MINUTES OF THE 113TH MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC), JHARKHAND HELD ON 30TH , 31ST May, 2024 & 01ST, 02ND and 03RD JUNE, 2024.

The 113th meeting of State Level Expert Appraisal Committee (SEAC), Jharkhand was held on 30th, 31st May, 2024 & 01st, 02nd and 03rd June, 2024 under the Chairmanship of Shri Ashok Kumar Singh, IFS (Retd.) in the Conference Room at SEAC, Ranchi.

The following members were present:

1. Shri Ashok Kumar Singh, IFS (Retd.) - Chairman
2. Shri Niranjan Lal Agarwalla - Member
3. Dr. Raju Kumar - Member
4. Shri Ashok Kumar Dubey, IFS (Retd.) - Member
5. Dr. Ajay Govind Bhatt - Member
6. Shri Srikant Verma, IFS - Member Secretary

SEIAA forwarded various projects to the SEAC for the technical appraisal after the last SEAC meeting held on 16th, 17th, 18th & 19th May, 2024. These projects have been put up for discussions. Besides, these Projects, wherein PP's were asked to provide requisite information / clarifications in the earlier meeting of SEAC, were also considered for appraisal. The Project Proponents have been asked to make technical presentation for the appraisal of their projects before the committee.

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

Day 1 : May 30th, 2024 [Thursday]

Consideration of proposals

1. **Expansion of Sponge Iron Plant Production From 30,000 TPA to 57000 TPA By Enhancement of Kiln 100 TPD to 190 TPD by M/s Niranjan Metallic Limited at Village : Gadi Srirampur, Tehsil : Giridih, Distt. : Giridih, Jharkhand.**

(Proposal No : SIA/JH/IND1/ 472779/2024)

Name of the consultant : Rian Enviro Private Limited, Patna, Bihar.

This is an expansion project which has been taken for appraisal on 16.05.2024.

Project Category : B-1 - 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 **3 (a) Metallurgical Industries (secondary metallurgical processing)** as per EIA Notification, 2006.

S. No	Parameters	Description
1	Identification of project	Project falls under Metallurgical Industries (secondary metallurgical processing) Item 3(a) of the schedule of EIA notification of Sept 14, 2006 issued by MOEF & CC.
2	Project Proponent	M/s. Niranjan Metallic Limited
3	Brief description of nature of the project	Expansion of Sponge iron plant production from 30,000 TPA to 57000 TPA by enhancement of Kiln 100 TPD to 190 TPD
4	**Salient Features of the Project**	
4.1	Proposed production capacity	Expansion of Sponge iron plant production from 30,000 TPA to 57,000 TPA by enhancement of Kiln 100 TPD to 190 TPD.
4.2	Existing Capacity	Sponge Iron~100 TPD or 30,000 TPA
4.3	Capacity after proposed expansion	Sponge iron~ 190 TPD or 57,000 TPA
4.4	Total Plot Area	38.23 Acre
4.5	Location	Village-Gadi Srirampur, Mauza-Panchkurhi, Dist: Giridih – 815301, Jharkhand.
4.6	Geo-Coordinate	**Latitude-** 24°7"0.060"N to 24°7"12.620"N, **Longitude-** 86°20"25.647"E to 86°20"54.762"E
4.7	Water requirement	Overall water requirement for the proposed expansion project will be approx. 169 KLD out of which 79.0 KLD will be used as makeup water including domestic purpose. Total water requirement for the existing project was 82 KLD.
4.8	Source of water	Borewell
4.9	Wastewater	The domestic water consumption will result in generation of ~7.2 KLD of domestic wastewater. The wastewaters will be managed through septic tank & soak pits.
4.10	Man Power	Construction phase: Around 150 persons Operation phase: Around 195 persons

S. No	Parameters	Description
4.11	Electricity/Power requirement	Existing Power requirement was 500 KVA. Proposed requirement will be 1000 KVA. Total power requirement after expansion will be 1500 KVA or 1.5 MW. For emergency power requirement 1x600 KVA DG Set has been installed. Additionally, 1x600 KVA. DG set shall be installed under the proposed expansion.
4.12	Alternative site	The proposed addition will be established in the existing plant premises only.
4.13	Land form, Land use and land ownership	Private land, owned by M/s. Niranjan Metallic Limited
4.14	Project Cost	35.69 Crs.

Land Details :

Khata no.	111	168	125	63
Plot no.	2464, 2491	2483	2465, 2463	2494

Plant obtained CTE from Jharkhand State Pollution Control Board (JSPCB) videApplication.No. N-342 dated 21-05-2005 for production capacity of Sponge Iron-100 MT/day. The unit has obtained CTO for the same production though vides Ref No. JSPCB/HO/RNC/CTO-15553178/ 2023/1232 Dated: 16/07/2023.

S.No.	Particulars	Existing	Proposed	Total Production (After expansion final)
Unit processes/ machinery				
1.	Sponge Iron Plant	1x100 TPD Sponge Iron (30,000 TPA)	Installed additional 1x 90 TPD 27,000 TPA	(1X100 TPD+1X90 TPD) 57,000 TPA
2.	Fixed capital investment (Rs)	~ 20.47 Crore	~15.22 Crore	~35.69 Crore
3.	Electrical power requirement	~500 KVA	~1000 KVA	~1500 KVA
4.	Manpower requirement	~45	~150	~195
5.	Makeup water requirement	35 KLD	42 KLD	79 KLD
6.	Domestic water requirement	2.0 KLD	7.0 KLD	9.0 KLD
7.	Domestic wastewater	1.6 KLD	5.6 KLD	7.2 KLD

	generation			
8.	Raw Material	Pillets: 58090 TPA Non-Coking Coal: 32858 TPA Dolomite/Limestone: 1810 TPA	Pillets: 47528 TPA Non-Coking Coal: 25818 TPA Dolomite/Limestone: 1543 TPA	Pillets: 105618 TPA Non-Coking Coal: 58676 TPA Dolomite/Limestone: 3353 TPA
9.	Fuel	HSD- DG sets		

Mass balance of pellets based proposed sponge iron of 190 TPD Niranjan Metallics Limited, Giridih

Sl.No	INPUT	Quatity TPD	Per annum	OUTPUT	Quantity TPD	Per annum
1	PELLETS	275.5	82,650.0	Sponge Iron	190.0	57000
2	Coal	237.5	71,250.0	Wet scrapper sludge	5.1	1539
3	Dolomite	7.6	2,280.0	Dolochar	47.5	14250
4		0.0	0.0	ESP, Bag Filter Dust	15.4	4617
5				Accretion	12.8	3847.5
6		0.0	0.0	Volatile losses	249.8	74926.5
	Total	**521**	**1,56,180**		**521**	**156180**

Total Water Requirement for the Existing Plant (KL)

S. No.	Unit	Purpose	Existing (100 TPD)		Proposed (90 TPD)			
			Recirculating water (KLD)	Make up water (KLD)	Recirculating water (KLD)	Makeup water (KLD)	Total water requirement after proposed expansion (KL)	Waste water generation (KLD)
1.	DRI Plant	Cooling	45	35	45	35	160	0
2.	Domestic	Drinking & Sanitation	0	2	0	7.0	9	7.2
Total			45	37	45	42	169	7.2

Make-up Water (Fresh) Requirement for the Existing & Proposed Plant (KLD)

Unit	Makeup water Existing (KLD)	Makeup water for Proposed Units	Makeup water Total after expansion
DRI Plant	35	35	70
Drinking & Sanitation	2	7	9
Total	**37**	**42**	**79**

The capacity of the is around 5500 sqm with an average depth 4 m, water holding capacity is 22,000 Cum. Source of water ground water and rainwater harvesting. The water from RWH tank can meet approximately 60 days of industrial demand.

Raw Material details for sponge iron unit

Unit	Annual Requirement (TPA)	Mode of Transportation	Distance covered	Source as e.g. #
PELLETS	82,650.0	Railway/Truck	Approx. 250 km	Rungta Mines Ltd.Jharkhand Amalgam Jharkhand Rashmi Metallic, Kharaghpur, W.B.
Non-Coking Coal	71,250.0	Truck	Approx. 300 km	Adani Enterprises Haldia(Bengal) Madhya Pradesh
Dolomite/Limestone	2,280.0	Truck	Approx. 370 km	Bhutan, Banaras

#This is an indicative source of material while materials can be sourced from open market as per availability

Details of Solid waste and Mode of disposal

Description of the Plant	Plant Capacity	By-product/Waste Product	Mode of Disposal	Authorised Persons e.g.
Sponge Iron Plant	190 TPDX300 Days	Char -47.5 TPD Wet scrapper	Char will be sold to Power plant Will be supplied	Will be sold to Ankit Metal Power Limited; BISCO Metal

		sludge5.1TPD Accretion 12.8TPD	to vendors - use as construction & low-lying areas filling.	Power Pvt. Ltd. etc. Shyam Metal
	FSP Bag Filter units-7 Nos.	Approximately 15.4 TPD of ESP dust + from bag filter unit generated during the plant operation	Brick making plants.	ESP & Bag Filter dust sold to authorized recycler. For proposed expansion the generated dust will be sold to Mongia Bricks.
Domestic	195 Persons	10237kg/annum	The Municipal waste generated during the project will be segregated and handed over to local municipal	--
Sludge/Salt from cooling towers	--	192kg/annum	Used as earthing	--

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	Private land, owned by M/s. Niranjan Metallic Limited
2	CO	:	The CO, Giridih vide letter no. 912, dated 15.09.2022 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan.
3	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 236, dated 10.02.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.

4	DFO Forest Distance	:	DFO, Giridih East Forest Division vide letter no. 1350, dated 20.04.2024 certified that the distance of notified forest is **18 meters** from project site. This being an expansion in a existing project and no addition of new land, siting criteria is not applicable.
5	Consent to Establish (CTE)	:	**CTE** issued by JSPCB vide Ref. no. N-342, dated 21.05.2005.
6	Consent to Operate (CTO)	:	**CTO** granted by JSPCB vide Ref. no. JSPCB/HO/RNC/CTO-15553178/2023/1232, dated 16.07.2023.

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

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 30.05.2024, 31.05.2024, 01, 02 & 03.06.2024, the Committee recommends for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure I along with following specific conditions :

I. **Complete material balance to be provided for all the input & output.**
II. **Detailed water balance to be provided.**
III. **Details of all the waste generation in the project along with handling and management of the same.**
IV. **Primary study to be carried out for Socio Economy, Ecology & Bio-Diversity.**
V. **Details of all the pollution control measures including ETP & STP, if any.**
VI. **Details of fire control management plan.**
VII. **All details of the existing plant is to be provided in EIA / EMP.**
VIII. **An Affidavit with regard to original cost of the existing project is to be included in final EIA / EMP.**
IX. **A certificate from the project consultant / supplier regarding the proposed new DRI kiln certifying that the maximum production capacity possible is 90 TPD only.**

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2. **Expansion of Sponge Iron Plant from 30,000 TPA to 57,000 TPA by addition of 90 TPD Kiln & existing 100 TPD Kiln along with proposed Captive Power Plant 8 MW (2x2 MW WHRB & 1x4 MW AFBC), MS Billets Production 1,40,000 TPA by installing 2x20 Ton Induction furnaces with CCM (3x6/11), Re-Rolling Mill for production of 1,40,000 TPA rolled products and Slag crusher unit (10 TPH) by M/s Venkateshwara Sponge & Iron Co. Pvt. Ltd. at Village : Mahuatand, Tehsil : Giridih, Distt. : Giridih, Jharkhand.**

(Proposal No : SIA/JH/IND1/ 472670/2024)

Name of the consultant : Rian Enviro Private Limited, Patna, Bihar.

This is an expansion project which has been taken for appraisal on 30.05.2024.

Project Category : **B-1** - 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 **3 (a) Metallurgical Industries (secondary metallurgical processing)** as per EIA Notification, 2006.

S. No	Parameters	Description					
1	Identification of project	Project falls under Metallurgical Industries (secondary metallurgical processing) Item 3(a) of the schedule of EIA notification of Sept 14, 2006 issued by MOEF & CC.					
2	Project Proponent	M/s. Venkateswara Sponge & Iron Company Private Limited					
3	Brief description of nature of the project	Expansion of Sponge iron plant production from 30,000 TPA to 57,000 TPA by enhancement of Kiln 100 TPD to 190 TPD					
4	**Salient Features of the Project**						
4.1	Proposed production capacity	Expansion of Sponge iron plant production from 30,000 TPA to 57,000 TPA by enhancement of Kiln 100 TPD to 190 TPD.					
4.2	Existing Capacity	Sponge Iron~100 TPD or 30,000 TPA					
4.3	Capacity after proposed expansion	Sponge iron~ 190 TPD or 57,000 TPA					
4.4	Total Plot Area	27.53 Acre					
	Khata no.	2	4	5	6	7	9
	Plot No.	4, 14	10	12,	7, 16	3, 5, 9, 11, 15	8

S. No	Parameters	Description
4.5	Location	Village: Mahuatand, Tundi Road, P.O: Gadi Srirampur, Dist: Giridih – 815301, Jharkhand
4.6	Geo-Coordinate	**Latitude-** 24°6'56.157"N to 24°7'7.150"N **Longitude-** 86°20'54.242"E to 86°21'16.823"E
4.7	Water requirement	Overall water requirement for the proposed expansion project will be approx. 457 KLD out of which 108 KLD will be used as makeup water including domestic purpose. Total water requirement for the existing project was 82 KLD.
4.8	Source of water	Borewell
4.9	Wastewater	The domestic water consumption will result in generation of ~7.2 KLD of domestic wastewater. The wastewaters will be managed through septic tank & soak pits.
4.10	Man Power	Construction phase: Around 150 persons Operation phase: Around 195 persons
4.11	Electricity/Power requirement	Existing Power requirement was 1.0 MW. Proposed requirement will be 7.0 MW. Total power requirement after expansion will be 8.0 MW. For emergency power requirement 1x600 KVA DG Set has been installed. Additionally, 1x600 KVA. DG set shall be installed under the proposed expansion.
4.12	Alternative site	The proposed addition will be established in the existing plant premises only.
4.13	Land form, Land use and land ownership	Private land, owned by M/s. Venkateswara Sponge & Iron Company Private Limited
4.14	Project Cost	31.57 Crore

Plant obtained CTE from Jharkhand State Pollution Control Board (JSPCB) videApplication.No. 4247 dated 18-08-2005 for production capacity of Sponge Iron-100 MT/day. The unit has obtained CTO for the same production though vides Ref No. JSPCB/HO/RNC/CTO-9029328/2021/227 Dated: 09/02/2021.

S.No.	Particulars	Existing	Proposed	Total Production (After expansion final)
Unit processes/ machinery				

1.	Sponge Iron Plant	1x100 TPD Sponge Iron (30,000 TPA)	Installed additional 1x 90 TPD 27,000 TPA	(1X100 TPD+1X90 TPD) 57,000 TPA considering 300 working days
	Induction Furnace	--	2X 20 Ton with 1,40,000 TPA Production	1,40,000 TPA Production
	Rolling Mill	--	20 TPH with 1,40,000 TPA Production	1,40,000 TPA (considering 350 working days)
	CPP	--	(2x2 MW WHRB + 1x4MW AFBC)	8 MW
	Slag Crusher Unit	--	10 TPH	10 TPH
2.	Fixed capital investment (Rs)	~ 15.73 Crore	~15.84 Crore	~31.57 Crore
3.	Electrical power requirement	~1.0 MW	~7.0 MW	~8.0 MW
4.	Manpower requirement	~45	~150	~195
5.	Makeup water requirement	35 KLD	71 KLD	108 KLD
6.	Domestic water requirement	2.0 KLD	7.0 KLD	9.0 KLD
7.	Domestic wastewater generation	1.6 KLD	5.6 KLD	7.2 KLD
8.	Fuel	HSD- DG sets		

Mass balance of Sponge iron production

Sl.No	INPUT	Quantity TPD	Per annum	OUTPUT	Quantity TPD	Per annum
1	Iron Ore	307.8	92,340.0	Sponge Iron	190.0	57000
2	Coal	247.0	74,100.0	Wet scrapper sludge	5.5	1664.4
3	Dolomite	7.6	2,280.0	Dolochar	61.8	18525
4		0.0	0.0	ESP, Bag Filter Dust	16.6	4993.2
5		0.0	0.0	Accretion	13.9	4161
6				Volatile losses	274.6	82376.4
	Total	**562**	**1,68,720**		**562**	**168720**

Raw Materials Requirements

Unit	Annual Production	Mode of Transportation	Distance covered	Source (e.g.) #	Address
Iron Ore	92,340.0	Truck	Approx. 250 km	Rungta Mines Ltd	Chaliyama, Saraikela Kharsawan
				Amalgam Steel	Kandra, Saraikela Kharsawan
				Rashmi Metaliks Ltd	Nandarchak, Kharagpur, West Bengal
Non-Coking Coal	74,100.0	Truck	300 km	Adani Enterprises	Salt Lake, Kolkata
Dolomite/Limestone	2,280.0	Truck	100 km	Ganapati Enterprises	Kharkabad, Govindpur, Dhanbad

This is an indicative source of material while materials can be sourced from open market as per availability

Total Water Requirement for the Existing DRI Plant (KL)

Unit	Purpose	Recirculating water (KLD)	Makeup water (KLD)	Total water requirement (KL)	Waste water generation (KLD)
DRI Plant	Cooling	45	35	80	0
Drinking & Sanitation	Domestic	0	2	2.0	1.6
Total		**45**	**37**	**82**	**1.6**

Total Water Requirement for the Proposed expansion Plant (KLD)

Unit	Purpose	Recirculating water (KLD)	Makeup water (KLD)	Total water requirement (KL)	Waste water generation (KLD)
DRI Plant (100+90 TPD)	Cooling	90	70	160	0
Power Plant		115	13	128	0
SMS		108	12	120	0

Rolling Mill		36	4	40	
Drinking & Sanitation	Domestic	0	9	9	5.6
Total		**349**	**108**	**457**	**5.6**

Make-up Water (Fresh) Requirement for the Existing & Proposed Plant (KLD)

Unit	Makeup water Existing (KLD)	Makeup water for Proposed Units	Makeup water Total after expansion
DRI Plant	35	35	70
Power Plant (8 MW)	0	13	13
SMS (IF & CCM)	0	12	12
Rolling Mill	0	4	4
Drinking & Sanitation	2	7	9
Total	**37**	**71**	**108**

The capacity of the is around 50 sqm with an average depth 4 m, water holding capacity is 200 Cum. Source of water ground water and rainwater harvesting. The water from RWH tank can approximately meet 10 days of industrial demand.

Power requirement for Existing & Proposed Plant

Unit	Power requirement for Existing Units(MW)	Power requirement for Proposed Units (MW)	Total after Expansion (MW)
DRI Sponge	1.00	1.00	2.00
Steel Melting Shop	0	4.00	4.0
Rolling Mill	0	1.00	1.00
CPP Auxiliary	0	1	0.8
TOTAL	**1.00**	**7**	**8**
Total Power required		**7**	**8**

Details of Solid waste and Mode of disposal

Description of the Plant	Plant Capacity	By-product/Waste Product	Mode of Disposal	
Sponge Iron Plant	190 TPDX300 Days	61.8 TPD char generated during the production of sponge iron and will be totally utilized in AFBC Boiler. Wet scrapper sludge 5.5 TPD	Will be used in AFBC Boiler inhouse	In existing plant char generated from 100 TPD DRI Plant was sold to Shree ShyamUdyog, Goaladih, West

		Accretion 13.9 TPD		Bengal
	ESP Bag Filter units-7 Nos.	Approximately 11T of ESP dust + 1.50/day from bag filter unit generated during the plant operation and it can sell	Brick making plants.	In existing plant ESP & Bag Filter dust sold to authorized recycler (Prakash Jalan). For proposed expansion the generated dust will be sold to Mongia Bricks, Manjhladih, Giridih
Power	2x2 MW (WHRBs)=4 MW+ 1X4 MW (AFBC)	There will be water waste from DM Plant and it will be utilized after neutralizing for dust suppression at raw material yards and for green belt.	The ash generated will be sold for Brick making Units	Mongia Bricks, Tundi Road, Manjhladih, Giridih
SMS	400 TPD X 350 Days= 1,40,000 TPA	Slag- 97 TPD Broken Refractory-77 TPA	Land filling and brick manufacturing	Mongia Bricks, Tundi Road, Manjhladih, Giridih
Rolling	(20TPH) 1,40,000 TPA	Mill Scale-4.0 TPD Trimming reject-8.0 TPD	The waste has commercial worth and will be sold	Used in Lowling areas
Slag Crusher	10 TPH	Recovered Scrap-10 TPD Dust- 87 TPD	In-house Low line filling	
Domestic	195 Persons	10237kg/annum	Send to local municipal corporation	
Sludge/Salt from cooling towers	--	192kg/annum	Used as earthing	

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	Private land, owned by M/s. Venkateswara Sponge & Iron Company Private Limited
2	CO	:	The CO, Giridih Sadar vide letter no. 589, dated 17.05.2024 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan.
3	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 234, dated 10.02.2024

			certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
4	DFO Forest Distance	:	DFO, Giridih East Forest Division vide letter no. 1351, dated 20.04.2024 certified that the distance of notified forest is **11 meters** from project site. This being an expansion in a existing project and no addition of new land, siting criteria is not applicable.
5	Consent to Establish (CTE)	:	**CTE** issued by JSPCB vide Ref. no. N-69, dated 29.03.2006.
6	Consent to Operate (CTO)	:	**CTO** granted by JSPCB vide Ref. no. JSPCB/HO/RNC/CTO-9029328/2021/227, dated 09.02.2021.
7	CGWA	:	No Objection Certificate (NOC) for Ground Water Abstraction vide NOC No. CGWA/NOC/IND/ORIG/2022/17216, dated 28.10.2022 valid up to 27.10.2025.

