water sprinkling.
- Adequate maintenance of construction equipment & vehicles.
- Wheel wash facility at the entry/exit of the site to prevent dust emissions.
- Periodical Ambient Air Quality Monitoring.
- PUC Certified vehicles.
- Glow signs Speed Limits to 20 kmph to reduce emissions on site will be displayed at the important junctions.

Energy conservation

- Energy will be conserved via solar power & LED of at least16% of the total power requirement.

Undertaking

- An affidavit stating that no construction work.
- An undertaking that 297m^3/day recycles waste water generated at Residential Project located in Ranchi Smart City of M/S Big Realtors JV at Ranchi Smart City Plot No. 25, R.S. Plot No.1269 to 1281, 1284 to 1289, 1291, 1292, 1297, 1298, 1299, 1301, 1358, 1359, 1363 to 1369, 1372 to 1374, 1377, 1378, 1654, 1665, 1666, 1667, 1669, 1670, 1671, 1674, 1675, 1677, 1678, Khata No.3, 7, 8, 10, 18, 28, 38, 63, 68, 72, 73, 75, 94, 129, 137, 156, 157, 158, 165, 167, 169 and 171Halka No.-01 – Mauza (village) and Thana No. Jagarnathpur-244; Block - Namkum, District – Ranchi, Jharkhand.
- An undertaking that 2500 kVA Power requirement in Residential Project located in Ranchi Smart City of M/S Big Realtors JV at Ranchi Smart City Plot No. 25, R.S. Plot No.1269 to 1281, 1284 to 1289, 1291, 1292, 1297, 1298, 1299, 1301, 1358, 1359, 1363 to 1369, 1372 to 1374, 1377, 1378, 1654, 1665, 1666, 1667, 1669, 1670, 1671, 1674, 1675, 1677, 1678, Khata No.3, 7, 8, 10, 18, 28, 38, 63, 68, 72, 73, 75, 94, 129, 137, 156, 157, 158, 165, 167, 169 and 171Halka No.-01 – Mauza (village) and Thana No. Jagarnatbpur-244; Block - Namkum, District – Ranchi, Jharkhand.

Based on the presentation made and information provided, the Committee decided that the proposal for Proposed Residential Project at Ranchi Smart City of M/s Big Realtors JV, Village : Jagarnathpur, Tehsil : Namkum, Distt. : Ranchi, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure –V alongwith the following specific conditions :

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 he 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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3. **Residential & Commercial Building "Siddhartha Maison" of M/s Shridhar Real Estates Private Limited, Village : Pundag, Thana : Jagarnathpur, Thana no. : 228, Distt. : Ranchi, Jharkhand.**

(Proposal No. SIA/JH/INFRA2/ 448953/2023).

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

EC Application for: Expansion of Residential & Commercial Building "Siddhartha Maison" located at Plot No-593,594, Khata No-247 at Village- Pundag, Thana Jagarnathpur, Thana no-228, Dist-Ranchi, Jharkhand located at Ranchi Smart City:Total built-up area 54600.76 sq m.

Name of the consultant:P & M SOLUTION, Noida

This is an expansion project which has been taken for appraisal on 20.10.2023.

PROJECT and LOCATION Details:

Parameters	Description	
Plot Area	12102.21sq.m	
Khata No./Plot No.	Khata No-247	RS Plot No.
	247	593, 594, 595
Project Cost	INR 33Crores	
Built-up Area (@3.5 F.A.R)	54600.76 sq. m.	
Green Area (@ 20% of plot area)	3993.72 m	
Population	1591	
Water Requirement	221KLD	
Fresh Water Requirement	139 KLD	
Wastewater Generation	172 KLD	
STP Capacity	200 KLD	
Total Municipal Waste	770kg/day	
Power Requirement	Maximum power demand for the project during operation phase is estimated to be 1850 kVA respectively. Source of power will be Jharkhand State Electricity Board.	
DG Sets	4 nos. of DG setof 250 kVA	
RWH Pits	3nos.	
Parking Area	7042.08 Sq. m	

Nearest Highway & Road	NH43(2.15km,W) SH2(5.15km,N) Katnalmore-Argora-Ranchi(0.1km,N)
Nearest Railway Station	RanchiJunctionRailwayStation(6.44km,E)
Nearest Airport	BirsaMundaAirport(6.86km,SE)
Nearest Hospitals	CityHospital Ranchi (4.10km, E)
Nearest Water Bodies	DburwaDam (6.65km, S) JumarRiver(10km,N) ChotaNarna (8km, NE) KankeDam(5.47 km, NE)

CO-ORDINATES

Point in Image	Latitude	Longitude
A	23°21'21.73"N	85°16'23.07"E

LAND DETAILS

1	Khata No-247 at Village- Pundag, Thana Jagarnathpur, Thana no-228, Dist-Ranchi, Jharkhand.		Plot No. 593,594, 595

AREA STATEMENT

S. NO.	DESCRIPTION	AREA(SQM)-As per previous EC (Block A,B and commercial)	Area (Sq.m)-As per expansion (Block C)	Area (Sq.m)-As per expansion (Block D)	Total Area SQ.M
A.	**Total plot area**	**7201.98**	**4900.23**		**12102.21**
B.	Proposed Ground Coverage (@32.98% of plotarea)	2375.50	540.52	1196.52	**4112.54**
C.	ProposedFAR (@ 3.47)	25002.05	6594.32	12839.69	44436.06
D.	NonFARArea(Staircase,Lift,Balcony, Ramp,AccessoryUse,BasementParking)	8619.53	4075.00		12694.53
E.	**Built-upArea (C+D)**	**33621.57**	**6969.92**	**14009.27**	**54600.76**
F	GreenArea(@33%ofnetplotarea)	2376.65	1617.07		3993.72
G.	Driveway & Open Area/paved area (@ 34%)	2449.78	**1666.07**		4115.85

H.	Height(m)	52	48	48	-
I.	Noof Dwelling Units	12 3	44	110	277

STATUTORY CLEARANCES

1	DFO Wildlife	:	DFO, Wildlife Ranchi Division vide letter no. 1143, dated 15.12.2021 & letter no. 1064 dated 12.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
2	DFO Forest	:	DFO, Ranchi Forest Division vide letter no. 1930, dated 29.07.2021 & letter no. 3965 dated 13.10.2023 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.
3	CO certificate	:	The CO, Nagri, Ranchi vide letter no. 1383, dated 31.12.2021 & memo no. 1308 (ii), dated 16.10.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
4	AAI NOC	:	Airport Authority of India NOC for height clearance vide NOC Id. RANC/EAST/B/101720/503290, dated 02.12.2020 valid upto 02.12.2028.
5	Fire Department	:	A Certificate from Fire Department, Ranchi, Govt. of Jharkhand vide letter no. 3190/tech dated 06.10.2021.
6	CTE	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-13073554/2022 / 356, dated 31.08.2022.
7	Previous EC	:	Previous EC granted by SEIAA vide letter no. EC/SEIAA/2021-22/2478/2021/79, dated 16.04.2022.
8	Compliance report of previous EC	:	Compliance report of EC certified by Regional OFFice, JSPCB, Dhurwa vide Ref. no. 498, dated 12.10.2023.
9	Building Plan	:	Conceptual Plan submitted.

Water Requirement Details

Category	Population/ Area (sqm)/Capacity	Standard(LPCD)	WaterRequirement(KLD)	Fresh WaterRequirement (KLD)	RecycledWaterrequirement(KLD)
Domestic					
Residents	1445	135	195	137	58
Staff	29	45	2	0.6	1.4
Visitors	73	15	1	0.6	0.4
Commercial	44	45	2	0.6	1.4
TotalDomesticWaterDemand			**200**	**139**	**61**
Landscape	3993.72sqm	3 ltr/sqm	12	-	12

FireFighting			1	-	1
DGcooling	1000KVA (4*250)	0.9 l/kVA/hr	8		8
Total		-	**221**	**139**	**82**

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

Wastewater Calculations

Category	Total Quantity(KLD)
DomesticwaterReq.	139
Flushingwater Req.	61
Sewage generation (@80% of the Domestic + 100%flushingwater requirement)	172
CapacityofSTP	200
Recoveredwater fromSTP (90% ofWaste water)	155
1. Flushing	61
2. Landscaping	17
3. Fire Fighting	1
4. DGcooling	8
5. Constructioninnearbyareas/roadwashing/sewer	73

Solid Waste Requirement

S. No	Description	Occupancy/ Area	kg/capita/day	TotalSolid WasteGeneration(kg/day)	Recyclable(kg/day)	Non-Recyclable(kg/day)
1.	Residents	1445	0.5	723	578	145
2.	Staff	73	0.25	18	14	4
3.	Visitors	73	0.15	11	9	2
4.	Landscapewaste	0.58acres	1kg/acres	1	1	-
5.	STPsludge	200KLD	--	17	17	0
TotalWasteGenerated				**770**	**619**	**151**

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 3993.72sq m (20% of the plot area) which will enhance the beauty of the site and help combat air and noise pollution.
- The plant species will be selected on the basis of Guidelines for Developing Green Belts, CPCB March 2000.

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 he 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. 200KLD is proposed for treatment of wastewater.
- Treated waste water would be reused for Flushing, Landscaping, Road Washing &Misc
- Use of water efficient plumbing fixtures to conserve water
- Approx. 139KLD 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 terpaulin covers which will be resold to authorized construction material handling agency for reuse.
- Covering of trucks carrying construction materials.
- Dust suppression by water sprinkling.
- Adequate maintenance of construction equipment & vehicles.
- Wheel wash facility at the entry/exit of the site to prevent dust emissions.
- Periodical Ambient Air Quality Monitoring.

- PUC Certified vehicles.
- Glow signs Speed Limits to 20 kmph to reduce emissions on site will be displayed at the important junctions.

Energy conservation

- Energy will be conserved via solar power & LED of at loast12% of the total power requirement.

Undortaking

- An affidavit stating that no construction work.
- An undertaking that172m^3/day recycles waste water generated atExpansion of Residential & Commercial Building "Siddhartha Maison" located at Plot No-593,594, Khata No-247 at Village- Pundag, Thana Jagarnathpur, Thana no-228, Dist-Ranchi, Jharkhand.
- An undertaking that 1850 kVA Power requirement in Expansion of Residential & Commercial Building "Siddhartha Maison" located at Plot No-593,594, Khata No-247 at Village- Pundag, Thana Jagarnathpur, Thana no-228, Dist-Ranchi, Jharkhand.

Based on the presentation made and information provided, the Committee decided that the proposal for Residential & Commercial Building "Siddhartha Maison" of M/s. Shridhar Real Estates Private Limited, Village : Pundag, Thana : Jagarnathpur, Thana no. : 228, Distt. : Ranchi, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure –V alongwith the following specific conditions :

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 isulated 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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4. **Digarnara Stone Deposit of M/s Kiran Construction and Infrastructure Pvt. Ltd., Village : Digarnara, Thana : Ghatshila, Distt. : East Singhbhum, Jharkhand (2.99 Ha).**

(Proposal No. SIA/JH/MIN/ 446540/2023).

PP did not turn up in the meeting. Hence, the proposal was deferred to next meeting.

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5. **Jiyajori & Belpahari Stone Mine of Shri Azhar Islam, Village : Jiyajori & Belpahari, Thana : Hiranpur, Distt. : Pakur, Jharkhand (4.763 Ha).**

(Proposal No. SIA/JH/MIN/ 448965/2023).

