5. **Integrated Municipal Solid Waste Management Facility for Bundu Nagar Panchayat, Village : Bundu, Tehsil : Bundu, Dist. : Ranchi, Jharkhand.**

(Proposal No. : SIA/JH/MIS/58082/2020).

Name of the consultant : Not declared.

This is a new project which was listed for consideration on 18.02.2022. The PAs vide letter dated 18.02.2022 requested the Secretary, SEAC for deferment of the consideration of the proposal to any other date between 19th to 23rd February, 2022. Further during personal apperance stated that their consultant M/s Wolkem India Limited, Udaipur, Rajasthan is unabale to takeup their project and hence desired to make presentation for ToR on their own capacity. They were allowed to present their case before the committee on 23.02.2022.

The proposal was considered by the committee to determine the "Terms of Reference (TOR)" for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA Notification, 2006 and amendments thereafter. For this purpose the Project Proponent has submitted the prescribed Form - I & PFR the proposed project falls under item 7 (i) Common Municipal Solid Waste Management Facilities as per EIA Notification, 2006.

Salient Features of the project :

S.No	Information	Details
1.	Project Name & Address	Municipal Solid Waste Management Scheme for Bundu Nagar Panchayat at Village : Bundu, Thana No. : 28, Tehsil : Bundu, District : Ranchi, Jharkhand.
2.	Khata no. & Plot no.	Khata no. : 1143, Plot no. : 5532, 5543, 5538, 5539
3.	Facility Area	Total Area – 3.57 Acre Capacity of Processing Facility : 15 TPD Sanitary Landfill Capacity (20 Years) – 4851 Sqm
4.	Name of the Client	Bundu Nagar Panchayat
5.	Water Requirement and its Sources	Total Water Requirement = 52.16 KLD Fresh Water Requirement = 10 KLD Recycled Treated Waste Water = 42.16 KLD Source :- PHED Supply
6.	Power Supply and its source	100 KVA and source from Jharkhand State Electricity Board, JBVNL
7.	Project Cost	614.30 Lacs
8.	EMP cost	Capital cost : 41 Lakh, Recurring cost : 9.5 Lakh
9.	Nearest Railway Station	Ranchi Railway Station 35.7 Km NW.

10.	Nearest SH/NH	NH-33 National Highway, 0.70 Km in SW direction.
11.	Nearest Airport	Birsa Munda Airport, Ranchi 34.60 Km in NW direction.

Latitude & Longitude of the project :

S No	Latitude	Longitude
1	23° 8'59.16"N	85°36'29.91"E
2	23° 8'58.48"N	85°36'31.65"E
3	23° 8'57.35"N	85°36'31.52"E
4	23° 8'57.26"N	85°36'31.75"E
5	23° 8'55.95"N	85°36'31.64"E
6	23° 8'55.31"N	85°36'31.37"E
7	23° 8'55.47"N	85°36'30.28"E
8	23° 8'55.35"N	85°36'30.16"E
9	23° 8'55.48"N	85°36'29.76"E
10	23° 8'55.15"N	85°36'29.66"E
11	23° 8'55.01"N	85°36'29.97"E
12	23° 8'53.77"N	85°36'29.92"E
13	23° 8'53.79"N	85°36'29.63"E
14	23° 8'53.54"N	85°36'29.52"E
15	23° 8'53.58"N	85°36'29.19"E
16	23° 8'53.07"N	85°36'29.01"E
17	23° 8'53.03"N	85°36'28.76"E
18	23° 8'52.76"N	85°36'28.73"E
19	23° 8'52.10"N	85°36'28.35"E
20	23° 8'52.18"N	85°36'27.69"E
21	23° 8'52.05"N	85°36'27.53"E
22	23° 8'52.17"N	85°36'27.31"E
23	23° 8'52.35"N	85°36'27.28"E
24	23° 8'52.46"N	85°36'26.96"E
25	23° 8'54.35"N	85°36'27.50"E
26	23° 8'54.44"N	85°36'27.10"E
27	23° 8'56.09"N	85°36'28.00"E
28	23° 8'56.29"N	85°36'28.39"E
29	23° 8'56.69"N	85°36'28.50"E
30	23° 8'56.63"N	85°36'28.86"E

STATUTORY CLEARANCES :

1	CO	:	The CO, Bundu, (Ranchi) vide letter no. 17, dated 09.01.2020 has mentioned the plot nos. of the project is not recorded as "Jangle Jhari" in R.S. Khatiyan & Register

			II.
2	DFO Wild Life	:	DFO, Wildlife Ranchi vide memo no. 55, dated 15.01.2021 certified that the National Park & Wildlife Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
3	DFO Forest Distance	:	DFO, Khunti Division vide letter no. 2875, Dated 25.10.2019 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.

During the presentation the following shortcoming were observed:

I. Contour Plan of project site not provided.
II. Site specific photographs.
III. Soil map & soil characteristic data not provided.
IV. Seismic map of project site not provided.
V. Site selection criteria to follow CPHEEO manual and certified by competent authority.
VI. Overlay map of all site selection criteria.
VII. The quality & quantity of the sludge from ETP and its usage / disposal to be provided.
VIII. Input & output analysis of heavy & toxic metals (including mercury) to be provided alongwith proposal for handling of the toxic components.
IX. Calculation of the life of landfill site to be provided.

On the submission of above required details & documents, the project will be taken up for reconsideration.

6. **Rambani Stone Mine of M/s S.P. Stone Works, Mouza : Rambani, Block & P.S. : Gopikandar, P.O. : Dharampur, Dist. : Dumka, Jharkhand (1.97 Ha).**

(Proposal No. : SIA/JH/MIN/235796 /2021).

Project Category: **B2 – Application**

EC Application for: **Boulder Stone : 53,890.08 Cu.M. / year i.e. 1,45,503.22 TPA**
DG Set : 20 KVA

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

This is a new project which has been taken for appraisal on 23.02.2022

PROJECT and LOCATION Details:

Sl	Parameter		Details
1	Project Name	:	Rambani Stone Mine Project Type – Stone Mine
2	Lessee:	:	Shri Purushottam Sharan Prashant

3	Lease Address	:	Mouza – Rambani, P.O. - Dharampur, Block & P.S. - Gopikandar, Dist. – Dumka, State – Jharkhand.	
4	Lease Area	:	Ha: 1.97 ha	Acres: 4.87 Acres
	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Capital Cost – 68.03 Lakhs	
7	EMP Budget	:	Capital: 14.478 Lakhs	Recurring: 02.09 Lakhs
8	CSR / CER Budget	:	2.25 Lakhs	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 2,69,443.56 Cu. M.	Tonnes: 7,27,497.69 Tonnes
11	Mine Life	:	5.03 years	
12	Man power	:	21	
13	Water Requirement	:	19.29 KLD (Drinking:0.315 KLD, Dust Suppression: 8.80KLD, Plantation:10.17 KLD	
14	Water Source	:	Water will be Sourced from Pond at a distance of 2.00 Km through Water Tanker for Dust Suppression and Plantation. Water will be sourced from Bore Well within the lease area for Drinking and Domestic Consumption.	
15	DG Set / power	:	20 KVA DG Set proposed	
16	Crusher	:	NA	
17	Nearest Water Body	:	Bansloi River 6.20 KM	
18	Nearest Habitation	:	Rambani Village: 1.08 Km, Dumka 38KM	
19	Nearest Rail Station	:	Dumka Railway station – 33 km – SW	
20	Nearest Air Port	:	Kazi Nazrul Islam Airport, Durgapur – 96.90 km – SW	
21	Nearest Forest	:	Protected Forest - 0.90 Km	
22	Road & Highways	:	SH 18 (Dumka - Sahibganj Road) – 1.70 Km – NW ,	

CO-ORDINATES

Sl.No.	Latitude	Longitude
1	24°27' 01.47" N	87°31' 59.85" E
2	24°27' 03.21" N	87°31' 55.03" E
3	24°27' 03.10" N	87°31' 52.24" E
4	24°27' 03.57" N	87°31' 51.97" E
5	24°27' 04.29" N	87°31' 52.08" E
6	24°27' 04.59" N	87°31' 51.76" E
7	24°27' 05.33" N	87°31' 52.07" E
8	24°27' 05.28" N	87°31' 53.52" E
9	24°27' 04.91" N	87°31' 56.79" E
10	24°27' 05.57" N	87°31' 59.96" E
11	24°27' 04.91" N	87°31' 58.53" E
12	24°27' 04.24" N	87°32' 01.33" E
13	24°27' 03.15" N	87°32' 01.09" E

14	24°27' 02.71" N	87°32' 00.88" E
15	24°27' 02.26" N	87°32' 00.51" E
16	24°27' 02.17" N	87°32' 00.00" E

LAND DETAILS

Mouza	Khata No.	Plot No.
Rambani	27	85 (P)

STATUTORY CLEARANCES

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Dumka, vide letter no. 212/M dated 08.02.2021
2	CO	:	The CO, Gopikandar vide letter no. 300, dated 18.08.2020 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Dumka vide memo no. 254/M, dated 12.02.2021 certified that no lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife, Hazaribagh vide letter no. 393 , dated 27.02.2021 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
5	DFO Forest Distance	:	DFO, Dumka Division vide letter no. 1665, dated 18.08.2020 certified that the distance of notified forest is more thann 250 metre from proposed project site.
6	DSR	:	The DC-cum-District Magistrate, Dumka vide letter no. 683/ M, dated 19.04.2021 has informed that this project is part of District Survey Report (DSR) at Dumka district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	On 12.08.2020
8	Mine Plan Approval	:	Letter No. 112/DDM dated 28.05.2021

Working Details

1	Mining Method	:	Semi Mechanised. Wagon Drilling & Blasting to be used	
2	Quarry Area	:	5 years – 1.45 Ha	End of Mine – 1.45 Ha
3	Waste Generation	:	5 years– 10,800 Cu.M	Life of Mine (Waste Gen.) – 10,800 Cu.M
4	Stripping Ratio	:	1:0.02	

5	Working Days	:	300
6	Benches: size & No	:	5 m x more than 5 , Bench No.- 1 to 6
7	Elevation of Mine	:	Maximum Elevation – 213AMSL Minimum Elevation – 198 AMSL
8	Ground Level Elevation		198 AMSL
9	Ultimate Working Depth	:	178 AMSL
10	Water Table	:	153 AMSL (45 m bgl)
11	Topography of Mine	:	Undulating Terrain
12	Explosive Requirement	:	18 Tons/year
13	Diesel/Fuel requirement	:	330 KL/year (99 Litres/day)

Production Details

Year	Production of Stone		Over Burden (OB)	Bench RL in meters
	Cubic meters	Tons	Cubic meters	
1st Year	53,124.00	1,43,434.80	4,590	160-149
2nd Year	53,352.00	1,44,050.40	6,210	155-143
3rd Year	53,580.00	1,44,666.00	0	149-137
4th Year	53,808.00	1,45,281.60	0	143-131
5th Year	53,890.08	1,45,503.22	0	137-125
Total	**2,67,754.08**	**7,22,936.02**	**10,800**	**Depth – 35 m**

Land Use

Existing Land Use pattern

Category	Area in Hectares
Quarry	0.00
Road	0.006
Total area in use	**0.00**
Balance area unused	1.964
Total Leasehold area	**1.97**

Proposed Land Use for Current Plan Period

Category	Area in Hectares
Quarry	1.45
Road	0.003
Green Belt / Safety Zone/ Garland Drain	0.517
Total area in use	**1.97**

Total Leasehold area	1.97

Land Use pattern at the Conceptual Stage i.e. end of mine

Category	Area in Hectares
Quarry	Water Body - 1.45 (To be converted into Water Body after reducing the depth partially)
Road	0.003 (Plantation)
Green Belt / Safety Zone/ Garland Drain	0.517 (Plantation)
Total area in use	**1.97**
Total Leasehold area	**1.97**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.52 ha	1300 trees @ 2500 trees per ha
2	Haul /Approach Road	:	1.10 KM	734 trees on both sides – 3 m distance

- 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.

Waste Generation

- A total of **10,800** Tons of wastes (Over Burden) will be generated from entire Rambani Stone Mine up to conceptual stage. Year-wise waste generation during the planned period is given below:

- **Table 3.7: Generation of Waste during Planned Period**

Year	Waste Generation, In Cum
1st Year	4,590
2nd Year	6,210
3rd Year	0

Year	Waste Generation, In Cum
4th Year	0
5th Year	0
Total	**10,800**

Source: Mining Plan

Disposal of Waste from the Quarry

There is only 10800 cum overburden will be generated in mining plan period which will used in maintenance of mine road and village road, so there is no requirement of waste dumping Plan for this mining plan.

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

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 is required permission should be taken from competent authority.

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 Rambani Stone Mine of M/s S.P. Stone Works, Mouza : Rambani, Block & P.S. : Gopikandar, P.O. : Dharampur, Dist. : Dumka, Jharkhand (1.97 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed asAnnexure – I.

7. Gilamari Stone Deposit of M/s Alok Stone (Prop. : Shri Alok Ranjan), Village : Gilamari, P.S. : Mirzachauki, Dist. : Sahebganj, Jharkhand (2.83 Ha).

(Proposal No. : SIA/JH/MIN/252895 /2022).

Project Category: **B2 – Application**
EC Application for: **Boulder Stone : 50,096 Cu.M. / year i.e. 1,35,259 TPA**
DG Set : 25 KVA
Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi

This is a new project which has been taken for appraisal on 23.02.2022

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Gilamari Stone Deposit Project Type – Stone Mine	
2	Lessee:	:	Proprietor – Shri Alok Ranjan	
3	Lease Address	:	Mouza – Gilamari, P.S. - Mirzachauki, Dist. – Sahebganj, State – Jharkhand.	
4	Lease Area	:	Ha: 2.83 ha	Acres: 7.00 Acres

	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Capital Cost – 74.80 Lakhs	
7	EMP Budget	:	Capital: 14.98 Lakhs	Recurring: 02.24 Lakhs
8	CSR / CER Budget	:	2.25 Lakhs	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 8,85,350 Cu. M.	Tonnes: 23,90,445 Tonnes
11	Mine Life	:	17 Years approx	
12	Man power	:	22	
13	Water Requirement	:	13.36 KLD (Drinking:0.33 KLD, Dust Suppression: 3.28 KLD, Plantation: 9.75 KLD)	
14	Water Source	:	• Water will be sourced from Abandoned Mine through Water Tanker for Dust Suppression and Plantation. • Water will be sourced from Bore Well within the lease area for Drinking and Domestic Consumption.	
15	DG Set / power	:	25 KVA DG Set proposed	
16	Crusher	:	NA	
17	Nearest Water Body	:	Ganga River 13.50 KM	
18	Nearest Habitation	:	Gilamari Village: 0.60 Km, Sahebganj 12.80 KM	
19	Nearest Rail Station	:	Sahibganj Railway station – 11.80 km - NE	
20	Nearest Air Port	:	Kazi Nazrul Islam Airport, Durgapur –180 km - SW	
21	Nearest Forest	:	Protected Forest – 1.20 Km	
22	Road & Highways	:	Bhagaiya Main Road – 4.20 Km – West N.H. 33- 4.50 Km - West	

CO-ORDINATES

Point No.	Latitude	Longitude
1	25° 13' 32.63" N	87° 31' 03.09" E
2	25° 13' 32.46" N	87° 31' 06.48" E
3	25° 13' 31.31" N	87° 31' 08.40" E
4	25° 13' 29.48" N	87° 31' 08.09" E
5	25° 13' 27.75" N	87° 31' 08.47" E
6	25° 13' 26.68" N	87° 31' 07.95" E
7	25° 13' 25.81" N	87° 31' 08.05" E
8	25° 13' 26.56" N	87° 31' 03.27" E
9	25° 13' 28.31" N	87° 31' 03.47" E
10	25° 13' 30.19" N	87° 31' 01.94" E

LAND DETAILS

Mouza	Khata No.	Plot No.
Gilamari	55	431 (P)
	59	432 (P)
	14	433 (P)

STATUTORY CLEARANCES

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Sahebganj, vide letter no. 885 /M dated 06.07.2019
2	CO	:	The CO, Mandro vide memo no. 844, dated 05.09.2019 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Sahebganj vide memo no. 492 /M, dated 18.04.2019 certified that no lease area exists within 500 m radius from proposed project site & Total lease area is less than 3 Ha.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 1787 , dated 30.08.2019 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
5	DFO Forest Distance	:	DFO, Sahibganj Division vide memo no. 1586, dated 21.08.2018 certified that the distance of notified forest is 255 metre from propsed project site.
6	DSR	:	The DC-cum-District Magistrate, Sahebganj vide letter no. 1154/ M, dated 29.11.2021 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	:	On 05.07.2018
8	Mine Plan Approval	:	Letter No. 327/DDM dated 13.08.2019

Working Details

1	Mining Method	:	Semi Mechanised. Wagon Drilling & Blasting to be used	
2	Quarry Area	:	5 years – 2.16 Ha	End of Mine – 2.16 Ha
3	Waste Generation	:	5 years– 34,516 Cu.M	Life of Mine (Waste Gen.) – 34,516 Cu.M
4	Stripping Ratio	:	1:0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6 m x more than 6 m, Bench No.- 1 to 11	

7	Elevation of Mine	:	Maximum Elevation – 242 AMSL Minimum Elevation – 224 AMSL
8	Ground Level Elevation	:	224 AMSL
9	Ultimate Working Depth	:	174 AMSL
10	Water Table	:	116 AMSL (108 m bgl)
11	Topography of Mine	:	Steep Slope
12	Explosive Requirement	:	20.7 Tons/year
13	Diesel/Fuel requirement	:	418 KL/year (125.40 Litres/day)

Production Details

Year	Production of Stone		Over Burden (OB)	Bench RL in meters
	Cubic meters	Tons	Cubic meters	
1st Year	50,040.00	1,35,108.00	34,516	A – A' : 184 - 182 (O.B.) B – B' : 186 – 184 (O.B.) A – A' : 182 – 176 (Stone) A – A' : 176 – 170 (Stone) B – B' : 184 – 178 (Stone) B – B' : 178 – 172 (Stone)
2nd Year	50,024.00	1,35,065.00	Nil	B – B' : 178 – 172 (Stone) B – B' : 172 – 166 (Stone)
3rd Year	50,000.00	1,35,000.00	Nil	A – A' : 170 – 164 (Stone) B – B' : 172 – 166 (Stone)
4th Year	50,024.00	1,35,065.00	Nil	B – B' : 172 - 166 (Stone) B – B' : 166 – 160 (Stone)
5th Year	50,096.00	1,35,259.00	Nil	B – B' : 166 - 160 (Stone) A – A' : 164 - 158 (Stone)
Total	**2,50,184.00**	**6,75,497.00**	**34,516**	**Depth – 26 m**

Land Use

Existing Land Use pattern

Category	Area in Hectares
Quarry	Nil
Crusher	Nil
Road	Nil
Safety Barrier	Nil
Total area in use	Nil

Balance unused area	2.83
Total Applied Lease Area	**2.83**

Land Use Pattern after Proposed Plan Period of Five Years:

Category	Area in Ha.
Quarry	2.16
Road	0.04
Waste Dump / Rest Shed	0.05
Garland Drain with Settling Tank	0.03
Safety Zone	0.55
Total area in use	**2.83**

Land Use Pattern after Life of the Mine:

Category	Area in Ha.
Quarry	2.16 (To be Converted into Water Body after reducing the depth partially)
Waste Dump / Rest Shed + Road + Garland Drain with Settling Tank	0.12 (Plantation)
Safety Zone	0.55 (Plantation)
Total area in use	**2.83**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.55 ha	1,375 trees @ 2500 trees per ha
2	Other Reclaimed area	:	0.12 Ha.	300 trees @2500 trees per Ha.
3	Haul /Approach Road	:	0.41 KM	274 trees on both sides – 3 m distance

- 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.

Waste Generation

A total of 34,516 cum of wastes (Over Burden) will be generated from entire Gilamari Stone Deposit up to conceptual stage. Year-wise waste generation during the planned period is given below:

Table 3.7: Generation of Waste during Planned Period

Year	Waste Generation, In Cum
1st Year	34,516
2nd Year	Nil
3rd Year	Nil
4th Year	Nil
5th Year	Nil
Total	**34,516**

Source: Mining Plan

Disposal of Waste from the Quarry

There is only 34,516 cum overburden will be generated in mining plan period which will used for backfilling and maintenance of mine road and village 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

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 is required permission should be taken from competent authority.

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 Gilamari Stone Deposit of M/s Alok Stone (Prop. : Shri Alok Ranjan), Village : Gilamari, P.S. : Mirzachauki, Dist. : Sahebganj, Jharkhand (2.83 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I.

8. **Stone Mine of M/s Alok Stone (Prop. : Shri Alok Ranjan), Mouza : Partemako, Anchal : Borio, Dist. : Sahebganj, Jharkhand (2.83 Ha).**

(Proposal No. : SIA/JH /MIN/251950 /2022).