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

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 30.05.2024, 31.05.2024, 01, 02 & 03.06.2024, the Committee recommends for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure I along with following specific conditions :

I. **Complete material balance to be provided for all the input & output.**

II. **Detailed water balance to be provided.**

III. **Details of all the waste generation in the project along with handling and management of the same.**

IV. **Primary study to be carried out for Socio Economy, Ecology & Bio-Diversity.**

V. **Details of all the pollution control measures including ETP & STP, if any.**

VI. **Details of fire control management plan.**

VII. **All details of the existing plant is to be provided in EIA / EMP.**

VIII. **An Affidavit with regard to original cost of the existing project is to be included in final EIA / EMP.**

IX. **A certificate from the project consultant / supplier regarding the proposed new DRI kiln certifying that the maximum production capacity possible is 90 TPD only.**

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Day 2 : May 31st, 2024 [Friday]

Consideration of proposals

1. **Regularization of existing Rolling Mill & Reheating furnace for production of 28160 TPA Round Bars, Flat Bars & Sections and Multi blanking line (Cut to Length) for 20 million / year M.S. Blanks – Disc along with existing Coal Gasifier by M/s Steel Strips Wheel Limited at Village : Muria, P.O. : Kolabira, Distt. : Saraikela-Kharsawan, Jharkhand.**

   (Proposal No. : SIA/JH/IND1/428941/2024).

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

   This is an existing project which has been taken for appraisal on 31.05.2024.

   Project Category : B-1 - 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 **3 (a) Metallurgical Industries (Ferrous & Non Ferrous) Secondary Metallurgical Processing industry** as per EIA Notification, 2006.

   M/s Steel Strips Wheels Limited (SSWL) is existing plant at village Muria, P.O. Kolabira, Dist.- Saraikela Kharsawan, Jharkhand on the total area of 3.52 Ha (8.71Acres).

   Company started with production of Round bar, Flat and Sections of capacity 28160 TPA capacity after obtaining the Consent to Establish (CTE) vide letter No. B-5312, dated 10th December, 2015. The Project Authorities than obtained CTE for expansion of the plant by adding Producer gas plant of 3700 Nm3/hr and Cut to Length line of 200 Lakhs disc/year vide Ref. No. JSPCB/HO/RNC/CTE-4918772/2019/305 dated 10.05.2019. Company has valid CTO vide ref No. JSPCB/HO/RNC/CTO-18863893/2024/576, dated 31st March 2024 valid up to 31st December, 2024 for production of Round Bar & Flat Bars- 2346.6 MT/Month, Producer Gas-3700 Nm3/hr, Cut to length 200 Lac Disc/year.

   Company has now proposed to obtain Environmental Clearance for the regularization of Existing Rolling mill with Reheating furnace for production of 28160 TPA Round Bars, Flat Bars & Sections and Multi blanking line (CTL) for 20 million/year M.S. Blanks-Disc along with existing Coal Gasifier.

   Proposed regularization shall be done within the existing plant area of 3.52ha (8.71 Acres). No additional land is required. No forestland is involved. Out of the total area, ha (34%) will be developed as green belt.

Latitude	22°46'33.44"N to 22°46'25.47"N
Longitude	86°0'56.68"E to 86°0'58.59"E

Land Details :

Khata No.	40	72	73	155	22	35	58	Total Land
Plot no.	240	241	239, 250, 251, 329, 850, 252, 237	249	248	245	247	
Area	**0.10**	**0.58**	**7.85**	**0.02**	**0.06**	**0.05**	**0.05**	**8.71 Acres**

There are no Biosphere Reserve/ National Park/ Wildlife Sanctuary Area within the 10Km radius of the Project Site.

The total Project cost is Rs. 102.89 Crore. Total existing manpower of the plant is 110 persons including Sr. Executives, Managers, Administrators, Engineers, Supervisors and Skilled Technicians.

The Raw material for the plant would be procured from local and other state markets depending upon the quality. The raw material and product transportation will be done through NH-43 at 0.03 km from the project site. The Configuration and Production Details of the unit is as follows:

Sl. No.	Unit	Existing Configuration	Production
1	Rolling Mill	11TPH	28160TPA Round Bars, Flat Bars & Sections
2.	Reheating Furnace (Pusher type &PG Based/Oil Based)		
3.	Coal Gasifier	1x3700 Nm3/Hr.	3700 Nm3/hr Producer Gas
4.	Multi-Blanking line (CTL)	1x 2500 T Hydraulic Press and piercing line	20 Million /Year M.S. Blanks-Disc

Total Power requirement of the unit is 4 MVA. The sourced of the power is TSUISL. 1 nos. of DG Set- 400 KVA is installed to meet emergency requirements of the plant utilities, in case of power shutdown.

Total Raw material requirement of plant is given below:

Raw Materials	Quantity			Source	Transportation (Km)	
	Existing	Proposed	Total		Road	Rail
Billets	29960 TPA	-	29960 TPA	Tata Steel	40-45	-
Hot Rolling Sheet/Coils	51832 TPA	-	51832 TPA	Tata Steel	40-45	-
Coal	7128 TPA	-	7128 TPA	Open	20-40	-

				Market		
Furnace Oil	1402 KLPA	-	1402 KLPA	HPCL	280-290	-

The total water requirement is 300 KLD. The Source of the water is Ground water. The NOC from CGWA for 300 KLD was obtained vide application no. CGWA/NOC/IND/REN/1/2021/6198 dated 07.03.2019 which was valid till 06.03.2022 for renewal of CGWA NOC Company has applied application to CGWA vide. Appl. No. –21-4/210/JH/IND/2016, dated 23.01.2024 and the Re-newal application is under process. Zero Liquid Discharge 'ZLD' shall be maintained.

The proponent has mentioned that there is no court case or violation under EIA Notification to the project or related activity.

STATUTORY CLEARANCES :

1	Land docs	:	Ownership land.
2	CO	:	The CO, Saraikela vide letter no. 1367, dated 16.08.2023 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DFO Wild Life	:	DFO, Dalma Elephant Project vide letter no. 1377, dated 04.09.2023 certified that the proposed project site is outside Eco Sensitive Zone of Dalma Wildlife Sanctuary.
4	DFO Forest Distance	:	DFO, Saraikela Forest Division, Saraikela vide letter no. 399, dated 29.02.2024 certified that the distance of notified forest is more than 250 meters from project site.
5	Consent to Establish (CTE)	:	**CTE** issued by JSPCB vide Ref. no. : i. B-5312, dated 10.12.2015. ii. JSPCB/HO/RNC/CTE-4918772/2019/305, dated 10.05.2019. iii. JSPCB/HO/RNC/CTE-8558721/2020/388, dated 08.10.2020. iv. JSPCB/HO/RNC/CTE-11527617/2022/363, dated 02.09.2022.
6	Consent to Operate (CTO)	:	**CTO** granted by JSPCB vide Ref. no. : i. JSPCB/HO/RNC/CTO-1140689/2017/82, dated 30.01.2017. ii. JSPCB/HO/RNC/CTO-1606715/2018/1284, dated 06.08.2018. iii. JSPCB/HO/RNC/CTO-3576772/2019/544, dated 16.03.2019. iv. JSPCB/HO/RNC/CTO-14931456/2023/407, dated 05.03.2023. v. JSPCB/HO/RNC/CTO-18863893/2024/576, dated 31.03.2024.

7	CGWA	:	Application for renew of NOC issued to existing Industrial projects abstracting ground water vide application no. 21-4/210/JH/IND/2016

Baseline data generation has been carried out 1st March, 2023 to 31st May, 2023 and additional one month monitoring 1st May, 2024 to 31st May, 2024 to be included in EIA / EMP.

Public consultation for the project is exempted as per the provisions of MOEF&CC Notification SO 3250(E) Dated 20/07/2022 and SO 3372 dated 26/07/2023, since there is no expansion or modification in the present proposal and only regularization of the existing unit is proposed in light of the above notifications.

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 30.05.2024, 31.05.2024, 01, 02 & 03.06.2024, the Committee recommends for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure II along with following specific conditions :

I. **Complete material balance to be provided for all the input & output.**

II. **Detailed water balance to be provided.**

III. **Details of all the waste generation in the project along with handling and management of the same.**

IV. **Primary study to be carried out for Socio Economy, Ecology & Bio-Diversity.**

V. **Details of all the pollution control measures including ETP & STP, if any.**

VI. **Details of fire control management plan.**

VII. **All details of the existing plant is to be provided in EIA / EMP.**

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2. **Enhancement of MS Billet production from 27,000 TPA to 1,88,100 TPA through 3x15T (proposed) & 1x 12T (existing) Induction Furnaces, 1x12T LRF along with CCM (1x2 Strand, Rad – 4/7), Slag Crusher from 15,000 TPA to 45,000 TPA capacity and production of 1,81,500 TPA TMT Bars & Rolled Products by installing Rolling Mill of capacity 550 TPD by M/s Divine Steels Pvt. Ltd. at Plot no. 13/IA, Barhi Industrial Area, Village : Konra, P.S. : Barhi, Distt. : Hazaribagh, Jharkhand.**

(Proposal No. : SIA/JH/IND1/472850/2024).

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

This is an expansion project which has been taken for appraisal on 31.05.2024.

Project Category : **B-1 - 3 (a) Metallurgical Industries (Ferrous & Non Ferrous)** as per EIA Notification, 2006.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 106th meeting held on 18-22.07.2023 and SEIAA, Jharkhand has approved the ToRs in 107th meeting held on 07th & 08th August, 2023. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2023-24/2875/2023/212, date 14.08.2023. The final **EIA / EMP** submitted by PP to SEAC on 24.05.2024.

The project is for obtaining environmental clearance for Enhancement of MS Billet production from 27,000 TPA to 188,100 TPA through 3x15T (proposed) & 1x12T (existing) Induction Furnaces, 1x12T LRF along with CCM (1x2 Strand, Rad- 4/7), Slag Crusher from 15,000TPA to 45,000TPA capacity and production of 181,500 TPA TMT Bars & Rolled Products by installing Rolling Mill of capacity 550TPD by M/s Divine Steels Pvt Ltd at Plot No. 13/IA, Barhi Industrial Area, Village: Konra, P.S.: Barhi, District: Hazaribagh, Jharkhand, within the existing plant premises of 4.99Ha.

Environmental Site Settings :

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th><th>Remarks</th></tr>
<tr><td>1</td><td>Total land</td><td>4.99ha [Industrial: 4.99ha]</td><td>Land Use: Industrial Land</td></tr>
<tr><td>2</td><td>Land acquisition details as per MoEF&CC O.M. dated 7/10/2014</td><td>Total area – 4.99 Ha
[Acquired Land: 4.99 Ha,]</td><td>No additional land acquisition Required.</td></tr>
<tr><td>3</td><td>Existence of habitation & involvement of R&R, if any.</td><td>R&R is not applicable
Existence of Habitation
Project Site – Nil
Study Area: Nearest
<table>
<tr><th>Habitation</th><th>Distance</th><th>Direction</th></tr>
<tr><td>Barhi</td><td>0.080km</td><td>WSW</td></tr>
</table></td><td>--</td></tr>
<tr><td>4</td><td>Latitude and Longitude of all corners of the project site.</td><td>
<table>
<tr><th>Corner</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>A</td><td>24°18'2.659"N</td><td>85°26'13.092"E</td></tr>
<tr><td>B</td><td>24°18'3.129"N</td><td>85°26'21.758"E</td></tr>
<tr><td>C</td><td>24°18'3.260"N</td><td>85°26'31.439"E</td></tr>
<tr><td>D</td><td>24°17'59.863"N</td><td>85°26'31.162"E</td></tr>
<tr><td>E</td><td>24°17'59.900"N</td><td>85°26'17.560"E</td></tr>
</table></td><td>--</td></tr>
</table>

S. No.	Particulars	Details	Remarks
		F 24°17'59.492"N 85°26'14.295"E	
5	Elevation of the project site	409 m above mean sea level	--
6	Involvement of Forest land, if any	No involvement of Forest Land	--
7	Water body (Rivers, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area	**Project Site**: No water bodies within the project site. **Study area** **Water Body** / **Distance** / **Direction** Barhi Nadi / 1.6km / WSW Teliya Reservior / 2.5km / N	--
8	Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area	The ESZ of Hazaribagh Wildlife Sanctuary is at a distance of 6.9km from the project site. However the boundary of WLS is at a distance of 12.5km from the project site. No National Park/ ESA/Wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve within 10km radius of the project site. Only few protected/Reserve forests present within 10 km radius of the project- Titahi RF at 7.50km in WNW direction. Karimati PF at 3.0Km in ENE Direction. Dumardih PF at 3.5 km in SW Direction. Singhpur PF at 4.0 km in ENE Direction. Bundu PF at 7.0 km in E Direction. Lakhna PF is at 7.2km in SE Direction. Nagar Barsot PF at 8.2 km in SE Direction. Gundio PF at 8.4 km in E Direction. Chatro PF at 8.8 km in SE Direction.	--

LAND DETAILS :

Khata No.	Plot No.
32	1485 (P)

72	1491 (P)
78	1492
46	1493 (P)
64	1523 (P)
78	1524 (P)
52	1525 (P)
55	1522 (P)

Company started with production of 27,000 TPA (12T x 7.5 Heats x 300 days) MS Ingot/Billet along with Slag Crusher of 15,000 TPA (recovered Slag Metal – 1500 TPA) capacity after obtaining the Consent to Establish (CTE) vide letter No. JSPCB/HO/RNC/CTE-12335290/2022/202, dated 04.05.2022 and Consent to Operate (CTO) vide ref No. JSPCB/HO/RNC/ CTO-16525970/2023/1543, dated 04.09.2023 for the period up to 30.09.2025.

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

Sl. No	Plant Facilities	Existing Configuration	Proposed Configuration	Final Production Capacity (TPA)
1.	Induction Furnace	27000 TPA (1x12T) 300 working days	12,600 TPA (additional from existing 1x12T) 330 working days	188,100 TPA MS Billets (3x15T+ 1x12T, 1x12T LRF & CCM 1 x 2 strand Rad - 4/7) 330 working days
			1,48,500 TPA (3x15T) with 330 working days	
	LRF	--	1x12T	
	Continuous Casting Machine	--	1 x 2 strand Rad - 4/7	
2.	Rolling Mill (Direct Hot Charging)	-	181,500 TPA (550TPD)	181,500 TPA Roll Products (TMT Bars & Rolled Products)
3.	Slag Crusher	15,000TPA (Recovered Slag metal – 1500 TPA)	30,000 TPA (Recovered Slag metal – 3000TPA)	45,000 TPA (Recovered Slag metal – 4500 TPA)

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

Sl. No.	Item	Existing Requirement in TPA	Proposed Requirement in TPA	Total Requirement in TPA	Source	Distance & Mode of Transport
STEEL MELTING SHOP –(MS Billets 188,100 TPA)						
1.	Sponge Iron	21,600	1,28,880	150,480	Local Market in Hazaribagh, Ramgarh, Giridih etc	40 to 120 km by Road
2.	Pig Iron	7,560	45,108	52,668		
3.	Scrap	4,050	24,165	28,215		
4.	Ferro-alloys	54	322	376		
Total		**33,264**	**1,98,475**	**231,739**		
ROLLING MILL – (Long Rolled Product 181,500TPA)						
1.	MS Billets	--	188,100	188,100	In house	Direct charging from CCM

The total make-up water requirement of the plant after proposed expansion is estimated to be 305.5KLD. At present the water is sourced from groundwater and the permission is obtained from Central Ground Water Authority (CGWA) vide NOC having ref. no. CGWA/NOC/IND/ORIG/2023/18938 dated 02.08.2023. Application vide ref. no. 21-4/1341/JH/IND/2023 dated 13.05.2024 has been submitted to CGWA to obtain the NOC for 306 KLD of water withdrawal through bore well. The application is under process.

Total requirement of power for the after proposed expansion will be 17.80MVA. Existing requirement of power for the operation of existing units is 3.80MVA and requirement is met through DVC. Permission for the additional power requirement shall be obtained from DVC. One DG sets of 1x500 kVA will be installed along with the existing DG set of 1x200kVA.

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

Parameters	Description	Permissible Level
AAQ parameters at 8 Locations (Average - min and max)	PM2.5 25.98 µg/m^3 and 39.08 µg/m^3 PM10 65.99 µg/m^3 to 78.38 µg/m^3 SO2 10.34 µg/m^3 to 17.93 µg/m^3 NO2 14.87 µg/m^3 to 28.11 µg/m^3 CO 0.38 mg/m^3 to 0.85 mg/m^3	60 µg/ m^3 100 µg/ m^3 80 µg/ m^3 80 µg/ m^3 04 mg/m^3
Ground Water Quality	pH varies from to 7.38 to 7.67 Total Hardness varies from 512 to 562.0 mg/L. Total Dissolved Solids varies from 676.0 to 820.0 mg/L.	6.5-8.5 200-600 mg/L 500-2000 mg/L
Surface Water Quality	pH varies from to 7.48 to 7.74 Dissolved Oxygen varies from 5.8 to 6.30 mg/L.	IS:2296 Class C Norms

<table>
<tr><th>Parameters</th><th>Description</th><th>Permissible Level</th></tr>
<tr><td></td><td>BOD varies from 16.00 to 36.0 mg/L.</td><td></td></tr>
<tr><td>Soil Quality</td><td>pH 7.58 to 7.74
Potassium K 102.0 to 156.0 kg/ha
Available nitrogen N 137.63 to 173.0(Kg/hec)
Organic matter 0.30% to 0.46%</td><td>----</td></tr>
<tr><td rowspan="2">Noise Level</td><td>Day Time (6:00 a.m. to 10:00 p.m.)
65.46 Leq dB(A)
Night Time (10:00 p.m. to 6:00 a.m.)
59.78 Leq dB(A)</td><td>75 Leq dB (A)
70 Leq dB (A)</td></tr>
<tr><td>Day Time (6:00 a.m. to 10:00 p.m.)
50.29 Leq dB(A) to 53.96 Leq dB(A)
Night Time (10:00 p.m. to 6:00 a.m.)
40.69 Leq dB(A) and 43.78 Leq dB(A)</td><td>55 Leq dB (A)
45 Leq dB (A)</td></tr>
<tr><td>Traffic assessment study findings</td><td>

The traffic study was carried at two locations NH-19 (Delhi-Kolkata Highway) and NH-20 (connecting Ranchi - Patna) at 16m and 2km road distance in West and North direction.
Transportation of Raw material, Fuel and Finished product will be done by Road.
Existing PCU is 4331PCU/Day and 4726PCU/Day on NH-19 and NH-20 existing level of service (LOS) is:

<table>
<tr><th>Road</th><th>V (Volume in PCU/day)</th><th>C (Capacity in PCU/day)</th><th>Existing V/C Ratio</th><th>LOS</th></tr>
<tr><td>NH-19</td><td>4331</td><td>15000</td><td>0.29</td><td>B</td></tr>
<tr><td>NH-20</td><td>4726</td><td>15000</td><td>0.32</td><td>B</td></tr>
</table>

PCU load after proposed expansion project will be 4458 PCU/Day (Existing 4331 + 127) for NH-19 and 4758 PCU/Day (Existing 4726+32) for NH-20. level of service (LOS) will be after expansion will remain 'B'

<table>
<tr><th>Road</th><th>V</th><th>C</th><th>V/C</th><th>LOS</th></tr>
</table>
</td><td></td></tr>
</table>

Parameters	Description	Permissible Level
	<table><tr><th></th><th>(Volume in PCU/day)</th><th>(Capacity in PCU/day)</th><th>Ratio</th><th></th></tr><tr><td>NH-19</td><td>4458</td><td>15000</td><td>0.30</td><td>B</td></tr><tr><td>NH-20</td><td>4758</td><td>15000</td><td>0.32</td><td>B</td></tr></table> *Conclusion: Level of Service will be "B" i.e. Very Good for NH-19 and NH-20 including additional traffic due to proposed project.* *Note: Capacity as per IRC 64:1990 Guideline for capacity for roads in Rural Areas.*	
Flora and fauna	As per reconnaissance survey Schedule - I fauna species found within 10km of the study area. total 20 Schedules-I faunal species like Herpestes edwardsi, Hystrix indica, Manis crassicaudata, Python molurus, Varanus bengalensis, Pavo cristatus, and Gyps bengalensis. Felis chaus, Cervus unicolor, Canis aureus, Hyaena hyaena, Vulpus, benghalensis, Manis crassicaudata. Reptiles like Python molurus, Naja naja & Varanus bengalensis. Birds like Spilornis cheela, Gyps bengalensis, Bubo bubo & Pavo cristatus have been reported in the 10 km of the study area. The detailed study is given in Final EIA/EMP report. Total 20 numbers Schedule-1 species have been identified/reported is in the study area. Wildlife conservation plan has been prepared and submitted.	--

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

Units	Solid Wastes	Qty In TPA	Disposal practice
Induction Furnace & LRF	Slag	39,500	In-house metal recovery in slag crusher (approx. 3950TPA) and non-metal dust supplied outside for further reuse in construction work.
CCM	Scales & End cuts	3574	Will be used as Raw material in induction furnace
Bag Filter Dust from process	Dust from process	377	Partly recycled (metal content). Rest supplied outside for further reuse in construction work and Low land filling

Rolling Mill	End cuttings & Mill Scale	6355	Recycled in-house along with scrap in the induction furnace.

Public Consultation

Details of advertisement given	"Hindustan Dhanbad" and "The Times of India" on dated 12.11.2023
Date of public consultation	15.12.2023
Venue	Panchayat Bhawan, village Konra, Barhi, Hazaribagh Jharkhand
Presiding Officer	Mrs. Punam Kujur, SDM, Hazaribagh, Jharkhand
Major issues raised	The issues raised in the public hearing were for employment to be given to local people, control of air pollution from the project area, Greenbelt Development and Health Care facilities in village.

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

Sl. No.	Activities	Year of Implementation (Budget in INR)			Total Expenditure (Rs.)
		1st Year	2nd Year	3rd Year	
1.	Company will organize medical checkup camps time to time in Konra village.	3.0 Lakhs	3.0 Lakhs	3.0 Lakhs	**9.0 Lakhs**
2.	Project authorities will distribute blankets to Konra Villagers	2.0 Lakhs	2.0 Lakhs	--	**4.0 Lakhs**
3.	Company will develop greenbelt alongside the road of DAV Public School Barhi.	2.0 Lakhs	1.0 Lakhs	1.0 Lakhs	**4.0 Lakhs**
Total		**7.0 Lakhs**	**6.0 Lakhs**	**4.0 Lakhs**	**17.0 Lakhs**

Existing Capital cost of project was Rs. 9.90 Crores. The capital cost of the proposed project is envisaged as Rs. 34.50 Crores and the capital cost for environmental protection measures (EMP) is proposed as Rs. 1.5664Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs 25.70Lakhs.