Project Category: **B1 – Application for Terms of Reference**

Application for: **Proposed Capacity - From 59559.31 cum/year or 172722 TPA to 150290 cum/year or 435841 TPA**

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

This is an expansion project which has been taken for appraisal on 20.10.2023.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Jiyajori & Belpahari Stone Mine	
2	Lessee:	:	Sri Azhar Islam At – Jankinagar, P.O. – Prithvinagar, P.S. – Hiranpur, District – Pakur, Jharkhand	
3	Lease Address	:	Village – Jiyajori & Belpahari, Thana- Hiranpur, District – Pakur, Jharkhand	
4	Lease Area	:	4.763ha	Acres- 11.77Acres
5	Type of Land	:	Non Forest – Raiyati Land	
6	Project Cost	:	Rs. 50 Lakhs	
7	EMP Budget	:	Capital: 6.686 Lakhs	Recurring: 4.27 Lakh / year
8	New or Expansion	:	Expansion	
9	Mineable Reserves	:	cum.: 451377.3 cum	Tonnes: 1308994.17 tons
10	Mine Life	:	3 years	
11	Man power	:	21	
12	Water Requirement	:	12.681 KLD (Drinking: 0.21 KLD, Dust Suppression: 7.535KLD, Plantation: 4.936KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	500 k VA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Torai Nadi, approx. 3.17 km towards SSW direction of inlue site.	
17	Nearest Habitation	:	Belpahari village, at 110 meters.	
18	Nearest Rail Station	:	Tilbhita Railway Station, approx. 10.70 km towards East direction.	
19	Nearest Air Port	:	Deoghar Airport, approx. 109 km towards WSW direction.	
20	Nearest Forest	:	Protected Forest at approx. 1.0 Km in South direction of mine site. Protected Forest at approx. 2.20 km in SSW direction of mine site. Protected Forest at approx. 0.76 km in North direction of mine site.	
21	Road & Highways	:	NH- 133A, Approx 2.19 km in SSW direction.	

CO-ORDINATES

1	Latitude		From 24°42'28.7379" N	To 24°42'43.7466" N

2	Longitude		From 87°44'32.8693" E	To 87°44'41.8089" E

LAND DETAILS:

Plot No.
239, 240, 242, 243, 244, 245 246, 248, 249 & 95 (P)

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	Lease Deed : 25.02.2016 to 24.02.2026.
2	CO	:	The CO, Hiranpur vide memo no. : 510/Ra, dated 07.10.2023 has mentioned the plot no. of the project is not rerorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Pakur vide memo no. 2304/M, dated 14.10.2023 certified that the 03 other mining lease area (10.36 Acre, 10.18 Acre & 5.83 Acre) exists within 500 m radius from proposed project site and total area is 38.14 Acre (15.44 Ha).
4	DFO Wild Life	:	DFO-cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1894, dated 29.09.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Forest Distance	:	DFO, Pakur Forest Division vide letter no. : 1000, dated 15.09.2015 certified that the distance of notified forest is more than 500 meter from proposed project site.
6	DSR	:	This project is part of District Survey Report (DSR) of Pakur district.
7	Gram Sabha	:	Gram Sabha conducted on 24.08.2015.
8	Mine Plan Approval	:	Approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide letter no. 382/DDM dated 03.08.2023.
9	Compliance report of previous FC	:	Compliance report certified by Regional Office cum Laboratory, JSPCB, Dumka vide Ref. no. : 2067, dated 04.10.2023.
10	Previous production figure	:	Production figure issued by DMO, Pakur vide memo no. 2303/M, dated 14.10.2023.
11	Consent to Estblish (CTE)	:	CTE issued by JSPCB vide Ref. no. : JSPCB/HO/RNC/CTE-768770 /2016 /164, dated 18.07.2016.
	Consent to Operate	:	CTO issued by JSPCB vide Ref. no. : JSPCB/RO/DMK/CTO-5390814

	(CTO)		/2019/101, dated 26.06.2019.
	Previous Environmental Clearance (EC)	:	Previous EC granted by SEIAA, Jharkhand vide letter no. EC/SEIAA/2015/-16/1575/2015/2270, dated 30.12.2015

Working Details

1	Mining Method	:	Opencast semi mechanized method	
2	Quarry Area	:	4.763 Ha or 11.77 Acre	Life of Mine – 3 years
3	Waste Generation	:	31369 cum	
4	Stripping Ratio	:	1: 0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	70 AMSL to 64 AMSL	
8	Ground Level Elevation	:	64 AMSL	
9	Ultimate Working Depth	:	30 AMSL	
10	Water Table	:	26 AMSL	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	110 litre/day	

Production Details

Year	Production of stone (cum)	Production of stone (tons)	Bench RL in Meters
1st	--	--	--
2nd	--	--	--
3rd	150290	435841.00	60mRL - 36mRL
4th	150024	435069.60	36mRL - 30mRL
5th	149815	434463.50	30mRL - 55mRL
Total	**450129**	**1305373.50**	

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	Conceptual stage (Ha) (after life of mine)
QUARRY	3.20Ha	4.096	4.096

		(0.128ha area shall be backfilled)	(0.128ha area shall be backfilled & 3.968 ha area shall be left as water reservoir)
ROAD	0.104	Nil	0.00
WAST DUMP	Nil	Nil (waste dump to be removed and backfilled)	Nil (waste dump to be removed and backfilled)
Safety Zone	0.667 (Plantation)	0.667 (Plantation)	0.667 (Plantation)
Total	**3.975**	**4.763**	**4.763**
UNUSED AREA	0.788	0.000	0.000
LEASE HOLD AREA	**4.763**	**4.763**	**4.763**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.667 ha	1668
2	Along Approach Road		0.700 km	700
3	Plants distributed in schools, Anganwadi or in Panchayat Bhawan		--	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 has been calculated that total 31369 cum (in-situ), 39211.25 cum (loose) and 33329.56 cum (compact) waste shall be generated during this modified scheme of mining period. The 3rd & 4th

Year waste generated during this Modified plan period shall be temporarily dumped in the south eastern part the fease acea with maximum height of 4.80 m and the waste of 5th year as well as waste dumped on the southernside shall be removed and backfilled on the north eastern parL of the exhausted quarry up to depth of34m which shall coverabout 0.128ha area.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is tlkely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be coffected 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 instatled to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shalf 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 mto the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall bc providod, discharge from Soak Pit, if any shall be used for plantation.
- It shall bc 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 td reduce dust emission and reduction in NOx emission
- Afl machineries and transport vehicles shall be properly maintained and pollution check wlll 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 bauf road to control emission of dust whife 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 shafl be put in practice
- Ambient air poffution monitoring shall be carried out every six months

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.

L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, 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 personnol
C5	Insignificant	May residt in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4

C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone Mining operation

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

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

Preventive Measures:

Face Stability

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

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

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

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

Falls from the edge of a bench

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

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

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

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

Dust generation during drilling

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

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

Noise Generation during drilling

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

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

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

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

Blasting Operations

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

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

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during 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/sporting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 17, 18, 19, 20 & 21.10.2023, 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 III.

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6. **Kanupur Stone Mine of M/s New Three Star Stone Mine, Village : Kanupur, Thana : Pakur, Distt. : Pakur, Jharkhand (2.34 Ha).**

(Proposal No. SIA/JH/MIN/ 448970/2023).

Project Category: B2 – Application for Environment Clearance (re-appraisal of Environment Clearance issued by DEIAA, Pakur)

EC Application for: Proposed Capacity- 29155.25 cum/year or 86008 TPA

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

The project has been granted EC by DEIAA, Pakur vide letter no. 48/DEIAA , dated 08.11.2016.

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

This is re-appraisal of the EC issued by DEIAA, Pakur which has been taken up for consideration on 23.09.2023. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -85.9 $\mu g/m^3$PM 2.5-48.4 $\mu g/m^3$ SO2-21.7 NO2- 42.3$\mu g/m^3$. All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Plantation has been done.

Production detail as per letter no. 2035/ M dated 06.09.2023 by D.M.O. Pakur is within the permissible limit of EC.

The compliance report of previous EC has been certified by Regional Office cum Laboratory, JSPCB, Dumka vide Ref. no. : 2022, dated 29.09.2023.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Kanupur Stone Mine	
2	Lessee:	:	M/s New Three Star Stone Mine Sri Yar Mohammad	
3	Lease Address	:	Village – Kanupur, Thana- Pakur District – Pakur, State- Jharkhand	
4	Lease Area	:	2.34 ha	Acres- 5.78 Acre
5	Type of Land	:	Non Forest – Raiyati Land	
6	Project Cost	:	Rs. 30 Lakhs	
7	EMP Budget	:	Capital: 6.71 Lakhs	Recurring: 4.27 Lakh / year
8	New or Expansion	:	New	
9	Mineable Proved Reserves	:		Tonnes: 2010809 tons
10	Mine Life	:	16 years	
11	Man power	:	36	
12	Water Requirement	:	12.8 KLD (Drinking: 0.36 KLD, Dust Suppression: 7.68 KLD, Plantation: 4.76 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Banslor River- Approx. 8.0 Km in SE direction	
17	Nearest Habitation	:	Harirampur village, at 240 meters in NE direction	
18	Nearest Rail Station	:	Rajgram Railway station, approx. 3.73 km towards East direction.	
19	Nearest Air Port	:	Deoghar Airport, approx. 115.80 km towards WSW direction	
20	Nearest Forest	:	Open Mixed Jungle - Approx 4.40 km. in ENE direction of mine site. Open Mixed Jungle - Approx 2.15 km. in SE direction of mine site.	
21	Road & Highways	:	NH-133A, Approx. 8.3 km in North direction. SH-7, Approx. 4.0 km in ESE direction	

CO-ORDINATES

1	Latitude		From N 24°33'34.93"	To N 24°33'41.70"

2	Longitude		From E 87°49'57.83"	To E 87°50'9.01"

LAND DETAILS :

Khata no.	Plot no.
05, 11, 16, 22, 25 & 26	329/P, 338/P, 340, 341, 342, 343/P, 344/P & 347/P

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	Lease deed : 20.03.2020 to 19.03.2030.
2	CO	:	The CO, Pakur vide memo no. 1143, dated 12.09.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Pakur vide memo no. 2050/M, dated 05.09.2023 certified that 02 other mining lease area (2.37 acre & 2.88 acre) exists within 500 m radius from proposed project site and total area is 11.03 Acre (4.46 Ha).
4	DFO Wild Life	:	DFO-cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1278, dated 15.07.2023 certifred that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Forest Distance	:	DFO, Pakur Forest Division vide letter no. 1263, dated 25.11.2015 certified that the distonce of notified forest is more than 500 m from proposed project site.
6	DSR	:	This Project is mentioned in District Survey Report (DSR) of Pakur District.
7	Gram Sabha	:	Gram Sabha conducted on 08.11.2015
8	Mine Plan Approval	:	Approved by Deputy Director Mines, Dumka
9	CTE	:	CTE issued by JSPCB vide Ref no. – JSPCB/HO/RNC/CTE - 8013715/2020/262, Dated – 01.07.2020.
10	CTO	:	CTO issued JSPCB vide Ref. no. – JSPCB/RO/DMK/CTO - 8430618/2020/100, Dated – 11.07.2020
11	Previous Production Report	:	Previous Production figure issued by DMO, Pakur vide memo no. 2035/M, dated 06.09.2023.
12	Previous	:	Previous EC granted by DEIAA, Pakur vide letter no. 48/DEIAA,

	Environmental Clearance (EC)		dated 08.11.2016
13	Compliance report of previous EC	:	Compliance report certified by Regional Office cum Laboratory, JSPCB, Dumka vide Ref. no. : 2022, dated 29.09.2023.