Project Category: **B2 – Application**

EC Application for: **Boulder Stone : 55,333.33 Cu.M. / year i.e. 1,49,400 TPA**

DG Set : 20 KVA

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

This is a new project which has been taken for appraisal on 23.02.2022.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	M/s Alok Stone, Project Type – Stone Mine	
2	Lessee:	:	Proprietor – Shri Alok Ranjan	
3	Lease Address	:	Mouza – Partemako, Anchal - Borio, Dist. – Sahebganj, State – Jharkhand.	
4	Lease Area	:	Ha: 2.83 ha	Acres: 7.00 Acres
	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Capital Cost – 77.85 Lakhs	
7	EMP Budget	:	Capital: 15.7455 Lakhs	Recurring: 02.09 Lakhs
8	CSR / CER Budget	:	2.20 Lakhs	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 7,61,501 Cu. M.	Tonnes: 20,56,052.70 Tonnes
11	Mine Life	:	13.76 Years	
12	Man power	:	15	
13	Water Requirement	:	22 KLD (Drinking:0.23 KLD, Dust Suppression: 7.35 KLD, Plantation:22 KLD)	
14	Water Source	:	• Water will be sourced from Abandoned Mine through Water Tanker for Dust Suppression and Plantation. • Water will be sourced from Bore Well within the lease area for Drinking and Domestic Consumption.	
15	DG Set / power	:	20 KVA DG Set proposed	
16	Crusher	:	NA	
17	Nearest Water Body	:	Ganga River 7.50 KM	
18	Nearest Habitation	:	Partemako Village: 0.19 Km, Sahebganj 7.65 KM	
19	Nearest Rail Station	:	Sahebganj Railway station – 8.50 km - NW	
20	Nearest Air Port	:	Kazi Nazrul Islam Airport, Durgapur –180 km – SW	
21	Nearest Forest	:	Protected Forest – 2.60 Km	
22	Road & Highways	:	SH -18 – 2.60 Km - West	

CO-ORDINATES

Point No.	Latitude	Longitude
1	25° 11' 10.29" N	87° 41' 38.56" E
2	25° 11' 12.59" N	87° 41' 36.83" E
3	25° 11' 14.55" N	87° 41' 40.36" E
4	25° 11' 14.01" N	87° 41' 41.76" E
5	25° 11' 14.96" N	87° 41' 43.50" E
6	25° 11' 11.99" N	87° 41' 46.97" E
7	25° 11' 10.79" N	87° 41' 45.99" E

LAND DETAILS

Mouza	Khata No.	Plot No.
Partemako	05	86 (P)
	22	39 (P)
	28	87 (P)

STATUTORY CLEARANCES

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Sahebganj, vide letter no. 951 /M dated 20.09.2021
2	CO	:	The CO, Borio vide letter no. 77, dated 17.02.2020 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Sahebganj vide memo no. 117 /M, dated 06.02.2020 certified that no lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 1981 , dated 20.11.2020 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
5	DFO Forest Distance	:	DFO, Sahebganj Division vide letter no. 260, dated 01.02.2020 certified that the distance of reserved / protected forest is more than 250 metre from proposed project site.
6	DSR	:	The DC-cum-District Magistrate, Sahebganj vide letter no. 1156/ M, dated 29.11.2021 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	:	On 25.01.2020
8	Mine Plan Approval	:	Letter No. 1041 dated 18.10.2021

Working Details

1	Mining Method	:	Semi Mechanised. Wagon Drilling & Blasting to be used	
2	Quarry Area	:	5 years – 1.74 Ha	End of Mine – 1.89 Ha
3	Waste Generation	:	5 years– 17,697 Cu.M	Life of Mine (Waste Gen.) – 17,697 Cu.M
4	Stripping Ratio	:	1:0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6 m x more than 6 m, Bench No.- 1 to 5 (Plan period)	
7	Elevation of Mine	:	Maximum Elevation – 281 AMSL Minimum Elevation – 236 AMSL	
8	Ground Level Elevation		236 AMSL	
9	Ultimate Working Depth	:	221 AMSL	
10	Water Table	:	212 AMSL (24 m bgl)	
11	Topography of Mine	:	Steep Slope	
12	Explosive Requirement	:	62.1 Tons/year	
13	Diesel/Fuel requirement	:	366 KL/year (109.8 Litres/day)	

Production Details

Year	Production of Stone		Over Burden (OB)	Bench RL in meters
	Cubic meters	Tons	Cubic meters	
1st Year	55,333.33	1,49,400.00	7,610.00	A – B : 225 - 219 (1st Bench) A – B : 219 – 213 (2nd Bench) A – B : 213 – 207 (3rd Bench)
2nd Year	55,333.33	1,49,400.00	3,400.00	A – B : 213 – 207 (3rd Bench) A – B : 207 - 201 (4th Bench)
3rd Year	55,333.33	1,49,400.00	3,535.00	A – B : 207 - 201 (4th Bench)
4th Year	55,333.33	1,49,400.00	0	A – B : 201 - 195 (5th Bench)
5th Year	55,333.33	1,49,400.00	3,152.00	A – B : 201 - 195 (5th Bench)
Total	**2,76,666.65**	**7,47,000.00**	**17,697.00**	**Depth – 30 m**

Land Use

Existing Land Use pattern

Category	Area in Hectares
Quarry	Nil

Road (Haul Road + Approach Road)	0.04
Safety Barrier	Nil
Total area in use	0.04
Balance unused area	2.79
Total Applied Lease Area	**2.83**

Land Use Pattern after Proposed Plan Period of Five Years:

Category	Area in Ha.
Quarry	1.74
Road (Haul Road + Approach Road)	0.04
Infrastructure	0.02
O. B. Dump	0.35
Garland Drain with Settling Tank	0.08
Safety Zone	0.45
Total area in use	**2.68**
Balance area in used	0.15
Total applied area	**2.83**

Land Use Pattern after Life of the Mine:

Category	Area in Ha.
Quarry +Backfilling+ Reservoir	2.30
Green Belt	0.53 (Plantation)
Total area in use	**2.83**
Balance area in used	0.00
Total applied area	**2.83**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.53 ha	1,325 trees @ 2500 trees per ha
2	Other Reclaimed area	:	0.49 Ha.	1,225 trees @2500 trees per Ha.
3	Haul /Approach Road	:	0.65 KM	325 trees on both sides

- 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.

Waste Generation

A total of 17,697 cum of wastes (Over Burden) will be generated from entire M/s Alok Stone Mine up to conceptual stage. Year-wise waste generation during the planned period is given below:

Table 3.7: Generation of Waste during Planned Period

Year	Waste Generation, In Cum
1st Year	7,610.00
2nd Year	3,400.00
3rd Year	3,535.00
4th Year	0
5th Year	3,152.00
Total	**17,697.00**

Source: Mining Plan

Disposal of Waste from the Quarry

There is only 17,697 cum overburden will be generated in mining plan period which will used for backfilling and maintenance of mine road and village 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

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 is required permission should be taken from competent authority.

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 Alok Stone (Prop. : Shri Alok Ranjan), Mouza : Partemako, Anchal : Borio, Dist. : Sahebganj, Jharkhand (2.83 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I.

9. **Stone Mine & Crusher of M/s Alok Stone (Prop. : Shri Alok Ranjan), Mouza : Pangro, Anchal : Borio, Dist. : Sahebganj, Jharkhand (2.93 Ha).**

(Proposal No. : SIA/JH /MIN/252320/2022).

Project Category: B2 – Application

EC Application for: Boulder Stone : 55,444.44 Cu.M. / year i.e. 1,49,700 TPA
DG Set : 20 KVA

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

This is a new project which has been taken for appraisal on 23.02.2022.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	M/s Alok Stone Project Type – Stone Mine & Crusher 50 TPH Capacity	
2	Lessee:	:	Proprietor – Shri Alok Ranjan	
3	Lease Address	:	Mouza – Pangro, Anchal - Borio, Dist. – Sahebganj, State – Jharkhand.	
4	Lease Area	:	Ha: 2.93 ha	Acres: 7.25 Acres
	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Capital Cost – 78.50 Lakhs	
7	EMP Budget	:	Capital: 17.4785 Lakhs	Recurring: 02.19 Lakhs
8	CSR / CER Budget	:	2.40 Lakhs	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 7,75,200 Cu. M.	Tonnes: 20,93,040 Tonnes
11	Mine Life	:	13.98 Years	
12	Man power	:	15	
13	Water Requirement	:	17 KLD (Drinking:0.23 KLD, Dust Suppression: 6.80 KLD, Plantation: 9.75 KLD)	
14	Water Source	:	• Water will be sourced from Abandoned Mine through Water Tanker for Dust Suppression and Plantation. • Water will be sourced from Bore Well within the lease area for Drinking and Domestic Consumption.	
15	DG Set / power	:	20 KVA DG Set proposed	
16	Crusher	:	Crusher 50 TPH Capacity	
17	Nearest Water Body	:	Ganga River 7.20 KM	

18	Nearest Habitation	:	Pangro Village: 0.71 Km, Sahebganj 5.20 KM
19	Nearest Rail Station	:	Sahebganj Railway station – 6.25 km – NW
20	Nearest Air Port	:	Kazi Nazrul Islam Airport – 181 km – SW
21	Nearest Forest	:	Protected Forest – 3.20 Km
22	Road & Highways	:	SH -18 – 0.97Km - West

CO-ORDINATES

Point No.	Latitude	Longitude
1	25° 12' 05.45" N	87° 40' 47.64" E
2	25° 12' 05.85" N	87° 40' 40.65" E
3	25° 12' 12.10" N	87° 40' 41.28" E
4	25° 12' 12.73" N	87° 40' 45.87" E

LAND DETAILS :

Mouza	Khata No.	Plot No.
Pangro	14	35 (P)
	10	24 (P)
	10	34 (P)
	05	33 (P)
	07	32 (P)

STATUTORY CLEARANCES

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Sahebganj, vide letter no. 950 /M dated 20.09.2021
2	CO	:	The CO, Borio vide letter no. 78, dated 17.02.2020 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Sahebganj vide memo no. 301 /M, dated 20.03.2020 certified that no lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO ,Wildlife Hazaribagh vide letter no. 1990 , dated 23.11.2020 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
5	DFO Forest Distance	:	DFO, Sahibganj Division vide letter no. 461, dated 22.02.2020 certified that the distance of reserved / protected forest is more

			than 250 metre from proposed project site.
6	DSR	:	The DC-cum-District Magistrate, Sahebganj vide letter no. 1156/ M, dated 29.11.2021 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	:	On 24.01.2020
8	Mine Plan Approval	:	Letter No. 1042 dated 18.10.2021

Working Details

1	Mining Method	:	Semi Mechanised. Wagon Drilling & Blasting to be used	
2	Quarry Area	:	5 years – 1.98 Ha	End of Mine – 1.98 Ha
3	Waste Generation	:	5 years– 16,500 Cu.M	Life of Mine (Waste Gen.) – 16,500 Cu.M
4	Stripping Ratio	:	1:0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6 m x more than 6 m, Bench No.- 1 to 11	
7	Elevation of Mine	:	Maximum Elevation – 171 AMSL Minimum Elevation – 123 AMSL	
8	Ground Level Elevation	:	123 AMSL	
9	Ultimate Working Depth	:	105 AMSL	
10	Water Table	:	93 AMSL (30 m bgl)	
11	Topography of Mine	:	Steep Slope	
12	Explosive Requirement	:	62.1 Tons/year	
13	Diesel/Fuel requirement	:	366 KL/year (109.8 Litres/day)	

Production Details

Year	Production of Stone		Over Burden (OB)	Bench RL in meters
	Cubic meters	Tons	Cubic meters	
1st Year	55,444.44	1,49,700.00	7,500.00	A – B : 113 - 110 (1st Bench) A – B : 110 – 104 (2nd Bench) A – B : 104 – 98 (3rd Bench)
2nd Year	55,444.44	1,49,700.00	3,000.00	A – B : 98 - 92 (4th Bench)
3rd Year	55,444.44	1,49,700.00	3,000.00	A – B : 92 - 86 (5th Bench)

4th Year	55,444.44	1,49,700.00	0	A – B : 86 - 80 (6th Bench)
5th Year	55,444.44	1,49,700.00	3,000.00	A – B : 86 - 80 (6th Bench) A – B : 80 – 74 (7th Bench)
Total	**2,77,222,20**	**7,48,500.00**	**16,500.00**	**Depth – 39 m**

Land Use

Existing Land Use pattern

Category	Area in Hectares
Quarry	Nil
Crusher	Nil
Road (Haul Road + Approach Road)	0.04
Safety Barrier	Nil
Total area in use	0.04
Balance unused area	2.89
Total Applied Lease Area	**2.93**

Land Use Pattern after Proposed Plan Period of Five Years:

Category	Area in Ha.
Quarry	1.98
Crusher	0.10
Road	0.01
Infrastructure	0.02
O. B. Dump	0.33
Garland Drain with Settling Tank	0.06
Safety Zone	0.43
Total area in use	**2.93**

Land Use Pattern after Life of the Mine:

Category	Area in Ha.
Quarry +Backfilling +Reservoir	2.32
Green Belt	0.61 (Plantation)
Total area in use	**2.93**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.45 ha	1,125 trees @ 2500 trees per ha
2	Other Reclaimed area	:	0.16 Ha.	400 trees @2500 trees per Ha.
3	Haul /Approach	:	0.85 KM	425 trees on both sides

	Road			

- 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.

Waste Generation

A total of 16,500 cum of wastes (Over Burden) will be generated from entire M/s Alok Stone Mine up to conceptual stage. Year-wise waste generation during the planned period is given below:

Table 3.7: Generation of Waste during Planned Period

Year	Waste Generation, In Cum
1st Year	7,500.00
2nd Year	3,000.00
3rd Year	3,000.00
4th Year	0
5th Year	3,000.00
Total	**16,500.00**

Source: Mining Plan

Disposal of Waste from the Quarry

There is only 16,500 cum overburden will be generated in mining plan period which will used for backfilling and maintenance of mine road and village 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

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 is required permission should be taken from competent authority.

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 & Crusher of M/s Alok Stone (Prop. : Shri Alok Ranjan), Mouza : Pangro, Anchal : Borio, Dist. : Sahebganj, Jharkhand (2.93 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I.

10. Shiyalpahari Stone Mine of Shri Amardeep, Mouza : Shiyalpahari, P.S. : Shikaripara, Dist. : Dumka, Jharkhand (2.43 Ha).

(Proposal No. : SIA/JH/MIN/ 250737/2022).

Project Category: **B2 – Application**

EC Application for: **Boulder Stone : 48,135.20 Cu.M. / year i.e. 1,34,778.50 TPA**
DG Set : 10 KVA

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

This is a new project which has been taken for appraisal on 23.02.2022.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Shiyalpahari Stone Mine Project Type – Stone Mine	
2	Lessee:	:	Shri Amardeep	
3	Lease Address	:	Mouza – Shiyalpahari, P.S. - Shikaripara, Dist. – Dumka, State – Jharkhand.	
4	Lease Area	:	Ha: 2.43 ha	Acres: 6.01 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Capital Cost – 73.00 Lakhs	
7	EMP Budget	:	Capital: 17.92 Lakhs	Recurring: 02.24 Lakhs
8	CSR / CER Budget	:	2.10 Lakhs	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 3,86,868 Cu. M.	Tonnes: 10,83,231 Tonnes
11	Mine Life	:	8.04 years	
12	Man power	:	26	
13	Water Requirement	:	16.57 KLD (Drinking:0.39 KLD, Dust Suppression: 2.80 KLD, Plantation:13.38 KLD	
14	Water Source	:	• Water will be sourced from Abandoned Mine through Water Tanker for Dust Suppression and Plantation. • Water will be sourced from Bore Well within the lease area for Drinking and Domestic Consumption.	
15	DG Set / power	:	10 KVA DG Set proposed	
16	Crusher	:	NA	
17	Nearest Water Body	:	Brahmani River 7.60 KM	
18	Nearest Habitation	:	Shiyalpahari Village: 0.35 Km, Dumka 42.3 KM	
19	Nearest Rail Station	:	Pinargariya Railway station – 4.75 km – NW	
20	Nearest Air Port	:	Kazi Nazrul Islam Airport – 74.00 km – SW	
21	Nearest Forest	:	Protected Forest - 2.50 Km	

22	Road & Highways	:	NH 114 A – 3.15 KM;

CO-ORDINATES

Point No.	Latitude	Longitude
1	24° 09' 59.73" N	87° 39' 05.41" E
2	24° 10' 01.44" N	87° 39' 00.66" E
3	24° 10' 01.58" N	87° 39' 00.12" E
4	24° 10' 02.05" N	87° 39' 00.03" E
5	24° 10' 02.12" N	87° 39' 00.16" E
6	24° 10' 02.77" N	87° 39' 00.56" E
7	24° 10' 03.44" N	87° 39' 01.06" E
8	24° 10' 04.00" N	87° 39' 01.38" E
9	24° 10' 04.99" N	87° 39' 02.17" E
10	24° 10' 06.32" N	87° 39' 02.96" E
11	24° 10' 07.45" N	87° 39' 03.49" E
12	24° 10' 08.31" N	87° 39' 03.51" E
13	24° 10' 07.42" N	87° 39' 04.92" E
14	24° 10' 07.05" N	87° 39' 05.87" E
15	24° 10' 06.56" N	87° 39' 06.26" E
16	24° 10' 06.32" N	87° 39' 04.92" E
17	24° 10' 06.32" N	87° 39' 04.92" E
18	24° 10' 06.06" N	87° 39' 04.67" E
19	24° 10' 05.61" N	87° 39' 04.62" E
20	24° 10' 05.22" N	87° 39' 04.70" E
21	24° 10' 04.84" N	87° 39' 03.85" E
22	24° 10' 04.78" N	87° 39' 03.34" E
23	24° 10' 04.83" N	87° 39' 02.93" E
24	24° 10' 04.42" N	87° 39' 02.88" E
25	24° 10' 03.57" N	87° 39' 03.42" E
26	24° 10' 03.93" N	87° 39' 03.57" E
27	24° 10' 04.00" N	87° 39' 03.84" E
28	24° 10' 04.49" N	87° 39' 04.08" E
29	24° 10' 04.86" N	87° 39' 04.66" E
30	24° 10' 04.32" N	87° 39' 05.47" E
31	24° 10' 04.04" N	87° 39' 06.60" E
32	24° 10' 01.77" N	87° 39' 06.06" E

LAND DETAILS

Mouza	Khata No.	Plot No.
Shiyalpahari	03	44 (P)
	04	49 (P)
	05	58, 59
	06	48 (P)
	07	71 (P), 40 (P), 42 (P), 51 (P)
	08	43, 45 (P), 46 (P), 52 (P), 60 (P)

	09	50 (P)

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Dumka, vide letter no. 942/M dated 24.06.2021
2	CO	:	The CO, Shikaripara vide letter no. 434, dated 06.05.2021 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Dumka vide memo no. 835/M, dated 15.06.2021 certified that no lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 989 , dated 14.06.2021 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
5	DFO Forest Distance	:	DFO, Dumka Division vide letter no. 1225, dated 02.06.2021 certified that the distance of reserved / protected forest is more than 250 metre from proposed project site.
6	DSR	:	The DC-cum-District Magistrate, Dumka vide letter no. 949/ M, dated 25.06.2021 has informed that this project is part of District Survey Report (DSR) at Dumka district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	On 25.02.2021
8	Mine Plan Approval	:	Letter No. 803/G dated 15.12.2021

Working Details

1	Mining Method	:	Semi Mechanised. Wagon Drilling & Blasting to be used	
2	Quarry Area	:	5 years – 1.59 Ha	End of Mine – 1.72 Ha
3	Waste Generation	:	5 years– 43,407.10 Cu.M	Life of Mine (Waste Gen.) – 43,407.10 Cu.M
4	Stripping Ratio	:	1:0.07	
5	Working Days	:	300	
6	Benches: size & No	:	5 m x more than 5 , Bench No.- 1 to 7	
7	Elevation of Mine	:	Maximum Elevation – 126 AMSL Minimum Elevation – 123 AMSL	
8	Ground Level Elevation		123 AMSL	

9	Ultimate Working Depth	:	96 AMSL
10	Water Table	:	72 AMSL (51 m bgl)
11	Topography of Mine	:	Undulating Terrain
12	Explosive Requirement	:	9.6 Tons/year
13	Diesel/Fuel requirement	:	486 KL/year (145.8 Litres/day)

Production Details

Year	Production of Stone		Over Burden (OB)	Bench RL in meters
	Cubic meters	Tons	Cubic meters	
1st Year	36314.5	101680.6	42308.0	A –A' : 72 - 64 (O.B.) B – B' : 68 – 64 (O.B.) A – A' : 69 – 64 (Stone) B – B' : 68 – 64 (Stone)
2nd Year	48135.2	134778.5	1099.1	A – A' : 64 – 59 (O.B.) A – A' : 64 - 59 (Stone)
3rd Year	47308.6	132464.1	0	A – A' : 59 - 54 (Stone)
4th Year	41239.8	115471.4	0	A – A' : 54 - 49 (Stone)
5th Year	39041.9	109317.3	0	A – A' : 49 – 44 (Stone) B – B' : 64 – 59 (Stone)
Total	**212040.0**	**593711.9**	**43,407.10**	**Depth – 23 m**

Land Use

Existing Land Use pattern

Category	Area in Ha.
Old Quarry	0.29
Safety Zone	0.00
Road	0.00
Total area in use	**0.29**
Balance area in used	2.14
Total applied area	**2.43**

Land Use Pattern after Proposed Plan Period of Five Years:

Category	Area in Ha.
Quarry	1.59
Haul Road	0.13
O. B. Dump	0.04
Garland Drain with Settling Tank	0.09

Safety Zone	0.58
Total area in use	**2.43**
Balance area in used	0.00
Total applied area	**2.43**

Land Use Pattern after Life of the Mine:

Category	Area in Ha.
Quarry + Haul Road	1.72 (To be converted into Water Body after reducing the depth partially)
O. B. Dump + Garland Drain + Safety Zone	0.71 (Plantation)
Total area in use	**2.43**
Balance area in used	0.00
Total applied area	**2.43**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.58 ha	1450 trees @ 2500 trees per ha
2	Other Reclaimed Area	:	0.13 Ha.	325 trees @ 2500 trees per Ha.
3	Haul /Approach Road	:	1.35 KM	901 trees on both sides – 3 m distance

- 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 Generation

A total of 43,407.10 cum of wastes (Over Burden) will be generated from entire Shiyalpahari Stone Mine up to conceptual stage. Year-wise waste generation during the planned period is given below:

Table 3.7: Generation of Waste during Planned Period

Year	Waste Generation, In Cum
1st Year	42,308.0
2nd Year	1,099.1
3rd Year	0
4th Year	0
5th Year	0
Total	**43,407.10**

Source: Mining Plan

Disposal of Waste from the Quarry

There is only 43,407.1 cum overburden will be generated in mining plan period which will used in maintenance of mine road and village 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

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 is required permission should be taken from competent authority.