The employment generation from the proposed expansion is 194.

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

Sl. No.	Environmental Protection Measures	Capital Cost Rs. in lakhs	Recurring Cost Rs. in lakhs/year
1	***Air Pollution Control Measures***		
	Replacement of existing Wet scrubber with Cyclone cum Spark Arrester with Pulse jet Bag Filter	15.00	2.00
	1 no. of Cyclone cum Spark Arrester with Pulse jet Bag Filter with proposed 3x15T Induction Furnace	45.00	2.00
	Water Sprinkling System for dust control	10.00	1.00
	Sub Total (A)	**70.00**	**5.00**
2	***Water Pollution Control Measures***		
	Construction 3 no. of Recharge Pits and other necessary facilities for RWH	7.50	0.50
	Neutralization Pit size (1 Nos)	5.00	1.00
	Settling Pit with Oil skimmer for Rolling Mill	5.00	1.00
	Sub Total (B)	**17.50**	**2.50**
3.	***Noise Pollution Control Measures***		
	Acoustic Enclosure or Separate housing for DG Set and Compressor	10.0	1.50
	Sub Total (C)	**10.00**	**1.50**
4.	***Storage and Solid Waste Management***		
	RCC flooring for storage raw materials, products and storage of Bag filter Dust, to avoid leaching	5.00	0.50
	Concrete platform with bund wall and oil collection system for storage of HSD, and other Oil Drums and Used Oil	2.00	0.50
	Sub Total (D)	**7.0**	**1.00**
5.	***Environment Monitoring Program***		
	Installation of Flow Meters	2.0	0.50
	Cost of monitoring of environmental	-	5.45

Sl. No.	Environmental Protection Measures	Capital Cost Rs. in lakhs	Recurring Cost Rs. in lakhs/year
	parameters for Ambient Air, Fugitive Emission, Work-Zone Emission, Stack emission, Effluent, Ground water Ambient & work Zone Noise Levels monitoring including efficiency monitoring of pollution control		
	Monitoring of Health of Workers	-	1.00
	Monitoring of Performance of Pollution Control Equipment	-	0.75
	Sub Total (E)	**2.00**	**7.70**
6.	***Occupational Health & Safety***	**11.00**	**6.50**
7.	***Greenbelt Development and Landscaping***	**22.14**	**1.50**
Total for Environment Protection & OHS		**139.64**	**25.70**
8.	***Public Hearing Action Plan***		
	Organizing Medical Camp in Konra Village	9.0	--
	Greenbelt development alongside the road of Konra Village	4.0	--
	Blankets Distribution at Konra Village	4.0	--
	Total for Public Hearing Action Plan	**17.0**	--
Total		**156.64**	**25.70**

Company has proposed to develop greenbelt on 1.86Ha area (i.e. 37% of the total plant area), within the plant premises by planting 5535 number of Indigenous trees with local board leaf specification along the boundary and inside the plant area. Capital budget of Rs. 22.14 lakhs will be spent on tree plantation and the budget of approx. Rs. 1.5 lakhs shall be kept for yearly maintenance.

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

Name of the EIA consultant: Vardan EnviroNet [S.No. 198 in List of ACOs with their Certificate/Extension Letter no. NABET/EIA/2326/RA0284 Valid up to April 04.05.2026. Rev. 00]

STATUTORY CLEARANCES

1	Lease docs	:	Land lease deed from JIADA dated 19.04.2022.
2	DFO Forest Distance	:	DFO, Hazaribagh West division vide letter no. 2741, dated 17.05.2023 certified that the distance of reserved/protected forest is more than 250 m from project site.
3	DFO Wildlife	:	DFO, Wildlife Hazaribagh vide letter no. 1233, dated 28.06.2023 certified that proposed project site is outside Eco Sensitive Zone of Hazaribagh Wildlife Sanctuary.
4	CO certificate	:	The CO, Barhi (Hazaribag) vide letter no. 401, dated 10.05.2023 has mentioned the plot no. of the project is not recorded as "Jangle Jhari" in R.S. Khatiyan & Register II.
5	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. : JSPCB/HO/RNC/CTE-12335290/2022/202, dated 04.05.2022.
6	Consent to Operate (CTO)	:	CTO issued by JSPCB vide Ref. no. : i. JSPCB/HO/RNC/CTO-14163539/2023/17, dated 04.01.2023 valid for the period upto 30.09.2023. ii. JSPCB/HO/RNC/CTO-16525970/2023/1543, dated 04.09. 2023 valid for the period upto 30.09.2025.
7	Public Hearing	:	JSPCB, Regional Office –cum- Laboratory, Hazaribag vide letter no. 1684, dated 19.12.2023 informed that public hearing conducted on 15.12.2023.
8	CGWA	:	No Objection Certificate (NOC) for Ground Water Abstraction vide NOC No. : CGWA/NOC/IND/ORIG/2023/18938 dated 02.08.2023 valid up to 01.08.2026.

Based on the presentation made and information provided, the Committee decided that the proposal for Enhancement of MS Billet production from 27,000 TPA to 1,88,100 TPA through 3x15T (proposed) & 1x 12T (existing) Induction Furnaces, 1x12T LRF along with CCM (1x2 Strand, Rad – 4/7), Slag Crusher from 15,000 TPA to 45,000 TPA capacity and production of 1,81,500 TPA TMT Bars & Rolled Products by installing Rolling Mill of capacity 550 TPD by M/s Divine Steels Pvt. Ltd. at Plot no. 13/IA, Barhi Industrial Area, Village : Konra, P.S. : Barhi, Distt. : Hazaribagh, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – III along with following specific conditions :

I. MoU is to be executed with the buyers of the use refractory material before this expansion project comes into operation. Copy of MoU to be submitted SEIAA / SEAC, Jharkhand before expansion project comes into operation.

II. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.

III. Environment management system including organization structure to be drawn to ensure compliance of EC conditions stipulated based on principles of Continual Improvement and periodical management review.

IV. All raw material to be stored only under covered shed.

V. PAs to offset (upto 20%) consumption of conventional energy sources by promoting use of solar energy, passive energy utilization, optimum fenestration, shading effect and heat islands. The energy required by the process is an execluded from the above accounting.

VI. Company to promote energy conservation measures such that it offsets not less than 02 % of connected load. It is to be achieved by solar panels etc meeting ECBC norms.

VII. Trees should be developed & maintained in not less than 33% of project area. Suitable plants of not less than 2 M height to be planted.

VIII. Company to install ETP and / or STP of sufficient capacity such that all the waste water produced is treated and reused.

IX. Company to install Rain water harvesting structures such that all the roof top water runoff is collected and harvested including reuse on 100% basis.

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

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3. **Kalupara Stone Deposit of M/s H L Aggregates (Partners : (i) Shri Shiv Kumar (ii) Shri Bikram Kumar (iii) Shri Prasanna Shankar Mishra), Village : Kalupara, Thana : Maheshpur, Distt. : Pakur, Jharkhand (2.19 Ha).**

(Proposal No : SIA/JH/MIN/ 472905/2024)

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

This is a new project which has been taken for appraisal on 31.05.2024.

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

TOR Application for: Proposed Capacity- 73623 Cu.m/annum or 220871 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Kalupara Stone Deposit (Area- 2.19 Ha or 5.41 Acres)	
2	Lessee:	:	M/s H L Aggregates (Partners: 1. Shri Shiv Kumar, 2. Shri Bikram Kumar, 3. Shri Prasanna Shankar Mishra)	
3	Lease Address	:	Near Mouza– Kalupara, Thana - Maheshpur, District – Pakur, State- Jharkhand.	
4	Lease Area	:	2.19 Ha	Acres- 5.41 Acre
5	Type of Land	:	Non- Forest (Raiyati Barren Land)	
6	Project Cost	:	Rs. 70 Lakhs	
7	EMP Budget	:	Capital: 7.85 Lakhs	Recurring: 5.10 Lakhs/year
8	New or Expansion	:	New	
9	Mineable Reserves	:	1104198 tonnes	
10	Mine Life	:	5 years	
11	Man power	:	43	
12	Water Requirement	:	6.09 ~ 6.10 KLD, (Drinking: 0.43 KLD, Dust Suppression: 2.92 KLD, Plantation: 2.74 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Bansloi River, Approx. 7.79 Km in South direction of mine site.	
17	Nearest Habitation	:	Kalidaspur, Approx. 420 meters towards SE direction.	
18	Nearest Railway Station	:	Nagarnabi Railway station, approx. 14.10 km toward ENE direction.	
19	Nearest Air Port	:	Deoghar Airport approx. 104.50 km towards West direction.	
20	Nearest Forest	:	PF, Approx. 2.50 km. in NE direction of mine site. PF, Approx. 5.0 km. in NE direction of mine site. PF, Approx. 5.0 km. in North direction of mine site. PF, Approx. 5.0 km. in NW direction of mine site. PF, Approx. 3.0 km. in WNW direction of mine site. PF, Approx. 4.9 km. in SW direction of mine site. PF, Approx. 3.6 km. in SW direction of mine site. PF, Approx. 7.0 km. in NW direction of mine site.	
21	Road & Highways	:	NH-133A, Approx. 10.51 km in NNE direction.	

CO-ORDINATES

1	Latitude		From 24°33'43.85315" N	To 24°33'50.15732" N

2	Longitude		From 87°43'51.28399" E	To 87°43'58.47042" E

LAND DETAILS

Khata no.	Plot no.
06	130 (P)
19	143 (P)
20	131 (P) & 144 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 376/M, dated 19.03.2024.
2	CO	:	The CO, Maheshpur vide letter no. 1198/Ra., dated 14.12.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Pakur vide memo no. 520/M, dated 18.04.2024 certified that 03 other mining lease area (6.00 Acre, 6.00 Acre & 5.78 Acre) exists within 500 m radius from proposed project site and total area is 23.19 Acre (9.38 Ha).
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2024, dated 09.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Pakur Forest Division vide letter no. 1254, dated 29.09.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Pakur has been certified vide memo no. 519/M, dated 18.04.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 157, Page no. 131).
7	Gram Sabha	:	BDO, Maheshpur (Pakur) vide letter no. 2323/Vi., dated 08.11.2023 informed that Gram Sabha conducted on 08.11.2023.
8	Mine Plan Approval	:	Approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Letter No. 57/DDM, dated 25.04.2024.
9	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	2.19 Ha / 5.41 Acre	Life of Mine – 5 Years
3	Waste Generation	:	19375 Cum intercalated waste and 8988 Cum gritty soil shall be generated during the plan period.	
4	Stripping Ratio	:	1:0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	108 mRL to 114 mRL	
8	Ground Level Elevation	:	108 mRL	
9	Ultimate Working Depth	:	60 mRL	
10	Water Table	:	48mRL - 43mRL	
11	Topography of Mine	:	Area represents a moderately sloping land.	
12	Explosive Requirement	:	110kg/day	
13	Diesel/Fuel requirement	:	110 litre/day	

Production Details

Year	Removal of Gritty Soil		Intercalated Waste	Production of Stone		Bench RL in Meters
	in cum	in tonnes	in (cum)	in (cum)	in tonnes	
1st	6603	9905	3875	73617	220852	114mRL -102mRL
2nd	000	000	3876	73623	220871	108mRL – 96mRL
3rd	2385	3578	3875	73617	220852	114mRL – 90mRL
4th	000	000	3876	73623	220871	108mRL – 84mRL
5th	000	000	3873	73583	220745	90mRL – 60mRL
Total	**8988**	**13483**	**19375**	**368063**	**1104191**	

Land Use

Pattern of Utilization	Existing (Ha)	At the End of Plan Period (in Ha)	Conceptual stage (Ha)
Quarry	Nil	1.72 (including backfill 0.41ha)	1.72 (1.41 ha area shall be left as water reservoir)
Greenbelt within safety Barrier	Nil	0.47 (Plantation)	0.47 (Plantation)

Road	0.010	Nil	Nil
Total	**0.010**	**2.19**	**2.19**
Unused Area	2.09	Nil	Nil
Lease hold area	**2.19**	**2.19**	**2.19**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone		0.47/1175	1175
2	Along Approach Road		95 m	95
3	No. of plants distributed with consultation local authorities /village Panchayat		--	100

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

Solid Waste Management

Removal of Gritty Soil 8988 cum & Intercalated Waste 19375 cum waste shall be generated during this plan period. During quarry development in 1st & 2nd year gritty soil and intercalated waste will be removed and this soil & waste will be temporarily dumped at the south part of the area with suitable precautions like parapet wall, garland drain & in 3rd year removed gritty soil, intercalated waste & existing temporarily dumped soil will be temporarily backfilled within the exhausted quarry & in 4th year removed intercalated will be temporarily backfilled within the exhausted quarry & in 5th year removed intercalated waste & temporarily backfill soil will be backfill within the lower four bench of the exhausted quarry.

Water Quality Management

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

- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

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

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.

L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

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

Hazard identification & Risk Analysis in Stone Mining operation

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

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

<u>Preventive Measures:</u>

Face Stability

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

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

- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

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

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

Falls from the edge of a bench

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

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

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

Control Measures

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

Dust generation during drilling

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

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

- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

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

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

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

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

Blasting Operations

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

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

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

Handling of Explosives

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

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of

explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.

- Poorly designed shots can result in misfires, early ignition and flying rock.

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

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

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

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

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

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

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by

keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

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

Undertaking submitted affirming:

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

I. Personal protective equipments such as protecting clothing, helmet, safety shoes, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Baseline study has been conducted between 19th March, 2024 to 18th June, 2024.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 30.05.2024, 31.05.2024, 01, 02 & 03.06.2024, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV along with following specific conditions :

I. Proposal for diversion of the road passing through the proposed ML area duly authenticated / approved by competent authority.
II. A detail management plan for protection and safeguard of the habitation existing within 500 meters from the ML boundary.

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4. **Kalupara Stone Deposit of M/s Hill Top Stone Works (Partners : (i) Shri Vedant Mandhyan (ii) Shri Vidya Niwas Bharatpuri (iii) Shri Ranjit Kumar Tiwary), Village : Kalupara, Thana : Maheshpur, Distt. : Pakur, Jharkhand (2.428 Ha).**

(Proposal No : SIA/JH/MIN/ 472990/2024)

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

This is a new project which has been taken for appraisal on 31.05.2024.

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

ToR Application for: Proposed Capacity- 80247Cu.m/annum or 240740 TPA

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Kalupara Stone Deposit (Area- 2.428 Ha or 6.0 Acres)
2	Lessee:	:	M/s Hill Top Stone Works, (Partners: 1. Sri Vedant Mandhyan, 2. Vidya Niwas Bharatpuri, 3. Sri Ranjit Kumar Tiwary)

3	Lease Address	:	Near Mouza– Kalupara, Thana - Maheshpur, District – Pakur, State- Jharkhand.	
4	Lease Area	:	2.428 Ha	Acres- 6.0 Acre
5	Type of Land	:	Non- Forest (Raiyati Barren Land)	
6	Project Cost	:	Rs. 75 Lakhs	
7	EMP Budget	:	Capital: 8.525Lakhs	Recurring: 5.10Lakhs/year
8	New or Expansion	:	New	
9	Mineable Reserves	:	1203304 tonnes	
10	Mine Life	:	5 years	
11	Man power	:	48	
12	Water Requirement	:	6.78 ~ 6.8 KLD, (Drinking: 0.48 KLD, Dust Suppression: 3.29 KLD, Plantation: 3.01 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Bansloi River, Approx. 7.63 Km in South direction of mine site.	
17	Nearest Habitation	:	Kalidaspur, Approx. 330 meters towards SE direction.	
18	Nearest Railway Station	:	Rajgram Railway station, approx. 13.84 km toward East direction.	
19	Nearest Air Port	:	Deoghar Airport approx. 105 km towards West direction.	
20	Nearest Forest	:	Protected Forest, at approx. 2.55 km. in NE direction of mine site. Protected Forest, at approx. 2.55 km. in NE direction of mine site. Protected Forest, at approx. 2.70 km. in NW direction of mine site. Protected Forest, at approx. 3.0 km. in South direction of mine site. Protected Forest, at approx. 4.5 km. in SSW direction of mine site.	
21	Road & Highways	:	NH-133A, Approx. 10.41 km in North direction.	

CO-ORDINATES

1	Latitude		From 24°33'39.49960" N	To 24°33'45.86738" N
2	Longitude		From 87°43'49.07784" E	To 87°43'57.29545" E

LAND DETAILS

Khata no.	Plot no.
06	130 (P)
19	134 (P) & 143 (P)
20	142 & 144 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 373/M, dated 19.03.2024.
2	CO	:	The CO, Maheshpur vide letter no. 1045/Ra., dated 10.10.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Pakur vide memo no. 518/M, dated 18.04.2024 certified that 03 other mining lease area (5.41 Acre, 6.00 Acre & 5.78 Acre) exists within 500 m radius from proposed project site and total area is 23.19 Acre (9.38 Ha).
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2025, dated 09.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Pakur Forest Division vide letter no. 1255, dated 29.09.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Pakur has been certified vide memo no. 517/M, dated 18.04.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 157, Page no. 131).
7	Gram Sabha	:	BDO, Maheshpur (Pakur) vide letter no. 1935/Vi., dated 18.09.2023 informed that Gram Sabha conducted on 13.09.2023.
8	Mine Plan Approval	:	Approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Letter No. 58/DDM, dated 25.04.2024.
9	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	2.428 Ha / 6.00 Acre	Life of Mine – 5 Years
3	Waste Generation	:	21,110 Cum intercalated waste and 10,038 Cum gritty soil shall be generated during the plan period.	
4	Stripping Ratio	:	1:0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	

7	Elevation of Mine	:	104mRL to 110mRL
8	Ground Level Elevation	:	104mRL
9	Ultimate Working Depth	:	56mRL
10	Water Table	:	48mRL -43mRL
11	Topography of Mine	:	Area represents a moderately sloping land.
12	Explosive Requirement	:	110kg/day
13	Diesel/Fuel requirement	:	110 litre/day

Production Details

Year	Removal of Gritty Soil		Intercalated Waste	Production of Stone		Bench RL in Meters
	in cum	in tonnes	in (cum)	in (cum)	in tonnes	
1st	6174	9261	4224	80247	240740	110mRL -98mRL
2nd	000	000	4221	80209	240625	104mRL – 86mRL
3rd	3213	4820	4224	80247	240740	110mRL – 80mRL
4th	651	977	4221	80209	240625	104mRL – 86mRL
5th	000	000	4220	80181	240541	92mRL – 56mRL
Total	**10038**	**15058**	**21110**	**401093**	**1203271**	

Land Use

Pattern of Utilization	Existing (Ha)	At the End of Plan Period (in Ha)	Conceptual stage (Ha)
Quarry	Nil	1.914 (including backfill 0.290 Ha)	1.914 (1.613 ha area shall be left as water reservoir)
Greenbelt within safety Barrier	Nil	0.514 (Plantation)	0.514 (Plantation)
Road	0.040	Nil	Nil
Total	**0.040**	**2.428**	**2.428**
Unused Area	2.388	Nil	--
Lease hold area	**2.428**	**2.428**	**2.428**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone		0.514/1285	1285
2	Along Approach Road		120m	120
3	No. of plants distributed with consultation local authorities /village Panchayat		--	100

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

Solid Waste Management

Removal of Gritty Soil 10038 cum & Intercalated Waste 21110 cum waste shall be generated during this plan period. During quarry development in 1st & 2nd year gritty soil and intercalated waste will be removed and this soil & waste will be temporarily dumped at the north- west part of the area with suitable precautions like parapet wall, garland drain & in 3rd year removed gritty soil, intercalated waste & existing temporarily dumped soil will be temporarily backfilled within the exhausted quarry & in 4th year removed gritty soil, intercalated will be temporarily backfilled within the exhausted quarry & in 5th year removed intercalated waste & temporarily backfill soil will be backfill within the lower three bench of the exhausted quarry.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.

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

Air Quality Management

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

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

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

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of the unsafe

		activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	**4**	**3**	**2**	**1**
C2 (Major)	10	8	6	4	**2**
C3 (Moderate)	*15*	12	9	6	**3**
C4 (Minor)	*20*	*16*	12	8	**4**
C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

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

Hazard identification & Risk Analysis in Stone Mining operation

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

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

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

Preventive Measures:

Face Stability

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

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

Drilling Operations

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

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

Falls from the edge of a bench

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

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

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

Control Measures

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

Dust generation during drilling

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

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

Noise Generation during drilling

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

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

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

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

Blasting Operations

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

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

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

Handling of Explosives

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

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

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

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

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

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

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

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

Transportation

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

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.

- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

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

Baseline study has been conducted between 19th March, 2024 to 18th June, 2024.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during

30.05.2024, 31.05.2024, 01, 02 & 03.06.2024, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV along with following specific conditions :

I. A detail management plan for protection and safeguard of the habitation existing within 500 meters from the ML boundary.

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5. **Takatola Stone Deposit of M/s Dhihi Realtors Pvt. Ltd., Village : Takatola, Thana no. : 32, Thana : Pakur, Distt. : Pakur, Jharkhand (2.082 Ha).**

(Proposal No : SIA/JH/MIN/ 475435/2024)

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

This is a new project which has been taken for appraisal on 31.05.2024.