Working Details

1	Mining Method	:	Opencast semi mechanized method	
2	Quarry Area	:	2.34Ha or 5.78 Acres	Life of Mine – 16years
3	Waste Generation	:	No waste	
4	Stripping Ratio	:	1: 0.01	
5	Working Days	:	300	
6	Benches: size & No	:	5m to 5m	
7	Elevation of Mine	:	39 mRL to 20 mRL	
8	Ground Level Elevation	:	up to 20 mRL	
9	Ultimate Working Depth	:	up to 20 mRL	
10	Water Table	:	up to 05 mRL	
11	Topography of Mine	:	Undulating topography	
12	Explosive Requirement	:	110 Kg	
13	Diesel/Fuel requirement	:	110 litre/day	

Production Details

Year	Production of Stone in tons	Production of Stone in cum
1st	80728	27,365.42
2nd	80919	27,430.16
3rd	82207	27,866.77
4th	82308	27,901.01
5h	86008	29,155.25
Total	**412170**	**139718.61**

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	Conceptual stage (Ha) (after life of mine)
Quarry	0.93	1.73	1.75 (Rain Water Harvesting)

Haul Road	0.01	0.02	0.00
Proposed Crusher	0.00	0.00	0.00
Safety Barrier	0.60 (Plantatio0)	0.60 (Plantation)	0.60 (Plantation)
Dump with Parapet wall & Garland Drain	0.00	0.00	Nil (Waste dump to be removed and backfilled)
Total	**1.54**	**2.34**	**2.34**
Unused Area	0 80	0.00	0.00
Balance usod area	0.00	0 00	0.00
Total Applied Lease Area	**2.34**	**2.34**	**2.34**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Safety Zone	0.60 ha	1500
2	Along Approach Road	0.780 km	780
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

The produced boulder stone from the mine will be entirely used as building material. Thus no waste will be generated. During Plan period gritty soil removed will be dumped at eastern side with suitable precaution. Some quantity of the removed gritty soil would also be used for road

dressing and plantation. After conceptual period de-stoned area of quarry will he reclaimed to the extent possible.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water frorm 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 discbarge to natural drainage system. Check Pits and Retamer walls shall be constructed to prevent water flowing into the lease area from cutside 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 he ensured that quality of drinking water for the worker is hygienic and good sanitation system sball be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed te control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reducc the dost 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 vebicle under control. Records for same to be maintamed.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tonkers 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 /	May occur if conditions exist. Has occurred within

	Moderate	last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, 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, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4

C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explpsives	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 injory by hitting by loading material, Exposure to Dust	Very Unlikely	Mmor	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 drillling equipment

Falls from the edge of a bench

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

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

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

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

Dust generation during drilling

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

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

Noise Generation during drilling

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

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

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

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

Blasting Operations

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

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

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

Handling of Explosives

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

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

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

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

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

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

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

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

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth inoving 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 he 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 bired

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 suopression 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 plantatinn created at the end of life of the mine

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF & CC O.M dated 12.12.18 decided that the proposal for Kanupur Stone Mine of M/s New Three Star Stone Mine, Village : Kanupur, Thana : Pakur, Distt. : Pakur, Jharkhand (2.34 Ha) is recommended for grant of EC. During the appraisal the Committee observed that present status of greenbelt, Dust Suppression measures and use of PPE's was not upto the mark. The various conditions for grant of EC is enclosed as Annexure – II alongwith following specific conditions for improving the environmental performance :

i. **Trees 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.**

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7. **Simaldhab Stone Mine of M/s A.B. Company, Village : Shimaldhab, Thana : Hiranpur, Distt. : Pakur, Jharkhand (1.50 Ha).**

(Proposal No. SIA/JH/MIN/ 448520/2023).

Project Category: B2 – Application for Environment Clearance
EC Application for: Proposed Capacity- 26857.24 cum/year or 77886 TPA

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

Tbe project has been granted EC by DEIAA. Pakur vide letter no. 156/DEIAA , dated 19.08.2017.

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

This is re-appraisal of the EC issued by DEIAA, Pakur which nas been taken up for consideration on 23.09.2023. As per O.M. dated 12.12 18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP rs as follows PM10 -85.9 µg/m^{3}PM 2.5-48.4 µg/m^3 SO2-21.7 NO2- 42.3µg/m^3 All tbe data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Plantation bas been done

Production deLail as per letter no. 2136/DDM dated 26.09.2023 by D M.O. Pakur is witnin the permissible limit of EC.

The comphance report of previous EC has beeri certified by Regional Office cum Laboratory, JSPCB, Dumka vide Ref. no. : 1976, dated 21.09.2023.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Simaldhab Stone Mine	
2	tessee:	:	M/s A.B. Company Shri Avinash Ranjan	
3	Lease Address	:	M/s A.B. Company Shri Avinash Ranjan R/O- AT – Anpurna Colony, P.S. - Pakur District- Pakur, Jharkhand	
4	Lease Area	:	1.50 ha	Acres- 3.71 Acre
5	Type of Land	:	Non Forest – Raiyati Land	
6	Project Cost	:	Rs. 20 Lakhs	
7	EMP Budget	:	Capital: 2.28 Lakhs	Recurring: 4.27 Lakh / year
8	New or Expansion	:	New	
9	Mineable Proved Reserves	:	Tonnes: 1219406 tons	
10	Mine Life	:	9 years 8 month	
11	Man power	:	31	
12	Water Requirement	:	4.70 KLD(Drinking: 0.31 KLD, Dust Suppression: 2.14 KLD, Plantation: 2.18 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	200 KVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	There is no water body nearby the mine site.	
17	Nearest Habitation	:	Approx, 280 m from mine site.	
18	Nearest Rail Station	:	Pakur Railway station, approx 14.10 km towards NE direction.	
19	Nearest Air Port	:	Deoghar Airport, approx. 106.20 km towards WSW direction	

20	Nearest Forest	:	Protected Forest - Approx 0.93 Km in E direction of mine site.
21	Road & Highways	:	NH- 133A, 8.24 km in North direction.

CO-ORDINATES

1	Latitude	From 24°34'57.215" N	To 24°34'65.615" N
2	Longitude	From 87°43'39.891"E	To 87°43'40.405"E

LAND DETAILS :

Khata No.	Plot No.
04	211 (P), 213
05	212
16	214 (P)

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	Lease deed : 25.10.2017 to 24.10.2027.
2	CO	:	The CO, Hiranpur memo no. : 420/Ra, dated 07.08.2023 has mentioned the plot nc. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Pakur vide memo no. 2137/M, dated 26.09.2023 certified that 01 other mining lease area (3.50 Acre) exists within 500 m radius from proposed project site and total area is 7.21 Acre (2.91 Ha).
4	DFO Wild life	:	DFO-cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1290, dated 15.07.2023 certified that the proposed project site is outside Fro Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Forest Distance	:	DFO, Pakur Forest Division vide letter no. : 1368, dated 03.09.2016 certified that the distance of notified forest is more than 250 meter from proposed project site.
6	DSR	:	The Project is mentioned in DSR of Pakur District.
7	Gram Sabha	:	BDO, Hiranpur vide letter no. 894/Vi. Dated 09.08.2017 informed that Gram Sabha conducted on 09.08.2017.
8	Mine Plan Approval	:	Approved by Deputy Director of Mines, Santhal Pargana

			Circle, Dumka vide memo no. 244/DDM, dated 25.05.2017.
9	CTE	:	CTE issued by JSPCB vide Ref. no. – JSPCB/HO/RNC/CTE - 2214436/2018/807, Dated – 09.08.2018
10	CTO	:	CTO issued by JSPCB vide Ref. no. – JSPCB/RO/DMK/CTO - 13310979/2022/128, Dated – 29.06.2022.
11	Previous Production Report	:	Previous Production figure issued by DMO, Pakur vide memo no. 2136/M, dated 26.09.2023.
12	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Pakur vide letter no. 156/DEIAA , dated 19.08.2017.
13	Compliance report of previous EC	:	Compliance report certified by Regional Office cum Laboratory, JSPCB, Dumka vide Ref. no. : 1976, dated 21.09.2023.

Working Details

1	Mining Method	:	Opencast other than fully mechanized (OTHM) Method	
2	Quarry Area	:	1.50 Ha / 3.71 Acre	Life of Mine – 9 years 8 month
3	Waste Generation	:	Nil	
4	Stripping Ratio	:	1: 0.0	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	95 AMSL to 123AMSL	
8	Ground Level Elevation	:	89 AMSL	
9	Ultimate Working Depth	:	95 AMSL	
10	Water Table	:	(34mbgl)	
11	Topography of Mine	:	Area represents the major part of the region is covered with continuous chain of hills	
12	Explosive Requirement	:	90kg/day	
13	Diesel/Fuel requirement	:	90 litre/day	

Production Details

Year	Production of stone (tons)
1st	51564
2nd	59302
3rd	68590

555

4th	70775
5th	77886
Total	**328117**

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	Conceptual stage (Ha) (after life of mine)
Quarry	0.68	1.10	1.12 (Rain Water Harvesting)
Haul Road	0.02	0.02	0.00
Proposed Crusher	0.00	0.00	0.00
Safety Barrier	0.38 (Plantation)	0.38 (Plantation)	0.38 (Plantation)
Dump with Parapet wall & Garland Drain	0.00	0.00	Nil (Waste dump to be removed and backfilled)
Total	**1.08**	**1.50**	**1.50**
Unused Area	0.42	0.00	0.00
Balance used area	0.00	0.00	0.00
Lease Hold Area	**1.50**	**1.50**	**1.50**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.38ha	1090
2	Along Approach Road		0.04 km	40

- 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

The produced boulder stone from the mine will be entirely used as building material. Thus no waste will be generated. During Plan period gritty soil removed will be dumped at eastern side with suitable precaution. Some quantity of the removed gritty soil would also be used for road dressing and plantation. After conceptual period de-stoned area of quarry will be reclaimed to

tbe extent possible.

Water Quality Management

- Mining is planned to above the ground water table. In case anv intersection is likely, mining activities will be stopped 2m above tbe 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 liftaccumolated 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 he constructed to prevent water flowing into the lease area from outside or from mside 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 tb 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 bazard 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 / Mcderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred

		within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, 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, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard Identification & Risk Analysis in Stone Mining operation

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

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

Preventive Measures:

Face Stability

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

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

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

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

Falls from the edge of a bench

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

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

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

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

Dust generation during drilling

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

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

Noise Generation during drilling

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

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

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

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

Blasting Operations

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

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

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

Handling of Explosives

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

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

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

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

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

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

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

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

Transportation

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

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

Undertaking submitted affirming:

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

g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.

h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.

i. If any tree felling than necessary permission shall be taken from the competent authority.

j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF & CC O.M dated 12.12.18 decided that the proposal for Simaldhab Stone Mine of M/s A.B. Company, Village : Shimaldhab, Thana : Hiranpur, Distt. : Pakur, Jharkhand (1.50 Ha) is recommended for grant of EC. During the appraisal the Committee observed that present status of greenbelt, Dust Suppression measures and use of PPE's was not upto the mark. The various conditions for grant of EC is enclosed as Annexure – II alongwith following specific conditions for improving the environmental performance :

I. **Trees 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.**

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8. **Tursadih Stone Mine of Shri Ashok Kumar Yadav, Village : Tursadih, Thana : Hiranpur, Distt. : Pakur, Jharkhand (0.934 Ha).**

(Proposal No. SIA/JH/MIN/ 449074/2023).

Project Category: **B2 – Application for Environment Clearance**

EC Application for: **Propused Capacity- 10325.18 cum/year or 27878 TPA**

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

The project has been granted EC by DEIAA, Pakur vide letter no. 179/DEIAA , dated 26.08.2017.

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

This is re-appraisal of the EC issued by DEIAA, Pakur which has been taken up for consideratron on 23.09.2023. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall m caregory B2.

Existing baseline condition as per montonng report submitted by PP is as follows PM10 -85 9 µg/m^{3}PM 2.5-48.4 µg/m^3 SO2-21.7 NO2- 42.3µg/m^3 All tbe data are wtbin the permissible limit.

Dust suppression is being carried out on regular hasis.

Plantation has been done.

Production detail as per letter no. 2259/M dated 09.10.2023 by D.M.O, Pakur is wlthin the permissible limit of EC.

The compliance report of previous EC has been certified by Regional Office cum Laboratory, JSPCB, Dumka vide Ref. no. : 1979, dated 21.09.2023.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Tursadih Stone Mine	
2	Lessee:	:	Shri Ashok Kumar Yadav	
3	Lease Address	:	Village –Tursadih, Thana- Hiranpur, District – Pakur, State - Jharkhand	
4	Lease Area	:	0.934 ha	Acres- 2.31 Acre
5	Type of Land	:	Non Forest – Raiyati Land	
6	Project Cost	:	Rs. 20 Lakhs	
7	EMP Budget	:	Capital: 2.45 Lakhs	Recurring: 4.27 Lakh / year
8	New or Expansion	:	New	
9	Mineable Proved Reserves	:		Tonnes: 272260 ton
10	Mine Life	:	7 years	
11	Man power	:	21	
12	Water Requirement	:	4.61 ~ 4.60 KLD(Drinking: 0.21 KLD, Dust Suppression: 2.70 KLD, Plantation: 1.70 KLD)	

13	Water Source	:	From Nearby villages by tankers
14	DG Set / power	:	200 KVA
15	Crusher	:	No crusher
16	Nearest Water Body	:	Toral Nadi - Approx. 4.80 km in South direction
17	Nearest Habitation	:	Tursadih, at 450 meters
18	Nearest Rail Station	:	Kotalpukur Railway station, approx. 8.90 km towards NE direction.
19	Nearest Air Port	:	Deoghar Airport, approx. 109.30 km towards WSW direction.
20	Nearest Forest	:	Protected Forest - Approx 1.5 km. in NW direction of mine site. Protected Forest - Approx 3.50 km. in East direction of mine site. Protected Forest - Approx 2.50 km. in South direction of mine site.
21	Road & Highways	:	NH- 133A, Approx. 2.50 km in South direction.