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 Shiyalpahari Stone Mine of Shri Amardeep, Mouza : Shiyalpahari, P.S. : Shikaripara, Dist. : Dumka, Jharkhand (2.43 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I.

11. Shiyalpahari Stone Mine of Shri Amardeep, Mouza : Shiyalpahari, P.S. : Shikaripara, Dist. : Dumka, Jharkhand (2.38 Ha).

(Proposal No. : SIA/JH/MIN/ 249844/2022).

Project Category: **B2 – Application**

EC Application for: **Boulder Stone : 42,369.60 Cu.M. / year i.e. 1,18,635 TPA**
DG Set : 10 KVA

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

This is a new project which has been taken for appraisal on 23.02.2022.

PROJECT and LOCATION Details:

Sl	Parameter		Details
1	Project Name	:	Shiyalpahari Stone Mine Project Type – Stone Mine

2	Lessee:	:	Shri Amardeep	
3	Lease Address	:	Mouza – Shiyalpahari, P.S. - Shikaripara, Dist. – Dumka, State – Jharkhand.	
4	Lease Area	:	Ha: 2.38 ha	Acres: 5.88 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Capital Cost – 72.35 Lakhs	
7	EMP Budget	:	Capital: 17.79 Lakhs	Recurring: 02.09 Lakhs
8	CSR / CER Budget	:	1.90 Lakhs	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 3,76,086 Cu. M.	Tonnes: 10,53,040 Tonnes
11	Mine Life	:	8.74 years	
12	Man power	:	26	
13	Water Requirement	:	16.06 KLD (Drinking:0.39 KLD, Dust Suppression: 3.76 KLD, Plantation:11.91 KLD	
14	Water Source	:	• Water will be sourced from Abandoned Mine through Water Tanker for Dust Suppression and Plantation. • Water will be sourced from Bore Well within the lease area for Drinking and Domestic Consumption.	
15	DG Set / power	:	10 KVA DG Set proposed	
16	Crusher	:	NA	
17	Nearest Water Body	:	Brahmani River 7.85 KM	
18	Nearest Habitation	:	Shiyalpahari Village: 0.39 Km, Dumka 42.2 KM	
19	Nearest Rail Station	:	Pinargaria 4.60 KM	
20	Nearest Air Port	:	Kazi Nazrul Islam Airport, Durgapur – 74 Km	
21	Nearest Forest	:	Protected Forest - 2.20 Km	
22	Road & Highways	:	NH 114 A – 3.50 KM;	

CO-ORDINATES

Sl. No.	Latitude	Longitude
1	24° 10' 01.66" N	87° 39' 00.05" E
2	24° 09' 59.73" N	87° 39' 05.41" E
3	24° 09' 57.47" N	87° 39' 04.35" E
4	24° 09' 56.11" N	87° 39' 03.91" E
5	24° 09' 56.56" N	87° 39' 02.18" E
6	24° 09' 55.10" N	87° 39' 01.20" E
7	24° 09' 55.10" N	87° 39' 00.66" E
8	24° 09' 56.19" N	87° 38' 59.13" E
9	24° 09' 57.03" N	87° 38' 59.16" E
10	24° 09' 57.73" N	87° 38' 58.86" E
11	24° 09' 58.55" N	87° 38' 59.14" E
12	24° 09' 59.23" N	87° 38' 59.08" E

LAND DETAILS

Mouza	Khata No.	Plot No.
Shiyalpahari	07	38 (P), 42 (P), 51 (P), 148 (P)
	06	48 (P)
	08	52 (P)
	09	50 (P)
	04	49 (P)

STATUTORY CLEARANCES

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Dumka, vide letter no. 943/M dated 24.06.2021
2	CO	:	The CO, Shikaripara, Dumka, vide letter no. 433/R, dated 06.05.2021 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Dumka vide memo no. 834/M, dated 15.06.2021 certified that no lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 990 , dated 14.06.2021 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
5	DFO Forest Distance	:	DFO, Dumka Division vide letter no. 1288, dated 11.06.2021 certified that the distance of notified forest is more than 250 metre from proposed project site.
6	DSR	:	The DC-cum-District Magistrate, Dumka vide letter no. 949/ M, dated 25.06.2021 has informed that this project is part of District Survey Report (DSR) at Dumka district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	On 25.02.2021
8	Mine Plan Approval	:	Letter No. 757/G dated 09.11.2021

Working Details

1	Mining Method	:	Semi Mechanised. Wagon Drilling & Blasting to be used	
2	Quarry Area	:	5 years – 1.67 Ha	End of Mine – 1.82Ha
3	Waste Generation	:	5 years– 32,332.1 Cu.M	Life of Mine (Waste Gen.) – 32,332.10 Cu.M
4	Stripping Ratio	:	1:0.06	
5	Working Days	:	300	
6	Benches: size & No	:	5 m x more than 5 , Bench No.- 1 to 10	

7	Elevation of Mine	:	Maximum Elevation – 127 AMSL Minimum Elevation – 122 AMSL
8	Ground Level Elevation		122 AMSL
9	Ultimate Working Depth	:	77 AMSL
10	Water Table	:	72 AMSL (50 m bgl)
11	Topography of Mine	:	Undulating Terrain
12	Explosive Requirement	:	9.6 Tons/year
13	Diesel/Fuel requirement	:	486 KL/year (145.8 Litres/day)

Production Details

Year	Production of Stone		Over Burden (OB)	Bench RL in meters
	Cubic meters	Tons	Cubic meters	
1st Year	40,932.4	1,14,610.7	32,332.1	A –A' : 74-72 (O.B.) B – B' : 74 -72(O.B.) C - C' : 74 – 72 (O.B.) A-A': 72 – 64 (Stone) B-B' : 72 – 64 (Stone) C- C' :72 – 69 (Stone)
2nd Year	41,600.3	1,16,480.8	0	B – B' : 69 - 64 (Stone) C –C' : 69 – 64 (Stone
3rd Year	41,564.9	1,16,381.8	0	A -A' : 64 - 59 (Stone) B-B' : 64 – 59 (Stone) C – C' : 64 – 59 (Stone)
4th Year	42,369.6	1,18,635.0	0	B- B': 59 – 54 (Stone) C-C': 64 – 59 (Stone) C-C': 59 – 54 (Stone)
5th Year	38,975.9	1,09,132.6	0	A- A' : 59-54 (Stone) B – B' : 59-49 (Stone C –C' : 54 – 49 (Stone)
Total	**2,05,443.1**	**5,75,240.9**	**32,332.1**	**Depth – 25 m**

Land Use

Existing Land Use pattern

Category	Area in Ha.

Old Quarry	0.11
Safety Zone	0.00
Road	0.00
Total area in use	**0.11**
Balance area in used	2.27
Total applied area	**2.38**

Land Use Pattern after Proposed Plan Period of Five Years:

Category	Area in Ha.
Quarry	1.56
Old Quarry	0.11
Haul Road	0.15
O. B. Dump	0.08
Garland Drain with Settling Tank	0.07
Safety Zone	0.41
Total area in use	**2.38**
Balance area in used	0.00
Total applied area	**2.38**

Land Use Pattern after Life of the Mine:

Category	Area in Ha.
Quarry + Old Quarry + Haul Road	1.82 (To be converted into Water Body after reducing the depth partially)
O. B. Dump + Garland Drain + Safety Zone	0.56 (Plantation)
Total area in use	**2.38**
Balance area in used	0.00
Total applied area	**2.38**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.41 ha	1025 trees @ 2500 trees per ha
2	Other Reclaimed Area	:	0.15 Ha.	375 trees @ 2500 trees per Ha.
3	Haul /Approach Road	:	1.47KM	981 trees on both sides – 3 m distance

- 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

A total of 32,332.1 cum of wastes (Over Burden) will be generated from entire Shiyalpahari Stone Mine up to conceptual stage. Year-wise waste generation during the planned period is given below:

Table 3.7: Generation of Waste during Planned Period

Year	Waste Generation, In Cum
1st Year	32,332.1
2nd Year	0
3rd Year	0
4th Year	0
5th Year	0
Total	**32,332.1**

Source: Mining Plan

Disposal of Waste from the Quarry

There is only 32332.1 cum overburden will be generated in mining plan period which will used in maintenance of mine road and village 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

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 is required permission should be taken from competent authority.

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 Shiyalpahari Stone Mine of Shri Amardeep, Mouza : Shiyalpahari, P.S. : Shikaripara, Dist. : Dumka, Jharkhand (2.38 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I.

12. Basmata Stone Mine of M/s Maa Durga Stone Works, Village : Basmata, Tehsil : Pakur, Dist. : Pakur, Jharkhand (2.00 Ha).

(Proposal No. : SIA/JH/MIN/72205 /2022).

Project Category: B1 – Application

EC Application for: Boulder Stone : 35,960 Cu.M. / year i.e. 1,00,688 TPA

DG Set : 20 KVA

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

Ranchi PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Basmata Stone Mine Project Type – Stone Mine	
2	Lessee:	:	M/s Maa Durga Stone Works, Sri Soumitro Ghosh	
3	Lease Address	:	Mouza – Basmata, P.S. – Malpahari (OP), No.- 112 Dist. – Pakur, State – Jharkhand.	
4	Lease Area	:	Ha: 2.0 ha	Acres: 4.95 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Capital Cost – 74.75 Lakhs	
7	EMP Budget	:	Capital Cost – 19.22 Lakhs	Recurring Cost – 4.65 Lakhs
8	CSR / CER Budget	:	2.75 Lakhs	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 3,59,311.10 Cu. M.	Tonnes: 10,06,071 Tonnes
11	Mine Life	:	10 years	
12	Man power	:	19	
13	Water Requirement	:	17.99 KLD (Drinking:0.285 KLD, Dust Suppression: 6.4 KLD, Plantation:11.30 KLD	
14	Water Source	:	Water will be sourced from Bore Well (Inside the lease area) for Drinking Purpose. Water will be sourced from Abandon Mine at a distance of 1.20 Km from the lease area for Dust Suppression and Plantation.	
15	DG Set / power	:	20 KVA DG Set proposed	
16	Crusher	:	NA	
17	Nearest Water Body	:	Ganga River, 16km NE	
18	Nearest Habitation	:	Piprajora Village 0.7m - North, Presence of habitation in more than 500m	
19	Nearest Rail Station	:	Nagarnabi at a distance of 2.5 km in NE	
20	Nearest Air Port	:	Ranchi – 292 km – SW	
21	Nearest Forest	:	NIL within 10 km	
22	Road & Highways	:	NH 114 A – 6.1 KM North	

CO-ORDINATES

Sl. No.	Latitude	Longitude
1	24°35'0.25"N	87°50'48.75"E
2	24°35'0.21"N	87°50'50.39"E
3	24°34'58.71"N	87°50'50.17"E
4	24°34'58.61"N	87°50'50.09"E

5	24°34'58.59"N	87°50'49.55"E
6	24°34'56.58"N	87°50'49.38"E
7	24°34'54.30"N	24°34'54.30"N
8	24°34'54.00"N	87°50'49.70"E
9	24°34'52.93"N	87°50'49.02"E
10	24°34'52.14"N	87°50'48.68"E
11	24°34'51.93"N	87°50'49.03"E
12	24°34'50.93"N	87°50'48.13"E
13	24°34'50.81"N	87°50'47.77"E
14	24°34'50.49"N	87°50'48.08"E
15	24°34'49.74"N	87°50'47.73"E
16	24°34'49.91"N	87°50'47.39"E
17	24°34'51.08"N	87°50'47.47"E
18	24°34'51.11"N	87°50'46.99"E
19	24°34'52.03"N	87°50'46.97"E
20	24°34'52.54"N	87°50'47.09"E
21	24°34'52.56"N	87°50'46.79"E
22	24°34'53.07"N	87°50'46.74"E
23	24°34'53.40"N	87°50'46.75"E
24	24°34'53.46"N	87°50'46.59"E
25	24°34'53.44"N	87°50'46.08"E
26	24°34'54.04"N	87°50'46.21"E
27	24°34'56.04"N	87°50'46.41"E
28	24°34'56.88"N	87°50'46.65"E
29	24°34'58.84"N	87°50'46.93"E
30	24°34'58.95"N	87°50'47.03"E
31	24°34'58.75"N	87°50'48.36"E
32	24°34'59.95"N	87°50'48.75"E

LAND DETAILS

Mouza	Khata No.	Plot No.
Basmata	28, 14, 06, 24	375, 376, 377/P, 378, 382, 442, 446, 447, 448, 449 & 450

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Pakur, vide letter no. 676/M dated 13/05/2020
2	CO	:	The CO, Pakur, vide letter no. 21/R, dated 08/01/2020 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Pakur vide memo no. 976/M, dated 24/06/2020 certified that four lease areas (6.37 acre, 3.13 acre, 5.44 acre & 4.094 acre) exist within 500 m radius from proposed project site & Total lease area is 9.71 Ha, i.e. more than 5 Ha.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 330, dated 10.02.2020 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
5	DFO Forest Distance	:	DFO, Pakur Division vide letter no. 305, dated 04.02.2020 certified that the distance of reserved / protected forest is more than 250 metre.
6	DSR	:	This project is mentioned in District Survey Report (DSR), Pakur (Page No. 72, Sl. No. 81) and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	On 30.11.2019
8	Mine Plan Approval	:	Memo No. 202/DDM dated 13/08/2020

Working Details

1	Mining Method	:	Semi Mechanised. Wagon Drilling & Blasting to be used	
2	Quarry Area	:	5 years – 1.00 Ha	End of Mine – 1.31 Ha
3	Waste Generation	:	5 years– 9,790 Cu.M	Life of Mine (Waste Gen.) – 9,790 Cu.M
4	Stripping Ratio	:	1:0.07	
5	Working Days	:	300	
6	Benches: size & No	:	6 m x more than 6 , Bench No.- 1 to 3	
7	Elevation of Mine	:	Maximum Elevation – 98 AMSL Minimum Elevation – 95AMSL	
8	Ground Level Elevation		95 AMSL	
9	Ultimate Working Depth	:	78 AMSL	
10	Water Table	:	67 AMSL (28 m bgl)	
11	Topography of Mine	:	Undulating Terrain	
12	Explosive Requirement	:	16kg/day	
13	Diesel/Fuel requirement	:	126 KL/year (420 Litres/day)	

Production Details

Year	Production of Stone		Over Burden (OB)	Bench RL(m)
	Cubic meters	Tons	Cum.	
1st Year	35937	100624	3366	39-33
2nd Year	35960	100688	3190	39-33

3rd Year	35942	100638	3234	39-33 33-27
4th Year	35940	100632	0	33-27
5th Year	35916	100565	0	33-27 27-21
Total	**179695**	**503147**	**9,790**	**Depth – 18 m**

Land Use

Existing Land Use pattern

Category	Area in Ha.
Quarry	0.00
Safety Zone	0.00
Road	0.00
Total area in use	**0.00**
Balance area in used	2.00
Total applied area	**2.00**

Land Use Pattern after Proposed Plan Period of Five Years:

Category	Area in Ha.
Quarry including road	1.00
Safety Zone	0.66
O. B. Dump	0.01
Garland Drain with Settling Tank	0.02
Total area in use	**1.69**
Balance area in used	0.31
Total applied area	**2.00**

Land Use Pattern after Life of the Mine:

Category	Area in Ha.
Quarry including road	1.31 (To be Converted to Water Body after reducing the depth partially)
Safety Zone	0.66 (Plantation)
O. B. Dump	0.01 (Plantation)
Garland Drain with Settling Tank	0.02 (Plantation)
Total area in use	**2.00**
Balance area in used	0.00
Total applied area	**2.00**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.66 ha	1,650 trees @ 2500 trees per ha
2	Other Reclaimed Area	:	0.03 Ha.	75 trees @ 2500 trees per Ha.
3	Haul /Approach Road	:	0.80 KM	534 trees on both sides – 3 m distance

- 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 Generation

A total of 9,790 cum of wastes (Over Burden) will be generated from entire Basmata Stone Mine up to conceptual stage. Year-wise waste generation during the planned period is given below:

Table 3.7: Generation of Waste during Planned Period

Year	Waste Generation, In Cum
1st Year	3366
2nd Year	3190
3rd Year	3234
4th Year	0
5th Year	0
Total	**9,790**

Source: Mining Plan

Disposal of Waste from the Quarry

There is only 9,790 cum overburden will be generated in mining plan period which will used in construction and maintenance of internal mine road and berm along the 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

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 is required permission should be taken from competent authority.

Baseline data generation has been done period October, 2021 to December, 2021.

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 18, 19, 20, 21, 22, 23, 24, 25, 26 & 27.02.2022, 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 12.12.18for issuing of TOR for consideration of SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV.

13. Basmata Stone Mine of Otan Das & Company (Mining) Pvt. Ltd, Mouza : Basmata, P.S. : Pakur, Dist. : Pakur, Jharkhand (1.64 Ha).

(Proposal No. : SIA/JH/MIN/68848 /2021).

Category: B1 Application

EC Application for: Boulder Stone 55,460 Cu.M. / year i.e. 1,60,834 TPA

DG Set : 20 KVA

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

Ranchi <u>PROJECT and LOCATION Details:</u>

Sl	Parameter		Details	
1	Project Name	:	Basmata Stone Mine Project Type – Stone Mine	
2	Lessee:	:	M/s Otan Das and Company (Mining) Pvt. Ltd. Director – Shri Ashok Kumar Mandhyan	
3	Lease Address	:	Mouza – Basmata, P.S. – Pakur, Thana No.-112 Dist. – Pakur, State – Jharkhand.	
4	Lease Area	:	Ha: 1.64 ha	Acres: 4.06 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Capital Cost – 74.85 Lakhs	
7	EMP Budget	:	Capital Cost – 14.6185 Lakhs (Proposed)	Recurring – 2.09 Lakhs
8	CSR / CER Budget	:	2.20 Lakhs (Proposed)	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 3,24,854 Cu. M.	Tonnes: 9,42,077 Tonnes
11	Mine Life	:	7 years	
12	Man power	:	37	
13	Water Requirement	:	13.53 KLD (Drinking:0.56 KLD, Dust Suppression: 4 KLD, Plantation: 8.97 KLD)	
14	Water Source	:	Water will be sourced from Bore Well (Inside the lease area) for Drinking Purpose. Water will be sourced from Abandon Mine at a distance of 1 Km from the lease area for Dust Suppression and Plantation.	