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

EC Application for: Proposed Capacity- 39429 cum/annum or 118288 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Takatola Stone Deposit (Area- 2.082 Ha or 5.144 Acre)	
2	Lessee:	:	M/s Dhihi Realtors Pvt. Ltd. (Directors: 1. Sri Subhankar Saha, 2. Sri Souvik Saha & 3. Sri Abhik Saha) AT – Plot – 101/108, Metropolition Sec- B, Telephone Exchange, Dhapa, District- North 24 Pargana, West Bengal, Pin Code – 700105	
3	Lease Address	:	near Mouza- Takatola, Thana no.-32, Thana- Pakur, District – Pakur, State- Jharkhand.	
4	Lease Area	:	2.082 Ha	Acres- 5.144 Acre
5	Type of Land	:	Non- Forest (Raiyati Barren Land)	
6	Project Cost	:	Rs. 65 Lakhs	
7	EMP Budget	:	Capital: 6.755 Lakhs	Recurring: 4.27 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	591389 tonnes	

10	Mine Life	:	5 years
11	Man power	:	41
12	Water Requirement	:	12.91~ 12.9KLD (Drinking: 0.41 KLD, Dust Suppression: 7.77 KLD, Plantation: 4.73 KLD)
13	Water Source	:	From Nearby villages by tankers
14	DG Set / power	:	500 KVA
15	Crusher	:	No Crusher
16	Nearest Water Body	:	Torai Nadi, Approx. 5.731 km towards North direction of mine site.
17	Nearest Habitation	:	Takatola, Approx. 300 meters towards SW direction.
18	Nearest Railway Station	:	Pakur Railway station, approx. 6.18 km towards ENE direction.
19	Nearest Air Port	:	Deoghar Airport, approx. 111.0 km towards West direction.
20	Nearest Forest	:	PF, Approx. 2.70 Km in West direction. PF, Approx. 4.05 Km in WSW direction. PF, Approx. 4.20 Km in SE direction.
21	Road & Highways	:	NH-133 A - Approx. 3.31 km in North direction.

CO-ORDINATES

1	Latitude		From N24°36'42.85012"	To N24°36'16.67998"
2	Longitude		From E87°47'54.54136"	To E87°48'04.75999"

LAND DETAILS

Khata no.	Plot no.
37	24 & 106
33	26 & 27 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 361/M, dated 15.03.2024.
2	CO	:	The CO, Pakur vide letter no. 1601/Ra., dated 23.12.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation of 10 house at a distance of 245 meters of proposed project site, accordingly PAs has submitted EMP for the same.

3	DMO	:	DMO, Pakur vide memo no. 502/M, dated 15.04.2024 certified that 01 other mining lease area (6.00 Acre) exists within 500 m radius from proposed project site and total area is 11.144 Acre (4.51 Ha).
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2258, dated 14.11.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Pakur Forest Division vide memo no. 1322, dated 06.10.2023 certified that the minimum distance of forest is 2376 meters from proposed project site.
6	DSR	:	The DMO, Pakur has been certified vide memo no. 503/M, dated 15.04.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 92, Page no. 150).
7	Gram Sabha	:	BDO, Pakur vide letter no. 06/Vi., dated 03.01.2024 informed that Gram Sabha conducted on 14.11.2023.
8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide Memo No. 675/M, dated 20.05.2024.
9	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	2.082 Ha / 5.144 Acre	Life of Mine – 5 Years
3	Waste Generation	:	10377Cum intercalated waste and 7174 Cum gritty soil shall be generated during the plan period.	
4	Stripping Ratio	:	1:0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6m	
7	Elevation of Mine	:	66mRL to 71mRL	
8	Ground Level Elevation	:	66mRL	
9	Ultimate Working Depth	:	35mRL	
10	Water Table	:	27mRL -22mRL	
11	Topography of Mine	:	Area represents a moderately sloping land.	
12	Explosive Requirement	:	110kg/day	
13	Diesel/Fuel requirement	:	110 litre/day	

Production Details :

Year	Removal of Gritty Soil		Intercalated Waste	Production of Stone		Bench RL in Meters
	In Cum	In Tons	In Cum	In cum	in tons	
1st	3550	5325	2074	39406	118218	71mRL – 65mRL
2nd	2374	3561	2076	39426	118277	71mRL – 59mRL
3rd	000	000	2074	39406	118218	65mRL – 53mRL
4th	1250	1875	2076	39426	118277	71mRL – 47mRL
5th	000	000	2077	39429	118288	65mRL – 35mRL
Total	**7174**	**10761**	**10377**	**197093**	**591278**	

Land Use

Pattern of Utilization	Present Land Use (Ha)	At the end of Plan Period (Ha)	At the end of mine (Ha)	Conceptual Period (In Ha)		
				Public Use	Water Body	Plantation
Quarry	Nil	1.500 (including backfill 0.309 Ha)	1.500 (including backfill 0.309 Ha)	--	1.500	--
Greenbelt within Safety Barrier	Nil	0.582	0.582	--	--	0.582
Road	0.094	Nil	Nil	--	--	--
Total Area in Use	**0.094**	**2.082**	**2.082**	**--**	**1.500**	**0.582**
Balanced Area unused	1.988	Nil	Nil	--	--	--
Total Applied Area	**2.082**	**2.082**	**2.082**	**2.082**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone		0.582/1455	1455
2	Along Approach Road		810m	810

3	No. of plants distributed with consultation local authorities /village Panchayat		--	100

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

Solid Waste Management

Total 10377 cum intercalated waste and 7174Cum gritty soil shall be generated during the plan period. During quarry development in 1st & 2nd year gritty soil and intercalated waste will be removed and this soil & waste will be temporarily dumped at the northeast part of the area with suitable precautions like parapet wall, garland drain & in 3rd year removed intercalated waste will" be temporarily backfilled within the exhausted quarry & in 4th year removed gritty soil, intercalated waste, existing temporarily dumped & backfilled soil will be backfilled within the exhausted quarry & in 5th year remove intercalated waste will be backfill within the lower bench of the exhausted quarry.

Water Quality Management

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- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
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C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	**4**	**3**	**2**	**1**
C2 (Major)	10	*8*	6	4	**2**
C3 (Moderate)	*15*	12	9	6	**3**
C4 (Minor)	*20*	*16*	12	8	4
C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

S.No.	Rating	Scale
1	**High Risk**	**1-4**
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Hazard identification & Risk Analysis in Stone Mining operation

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2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5

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

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

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

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

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

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

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

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

Transportation

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

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.

- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

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

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Takatola Stone Deposit of M/s Dhihi Realtors Pvt. Ltd., Village : Takatola, Thana no. : 32, Thana : Pakur, Distt. : Pakur, Jharkhand (2.082 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – V along with following specific conditions :

I. **Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near**

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

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

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

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

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

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

****

6. **Barhabad Stone Deposit of M/s Dhihi Realtors Pvt. Ltd., Mouza : Barhabad, Thana no. : 33, Thana : Pakur, Distt. : Pakur, Jharkhand (2.43 Ha).**

(Proposal No : SIA/JH/MIN/ 475436/2024)

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

This is a new project which has been taken for appraisal on 31.05.2024.

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

EC Application for: Proposed Capacity- 59134 cum/annum or 177402 TPA

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Barhabad Stone Deposit (Area- 2.43 Ha or 6.00 Acre)
2	Lessee:	:	M/s Dhihi Realtors Pvt. Ltd. (Directors: 1. Sri Subhankar Saha, 2. Sri Souvik Saha & 3. Sri Abhik Saha)

			AT – Plot – 101/108, Metropolition Sec- B, Telephone Exchange, Dhapa, District- North 24 Pargana, West Bengal, Pin Code – 700105	
3	Lease Address	:	near Mouza- Barhabad, Thana no.-33, Thana- Pakur, District – Pakur, State- Jharkhand.	
4	Lease Area	:	2.43 Ha	Acres- 6.0 Acre
5	Type of Land	:	Non- Forest (Raiyati Barren Land)	
6	Project Cost	:	Rs. 70Lakhs	
7	EMP Budget	:	Capital: 4.68Lakhs	Recurring: 4.27Lakhs/year
8	New or Expansion	:	New	
9	Mineable Reserves	:	8,85,006 tones	
10	Mine Life	:	5 years	
11	Man power	:	41	
12	Water Requirement	:	8.89 ~ 9.00 KLD (Drinking: 0.41 KLD, Dust Suppression: 4.80 KLD, Plantation: 3.68 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Torai Nadi, Approx. 6.05 km towards North direction of mine site.	
17	Nearest Habitation	:	Barhabad, Approx. 140 meters towards NE direction.	
18	Nearest Railway Station	:	Pakur Railway station, approx. 6.95 km towards ENE direction.	
19	Nearest Air Port	:	Deoghar Airport, approx. 112.09 km towards West direction.	
20	Nearest Forest	:	PF, Approx. 2.50 Km in NW direction. PF, Approx. 4.20 Km in NW direction. PF, Approx. 4.50 Km in West direction. PF, Approx. 4.90 Km in SE direction.	
21	Road & Highways	:	NH-133A - Approx. 3.94 km in NE direction.	

CO-ORDINATES

1	Latitude		From 24°36'28.47978" N	To 24°36'37.10610" N
2	Longitude		From 87°47'34.45480" E	To 87°47'41.20890" E

LAND DETAILS

Khata no.	Plot no.
55	1144 (P)

49	1145 (P) & 1146 (P)
17	1147 (P)
48	1148 (P)
73	1116 (P)
02	1118 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 362/M, dated 15.03.2024.
2	CO	:	The CO, Pakur vide letter no. 1600/Ra., dated 23.12.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation of 36 house at a distance of 140 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO	:	DMO, Pakur vide memo no. 504/M, dated 15.04.2024 certified that 01 other mining lease area (5.144 Acre) exists within 500 m radius from proposed project site and total area is 11.144 Acre (4.51 Ha).
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2259, dated 14.11.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Pakur Forest Division vide memo no. 1324, dated 06.10.2023 certified that the minimum distance of forest is 2425 meters from proposed project site.
6	DSR	:	The DMO, Pakur has been certified vide memo no. 505/M, dated 15.04.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 91, Page no. 150).
7	Gram Sabha	:	BDO, Pakur vide letter no. 2329/Vi., dated 09.11.2023 informed that Gram Sabha conducted on 18.10.2023.
8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide Memo No. 679/M, dated 21.05.2024.
9	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	2.43 Ha / 6.00 Acre	Life of Mine – 5 Years
3	Waste Generation	:	15,526 Cum intercalated waste and 7,697 Cum gritty soil shall be generated during the plan period.	
4	Stripping Ratio	:	1:0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6m	
7	Elevation of Mine	:	84mRL to 88mRL	
8	Ground Level Elevation	:	84mRL	
9	Ultimate Working Depth	:	40mRL	
10	Water Table	:	27mRL -22mRL	
11	Topography of Mine	:	Area represents a moderately sloping land.	
12	Explosive Requirement	:	110kg/day	
13	Diesel/Fuel requirement	:	110 litre/day	

Production Details

Year	Removal of Gritty Soil		Intercalated Waste	Production of Stone		Bench RL in Meters
	In Cum	In Tons	In Cum	In cum	in tons	
1st	4472	6708	3104	58976	176928	88mRL -76mRL
2nd	Nil	Nil	3112	59134	177402	82mRL – 64mRL
3rd	3225	4838	3107	59022	177066	88mRL – 76mRL
4th	Nil	Nil	3104	58996	176988	82mRL – 64mRL
5th	Nil	Nil	3099	58868	176604	70mRL – 40mRL
Total	**7697**	**11546**	**15526**	**294996**	**884988**	

Land Use

Pattern of Utilization	Present Land Use (Ha)	At the end of Plan period (Ha)	At the end of mine (Ha)	Conceptual Period (In Ha)		
				Public Use	Water Body	Plantation
Quarry	Nil	1.866 (including backfill 0.25 Ha.)	1.866 (including backfill 0.25 ha.)	---	1.866	---

Greenbelt within Safety Barrier	Nil	0.564	0.564	---	---	0.564
Road	0.078	Nil	Nil	---	---	---
Total Area in Use	**0.078**	**2.43**	**2.43**	**---**	**1.866**	**0.564**
Balanced Area unused	2.352	Nil	Nil	---	---	---
Total Applied Area	**2.43**	**2.43**	**2.43**	**2.43**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone		0.564/1410	1410
2	Along Approach Road		330m	330
3	No. of plants distributed with consultation local authorities /village Panchayat		--	100

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

Solid Waste Management

It has been calculated that total 15,526Cum intercalated waste and 7,697Cum gritty soil shall be generated during the plan period. The area is covered with a layer of gritty soil. During quarry development in 1st year gritty soil and intercalated waste will be removed and this gritty soil & waste will be temporarily dumped and in 2nd year intercalated waste will be removed and this material dumped at the south east part of the area with suitable precautions like parapet wall, garland drain & in 3rd year total removal gritty soil and intercalated waste will be temporarily

backfilled within the north east portion of the applied area, and in fifth year total removal material is backfill within the lower bench of the exhausted quarry.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

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

RISK ASSESSMENT

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

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.

L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	**4**	**3**	**2**	**1**
C2 (Major)	10	8	6	**4**	**2**
C3 (Moderate)	*15*	12	9	6	**3**
C4 (Minor)	*20*	*16*	12	8	**4**

C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

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

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
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during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

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- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

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

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

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

Transportation

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

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

Undertaking submitted affirming:

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

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Barhabad Stone Deposit of M/s Dhihi Realtors Pvt. Ltd., Mouza : Barhabad, Thana no. : 33, Thana : Pakur, Distt. : Pakur, Jharkhand (2.43 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – V along with following specific conditions :

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

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

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

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

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

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

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7. **Chokesereng Sand Deposit (River bed of Subarnarekha) of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Village : Chokesereng, Block : Silli, Distt. : Ranchi, Jharkhand (3.50 Ha).**

(Proposal No : SIA/JH/MIN/ 472725/2024)

The proposal for mining and the details in the mine plan were not commensurate with details provided in the DSR of Ranchi District.

Hence, revised mine plan is to be prepared and proposal to be submitted afresh for consideration for EC.

Hence, it is recommended to SEIAA to delist the present project proposal.

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Day 3 : June 01st, 2024 [Saturday]

Consideration of proposals

1. **Sundil Sand Deposit of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Mouza : Sundil, Anchal : Silli, Distt. : Ranchi, Jharkhand (4.00 Ha).**

(Proposal No : SIA/JH/MIN/ 471909/2024)

Project Category: **B2 – Application for Environment Clearance.**
EC Application for: **Proposed Capacity- 50626 cum/annum or 82012TPA (dry basis).**

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

This is a new project which has been taken for appraisal on 01.06.2024.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Sundil Sand Deposit	
2	Lessee:	:	M/s Jharkhand State Mineral Development Corporation Ltd. (A Govt. of Jharkhand Enterprises)	
3	Lessee Address	:	Khanij Nigam Bhawan, Nepal House Area,Doranda, Ranchi – 834002 (Jharkhand)	
4	Lease Area	:	4.00 Ha	Acres– 9.884
5	Type of Land	:	Non-Forest GovernmentLand (River Bed)	
6	Project Cost	:	Capital Cost : Rs. 32.30 Lakhs Recurring Cost : 8.00 Lakhs / year	
7	EMP Budget	:	Capital: Rs 14.30 Lakhs	Recurring: Rs. 6.80 Lakhs/ year
8	New or Expansion	:	New	
9	Mineable Reserves for 1st year & subsequent year 60% of Replenished quantity	:	cum.: 253125cum (for five years)	Tonnes: 410063tonnes (dry basis)
10	Mine Life / Lease Period	:	**Lease Period i.e 15/08/2025 as per provisions of Jharkhand State Sand Mining Policy 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.**	
11	Man power	:	40	
12	Water Requirement	:	23.41 KLD (Drinking: 1.50 KLD, Dust Suppression: 2.76 KLD, Plantation: 18.4KLD, Flushing – 0.75 KLD)	
13	Water Source	:	By authorised hired tankers	
14	DG Set / power	:	NA	
15	Crusher	:	NA	

16	Nearest Water Body	:	On Swarnrekha River bed sand mining is proposed.
17	Nearest Habitation	:	Sundil, at 1.3 KM in South-East direction.
18	Nearest Rail Station	:	IllooRailway station, at a distance of2.5 km towards South direction
19	Nearest Air Port	:	Birsa Munda Airport, at a distance of72 km towards West direction.
20	Nearest Forest	:	DFO, Ranchi Forest Division vide letter no.: 956, dated 13.03.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
21	Road & Highways	:	SH – 4A, at a distance of 3km towards North direction.

CO-ORDINATES

1	Latitude		From N23°19'59.8261"	To N23°20'17.2420"
2	Longitude		From E85°51'53.5092"	To E85°52'02.5491"

LAND DETAILS

Khata no.	Plot no.
21	546 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Auction letter has been issued by Joint Secretary, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)-117/2017-2090/M, dated 30.09.2022. According to provisions in Jharkhand State sand Mining Policy and its amendment. JSMDC Ltd. has been nominated as nodal agency for operating sand mines in category II.
2	CO	:	The CO, Silli (Ranchi) vide letter no. 131 (ii), dated 22.02.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Ranchi vide memo no. 739/M, dated 18.05.2024 certified that no other mining lease area exists within 500 m radius from proposed project site.

4	DFO Wild Life	:	DFO, Wildlife Division, Ranchi vide letter no. 347, dated 18.04.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Ranchi Forest Division vide letter no. 956, dated 13.03.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved District Survey Report (DSR) of Ranchi District (Page no. 90).
7	Gram Sabha	:	BDO, Silli vide letter no. 513 (ii), dated 18.05.2024 informed that Gram Sabha conducted on 18.05.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Ranchi vide Memo No. 558/M, dated 20.04.2024.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Manual Method	
2	Quarry Area	:	4.00 Ha	Mine Life / Lease Period – 15/08/2025 as per provisions of Jharkhand State Sand Mining Policy 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
3	Waste Generation	:	00 cum	
4	Stripping Ratio	:	0:0	
5	Working Days	:	200 days per year	
6	Benches: size & No	:	2.5m and no.of bench 1.	
7	Elevation of Mine	:	221.5 m AMSL to 226.5m AMSL	
8	Ground Level Elevation	:	224m AMSL to 229m AMSL	
9	Ultimate Working Depth	:	221.5 m AMSL	
10	Water Table	:	218m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive	:	None. No blasting required	

	Requirement		
13	Diesel/Fuel requirement	:	Not required for mining.

Production Details

Year	Production of Sand(cum)	Production of Sand(tonnes) On dry basis	Bench RL in Meters
1st	50626	82012	NA

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

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	Conceptual stage (Ha) (after life of mine)
Excavation	0.0	2.025	2.025
Road	0.0	0.00	0.00
Safety Zone	0.0	1.975	1.975
Total Area in Use	**0.0**	**4.00**	**4.00**
Unused Area	4.00	00	00
Total Applied Area	**4.00**	**4.00**	**4.00**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		1.975Ha	00
2	Along Approach Road		2.3 km	4600

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

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipment such as safety jacket, helmet & goggles to protect from injury will be provided to working personnel.
m. Transportation from the river bed to the stockyard will be done using the existing road.
n. The Mining Plan has been prepared and approved in consonance with Enforcement & Monitoring Guidelines for Sand Mining, 2020.
o. Wet sand will not be transported.

Solid Waste Management

No solid waste is generated during the course of mining.

Water Quality Management

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

Air Quality Management

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

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

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

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

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

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

Road accidents

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

Preventive Measures;

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

Dust generation

No drilling involved

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

Noise Generation

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

Preventive measures

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

Health Hazards

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

Preventive Measures

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

- Regular water sprinkling on haulage roads

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

Accident at Site

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

Preventive measures

Following mitigation measures would be taken to minimise risk of road accident-

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

Transportation

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

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

Based on the 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 Sundil Sand Deposit of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Mouza : Sundil, Anchal : Silli, Distt. : Ranchi, Jharkhand (4.00 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – V along with following specific conditions :

I. The Environmental Clearance granted for lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.

II. Replenishment study shall be conducted during pre-monsoon and post monsoon every year and study report have to be submitted to SEIAA / SEAC, Jharkhand. The production shall be restricted to 60% of the replenished quantity or the proposed quantity in the mine plan, which ever is less.

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

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

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

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

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

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

IX. Project Authority will ensure that personal protective equipments such as protective clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel's.

X. River Sand Mining shall not be done in rainy Season (mid June to mid October of each calendar year).

XI. Dept. of Mines & Geology, Govt. of Jharkhand shall keep a strict vigil in the compliance of relevant provisions of applicable Jharkhand Minerals (Prevention of illegal mining, Transportation and Storage) Rule 2017 and its amendment especially scientific execution of mining plan (as approved by they themselves) and report violations if any is found as well as action taken for the same.

XII. Project Proponent shall submit (to the SEIAA, Jharkhand, Regional Office of MoEF&CC at Ranchi, Jharkhand State Pollution Control Board) six monthly compliance report with evidence of the conditions within a fortnight after the end of every six month till validity period of Environmental Clearance.

XIII. The project proponent before starting any activity / preparation of ground, on the leased area shall demarcate his lease hold by RCC pillars erected at the cost of lease holder after certification of the mining officer. On each pillar Geo-Coordinate and fore bearing / back bearing shall be written with permanent paint mark as described in the mining plan. All the pillars should remain intact at same geo-coordinate. Establishment / labeling of Benchmark at each pillars or ground control points.

XIV. Extraction of sand beyond annual production capacity is not permitted.

XV. The Project Proponent should undertake the sand mining limited to 03 meter (three meter) depth by exclusively manual method.

XVI. The stacking area of mined-out sand which shall be situated near the mining site within a fenced area from all sides to avoid being spread in the nearby areas by high winds and the height of stacking should not exceed 2 meter. Transportation shall be confined to day time only that is from sunrise to sunset, to avoid inconvenience to local population in any manner.

XVII. Mining activity shall not be done for mine lease where mining can cause danger to site of flood protection works, places of cultural, religious, historical and archaeological importance.

XVIII. Project Proponent shall submit the annual replenishment report certified by an authorized agency.

XIX. No labour camp shall be allowed in riverbed.

XX. Provision shall be made for housing labour with all necessary infrastructure and facilities (outside mining Block and river-bed) such as fuel for cooking, toilets / mobile toilets, safe drinking water, First-Aid facilities, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

XXI. Labour & Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers shall be undertaken periodically to observe any adverse health impact due to exposure to dust and take corrective measures, if needed.

XXII. The Project Proponent shall make arrangements for safe drinking water, first aid facility along with anti-venom injection, in case of emergency for the workers.

XXIII. Sand and gravel may be extracted across the entire active channel during the dry season.

XXIV. Abandoned stream channels on the terrace and inactive floodplains be preferred rather than active channels and their deltas and flood plains. The stream should not be diverted to form the inactive channel.