CO-ORDINATES

1	Latitude		From 24°43'09.9851"N	To 24°43'14.9759"N
2	Longitude		From 87°44'15.9615"E	To 87°44'19.5073"E

LAND DETAILS :

Khata No.	Plot No.
3	103 (P)
8	101 (P)
30	104 (P)

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	Lease deed 25.10.2019 to 24.10.2029.
2	CO	:	The CO, Hiranpur vide memo no. : 404, dated 02.08.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Pakur vide memo no. 2258/M, dated 09.10.2023 certified that 01 other mining lease area (6.42 Acre) exists

			within 500 m radius from proposed project site and total area is 8.73 Acre (3.53 Ha).
4	DFO Wild Life	:	DFO-cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1413, dated 28.07.2023 certified that the proposed project site is outside Eco Sehsitive Zone of Udhwa Bird Sanctuary
5	DFO Forest Distance	:	DFO, Forest Division vide letter no. : 1323, dated 22.08.2016 certifred that the distance of notified forest is more than 250 m from proposed project site
6	DSR	:	The Project is Part of DSR.
7	Gram Sabha	:	Gram Sabha conducted on 1.11.2015.
8	Mine Plan Approval	:	Deputy Director Mines, Santhal Pargana Circle, Dumka vide memo no 75/DDM, dated 02.02.2016.
9	CTE	:	CTE issued by JSPCB vide Ref. no. – JSPCB/HO/RNC/CTE - 7242092/2020/143, Dated – 11.03 2020.
10	CTO	:	CTO issued by JSPCB vide Ref. no. – JSPCB/RO/DMK/CTO - 14954511/2023/11, Dated – 12.01.2023
11	Previous Production Report	:	Previous Production figure issued by DMO, Pakur vide memo no. 2259/M, dated 09.10.2023.
12	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Pakur vide letter no. 179/DEtAA , dated 26.09.2017
13	Compliance report of previous EC	:	Compliance report certified by Regional Office cum Lahoratory, JSPCB, Dumka vide Ref. no. : 1979, dated 21.09.2023.

Working Details

1	Mining Method	:	Opencast Semi Mechanized Method	
2	Quarry Area	:	0.934 Ha or 2.31 Acre	Life of Mine – 7 Years
3	Waste Generation	:	7984.05 cum or 21556.81 tons	
4	Stripping Ratio	:	1: 0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	54 AMSL to 65 AMSL	

8	Ground Level Elevation	:	45 AMSL
9	Ultimate Working Depth	:	40 AMSL
10	Water Table	:	25 AMSL
11	Topography of Mine	:	Area represents a small hillock topography.
12	Explosive Requirement	:	70 kg/day
13	Diesel/Fuel requirement	:	70 litre/day

Production Details

Year	Production of stone (tons)
1st	27562
2nd	27624
3rd	27390
4th	27878
5th	27338
Total	**137792**

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	Conceptual stage (Ha) (after life of mine)
Quarry	0.464	0.710	0.710 (entire area left as water reservoir)
Road	0.006	0.00	0.00
Safety Zone	0.00	0.180 (Plantatron)	0.180 (Plantation)
Waste Dump	0.00	0.00	0.00
Total	**0.470**	**0.890**	**0.890**
Unused Area	0.464	0.044	0.044
Lease Hold Area	**0.934**	**0.934**	**0.934**

ENVIRONMENT MANAGEMENT

Green Belt Development

S No.	Location		Area/Length	No of Trees
1	Safety Zone		0.180 ha	450
2	Along Approach Road		0.30 km	300
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 has been calculated that total 7984.05 cum or 21556.81 tons in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 3992.03 cum (Insitu) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 3992.03 cum in-situ or 4990.03 cum loose or 4241.53 cum compact waste shall be temporary dumped in northern corner part of the area during the 1st to 4th year and during 5th year, the generated waste and waste materials of temporary waste dump shall be used for backfilling of exhausted quarry in southern portion, and it will cover 0.022ha area.

Water Quality Management

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

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3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
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The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

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:

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

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

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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.

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- Inadequate brakes (Possibly from lack of maintenance)
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- Mine road shall be made smooth regularly with a road roller.
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- 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 managemeht.
- 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 ubide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contigenous / cluster area report issued by the mines department, then the applicable laws / rules will he 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. Sufficieht water spray using water tankers will be done for effertive dust suppression witbin the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should he 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 hodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protectioh measures shall be taken around the water hodies 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 tp 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 Tursadih Stone Mine of Shri Ashok Kumar Yadav, Village : Tursadih, Thana : Hiranpur, Distt. : Pakur, Jharkhand (0.934 Ha) is recommended for grant of EC. During the appraisal the Committee observed that present status of greenbelt, Dust Suppression measures and use of PPE's was not upto the mark. The various conditions for grant of EC is enclosed as Annexure – II alongwith following specific conditions for improving the environmental performance :

I. **Trees 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 he ntaintained 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 he done such that the haul road is kept ntoistened 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.

****

9. **Salboni Stone Deposit of M/s Four Star Stone Products, Village : Salboni, Thana : Malpahari, Distt. : Pakur, Jharkhand (2.193 Ha).**

(Proposal No. SIA/JH/MIN/ 448937/2023).

Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Proposed Capacity- 52135.02 cum/year or 151191.56 TPA**

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

This is a new project which has been taken for appraisal on 20.10.2023.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Salboni Stone Deposit	
2	Lessee:	:	M/s Four Star Stone Products Partner – Sri Sabiruddin Shaikh & Sri Gorachand Koda	
3	Lease Address	:	Village – Salboni, Thana - Malpahari, District – Pakur, State - Jharkhand	
4	Lease Area	:	2.193 ha	Acres- 5.42 Acre
5	Type of Land	:	Non- Forest (Raiyati Land)	
6	Project Cost	:	Rs. 50 Lakhs	
7	EMP Budget	:	Capital: 3.974 Lakhs	Recurring: 4.27 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 521263.95 cum	Tonnes: 1511665.48 tons

10	Mine Life	:	10 years
11	Man power	:	26
12	Water Requirement	:	7.68 ~ 7.70 KLD (Drinking: 0.26 KLD, Dust Suppression: 4.2 KLD, Plantation: 3.22 KLD)
13	Water Source	:	From Nearby villages by tankers
14	DG Set / power	:	500 kVA
15	Crusher	:	No crusher
16	Nearest Water Body	:	Baslpi River, Approx 12.50 km in South direction of mine site.
17	Nearest Habitation	:	Salboni village, at 300 meters
18	Nearest Rail Station	:	Nagarnabl Railway station, approx. 1.80 km towards ESE direction.
19	Nearest Air Port	:	Deoghar Airport, approx. 117.60 km towards W direction.
20	Nearest Forest	:	Protected Forest - Approx. 4.5 km. in SW direction of mine site.
21	Road & Highways	:	NH- 133A, Approx. 4.50 km in North direction.

CO-ORDINATES

1	Latitude	From 24°35'42.9182" N	To 24°35'49.6036" N
2	Longitude	From 87°51'00.6560" E	To 87°51'06.4128" E

LAND DETAILS:

Khata No.	Plot No.
15	173, 174, 3/418
16	175(P), & 176(P)
28	06(P), 07(P), 13(P), 14(P), 15(P), 172(P)

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by DMO, Pakur vide Letter no. - 1810/M, dated 29.09.2020.
2	CO	:	The CO, Pakur vide letter no. : 861/Ra, dated 18.06.2020 has mentioned the plot no. of the project is not recorded as "Jungle Jbari" in R.S. Khatiyan & Register II.

3	DMO	:	DMO, Pakur vide memo no. 1762/M, dated 28.07.2023 certified that no other mining lease area exists within 500 m radius of proposed project site.
4	DFO Wild Life	:	DFO-cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2073, dated 17.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Forest Distance	:	DFO, Pakur Forest Division vide letter no. : 987, dated 15.06.2020 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.
6	DSR	:	The DC-cum-District Magistrate, Pakur vide letter no. : 878/M, dated 21.06.2021 has informed that this project is part of District Survey Report (DSR) at Pakur district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	BDO, Pakur vide letter no. 483/Vi. Dated 20.03.2020 informed that Gram Sabha conducted on 04.03.2020.
8	Mine Plan Approval	:	Approved by Deputy Director Mines, Dumka, vide letter no. 439/DDM, dated 13.10.2023.

Working Details

1	Mining Method	:	Opencast semi mechanized method	
2	Quarry Area	:	2.193 Ha or 5.42 Acre	Life of Mine – 10 years
3	Waste Generation	:	33023.4 cum or 95767.86 tons	
4	Stripping Ratio	:	1: 0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	31 AMSL to 40 AMSL	
8	Ground Level Elevation	:	22 AMSL	
9	Ultimate Working Depth	:	10 AMSL	
10	Water Table	:	2 AMSL (20 mbgl)	
11	Topography of Mine	:	Area represents a small hillock topography.	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	100 litre/day	

Production Details

Year	Production of stone (cum)	Production of stone (tons)	Bench RL in Meters

1st	52067.40	150995.46	34 mRL – 28 mRL
2nd	52067.40	150995.46	28 mRL – 22 mRL
3rd	52135.02	151191.56	22 mRL – 22 mRL
4th	52135.02	151191.56	22 mRL – 16 mRL
5th	52135.02	151191.56	16 mRL – 10 mRL
Total	260539.86	755565.59	

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	After life of mine (Ha)
Quarry	--	1.085	1.708 (0.351 ha area shall be backfilled & 1.304 ha area shall he left as water reservoir)
Road	--	0.009	--
Waste Dump	--	0.441	--
Safety Zone	--	0.485 Plantation	0.485 Plantation
Total	0.0	2.020	2.193
Balance	2.193	0.173	0.00
Lease Hold Area	**2.193**	**2.193**	**2.193**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.485 ha	1212
2	Along Approach Road		0.30 km	300
3	Plants distributed in schools, Anganwadi or in Panchayat Bhawan		--	100

- Gabion Plantation work in tbe safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with tbe 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 has been calculated that total 33023.4 cum in situ, 41279.25 compact & 35087.36 cum loose waste shall be generated during the plan period, shall be dumped in the southern side of the applied lease area with overall height of 7m which will cover 0.441ha.

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 seasou 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 omission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check wil be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, 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, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2

C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone Mining operation

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

		Exposure to Dust			

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

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- 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 he 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 purppse 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 roines 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 he completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.

g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.

h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.

I If any tree felling than necessary permission shall be taken from the competent authority.

j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF & CC O.M dated 12.12.18 decided that the proposal for Salboni Stone Deposit of M/s Four Star Stone Products, Village : Salboni, Thana : Malpahari, Distt. : Pakur, Jharkhand (2.193 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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10. Konmerla Brick Soil Mining of Shri Arun Kumar Nag, Village : Konmerla, Thana : Jaldega, Distt. : Simdega, Jharkhand (0.785 Ha).

(Proposal No. SIA/JH/MIN/ 448897/2023).

Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Proposed Capacity-1200cum Soil/year or 1800 tonnes Soil/Year.**

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

This is a new project which has been taken for appraisal on 20.10.2023.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Konmerla Brick Soil Mining	
2	Lessee:	:	Shri Arun Kumar Nag, S/O Late Surendra Nag	
3	Lease Address	:	At- Vill - Dumarbera, P.O. - Konmerla, Thana - Jaldega District-Simdega, Jharkhand.	
4	Lease Area	:	0.785 ha	Acres-1.94 acres
5	Type of Land	:	Non Forest – Raiyati Land	
6	Project Cost	:	Rs. 20 Lakhs	
7	EMP Budget	:	Capital: Rs. 67,100	Recurring: Rs. 3.82 Lakh / year

8	New or Expansion	:	New	
9	Mineable Reserves	:	Cum.: 10466.67 Cum	Tonnes: 15700 tons
10	Mine Life	:	9 Years	
11	Man power	:	13	
12	Water Requirement	:	1.261 ~ 1.26KLD (Drinking. 0.13 KLD, Dust Suppression: 0.485 KLD, Plantation:0.646KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Lurgi Nadr, Approx. 3.24 km East direction	
17	Nearest Habitation	:	Kommerla , Approx. 0.22 km towards NW direction..	
18	Nearest Rail Station	:	Biramitrapur Railway Station at a distance of 18.13 km towards SW direction from site.	
19	Nearest Air Port	:	Birsa Munda Airport, Ranchi at a distance of 103.56 km in NE direction from mine site.	
20	Nearest Forest	:	Protected Forest : Approx 0.47 km towards ENE direction Protected Forest : Approx 1.35 km towards NNW direction	
21	Road & Highways	:	NH-143, Approx. 16.66 km towards SW direction.	