15	DG Set / power	:	20 KVA DG Set proposed
16	Crusher	:	NA
17	Nearest Water Body	:	Bansloi River – 13.20 km- SW
18	Nearest Habitation	:	Basmata Village – 0.38 km - SW, Presence of habitation in more than 500m
19	Nearest Rail Station	:	Nagarnabi at a distance of 1.9 km in NE
20	Nearest Air Port	:	Kazi Nazrul Islam Airport, Andal, Paschim Bardhaman– 124 km-SW
21	Nearest Forest	:	Protected Forest – 2.70 Km
22	Road & Highways	:	Malpahari Road – 0.55 Kms. – East Dhulian Pakur Road – 5.60 Km - North

CO-ORDINATES

Point	Latitude	Longitude
1	24°35'01.08" N	87°51'00.28" E
2	24°35'01.01" N	87°50'57.54" E
3	24°35'02.20" N	87°50'58.22" E
4	24°35'02.26" N	87°50'58.50" E
5	24°35'02.57" N	87°50'58.53" E
6	24°35'02.96" N	87°50'57.19" E
7	24°35'04.63" N	87°50'56.16" E
8	24°35'05.25" N	87°50'55.57" E
9	24°35'05.96" N	87°50'55.02" E
10	24°35'06.29" N	87°50'55.81" E
11	24°35'04.96" N	87°50'58.37" E
12	24°35'04.39" N	87°51'01.09" E
13	24°35'04.00" N	87°51'01.89" E
14	24°35'03.67" N	87°51'01.72" E
15	24°35'03.44" N	87°51'02.16" E
16	24°35'03.48" N	87°51'02.72" E
17	24°35'03.35" N	87°51'02.85" E
18	24°35'03.38" N	87°51'03.15" E
19	24°35'03.02" N	87°51'03.20" E
20	24°35'02.90" N	87°51'02.71" E
21	24°35'02.65" N	87°51'02.67" E
22	24°35'01.59" N	87°51'01.31" E

LAND DETAILS :

Mouza	Khata No.	Plot No.
Basmata	22	180 (P), 181 (P), 182 (P), 198 (P), 199 (P), 200, 201, 202 (P), 203 (P), 204, 205 (P), 207, 208, 211, 212, 213 (P)

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Pakur vide letter no. 2038/M dated 18/11/2020.
2	CO	:	The CO, Pakur, vide letter no. 793/R, dated 12/06/2020 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. 187/M, dated 20/02/2021 certified that six lease areas (4.42 acre, 6.37 acre, 3.13 acre, 4.95 acre, 4.094 acre & 11.78 acre) exist within 500 m radius from proposed project site & Total lease area is 13.92 Ha, i.e. more than 5 Ha.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 106, dated 10.01.2020 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
5	DFO Forest Distance	:	DFO, Pakur Division vide letter no. 301, dated 04.02.2020 certified that the distance of reserved / protected forest is more than 250 metre.
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	:	On 22.07.2020
8	Mine Plan Approval	:	Letter No. 52/G dated 15/02/2022

Working Details

1	Mining Method	:	Semi Mechanised. Wagon Drilling & Blasting to be used	
2	Quarry Area	:	5 years – 0.89 Ha	End of Mine – 0.91 Ha
3	Waste Generation	:	5 years– 27,376 Cu.M	Life of Mine (Waste Gen.) –

			27,376 Cu.M
4	Stripping Ratio	:	1:0.04
5	Working Days	:	300
6	Benches: size & No	:	6 m x more than 6 , Bench No.- 1 to 4
7	Elevation of Mine	:	Maximum Elevation – 90 AMSL Minimum Elevation – 88 AMSL
8	Ground Level Elevation		88 AMSL
9	Ultimate Working Depth	:	68 AMSL
10	Water Table	:	66 AMSL (13 m bgl)
11	Topography of Mine	:	Undulating Terrain
12	Explosive Requirement	:	25.05 kg/day
13	Diesel/Fuel requirement	:	151.2 KL/year (504 Litres/day)

Production Details

Year	Production of Stone		Over Burden (OB)	Bench RL in meters
	Cubic meters	Tons	Cubic meters	
1st Year	49,796	1,44,408	15,340	37 – 35 (O.B.) 35 – 30 (Stone)
2nd Year	55,460	1,60,834	12,036	36.5 – 35 (O.B.) 35 – 30 (Stone)
3rd Year	46,846	1,33,853	0	30 – 25 (Stone)
4th Year	47,318	1,37,222	0	30 – 25(Stone)
5th Year	49,796	1,44,408	0	25 – 20 (Stone)
Total	**2,49,216**	**7,22,726**	**27,376**	**Depth- 17 m**

Land Use

Existing Land Use pattern

Category	Area in Hectares

Quarry	0.00
Road	0.00
Total area in use	**0.00**
Balance area unused	1.64
Total Leasehold area	**1.64**

Land Use Pattern after Proposed Plan Period of Five Years:

Category	Area in Hectares
Quarry	0.89
Office	0.01
Dump	0.04
Mining Road	0.02
Safety Zone/ Garland Drain/ Settling Tank	0.52
Total area in use	**1.48**
Unutilized	**0.16**
Total Leasehold area	**1.64**

Land Use Pattern after Life of the Mine:

Category	Area in Hectares
Quarry + Road	Water Body – 0.91 (To be Converted to Water Body after reducing the depth partially)
Safety Zone/ Garland Drain/ Settling Tank	0.52 (Plantation)
Dump +Office	0.05 (Plantation)
Unutilized	0.16
Total Leasehold area	**1.64**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.52 ha	1,300 trees @ 2500 trees per ha
2	Other Reclaimed Area	:	0.05 Ha.	125 trees @ 2500 trees per Ha.
3	Haul /Approach Road	:	0.55 KM	368 trees on both sides – 3 m distance

- 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 Generation

A total of 27,376 cum of wastes (Over Burden) will be generated from entire Basmta Stone Mine up to conceptual stage. Year-wise waste generation during the planned period is given below:

Table 3.7: Generation of Waste during Planned Period

Year	Waste Generation, In Cum
1st Year	15,340
2nd Year	12,036
3rd Year	0
4th Year	0
5th Year	0
Total	**27,376**

Source: Mining Plan

Disposal of Waste from the Quarry

There is only 9,790 cum overburden will be generated in mining plan period which will used in construction and maintenance of internal mine road and berm along the 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

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 is required permission should be taken from competent authority.

Baseline data generation has been done period October, 2021 to December, 2021.

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 18, 19, 20, 21, 22, 23, 24, 25, 26 & 27.02.2022, 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 12.12.18for issuing of TOR for consideration of SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV.

14. Amlagachi Stone Mine of M/s Maa Durga Stone Works, Mouza : Amlagachi, P.S. : Maheshpur, Dist. : Pakur, Jharkhand (2.66 Ha).

(Proposal No. : SIA/JH/MIN/72372/2022).

Project Category: B1 Application

EC Application for: Boulder Stone : 43,102 Cu.M. / year i.e. 1,20,686 TPA

DG Set : 20 KVA

Name of the Consultant : Sathi Planners Pvt. Ltd., Ranchi **PROJECT and LOCATION Details:**

Sl	Parameter		Details	
1	Project Name	:	Amlagachi Stone Mine, Project Type – Stone Mine	
2	Lessee:	:	M/s Maa Durga Stone Works, Sri Soumitro Ghosh	
3	Lease Address	:	Village – Amlagachi, P.S. - Maheshpur, Dist. – Pakur, State – Jharkhand.	
4	Lease Area	:	Ha: 2.66 ha	Acres: 6.58 Acres
	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Capital Cost – 84.65 Lakhs	
7	EMP Budget	:	Capital Cost – Rs. 7,99,350	Recurring Cost – Rs. 2,19,000
8	CSR / CER Budget	:	2.40 Lakhs (Proposed)	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 650,880 Cu. M.	Tonnes: 1,822,464 Tonnes
11	Mine Life	:	15.1 years	
12	Man power	:	25	
13	Water Requirement	:	17.045 KLD (Drinking:0.375 KLD, Dust Suppression: 4 KLD, Plantation: 12.67 KLD	
14	Water Source	:	Water will be Sourced from Abandoned Mine at a distance of 1.50 Km through Water Tanker for Dust Suppression and Plantation. Water will be sourced from Bore Well within the lease area for Drinking purpose.	
15	DG Set / power	:	20 KVA DG Set proposed	
16	Crusher	:	NA	
17	Nearest Water Body	:	Bansloi River 7.10 KM	
18	Nearest Habitation	:	Amlagachi Village: 0.80 Km	
19	Nearest Rail Station	:	Nagar Nabi Railway station – 15.2 km – NE	
20	Nearest Air Port	:	Malda Airport – 64.7 km - NE	
21	Nearest Forest	:	Protected Forest – 3.80 Km South	
22	Road & Highways	:	Sahargram- Maheshpur Road – 500m - W NH – 114 A- 10.80 Km -	

			NE

CO-ORDINATES

GPS Coordinate		
Point	**Latitude**	**Longitude**
1	24°33'32.60"N	87°43'16.40"E
2	24°33'32.19"N	87°43'18.53"E
3	24°33'31.15"N	87°43'19.24"E
4	24°33'27.44"N	87°43'18.71"E
5	24°33'26.17"N	87°43'18.77"E
6	24°33'26.12"N	87°43'16.63"E
7	24°33'26.45"N	87°43'14.71"E
8	24°33'24.20"N	87°43'13.59"E
9	24°33'24.85"N	87°43'12.36"E
10	24°33'27.90"N	87°43'13.63"E
11	24°33'28.06"N	87°43'13.29"E
12	24°33'28.78"N	87°43'13.54"E
13	24°33'30.56"N	87°43'14.92"E
14	24°33'30.75"N	87°43'15.38"E

LAND DETAILS

Mouza	Khata No.	Plot No.
Amlagachi	04	475

STATUTORY CLEARANCES

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Pakur, vide letter no. 589/M dated 23.04.2020
2	CO	:	The CO, Maheshpur, Pakur, vide letter no. 593/R, dated 06.08.2019 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. 1401/M, dated 12.09.2020 certified that two lease areas (7.09 acre & 3.16 acre) exists within 500 m radius from proposed project site & Total lease area is 6.81 Ha, i.e. more than 5 Ha.
4	DFO Wild Life	:	DFO Wildlife, Hazaribagh vide letter no. 1542, dated 03.08.2019 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
5	DFO Forest Distance	:	DFO, Pakur Division vide letter no. 1169, dated 18.09.2019 certified that the distance of reserved / protected forest is more than 250 meter.
6	DSR	:	This project is mentioned in District Survey Report (DSR) of Pakur district in Chapter 13 (Page No. 66 at St. No. 32).
7	Gram Sabha	:	On 28.08.2019

8	Mine Plan Approval	:	Letter No. 165/DDM, dated 06.07.2020

Working Details

1	Mining Method	:	Semi-mechanized open cast mining by wagon drills and control blasting.	
2	Quarry Area	:	5 years – 1.10 Ha	End of Mine – 1.78 Ha
3	Waste Generation	:	5 years– 9,531 Cu.M	
4	Stripping Ratio	:	1:0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6 m x 6 m, Bench No.- 1 to 4	
7	Elevation of Mine	:	Maximum Elevation – 174 AMSL Minimum Elevation – 172 AMSL	
8	Ground Level Elevation		172 AMSL	
9	Ultimate Working Depth	:	148 AMSL	
10	Water Table	:	139 AMSL (33 m bgl)	
11	Topography of Mine	:	Undulating Terrain	
12	Explosive Requirement	:	3.7 kg/day	
13	Diesel/Fuel requirement	:	119.4 KL/year (398 Litres/day)	

Production Details

Year	Annual Production Plan		OB	Bench RL in meters
	In Cubic Meters	In Tons	In Cubic Meters	
1st	43,102	120,686	4,290	120-112
2nd	42,861	120,011	3,008	112-106
3rd	42,925	120,190	1,273	120-112
4th	42,869	120,033	960	112-106
5th	42,880	120,064	0	106-100
Total	**214,637**	**600,984**	**9,531**	**Depth- 20 m**

Land Use

Existing Land Use pattern

Category	Area in Hectares

Barren Land	2.66
Quarry	0
Crusher Plant	0
Infrastructure	0
Garland drain	0
Settling Tank	0
Total	**2.66**

Land Use Pattern after Proposed Plan Period of Five Years:

Category	Area in Hectares
Quarry including Road	1.10
Safety Zone	0.88
O.B. Dump with Parapet Wall	0.01
Garland drain	0.01
Total area in use	**2.00**
Balance unused area	**0.66**
Total Leasehold area	**2.66**

Land Use Pattern after Life of the Mine:

Category	Area in Hectares
Quarry + Dump +Garland Drain	Vater Body after reducing the depth partially)
Safety Zone/ Greenbelt	0.88 (Plantation)
Total Leasehold area	**2.66**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.88 ha	2200 trees @ 2500 trees per ha
2	Haul /Approach Road	:	0.5 KM	334 trees on both sides – 3 m distance

- 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.

Waste Generation Waste Generation

A total of 9,531 cum of wastes (Over Burden) will be generated from entire Amlagachi Stone Deposit up to conceptual stage. Year-wise waste generation during the planned period is given below:

Table 3.7: Generation of Waste during Planned Period

Year	Waste Generation, In Cum
1st Year	4,290
2nd Year	3,008
3rd Year	1,273
4th Year	960
5th Year	0
Total	**9,531**

Source: Mining Plan

Disposal of Waste from the Quarry

There is only 9,531 cum overburden will be generated in mining plan period which will used for mine road construction & berm along the approach road construction & 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 reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be

done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.

- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months

Undertaking submitted affirming:

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

Baseline data generation has been done period October, 2021 to December, 2021.

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 18, 19, 20, 21, 22, 23, 24, 25, 26 & 27.02.2022, 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 12.12.18for issuing of TOR for consideration of SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV.

15. Bishunpur Stone Mine of M/s Otan Das & Company (Mining) Pvt. Ltd., Mouza : Bishunpur, Thana No. : 44, P.S. : Pakur, Dist. : Pakur, Jharkhand (2.20 Ha).

(Proposal No. : SIA/JH/MIN/69026/2021).

Applied Area: **5.44 Acres (2.20 Ha)**

Project Category: B1 – Application for Environment Clearance

EC Application for: Stone : 4,13,946 TPA ~ 1,42,740 m^3/yr;

Waste : 42480 cum waste generate during plan period.

DG Set : 20 KVA DG Set proposed

Crusher : Not Proposed

Name of the consultant : Sathi Planners Pvt. Ltd.

This is a new project which has been taken for appraisal on 23-02-2022

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Bishanpur Stone Deposit	
2	Lessee:	:	M/s Otan Das and Company (Mining) Pvt. Ltd., Director of Shri Pratik Agarwal	
3	Lease Address	:	Mouza – Bishunpur, Thana No.- 44, P.S. – Pakur, District – Pakur, State - Jharkhand	
4	Lease Area	:	Ha: 2.20	Acres: 5.44
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Rs. 115.50 Lakhs	
7	EMP Budget	:	Capital: Rs. 27.12 Lakhs	Recurring: Rs. 2.84 Lakhs/ year Monitoring cost: Rs. 0.24 Lakhs/year
8	CSR / CER Budget	:	Rs. 2.75 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.: 10,11,780 Cu. M.	Tonnes: 29,34,162
11	Mine Life	:	7.5 Years Only	
12	Man power	:	36 Person	
13	Water Requirement	:	27.44 KLD water shall be required for the project:	
14	Water Source	:	• Water will be sourced from Bore Well (Inside the lease area) for Drinking Purpose. • Water will be sourced from Abandon Mine at a distance of 1.20 Km from the lease area for Dust Suppression and Plantation.	
15	DG Set / power	:	Not Applicable	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	Bansloi River- 13.85 kms.- South	
18	Nearest Habitation	:	Pakur – 4.00 Kms. NE	
19	Nearest Rail Station	:	Pakur Railway station – 4.70 km – NE	

20	Nearest Air Port	:	KaziNazrul Islam Airport, Andal, PaschimBardhaman – 125km-SW
21	Nearest Forest	:	Protected Forest near Mohanpur – 4.75 Km- SE
22	Road & Highways	:	Pakka Road – 1.70 Kms. NH – 114 A – 2.90 Km - North

CO-ORDINATES

Point	Latitude	Longitude
1	24°36'31.46" N	87°49'07.59" E
2	24°36'31.51" N	87°49'06.09" E
3	24°36'31.02" N	87°49'05.72" E
4	24°36'31.08" N	87°49'04.75" E
5	24°36'31.05" N	87°49'03.24" E
6	24°36'33.07" N	87°49'04.08" E
7	24°36'34.78" N	87°49'04.87" E
8	24°36'37.28" N	87°49'05.58" E
9	24°36'38.76" N	87°49'06.08" E
10	24°36'38.90" N	87°49'05.53" E
11	24°36'40.09" N	87°49'05.91" E
12	24°36'40.08" N	87°49'06.81" E
13	24°36'39.81" N	87°49'07.72" E
14	24°36'39.11" N	87°49'07.81" E
15	24°36'38.99" N	87°49'09.44" E
16	24°36'38.53" N	87°49'09.54" E
17	24°36'38.38" N	87°49'08.70" E
18	24°36'38.02" N	87°49'08.67" E
19	24°36'38.01" N	87°49'09.19" E
20	24°36'36.30" N	87°49'08.91" E
21	24°36'35.82" N	87°49'08.57" E
22	24°36'35.71" N	87°49'08.19" E
23	24°36'33.60" N	87°49'08.07" E

Land Details

Mouza	Khata No.	Plot No.
Bishunpur	8	915, 916, 917, 918, 919, 920, 921, 936, 937, 938, 939, 940, 1044 (P)
	37	941, 942, 947

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Pakur vide letter no. 2035 /M dated 17.11.2020
2	CO	:	The CO, Pakur vide letter no. 131, dated 17.02.2020 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Pakur vide memo no. 188/M, dated 20.02.2021 certified that 05 other lease area (6.83 acre, 8.25 acre, 5.18 acre, 2.00 acre & 10.50 acre) exists within 500 m radius from proposed project site and total area is 38.20 acre (15.46 Ha).
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 108 , dated 10.01.2020 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
5	DFO Forest Distance	:	DFO, Pakur Division vide letter no. 840, dated 22.05.2020 certified that the distance of reserved / protected forest is more than 250 metre 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	:	On 03.03.2020
8	Mine Plan Approval	:	Letter No. 51/G dated 15.02.2022

WORKING DETAILS

1	Mining Method	:	Opencast Mechanized Mining	
2	Quarry Area	:	5 years– 1.48 ha	Life of Mine – 1.50 ha
3	Waste Generation	:	5 years– 42,480 Cum	Life of Mine – 42,480 Cum
4	Stripping Ratio	:	1:0.02	
5	Working Days	:	300 days/year	

6	Benches: size & No	:	5m x 5m
7	Elevation of Mine	:	In 112 MSL to 110 MSL
8	Ground Level Elevation		In 110 MSL
9	Ultimate Working Depth	:	In 82 MSL
10	Water Table	:	In 81 MSL and also 29 m bgl
11	Topography of Mine	:	Undulating
12	Explosive Requirement	:	Yes- No. of holes: 8/day; Explosive: Slurry- 66.8 Kg/Day
13	Diesel/Fuel requirement	:	Diesel required only for Mining machinery operation and Tippers/trucks for transportation.

PRODUCTION DETAILS

Year	Production of Stone		Over Burden (OB)	Bench RL in meters
	Cubic meters	Tons	Cubic meters	
1st Year	1,34,640	3,90,456	24840	57 – 56 (O.B.) 56 – 47 (Stone)
2nd Year	1,36,440	3,95,676	17640	56 – 55 (O.B.) 52 – 45 (Stone)
3rd Year	1,34,640	3,90,456	0	52- 42 (Stone)
4th Year	1,42,740	4,13,946	0	47 – 42 (Stone)
5th Year	1,34,640	3,90,456	0	42 – 37 (Stone)
Total	**6,83,100**	**19,80,990**	**42,480**	**Depth- 20 m**

LAND USE

Existing Land Use pattern

Category	Area in Hectares
Quarry	0.00
Road	0.00
Total area in use	**0.00**
Balance area unused	2.20
Total Leasehold area	**2.20**

Proposed Land Use for Current Plan Period

Category	Area in Hectares
Quarry	1.48
Dump	0.01
Mining Road	0.02

Road	0.02
Garland Drain/ Safety zone/ Settling Tank	0.58
Total area in use	**2.11**
Unutilized	**0.09**
Total Leasehold area	**2.20**

Land Use pattern at the Conceptual Stage i.e. end of mine

Category	Area in Hectares
Quarry+ mining road	1.50 Water Body – 1.50 Ha. (To be Converted to Water Body after reducing the depth partially)
Garland Drain/ Safety Zone/ Settling Tank	0.58 (Plantation)
Dump + office	0.03 (Plantation)
Total area in use	**2.11**
Unutilized	**0.09**
Total Leasehold area	**2.20**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.58 Ha	1450
2	Other Reclaimed Area	:	0.03	75
3	Haul /Approach Road	:	1700 meter	1134 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

A total of 42,480 Cum. of wastes (Over Burden) will be generated from entire Bishunpur Stone Mine up to conceptual stage will be dumped in the waste dump within the

mining lease area in 0.02 Ha. waste dump area inside the lease. OB will be utilized for internal mine road construction & berm along the approach road construction & maintenance.

Water Pollution Control Measures:

- Negligible impact envisaged on surface water and ground water due to mining as no discharge of effluent or intersection of ground water.
- No major surface water body within 1 km radius of the project site.
- Garland drain & settling tank will be constructed around dump for arresting run-off, it will be integral part of rainwater harvesting system.
- Post-project the quarry area will serve as reservoir, which will be source of water for the nearby areas.

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 road side 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 will be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling is required permission should be taken from competent authority.

Baseline data generation has been done period October, 2021 to December, 2021.

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 18, 19,

20, 21, 22, 23, 24, 25, 26 & 27.02.2022, 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 12.12.18for issuing of TOR for consideration of SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV.

Day 7 : February 24th , 2022 [Thursday]

Consideration of Proposals

1. **Jaidiha Stone Deposit of Smt. Asha Rani Tete, Village : Jaidiha, P.S. : Ormanjhi, Dist. : Ranchi, Jharkhand (0.708 Ha).**

   (Proposal No. : SIA/JH/MIN/254118 /2022).

   Project Category: **B2 – Application**
   EC Application for: **Boulder Stone : 7,879.30 Cu.M. / year i.e. 21,274.11 TPA**
   DG Set : 10 KVA

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

   This is a new project which has been taken for appraisal on 24.02.2022

   PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Jaidiha Stone Deposit, Project Type – Stone Mine	
2	Lessee:	:	Proprietor – Smt. Asha Rani Tete	
3	Lease Address	:	Village – Jaidiha, P.S. - Ormanjhi, Dist. – Ranchi, State – Jharkhand.	
4	Lease Area	:	Ha: 0.708 ha	Acres: 1.75 Acres
	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Capital Cost – 57.40 Lakhs	
7	EMP Budget	:	Capital: 11.5725 Lakhs	Recurring: 01.79 Lakhs
8	CSR / CER Budget	:	1.90 Lakhs	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 78,546 Cu. M.	Tonnes: 2,12,074.20 Tonnes
11	Mine Life	:	10 years approx	
12	Man power	:	22	
13	Water Requirement	:	10.96 KLD (Drinking:0.33 KLD, Dust Suppression: 4.8 KLD, Plantation:5.83 KLD	
14	Water Source	:	Water will be sourced from Abandoned Mine through Water Tanker for Dust Suppression and Plantation. Water will be sourced from Bore Well within the lease area for Drinking and Domestic Consumption.	