XXV. Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.

XXVI. Sand and gravel shall not be allowed to be extracted where erosion may occur, such as at the concave bank.

XXVII. Sand and gravel shall not be extracted up to a distance of 1 kilo meter (1 km.) from major bridges and highways on both sides, of five times (5x) of the span (x) of a bridge / public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a minimum of 250 meters on the upstream side and 500 meters on the downstream side.

XXVIII. Sand and gravel could be extracted from the downstream of the sand bar at river bends.

XXIX. Mining depth should be restricted to 3 meters and distance from the band should be $1/4^{th}$ of river width and should not be less than 7.5 meters.

XXX. A buffer distance / unmined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed / prescribed by the regulatory authority shall be maintained.

XXXI. River bed sand mining shall be restricted within the central $3/4^{th}$ width of the river/rivulet of 7.5 meters (inward) from river banks but up to 10% of the width of the river, as the case may be and decided by regulatory authority while granting Environmental Clearance in consultation with irrigation department. Regulating authority while regulating the zone of river bed mining shall ensure that the objective to minimize the effects of riverbank erosion and consequential channel migration are achieved to the extent possible. In general, the area for removal of minerals shall not exceed 60% of the mine lease area, and any deviation of relaxation in this regard shall be adequately supported by the scientific report.

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2. **Expansion in Cement production capacity from 0.528 Million TPA to 4.6 Million TPA (Expansion in existing Cement Mill from 0.528 to 0.60 Million TPA an additional Cement Mill of 4.0 Million TPA) by M/s UltraTech Cement Ltd. (Unit : Patratu Cement Works) at Patratu Industrial Area, Villages : Katia & Solia, Tehsil : Patratu, Distt. : Ramgarh, Jharkhand.**

(Proposal No : SIA/JH/IND1/ 476272/2024)

Name of the consultant : J.M. Environet Pvt. Ltd., Haryana.

This is an expansion project which has been taken for appraisal on 01.06.2024.

Project Category : **B-1** - 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 **3 (b) Cement Plants** as per EIA Notification, 2006.

This proposal is for Expansion in Cement Production Capacity from 0.528 Million TPA to 4.6 Million TPA (Expansion in existing Cement Mill from 0.528 to 0.60 Million TPA and additional Cement Mill of 4.0 Million TPA) at Patratu Industrial Area, Villages: Katia & Solia, Tehsil: Patratu, District: Ramgarh (Jharkhand) by M/s. UltraTech Cement Ltd. (Unit: Patratu Cement Works).

Earlier, the existing Cement plant was operating by M/s. Burnpur Cement Ltd. The company had obtained NOC from Jharkhand State Pollution Control Board vide ref. no. JA/2655/W/217 dated 25th Jan., 2007 for Clinker - 800 TPD & Cement (OPC, PSC & PPC) - 800 TPD.

Thereafter, Environmental Clearance was obtained from MoEFCC, New Delhi vide letter no. J-11011/45/2009-IA. II (I) dated 30th Dec., 2010 for Cement Plant (0.528 Million TPA) at Patratu Industrial Area, District: Ramgarh (Jharkhand) by M/s. Burnpur Cement Ltd.

Thereafter, In accordance with the SARFAESI Actions under Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 read with Security Interest (Enforcement) Rules, 2002, UltraTech has taken control over the assets of Burnpur Cement Limited located at Patratu Industrial Area, Villages - Katia & Solia, District - Ramgarh, Jharkhand on November 29, 2023 ("Transfer Date") and now Burnpur Cement Limited is now a wholly owned unit of UltraTech Cement Limited.

Transfer EC from Burnpur Cement Ltd. to UltraTech Cement Ltd. has been obtained from SEIAA, Jharkhand on 28th May, 2024.

Project Proposal

S. No.	Particulars	Unit	Existing Capacity	Additional Capacity		Total capacity after Expansion
				Existing Line - I (By Optimization)	New Line - II	
1.	Cement (OPC - 10%, PPC - 20% and Composite Cement - 70%)	Million TPA	0.528	0.072	4.0	4.6
2.	D.G. Sets	KVA	250	Nil	2 x 750	1750

Salient Features of the Project

S. No.	PARTICULARS	DETAILS
1.	Nature of the Project	Expansion Project
2.	Size of the Project	✓ Cement (OPC/PPC /PCC) {0.528 to 4.6 Million TPA} ✓ D.G. Set (250 to 1750 KVA)
3.	Category of the Project	As per EIA Notification dated 14th Sept., 2006 & as amended thereof; this project (Standalone Grinding Unit) falls under Category - "B", under S. No. 3 (Material Production), Project Activity '3 (b)' Cement Plants.
4.	Location Details	

S. No.	PARTICULARS	DETAILS
	Khasra Nos	Khasra List and Khasra map along with the complete land documents of 31.56 ha (78 Acre) is attached as **Annexure - 4** along with this PFR.
	Villages	Katia & Solia
	Tehsil	Patratu
	District	Ramgarh
	State	Jharkhand
	Latitude	Plant: 23°37'12.62" to 23°37'09.02" Administrative Building: 23°37'01.33" to 23°37'07.57"
	Longitude	Plant: 85°16'17.31" to 85°16'42.21" Administrative Building: 85°16'22.45" to 85°16'29.61"
	Toposheet No.	Core Zone: (F45B6)73E/6 Buffer Zone: (F45B6)73E/6 & (F45B2)73E/2
5.	Area Details	
i	Total Plant Area	Total plant area is 31.56 ha; expansion will be done within existing plant premises.
ii	Greenbelt / Plantation Area (ha)	Total Greenbelt area will be 10.45 ha, (Existing - 8.09 ha has already been done i.e. 33% of the existing plant area as per EC and Additional - 2.40 ha will be developed i.e. 33% of the additional area of 7.28 ha.
6.	Environmental Setting Details (with approximate aerial distance from the nearest plant boundary and direction from the centre)	
1.	Nearest Village	○ Solia (0.6 km in SW direction) ○ Katia (0.75 km in NNW direction)
2.	Nearest Town	Patratu (5.0 km in NE direction)
3.	Nearest City	Ranchi (25.0 km in South direction)
5.	Nearest National Highway / State Highway	SH - 2 (0.8 km in SE direction)
6.	Nearest Railway station	○ Patratu Railway Station (5.5 km in NE direction) ○ Tokishud Railway Station (7.0 km in NW direction) ○ Bhurkhunda Railway Stations (9.5 km in ENE direction)
7.	Nearest Airport	Birsa Munda Airport, Ranchi (35.0 km in South direction)
8.	National Parks, Wildlife Sanctuaries, Biosphere Reserves within 10 km radius	No National Park, Wildlife Sanctuary, Biosphere Reserve falls within the 10 km radius area of the plant site.
9.	Reserve / Protected Forest within 10 km radius	Following Protected Forest falls within 10 km radius study area ▪ Koto PF (1.0 km in NW direction)

S. No.	PARTICULARS	DETAILS			
		▪ Protected Forest (3.0 km in North direction) ▪ Protected Forest (4.0 km in East direction) ▪ Protected Forest (4.0 km in ESE direction) ▪ Protected Forest (4.o km in West direction) ▪ Lem PF (5.0 km in SE direction) ▪ Jarad PF (5.0 km in SE direction) ▪ Ghaghra PF (5.5 km in East direction) ▪ Bicha PF (6.2 km in SE direction) ▪ Protected Forest (6.5 km in NNE direction) ▪ Tokishud PF (6.5 km in North direction) ▪ Sankul PF (6.5 km in NNE direction) ▪ Protected Forest (7.0 km in ENE direction) ▪ Hariharpur PF (7.0 km in ESE direction) ▪ Rarha PF (7.0 km in SSE direction)			
10.	Water Bodies (within 10 km radius)	▪ Naikari Nadi (0.8 km in East direction) ▪ Patratu Lake (1.o km in SE direction) ▪ Damodar River (7.0 km in North direction) ▪ Chiruwa Nala (7.0 km in SW direction)			
11.	Archaeologically Important Site	None within 10 km radius study area			
12.	Seismic Zone	Zone II [as per IS 1893 (Part-I): 2002]			
13.	Cost Details				
	Total Cost of the Expansion Project	Rs. 500 Crores			
	Cost for Environment Management Plan	Capital Cost: Rs. 50.0 Crores Recurring Cost: Rs. 5.0 Crore / annum			
14.	Basic Requirements of the Project				
	Water Requirement (KLD)	**Existing**	**Additional**	**Total**	**Source**
		100	200	300	Ground Water/Rainwater Harvesting
	Power Requirement (MW)	3.6	20	23.6	Damodar Valley Company Ltd., D.G. Sets for Emergency Back-up
	Manpower Requirement (No. of persons)				
	Construction Phase				Preference is being/will be given to local people as per their eligibility, qualification & skills.
	Regular	-	10	10	
	Contractual	-	500	500	
	Operation Phase				
	Regular	83	15	98	
	Contractual	109	70	179	

S. No.	PARTICULARS	DETAILS			
	Total	192	595	787	

Land Details :

Plot No. A-8P, 9, 10, I 1, B-38, 39, 40, C-7P, B,9,10,11,XP,Block-D & Block-E, **Part in the Patratu Industial Area, Consisting of Revenue Surevy Nos**, 24P,25P,26,27,28P,29,30P,31,32P,33P,35P, 49P, 50, 51P ,52P ,71P, 2332P, 2333, 2334, 2335P, 2336P, 2337, 2339, 2340, 2341P, 2343P, 2344, 2345, 2346, 2347, 2348P, 2349, 2350P, 2351P, 2352P, 2353P, 2354, 2355, 2356, 2357, 2358, 2359P, 2360, 2361, 2362, 2363, 2364, 2365, 2366P, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374P, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2385P, 2386P, 2387, 2388, 2389, 2390, 2391, 2392P, 2481P, 2482P, 2485P, 2486P, 2487, 2488, 2489, 2490, 2491, 2492, 2493P, 2394P, 2240P, 35P, 36P

Scope of Proposed Expansion Project

S. No.	Unit	Major facilities and associated activities proposed-
Expansion by Process optimization		
1.	Existing Line - I	– Cement Mill (Ball Mill) – Storage Facilities for Raw Materials and Products (Covered Sheds, Silos) – Packing Plant – Truck Tipplers – Truck Parking Area – Hot Air Generator
2.	Process Optimisation in Line - I	– Increase in mill grinding media filling from 22% to 24% by adding more grinding media into mill which improves its grinding efficiency and reduced retention time of raw material to product. – Increase in mill air velocity by optimizing mill vent fan so the fine grounded material leaves mill faster and further fresh feed is pushed into mill.
New Installation		
3.	New Line - II	– Cement Mill (VRM) – Packing Plant – Storage Facilities for Raw Materials and Products (Covered Sheds, Silos) – Packing Plant – Truck Tipplers – Truck Parking Area – Hot Air Generator

S. No.	Unit	Major facilities and associated activities proposed-
Expansion by Process optimization		
4.	Other Associated facilities	- Weigh Bridge - Diesel Generator with storage of fuel - STP (15 KLD) - RMC Plant for construction activity

Raw Material Requirement - OPC (10%)

S. No.	Name of Raw Material	Quantity (Million TPA)			Source	Distance & Mode of Transportation
		Existing	Additional	Total		
1.	Clinker	0.050	0.387	0.437	Hirmi Cement Works, Rawan Cement Works, Kukurdih Cement Works and other UTCL Units	**450 km by Rail then 13 km by Road**
2.	**Gypsum**	**0.00264**	**0.020**	**0.023**	**Chemical - Paradip Port Mineral - Mines in Rajasthan**	**600 km Rail then 13 km by Road**

RAW MATERIAL CONSUMPTION - PPC (20%)

S. No.	Name of Raw Material	Quantity (Million TPA)			Source	Distance & Mode of Transportation
		Existing	Additional	Total		
1.	Clinker	0.0634	0.4486	0.552	Hirmi Cement Works, Rawan Cement Works, Kukurdih Cement Works and other UTCL Units	**450 km by Rail then 13 km by Road**
2.	Gypsum	0.005	0.0364	0.414	Chemical - Paradip Port Mineral - Mines in Rajasthan	**600 km Rail then 13 km by Road**
3.	**Fly ash**	**0.036**	**0.286**	**0.322**	**Koderma Thermal Power Plant, Patratu Thermal Power Station, IPL Power Plant & other nearby sources**	**135 km by Road**

RAW MATERIAL CONSUMPTION - COMPOSITE CEMENT (70%)

S. No.	Name of Raw Material	Quantity (Million TPA)			Source	Distance & Mode of Transportation
		Existing	Additional	Total		
1.	Clinker	0.118	0.912	1.030	Hirmi Cement Works, Rawan Cement Works, Kukurdlh Cement Works and other UTCL Units	**450 km by Rail then 13 km by Road**
2.	Gypsum	0.0184	0.1426	0.161	Chemical - Paradip Port Mineral - Mines in Rajasthan	**600 km Rail then 13 km by Road**
3.	Fly ash	0.1145	0.8837	0.9982	Koderma Thermal Power Plant, Patratu Thermal Power Station, IPL Power Plant & other nearby sources	**135 km by Road**
4.	**Slag**	**0.1182**	**0.9058**	**1.024**	**Steel Plants in Jharkhand - Bokaro Steel Plant, Tata Steel**	**120 km by Road**

RAW MATERIAL CONSUMPTION MAXIMUM

S. No.	Name of Raw Material	Quantity (Million TPA)			Source	Distance & Mode of Transportation
		Existing	Additional	Total		
1.	Clinker	0.312	3.8	4.112	Hirmi Cement Works, Rawan Cement Works, Kukurdih Cement Works and other UTCL Units	**450 km by Rail then 13 km by Road**
2.	Gypsum	0.021	0.2	0.221	Chemical - Paradip Port Mineral - Mines in Rajasthan	**600 km Rail then 13 km by Road**

S. No.	Name of Raw Material	Quantity (Million TPA)			Source	Distance & Mode of Transportation
		Existing	Additional	Total		
3.	Fly ash	0.063	1.4	1.463	Koderma Thermal Power Plant, Patratu Thermal Power Station, IPL Power Plant & other nearby sources	**135 km by Road**
4.	**Slag**	**0.132**	**1.0**	**1.132**	**Steel Plants in Jharkhand - Bokaro Steel Plant, Tata Steel**	**120 km by Road**

Fuel Requirement

S. No.	Name	Quantity (Million TPA)			Source	Distance & Mode of Transportation
		Existing	Additional	Total		
1.	Coal (Imported/ Indigenous)	0.012	0.1	0.112	Mines in Jharkhand -CCL and CIL mines	300 km by Rail then 13 km by Road

Resources optimization/recycling and reuse envisaged in the project, if any, should be briefly outlined

- The proposed Grinding Unit is being/will be utilize waste generated from other industries mainly Fly Ash from Thermal Power Plant and Blast Furnace Slag from Steel Plant for manufacturing Cement. These waste products comprise of 35-65% of Raw materials this will minimize the clinker usages and ultimately will lead to sustainability.
- Dust collected from various pollution control equipment's like Bag house and Bag filters is being/ will be recycled into the process.
- Currently there is no STP, soak pits are utilized. 15 KLD STP of MBBR technology will be installed for treatment of waste water generated from Administrative Building/ Plant.
- Sludge from STP (~ 15 kg/month) will be used as manure in greenbelt development/ plantation.
- Domestic waste water (11 KLD) generated from the plant & the colony will be treated in STP (15 KLD capacity) and treated water will be re-used for greenbelt development.
- Water used for cooling is being / will be partially absorbed in the process and partially subjected to evaporation & recycling; hence, no wastewater is being/ will be discharged from the plant premises.

- Water conservation measures implemented are like Permanent water sprinklers, use of air cooling in place of water cooling in process fans, Installation of screw compressors in place of conventional compressors.
- Roof top rainwater harvesting by recharge tube wells. Surface rainwater runoff available from roads, cemented area and open land inside the colony area shall be used for recharging through existing dug cum borewells/ dry tube wells.

Availability of water and its source, energy /power requirement and source should be given.

a) **Water Requirement and Source**

The total fresh water requirement for the existing plant is 100 KLD and additional requirement for proposed expansion will be 200 KLD; thus, total water requirement after proposed expansion project will be 300 KLD.

Source: Ground Water and Rainwater harvested.

Status of Approval:

- Permission for withdrawal of Ground Water 9.55 KLD *vide* Letter No. 21-4/667/CGWA/NOC/IND/REN/1/2023/8037 dated 24th July, 2023 which is currently used only for drinking purpose and reaming is being utilized from Rain water harvesting.
- Company will be apply fresh application for the additional water requirement.

Break- up of Total Water Requirement

Purpose	Requirement (KLD)			Source
	Existing	Additional	Total after Expansion	
Cement Plant	40	100	140	Ground Water / Rainwater harvested
Dust Suppression	30	50	80	
Drinking & Domestic	10	20	30	
Green Belt Development / Plantation	20	30	50	
TOTAL	**100**	**200**	**300**	

Land Use Planning (Break-up along with green belt etc.)

Total plant area is 31.56ha (Part - A 28.32 ha is for Plant Area & Part - B 3.0 ha is for Administrative Building). Present land use of the plant site is industrial. Total project area is 31.56ha (24.28 ha existing and 7.28ha additional), out of the total project area; 33% i.e., 10.45 ha area will be covered under greenbelt development & plantation. However, at present Greenbelt / plantation have been done over an area of about 8.09 ha (33% of exiting plant area of 24.28 ha) and in additional area of 2.40 ha out of the total proposed plant area of 31.56ha greenbelt & plantation will be done.

Plant Area Break-up

S. No.	Particulars	Existing	Proposed	Total	% Area
1	Plant and Machineries (Existing)	2.53	-	2.53	8.08
2	Plant and Machineries (Proposed)	-	4.88	4.68	14.94
3	Greenbelt Area (33 % of total plant area)	8.09	2.40	10.45	33.37
4	Open Area	13.66		13.66	43.61
Total		**24.28**	**7.28**	**31.56**	**100.00**

Existing Clearances / Consents & Implementation Status

S. No.	Particulars	Granted Capacity	Implementation Status
A.	**Environment Clearance (EC)**		
1.	○ EC from MoEFCC, New Delhi *vide* Letter No. J-11011/45/2009-IA. II (I) dated 30th Dec., 2010 ○ Extension of Validity of EC from SEIAA, Jharkhand *vide letter* no.-EC/SEIAA/2017-18/2068/2017/261 Ranchi dated 05th Nov. 2018 ○ Corrigendum in Extension of Validity of Environment Clearance form SEIAA, Jharkhand *vide letter* no.-EC/SEIAA/2017-18/2068/2017/186 Ranchi dated 30th April, 2019	Clinker - 0.528 Million TPA Cement - 0.528 Million TPA (OPC, PSC, PCC & PPC)	Clinker - 0.264 Million TPA *(Currently not in operation)* Cement - 0.528 (OPC, PSC, PCC & PPC) Partially implemented
B.	**Consent to Establish (CTE) / NOC**		
1.	NOC from Jharkhand State Pollution Control Board (JSPCB) vide ref. no. JA/2655/W/217 dated 25th Jan., 2007	Clinker: 800 TPD, OPC: 80 TPD, PSC: 400 TPD, PPC: 320 TPD	Implemented
2.	CTE for Cement (OPC, PSC, PCC & PPC) Production Capacity JSPCB vide letter No. JSPCB/HO/RNC/CTE-4963863/2020/223 dated 02nd June, 2020	Cement (OPC, PSC, PCC & PPC) - 800 TPD	
C.	**No Increase in Pollution Load**		
1.	No increase in the Pollution Load certificate by change in product mix by inclusion of PCC along with the production of OPC, PPC & PSC dated 16th March, 2020	Cement (OPC, PSC, PCC & PPC)- 800 TPD	Implemented

S. No.	Particulars	Granted Capacity	Implementation Status
D.	**Consent to Operate (CTO)**		
1.	Consent to Operate (CTO) Vide JSPCB Consent Ref No. D-441(C) dated 20th March, 2015	Cement - OPC: 80 TPD, PSC: 400 TPD, PPC: 320 TPD	Implemented
2.	Consent to Operate (CTO) Vide JSPCB Consent Ref No. D-2325(C) dated 02nd Sept, 2015	Cement - OPC: 80 TPD, PSC: 400 TPD, PPC: 320 TPD and Clinker: 800 TPD	Implemented
3.	Consent to Operate (CTO) Vide JSPCB Consent Ref No. JSPCB/HO/RNC/CTO-526047/2016/153 dated 27th June, 2016. Valid up to 31st March, 2017.	Cement - OPC: 80 TPD, PSC: 400 TPD, PPC: 320 TPD and Clinker: 800 TPD	Implemented
4.	Consent to Operate (CTO) Vide JSPCB Consent Ref No. JSPCB/HO/RNC/CTO-1271759/2018 /770 dated 25th April, 2018. Valid up to 31st March, 2019.	Cement (OPC, PSC & PPC) - 800 TPD	Implemented
5.	Consent to Operate (CTO) Vide JSPCB Consent Ref No. JSPCB/HO/RNC/CTO-4370288/2019 /974 dated 10th May, 2019. Valid up to 31st March, 2020.	Cement (OPC, PSC, PCC & PPC)- 800 TPD	Implemented
6.	Consent to Operate (CTO) Vide JSPCB Consent *vide* Ref No. JSPCB/HO/RNC/CTO-8168156/ 2020 /1077, dated 4th July, 2020 valid upto 30th June, 2021.	Cement (OPC, PSC, PCC & PPC)- 800 TPD (in expansion)	Implemented
7.	Consent to Operate (CTO) Vide JSPCB Consent Ref No. JSPCB/HO/RNC/CTO-7726490/ 2020/ 907 dated 10th June, 2020. Valid up to 31st March, 2024.	Cement (OPC, PSC & PPC) - 800 TPD	Implemented
8.	Consent to Operate (CTO) from JSPCB vide their letter no. JSPCB/HO/RNC/CTO-10366082 /2022 /222 dated 27th Feb., 2022 valid upto 31st March, 2024.	Cement (OPC, PSC, PCC & PPC)- 1600 TPD (after expansion)	Implemented
9.	Consent to Operate (CTO) from JSPCB vide their letter no. JSPCB/HO/RNC/CTO-17945908/2024 /885 dated 18th May, 2024 valid upto 31st March, 2025.	Cement (OPC, PSC, PCC & PPC)- 1600 TPD (unexpended part)	Implemented

STATUTORY CLEARANCES :

1	Land docs	:	Ownership Land.

2	CO	:	The CO, Patratu vide letter no. 1730, dated 04.09.2018 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II.
3	DFO Wild Life	:	DFO, Wildlife Hazaribagh vide letter no. 906, dated 17.05.2024 certified that the proposed project site is outside Eco Sensitive Zone of Hazaribag Wildlife Sanctuary.
4	DFO Forest Distance	:	DFO, Ramgarh Forest Division vide letter no. 1006, dated 29.05.2024 certified that the distance of demarcated forest is 900 meters from project site.
5	Transfer of Environmental Clearance (EC)	:	Transfer of Environmental Clearance (EC) granted by SEIAA vide letter no. 74, dated 27.05.2024.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 30.05.2024, 31.05.2024, 01, 02 & 03.06.2024, the Committee recommends for issuing of TOR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure VI along with following specific conditions :

I. **The products to be manufacture must be clearly specified in the EIA / EMP report.**
II. **Complete material balance to be provided for all the input & output. Source of Raw Material, mode of transport along with storage detail for all raw material and all products.**
III. **Detailed water balance to be provided.**
IV. **Details of all the waste generation in the project along with handling and management of the same.**
V. **Primary study to be carried out for Socio Economy, Ecology & Bio-Diversity, Geology, Hydro-Geology etc.**
VI. **Details of all the pollution control measures at railway siding, dust accumulation on the trees, control of noise at high noise generating equipements. Technical details of all bag house system to be installed or already existing.**
VII. **Site specific wildlife conservation plan to be prepared and submit to the competent authority for approval.**
VIII. **Details of fire control management plan.**
IX. **Detail risk & hazard study to be carried out and included in EIA / EMP report.**
X. **Traffic study to be carried out along with management plan and included in EIA / EMP report.**
XI. **All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the cement plants should be implemented.**
XII. **All details of the existing plant is to be provided in EIA / EMP.**

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Day 4 : June 02nd, 2024 [Sunday]

Consideration of proposals

1. **Pratappur Stone Mine of Shri Lutful Haque, Village : Pratappur, Thana no. : 104, Thana : Hiranpur, Distt. : Pakur, Jharkhand (2.826 Ha).**

   (Proposal No : SIA/JH/MIN/ 471749/2024)

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

   This is a new project which has been taken for appraisal on 02.06.2024.