CO-ORDINATES

1	Latitude		From 22°33'34.90"N	To 23°33'39.52"N
2	Longitude		From 84°43'51.40"E	To 84°43'54.97"E

LAND DETAILS

Khata no.	Plot no.
238	2797 & 2798

STATUTORY CLEARANCES

1	LOI/Lease docs	:	The mining lease agreement has been signed for brick clay mining for eleven years, dated 18.11.2020.
2	CO	:	The CO, Jaldega vide letter no. 651(ii), dated 16.01.2021 has mentioned that plot of the project site is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.

3	DMO	:	DMO, Simdega vide memo no. 530/M, Dated 10.10.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wildlife	:	DFO Wildlife Ranchi vide memo no. 83, dated 22.01.2021 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Simdega vide letter no. 799, dated 08.03.2021 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	The proposed project is part of District Survey Report (DSR) of Simdega District.
7	Gram Sabha	:	BDO, Jaldega vide letter no. 167 (ii), dated 06.02.2021 informed that Gram Sabha conducted on 08.11.2020.
8	Mine Plan Approval	:	Approved by Additional Director, Geology, Hazaribag vide letter no. 648/G, dated 13.08.2021

Working Details

1	Mining Method	:	Opencast Manual Mining method	
2	Quarry Area	:	0.785 ha	Life of Mine – 9 Years
3	Waste Generation	:	0.0 cu.m	
4	Stripping Ratio	:	1: 0	
5	Working Days	:	150	
6	Benches: size & No	:	--	
7	Elevation of Mine	:	From 417 MSL to 416 MSL	
8	Ground Level Elevation	:	416 MSL	
9	Ultimate Working Depth	:	416 MSL	
10	Water Table	:	150mbgl	
11	Topography of Mine	:	Area represents almost flat land	
12	Explosive Requirement	:	NA	
13	Diesel/Fuel requirement	:	-	

Production Details

Year	Total excavation of brick earth in cum/year	Number of bricks/Year	Total excavation of brick earth MT=Cum x 1.5
1st	1200	600000	1800
2nd	1200	600000	1800
3rd	1200	600000	1800
4th	1200	600000	1800
5th	1200	600000	1800
Total	**6000**	**3000000**	**9000**

Land Use

Pattern of Utilization	Existing (Ha)	At the end of Plan Perind (ha)
Quarrying	Nil	0.343
Berm Area (Safety Zone)	Nil	0.085
Top soil dump	Nil	0.020
Total Area in used	0.000	0.448
Balanced Area Unused	0 785	0.337
Total Applied Area	**0.785**	**0.785**

ENVIRONMENT MANAGEMENT

Green Belt Developmeht

S.No.	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.085ha	213
2	Haul /Approach Road	:	0.01km	10
3	No. of Plants distnbuted in Anganwadi, Panchayat Bhawan or In schools	:	--	100

- Gablon 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 sparing 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 settling of suspendedparticles in the pit. Pump having required capacity will be installed to liftaccumulated rain water from working pit and pumped to the settling tank.
- It shall be ensured that quality of drinking water for the worker is hygienic and 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 he carried out every six months

Undertaking submitted affirming:

a. Ground water will he used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.

f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and Information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEE & CC O.M dated 12.12.18 decided that the proposal for Konmerla Brick Soil Mining of Shri Arun Kumar Nag, Village : Konmerla, Thana : Jaldega, Distt. : Simdega, Jharkhand (0.785 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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11. Tirildih Stone Deposit of M/s Kiran Construction & Infrastructure Pvt. Ltd., Village : Tirildih, Thana : Ghatshila, Distt. : East Singhbhum, Jharkhand (0.97 Ha).

(Proposal No. SIA/JH/MIN/ 448935/2023).

PP did not turn up in the meeting. Hence, the proposal was deferred to next meeting.

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12. Laxmanpur Stone Deposit of M/s Maa Durga Enterprises, Village : Laxmanpur, Thana : Topchanchi, Distt. : Dhanbad, Jharkhand (1.448 Ha).

(Proposal No. SIA/JH/MIN/ 448722/2023).

Project Category: B2 – Application for Environment Clearance
EC Application for: Proposed Capacity- 25684.20 cum/annum or 69347.34 TPA

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

This is a new project which has been taken for appraisal on 20.10.2023.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Laxinanpur Stone Deposit	
2	Lessee:	:	M/s Maa Durga Enterprises (Partners - Sri Neeraj Kumar, Sri Abhishek kumar ,Sri Jyoti Anand & Sri Prashant Kumar Tarve)	
3	Lease Address	:	M/s Maa Durga Enterprises Partner 1) Sri Neeraj Kumar, Address- Bachhedih, PO+PS-Nawajsahi, Kodarma 2) Sri Abhishek Kumar, Vidyapuri, PO+PS-Jhumri Tllaiya, Kodarma. 3) Sri Jyoti Anand, PO+PS-Nawalsahi, Kodarma. 4) Sri Prashant Kumar Tarve, PO+PS- Jhumri Tllaiya, Kodarma.	
4	Lease Area	:	1.448ha	Acres- 3.58 Acre
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost	:	Rs. 20 Lakhs	
7	EMP Budget	:	Capital: 3.76 Lakhs	Recurring: 3.27 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	rum : 328549.93 cum	Tonnes: 919939.82 tons
10	Mine Life	:	13.26 years	
11	Man power	:	19	
12	Water Requirement	:	7.20 KLD (Drinking: 0.19 KLD, Dust Suppression: 4.13 KLD, Plantation: 2.81KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Katri Nadi- Approx1.70 km towards SSW direction of mine site	
17	Nearest Habitation	:	Laxmanpur, at 360 meters	
18	Nearest Rail Station	:	Nichitpur Railway station, approx. 4.53 km towards South direction	
19	Nearest Air Port	:	Dhanbad Airport, approx. 9.44 km towards ESE direction.	
20	Nearest Forest	:	Tundi Reserve Forest- Approx .48 km towards ENE direction	
21	Road & Highways	:	NH - 2, Approx. 11.07 km towards SE direction..	

CO-ORDINATES

1	Latitude		From 23° 53' 28.4713" N	To 23° 53'33.8395"N
2	Longitude		From 87°17'21.5796" E	To 87°17'26.765"E

LAND DETAILS :

Khata No.	Plot No.
4	43 & 44 (P)
6	52 (P), 53 (P) & 54 (P)

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The LOI has been issued by DMO, Dhanbad vide letter no 1174/M, dated 24.07.2023.
2	CO	:	The CO, Topchanchi (Dhanbad) vide letter no. : 374, dated 04.07.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in K.S. Khatiyan & Register II.
3	DMO	:	DMO, Dhanbad vide memo no. 1322/M, dated 17.08.2023 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Hazaribag vide letter no. : 623, dated 25.03.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Forest Distance	:	DFO, Dhanbad Forest Division vide letter no : 1107, dated 28.04.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	The DC, Dhanbad vide letter no. 1572/M, dated 06.10.2023 has informed that this project is pert of District Survey Report (DSR) of Dhanbad district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	Gram Sabha conducted 04.04.2023
8	Mine Plan Approval	:	Approved by District Mining Officer, Dhanbad vide memo no. 1594/M, dated 07.10.2023.

Working Details

1	Mining Method	:	Opencast other than fully mechanized (OTFM) Method	
2	Quarry Area	:	1.448 Ha / 3.58 Acre	Life of Mine – 13.26 years
3	Waste Generation	:	12625.10 cum or 34087.77 tons	
4	Stripping Ratio	:	1:0.08	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	256AMSL to249AMSL	
8	Ground Level Elevation	:	220 AMSL in RL (3.90mbgl)	
9	Ultimate Working Depth	:	225 AMSL	
10	Water Table	:	216 1 AMSL	
11	Topography of Mine	:	Area representsa small hillock.	
12	Explosive Requirement	:	90kg/day	
13	Diesel/Fuel requirement	:	90 litre/day	

Production Details

Year	Production of stone (cum)	Production of stone (tons)	Bench RL in Meters
1st	22942.50	61944.75	249mRL
2nd	21732.20	58676.94	249mRL - 243mRL
3rd	25684.20	69347.34	243mRL - 237mRL
4th	20780.30	56106.81	237mRL - 231mRL
5th	13913.70	37566.99	231mRL - 225mRL
Total	**105052.90**	**283642.8**	

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	Conceptual stage (Ha) (after life of mine)
Excavation	0.0	0.832	1.078 (0.136ha area shall bebackfilled and 0.730 ha areashall be left as water reservoir).
Waste Dump	0.0	0.234	NiL (waste dump to be removed and backfilled)
Road	0.0	0.004	0.0
Infrastructure (Crusher)	0.0	0.00	-
Safety Zone	0.0	0.370(Plantation)	0.370(Plantation)
Total	0.0	1.440	1.448
Unused Area	1.448	0.008	0.0
Total Applied Area	**1.448**	**1.448**	**1.448**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Safety Zone	0.370 ha	1405
2	Along Approach Road	0.38 km	380

- 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 stich 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 willbe submitted with compliance report.

Solid Waste Management

It has been calculated that total 12625.1 0 cum in-situ, waste shall be generated duringthis plan period. Ibe 50% of waste generated during tbe plan period i.e. 6312.55 cum (Insitu) shall be utilized for approach & haul road maintenance. The rest waste material(50%) 6312.55 cum (In situ), 7890.69 cum (loose) & 6707.08 cum (compact) waste shallbe temporarily dumped in southern part of the lease area, the maximum height of dumpshall be 2.86m and it will cover 0.234ha area. The Garland Drain & Retaining wall shallbe constructed all around the waste dump.

Water Quality Management

- Mining is plaoned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m abnve 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 discbarged 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 sball be made around the Waste dump and the rain water shall hecollected in garland drain and allowed to settle in a small pit for settling suspendedparticles before allowing discbarge 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 tbe 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 e.t.c shall be put in practice

Ambient air pollution monitoring shall be carried out every six months

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of tha unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.

C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no. or less minor, Illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihnod x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock	Occasional	Major	6

		(Bodily Injury)			
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Beach Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

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

Preventive Measures:

Face Stability

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

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

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

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

Falls from the edge of a bench

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

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

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

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

Dust generation during drilling

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

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

Noise Generation during drilling

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

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

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

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

Blasting Operations

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

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

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during 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 he used as a last resort and as an interim arrangement uritil other steps are taken to reduce the risk of personal injury to an acceptahlc lovcl.

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 /transportiog 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 urider MMR 1961.
- Regular water sprinkling will be dorie 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 inanagemeot.
- 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 reversmg the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spnttmg operatmg.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will he used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has heen 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 tbe 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 he 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 he 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 tbe Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF & CC O.M dated 12.12.18 decided that the proposal for Laxmanpur Stono Deposit of M/s Maa Durga Enterprises, Village : Laxmanpur, Thana : Topchanchi, Distt. : Dhanbad, Jharkhand (1.448 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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13. Tubed Sand Deposit of M/s Jharkhand State Mineral Development Corporation Ltd., Village : Tubed, River Sukri, Distt. : Latehar, Jharkhand (0.80 Ha).

(Proposal No. SIA/JH/MIN/ 448950/2023).

Project Category: **B2 – Application for Environmental Clearance**

EC Application for: **Proposed Capacity- 7545 cum per annum or 12977 TPA.**

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

This is a new project which has been taken for appraisal on 20.10.2023.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	**Tubed Sand Deposit**	
2	Lessee:	:	M/s Jharkhand State Minerals Development Corporation Limited, Khanij Nigam Bhawan, Doranda, Ranchi - 834002.	
3	Lease Address	:	Village – Tubed, District – Latehar, State- Jharkhand	
4	Lease Area	:	0.80 ha	Acres- 1.977 Acres
5	Type of Land	:	Non- Forest land	
6	Project Cost	:	Rs. 45 Lakhs	
7	EMP Budget	:	Capital: 2.39 Lakhs	Recurring: 3.77 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 17396 cum	Tonnes: 29921 tons
10	Mine Life	:	-	
11	Man power	:	5	
12	Water Requirement	:	5.35 ~ 5.5 KLD (Drinking: 0.05 KLD, Dust Suppression: 3.06 KLD, Plantation: 2.24KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Project lies on Sukri River	
17	Nearest Habitation	:	Nawarl .Approx 0.34 km towards SE direction.	
18	Nearest Rail Station	:	Latehar Railway Station approx13.5 Km in SW direction.	
19	Nearest Air Port	:	Gaya International Airport .102.98 km towards NE direction.	
20	Nearest Forest	:	Tubed PF, Approx. 3.5 Km in NW direction from mining lease	
21	Road & Highways	:	SH-10, Approx. 13.5 Km in SE direction.	