15	DG Set / power	:	10 KVA DG Set proposed
16	Crusher	:	NA
17	Nearest Water Body	:	Bhera River 0.90 KM
18	Nearest Habitation	:	Jaidiha Village: 0.60 Km, Ranchi 30 KM
19	Nearest Rail Station	:	Ramgarh Cant Railway station – 10.40 km – NW
20	Nearest Air Port	:	Ranchi Airport – 31.70 km – SW
21	Nearest Forest	:	Protected Forest – 1.45 Km
22	Road & Highways	:	Pakka Road – 0.16 Km – North, N.H. -33 – 4.20 Km – West

CO-ORDINATES

Point No.	Latitude	Longitude
1	23° 31' 31.9829" N	85° 32' 20.5838" E
2	23° 31' 31.5647" N	85° 32' 20.8856" E
3	23° 31' 30.5788" N	85° 32' 20.5127" E
4	23° 31' 29.4457" N	85° 32' 21.3442" E
5	23° 31' 28.0933" N	85° 32' 20.9818" E
6	23° 31' 28.6943" N	85° 32' 20.2178" E
7	23° 31' 29.1491" N	85° 32' 18.7755" E
8	23° 31' 29.8069" N	85° 32' 18.8779" E
9	23° 31' 29.4529" N	85° 32' 19.4028" E
10	23° 31' 30.1379" N	85° 32' 19.1548" E
11	23° 31' 30.2721" N	85° 32' 18.5082" E
12	23° 31' 30.3979" N	85° 32' 18.1188" E
13	23° 31' 32.3703" N	85° 32' 18.4261" E
14	23° 31' 32.0786" N	85° 32' 19.5976" E

LAND DETAILS

Mouza	Khata No.	Plot No.
Jaidiha	45	1099

STATUTORY CLEARANCES

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Ranchi, vide letter no. 885 /M dated 25.10.2021
2	CO	:	The CO, Ormanjhi (Ranchi) vide letter no. 766 (ii), dated 15.12.2020 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. 1028/M, dated 11.12.2021 certified that no lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide letter no. 1082 , dated 06.12.2021 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
5	DFO Forest Distance	:	DFO, Ranchi Division vide letter no. 263, dated 22.01.2021 certified that the distance of notified forest is more than 250 metre from proposed project site.
6	DSR	:	The DC-cum-District Magistrate, Ranchi vide letter no. 1161/ M, dated 30.12.2021 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	:	On 02.01.2021
8	Mine Plan Approval	:	Letter No. 747/G dated 01.11.2021

Working Details

1	Mining Method	:	Semi Mechanised. Wagon Drilling & Blasting to be used	
2	Quarry Area	:	5 years – 0.257 Ha	End of Mine – 0.400 Ha
3	Waste Generation	:	5 years– 3,640 Cu.M	Life of Mine (Waste Gen.) – 3,640 Cu.M
4	Stripping Ratio	:	1:0.03	
5	Working Days	:	300	
6	Benches: size & No	:	6 m x more than 6 m, Bench No.- 1 to 2	
7	Elevation of Mine	:	Maximum Elevation – 634 AMSL Minimum Elevation – 622 AMSL	
8	Ground Level Elevation		622 AMSL	
9	Ultimate Working Depth	:	617 AMSL	
10	Water Table	:	602 AMSL (20 m bgl)	
11	Topography of Mine	:	Undulating Terrain	
12	Explosive Requirement	:	6.3 Tons/year	
13	Diesel/Fuel requirement	:	386 KL/year (115.8 Litres/day)	

Production Details

Year	Production of Stone		Over Burden (OB)	Bench RL in meters
	Cubic meters	Tons	Cubic meters	
1st Year	7,854.60	21,207.42	3,328.00	A – A' : 578 - 575 (Stone) A – A' : 578 - 575 (O.B.)
2nd Year	7,879.30	21,274.11	312.00	A – A': 575 – 569 (Stone) A – A' : 575 – 572 (O.B.)
3rd Year	7,805.20	21,074.04	0	A – A' : 575 – 569 (Stone)
4th Year	7,869.42	21,247.43	0	A – A' : 575 – 569 (Stone)
5th Year	7,844.72	21,180.74	0	A – A' : 569 - 563 (Stone)
Total	**39,253.24**	**1,05,983.74**	**3,640.00**	**Depth – 15 m**

Land Use

Existing Land Use pattern

Category	Area in Hectares
Quarry	Nil
Road	Nil
Waste Dump	Nil
S.Z. Plantation	Nil
Total area in use	0.708
Balance unused area	0.00
Total Applied Lease Area	**0.708**

Land Use Pattern after Proposed Plan Period of Five Years:

Category	Area in Hectares
Quarry	0.257
Road	0.002
Waste Dump	0.143
S.Z. Plantation	0.306
Total area in use	0.708
Balance unused area	0.000
Total Applied Lease Area	**0.708**

Land Use Pattern after Life of the Mine:

Category	Area in Hectares
Quarry	0.400 (Water body after reducing the depth partially)
Road	0.002
Waste Dump	Nil (Waste dump to be removed and backfilled)
S.Z. Plantation	0.306 (Plantation)
Total area in use	0.708
Balance unused area	0.000
Total Applied Lease Area	**0.708**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.306 ha	765 trees @ 2500 trees per ha
2	Haul /Approach Road	:	0.60 KM	400 trees on both sides – 3 m distance

- 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.

Waste Generation

A total of 3,640 cum of wastes (Over Burden) will be generated from entire Jaidiha Stone Deposit up to conceptual stage. Year-wise waste generation during the planned period is given below:

Table 3.7: Generation of Waste during Planned Period

Year	Waste Generation, In Cum
1st Year	3,328.00
2nd Year	312.00
3rd Year	0
4th Year	0
5th Year	0
Total	**3,640.00**

Source: Mining Plan

Disposal of Waste from the Quarry

There is only 3,640 cum overburden will be generated in mining plan period which will used for backfilling and maintenance of mine road and village 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

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 is required permission should be taken from competent authority.

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 Jaidiha Stone Deposit of Smt. Asha Rani Tete, Village : Jaidiha, P.S. : Ormanjhi, Dist. : Ranchi, Jharkhand (0.708 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed asAnnexure – I.

2. **Hotap Stone Mine of M/s Maa Utkarsini Construction & Mines Pvt. Ltd., Mouza : Hotap, P.S. : Dumri, Thana no. : 25, Dist. : Gumla, Jharkhand (1.58 Ha).**

(Proposal No. : SIA/JH/MIN/243485/2021).

Applied Area: **3.91 Acres (1.58 Ha)**

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

EC Application for: **Stone : 1,17,300 TPA ~ 43,444.44 m^3/yr;**

Waste : 1,387 Cum O.B.
DG Set : 10 KVA
Crusher : Proposed in Mine Site

Name of the consultant : Sathi Planners Pvt. Ltd.

This is a new project which has been taken for appraisal on 24-02-2022

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Hotop Stone Mine **Project Type – Stone Mine & Crusher (100 TPH)**	
2	Lessee:	:	Maa Utkarshini Construction & Mines Pvt. Ltd. Director of Sri Himanshu Kumar & Payal Kumari	
3	Lease Address	:	Mouza – Hotap, Thana – Dumri No.- 25 , District – Gumla, State - Jharkhand	
4	Lease Area	:	Ha: 1.58	Acres: 3.91

5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Rs. 62.85 Lakhs	
7	EMP Budget	:	**Capital: Rs. 5.425 Lakhs**	**Recurring: Rs.-1.69 Lakhs/ year**
8	CSR / CER Budget	:	**Rs. 1.17 Lakhs**	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.: 484500 Cu. M.	Tonnes: 1308150
11	Mine Life	:	11 Years Only	
12	Man power	:	15 Person	
13	Water Requirement	:	7.765 KLD water shall be required for the project (Dust Suppression – 1.44 KLD, Drinking & Domestic- 0.225 KLD, Green Belt – 6.1 KLD)	
14	Water Source	:	• Water will be Sourced from Pond at a distance of 2.00 Km from Abandoned Mine through Water Tanker for Dust Suppression and Plantation. • Water will be sourced from Bore Well through hired tankers from the nearby settlement Hotap from the Mine lease area.	
15	DG Set / power	:	**10 KVA D.G. Set Proposed**	
16	Crusher	:	Proposed	
17	Nearest Water Body	:	Naugain Reservoir- 7.5 km.- SE	
18	Nearest Habitation	:	Hotap- 0.7 Kms. in S.	
19	Nearest Rail Station	:	Chhipadohar Railway station – 55.0 km – N	
20	Nearest Air Port	:	Ranchi Airport, Durgapur – 118 km – E	
21	Nearest Forest	:	As per forest division. Letter no – 2043 Dt- 21-10-2020	
22	Road & Highways	:	SH-09– 2.00 Km – NE	

CO-ORDINATES :

Latitude	Longitude
23°19'15.63"N	84°10'21.48"E
To	To
23°19'19.66"N	84°10'24.44"E

LAND DETAILS

Mouza	Khata No.	Plot No.
Hotap	05	768

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by DC, Gumla vide letter

		:	no. 1021 /M dated 06.10.2021
2	CO	:	The CO, Dumri vide letter no. 314 (ii), dated 12.11.2020 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. 1120/M, dated 28.10.2021 certified that no lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide memo no. 869 , dated 05.12.2020 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
5	DFO Forest Distance	:	DFO, Gumla Division vide letter no. 2043, dated 21.10.2020 certified that the distance of reserved / protected forest is more than 250 metre from proposed project site.
6	DSR	:	The DC-cum-District Magistrate, Gumla vide letter no. 1167/ M, dated 29.11.2021 has informed that this project is part of District Survey Report (DSR) at Gumla district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	On 16.10.2020
8	Mine Plan Approval	:	Letter No. 1117 dated 26.10.2021

Working Details :

1	Mining Method	:	Opencast Mechanized Mining	
2	Quarry Area	:	5 years– 1.23 ha	Life of Mine – 1.23 ha
3	Waste Generation	:	**5 years– 1,387 Cum.**	Life of Mine – 11 Years
4	Stripping Ratio	:	1:0.002	
5	Working Days	:	300 days/year	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	955 AMSL to 950 AMSL	
8	Ground Level Elevation		950 MSL	
9	Ultimate Working Depth	:	915 MSL	
10	Water Table	:	897 MSL and also 53 m bgl	
11	Topography of Mine	:	**Undulating Terrain**	
12	Explosive Requirement	:	Yes- No. of holes: 4/day; Explosive: Slurry- 69 Kg/Day	
13	Diesel/Fuel requirement	:	Diesel required only for Mining machinery operation and Tippers/trucks for transportation.	

Production details

Year	Production of Stone	Over Burden (OB)	Bench RL in meters

	Cubic meters	Tons	Cubic meters	
1st Year	43,444.44	1,17,300	1387	896.890
2nd Year	43,444.44	1,17,300	0	896.890
3rd Year	43,444.44	1,17,300	0	896.890
4th Year	43,444.44	1,17,300	0	896.890
5th Year	43,444.44	1,17,300	0	896.890
Total	**2,17,222.2**	**1,05,983.74**	**1387**	**Depth – 24 m**

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	0.000	1.23	1.25	(Water Body) 1,387 Cum. of O.B. will be used first for backfilling and after reducing the depth it will be converted into water body
2	Crusher	0.000	0.01	0.00	-
3	Dump	0.00	0.00	0.00	-
4	Road	0.000	0.01	0.00	-
5	Garland Drain	0.000	0.04	0.04	-
6	Safety Zone	0.00	0.28	0.28	Plantation
7	Settling Tank	0.00	0.02	0.02	-
8	Unutilized	1.58	0.00	0.00	-
	TOTAL	**1.58**	**1.58**	**1.58**	**-**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.28 Ha	700
2	Other Reclaimed Area	:	0.08	200
3	Haul /Approach Road	:	180 meter	120 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 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 waste generate in plan period.

Water Pollution Control Measures:

- Negligible impact envisaged on surface water and ground water due to mining as no discharge of effluent or intersection of ground water.
- No major surface water body within 1 km radius of the project site.
- Garland drain & settling tank will be constructed around dump for arresting run-off, it will be integral part of rainwater harvesting system.
- Post-project the quarry area will serve as reservoir, which will be source of water for the nearby areas.

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 road side 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 will be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling is required permission should be taken from competent authority.

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 Hotap Stone Mine of M/s Maa Utkarsini Construction & Mines Pvt. Ltd., Mouza : Hotap, P.S. : Dumri, Thana no. : 25, Dist. : Gumla, Jharkhand (1.58 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I.

3. Khaprajola Stone Mine of Shri Shyam Madhyan, Village : Khaprajola, Tehsil : Pakur, Dist. : Pakur, Jharkhand (3.31 Ha) .

(Proposal No. : SIA/JH/MIN/69881 /2021).

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

EC Application for: **Boulder Stone : 50,000 Cu.M. / year i.e. 1,35,000 TPA**
DG Set : 20 KVA

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

This is a new project which has been taken for appraisal on 24.02.2022.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Khaprajola Stone Mine Project Type – Stone Mine Increase in Production From 36,439 Tons/ Year to 1,35,000 tons / Year up to 21.05.2024 (remaining period of lease)	
2	Lessee:	:	Shri Shyam Madhyan	
3	Lease Address	:	Mouza - Khaprajola, P.S.- Pakur, No. – 92, District – Pakur, Jharkhand	
4	Lease Area	:	Ha: 3.31 ha	Acres: 8.19 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	105.40 Lakhs	

7	EMP Budget	:	Capital: 21.42 Lakhs	Recurring: 2.24 Lakhs
8	CSR / CER Budget	:	2.68 Lakhs	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 2,23,560 Cu. M.	Tonnes: 6,03,612Tonnes
11	Mine Life	:	6 years	
12	Man power	:	36	
13	Water Requirement	:	22.66 KLD (Drinking:0.54 KLD, Dust Suppression:8 KLD, Plantation:14.12 KLD	
14	Water Source	:	• Water will be Sourced from Pond at a distance of 200 m from Abandoned Mine through Water Tanker for Dust Suppression and Plantation. • · Water will be sourced from Bore Well through hired tankers from the nearby settlement (Khaprajola) which is 0.40 km (SW) from the Mine lease area.	
15	DG Set / power	:	20 KVA	
16	Crusher	:	Na.	
17	Nearest Water Body	:	Ganga River 15.00 KM	
18	Nearest Habitation	:	Khaprajola Village: 0.40 KM; Pakur 5.00 KM	
19	Nearest Rail Station	:	Pakur Railway station – 4.5 km - NNE	
20	Nearest Air Port	:	Kazi Nazrul Islam Airport – 125 km - SW	
21	Nearest Forest	:	Protected Forest, Mohanpur - 3.70 Km	
22	Road & Highways	:	Malpahari road – 1 Km, NH -114 A-3.60 Km North	

CO-ORDINATES :

Geo-Coordinates		
Corner Point	**Latitude**	**Longitude**
P1	24° 35' 57.38"N	87° 50' 31.02"E
P2	24° 35' 57.87"N	87° 50' 29.45"E
P3	24° 35' 58.85"N	87° 50' 29.60"E
P4	24° 36' 01.45"N	87° 50' 30.78"E
P5	24° 36' 01.92"N	87° 50' 29.78"E
P6	24° 36' 00.96"N	87° 50' 29.13"E
P7	24° 35' 58.16"N	87° 50' 28.35"E
P8	24° 35' 58.57"N	87° 50' 26.60"E
P9	24° 35' 59.00"N	87° 50' 26.48"E
P10	24° 36' 02.84"N	87° 50' 27.80"E
P11	24° 36' 03.18"N	87° 50' 26.91"E
P12	24° 36' 03.06"N	87° 50' 25.60"E
P13	24° 36' 02.27"N	87° 50' 24.86"E
P14	24° 36' 01.91"N	87° 50' 23.57"E
P15	24° 36' 02.24"N	87° 50' 22.63"E
P16	24° 36' 02.53"N	87° 50' 22.68"E
P17	24° 36' 02.88"N	87° 50' 24.16"E

P18	24° 36' 03.74"N	87° 50' 25.19"E
P19	24° 36' 03.64"N	87° 50' 25.87"E
P20	24° 36' 04.13"N	87° 50' 27.31"E
P21	24° 36' 04.37"N	87° 50' 27.21"E
P22	24° 36' 04.70"N	87° 50' 27.52"E
P23	24° 36' 04.62"N	87° 50' 28.32"E
P24	24° 36' 04.37"N	87° 50' 28.78"E
P25	24° 36' 04.01"N	87° 50' 28.90"E
P26	24° 36' 03.76"N	87° 50' 30.33"E
P27	24° 36' 04.08"N	87° 50' 32.04"E
P28	24° 36' 03.79"N	87° 50' 32.16"E
P29	24° 36' 03.01"N	87° 50' 35.18"E
P30	24° 36' 00.13"N	87° 50' 34.03"E
P31	24° 36' 00.49"N	87° 50' 32.58"E
P32	24° 35' 59.10"N	87° 50' 31.88"E

LAND DETAILS

Mouza	Khata No.	Plot No.
Khaprajola	4	626
	6	622, 623, 624, 625
	10	627, 628, 629
	16	631
	17	634, 635, 636, 637
	20	633
	21	632

STATUTORY CLEARANCES

1	LOI/Lease docs	:	Lease deed 22.05.2014 to 21.05.2024.
2	CO	:	The CO, Pakur vide letter no. 739, dated 07.08.2021 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Pakur vide memo no. 912/M, dated 02.08.2014 certified that 05 lease area exists within 500 m radius from proposed project site and total area is 9.21 ha.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 991 , dated 14.06.2021 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
5	DFO Forest Distance	:	DFO, Pakur Division vide letter no. 800, dated 17.06.2014 certified that the distance of forest is more than 500 metre from proposed project site.

6	DSR		This project site has mentioned in District Survey Report (DSR) of Pakur district.
7	Gram Sabha	:	On 12.08.2014
8	Mine Plan Approval	:	Memo No. 2132 dated 27.09.2018

Working Details

1	Mining Method	:	Semi Mechanised. Wagon, Drilling & Blasting to be used	
2	Quarry Area	:	5 years – 2.23 Ha	End of Mine – 2.34 Ha
3	Waste Generation	:	5 years– 7,283 Cum.	Life of Mine – 7,283 Cu.M
4	Stripping Ratio	:	1:0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6 m x 6 m, Bench No.- 1 to 7	
7	Elevation of Mine	:	Elevation – 96 AMSL	
8	Ground Level Elevation		96 m In AMSL	
9	Ultimate Working Depth	:	18 mRL (71 m AMSL)	
10	Water Table	:	63 m AMSL & also 33 m bgl	
11	Topography of Mine	:	Undulating Terrain	
12	Explosive Requirement	:	18.9 Tons/year	
13	Diesel/Fuel requirement	:	688 KL/year (206.40 Litres/day)	

Production Details

Year	Production of Stone		Over Burden (OB)	Bench RL in meters
	Cubic meters	Tons	Cum.	
6th Year	50000	135000	4855	48 to 42 m (Stone) 42 to 36 m (Stone) 48 to 42 m (O.B.)
7th Year	50000	135000	0	36 to 30 m (Stone) 30 to 24 m (Stone)
8th Year	50000	135000	0	30 to 24 m (Stone) 24 to 18 m (Stone)
9th Year	8333	22499	0	24 to 18 m (Stone)
Total	1,58,333	4,27,499	4855	Depth – 30 m

Land Use

Existing Land Use pattern

Category	Area in Hectares

Quarry including road	1.39
Total area in use	**1.39**
Balance area unused	1.92
Total Leasehold area	**3.31**

Proposed Land Use for Current Plan Period

Category	Area in Hectares
Quarry including road	2.230
Plantation in Safety Barrier	0.970
Dump	0.070
Parapet Wall	0.005
Garland Drain	0.005
Total area in use	**3.280**
Total Leasehold area	**3.310**

Land Use pattern at the Conceptual Stage i.e. end of mine

Category	Area in Hectares
Quarry including backfilling & reservoir	2.34 (Water Body) 4855 Cum. of O.B. will be used first for backfilling and after reducing the depth it will be converted into water body
Green Belt in Safety Zone	0.97 (Plantation)
Total area in use	3.31
Balance area unused	0
Total Leasehold area	**3.31**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.97 ha	2424 trees @ 2500 trees per ha
2	Other Reclaimed Area	:	0.10 Ha.	250 trees @ 2500 trees per Ha.
3	Haul /Approach Road	:	1 KM	400 trees on both sides – 5 m distance

- 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

- A total of 4,855 Cum of wastes (Over Burden) will be generated from entire Khaprajola Stone Mine up to conceptual stage. Year-wise waste generation during the planned period is given below:

Generation of Waste during Planned Period

Year	Waste Generation, In Cum
6th Year	4,855
7th Year	0
8th Year	0
9th Year	0
Total	**4,855**

Disposal of Waste from the Quarry

- Over burden will be dumped in the waste dump within the mining lease area in 0.07 Ha. waste dump area inside the lease. OB will be utilized for internal mine road construction & berm along the approach road construction & 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 reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months

Undertaking submitted affirming:

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

Baseline data generation has been done period October, 2021 to December, 2021.

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 18, 19, 20, 21, 22, 23, 24, 25, 26 & 27.02.2022, 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 for consideration of SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV.

4. Katekewa Stone Mine of M/s Nirmal Jhunjhunwala Stone Mines, Mouza : Katekewa (No. 39), Sub Division : Rajmahal, Dist. : Sahebganj, Jharkhand (2.18 Ha).