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

   ToR Application for: Proposed Capacity:85,738 Cum/Annum/2,40,066 Ton/Annum

Project and Location Details:

S. No	Parameter		Details	
1	Project Name	:	Pratappur Stone Mine	
2	Lessee	:	Shri Lutfal Haque S/O- Abdul Rajjak	
3	Lessee Address	:	R/O-Gram – Aditya Nagar, P.O – BhasaiPaikar, Thana – Shamsherganj, District- Murshidabad, W.B	
4	Lease Area	:	Ha: 2.826Ha	Acres: 6.98Acres
5	Type of Land	:	Raiyati Land	
6	Project Cost	:	61.0Lakhs	
7	EMP Budget	:	Capital: 27.1Lakhs	Recurring: 6.339Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	6,64,489Cum	18,60,569 Ton
10	Mine Life	:	07 Years and 07 Months	
11	Man power	:	24 persons	
12	Water Requirement	:	Total water requirement is about 7.72 KLD=0.72 KLD (Drinking & Domestic Uses) + 4.0 (Plantation) KLD + 3.0 KLD (Dust Suppression).	
13	Water Source	:	By Authorised hired water tankers	
14	DG Set / power	:	125KVA (Temporary setup for Backup)	
15	Crusher	:	Yes (Capacity-50ton/h)(Mobile Crusher)	
16	Nearest Water Body	:	Pratappur Village Pond is about 0.17 km in W direction.	
17	Nearest Habitation	:	Nearest Habitation isabout 0.24 km inNdirection	
18	Nearest Rail Station	:	Tabitha railway stationis about 7.67 km in ESE direction.	
19	Nearest Airport	:	Deoghar airport, is about 111.63 km in WSW direction.	

20	Nearest Forest	:	Houlton P.F. is 9.85 Km in NW direction.
21	Road & Highways	:	NH-133A is about 3.23 km in SW direction.

CO-ORDINATES

S. No.	Latitude	Longitude	S. No.	Latitude	Longitude
1	24° 41' 58 650" N	87° 46' 7.314" E	15	24° 41' 54.254" N	87° 46' 11.171" E
2	24° 41' 57 588" N	87° 46' 6.849" E	16	24° 41' 54.311" N	87° 46' 12.537" E
3	24° 41' 57.275" N	87° 46' 7.000" E	17	24 41 54.030" N	87° 46' 12.983" E
4	24° 41'56.665" N	87° 46' 6.467" E	18	24° 41' 52.953" N	87° 46' 13.200" E
5	24° 41' 55.945" N	87° 46' 6.297" E	19	24° 41' 53.000" N	87° 46' 14.530" E
6	24° 41' 54 644" N	87° 46' 6.419" E	20	24° 41' 54.290" N	87° 46' 14.679" E
7	24° 41' 52.999" N	87° 46' 6.432" E	21	24° 41' 55.036" N	87° 46' 13.836" E
8	24° 41' 52.606" N	87° 46' 7.607" E	22	24° 41' 56.584" N	87° 46' 13.940" E
9	24° 41' 52.316" N	87° 46' 7.511" E	23	24° 41 ' 58.813"N	87° 46' 13.318" E
10	24° 41' 51.706" N	87° 46' 9.073" E	24	24° 41'57.867" N	87° 46' 13.353" E
11	24° 41' 52.188" N	87° 46' 9.276" E	25	24° 41' 58.074" N	87° 46' 12.619" E
12	24° 41' 53.230" N	87° 46' 9.553" E	26	24° 41' 57 091" N	87° 46' 11.495" E
13	24° 41' 54.184" N	87° 46 10 112" E	27	24° 41' 57.404" N	87° 46' 10 261" E
14	24° 41' 54.277" N	87° 46' 10.901" E	28	24° 41' 57.927" N	87° 46' 8.943" E

LAND DETAILS

Khata no.	Plot no.
06	553, 554 (P), 555 & 556
07	557, 559, 560, 561, 562, 563, 564, 565, 558, 491, 492, 493, 494, 495, 496, 497, 498, 499, 489, 500 (P)
08	484, 485, 486, 487
09	552
10	490, 488, 600, 601, 602 & 603 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 2551/M, dated 01.12.2023.
2	CO	:	The CO, Hiranpur vide letter no. 108/Ra., dated 03.03.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Pakur vide memo no. 147/M, dated 29.01.2024 certified that 04 other mining lease area (6.55 Acre, 2.60 Acre, 5.81 & 6.03 Acre) exists within 500 m radius from proposed project site and total area is 27.97 Acre (11.32 Ha).
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1594, dated 28.08.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Pakur Forest Division vide letter no. 269, dated 06.02.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Pakur has been certified vide memo no. 181/M, dated 01.02.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 40, Page no. 119).
7	Gram Sabha	:	BDO, Hiranpur vide letter no. 178/Vi., dated 28.01.2023 informed that Gram Sabha conducted on 25.01.2023.
8	Mine Plan Approval	:	Approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Memo No. 22/DDM, dated 24.01.2024.
9	Qualified Person	:	Md. Tauseef Warsi was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	OCM & Mechanised	
2	Lease Area	:	2.826 ha/6.98Acre	Life of Mine – 7.7 years
3	Waste Generation	:	5 years–40016CUM	
4	Stripping Ratio	:	1:0.16	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m (05 No. of Benches)	
7	Highest Elevation of lease Area	:	54 AMSL	
8	Lowest Elevation of lease Area		53 AMSL	

9	Ultimate Pit Limit Depth (m) Plan Period Depth (m)	:	22 AMSL
10	Water Table	:	12AMSL (40BGL) (from Lowest elevation)
11	Topography of Mine	:	Uneven land
12	Explosive Requirement	:	Tentative 110.25kg/per day
13	Diesel/Fuel requirement		608 Litre per day

Production Details

Year	Generation of Waste/O. B in cum	Production of Stone in Cum	Production of Stone in Tonnes	Grade/Uses
1st	21756	85631	239767	**Construction & Road**
2nd	18260	83556	233957	**Construction & Road**
3rd	0	83526	233873	**Construction & Road**
4th	0	83574	234007	**Construction & Road**
5th	0	85738	240066	**Construction & Road**
Total	**40016**	**422025**	**1181670**	
Stripping Ration in (m3/t)- 1:0.16				

Land Use

Category	Area in Hectares	Area in Hectares	Area in Hectares
Quarry	0	1.73	2.20ha area will be converted as water reservoir
Haul Road	0	0.02	0.00
Proposed Crusher	0	0.09	Remove from lease area
Green belt in Safety Zone	0	0.63	0.63
Dump with Parapet wall & Garland drain	0	0.03	Top soil used for Plantation, Haul Road Renovation & Backfilling
Total area in use	**0**	**2.50**	**2.83**
Balance unused area	2.83	0.33	0
Balance used area	0	0	0
Total Applied Lease Area	**2.83**	**2.83**	**2.83**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.63 Ha	1008 trees @ 1600 trees per ha

2	Other Reclaimed Area	:	NIL	NIL
3	Haul /Approach Road	:	168m	Road length-168Mtr Two Row Planation= 168m/3x3 Spacing =112Plant one side 112 x 2= 224 Plants
Total				1232

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

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

l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Solid Waste Management

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

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a. Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.

b. Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.

c. Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.

d. Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.

e. Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.

f. Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

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

i. Use of Sharp Drill Bits

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

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

a. Controlled blasting would be practiced

b. Optimum quantity of explosives would be used.

c. Blasting to be done during favorable weather conditions.

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

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

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of

this pollution following measures will be taken

✓Regular water sprinkling on Gaul road by using water Tankers.

✓Regular repair of Haul road

✓All Trucks carrying stone outside lease area will have PUC certificate

RISK ASSESSMENT

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

Hazard identification & Risk Analysis in Stone Mining operation

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

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

The risk score lies between5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

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

✓Overall slope angles of benches will be maintained at 45°

✓Unmanageable heights are not created

✓Loose sides are properly dressed

✓No loose stone or debris will be permitted to remain on the top of the bench or sideof any excavation (Regulation 106(4) of MMR 1961)

✓No undercutting of any face or sides will be permitted so as to cause anyoverhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

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

✓Falls from the edge of a bench

✓Dust generation during drilling

✓Noise Generation due to drilling

✓Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at riskduring the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

✓It will be ensured that the drilling equipment is suitable for the job.

✓The person in charge of the drilling machine is competent to carry out the drillingoperation; part of the training includes instructions to always face towards the openedge of the bench so that any inadvertent backward step is away from the edge.

✓Provision of portable rail fencing between the drilling operations and the edge of thebench.

✓Provision to attach a safety line to the drilling rig and provide a harness for thedriller to wear.

✓Restricted access to the area to all persons except those necessary for the drillingoperation.

Dust generation during drilling

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

✓Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation

✓In case due to any reason, wet drilling is not possible (due to non-availability ofwater), exhaust/ vacuum system will be provided which removes the dust from thedrill hole continuously and discharges the same in a dust collector speciallyprovided for the purpose.

✓Drilling machine shall be fitted with dust suppression, collection and disposalarrangement

✓Deep wetting of drilling zones will be done by water sprinkling before startingdrilling.

Noise Generation during drilling

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

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

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

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

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.Flying rocks are encountered during initial and final blasting operations. Noise and dustalso generated during blasting. Following control measures should be taken:

✓Blast hole geometry shall be properly designed.

✓Blast site shall be wetted before and after blasting operations are completed.

✓Only optimum quantity of permissible explosives shall be used so that the vibrationsdo not damage the structures/houses if the quarrying operations are close to humanhabitation.

✓Blasting shall be conducted only during favourable weather conditions and onlyduring the day time and permissible hours.

✓While carrying out blasting operations near habitations, wide publicity will be givenin the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.

✓ The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

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

✓ Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.

✓ Poorly designed shots can result in misfires, early ignition and flying rock.

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

✓Proper and safe storage of explosives in approved and Licensed Magazine

✓ Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.

✓ Explosives shall be conveyed in special containers

✓ Explosives and detonators shall not be carried in the same container

✓ The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only

affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

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

✓Rough access roads

✓Time pressure

✓Inadequate brakes (Possibly from lack of maintenance)

✓Carelessly parked vehicles (e.g. being parked on a slope without being adequatelysecured)

✓Untrained drivers

✓Overturning vehicles

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

Transportation

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

✓Mine road shall be made smooth regularly with a road roller.

✓Mine road will be cleaned daily to remove fallen rock/stones for smoothtransportation.

✓Mine road will be made sufficiently wide to keep two-way traffic.

✓Mine roads will be designed as per the specifications given under MMR 1961.

✓Regular water sprinkling will be done on mine road and haul road to avoidsuspension of dust.

✓All transportation within the mine lease area should be carried out directly underthe supervision and control of management.

✓The vehicles will be maintained in good working condition and checked thoroughlyat least once amonth by the competent person authorized for the purpose by themanagement.

✓Navigation signs will be provided at each and every turning point up to the mainroad (whereverrequired)

✓To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.

✓Only trained drivers will be hired.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 30.05.2024, 31.05.2024, 01, 02 & 03.06.2024, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of TOR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV along with following specific conditions :

I. The detailed EMP is to be prepared for the Habitation existing within an area of 500 meter radius of proposed project boundary. This EMP is to be included in EIA report.
II. Source of water is to be specified and permission from the competent authority or MoU with any other supplier.
III. Solar panel to be installed for the operation of water sprinkling system.

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2. **Parolbona Stone Mine of M/s New Parolbona Stone Works (Partners : Mohammad Ali Hussain Ansari), Village : Parolbona, Thana no. : 09, Distt. : Pakur, Jharkhand (2.55 Ha).**

(Proposal No : SIA/JH/MIN/ 476195/2024)

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

This is a new project which has been taken for appraisal on 02.06.2024.

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

EC Application for: Proposed Capacity: 38,808 Cum/Annum /1,08,662 Ton/Annum

Project and Location Details:

S.No	Parameter		Details
1	Project Name	:	Parolbona Stone Mine
2	Lessee	:	M/s New Parolbona Stone Works, Partner's- Mohammad Ali Hussain Ansari& Akbar Shekh

3	Lessee Address	:	R/O- Gram- Bhawanipur, P.O.-Bhawanipur, Thana- Pakur, District- Pakur-816107	
4	Lease Area	:	Ha: 2.55 Ha	Acres: 6.307 Acres
5	Type of Land	:	Raiyati Land	
6	Project Cost	:	56.0Lakhs	
7	EMP Budget	:	Capital: 9.37Lakhs	Recurring: 5.0Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	3,86,933 Cum	1083413Ton
10	Mine Life	:	10.0 Years	
11	Man power	:	20 person	
12	Water Requirement	:	Total water requirement is about 7.72 KLD=0.72 KLD (Drinking & Domestic Uses) + 4.0 (Plantation) KLD + 3.0 KLD (Dust Suppression).	
13	Water Source	:	by Authorised hired water tankers	
14	DG Set / power	:	125KVA (Temporary setup for Backup)	
15	Crusher	:	Yes (Capacity-50ton/h)(Mobile Crusher)	
16	Nearest Water Body	:	Parolbona Village Pond is about 0.07 km in NW direction.	
17	Nearest Habitation	:	Nearest Habitation is about 0.35 km inENEdirection	
18	Nearest Rail Station	:	Kotalpur Railway station is about 5.4 km in NNE direction.	
19	Nearest Airport	:	Malda Airport WB, is about 47.26 km in NE direction.	
20	Nearest Forest	:	Bepahari PF is about6.65 km in W direction.	
21	Road & Highways	:	NH-133A is about 5.08 km in S direction.	

CO-ORDINATES

S. No.	Latitude	Longitude	S. No.	Latitude	Longitude
1	24°41'39.927"N	87°48'30.958"E	16	24°41'37.306"N	87°48'37.682"E
2	24°41'38.339"N	87°48'30.448"E	17	24°41'37.867"N	87°48'37.374"E
3	24°41'36.206"N	87°48'29.527"E	18	24°41'37.838"N	87°48'37.176"E
4	24°41'35.662"N	87°48'30.873"E	19	24°41'37.612"N	87°48'37.307"E
5	24°41'35.179"N	87°48'31.960"E	20	24°41'37.088"N	87°48'37.054"E
6	24°41'36.478"N	87°48'32.649"E	21	24°41'37.817"N	87°48'36.816"E
7	24°41'36.035"N	87°48'34.397"E	22	24°41'37.699"N	87°48'36.048"E
8	24°41'34.775"N	87°48'36.905"E	23	24°41'37.887"N	87°48'35.252"E
9	24°41'34.240"N	87°48'37.772"E	24	24°41'38.162"N	87°48'34.549"E
10	24°41'35.354"N	87°48'38.416"E	25	24°41'38.410"N	87°48'34.361"E

11	24°41'35.309"N	87°48'38.651"E	26	24°41'38.718"N	87°48'33.924"E
12	24°41'36.141"N	87°48'38.882"E	27	24°41'38.504"N	87°48'33.744"E
13	24°41'36.168"N	87°48'39.057"E	28	24°41'38.754"N	87°48'33.091"E
14	24°41'36.708"N	87°48'39.108"E	29	24°41'39.609"N	87°48'33.645"E
15	24°41'36.996"N	87°48'38.121"E	30	24°41'40.106"N	87°48'32.142"E

LAND DETAILS

Khata no.	Plot no.
45	355
26	249 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 382/M, dated 19.03.2024.
2	CO	:	The CO, Pakur vide letter no. 1309/Ra., dated 31.10.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation of 15 house at a distance of 350 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO	:	DMO, Pakur vide memo no. 461/M, dated 05.04.2024 certified that no other mining lease area exists within 500 m radius from proposed project site and total area is 6.307 Acre (2.55 Ha).
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 384, dated 17.03.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Pakur Forest Division vide memo no. 569, dated 05.04.2023 certified that the distance of minimum forest is 4019.2 meters from proposed project site.
6	DSR	:	The DMO, Pakur has been certified vide memo no. 484/M, dated 09.04.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 23, Page no. 149).
7	Gram Sabha	:	BDO, Pakur vide letter no. 1573/Vi. dated 19.08.2023 informed that Gram Sabha conducted on 16.08.2023.

8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide Memo No. 687/M, dated 24.05.2024.
9	Qualified Person	:	Md. Tauseef Warsi was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	OCM &Mechanised	
2	Lease Area	:	2.55 ha/6.307Acre	Life of Mine – 10.0 years
3	Waste Generation	:	5 years–66086 CUM	
4	Stripping Ratio	:	1:0.12	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m (04 No. of Benches)	
7	Highest Elevation of lease Area	:	39 AMSL	
8	Lowest Elevation of lease Area		37 AMSL	
9	Ultimate Working Depth	:	07 AMSL	
10	Water Table	:	35 Amsl (35BGL) (from Lowest elevation)	
11	Topography of Mine	:	almost flatwith two hillocks	
12	Explosive Requirement	:	Tentative 44.1kg/per day	
13	Diesel/Fuel requirement		536 Litre per day	

Production Details

Year	Generation of Waste/O. B in cum	Production of Stone in Cum	Production of Stone in Tonnes	Grade/Uses
1st	51936	36240	101472	Construction & Road
2nd	00	38038	106506	Construction & Road
3rd	00	38720	108416	Construction & Road
4th	00	38713	108396	Construction & Road
5th	14150	38808	108662	Construction & Road
Total	**66086**	**190519**	**533452**	
Stripping Ration in (m3/t)- 1:0.12				

Land Use

LAND USE PATTERN			
	Existing	**First to Fifth Years**	**After Life of Mine**
Category	**Area in Hectares**	**Area in Hectares**	**Area in Hectares**
Quarry	0	1.05	1.93ha area will be convert as water reservoir 386933cum
Haul Road	0	0.02	0.00
Proposed Mobile Crusher	0	0.16	Remove from lease area
Green belt in Safety Barrier	0	0.62	0.62
Dump with Parapet wall & Garland drain	0	0.12	Top soil used for plantation and gritty soil will be used for backfilling
Total area in use	0	1.97	2.55
Balance unused area	2.55	0.58	0
Balance used area	0	0	0
Total Applied Lease Area	**2.55**	**2.55**	**2.55**

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.62 Ha	992 trees @ 1600 trees per ha
2	Other Reclaimed Area	:	NIL	NIL
3	Haul /Approach Road	:	600 m	Road length-600 Mtr Two Row Planation= 600m/3x3 Spacing =400 Plant one side 400 x 2= 800 Plants
Total				1792

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5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

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

The risk score lies between5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

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

✓Overall slope angles of benches will be maintained at 45°

✓Unmanageable heights are not created

✓Loose sides are properly dressed

✓No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)

✓No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

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

✓Falls from the edge of a bench

✓Dust generation during drilling

✓Noise Generation due to drilling

✓Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working orabandoned bench, the risk of minerals or materials falling onto workers at the foot of theface should not be overlooked. A face and bench are a necessary part of a working quarryand therefore it is not possible to remove the hazards associated with them.While others may need to work at or near the edge of a working bench the person most atriskduring the drilling operation is the driller. Others such as the manager of the mine ormaintenance personnel, may approach the bench edge during the drilling operation in theevent of a breakdown of the drilling equipment.

Control Measures

✓It will be ensured that the drilling equipment is suitable for the job.

✓The person in charge of the drilling machine is competent to carry out the drillingoperation; part of the training includes instructions to always face towards the openedge of the bench so that any inadvertent backward step is away from the edge.

✓Provision of portable rail fencing between the drilling operations and the edge of thebench

✓Provision to attach a safety line to the drilling rig and provide a harness for thedriller to wear.

✓Restricted access to the area to all persons except those necessary for the drillingoperation.