CO-ORDINATES

1	Latitude		From 23° 48' 42.425" N	To 23° 48' 47.784" N
2	Longitude		From 84° 34' 39.358" E	To 84° 34' 43.965" E

LAND DETAILS:

Khata no.	Plot no.
102	1409

STATUTORY CLEARANCES:

1	LOI/Lease docs	:	The Auction letter has been issued by Director of Mines, Industry, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)- 117/2017/2249/M, dated 05.10.17.
2	CO	:	The CO, Latehar vide letter no. : 54, dated 18.01.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Latehar vide memo no. 1052/M, dated 14.10.2023 certified that noanother mining lease area oxists within 500 m radius from proposed project site.
4	DFO Wild Life	:	Deputy Director, Palamau Tiger Project, South Division vide letter no. : 863, dated 17.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palamau Tiger Reserve.
5	DFO Forest Distance	:	DFO, Latehar vide letter no. : 243, dated 08.02.2023 certified that the distance of notified forest is more than 250 meter from proposed project site.
6	DSR	:	This project is part of District Survey Report (DSR) of Latehar District.
7	Gram Sabha	:	Gram Sabha conducted on 17.07.2023.
8	Mine Plan Approval	:	Approved by District Mining Officer, Latehar vide letter no. 919/M, dated 29.08.2023.

Working Details

1	Mining Method	:	Opencast manual Method	
2	Quarry Area	:	0.80 ha	Life of Mine: -
3	Waste Generation	:	Nil, as it is sand mining project.	
4	Stripping Ratio	:	----	
5	Working Days	:	200	
6	Benches: size & No	:	-	
7	Elevation of Mine	:	387 AMSL	
8	Ground Level Elevation	:	387AMSL	
9	Ultimate Working Depth	:	383.5 AMSL	
10	Water Table	:	350 AMSL (20mbgl)	
11	Topography of Mine	:	lease area is located on the bed of sukri River	

12	Explosive Requirement	:	--
13	Diesel/Fuel requirement	:	-

Production Details

Year	Thickness (m)	Average Replenishment Rate	Production of sand(Cum)	Production of sand –MT
1st Year	1.5	100%	7545	12977
2nd Year	1.5	60%	4527	7786
3rd Year	1.5	60%	2716	4672
4th Year	1.5	60%	1630	2803
5th Year	1.5	60%	978	1682
Total Reserve			**17396**	**29921**

Land Use

Type of Land	Area In (ha)
Forest Land	Nil
Govt. waste land (River)	0.80
Residential area	Nil
Company land	Nil
Private Land	Nil
Total	0.80

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Safety Zone	....	..
2	Along Approach Road	0.51 km	510
3	In consulting local authorities	.	50

- 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, morrality 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

- As the sand mining will be done from the river bed itself, therefore top soil removal is not required for this proposed project activity. It is also expected that fresh sand will be deposited in rainy season depending on the amount of rain fall received by the area and the rate of river flow. The excavated material will be temporarily stacked within riverbed (allotted area). No waste will also be generated from this activity.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

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

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF & CC O.M dated 12.12.18 decided that the proposal for Tubed Sand Deposit of M/s Jharkhand State Mineral Development Corporation Ltd., Village : Tubed, River Sukri, Distt. : Latehar, Jharkhand (0.80 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II.

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14. Korgain, Mukhapi & Ranadih Sand Deposit of M/s Jharkhand State Mineral Development Corporation Ltd., Village : Korgain, Mukhapi & Ranadih, Distt. : Garhwa, Jharkhand (15.30 Ha).

(Proposal No. SIA/JH/MIN/ 448952/2023).

Project Category: **B1 – Application for Terms of Reference**
Application for: **Proposed Capacity - 306000 cum per annum or 489600 TPA**
Name of the consultant: P & M Solution, Noida, Uttar Pradesh.

This is a new project which has been taken for appraisal on 20.10.2023.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Korgain, Mukhapl & Ranadih Sand Deposit	
2	Lessee:	:	M/s Jharkhand State Minerals Development Corporation Limited	
3	Lease Address	:	Khanij Nigam Bhawan, Doranda, Ranchi - 834002.	
4	Lease Area	:	15.30 ha	Acres- 37.80 Acre
5	Type of Land	:	Non Forest	
6	Project Cost	:	Rs. 70 Lakhs	
7	EMP Budget	:	Capital: 7.77Lakh	Recurring: 4.27 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 1560908 cum	Tonnes: 2497452 tons
10	Mine Life	:	5 years	
11	Man power	:	12	
12	Water Requirement	:	13.24KLD (Drinking: 0.12 KLD, Dust Suppression: 10.2KLD, Plantation: 3.52KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	500 k VA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Project lies on North Koel River.	
17	Nearest Habitation	:	Korgain village, at 1.04 Km towards East direction	
18	Nearest Rail Station	:	Mohammad Ganj Railway Station approx.4.0 Km in SE direction.direction.	
19	Nearest Air Port	:	Birsa Munda Airport approx.194 km towards SE direction.	
20	Nearest Forest	:	Dense Mixed Jungle, Approx. 7.27 Km in SW direction from mining lease.	
21	Road & Highways	:	NH 139, Approx. 34 Km in SE direction from mining lease.	

CO-ORDINATES

1	Latitude	From 24° 27' 19.886" N	To 83° 51' 0.534" E
2	Longitude	From 24° 27' 49.784" N	To 83° 51' 07.688" E

LAND DETAILS:

Korgain	Mukhapi	Ranadih
Plot no.- 1978	Plot no.- 1425	Plot no.- 128
Khata no.- 145	Khata no.-116	Khata no.-259

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The Auction letter has been issued by Director of Mines, Industry, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)- 117/2017/2249/M, dated 05.10.17.
2	CO	:	The CO, Kandi vide letter no. : 390, dated 14.09.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in Khatiyan.
3	DMO	:	DMO, Garhwa vide memo no. 1319/M, dated 12.10.2023 certified that the no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	Deputy Director, Palamau Tiger Project, North Division, Medininagar vide letter no. : 1071, dated 07.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palamau Tiger Reserve.
5	DFO Forest Distance	:	DFO, Garhwa North Division vide letter no. : 592, letter no. : 593 & letter no. : 594, dated 28.03.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project is part of District Survey Report (DSR) of Garhwa District.
7	Gram Sabha	:	Gram Sabha conducted on 07.08.2023.
8	Mine Plan Approval	:	Approved by Assistant Mining Officer, Garhwa vide memo no. 700, dated 30.05.2023.

Working Details

1	Mining Method	:	Opencast Mannual Mining method	
2	Quarry Area	:	15.30 ha or 37.80 Acre	Life of Mine – 5 years
3	Waste Generation	:	31369 cum	
4	Stripping Ratio	:	1: 0.02	

5	Working Days	:	200
6	Benches: size & No	:	-
7	Elevation of Mine	:	132 AMSL to 136 AMSL
8	Ground Level Elevation	:	132 AMSL
9	Ultimate Working Depth	:	130 AMSL
10	Water Table	:	115 AMSL (15 mbgl)
11	Topography of Mine	:	located on the bed of North Koel River
12	Explosive Requirement	:	-
13	Diesel/Fuel requirement	:	-

Production Details

Year	Thickness (m)	Average Replenishment Rate	Production of sand(Cum)	Production of sand –MT
1st Year	2	100%	3060 00	4896 00
2nd Year	2	101%	309060	494496
3rd Year	2	101%	312151	499441
4th Year	2	101%	315272	504435
5th Year	2	101%	318425	509480
Total Reserve			**1560908**	**2497452**

Land Use

Type of Land	Area in (ha)
Forest Land	Nil
Govt. waste land (River)	15.30
Residential area	Nil
Company land	Nil
Private Land	Nil

Total	15.30

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Safety Zone	-	-
2	Along Approach Road	1700m	1700
3	Plants distributed in schools, Anganwadi or in Panchayat Bhawan	--	60

- Gablon 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

•As the sand mining will be done from the river bed itself, therefore top soil removal is not required for this proposed project activity. It is also expected that fresh sand will be deposited in rainy season depending on the amount of rain fall received by the area and the rate of river flow. The excavated material will be temporarily stacked within riverbed (allotted area). No waste will also be generated from this activity.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland dram 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

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

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 17, 18,

19, 20 &21.10.2023,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 III.

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15. **Proposed Residential and Commercial Project at Ranchi Smart City of M/s Big Realtors JV, Village : Jagarnathpur and Kalyanpur, Tehsil : Namkum, Distt. : Ranchi, Jharkhand.**

(Proposal No. : SIA/JH/INFRA2/ 448946/2023).

Project Category: 8(b) Townships and Area Development projects :

The State Expert Appreisal Committee, Jharkhand deliberated the project during its 108th meeting held on 19-25.09.2023 and SEIAA, Jharkhand has approved the ToRs in 109th meeting held on 27th & 28th September, 2023. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2023-24/2938/2023/308, date 06.10.2023. The final EIA / EMP submitted by PP to SEIAA on 16.10.2023 and which was forwarded to SEAC on 16.10.2023.

EC Application for Proposed Residential project: Total built-up area 2, 21, 589 sq m.

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

This is a new project which has been taken for appraisal on 20.10 2023.

Project and Location Details:

Parameters	Description
Plot Area	44,515.4sq.m (4.45 ha / 11.00 acres)
Project Cost	INR 400 Crores
Built-up Area (@3 45F.A.R)	221589 sq. m.
Green Area (@ 20% of plot area)	8903.14 sq m
Population	6677
Water Requirement	695KLD
Fresh Water Requirement	443 KLD
Wastewater Generation	546 KLD
Treatment facility of	STP of 570 KLD or CSTP (Common sewage treatment plant

waste water	facility of Ranchi Smart City)
Total Municipal Waste	3250kg/day
Power Requirement	Maximum power demand for the project during operation phase is estimated to be 4000 kVA respectively. Source of power will be Jharkhand State Electricity Board.
DG Sets	DG sets of total capacity 3000 kVA
RWH Pits	14nos.
Parking Area	9815sq.m
Connecting road	Dhurwa Road (Adjacent, North)
National/State Highway	NH 39 (approx. 5 km, SSW)
Nearest Railway Station	Ranchi Junction (approx. 6.10 km, NE) Hatia Railway Station (appx 1km,ENE)
Airport	Birsa Munda Airport (approx. 3.1 km, South)
Nearest Hospitals	Paras Bliss - Mother & Child Hospital (approx. 1.15km , WNW)
Nearest Water Bodies	HEC Talab (approx 2.88 km, SSW) Dhurwa Dam (approx 4.50 km, WSW) Ranchi Lake (approx 7.20 km, NNE)

CO-ORDINATES

Points	Latitude	Longitude
A	23°18'19.31"N	85°17'49.28"E
B	23°18'21.47"N	85°17'49.11"E
C	23°18'21.46"N	85°17'58.52"E
D	23°18'12.67"N	85°18'3.21"E
E	23°18'12.80"N	85°17'56.97"E
F	23°18'18.88"N	85°17'56.86"E
Centre	23°18'18.57"N	85°17'58.17"E

Khata no.& Plot no. of the project :

Plot no. 22	
Khata no.	Plot no.
15	1254 (P)

3	1258 (P), 1259 (P), 1260 (P) & 1701 (P)
73	1261 (P), 1262 (P), 1263 (P), 1264, 1280 (P) & 1703 (P)
156	1265 (P) & 1267 (P)
75	1368 (P) & 1369 (P)
167	1370
10	1371 (P), 1374 (P), 1375 (P), 1376 (P), 1679 (P) & 1683 (P)
72	1672 (P), 1691, 1692 (P) & 1700
171	1678 (P)
168	1680
54	1681 (P), 1698 & 1699
8	1682 (P)
56	1690 (P)
23	1693
130	1694 (P), 1705 (P) & 1708 (P)
108	1695, 1696, 1697 & 1729
129	1702 (P)
58	1704 (P)
7	1713 (P)
38	153 (P)

STATUTORY CLEARANCES :

1	DFO Forest Distance		DFO, Ranchi Forest division vide letter no. 4273, dated 27.12.2018 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.
2	DFO wildlife	:	DFO, Wildlife Ranchi vide letter no. 836, dated 10.09.2022 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
3	CO certificate	:	The CO, Namkum (Ranchi) vide letter no. 29 (ii), dated 07.01.2019 has mentioned the plot no. of the project is not recorded as "Jangle

			Jhari" In R.S. Khatiyan.
4	Fire Department	:	Project Authority undertake that after getting permission from Fire Department same should be submitted to SEIAA/SEAC.
5	Building Plan approval	:	Conceptual Plan submitted.
6	AAI	:	Airport Authority of India issued a height clearance NOC vide its NOC ID – RANC/EAST/B/05 L723/757792, dated 30.06.2023 valid up to 29.06.2031.