(Proposal No. : SIA/JH/MIN/243549/2021).

Applied Area: 5.40 Acres (2.18 Ha)
Project Category: B2 – Application for Environment Clearance
EC Application for: Stone : 149400 TPA ~ 55333.33 m^3/yr;

Waste : 1182 cum O.B. generate during plan period.
DG Set : 25 KVA proposed
Crusher : Not Proposed

Name of the consultant : Sathi Planners Pvt. Ltd.
This is a new project which has been taken for appraisal on 24-02-2022

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Nirmal Jhunjhunwala Stone Mine, Project type – Stone Mine	
2	Lessee:	:	Shri Nirmal Jhunjhunwala	
3	Lease Address	:	Mouza – Katekewa, Sub – Division – Rajmahal, District – Sahebganj, State – Jharkhand.	
4	Lease Area	:	Ha:2.18	Acres: 7.25
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Rs. 82.85 Lakhs	
7	EMP Budget	:	Capital: Rs. 7.18 Lakhs	**Recurring: Rs. 2.19 Lakhs/ year**
8	CSR / CER Budget	:	Rs. 3.00 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.: 553356.00 Cu. M.	Tonnes: 1494061.20
11	Mine Life	:	10 Years Only	
12	Man power	:	15 Person	
13	Water Requirement	:	8.105 KLD (Drinking:0.225 KLD, Dust Suppression: 2.88 KLD, Plantation: 5.00 KLD	
14	Water Source	:	• Water will be Sourced from Pond at a distance of 2.00 Km from Abandoned Mine through Water Tanker for Dust Suppression and Plantation. • Water will be sourced from Bore Well through hired tankers from the nearby settlement Katekewa from the Mine lease area.	
15	DG Set / power	:	25 KVA D.G. Set proposed	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	Ganga River – 10.0 km.- ENE	

18	Nearest Habitation	:	Katekewa- 1.2 Kms. in NW.
19	Nearest Rail Station	:	Taljhari Railway station – 6.0 km – NE
20	Nearest Air Port	:	Bhagalpur Airport – 72.0 km – WNW .
21	Nearest Forest	:	Protected Forest – 2.00 Km
22	Road & Highways	:	The State Highway (SH-18) is about 8.0 Km in W direction of project site

CO-ORDINATES

Toposheet : 72 O/12	
Latitude	**Longitude**
25°02'10.92"N	87°41'41.95"E
To	To
25°02'15.33"N	87°41'43.88"E

LAND DETAILS

Khata No.	**Plot No.**
09	44 (P)
09	45 (P)
04	74 (P)
01	75 (P)

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Sahebganj vide letter no. 419 /M dated 16.04.2021
2	CO	:	The CO, Taljhari vide letter no. 681, dated 11.10.2019 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Sahebganj vide memo no. 1144/M, dated 24.11.2021 certified that one lease area (6.90 acre) exists within 500 m radius from proposed project site and total area is 12.30 acre (less than 5 ha) .
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 2036 , dated 21.09.2019 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
5	DFO Forest Distance	:	DFO, Sahebganj Division vide letter no. 458, dated 22.02.2020 certified that the distance of reserved / protected forest is more than 250 metre from proposed project site.
6	DSR	:	The DC-cum-District Magistrate, Sahebganj vide letter no. 668/ M,

			dated 09.07.2021 has informed that this project is part of District Survey Report (DSR) at Sahebganj district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	On 12.09.2019
8	Mine Plan Approval	:	Letter No. 1132 dated 22.11.2021

WORKING DETAILS

1	Mining Method	:	Opencast Mechanized Mining	
2	Quarry Area	:	5 years– 1.48 ha	Life of Mine – 1.75 ha
3	Waste Generation	:	5 years– 1,182 Cum.	Life of Mine – 10 Years
4	Stripping Ratio	:	1:0.001	
5	Working Days	:	300 days/year	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	In 279 MSL to 249 MSL	
8	Ground Level Elevation		In 249 MSL	
9	Ultimate Working Depth	:	In 225 MSL	
10	Water Table	:	In 219 MSL and also 30 m bgl	
11	Topography of Mine	:	Gently sloping	
12	Explosive Requirement	:	Yes- No. of holes: 3/day; Explosive: Slurry-207 Kg/Day	
13	Diesel/Fuel requirement	:	194.4 Kl/year	

PRODUCTION DETAILS

Year	Production of stone		Removal of Gritty soil in
	in Tonnes	in Cum	in Cum
1st	1,47,744.00	54,720.00	401
2nd	1,49,400.00	55,333.33	407
3rd	1,49,400.00	55,333.33	000
4th	1,49,400.00	55,333.33	374
5th	1,49,400.00	55,333.33	000

Total	7,45,344.00	2,76,053.32	1182

LAND USE

Existing Land Use Pattern

SL	Pattern	Present Land Use (Ha)	Proposed Current Plan Period (Ha)	Proposed Land Use at End of Life of Mine (Ha)	Land Usage at Conceptual Stage
1	Quarry Area	Nil	1.48	1.75	Water Body
2	Greenbelt within safety barrier	Nil	0.42	0.42	Plantation
3	Road	0.00	0.01	-	-
4	Overburden Dump	Nil	0.14	-	-
5	Approach Road	Nil	0.00	0.01	-
6	Settling tank	Nil	0.02	0.00	-
7	Garland drain	Nil	0.05	0.00	-
8	Balance unused area	2.18	0.06	-	-
	TOTAL	**2.18**	**2.18**	**2.18**	**-**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.42 Ha	760
2	Haul /Approach Road	:	360 meter	240 Tree both side approach road.

- Gabion Plantation work in the 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

- 1,182.00 Cum overburden will be generated on the hill top, which will be used for construction of approach road.

Water Pollution Control Measures:

- Negligible impact envisaged on surface water and ground water due to mining as no discharge of effluent or intersection of ground water.

- No major surface water body within 1 km radius of the project site.
- Garland drain & settling tank will be constructed around dump for arresting run-off, it will be integral part of rainwater harvesting system.
- Post-project the quarry area will serve as reservoir, which will be source of water for the nearby areas.

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 road side 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 will be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling is required permission should be taken from competent authority.

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 Katekewa Stone Mine of M/s Nirmal Jhunjhunwala Stone Mines, Mouza : Katekewa (No. 39), Sub Division : Rajmahal, Dist. : Sahebganj, Jharkhand (2.18 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I.

5. **Khoro Brick Clay Deposit of M/s Jai Thakur Baba Industries Pvt. Ltd., Village : Khoro, Tehsil : Tisri, Dist. : Giridih, Jharkhand (0.627 Ha).**

(Proposal No. : SIA/JH /MIN/257431/2022).

Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Brick Clay : 1200 Cu.M. / year i.e. 600000 Brick Yearly**

Waste : No Waste Generate

DG Set :N/A

Mobile Crusher : Not Required

Name of the consultant : Sathi Planners Pvt. Ltd.

This is a new project which has been taken for appraisal on 24-02-2022

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Khoro Brick Clay Mining	
2	Lessee:	:	M/s Jai Thakur Baba Industries Pvt. Ltd., , Partner- Shri Dilip Kumar	
3	Lease Address	:	Address – Chandauri, P.O. – Tisri P.S. - Tisri, District – Giridih State – Jharkhand,	
4	Lease Area	:	Ha: 0.627	Acres: 1.55
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	RS.- 16.35 Lakhs	
7	EMP Budget	:	Capital: RS. - 6.50 Lakhs	Recurring: Rs- 1.30 Lakh / year Monitoring ; Rs. – 0.90 Lakh Year
8	CSR / CER Budget	:	Rs.- 0.80 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.: 1200 Cu. M.	Tonnes: N/A
11	Mine Life	:	5 Years	
12	Man power	:	10 Person	
13	Water Requirement	:	2.54 KLD (Drinking:0.25 KLD, Dust Suppression: 0.81 KLD, Plantation: 1.48 KLD	
14	Water Source	:	Water Tanker nearest Pond/water bodies	
15	DG Set / power	:	Not Applicable	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	Falgu Nadi - 3.28 km (N) Garhi Reservoir - 18 km NE	
18	Nearest Habitation	:	Chandauri – 2.45 Km (WS)	
19	Nearest Rail Station	:	Giridih Railway Station: 55 Km SE	
20	Nearest Air Port	:	Birsa Munda, Airport, Ranchi 165 km SE direction from the mine site.	
21	Nearest Forest	:	Giridih forest division. Letter no – 322, Dt- 11-02-2021	
22	Road & Highways	:	NH-31 – 50 Km (SW) SH-18 – 24 Km (NW)	

CO-ORDINATES :

Toposheet : 72L/2	
Latitude	**Longitude**
$24^0$37'48.14" N	$86^0$04'52.43" E

To	To
$24^0$37'44.82" N	$86^0$04'52.84" E

Land Details :

Mouza	Khata No.	Plot No.
Khoro	09	133, 135, 136

STATUTORY CLEARANCES

1	LOI/Lease docs	:	Land agreement with Owner 5 Years
2	CO	:	The CO, Tisri vide letter no. 27, dated 21.01.2021 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in Register II.
3	DMO	:	DMO, Giridih vide memo no. 839/M, dated 23.09.2021 certified that one other lease area (10.67) exists within 500 m radius from proposed project site and total area is 12.22 acre (less than 5 ha).
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 2066 , dated 28.11.2021 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
5	DFO Forest Distance	:	DFO, Giridih East Division vide letter no. 322, dated 11.02.2021 certified that the distance of reserved / protected forest is more than 250 metre from proposed project site.
6	DSR	:	The DC-cum-District Magistrate, Giridih vide letter no. 70/ M, dated 29.01.2022 has informed that this project is part of District Survey Report (DSR) at Giridih district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	On 11.01.2021
8	Mine Plan Approval	:	Letter No. 709 / G dated 08.10.2021

Working Details

1	Mining Method	:	Manual Method Mining	
2	Quarry Area	:	5 years – 0.330	Life of Mine – 0.330 Years
3	Waste Generation	:	5 years– Nil	Life of Mine – 5 Years
4	Stripping Ratio	:	NA	
5	Working Days	:	200	
6	Benches: size & No	:	1m x 1m	

7	Elevation of Mine	:	In 318 MSL
8	Ground Level Elevation		In 317 MSL
9	Ultimate Working Depth	:	In 315 MSL
10	Water Table	:	In 298-300 MSL and also bgl
11	Topography of Mine	:	Flat area
12	Explosive Requirement	:	Not Applicable
13	Diesel/Fuel requirement	:	Not Required

Production Details

Year	Production of stone in CUM	Top soil Removal in CUM
1st	1200	700
2nd	1200	
3rd	1200	
4th	1200	
5th	1200	
Total	**6000**	**700**

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	Quarry Area	0.000	0.330	0.350	Land Cultivation
2	Safety Barrier / Berm Area	0.000	0.297	0.297	Plantation
3	Brick Kiln	0.000	0.083	0.083	Brick Kiln
4	Unutilized	0627	0.020	0.000	-
	TOTAL	**0.627**	**0.627**	**0.627**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.297 Ha	Grass Cultivation
2	Other Reclaimed Area	:	0.00	No
3	Haul /Approach Road	:	20 meter	25 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 3 x 3 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 700 Cu.M. during the life of Mine. Top soil storage is 0.01 ha. The Top soil shall be used backfill after end of life of the mine.

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 is required permission should be taken from competent authority.

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 Khoro Brick Clay Deposit of M/s Jai Thakur Baba Industries Pvt. Ltd., Village : Khoro, Tehsil : Tisri, Dist. : Giridih, Jharkhand (0.627 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I.

6. Chuwa Stone Deposit of M/s Shyam Stone Works of Sri Ved Prakash Khudania, Village : Chuwa, Thana : Sakrogarh, Thana No. 8, Dist. : Sahebganj, Jharkhand (2.93 Ha).

(Proposal No. : SIA/JH/MIN/257812/2022).

Applied Area: **7.25 Acres (2.93 Ha)**
Project Category: **B2 – Application for Environment Clearance**
EC Application for: **Stone : 148500 TPA ~ 55000 m^3/yr;**
Waste : No waste generate during plan period.
DG Set : 20 KVA D.G. Set proposed
Crusher : Not Proposed

Name of the consultant : Sathi Planners Pvt. Ltd.

This is a new project which has been taken for appraisal on 24-02-2022

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Chuwa Stone Deposit	
2	Lessee:	:	M/s Shyam Stone Works, Proprietor- Shri Ved Prakash Khudania	
3	Lease Address	:	At Mouza/ Village- Chuwa, PS.- Sakrogarh, Dist- Sahebganj	
4	Lease Area	:	Ha:2.93	Acres: 7.25
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Rs. 137 Lakhs	
7	EMP Budget	:	Capital: Rs. 9.50 Lakhs	Recurring: Rs. 5.30 Lakhs/ year Monitoring cost: Rs. 0.90 Lakhs/year
8	CSR / CER Budget	:	Rs. 2.74 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.: 1552859.79 Cu. M.	Tonnes: 4192720.79
11	Mine Life	:	28 Years Only	
12	Man power	:	15 Person	
13	Water Requirement	:	9.03 KLD (Drinking:0.38 KLD, Dust Suppression: 4.41 KLD,	

			Plantation: 4.24 KLD
14	Water Source	:	Through Water Tanker –nearby spring/Nala & Wells
15	DG Set / power	:	20 KVA D.G. Set proposed
16	Crusher	:	Not Applicable
17	Nearest Water Body	:	Ganga River - 15.85 Km (N) Spring – 0.80 Km (EN)
18	Nearest Habitation	:	Sahebganj 6.25 km EN direction from the mine site.
19	Nearest Rail Station	:	Sahebganj Railway Station 6.50 km EN direction from the mine site.
20	Nearest Air Port	:	Birsa Munda Airport, Ranchi 345 km SW direction from the mine site.
21	Nearest Forest	:	As per forest division. Letter no – 1737 Dt- 10-09-2018
22	Road & Highways	:	NH-33 – 3.79 Km (N) SH-18 – 8.46 Km (E)

CO-ORDINATES

Toposheet : 72 O/12	
Latitude	**Longitude**
25012'59.50" N	87034'29.70" E
To	To
25012'52.90" N	87034'32.28" E

Land Details :

Mouza	**Khata No.**	**Plot No.**
Chuwa	17	8 (P) & 10

STATUTORY CLEARANCES

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Sahebganj vide letter no. 1130 /M dated 20.11.2021
2	CO	:	The CO, Mandro vide memo no. 264, dated 26.05.2020 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Sahebganj vide memo no. 1256/M, dated 30.12.2021 certified that no other lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, In-Charge Wildlife Sanctuary, Udhwa (Sahebganj) vide letter no. 102 , dated 12.01.2022 certified that the National Park & Sanctuary is not within 10 km from project site and proposed

			project is not situated in any ESZ.
5	DFO Forest Distance	:	DFO, Sahebganj Division vide memo no. 1737, dated 10.09.2018 certified that the distance of forest is 260 m from proposed project site.
6	DSR	:	The DC-cum-District Magistrate, Sahebganj vide letter no. 146/ M, dated 17.02.2022 has informed that this project is part of District Survey Report (DSR) at Sahebganj district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	On 14.02.2020
8	Mine Plan Approval	:	Letter No.1248 , dated 29.12.2021

WORKING DETAILS

1	Mining Method	:	Opencast Mechanized Mining	
2	Quarry Area	:	5 years– 1.88 ha	Life of Mine – 1.88 ha
3	Waste Generation	:	5 years– No	Life of Mine – 28 Years
4	Stripping Ratio	:	--	
5	Working Days	:	300 days/year	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	In 226 MSL to 214 MSL	
8	Ground Level Elevation		In 214 MSL	
9	Ultimate Working Depth	:	In 165 MSL	
10	Water Table	:	In 160 MSL and also 5-10 m bgl	
11	Topography of Mine	:	Hilly sloping2	
12	Explosive Requirement	:	Yes- No. of holes: 2/day; Explosive: Slurry-69 Kg/Day	
13	Diesel/Fuel requirement	:	Diesel required only for Mining machinery operation and Tippers/trucks for transportation.	

PRODUCTION DETAILS

Year	Production of stone		Removal of Gritty soil in	
	in Tonnes	in TCum	in Tonnes	in Cum
1st	148500	55000	0	0
2nd	148500	55000	0	0
3rd	148500	55000	0	000
4th	148500	55000	0	000
5th	148500	55000	0	000

Total	742500	275000	0	0

LAND USE

SL	Pattern	Present Land Use (Ha)	Proposed Current Plan Period (Ha)	Proposed Land Use at End of Life of Mine (Ha)	Land Usage at Conceptual Stage
1	Quarry Area	Nil	1.880	1.932	Water Body
2	Greenbelt within safety barrier	Nil	0.980	0.980	Plantation
3	Road	0.00	0.040	-	-
4	Infrastructure	Nil	0.001	-	-
5	Approach Road	Nil	0.011	-	-
6	Settling tank	Nil	0.010	0.010	-
7	Garland drain	Nil	0.011	0.011	-
8	Balance unused area	2.93	0.00	-	-
	TOTAL	**2.93**	**2.93**	**2.93**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.98 Ha	1960
2	Other Reclaimed Area	:	0.00	No
3	Haul /Approach Road	:	490 meter	160 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 3 x 3 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 Waste Generation during the life of Mine.

Water Pollution Control Measures:

- Negligible impact envisaged on surface water and ground water due to mining as no discharge of effluent or intersection of ground water.
- No major surface water body within 1 km radius of the project site.
- Garland drain & settling tank will be constructed around dump for arresting run-off, it will be integral part of rainwater harvesting system.
- Post-project the quarry area will serve as reservoir, which will be source of water for the nearby areas.

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 road side 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 will be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling is required permission should be taken from competent authority.

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 Chuwa Stone Deposit of M/s Shyam Stone Works of Sri Ved Prakash Khudania, Village : Chuwa, Thana : Sakrogarh, Thana No. 8, Dist. : Sahebganj, Jharkhand (2.93 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I.

7. **Gadwa Stone Deposit of M/s Mahalaxmi Crusher & Logistics, Mouza : Gadwa, P.O. : Sakrigali, P.S : Taljhari, Dist. : Sahebganj, Jharkhand (2.832 Ha).**

(Proposal No. : SIA/JH/MIN/68943/2021).

Project Category: **B1– Application**

EC Application for: **Boulder Stone : 67,792 Cu.M. / year i.e. 1,69,480 TPA**
DG Set : 20 KVA

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

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Gadwa Stone Deposit Project Type – Stone Mine & Crusher (100 TPH Capacity)	
2	Lessee:	:	M/s Mahalaxmi Crusher and Logistics Partner – Shri Sanjay Prasad Yadav & Others	
3	Lease Address	:	Village – Gadwa, P.O.- Sakrigali, P.S.- Taljhari, Dist. – Sahibganj, State – Jharkhand	
4	Lease Area	:	Ha: 2.832 ha	Acres: 7.00 Acres
	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Capital Cost – 87.55 Lakhs	
7	EMP Budget	:	Capital: 24.03 Lakhs	Recurring: NA
8	CSR / CER Budget	:	2.25 Lakhs (Proposed)	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.M.: 6,77,920S Cu. M.	Tonnes: 16,94,800 Tonnes
11	Mine Life	:	10 Years	
12	Man power	:	37	
13	Water Requirement	:	33.76 KLD (Drinking:0.56 KLD, Dust Suppression: 14.40 KLD, Plantation: 18.8 KLD)	
14	Water Source	:	• Water will be Sourced from Abandon Mine for Dust Suppression and Plantation. • Water will be sourced from Bore Well (within lease area) for Drinking and Domestic Consumption.	
15	DG Set / power	:	25 KVA DG Set proposed	
16	Crusher	:	Crusher (100 TPH Capacity)	
17	Nearest Water Body	:	Ganga River 2.80 KM	
18	Nearest Habitation	:	Gadwa Village: 0.50 Km, Sahebganj 7.57 KM	

19	Nearest Rail Station	:	Sakrigali Railway Station- 2.26 Km (aerial distance) –NW
20	Nearest Air Port	:	Kazi Nazrul Islam Airport – 184.34 km – SW
21	Nearest Forest	:	Dense mixed Jungle – 1.80 Km
22	Road & Highways	:	NH 80 – 1.80 Km in NE direction.

CO-ORDINATES

Geo-Coordinates		
Corner Point	**Longitude**	**Latitude**
1	25° 13' 21.73" N	87° 43' 10.70" E
2	25° 13' 25.17" N	87° 43' 07.49" E
3	25° 13' 30.51" N	87° 43' 13.83" E
4	25° 13' 28.92" N	87° 43' 15.23" E

Land Details :

Mouza	Khata No.	Plot No.
Gadwa	01	44 (P)

STATUTORY CLEARANCES

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Sahebganj vide letter no. 107 /M dated 03.02.2020
2	CO	:	The CO, Taljhari vide letter no. 262, dated 29.05.2020 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Sahebganj vide memo no. 2045/M, dated 03.11.2018 certified that 04 other lease area (11.00 acre, 5.76 acre, 12.30 acre and 25.00 acre) exists within 500 m radius from proposed project site and total area is more than 5 ha.
4	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 397 , dated 17.02.2020 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
5	DFO Forest Distance	:	DFO, Sahebganj Division vide memo no. 2364, dated 18.12.2018 certified that the distance of forest is 253 m from proposed project site.
6	DSR	:	This project site has mentioned in District Survey Report (DSR) of Sahebganj district.