Dust generation during drilling

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

✓Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation

✓In case due to any reason, wet drilling is not possible (due to non-availability ofwater), exhaust/ vacuum system will be provided which removes the dust from thedrill hole continuously and discharges the same in a dust collector speciallyprovided for the purpose.

✓Drilling machine shall be fitted with dust suppression, collection and disposalarrangement

✓Deep wetting of drilling zones will be done by water sprinkling before startingdrilling.

Noise Generation during drilling

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

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

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

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

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.Flying rocks are encountered during initial and final blasting operations. Noise and dustalso generated during blasting. Following control measures should be taken:

✓Blast hole geometry shall be properly designed.

✓Blast site shall be wetted before and after blasting operations are completed.

✓Only optimum quantity of permissible explosives shall be used so that the vibrationsdo not damage the structures/houses if the quarrying operations are close to humanhabitation.

✓Blasting shall be conducted only during favourable weather conditions and onlyduring the day time and permissible hours.

✓While carrying out blasting operations near habitations, wide publicity will be givenin the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.

✓ The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

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

✓ Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.

✓ Poorly designed shots can result in misfires, early ignition and flying rock.

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

✓Proper and safe storage of explosives in approved and Licensed Magazine

✓ Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.

✓ Explosives shall be conveyed in special containers

✓ Explosives and detonators shall not be carried in the same container

✓ The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only

affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

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

✓Rough access roads

✓Time pressure

✓Inadequate brakes (Possibly from lack of maintenance)

✓Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)

✓Untrained drivers

✓Overturning vehicles

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

Transportation

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

✓Mine road shall be made smooth regularly with a road roller.

✓Mine road will be cleaned daily to remove fallen rock/stones for smoothtransportation.

✓Mine road will be made sufficiently wide to keep two-way traffic.

✓Mine roads will be designed as per the specifications given under MMR 1961.

✓Regular water sprinkling will be done on mine road and haul road to avoidsuspension of dust.

✓All transportation within the mine lease area should be carried out directly underthe supervision and control of management.

✓The vehicles will be maintained in good working condition and checked thoroughlyat least once a month by the competent person authorized for the purpose by themanagement.
✓Navigation signs will be provided at each and every turning point up to the mainroad (wherever required)

✓To avoid danger while reversing the vehicles especially at working place/loadingpoints, stopper should be posted to properly guide reversing/spotting operating.

✓Only trained drivers will be hired.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Parolbona Stone Mine of M/s New Parolbona Stone Works (Partners : Mohammad Ali Hussain Ansari), Village : Parolbona, Thana no. : 09, Distt. : Pakur, Jharkhand (2.55 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – V along with following specific conditions :

I. **Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone. Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.**
II. **Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only. Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.**
III. **Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.**
IV. **Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.**
V. **Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.**
VI. **Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.**
VII. **Environment management plan for habitation located within 500 meter of the project area is to be implemented with budgetary provision of Rs. 5.70 Lakhs as capital cost and Rs. 10.20 Lakhs as recurring expenditure per year.**
VIII. **The mining activities shall be suspended as soon as the depth of mining reaches 2 meters above the ground water table.**

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3. **Narangi Sand Ghat of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Village : Narangi, Block : Raneshwar, Distt. : Dumka, Jharkhand (4.26 Ha).**

(Proposal No : SIA/JH/MIN/ 476777/2024)

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

This is a new project which has been taken for appraisal on 02.06.2024.

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

EC Application for: Proposed Capacity- 74409.34 cum/annum or 120543.13 TPA (dry basis).

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Narangi Sand Ghat	
2	Lessee:	:	M/s Jharkhand State Mineral Development Corporation Ltd. (A Govt. of Jharkhand Enterprises)	
3	Lessee Address	:	Khanij Nigam Bhawan, Doranda, Ranchi – 834002 (Jharkhand)	
4	Lease Area	:	4.26Ha	Acres – 10.52 Acres
5	Type of Land	:	Non-Forest Government waste Land (River Bed)	
6	Project Cost	:	Capital Cost – Rs 14.85Lakhs	Recurring : 18.30 Lakhs / Year
7	EMP Budget	:	Capital: Rs 2.95 Lakhs	Recurring: 4.60 lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserve for 1st year and subsequent year 60% of Replenished quantity	:	cum.: 74409.34 cum (dry basis)	Tonnes: 120543.13 (dry basis)
10	Mine Life/ Lease Period	:	**Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.**	
11	Man power	:	54	
12	Water Requirement	:	5.5 KLD (Drinking: 0.81 KLD, Dust Suppression: 3.46 KLD, Plantation: 1.23 KLD)	

13	Water Source	:	By authorised hired tankers
14	DG Set / power	:	NA
15	Crusher	:	NA
16	Nearest Water Body	:	On Mayurakshi River bed sand mining is proposed.
17	Nearest Habitation	:	Barakamti – 1.51 km.
18	Nearest Rail Station	:	Suri (Siuri) Railway Station, Birbhum- 13.5 km towards SE direction
19	Nearest Air Port	:	Sido Kanhu Airport, Dumka- 32 km towards NW direction
20	Nearest Forest	:	More than 250 m, as per Forest Division. , Letter no.- 1214 Dated - 22/05/2024
21	Road & Highways	:	Dumka-Ranibahal-Kanmora-Suri Highway – 3.80 Km towards North direction. Pakka Road – 0.22 Km towards North-East direction.

CO-ORDINATES

GPS Coordinates		
Point	**Latitude**	**Longitude**
A	23° 59'12.564" N	87° 27' 5.522" E
B	23° 59' 17.681" N	87° 26' 55.291" E
C	23° 59' 21.393" N	87° 26' 57.886" E
D	23° 59'15.660" N	87° 27' 8.074" E

LAND DETAILS

Khata no.	Plot no.
218	2895

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Auction letter has been issued by Joint Secretary, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)-117/2017-2090/M, dated 30.09.2022. According to provisions in Jharkhand State sand Mining Policy and

			its amendment. JSMDC Ltd. has been nominated as nodal agency for operating sand mines in category II.
2	CO	:	The CO, Raneshwar (Dumka) vide letter no. 320/Ra., dated 17.05.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Dumka vide memo no. 541/M, dated 04.05.2024 certified that 01 other balughat (38.45 Ha.) exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribagh vide letter no. 841, dated 11.05.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Dumka Forest Division vide letter no. 1214, dated 22.05.2024 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Dumka district (Page No. – 79, Point No. - 2)
7	Gram Sabha	:	Gram Sabha conducted on 25.04.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 555/M, dated 04.05.2024.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Manual Method	
2	Quarry Area	:	4.26 Ha	Mine life/Lease Period - Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
3	Waste Generation	:	00 cum	
4	Stripping Ratio	:	0:0	
5	Working Days	:	200 per year	
6	Benches: size & No	:	2 m and no. of bench 1.	
7	Elevation of Mine	:	10 m AMSL to 12 m AMSL	

8	Ground Level Elevation	:	12.20 m AMSL
9	Ultimate Working Depth	:	2.0 m
10	Water Table	:	7 m AMSL
11	Topography of Mine	:	Area represents flat land.
12	Explosive Requirement	:	None. No blasting required
13	Diesel/Fuel requirement	:	Not required for mining.

Production Details

Year	Production of Sand (cum)	Production of Sand(tonnes)
1st	74409.34	120543.13

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

Land Use

Sl. No.	Pattern of Utilization	Land Used in present Plan period (in Ha.)	Remarks
1	Mining Activities	3.72	Area may vary based on flow of water in the subsequent year.
2	Loss due to Safety Zone & River Channel	0.54	• Distance from the bank should be 1/4thof River width and should not be less than 7.5 meters. • Mining shall be restricted within the central 3/4thwidth of the river/rivulet or 7.5 meters (inward) from River-bank but up to 10% of the width of the River. • Mining shall be restricted 60 % area for both side of river edge.
Total		4.26	

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Along River Edge		0.368 Km	123
2	Along Approach Road		0.216 Km	288 (Both Side) Two Row Plantation

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

Solid Waste Management

No solid waste is generated during the course of mining.

Water Quality Management

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

Air Quality Management

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

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

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

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

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

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

Road accidents

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

Preventive Measures;

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

Dust generation

No drilling involved

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

Noise Generation

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

Preventive measures

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

Health Hazards

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

Preventive Measures

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

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

Accident at Site

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

Preventive measures

Following mitigation measures would be taken to minimise risk of road accident-

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

Transportation

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

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

Undertaking submitted affirming:

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

j. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
k. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.
l. Mining will be restricted upto 3 meter.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 30.05.2024, 31.05.2024, 01, 02 & 03.06.2024,the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of TOR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV along with following specific conditions as part of EIA / EMP report :

I. Transportation from the river bed will be done using the existing road.
II. The Mining Plan & EIA / EMP report has to be prepared and approved in consonance with Enforcement & Monitoring Guidelines for Sand Mining, 2020.
III. Wet sand will not be transported.

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4. **Barmasia Sand Ghat of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Village : Barmasia, Semra & Madhuban, Block : Jama, Distt. : Dumka, Jharkhand (3.65 Ha).**

(Proposal No : SIA/JH/MIN/ 476702/2024)

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

This is a new project which has been taken for appraisal on 02.06.2024.

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

EC Application for: Proposed Capacity- 39044.32 cum per annum or 62470.91 TPA.(dry basis)

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Barmasia Sand Ghat
2	Lessee:	:	M/s Jharkhand State Mineral Development Corporation Ltd. (A Govt. of Jharkhand Enterprises)

3	Lessee Address	:	Khanij Nigam Bhawan, Doranda, Ranchi – 834002 (Jharkhand)	
4	Lease Area	:	3.65 Ha	Acres – 9.02Acres
5	Type of Land	:	Non-Forest Government waste Land (River Bed)	
6	Project Cost	:	Capital Cost – Rs 13.42 Lakhs	Recurring : 9.50 Lakhs / Year
7	EMP Budget	:	Capital: Rs 4.925 Lakhs	Recurring: 5.60 lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves for 1st year & subsequent year 60% of Replenished quantity	:	Cum.: 39044.32 Cum. (dry basis)	Tonnes: 62470.91 Tonnes (dry basis)
10	Mine Life	:	Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy	
11	Man power	:	29	
12	Water Requirement	:	9.56 KLD (Drinking: 0.435 KLD, Dust Suppression: 6.72 KLD, Plantation: 2.41 KLD)	
13	Water Source	:	By authorised hired tankers	
14	DG Set / power	:	NA	
15	Crusher	:	NA	
16	Nearest Water Body	:	On Tepra River bed sand mining is proposed.	
17	Nearest Habitation	:	Barmasia, at 0.64 Km in East direction.	
18	Nearest Rail Station	:	Jama Railway Station- 3.80 km in NEdirection	
19	Nearest Air Port	:	Sidhu Khanu Airport– 16.50 km in SW direction	
20	Nearest Forest	:	More than 250 m, as per Forest Division. Letter No. – 510 Dated – 22/02/2023	
21	Road & Highways	:	Dumka-Jamtara road – 3.93 Km in West direction	

CO-ORDINATES

Point	Latitude	Longitude
1	24° 18' 09.551" N	87° 07' 33.867" E
2	24° 18' 09.654" N	87° 07' 29.669" E
3	24° 18' 09.712" N	87° 07' 24.913" E
4	24° 18' 10.506" N	87° 07' 24.836" E
5	24° 18' 10.579" N	87° 07' 29.909" E

6	24° 18' 10.615" N	87° 07'33.969" E
7	24° 18'12.286" N	87° 07'37.947" E
8	24° 18'14.969" N	87° 07'39.441" E
9	24° 18'26.143" N	87° 07'44.089" E
10	24° 18' 26.813" N	87° 07'45.487" E
11	24° 18'20.530" N	87° 07'43.510" E
12	24° 18'14.017" N	87° 07'39.843" E
13	24° 18'10.594" N	87° 07'38.414" E

LAND DETAILS

Khata No.	Plot No.
46	243
97	1795
64	01

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Auction letter has been issued by Joint Secretary, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)-117/2017-2090/M, dated 30.09.2022. According to provisions in Jharkhand State sand Mining Policy and its amendment. JSMDC Ltd. has been nominated as nodal agency for operating sand mines in category II.
2	CO	:	The CO, Jama (Dumka) vide letter no. 358/Ra., dated 24.05.2024 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. 543/M, dated 04.05.2024 certified that 02 other balughat (2.24 Ha. & 4.84 Ha) exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribagh vide letter no. 837, dated 11.05.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Dumka Forest Division vide letter no. 510, dated 22.02.2023 certified that the distance of forest land is 1798 meters from proposed project site.
6	DSR	:	This project is mentioned in approved District Survey Report (DSR)

			of Dumka District (Page no. 85, Sl. No. 24).
7	Gram Sabha	:	CO, Jama (Dumka) vide letter no. 378/Ra., dated 29.05.2024 informed that Gram Sabha conducted on 19.04.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 552/M, dated 04.05.2024.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Manual Method	
2	Quarry Area	:	3.65 Ha	Mine life/Lease Period - Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
3	Waste Generation	:	00 cum	
4	Stripping Ratio	:	0:0	
5	Working Days	:	200 per year	
6	Benches: size & No	:	1.2 m and no. of bench 1.	
7	Elevation of Mine	:	88.50 m AMSL – 87 m AMSL	
8	Ground Level Elevation	:	88.45 m AMSL	
9	Ultimate Working Depth	:	1.2 m	
10	Water Table	:	86 m AMSL	
11	Topography of Mine	:	Area represents flat land.	
12	Explosive Requirement	:	None. No blasting required	
13	Diesel/Fuel requirement	:	Not required for mining.	

Production Details

Year	Production of Sand (cum)	Production of Sand(tonnes)
1st	39044.32	62470.91

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

Land Use

Sl. No.	Pattern of Utilization	Land Use (in Ha.)	Remarks
1	Mining Activities	3.65	Area may vary based on flow of water in the subsequent year.
2	Loss due to Safety Zone	0.40	• Distance from the bank should be 1/4thof River width and should not be less than 7.5 meters. • Mining shall be restricted within the central 3/4thwidth of the river/rivulet or 7.5 meters (inward) from River-bank but up to 10% of the width of the River. • Mining shall be restricted 60 % area for both side of river edge.
Total		3.65	

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Along River Edge		0.735Km	245
2	Along Approach Road		0.42Km	560

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

Solid Waste Management

No solid waste is generated during the course of mining.

Water Quality Management

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

Air Quality Management

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

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

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

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

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

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

Road accidents

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

Preventive Measures;

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

Dust generation

No drilling involved

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

Noise Generation

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

Preventive measures

- Transportation activities would be confined during day time only.
- There would be a speed limit of 40 kmph for tippers. Higher is speed higher is noise.
- Regular repair and maintenance of tippers/tractors.
- Plantation on both sides of haulage road.

- Tippers having PUC certified will be allowed to be used for sand transportation.

Health Hazards

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

Preventive Measures

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

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

Accident at Site

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

Preventive measures

Following mitigation measures would be taken to minimise risk of road accident-

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

Transportation

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

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.

- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
k. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.
m. Mining will be restricted upto 3 meter.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 30.05.2024, 31.05.2024, 01, 02 & 03.06.2024,the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of TOR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV along with following specific conditions as part of EIA / EMP report :

I. Transportation from the river bed will be done using the existing road.

II. The Mining Plan & EIA / EMP report has to be prepared and approved in consonance with Enforcement & Monitoring Guidelines for Sand Mining, 2020.

III. Wet sand will not be transported.

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5. Simra Sand Ghat of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Village : Simra, Haripur, Circle : Jama, Distt. : Dumka, Jharkhand (1.65 Ha).

(Proposal No : SIA/JH/MIN/ 476305/2024)

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

This is a new project which has been taken for appraisal on 02.06.2024.

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

EC Application for: Proposed Capacity- 16497 cum/annum or 25405.38 TPA (dry basis)

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Simra Sand Ghat	
2	Lessee:	:	M/s Jharkhand State Mineral Development Corporation Ltd. (A Govt. of Jharkhand Enterprises)	
3	Lessee Address	:	Khanij Nigam Bhawan, Doranda, Ranchi – 834002 (Jharkhand)	
4	Lease Area	:	1.65 Ha	Acres – 4.07 Acres
5	Type of Land	:	Non-Forest Government waste Land (River Bed)	
6	Project Cost	:	Capital Cost – Rs 13.42 Lakhs	Recurring : 4.10 Lakhs / Year
7	EMP Budget	:	Capital: Rs 2.745 Lakhs	Recurring: 5.606 lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves for 1st year & subsequent year 60% of Replenished quantity	:	16497 m^3 (dry basis)	Tonnes: 25405.38 Tonnes (dry basis)

10	Mine Life/ Lease Period	:	**Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.**
11	Man power	:	17
12	Water Requirement	:	4.386 KLD (Drinking: 0.255 KLD, Dust Suppression: 3.024 KLD, Plantation: 1.107 KLD)
13	Water Source	:	By authorised hired tankers
14	DG Set / power	:	NA
15	Crusher	:	NA
16	Nearest Water Body	:	On Tepra River bed sand mining is proposed.
17	Nearest Habitation	:	Simra – 0.50 km.
18	Nearest Rail Station	:	The nearest Railway station is Jama Railway Station located at a distance of about 9.80 Km in North- East direction
19	Nearest Air Port	:	Sidhu Kanho Airport, Dumka is situated at a distance of about 22 Km in South -East direction..
20	Nearest Forest	:	More than 250 m, as per Forest Division. Letter No. – 1239, Dated - 25-05-2024
21	Road & Highways	:	MDR Khaibani-Basukinath road – 9 km towards North direction

CO-ORDINATES

	Latitude	**Longitude**
A	24° 17' 58.434" N	87° 03' 54.278" E
B	24° 18' 04.706" N	87° 04' 00.590" E
C	24° 18' 03.381" N	87° 04' 01.988" E
D	24° 17' 57.134" N	87° 03' 55.243" E

LAND DETAILS

Khata no.	**Plot no.**
16	431, 432, 01, 225 & 230

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Auction letter has been issued by Joint Secretary, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)-

			117/2017-2090/M, dated 30.09.2022. According to provisions in Jharkhand State sand Mining Policy and its amendment. JSMDC Ltd. has been nominated as nodal agency for operating sand mines in category II.
2	CO	:	The CO, Jama (Dumka) vide letter no. 328/Ra., dated 14.05.2024 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. 536/M, dated 03.05.2024 certified that no other balughat exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribagh vide letter no. 864, dated 14.05.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Dumka Forest Division vide letter no. 1239, dated 25.05.2024 certified that the distance of reserved / protected forest land is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned In approved District Survey Report (DSR) of Dumka District (Page no. 84, Point no. 20).
7	Gram Sabha	:	CO, Jama (Dumka) vide letter no. 378/Ra., dated 29.05.2024 informed that Gram Sabha conducted on 29.04.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 556/M, dated 04.05.2024.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Manual Method	
2	Quarry Area	:	1.65 Ha	Mine life/Lease Period - Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
3	Waste Generation	:	00 cum	
4	Stripping Ratio	:	0:0	

5	Working Days	:	200 per year
6	Benches: size & No	:	1.5 m and no. of bench 1.
7	Elevation of Mine	:	106.50 m AMSL to 107.50 m AMSL
8	Ground Level Elevation	:	109m AMSL
9	Ultimate Working Depth	:	1.0 m
10	Water Table	:	103 m AMSL
11	Topography of Mine	:	Area represents flat land.
12	Explosive Requirement	:	None. No blasting required
13	Diesel/Fuel requirement	:	Not required for mining.

Production Details

Year	Production of Sand (cum)	Production of Sand (tonnes)
1st	16497	25405.38

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

Land Use

Sl. No.	Pattern of Utilization	Land Use (in Ha.)	Remarks
1	Mining Activities	1.64	Area may vary based on flow of water in the subsequent year.
2	Loss due to Safety Zone	0.01	• Distance from the bank should be 1/4thof River width and should not be less than 7.5 meters. • Mining shall be restricted within the central 3/4thwidth of the river/rivulet or 7.5 meters (inward) from River-bank but up to 10% of the width of the River. • Mining shall be restricted 60 % area for both side of river edge.
Total		1.65	

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Along River Edge		0.353Km	117
2	Along Approach Road		0.189 Km	252

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

Solid Waste Management

No solid waste is generated during the course of mining.

Water Quality Management

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

Air Quality Management

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

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

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

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

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

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

Road accidents

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

Preventive Measures;

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

- Regular maintenance of the vehicles.

Dust generation

No drilling involved

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

Noise Generation

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

Preventive measures

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

Health Hazards

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

Preventive Measures

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

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

Accident at Site

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

Preventive measures

Following mitigation measures would be taken to minimise risk of road accident-

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

Transportation

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

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

Undertaking submitted affirming:

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

i. If any tree felling than necessary permission shall be taken from the competent authority.

j. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

k. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

l. Mining will be restricted upto 3 meter.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Simra Sand Ghat of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Village : Simra, Haripur, Circle : Jama, Distt. : Dumka, Jharkhand (1.65 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – V along with following specific conditions :

I. **The Environmental Clearance granted for lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.**

II. **Replenishment study shall be conducted during pre-monsoon and post monsoon every year and study report have to be submitted to SEIAA / SEAC, Jharkhand. The production shall be restricted to 60% of the replenished quantity or the proposed quantity in the mine plan, which ever is less.**

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

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

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

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

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

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

IX. Project Authority will ensure that personal protective equipments such as protective clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel's.

X. River Sand Mining shall not be done in rainy Season (mid June to mid October of each calendar year).

XI. Dept. of Mines & Geology, Govt. of Jharkhand shall keep a strict vigil in the compliance of relevant provisions of applicable Jharkhand Minerals (Prevention of illegal mining, Transportation and Storage) Rule 2017 and its amendment especially scientific execution of mining plan (as approved by they themselves) and report violations if any is found as well as action taken for the same.

XII. Project Proponent shall submit (to the SEIAA, Jharkhand, Regional Office of MoEF&CC at Ranchi, Jharkhand State Pollution Control Board) six monthly compliance report with evidence of the conditions within a fortnight after the end of every six month till validity period of Environmental Clearance.