AREA STATEMENT :

S. NO.	Description	Area (SQ M)
L.	**Total plot area**	**44515.4**
M.	Permissible Ground Coverage (@ 35% of plot area)	15,580
N.	Proposed Ground Coverage (@ 31.7 % of plot area)	14,105
O.	**Proposed FAR (@ 3.45)**	**146900.88**
P.	Non FAR Area (Strain case, Lift, Balcony, Ramp, Accessory Use, 2 Basement Parking)	74689
Q.	**Built-up Area (D+E)**	**221589**
R.	Green Area (@20% of plot area)	8903.14
S.	Paved area(@ 38.6 % of plot area)	17205
T.	Open Area	4302.4
U.	**Height (m)**	70 m
V.	No of Dwelling Units	**1100**

Water and waste water Requirement Details

Category	Population/Area (sq m)/Capacity	Standard (LPCD)	Water Requirement (KLD)	Fresh Water Requirement (KLD)	Recycled Water requirement (KLD)
Domestic					
Residents	6240	100	624	437	187
Staff	125	45	6	2	4
Visitors	312	15	5	4	1
Total Domestic Water Demand			**635**	**443**	**192**

Landscape	8903.14 sqm	6ltr/sqm	54	-	54
Fire Fighting			1	-	1
DG cooling	DG Sets of total capacity 3000 kVA	0.9 l/kVA/hr	5	-	5
Total		-	695	443	252

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

Wastewater Calculations

Category	Total Quantity (KLD)
Domestic(fresh) water Req.	443
Flushing water Req.	192
Sewage generation (@80% of the Domestic + 100% flushing water requirement)	546
Capacity of STP	570
Recovered water from STP (90% of Waste water)	491
• Flushing	192
• Landscaping	54
• Fire Fighting	1
• DG cooling	5
• Sewer	239

Solid Waste Requirement

S. No	Description	Occupancy/Area	kg/capita/day	Total Solid Waste Generation (kg/day)	Recyclable (kg/day)	Non-Recyclable (kg/day)
1.	Residents	6240	0.5	3120	2496	624
2.	Staff	125	0.25	32	26	6
3.	Visitors	312	0.15	47	38	9
5.	Landscape waste	2.20 acres	0.2 kg/acres	1	1	-
5.	STP sludge	570 KLD	--	50	50	-
Total Waste Generated				3250	2611	639

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 8903.14 sq m (20% of the plot area) which will enhance the beauty of the site and help combat air and noise pollution.
- The plant species will be selected on the basis of Guidelines for Developing Green Belts, CPCB March 2000.

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. 570 KLD or CSTP (Common sewage treatment plant facility of Ranchi Smart City) is proposed for treatment of wastewater.
- Treated waste water would be reused for Horticulture, DG/HVAC cooling, flushing, fire fighting.
- Use of water efficient plumbing fixtures to conserve water.
- Approx. 443 KLD of fresh water is required during operational phase of the project.

Air Quality Management

- Warehouse/stock yard will be provided for storage of construction material
- Covering of stored construction materials with tarpaulin covers which will be resold to authorized construction material handling agency for reuse.
- Covering of trucks carrying construction materials.
- Dust suppression by water sprinkling.
- Adequate maintenance of construction equipment & vehicles.
- Wheel wash facility at the entry/exit of the site to prevent dust emissions
- Periodical Ambient Air Quality Monitoring.
- PUC Certified vehicles.
- Glow signs Speed Limits to 20 kmph to reduce emissions on site will be displayed at the important junctions.

Energy conservation

- Energy will be conserved via solar power & LED of at least25% of the total power requirement.

Undertaking

- An affidavit stating that no construction work.
- An undertaking that 320m^3/day recycles waste water generated atProposed Residential and Commercial Project "Illika Paradise" located in Ranchi Smart City at Plot No. 22, Halka No.-01 – Mauza (village) and Thana No. Jagarnathpur-244; Halka No. 04, - Mauza (village) and Thana No.- kalyanpur-245, Block - Namkum -04, District – Ranchi, Jharkhand.
- An undertaking that 4000 kVA Power requirement in Proposed Residential and Commercial Project "Iltika Paradise" located in Ranchi Smart City at Plot No. 22, Kalka No.-01 – Mauza (village) and Thana No. Jagarnathpur-244; Halka No. 04, - Mauza (village) and Thana No.- kalyanpur-245, Block - Namkum -04, District – Ranchi, Jharkhand.

Based on the presentation made and information provided, the Committee decided that the proposal for Proposed Residential and Commercial Project at Ranchi Smart City of M/s Big Realtors JV, Village : Jagarnathpur and Kalyanpur, Tehsil : Namkum, Distt. : Ranchi, Jharkhand is

recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure –V alongwith the following specific conditions :

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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The meeting concluded with thanks to all present.

(Dr. Rajiv Kumar)
Member

(Dr. Ajay Govind Bhatt)
Member

(Niranjan Lal Agarwalla)
Member

(Dr. Kirti Avishek)
Member

(Srikant Verma)
Secretary

(Ashok Kumar Singh)
Chairman

Annexure – I

I. **Statutory compliance:**

i. The project proponent shall obtain forest clearance under the provisions of. Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.

ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (incase of the presence of schedule-I species in the study area)

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 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.

vi. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.

vii. The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.

II. **Air quality monitoring and preservation**

i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (applicable to IF/EAF) as amended from time to time; S.O. 3305 (E) dated 7th December 2015(Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.

iii. The project proponent shall install system carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released

(e.g. PMIO and PM25 in reference to PM emission, and S02 and NOx in reference to S02 and NOx emissions) within and outside the plant area (at least at four locations one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions. (case to case basis small plants: Manual; Large plants: Continuous)

iv. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality / fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six- monthly monitoring report

v. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources.

vi. The project proponent shall provide leakage detection and mechanised bag cleaning facilities for better maintenance of bags.

vii. Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.

viii. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after *briquetting/* agglomeration.

ix. The project proponent shall use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin.

x The project proponent shall provide covered sheds for raw materials like scrap and sponge iron, lump ore, coke, coal, etc.

xi. The project proponent shall provide primary and secondary fume extraction system at all melting furnaces.

xii. Design the ventilation system for adequate air changes as per ACGIH document for all tunnels, motor houses, Oil Cellars.

III. Water quality monitoring and preservation

i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (applicable to IF / EAF) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act. 1986 or NABL accredited laboratories. (case to case basis small plants: Manual; Large plants: Continuous)

ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognised under Envirbnment (Protection) Act, 1986 and NABL accredited laboratories.

iii. The project proponent shall submit monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water quality to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.

iv. Adhere to 'Zero Liquid Discharge'.

v. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.

vi The project proponent shall provide the ETP for effluents of rolling mills to meet the standards prescribed in G.S.R 277 (E) 31st March 2012 (applicable to IF/EAF) as amended from time to time.

vii. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off

viii. The project proponent shall practice rainwater harvesting to maximum possible extent.

ix. The project proponent shall make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.

IV. Noise monitoring and prevention

i. Noise level survey shall be carried as per the orescribed guidelines and report in this regard shall he submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

ii. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB (A) during day time and 70 dB(A) during night time.

V. Energy Conservation measures

i. The project proponent shall provide waste heat recovery system (pre-heating of combustion air) at the flue gases of reheating furnaces.

ii. Practice hot charging of slabs and billets/blooms as far as possible.

iii. Ensure installation of regenerative type burners on all reheating furnaces.

iv. Provide solar power generation on rooftops of buildings. for solar light system for all common areas, street lights, parking around project area and maintain the same regularly.

v. Provide the project proponent for LED lights in their offices and residential areas.

VI. **Waste management**

i. Used refractories shall be recycled as far as possible.

ii. Oily scum and metallic sludge recovered from milling mills ETP shall be mixed, dried, and briquetted and reused melting Furnaces

iii. 100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding in this regard shall be submitted to the Ministry's Regional Office.

iv. The waste oil, grease and other hazardous waste shall be disposed of as per the

v. Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.

vi. Kitchen waste shall he composted or converted to biogas for further use.(to be decided on case to case basis depending on type and size of plant)

VII. **Green Belt**

i. Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenhelt shall inter alia cover the entire periphery of the plant

ii. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.

VIII. **Public hearing and Human health issues**

i. Eroergency preparedness plan based on the Hazard Identification and Risk Assessment (HIRA) and Disaster Management Plan shall he implemented.

ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.

iii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

IX. **Corporate Environment Responsibility**

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or

shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall he prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry / Regional Office along with the Six Monthly Compliance Report.

v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

vi. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the plants shall be implemented.

vii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

X. **Miscellaneous**

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

viii The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

x. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

xi. Concealing factual data or submission of false / fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xiii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xvi. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

C. <u>Other Conditions:</u>

i. The Authority reserves the right to add any new condition or modify the above conditions or to revoke the clearance if conditions stipulated above are not implemented to the satisfactinn of Authority or for that matter for any other Administrative reason.

ii. The Prescribed EC is valid as per Notification no. S.O. 1807(E) dated 12.04.2022 of MoEF&CC, Govt. of India.

iii. In case of any deviation or alteration in the project proposed from those submitted to SEIAA, Jharkhand for clearance, a fresh reference should be made to SEIAA to assess the adequacy of the conditions imposed and to incorporate any new conditions if required.

Annexure – II

I. **Statutory compliance**

i. This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.

ii. In the writ petition (Civil) no. 202/1995, T.N. Godaverman 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 ".

iii. The Project proponent complies with all the statutory requirements and judgement of Hon'ble Supreme Court dated 2nd August,2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors before commencing the mining operations.

iv. The Hon'ble Supreme Court vide order dated 08.01.2020 in W.P. (Civil) No.114/2014 in the matter of Common Cause vs. Union of India has directed that the area which has been mined should be restored so that grass and other vegetation including trees can grow in the mining area for the benefit of animals.

> *"The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.*

v. The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of Judgement of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors.

vi. This Environmental Clearance shall become operational only after receiving formal NBWL Clearance from MoEF&CC subsequent to the recommendations of the Standing Committee of National Board for Wildlife, if applicable to the Project.

vii. This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, if applicable to the Project.

viii. Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the concerned State Pollution Control Board/Committee.

ix. The PP shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation), Act, 2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.

x. The Project Proponent shall obtain consents from all the concerned land owners. before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.

xi. The Project Proponent shall follow the mitigation measures provided in MoEF&CC's Office Memorandum No. Z-11013/57/2014-IA.II (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".

xii. The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.

xiii. A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.

xiv. State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.

xv. The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change (www. Environment clearance.nic.in). A copy of the advertisement may be forwarded to the concerned MoEF & CC Regional Office for compliance and record.

xvi. The Project Proponent shall inform the MoEF&CC for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.

II. **Air quality monitoring** and preservation

i. The Project Proponent shall install a minimuro of 3 (three) online Ambient Air Quality Monitorng Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM10, PM2.5, NO2; CO and SO2 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCUI, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.

ii. Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be

carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from 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 well 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 he 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 regulady monitor and maintain records w.r.t. ground water level and quality in and around the mine lease hy establishing a network of existing wells as well as new piezp-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 Groundwafer Department / State Pollution Control Board.

iv. The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-à-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations

without justification and prior approval of MoEF&CC. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.

v. Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off, acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company. The circular No. J- 20012/1/2006-IA.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.

vi. Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office MoEF&CC annually.

vii. Industrial waste water (workshop and waste water from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.

viii. The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board/Committee.