7	Gram Sabha	:	On 23.07.2018
8	Mine Plan Approval	:	Letter No.594 , dated 08.05.2020

Working Details

1	Mining Method	:	Semi Mechanised. Wagon Drilling & Blasting to be used	
2	Quarry Area	:	5 years – 2.190 Ha	End of Mine – 2.215 Ha
3	Waste Generation	:	5 years– 68,970 Cu.M	Life of Mine (Waste Gen.) – 68,970 Cu.M
4	Stripping Ratio	:	1:0.08	
5	Working Days	:	300	
6	Benches: size & No	:	6 m x more than 6 m, Bench No.- 1 to 11	
7	Elevation of Mine	:	Maximum Elevation of M.L. area – 316 m AMSL Minimum Elevation of M.L. area - 293 m AMSL	
8	Ground Level Elevation	:	293 AMSL	
9	Ultimate Working Depth	:	252 AMSL	
10	Water Table	:	244 AMSL (49 m bgl)	
11	Topography of Mine	:	Steep Slope	
12	Explosive Requirement	:	21 Tons/year	
13	Diesel/Fuel requirement	:	486 KL/year (145.80 Litres/day)	

Production Details :

Year	Production of Stone in Tons/ Year	Production of Stone in Cum / Year	Waste (cum)	Bench RL in meters
1st	1,69,375	67,750	34,770	260-244
2nd	1,69,450	67,780	11,400	250-238
3rd	1,69,480	67,792	12,350	244-232
4th	1,69,480	67,792	Nil	238-232
5th	1,69,480	67,792	10,450	238-202
Total	**8,47,265**	**3,38,906**	**68,970**	**Depth (Plan Period) – 58 metre**

Land Use

Existing Land Use pattern

Category	Area in Hectares
Quarry	0.00
Road	0.015

Total area in use	**0.015**
Balance area unused	2.817
Total Leasehold area	**2.832**

Proposed Land Use for Current Plan Period

Category	Area in Hectares
Quarry	2.190
Proposed Crusher	0.115
Road	0.007
Safety Zone	0.495
Total area in use	**2.807**
Balance Area	**0.025**
Total Leasehold area	**2.832**

Land Use pattern at the Conceptual Stage i.e. end of mine

Category	Area in Hectares
Quarry	2.215 Plantation – 0.409 Ha.(After Reclamation) Water Body – 1.806 Ha.
Proposed Crusher	0.115 (Plantation)
Safety Zone	0.495 (Plantation)
Road	0.007 (Plantation)
Total area in use	**2.832**
Total Leasehold area	**2.832**
Plantation (Safety Zone, Crusher Area, Haul Road, Reclaimed area)	**1.026 Ha. (36.22 % of the lease area)**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.495 ha	1,238 trees @ 2500 trees per ha
2	Other Reclaimed area	:	0.531 Ha.	1,327 trees @2500 trees per Ha.
3	Haul /Approach Road	:	1.80 KM	1200 trees on both sides – 3 m distance

- 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.

Waste Generation

A total of 68,970 Cum of wastes (Over Burden) will be generated from entire Gadwa Stone Mine up to conceptual stage. Year-wise waste generation during the planned period is given below:

Generation of Waste during Planned Period

Year	Waste Generation, In Cum
1st Year	34,770.00
2nd Year	11,400.00
3rd Year	12,350.00
4th Year	0
5th Year	10,450.00
Total	**68,970.00**

Source: Mining Plan

Disposal of Waste from the Quarry

OB will be utilized for Retaining wall Construction, internal mine road construction & berm along the approach road construction & 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 reduce dust emission and reduction in NOx emission

- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months

Undertaking submitted affirming:

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

Baseline data generation has been done period October, 2021 to December, 2021.

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 18, 19, 20, 21, 22, 23, 24, 25, 26 & 27.02.2022, 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 for consideration of SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV.

8. **Rohra Stone Deposit of M/s R.N. Stone Works, Village : Rohra, Thana : Brindavan, Thana NO. : 62, Dist. : Sahebganj, Jharkhand (2.83 Ha).**

(Proposal No. : SIA/JH/MIN/258018/2022).

Applied Area: 7.00 Acres (2.83 Ha)

Project Category: B2 – Application for Environment Clearance

EC Application for: Stone : 149400 TPA ~ 55333 m^3/yr;

Waste : 14650 cum waste generate during plan period.

DG Set : 20 KVA

Crusher : Not Proposed

Name of the consultant : Sathi Planners Pvt. Ltd.

This is a new project which has been taken for appraisal on 24-02-2022

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Rohra Stone Deposit	
2	Lessee:	:	M/s R.N. Stone Works, Proprietor- Shri Nimay Chandra Shil	
3	Lease Address	:	At Mouza/ Village- Rohra, PS.- Brindaban, Dist- Sahebganj	
4	Lease Area	:	Ha:2.83	Acres: 7.00
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	Rs. 124.50 Lakhs	
7	EMP Budget	:	Capital: Rs. 7.50 Lakhs	Recurring: Rs. 5.20 Lakhs/ year
8	CSR / CER Budget	:	Rs. 2.48 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.: 759287.50 Cu. M.	Tonnes: 2050076.25 Tonnes
11	Mine Life	:	13.7 Years Only	
12	Man power	:	15 Person	
13	Water Requirement	:	7.60 KLD (Drinking:0.38 KLD, Dust Suppression: 4.96 KLD, Plantation: 2.26 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	:	Gumani Nadi - 01.20 Km (S) Morong Nadi – 04.95 Lm (W)	
18	Nearest Habitation	:	Barhait – 5 Km (SW)	
19	Nearest Rail Station	:	Barharwa Railway Station: 13.06 Km ES	
20	Nearest Air Port	:	Birsa Munda Airport, Ranchi 295 km WS direction from the mine site.	
21	Nearest Forest	:	As per forest division. Letter no – 1654 Dt- 26-08-2021	
22	Road & Highways	:	NH-114 A – 12.58 Km (E) SH-18 – 5.68 Km (E) Barhait-Barharwa MDR 4.52 km S direction	

CO-ORDINATES

Toposheet : 72 P/9	
Latitude	**Longitude**
$24^0$54'45.45" N	$87^0$39'34.70" E

To	To
$24^0$54'53.24" N	$87^0$39'39.91" E

Land Details :

Mouza	Khata No.	Plot No.
Rohra	18	167 (P)
	21	186 (P)

STATUTORY CLEARANCES

1	LOI/Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Sahebganj vide letter no. 926 /M dated 11.09.2021
2	CO	:	The CO, Taljhari vide letter no. 71, dated 18.02.2022 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Sahebganj vide memo no. 955/M, dated 20.09.2021 certified that no other lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, In-Charge Wildlife Sanctuary, Udhwa (Sahebganj) vide letter no. 100, dated 12.01.2022 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
5	DFO Forest Distance	:	DFO, Sahebganj Division vide letter no. 1654, dated 26.08.2021 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.
6	DSR	:	The DC-cum-District Magistrate, Sahebganj vide letter no. 1156/ M, dated 29.11.2021 has informed that this project is part of District Survey Report (DSR) at Sahebganj district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	On 20.07.2021
8	Mine Plan Approval	:	Letter No. 1063 , dated 29.10.2021

WORKING DETAILS

1	Mining Method	:	Opencast Mechanized Mining

2	Quarry Area	:	5 years– 2.23 ha	Life of Mine – 2.23 ha
3	Waste Generation	:	5 years– 14650 During plan Period	Life of Mine – 13.7 Years
4	Stripping Ratio	:	--	
5	Working Days	:	300 days/year	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	In 195 MSL to 180 MSL	
8	Ground Level Elevation		In 180 MSL	
9	Ultimate Working Depth	:	In 149 MSL	
10	Water Table	:	In 144 MSL and also 5-10 m bgl	
11	Topography of Mine	:	Hilly sloping2	
12	Explosive Requirement	:	Yes- No. of holes: 3/day; Explosive: Slurry- 207 Kg/Day	
13	Diesel/Fuel requirement	:	Diesel required only for Mining machinery operation and Tippers/trucks for transportation.	

PRODUCTION DETAILS

Year	Production of stone		Removal of Gritty soil in
	in Tonnes	in TCum	in Cum
1st	149400	55333.33	11250
2nd	149400	55333.33	2400
3rd	149400	55333.33	000
4th	149400	55333.33	1000
5th	149400	55333.33	000
Total	**747,000**	**276666.65**	**14650**

LAND USE

SL	Pattern	Present Land Use (Ha)	Proposed Current Plan Period (Ha)	Proposed Land Use at End of Life of Mine (Ha)	Land Usage at Conceptual Stage
1	Quarry Area	Nil	2.23	2.29	Water Body
2	Greenbelt within safety barrier	Nil	0.49	0.49	Plantation
3	Road	0.00	0.01	-	-
4	Infrastructure	Nil	0.02	-	-
5	Approach Road	Nil	0.03	-	-

6	Settling tank	Nil	0.02	0.02	-
7	Garland drain	Nil	0.03	0.03	-
8	Balance unused area	2.83	0.00	-	-
	TOTAL	**2.83**	**2.83**	**2.83**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.49 Ha	1,225
2	Other Reclaimed Area	:	760 meter	507 Tree both side approach road.
3	Haul /Approach Road	:	Area/Length	No of Trees

- 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

- 14650 cum Waste Generation during the plan period will be used quarry facing.

Water Pollution Control Measures:

- Negligible impact envisaged on surface water and ground water due to mining as no discharge of effluent or intersection of ground water.
- No major surface water body within 1 km radius of the project site.
- Garland drain & settling tank will be constructed around dump for arresting run-off, it will be integral part of rainwater harvesting system.
- Post-project the quarry area will serve as reservoir, which will be source of water for the nearby areas.

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 road side 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 will be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling is required permission should be taken from competent authority.

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 Rohra Stone Deposit of M/s R.N. Stone Works, Village : Rohra, Thana : Brindavan, Thana NO. : 62, Dist. : Sahebganj, Jharkhand (2.83 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I.

9. **Brick Soil Mining for M/s A.D.S. Bricks (Prop: Sri Someshwar Gope), Village : Hochar, Thana : Ratu, Thana NO. : 63, Dist. : Ranchi, Jharkhand (0.704 Ha).**

(Proposal No. : SIA/JH/MIN/236655/2022).

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 Crystal Consultants, Ranchi, Jharkhand, 834002.

This is a new project which has been taken for appraisal on 24.02.2022

PROJECT and LOCATION Details:

Sl	Parameter		Details
1	Project Name	:	Brick Soil Mining For M/s A.D.S. Bricks in Mouza – Hochar.
2	Lessee's address for correspondence:	:	M/s A.D.S. Bricks Proprietor: Sri Someshwar Gope At Village - Hochar, P.O. - Purio, P.S. – Ratu, District - Ranchi, State - Jharkhand, Pin Code - 835205.
3	Lease Address	:	In Mouza – Hochar, Thana – Ratu, Thana No. – 63,

			District – Ranchi, Jharkhand.	
4	Lease Area	:	Ha: 0.704 Hectares	Acres: 1.74 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	10 Lakhs	
7	EMP Budget	:	Capital: 4.59 Lakhs	Recurring: 2.334 Lakh / year
8	CSR / CER Budget	:	Rs. 0.20 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.: 12369.264 Cu. M.	
11	Mine Life	:	11 years	
12	Man power	:	25	
13	Water Requirement	:	13.98 KLD (Dust Suppression: 10.5 KLD, Drinking: 1.0 KLD, Plantation: 2.48 KLD	
14	Water Source	:	From Jumar River by tankers	
15	DG Set / power	:	No	
16	Crusher	:	No	
17	Nearest Water Body	:	Jumar River is approx. 1.56 Km aerial distance away in South direction	
18	Nearest Habitation	:	Hochar village is approx. 1.01 km aerial distance away in south - western direction Ranchi Town is approx. 12.87 Km aerial distance away in the South direction	
19	Nearest Rail Station	:	Mesra Railway Station is approx. 7.75 Km aerial distance away in South-east direction.	
20	Nearest Air Port	:	Birsa Munda Airport, Ranchi, Jharkhand is approx. 15.76 Km aerial distance away in south direction.	
21	Nearest Forest	:	6.00 Km away from the proposed project.	
22	Road & Highways	:	Road: Ranchi-Ring Road is approx. 900m away in South direction. Highway: SH-2 is approx. 4.50 Km away in West direction.	

CO-ORDINATES

1	Latitude		From N23°27'27.80"	To N23°27'32.75"
2	Longitude		From E85°21'07.82"	To E85°21'11.33"

LAND DETAILS

Khata No -	17
Plot Nos –	697 & 729

STATUTORY CLEARANCES :

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Ratu, Ranchi, vide letter no. 914(ii), dated 21.11.19 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 letter no. 1015/M, dated 22.09.17 certified that no other lease exists within 500m radius from proposed project site & total lease area is less than 5 Ha.
4	DFO Wild Life	:	Division Forest Officer, Wildlife Division Ranchi, vide memo no. 1309, dated 27.11.2019 certified that the National Park & Sanctuary is not within 10 km from project site and proposed project is not situated in any ESZ.
5	DFO Forest Distance	:	Division Forest Officer, Ranchi Forest Division vide letter no. 5027, dated 31.10.2019 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 page no 158 of District Survey report (DSR) Ranchi.
7	Gram Sabha	:	On 28.08.2016
8	Mine Plan Approval	:	Approved by the Assistant Mining Officer, Ranchi.

Working Details

1	Mining Method	:	Opencast Manual Mining and transportation by tippers.	
2	Quarry Area	:	5 years – 0.324 Ha	Life of Mine – 0.679 Ha
3	Waste Generation	:	5 years– 690 Cu.M (Top Soil)	Life of Mine – 1358 Cu.M (Top Soil)
4	Stripping Ratio	:	1 : 0.115	
5	Working Days	:	200 Days	
6	Benches: size & No	:	Size: 1m X 1.5m, No. - 2	
7	Elevation of Mine	:	At RL 633m AMSL	
8	Ground Level Elevation		633m AMSL	
9	Ultimate Working Depth	:	631m AMSL	
10	Water Table	:	620m 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	1200	6,00,000	138	633m – 631m
2nd	1200	6,00,000	138	633m – 631m
3rd	1200	6,00,000	138	633m – 631m
4th	1200	6,00,000	138	633m – 631m
5th	1200	6,00,000	138	633m – 631m
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	0.324	0.679	0.679	Grass cultivation will be done on it
2	Road	0.001	0.007	Nil	Nil	
3	Green Belt Within Safety Barrier	Nil	0.025	0.025	0.025	Plantation
4	Unutilized	0.703	0.348	Nil	Nil	
	TOTAL	**0.704**	**0.704**	**0.704**	**0.704**	

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	Location		Area/Length	No of Trees
1	Safety Zone	:	0.025 Ha	65 trees @ 2500 trees per Ha
2	Haul /Approach Road	:	0.18 Ha i.e. Length 900m width 2m	600 trees on both sides – 3m distance
3	Out Side the applied area	:	0.201 Ha	503 trees @ 2500 trees per Ha

- 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 (Top soil) Generation will be 1358 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 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

- No drilling and blasting is proposed.
- 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 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 is required permission should be taken from competent authority.

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 A.D.S. Bricks (Prop: Sri Someshwar Gope), Village : Hochar, Thana : Ratu, Thana NO. : 63, Dist. : Ranchi, Jharkhand (0.704 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I.

The meeting concluded with thanks to all present.

(Dr. Raju Kumar)
Member

(Dr. Ajay Govind Bhatt)
Member

(Niranjan Lal Agarwalla)
Member

(Dr. Kirti Avishek)
Member

(Ashok Kumar Dubey)
Secretary

(Ashok Kumar Singh)
Chairman

I. Statutory compliance

i. This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.

ii. 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.

iii. 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.*

iv. 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.

v. 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.

vi. 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.

vii. 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.

viii. 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.

ix. 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.

x. The Project Proponent shall follow the mitigation measures provided in MoEF&CC's Office Memorandum No. Z-11013/57/2014-IAJI (M), dated 29th October, 2014, titled

"Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".

xi. 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.

xii. 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.

xiii. 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.

xiv. 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.

xv. The Project Proponent shall inform the MoEF&CC for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.

II. Air quality monitoring and preservation

i. The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM10, PM2.5, NO2; CO and SO2 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCUI, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.

ii. Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments/ machineries and preventive maintenance: Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust

control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEF&CC/ Central Pollution Control Board.

iii. **Water quality monitoring and preservation**

i. In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEF&CC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area.

ii. Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

iii. Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

iv. The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-à-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEF&CC. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and

Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.

v. Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company. The circular No. J- 20012/1/2006-IAJI (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.

vi. Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office MoEF&CC annually.

vii. Industrial waste water (workshop and waste water from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.

viii. The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board/Committee.

IV. Noise and vibration monitoring and prevention

i. The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.

ii. The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.

iii. The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that workers/ personals/ laborers are working without personal protective equipment.

V. Mining Plan

i. The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form to Short Term Permit (STP), Query license or any other name.

ii. The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.

iii. The land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis-à-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self sustaining. The compliance status shall be submitted half-yearly to the MoEF&CC and its concerned Regional Office.

VI. Land reclamation

i. The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by D.G.M.S w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of top soil/OB dumps. The topsoil shall be used for land reclamation and plantation.

ii. The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.

iii. The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.

iv. The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of

local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ leveling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners / Bentonite etc. shall be undertaken for stabilization of the dump.

v. The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC.

vi. Catch drains, settling tanks and ponds of appropriate size shall be constructed around the mine working, mineral yards and Top Soil/OB/Waste dumps to prevent run off of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be de-silted regularly, particularly after monsoon season, and maintained properly.

vii. Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the corners of the garland drains.

viii. The top soil, if any, shall temporarily be stored at earmarked site(s) within the mine lease only and should not be kept unutilized for long. The physical parameters of the top soil dumps like height, width and angle of slope shall be governed as per the approved Mining Plan and as per the guidelines framed by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of dumps. The topsoil shall be used for land reclamation and plantation purpose.

VII. Transportation

i. No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a 'bypass' road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain

Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.

ii. The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

VIII. Green Belt

i. The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.

ii. The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for protection and care of trees.

iii. The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.

iv. The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wild Life Warden of the State Govt.

v. And implemented in consultation with the State Forest and Wildlife Department. A copy of Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.

IX. Public hearing and human health issues

i. The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carryout Occupational health check-ups in respect of workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-ups shall be undertaken once in six months and necessary remedial/ preventive measures be taken. A status report on the same may be sent to MoEF&CC Regional Office and DGMS on half-yearly basis.

ii. The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years.

iii. The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead, For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by a Certified Neurologist, and Manganese (Mn) Estimation in Blood; For Inorganic Chromium- Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminium, Iron, Manganese, Chromium, Lead, Uranium need to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-Ray. Only conventional X-Ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17 x14 inches and of good quality).

iv. The Proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 -24.9, (b) the Final Chest X-Ray compared with the base line

X-Ray should not show any capacities ,(c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEV1),Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented), (e) they should not have developed any Persistent Back Pain, Neck Pain, and the movement of their Hip, Knee and other joints should have normal range of movement, (f) they should not have suffered loss of any body part. The record of the same should be submitted to the Regional Office, MoEF&CC annually along with details of the relief and compensation paid to workers having above indications.

v. The Project Proponent shall ensure that Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.

vi. Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water.

vii. The activities proposed in Action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The Status Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.

X. Corporate Environment Responsibility (CER)

i. The activities and budget earmarked for Corporate Environmental Responsibility (CER) as per Ministry's O.M No 22-65/2017-IA. II (M) dated 01.05.2018 or as proposed by EAC should be kept in a separate bank account. The activities proposed for CER shall be implemented in a time bound manner and annual report of implementation of the same along with documentary proof viz. photographs, purchase documents, latitude & longitude of infrastructure developed & road constructed needs to be submitted to Regional Office MoEF&CC annually along with audited statement.

ii. Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the same for other purposes. The Year wise expenditure of such funds should be reported to the MoEF&CC and its concerned Regional Office.

XI. Miscellaneous

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

ii. The Project Authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

iii. It shall be mandatory for the project management to submit six (06) monthly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard copies and soft copies to the regulatory authority concerned Regional Office of MoEF & CC at Ranchi and Jharkhand State Pollution Control Board (J.S.P.C.B.), Ranchi / CPCB / SEIAA.

iv. A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEF&CC.

v. The concerned Regional Office of the MoEF&CC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF&CC officer(s) by furnishing the requisite data / information / monitoring reports.

vi. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

vii. The Ministry / SEIAA / SEAC may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

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 does not increase production rate and alter lease area during the validity of Environmental Clearance.

Annexure –II

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, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.

iv. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

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 for drawl of ground water / surface water required for the project from the competent authority.

vii. 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.

viii. 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.

ix. The provisions of the Solid Waste (Management) Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.

x. The project proponent shall follow the ECBC/ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly.

xi. 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.

xii. 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.

xiii. 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.

xiv. 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.

xv. Accumulation/stagnation of water shall be avoided ensuring vector control.

xvi. Water during construction phase should be preferred from Municipal supply.

xvii. Unskilled construction labourers shall be recruited from the local areas.

xviii. 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.

xix. 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.

xx. Rest room facilities shall be provided for service population.

xxi. 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.

xxii. 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.

xxiii. Project proponent shall install Wind Augmentation and Air Purifying Unit (4 Units at one location in Ranchi) on Pilot basis to deal with particulate matter pollution.

II. Air quality monitoring and preservation

i. Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.

ii. A management plan shall be drawn up and implemented to contain the current exceedance in ambient air quality at the site.

iii. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM25) covering upwind and downwind directions during the construction period.

iv. Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the

combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.

v. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3 meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.

vi. Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution.

vii. Wet jet shall be provided for grinding and stone cutting.

viii. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.

ix. All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules 2016.

x. The diesel generator sets to be used during construction phase shall be low sulphur diesel type and shall conform to Environmental (Protection) prescribed for air and noise emission standards.

xi. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.

xii. For indoor air quality the ventilation provisions as per National Building Code of India.

III. Water quality monitoring and preservation

i. The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water.

ii. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.

iii. Total fresh water use shall not exceed the proposed requirement as provided in the project details.

iv. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.

v. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.

vi. At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.

vii. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.

viii. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc) for water conservation shall be incorporated in the building plan.

ix. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.

x. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.

xi. The local bye-law provisions on rain water harvesting should be followed. If local byelaw provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain water harvesting recharge pits/storage tanks shall be provided for ground water recharging as per the CGWB norms.

xii. A rain water harvesting plan needs to be designed where the recharge bores of minimum one recharge bore per 5,000 square meters of built up area and storage capacity of minimum one day of total fresh water requirement shall be provided. In areas where ground water recharge is not feasible, the rain water should be harvested and stored for reuse. The ground water shall not be withdrawn without approval from the Competent Authority.

xiii. All recharge should be limited to shallow aquifer.

xiv. No ground water shall be used during construction phase of the project.

xv. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering.

xvi. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.

xvii. Sewage shall be treated in the STP with tertiary treatment. The treated effluent from STP shall be recycled/re-used for flushing, AC make up water and gardening. As proposed, no treated water shall be disposed in to municipal drain.

xviii. No sewage or untreated effluent water would be discharged through storm water drains.

xix. Onsite sewage treatment of capacity of treating 100% waste water to be installed. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the Ministry before the project is commissioned for operation. Treated waste water shall be reused on site for landscape, flushing, cooling tower, and other end-uses. Excess treated water shall be discharged as per statutory norms notified by Ministry of Environment, Forest and Climate Change. Natural treatment systems shall be promoted.

xx. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.

xxi. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.

IV. Noise monitoring and prevention

i. Ambient noise levels shall conform to residential area/commercial area/industrial area/silence zone both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.

ii. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

iii. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.

V. Energy Conservation measures

i. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC.

ii. Outdoor and common area lighting shall be LED.

iii. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.

iv. Energy conservation measures like installation of CFLs/ LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning.

v. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher.

vi. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.

VI. Waste Management

i. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project shall be obtained.

ii. Disposal of muck during construction phase shall not create any adverse effect on the neighboring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.

iii. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials.

iv. Organic waste compost/ Vermiculture pit/ Organic Waste Converter within the premises with a minimum capacity of 0.3 kg /person/day must be installed.

v. All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.

vi. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.

vii. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity.

These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, Compressed earth blocks, and other environment friendly materials.

viii. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 20L.6.,Ready mixed concrete must be used in building construction.

ix. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Rules, 2016.

x. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.

VII. Green Cover

i. No tree can be felled/transplant unless exigencies demand. Where absolutely necessary, tree felling shall be with prior permission from the concerned regulatory authority. Old trees should be retained based on girth and age regulations as may be prescribed by the Forest Department. Plantations to be ensured species (cut) to species (planted).

ii. A minimum of 1 tree for every 80 sqm of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping.

iii. Where the trees need to be cut with prior permission from the concerned local Authority, compensatory plantation in the ratio of 1:10 (i.e. planting of 10 trees for every 1 tree that is cut) shall be done and maintained. Plantations to be ensured species (cut) to species (planted). Area for green belt development shall be provided as per the details provided in the project document.

iv. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

VIII. Transport

i. A comprehensive mobility plan, as per MoUD best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.

a. Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
b. Traffic calming measures.
c. Proper design of entry and exit points.
d. Parking norms as per local regulation

ii. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.

iii. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

IX. Human Health Issues

i. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.

ii. For indoor air quality the ventilation provisions as per National Building Code of India.

iii. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

iv. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

v. Occupational health surveillance of the workers shall be done on a regular basis.

vi. A First Aid Room shall be provided in the project both during construction and operations of the project.

X. Corporate Environment Responsibility

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

XI. Miscellaneous

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

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vi. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xi. The Ministry / SEIAA / SEAC may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xii. The Ministry / SEIAA / SEAC reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiii. It shall be mandatory for the project management to submit six (06) monthly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard copies and soft copies to the regulatory authority concerned Regional Office of MoEF & CC at Ranchi and Jharkhand State Pollution Control Board (J.S.P.C.B.), Ranchi / CPCB / SEIAA.

xiv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

Annexure - III

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

A. Standard Conditions :

1. Examine base line environmental quality along with projected incremental load due to the project.
2. Environmental data to be considered in relation to the project development would be (a) land, (b) ground water,(c) surface water, (d) air, (e) bio-diversity, (f) noise and vibrations,(g) socio economic and health.
3. Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding areas. Any obstruction of the same by the project.
4. Submit the details of the tree felling for the project.
5. Submit the present land use and permission required / obtained for any conversion such as forest, agriculture land etc.
6. Submit Roles and responsibility of the developer etc for compliance of environmental regulations under the provisions of E (P) Act.
7. Ground water classification as per the Central Ground Water Authority.
8. Examine the details of Source of water, water requirement, use of treated waste water and prepare a water balance chart.
9. Rain water harvesting proposals should be made with due safeguards for ground water quality. Maximize recycling of water and utilization of rain water.
10. Examine details of solid waste generation, treatment and disposal.
11. Examine and submit details of use of solar energy and alternative source of energy to reduce the fossil energy consumption and energy efficiency.
12. DG sets are likely to be used during construction and operational phase of the project. Emissions from DG sets must be taken into consideration while estimating the impacts on air environment. Examine and submit details.
13. Examine road / rail connectivity to the project site and impact on the traffic due to the proposed project. Present and future traffic and transport facilities for the region should be analysed with measures for preventing traffic congestion and providing faster trouble free system to reach different destinations in the city.
14. Examine the details of transport of materials for construction which should include source and availability.
15. Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.
16. Submit details of a comprehensive Disaster Management Plan including emergency evacuation and fire during natural and man-made disaster.

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

18. The cost of the Project (capital cost and recurring cost) the damage cost of already opened land as well as the cost to wards implementation of EMP should be clearly spelt out.

19. Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measures, project proponent can refer to the model ToR available on Ministry website "http://moef.nic.in /Manual / Townships".

20. Any other rules / guidelines / orders issued by any competent authority shall be applicable to the project at the time of consideration of the projects for grant of EC.

B. Specific Conditions :

1. The State Govt. / SPCB to take action against the project proponent under the provisions of section 19 of the Environment (Protection) Act, 1986.

2. The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of EC. The quantum shall be recommended by the SEAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the SEAC and approval of the regulatory authority.

3. Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.

4. Preparation of EMP comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to violation.

5. An assessment of the cumulative impact of all development and increased in habitation being carried out or proposed to be carried out by the project or other agencies in the core area, shall be made for traffic densities and parking capabilities in a 2 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up throughan organization of repute and specializing in Transport Planning shall be summited withthe EIA and the plan to be implemented to the satisfaction of all the concerned state departments and implementing agencies".

6. Management of solid waste and the Construction & Demolition waste for the project vis- a-vis the Solid Waste Management Rules, 2016 and the Construction & Demolition Rules, 2016.

7. Details of all construction input should be furnished for assessment of Ecological damage/Environmental damage.

8. The remediation plan and the natural and community resource augmentation plan to be prepared as an independent chapter in the EIA report by the accredited consultants.

9. Funds allocation for Corporate Environment Responsibility (CER) shall be made as per Ministry's O.M. No. 22-65/ 2017-IA.III dated May, 2018 for various activities therein. The details of fund allocation and activities for CER shall be incorporated in EIA/EMP report.

10. The prescribed TORs would be valid for a period of three years for submission of the EIA / EMP reports, as per the O.M. No. J-11015/109/2013-IA.II(M), dated 12.01.2017.

Annexure IV

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

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

ii. A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.

iii. All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.

iv. All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).

v. Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.

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

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

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

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

x. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and

other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.

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

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

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

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

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

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

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

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

xix. Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also

be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.

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

xxi. R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.

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

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

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

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

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

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

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

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

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

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

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

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

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

xxxv. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and

periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.

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

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

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

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

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

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

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

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

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

a) Executive Summary of the EIA/EMP Report

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

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

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

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

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

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

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

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

j) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

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

xlvi. The prescribed TORs would be valid for a period of three years for submission of the EIA / EMP reports, as per the O.M. No. J-11015/109/2013-IA.II(M) , dated 12.01.2017.

Annexure - V

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

A . Standard Terms of Reference

1. Reasons for selecting the site with details of alternate sites examined/rejected/selected on merit with comparative statement and reason/basis for selection. The examination should justify site suitability in terms of environmental damages, resources sustainability associated with selected site as compared to rejected sites. The analysis should include parameters considered along with weightage criteria for short-listing selected site.
2. Submit the details of the road/rail connectivity along with the likely impacts and mitigative measures
3. Submit the present land use and permission required for any conversion such as forest, agriculture etc
4. Examine the details of transportation of Hazardous wastes, and its safety in handling.
5. Examine and submit the details of on line pollutant monitoring.
6. Examine the details of monitoring of Dioxin and Furon.
7. MoU for disposal of ash through the TSDF.
8. MoU for disposal of scrubbing waste water through CETP.
9. Examine and submit details of monitoring of water quality around the landfill site.
10. Examine and submit details of the odour control measures.
11. Examine and submit details of impact on water body and mitigative measures during rainy season.
12. Environmental Management Plan should be accompanied with Environmental Monitoring Plan and environmental cost and benefit assessment. Regular monitoring shall be carried out for odour control.
13. Water quality around the landfill site shall be monitored regularly to examine the impact on the ground water.
14. The storage and handling of hazardous wastes shall be as per the Hazardous Waste Management Rules.
15. Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster.
16. Public hearing to be conducted for the project in accordance with provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan. The Public Hearing should be conducted based on the ToR letter issued by the Ministry and not on the basis of Minutes of the Meeting available on the web-site.

17. A detailed draft EIA/EMP report should be prepared in accordance with the above additional TOR and should be submitted to the Ministry in accordance with the Notification.

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

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

20. Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "http://moef.nic.in/Manual/Incinerator"

B. Other

1. Examine base line environmental quality along with projected incremental load due to the project.
2. Environmental data to be considered in relation to the project development would be (a) land, (b) ground water,(c) surface water, (d) air, (e) bio-diversity, (f) noise and vibrations,(g) socio economic and health.
3. Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding areas. Any obstruction of the same by the project.
4. Submit the details of the tree felling for the project.
5. Submit the present land use and permission required / obtained for any conversion such as forest, agriculture land etc.
6. Submit Roles and responsibility of the developer etc for compliance of environmental regulations under the provisions of E (P) Act.
7. Ground water classification as per the Central Ground Water Authority.
8. Examine the details of Source of water, water requirement, use of treated waste water and prepare a water balance chart.
9. Rain water harvesting proposals should be made with due safeguards for ground water quality. Maximize recycling of water and utilization of rain water.
10. Examine details of solid waste generation, treatment and disposal.
11. Examine and submit details of use of solar energy and alternative source of energy to reduce the fossil energy consumption and energy efficiency.
12. DG sets are likely to be used during construction and operational phase of the project. Emissions from DG sets must be taken into consideration while estimating the impacts on air environment. Examine and submit details.
13. Examine road / rail connectivity to the project site and impact on the traffic due to the proposed project. Present and future traffic and transport facilities for the region should be analysed with measures for preventing traffic congestion and providing faster trouble free system to reach different destinations in the city.

14. Examine the details of transport of materials for construction which should include source and availability.

15. Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.

16. Submit details of a comprehensive Disaster Management Plan including emergency evacuation and fire during natural and man-made disaster.

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

18. The State Govt. / SPCB to take action against the project proponent under the provisions of section 19 of the Environment (Protection) Act, 1986.

19. The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of EC. The quantum shall be recommended by the SEAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the SEAC and approval of the regulatory authority.

20. Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.

21. Preparation of EMP comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to violation.

22. An assessment of the cumulative impact of all development and increased in habitation being carried out or proposed to be carried out by the project or other agencies in the core area, shall be made for traffic densities and parking capabilities in a 2 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up throughan organization of repute and specializing in Transport Planning shall be summited withthe EIA and the plan to be implemented to the satisfaction of all the concerned state departments and implementing agencies".

23. Management of solid waste and the Construction & Demolition waste for the project vis- a-vis the Solid Waste Management Rules, 2016 and the Construction & Demolition Rules, 2016.

24. Details of all construction input should be furnished for assessment of Ecological damage/ Environmental damage.

25. The remediation plan and the natural and community resource augmentation plan to be prepared as an independent chapter in the EIA report by the accredited consultants.

26. Funds allocation for Corporate Environment Responsibility (CER) shall be made as per Ministry's O.M. No. 22-65/ 2017-IA.III dated May, 2018 for various activities therein. The details of fund allocation and activities for CER shall be incorporated in EIA/EMP report.

27. Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the F.P. for securing the TOR) should be brought to the attention of SEIAA, Jharkhand with reasons for such changes and permission should be sought, as the TOR may also have to be altered.

28. The prescribed TORs would be valid for a period of three years for submission of the EIA / EMP reports, as per the O.M. No. J-11015 / 109 / 2013 – IA.II (M), dated 12.01.2017.

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

A. Standard Terms of Reference

1. Executive Summary

2. Introduction

i. Details of the EIA Consultant including NABET accreditation.
ii. Information about the project proponent
iii. Importance and benefits of the project

3. Project Description

i. Cost of project and time of completion.
ii. Products with capacities for the proposed project.
iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
iv. List of raw materials required and their source along with mode of transportation.
v. Other chemicals and materials required with quantities and storage capacities
vi. Details of Emission, effluents, hazardous waste generation and their management.
vii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract)
viii. Process description along with major equipments and machineries, process flow sheet (quantative) from raw material to products to be provided
ix. Hazard identification and details of proposed safety systems.
x. Expansion/modernization proposals:

a. Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment and Forests as per circular dated 30th May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing / existing operation of the project from SPCB shall be attached with the EIA-EMP report.
b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification, 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.

4. Site Details

i. Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.

ii. A toposheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places)
iii. Details w.r.t. option analysis for selection of site
iv. Co-ordinates (lat-long) of all four corners of the site. .
v. Google map-Earth downloaded of the project site.
vi. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.
vii. Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.
viii. Landuse break-up of total land of the project site (identified and acquired), government/ private - agricultural, forest, wasteland, water bodies, settlements, etc shall be included. (not required for industrial area)
ix. A list of major industries with name and type within study area (10km radius) shall be incorporated. Land use details of the study area
x. Geological features and Geo-hydrological status of the study area shall be included.
xi. Details of Drainage of the project upto 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects)
xii. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.
xiii. R&R details in respect of land in line with state Government policy

5. Forest and wildlife related issues (if applicable):

i. Permission and approval for the use of forest land (forestry clearance), if any, and recommendations of the State Forest Department. (if applicable)
ii. Landuse map based on High resolution satellite imagery (GPS) of the proposed site delineating the forestland (in case of projects involving forest land more than 40 ha)
iii. Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.
iv. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden-thereon
v. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna, if any exists in the study area
vi. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife.

6. Environmental Status

i. Determination of atmospheric inversion level at the project site and site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.

ii. AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO2, NOX, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.

iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQQM Notification of Nov. 2009 along with - min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.

iv. Surface water quality of nearby River (100m upstream and downstream of discharge point) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.

v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC, if yes give details.

vi. Ground water monitoring at minimum at 8 locations shall be included.

vii. Noise levels monitoring at 8 locations within the study area.

viii. Soil Characteristic as per CPCB guidelines.

ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.

x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule- I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.

xi. Socio-economic status of the study area.

7. Impact and Environment Management Plan

i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.

ii. Water Quality modelling - in case of discharge in water body

iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor- cum-rail transport shall be examined.

iv. A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment.

Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.

v. Details of stack emission and action plan for control of emissions to meet standards.

vi. Measures for fugitive emission control.

vii. Details of hazardous waste generation and their storage, utilization and management. Copies of MOU regarding utilization of solid and hazardous waste in cement plant shall also be included. EMP shall include the concept of waste-minimization, recycle / reuse / recover techniques, Energy conservation, and natural resource conservation.

viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.

ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.

x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.

xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.

xii. Action plan for post-project environmental monitoring shall be submitted.

xiii. Onsite and Offsite Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

8. Occupational health

i. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers

ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations give the details of the same. Details regarding last month analyzed data of above mentioned parameters as per age, sex, duration of exposure and department wise.

iii. Details of existing Occupational & Safety Hazards. What are the exposure levels of hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved,

iv. Annual report of heath status of workers with special reference to Occupational Health and Safety.

9. Corporate Environment Policy

i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.

ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.

iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.

iv. Does the company have 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? This reporting mechanism shall be detailed in the EIA report

10. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.

11. Enterprise Social Commitment (ESC)

i. Adequate funds (at least 2.5 % of the project cost) shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan shall be included. Socio-economic development activities need to be elaborated upon.

12. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.

13. A tabular chart with index for point wise compliance of above TOR.

B. SPECIFIC TERMS OF REFERENCE FOR EIA STUDIES FOR METALLURGICAL INDUSTRIES (FERROUS & NON FERROUS)

1. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs & outputs (material and energy balance).
2. Details on blast furnace/ open hearth furnace/ basic oxygen furnace/ladle refining, casting and rolling plants etc.
3. Details on installation/activation of opacity meters with recording with proper calibration system
4. Details on toxic metals including mercury, arsenic and fluoride emissions
5. Details on stack height requirement for integrated steel
6. Details on ash disposal and management -Non-ferrous metal
7. Complete process flow diagram describing production of lead/zinc/copper/ aluminium, etc.
8. Raw materials substitution or elimination
9. Details on smelting, thermal refining, melting, slag fuming, and Waelz kiln operation
10. Details on Holding and de-gassing of molten metal from primary and secondary aluminum, materials pre-treatment, and from melting and smelting of secondary aluminium
11. Details on solvent recycling

12. Details on precious metals recovery
13. Details on composition, generation and utilization of waste/fuel gases from coke oven plant and their utilization.
14. Details on toxic metal content in the waste material and its composition and end use (particularly of slag).
15. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
16. Trace metals in waste material especially slag.
17. Plan for trace metal recovery
18. Trace metals in water

C. Other

1. Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the F.R for securing the TOR) should be brought to the attention of SEIAA, Jharkhand with reasons for such changes and permission should be sought, as the TOR may also have to be altered.
2. The prescribed TORs would be valid for a period of three years for submission of the EIA / EMP reports, as per the O.M. No. J-11015/109/2013-IA.II(M), dated 12.01.2017.

Standard EC condition

I. Statutory compliance

i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.

ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of schedule-I species in the study area)

iv. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.

v. The project proponent shall obtain 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.

vi. 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. no. 612 (E) dated 25 August, 2014 (Cement) and subsequent amendment dated 9th May, 2016 (Cement) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognised under Environment (Protection) Act, 1986.

iii. The project proponent shall install system carryout to Ambient Air Quality monitoring for common / criterion parameters relevant to the main pollutants released (e.g. PM10 and

PM2.5 in reference to PM emission and SO2 and NOx in reference to SO2 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 120^0 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, so as to comply prescribed stack emission and fugitive emission standards.

vi. The project proponent shall provide leakage detection and mechanised bag cleaning facilities for better maintenance of bags.

vii. Pollution control system in the cement plant shall be provided as per the CREP Guidelines of CPCB.

viii. Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.

ix. Ensure covered transportation and conveying of raw material to prevent spillage and dust generation; Use closed bulkers for carrying fly ash.

x. Provide wind shelter fence and chemical spraying on the raw material stock piles; and

xi. Have separate truck parking area and monitor vehicular emissions at regular interval.

xii. Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land by the use of covered conveyor belts/railways as a mode of transport

xiii. Ventilation system shall be designed for adequate air changes as per ACGIH Document for all tunnels, motor houses, cement bagging plants

III. Water quality monitoring and preservation

i. The project proponent shall install effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R. No. 612 (E) dated 25th August, 2014 (Cement) and subsequent amendment dated 9th May, 2016 (Cement) 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. (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 Environment (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. 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

vii. The project proponent shall practice rainwater harvesting to maximum possible extent.

viii. Water meters shall be provided at the inlet to all unit processes in the cement plant.

ix. The project proponent shall make efforts to minimise water consumption in the cement 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 prescribed guidelines and report in this regard shall be 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 Conservations measures

i. 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.

ii. Provide the project proponent for LED lights in their offices and residential areas.

iii. Maximize utilization of fly ash, slag and sweetener in cement blend as per BIS Standards.

VI. Waste management

i. The waste oil, grease and other hazardous shall be disposed of as per the Hazardous & other waste (Management & Trans boundary Movement) Rules, 2016.

ii. Kitchen waste shall be 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 greenbelt 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 program for reduction of the same including carbon sequestration including plantation.

VIII. Public hearing and Human health issues

i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

ii. The PP shall provide Personal Protection Equipment (PPE) as per the norms of factory Act.

iii. 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.

iv. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

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.

i. 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.

iv. Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

v. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the cement plants shall be implemented.

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_x (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.

i. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

ii. 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.

viii. 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).

ix. 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.

x. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xi. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xii. 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.

xiii. 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.

xiv. 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

xv. This environmental clearance is valid for seven years from the date of issue.