IV. Noise and vibration monitoring and prevention

i. The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.

ii. The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.

iii. The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training.

awareness and information on safety and health aspects. The PP shall he 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 prooosal 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 tbe Ministry of Environment, Forest and Climate Change, which entail adverse envi ronmental 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 witb 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 fo be raised in the reclaimed area shall he governed as per approved mining plan. PP shall ensure the inonitorng and management of rebabilitated areas until the vegetation becomes self sustaining. The compliance status shall be submitted half-yearly to the MoEF&CC and its concerned Regional Office.

VI. Land reclamation

i. The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps like height, widtb and angle of slope shall he 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 he stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope sball 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 tbe 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 he done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.

ii. The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

VIII. Green Belt

i. The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.

ii. The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for protertion 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.

(X. Public hearing and human health issues

i. The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical mediral 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, babitual smoking, etc. The check-ups shall be undertaken once in six months and necessary remedial/ preventive measures be taken. A status report on the same may be sent to MoEF&CC Regional Office and DGMS on half-yearly basis.

ii. The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years.

iii. The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead, For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by a Certified Neurologist, and Manganese (Mn) Estimation in Blood; For Inorganic Chromium-Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminium, Iron, Manganese, Chromium, Lead, Uranium need to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-Ray. Only conventional X-Ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17 x14 inches and of good quality).

iv. The Proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 -24.9, (b) the Final Chest X-Ray compared with the base line X-Ray should not show any capacities ,(c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEV1),Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented), (e) they should not have developed any Persistent Back Pain, Neck Pain, and the movement of their Hip, Knee and other joints should have normal range of movement, (f) they should not have suffered loss of any body part. The record of the same should be submitted to the Regional Office, MoEF&CC annually along with details of the relief and compensation paid to workers having above indications.

v. The Project Proponent shall ensure that Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.

vi. Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche 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 paltern and submit a report to conrerned Regional Office of the MoEF&CC.

ii. The Project Authorities should inform to the Regional Office regarding date of financial rlosures 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 separato 'Environmental Managoment 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 comoliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF&CC officer(s) by furnishing the requisite data / information / monitoring reports.

vi. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

vii. The Ministry / SEIAA / SEAC may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

viii. The Ministry / SEIAA / SEAC reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

ix. The Environmental Clearance accorded shall be valid for the period of lease of the mine. The PP shall not increase production rate and alter lease area during the validity of Environmental Clearance.

x. Any appeal against this Environmental Clearance shall lie with the National Green Trihunal, if preferred, within a period of 30 days as prescnbed under section 16 of the National Green Trihunal Act, 2010

Annexure - III

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

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

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

x. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and

other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.

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

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

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

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

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

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

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

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

xix. Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also

be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.

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

xxi. R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.

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

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

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

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

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

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

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

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

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

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

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

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

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

xxxv. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and

periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.

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

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

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

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

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

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

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

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

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

a) Executive Summary of the EIA/EMP Report

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

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

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

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

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

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

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

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

j) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

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

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

Annexure - IV

I. **Statutory compliance**

i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.

ii. The project proponeht shall obtain clearance from the National Board for Wildlife, if applicable.

iii. The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of schedule-I species in the study area)

iv. In the writ petition (Civil) no. 202/1995, T.N. Godavermian 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 sbalf be strictly adhered to ".

v. The project proponent sball 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 tbe concerned State pollution Control Board/ Committee.

vi. The project proponent shall obtain the necessary permission from the Central Ground Water Authority.

vii. Solid waste/bazardous waste generated in the mines needs to addressed in accordance to the Solid Waste Management Rules, 2016 / Hazardous & Other Waste Management Rules, 2016 as amended from time to time.

II. **Air quality monitoring and preservation**

i. Continuous ambient air quallty monitoring stations as prescribed in the statue be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM10, PM2.5, S02 and NOx. Location of the stations shall be decided based on the meteorological data, topographicalfeatures and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to tne regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of neavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.

ii. The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.

iii. Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water / mist sprinkling / rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM10/PM2.5) such as haul road, loading/ unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters confirm to the norms prescribed by the Central/State Pollution Control Board.

iv. The transportation of coal shall be carried out as per the provisions and route envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.

v. Vehicular emissions shall be kept under control and regularly monitored. All the venicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.

vi. Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors

vii. Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters

III. Water quality monitoring and preservation

i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.

ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-1A.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.

iii. Regular monitoring of ground water level and quality sball be carried out in and around the mine lease area by establishing a network of existing wells and constructing new

piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.

iv. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change / Regional Office.

v. Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.

vi. Catch and or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.

vii. Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).

viii. Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP / STP needs to be provided.

ix. The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine area, roads, green belt development *etc.* The drains shall be regularly desilted particularly after monsoon and maintained properly.

x. The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.

xi. The project proponent shall take all precautionary measures to ensure reverian/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A revarian /riparian ecosystem conservation and management plan should be prepared and

implemented in consultation with the Irrigation / water resource department in the state government.

IV. Noise and Vibration monitoring and prevention

i. Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs / muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.

ii. Controlled blasting techniques shall be practiced in order to mitigate ground vibrations, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS

iii. The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.

V. Mining Plan

i. Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.

ii. Mining shall be carried out as per the approved mining plan(including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).

iii. No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980

iv. Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.

VI. Land reclamation

i. Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MOEF&CC) from time to time shall be submitted to MOEFCC/Regional Office (RO).

ii. The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural /forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.

iii. The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the "during mining" / "post mining" land-

use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.

iv. Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (B) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.

v. Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.

vi. The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

VII. Green Belt

i. The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.

ii. Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/ coal transportation roads.

VIII. Public hearing and Human health Issues

i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & it's RO on six- monthly basis.

ii. The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.

iii. Personnel (including outsoured employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.

iv. Implementation of the action plan on the issues raised during the public hearing shall he ensured. The project proponent sbalf undertake all the tasks/measures as per the actron plan submitted with budgetary provisiohs during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Govemment, as applicable.

v. The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects whereln habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'

IX. Corporate Environment Responsibility

i. The project proponent shall comply with the provisions coptained in this Ministry's OM vide F.No. 22-65/2017-IA III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

Ir. The company shall have a well laid down envlronmental pplicy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any Infringements / deviation / violation of tbe envimnmental / forest / wildlife norms / conditions. The company shall have defined system of reporting iofringements / deviation / violation of the environmental / forest / wildlife norms / conditions and/or shareholders/stake holders. The copy of the board resolution io 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 sehior Executive, who will directly to tbe head of the organization.

Iv. Action plan for Implementing EMP and environmental conditions along with responsibility matrix of the company sball be prepared and shall be duly approved by competent authority. Tbe year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of Implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

v. Self-envirnomeotal audit shall be conducted anhually. Every three years third party envirunmental audit shall be carrled out.

X. Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by

prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall monitor the criteria pollutants level namely; PM_{10}, SO_2, NO, (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

vi. The project proponent shall submit the environmental statement for each financial year in Form- V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vii. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.

viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

x. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

xi. Concealing factual data or submission of false / fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xii The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xiii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.

xv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xvi. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010

xvii. The Prescribed EC is valid as per Notification no S.O. 1807(E) dated 12.04.2022 of MoEF&CC, Govt. of India.

Annexure – V

I. Statutory Compliance

i. The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.

ii. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of fire fighting equipment etc as per National Building Code including protection measures from lightening etc.

iii. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.

iv. In the writ petition (Civil) no. 202/1995, T.N. Godaverman Thirumulpad vs union of India and ors. the Hon'ble Supreme Court passed an order dated 03.06.2022 " National Park or Wildlife Sanctuary must have an ESZ of minimum 01 km in which the activities prescribed and prescribed in the guidelines of 09th February, 2011 shall be strictly adhered to ".

v. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

vi. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.

vii. The project proponent shall obtain the necessary permission for drawl of ground water / surface water required for the project from the competent authority.

viii. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.

ix. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable, by project proponents from the respective competent authorities.

x. The provisions of the Solid Waste (Management) Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.

xi. The project proponent shall follow the ECBC/ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly.

xii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel (kerosene/gas) for cooking, safe drinking water, medical health care, etc. The housing may be in the form of temporary structures to be removed after completion of the project.

xiii. Provision of drinking water, waste water disposal, solid wastes management and primary health facilities shall be ensured for labour force. Proper sanitation facilities shall be provided at the construction site to prevent health related problems. Domestic as well as sanitary wastes from construction camps shall be cleared regularly.

xiv. All the labourers to be engaged for construction works shall be screened for health and adequately treated before issue of work permits. The contractor shall ensure periodic health check-up of construction workers.

xv. All vehicles/equipment deployed during construction phase shall be ensured in good working condition and shall conform to applicable air and noise emission standards. These shall be operated only during non-peaking hours.

xvi. Accumulation/stagnation of water shall be avoided ensuring vector control.

xvii Water during construction phase should be preferred from Municipal supply.

xviii. Unskilled construction labourers shall be recruited from the local areas.

xix. Monitoring of ground water table and quality once in three months shall be carried out. Construction of tube wells, bore wells shall be strictly regulated.

xx. Adequate provision shall be made to cater the parking needs. Parking spaces standards as given in "Manual on Norms and Standards for Environmental Clearance of Large Construction Projects" issued by Ministry of Environment and Forests, Government of India shall be adopted.

xxi. Rest room facilities shall be provided for service population.

xxii. Water body falling within premises (if any) shall not be lined or no embankment shall be cemented. The water bodies, if any, shall be kept in natural conditions without disturbing the ecological habitat.

xxiii. Construction shall conform to the requirements of local seismic regulations. The project proponent shall obtain permission for the plans and designs including structural design, standards and specifications of all construction work from concerned authority.

II. Air quality monitoring and preservation

i. Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.

ii. A management plan shall be drawn up and implemented to contain the current exceedance in ambient air quality at the site.

iii. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM25) covering upwind and downwind directions during the construction period.

iv. Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act,

1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.

v. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3 meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.

vi. Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution.

vii. Wet Jet shall be provided for grinding and stone cutting.

viii. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.

ix. All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules 2016.

x. The diesel generator sets to be used during construction phase shall be low sulphur diesel type and shall conform to Environmental (Protection) prescribed for air and noise emission standards.

xi. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.

xii. For indoor air quality the ventilation provisions as per National Building Code of India.

iii. Water quality monitoring and preservation

i. The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water.

ii. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.

iii. Total fresh water use shall not exceed the proposed requirement as provided in the project details.

iv. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.

v. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.

vi. At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.

vii. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.

viii. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc) for water conservation shall be incorporated in the building plan.

ix. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculatiuo 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 confocm 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 dowatering.

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 he discharged through storm water drains.

xix. Onsite sewage treatment of capacity of treating 100% waste watec 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 eod-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 clpsely monitored during construction phase. Adequate measures shall be made to reduce ambient aic 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 bo submitted to Regional Officer of the Ministry as a pact of six-moothly compliance report.

iii. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implomented 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. Sepacate electric meter shall be installed for solar power. Solac water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.

VI. Waste Management

i. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project shall be obtained.

ii. Disposal of muck during construction phase shall not create any adverse effect on the neighboring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.

iii. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials.

iv. Organic waste compost/ Vormiculture 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 he handed over to authorized cecyclers for which a written tie up must be done with the autborized 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 plauted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping.

iii. Where the trees need to be cut with prior permission from the concerned local Authority, compensatory plantation in the ratio of 1:10 (i.e. planting of 10 trees for every 1 tree that is cut) shall be done and maintained. Plantations to be ensured species (cut) to species (planted). Area for green belt development shall be provided as per the details provided in the project document.

iv. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

VIII. Transport

i. A comprehensive mobility plan, as per MoUD best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.

a. Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
b. Traffic calming measures.
c. Proper design of entry and exit points.
d. Parking norms as per local regulation

ii. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.

iii. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

IX. Human Health Issues

i. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.

ii. For indoor air quality the ventilation provisions as per National Building Code of India.

iii. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

iv. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

v. Occupational health surveillance of the workers shall be done on a regular basis.

vi. A First Aid Room shall be provided in the project both during construction and operations of the project.

X. Corporate Environment Responsibility

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms /

conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

XI. Miscellaneous

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

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vi. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xi. The Min stry / 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.