XIII. The project proponent before starting any activity / preparation of ground, on the leased area shall demarcate his lease hold by RCC pillars erected at the cost of lease holder after certification of the mining officer. On each pillar Geo-Coordinate and fore bearing / back bearing shall be written with permanent paint mark as described in the mining plan. All the pillars should remain intact at same geo-coordinate. Establishment / labeling of Benchmark at each pillars or ground control points.

XIV. Extraction of sand beyond annual production capacity is not permitted.

XV. The Project Proponent should undertake the sand mining limited to 03 meter (three meter) depth by exclusively manual method.

XVI. The stacking area of mined-out sand which shall be situated near the mining site within a fenced area from all sides to avoid being spread in the nearby areas by high winds and the height of stacking should not exceed 2 meter. Transportation shall be confined to day time only that is from sunrise to sunset, to avoid inconvenience to local population in any manner.

XVII. Mining activity shall not be done for mine lease where mining can cause danger to site of flood protection works, places of cultural, religious, historical and archaeological importance.

XVIII. Project Proponent shall submit the annual replenishment report certified by an authorized agency.

XIX. No labour camp shall be allowed in riverbed.

XX. Provision shall be made for housing labour with all necessary infrastructure and facilities (outside mining Block and river-bed) such as fuel for cooking, toilets / mobile toilets, safe drinking water, First-Aid facilities, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

XXI. Labour & Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers shall be undertaken periodically to observe any adverse health impact due to exposure to dust and take corrective measures, if needed.

XXII. The Project Proponent shall make arrangements for safe drinking water, first aid facility along with anti-venom injection, in case of emergency for the workers.

XXIII. Sand and gravel may be extracted across the entire active channel during the dry season.

XXIV. Abandoned stream channels on the terrace and inactive floodplains be preferred rather than active channels and their deltas and flood plains. The stream should not be diverted to form the inactive channel.

XXV. Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.

XXVI. Sand and gravel shall not be allowed to be extracted where erosion may occur, such as at the concave bank.

XXVII. Sand and gravel shall not be extracted up to a distance of 1 kilo meter (1 km.) from major bridges and highways on both sides, of five times (5x) of the span (x) of a bridge / public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a minimum of 250 meters on the upstream side and 500 meters on the downstream side.

XXVIII. Sand and gravel could be extracted from the downstream of the sand bar at river bends.

XXIX. Mining depth should be restricted to 3 meters and distance from the band should be $1/4^{th}$ of river width and should not be less than 7.5 meters.

XXX. A buffer distance / unmined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed / prescribed by the regulatory authority shall be maintained.

XXXI. River bed sand mining shall be restricted within the central $3/4^{th}$ width of the river/rivulet of 7.5 meters (inward) from river banks but up to 10% of the width of the river, as the case may be and decided by regulatory authority while granting Environmental Clearance in consultation with irrigation department. Regulating authority while regulating the zone of river bed mining shall ensure that the objective to minimize the effects of riverbank erosion and consequential channel migration are achieved to the extent possible. In general, the area for removal of minerals shall not exceed 60% of the mine lease area, and any deviation of relaxation in this regard shall be adequately supported by the scientific report.

XXXII. Transportation from the river bed will be done using the existing road.

XXXIII. The Mining Plan has been prepared and approved in consonance with Enforcement & Monitoring Guidelines for Sand Mining, 2020.

XXXIV. Wet sand will not be transported.

****

6. **Katanai Sand Ghat of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Village : Katanai, Kori Katania, Magurdih, Circle : Jama, Distt. : Dumka, Jharkhand (4.97 Ha).**

(Proposal No : SIA/JH/MIN/ 473462/2024)

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

This is a new project which has been taken for appraisal on 02.06.2024.

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

EC Application for: Proposed Capacity- 39295 cum/annum or 65622.65 TPA (dry basis).

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Katanai Sand Ghat	
2	Lessee:	:	M/s Jharkhand State Mineral Development Corporation Ltd. (A Govt. of Jharkhand Enterprises)	
3	Lessee Address	:	Khanij Nigam Bhawan, Doranda, Ranchi – 834002 (Jharkhand)	
4	Lease Area	:	4.97 Ha	Acres – 12.28 Acres
5	Type of Land	:	Non-Forest Government waste Land (River Bed)	
6	Project Cost	:	Capital Cost – Rs 13.80Lakhs	Recurring : 12.70 Lakhs / Year
7	EMP Budget	:	Capital: Rs 5.02 Lakhs	Recurring: 5.606 lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves for 1st year & subsequent year 60% of Replenished quantity	:	39295 m^3 (dry basis)	Tonnes - 65622.65 ton(dry basis)
10	Mine Life/ Lease Period	:	**Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.**	
11	Man power	:	34	
12	Water Requirement	:	8.5 KLD (Drinking: 0.51 KLD, Dust Suppression: 5.6 KLD, Plantation: 2.47 KLD)	
13	Water Source	:	By authorised hired tankers	
14	DG Set / power	:	NA	
15	Crusher	:	NA	

16	Nearest Water Body	:	On Mathihara River bed sand mining is proposed.
17	Nearest Habitation	:	Katanai – 0.39 km.
18	Nearest Rail Station	:	The nearest Railway station Barapalasi is located at a distance of about 4 Km in SE direction
19	Nearest Air Port	:	Deoghar Airport, Dumka is situated at a distance of about 50.90 Km in NW direction
20	Nearest Forest	:	More than 250 m, as per Forest Division. vide Letter No. – 1226, Dated - 24-05-2024
21	Road & Highways	:	Dumka – Hansdiha Road – 0.350 Km in North direction

CO-ORDINATES

GPS Coordinates		
Point	**Latitude**	**Longitude**
1	24° 20' 49.476" N	87° 11' 36.154" E
2	24° 20' 50.901" N	87° 11' 35.934" E
3	24° 20' 56.305" N	87° 11' 46.882" E
4	24° 20' 57.584" N	87° 11' 57.092" E
5	24° 20' 56.090" N	87° 12' 01.087" E
6	24° 20' 53.898" N	87° 12' 03.483" E
7	24° 20' 52.256" N	87° 12' 02.135" E
8	24° 20' 54.743" N	87° 11' 59.165" E
9	24° 20' 54.622" N	87° 11' 48.194" E

LAND DETAILS

Khata no.	Plot no.
33	415, 679, 1046 & 1047

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Auction letter has been issued by Joint Secretary, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)-117/2017-2090/M, dated 30.09.2022. According to provisions in Jharkhand State sand Mining Policy and

			its amendment. JSMDC Ltd. has been nominated as nodal agency for operating sand mines in category II.
2	CO	:	The CO, Jama (Dumka) vide letter no. 329/Ra., dated 14.05.2024 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. 537/M, dated 03.05.2024 certified that no other balughat exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribagh vide letter no. 842, dated 11.05.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Dumka Forest Division vide letter no. 1226, dated 24.05.2024 certified that the distance of reserved / protected forest land is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved District Survey Report (DSR) of Dumka District (Page no. 83, Point no. 17).
7	Gram Sabha	:	CO, Jama (Dumka) vide letter no. 296/Ra. Dated 30.04.2024 informed that Gram Sabha conducted on 29.04.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 557/M, dated 04.05.2024.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Manual Method	
2	Quarry Area	:	4.97 Ha	Mine life/Lease Period - Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
3	Waste Generation	:	00 cum	
4	Stripping Ratio	:	0:0	
5	Working Days	:	200 per year	
6	Benches: size & No	:	1 m and no. of bench 1.	
7	Elevation of Mine	:	86 m AMSL to 86.50 m AMSL	

8	Ground Level Elevation	:	90 m AMSL
9	Ultimate Working Depth	:	1.0 m
10	Water Table	:	83 m AMSL
11	Topography of Mine	:	Area represents flat land.
12	Explosive Requirement	:	None. No blasting required
13	Diesel/Fuel requirement	:	Not required for mining.

Production Details

Year	Production of Sand (cum)	Production of Sand (tonnes)
1st	39295	65622.65

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

Land Use (Plan period)

Sl. No.	Pattern of Utilization	Land Use (in Ha.)	Remarks
1	Mining Activities	3.93	Area may vary based on flow of water in the subsequent year.
2	Loss due to Safety Zone	1.04	• Distance from the bank should be 1/4thof River width and should not be less than 7.5 meters. • Mining shall be restricted within the central 3/4thwidth of the river/rivulet or 7.5 meters (inward) from River-bank but up to 10% of the width of the River. • Mining shall be restricted 60 % area for both side of river edge.
Total		4.97	

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Along River Edge		0.345 Km	460

2	Along Approach Road		1.091 Km	364

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

Solid Waste Management

No solid waste is generated during the course of mining.

Water Quality Management

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

Air Quality Management

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

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

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

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

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

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

Road accidents

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

Preventive Measures;

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

Dust generation

No drilling involved

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

Noise Generation

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

Preventive measures

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

Health Hazards

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

Preventive Measures

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

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

Accident at Site

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

Preventive measures

Following mitigation measures would be taken to minimise risk of road accident-

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

Transportation

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

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

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard

d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.

i. If any tree felling than necessary permission shall be taken from the competent authority.

j. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

k. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

l. Mining will be restricted upto 3 meter.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Katanai Sand Ghat of M/s Jharkhand State Mineral Development Corporation Limited (JSMDC Ltd.), Village : Katanai, Kori Katania, Magurdih, Circle : Jama, Distt. : Dumka, Jharkhand (4.97 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – V along with following specific conditions :

I. **The Environmental Clearance granted for lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.**

II. **Replenishment study shall be conducted during pre-monsoon and post monsoon every year and study report have to be submitted to SEIAA / SEAC, Jharkhand. The production shall be restricted to 60% of the replenished quantity or the proposed quantity in the mine plan, which ever is less.**

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

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

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

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

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

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

IX. Project Authority will ensure that personal protective equipments such as protective clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel's.

X. River Sand Mining shall not be done in rainy Season (mid June to mid October of each calendar year).

XI. Dept. of Mines & Geology, Govt. of Jharkhand shall keep a strict vigil in the compliance of relevant provisions of applicable Jharkhand Minerals (Prevention of illegal mining, Transportation and Storage) Rule 2017 and its amendment especially scientific execution of mining plan (as approved by they themselves) and report violations if any is found as well as action taken for the same.

XII. Project Proponent shall submit (to the SEIAA, Jharkhand, Regional Office of MoEF&CC at Ranchi, Jharkhand State Pollution Control Board) six monthly compliance report with evidence of the conditions within a fortnight after the end of every six month till validity period of Environmental Clearance.

XIII. The project proponent before starting any activity / preparation of ground, on the leased area shall demarcate his lease hold by RCC pillars erected at the cost of lease holder after certification of the mining officer. On each pillar Geo-Coordinate and fore bearing / back bearing shall be written with permanent paint mark as described in the mining plan. All the pillars should remain intact at same geo-coordinate. Establishment / labeling of Benchmark at each pillars or ground control points.

XIV. Extraction of sand beyond annual production capacity is not permitted.

XV. The Project Proponent should undertake the sand mining limited to 03 meter (three meter) depth by exclusively manual method.

XVI. The stacking area of mined-out sand which shall be situated near the mining site within a fenced area from all sides to avoid being spread in the nearby areas by high winds and the height of stacking should not exceed 2 meter. Transportation shall be confined to day time only that is from sunrise to sunset, to avoid inconvenience to local population in any manner.

XVII. Mining activity shall not be done for mine lease where mining can cause danger to site of flood protection works, places of cultural, religious, historical and archaeological importance.

XVIII. Project Proponent shall submit the annual replenishment report certified by an authorized agency.

XIX. No labour camp shall be allowed in riverbed.

XX. Provision shall be made for housing labour with all necessary infrastructure and facilities (outside mining Block and river-bed) such as fuel for cooking, toilets / mobile toilets, safe drinking water, First-Aid facilities, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

XXI. Labour & Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers shall be undertaken periodically to observe any adverse health impact due to exposure to dust and take corrective measures, if needed.

XXII. The Project Proponent shall make arrangements for safe drinking water, first aid facility along with anti-venom injection, in case of emergency for the workers.

XXIII. Sand and gravel may be extracted across the entire active channel during the dry season.

XXIV. Abandoned stream channels on the terrace and inactive floodplains be preferred rather than active channels and their deltas and flood plains. The stream should not be diverted to form the inactive channel.

XXV. Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.

XXVI. Sand and gravel shall not be allowed to be extracted where erosion may occur, such as at the concave bank.

XXVII. Sand and gravel shall not be extracted up to a distance of 1 kilo meter (1 km.) from major bridges and highways on both sides, of five times (5x) of the span (x) of a bridge / public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a minimum of 250 meters on the upstream side and 500 meters on the downstream side.

XXVIII. Sand and gravel could be extracted from the downstream of the sand bar at river bends.

XXIX. Mining depth should be restricted to 3 meters and distance from the band should be $1/4^{th}$ of river width and should not be less than 7.5 meters.

XXX. A buffer distance / unmined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed / prescribed by the regulatory authority shall be maintained.

XXXI. River bed sand mining shall be restricted within the central $3/4^{th}$ width of the river/rivulet of 7.5 meters (inward) from river banks but up to 10% of the width of the river, as the case may be and decided by regulatory authority while granting Environmental Clearance in consultation with irrigation department. Regulating authority while regulating the zone of river bed mining shall ensure that the objective to minimize the effects of riverbank erosion and consequential channel migration are achieved to the extent possible. In general, the area for removal of minerals shall not exceed 60% of the mine lease area, and any deviation of relaxation in this regard shall be adequately supported by the scientific report.

XXXII. Transportation from the river bed will be done using the existing road.

XXXIII. The Mining Plan has been prepared and approved in consonance with Enforcement & Monitoring Guidelines for Sand Mining, 2020.

XXXIV. Wet sand will not be transported.

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7. **Ramakura Stone Mine of Partners : Shri Prabin Kumar Singh & Mohammad Jamil, Village : Ramakura, Thana no. : 76, Thana : Hiranpur, Distt. : Pakur, Jharkhand (2.44 Ha).**

(Proposal No : SIA/JH/MIN/ 475721/2024)

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

This is a new project which has been taken for appraisal on 02.06.2024.

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

EC Application for: Proposed Capacity- 48460 cum/annum or 140534 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Ramakura Stone Mine	
2	Lessee:	:	Shri Prabin Kumar Singh & Mohammad Jamil	
3	Lessee Address	:	PARTNERS- 1. SHRI PRABIN KUMAR SINGH S/O SHRI PADDANAND SINGH AT-BANK COLONY, PAKUR, JHARKHAND 2. MOHAMMAD JAMIL S/O – MOHAMMAD IDRISH AT- HARINDANGA BAZAR, PAKUR	
4	Lease Area	:	2.44 Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital: 120.15 Lakhs	Recurring: 15.80 Lakhs per year
7	EMP Budget	:	Capital: 8.98 Lakhs	Recurring: 3.95 Lakhs per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 322590 cum	Tonnes: 935511 tons
10	Mine Life	:	9 years.	
11	Man power	:	35 Person	
12	Water Requirement	:	9.80 KLD (Drinking: 0.53 KLD, Dust Suppression: 4.48 KLD, Plantation: 4.79 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No crusher	

16	Nearest Water Body	:	Torai Nadi – 4.50 Km towards N direction
17	Nearest Habitation	:	Ramakura
18	Nearest Rail Station	:	Pakur railway station is 13.48 km from mine site at East direction
19	Nearest Air Port	:	Airport Deoghar is about 104.62 km in East direction
20	Nearest Forest	:	DFO Pakur Division letter no.-386Dated- 05.03.2023 certified that the distance of reserved / protected forest is more than 250 m from proposed project site..
21	Road & Highways	:	NH-133A (Pakur-Hirapur Road), at 3.65 km in NE Direction of the mine site

CO-ORDINATES

Latitude	Longitude
24°38'22.494" N	87°43'21.152" E
To	
24°38'29.766" N	87°43'15.916" E

LAND DETAILS

Khata no.	Plot no.
04	654 & 655
19	658
32 K	659 & 660
27	664, 667 (P) & 668
06	656 (P), 657 (P), 662 (P) & 663 (P)
08	661 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 350/M, dated 15.03.2024.
2	CO	:	The CO, Hiranpur vide letter no. 129/Ra., dated 07.03.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation of 20 house at a distance of 80 meters and Aanganbadi at a distance of 370 meter of proposed project site, accordingly PAs

			has submitted EMP for the same.
3	DMO	:	DMO, Pakur vide memo no. 496/M, dated 15.04.2024 certified that 01 other mining lease area (6.09 Acre) exists within 500 m radius from proposed project site and total area is 12.12 Acre (4.90 Ha).
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2646, dated 30.12.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Pakur Forest Division vide letter no. 386, dated 05.03.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Pakur has been certified vide memo no. 497/M, dated 15.04.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 81, Page no. 119).
7	Gram Sabha	:	BDO, Hiranpur vide letter no. 299/Vi. dated 09.03.2024 informed that Gram Sabha conducted on 05.03.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide Memo No. 678/M, dated 21.05.2024.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	1.49 Ha	Life of Mine – 9 year
3	Waste Generation	:	35402 Cum.	
4	Stripping Ratio	:	1:0.19	
5	Working Days	:	300	
6	Benches: size & No	:	6 m x 6 m, No. of benches -6	
7	Elevation of Mine	:	68-62 AMSL	
8	Ground Level Elevation	:	66AMSL	
9	Ultimate Working Depth	:	34 AMSL	
10	Water Table	:	24 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	48 kg Slurry explosives/day	

13	Diesel/Fuel requirement	:	HSD – 932 liters / day (279.6 KL/year)

Production Details

SUMMARY OF YEARWISE OF PRODUCTION						
Years	**Production In cum/Year**	**Production In Cum/Day**	**O.B Production in cum/Year**	**Production In Tons/Year**	**Prod. In Tons. /Day**	**Bench Height (AMSL)**
1st	42482	142	21326	123198	411	Stone :66-60 (C-C'), Stone: 65-59 (B-B'), OB: 68-66 (C-C'), OB: 67-65 (B-B')
2nd	32912	110	14076	95445	318	Stone: 64-58 (A-A'), OB: 66-64(A-A')
3rd	28148	94	0	81629	272	Stone: 60-54 (C-C'))
4th	33868	113	0	98217	327	Stone: 59-53(B-B'), Stone: 58-52 (A-A')
5th	48460	162	0	140534	468	Stone: 58-52 (A-A'), Stone: 54-48 (C-C')
Total	**185870**	**162 (Max)**	**35402**	**539023**	**468 (Max)**	**Depth – 20 m (including O.B.)**

Land Use

Existing Land Use pattern

Pattern of Utilization	Present/Existing land use pattern in (Ha)
Mining Activities	0.00
Offices/ Store /crusher/ Magazine etc.	0.00
Dumping	0.00
Mining Road	0.00
Garland drain	0.00
Settling pond	0.00

Green belt/Safety Zone	0.00
Unutilized	0.00
Total	**2.44**

Proposed Land use for Current Plan period:

Pattern of Utilization	Present/Existing land use pattern in (Ha)
Mining Activities	1.64
Offices/ Store /crusher/ Magazine etc.	0.01
Dumping	0.07
Mining Road	0.02
Garland drain	0.07
Settling pond	0.02
Green belt/Safety Zone	0.49
Unutilized	0.12
Total	**2.44**

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

Pattern of Utilization	Land used at the conceptual stage ie end of mine life in (Ha)	Area to be converted in the conceptual period.
Mining Activities	1.64	Water body
Offices/ Store /crusher/ Magazine etc.	0.01	-
Dumping	0.19	Plantation
Mining Road	0.02	Water body
Garland drain	0.07	-
Settling pond	0.02	-
Green belt/Safety Zone	0.49	Green Belt
Unutilized	0.00	
Total	**2.44**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.49 Ha	1225

2	Along Approach Road		0.28 km	372
TOTAL				**1597**

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

Solid Waste Management

There is 35,402 Cum. O.B. will be generated in mining plan period in which 7,350 & 4,212 Cum. O.B. will used in leveling of safety zone & haul road respectively. Remaining 23,840 Cum. O.B. will be used for partial reclamation of mine void at the end of life of mine

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
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- Sewage from rest shelter would be treated in Septic Tank soak pit.

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

Mitigation measures:

Use of Sharp Drill Bits

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

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

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

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

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

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

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

RISK ASSESSMENT

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

Hazard identification & Risk Analysis in Stone Mining operation

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

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

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

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

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- Dust generation during drilling
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- Entrapment in by moving part of the drilling equipment

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

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- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

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

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

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

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

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

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

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

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

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large

quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

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

Undertaking submitted affirming:

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

j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Ramakura Stone Mine of Partners : Shri Prabin Kumar Singh & Mohammad Jamil, Village : Ramakura, Thana no. : 76, Thana : Hiranpur, Distt. : Pakur, Jharkhand (2.44 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – V along with following specific conditions :

I. **The Project Authorities has assured that no mining activity will be carried out within 100 meters of the existing habitation without taking any suitable measures or approvals from any competent authority or stack holders as may be applicable.**

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

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

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

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

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

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

****

8. **Ramakura Stone Mine of Shri Chandan Kumar Tiwari & Shri Amlan Kusum Sinha, Village : Ramakura, Thana no. : 76, Thana : Hiranpur, Distt. : Pakur, Jharkhand (2.46 Ha).**

(Proposal No : SIA/JH/MIN/ 475860/2024)

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

This is a new project which has been taken for appraisal on 02.06.2024.

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

EC Application for: Proposed Capacity- 39424 cum/annum or 114330 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Ramakura Stone Mine	
2	Lessee:	:	Chandan Kr. Tiwari & Amlan Kusum Sinha	
3	Lessee Address	:	Partners- 1. Chandan Kr. Tiwary S/o – Shri Ramesh Chandra Tiwary At- Mohalla-Thanapara, Pakur, Jharkhand 2. Amlan Kusum Sinha S/o- Shri Shiv Shankar Sinha At-Bhagatpara, Near Police Station, Pakur, Jharkhand	
4	Lease Area	:	2.46 Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital: 95.75Lakhs	Recurring: 13.44 Lakhs per year
7	EMP Budget	:	Capital: 13.82 Lakhs	Recurring: 4.05 Lakhs per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 146854 cum	Tonnes: 425877 tonnes
10	Mine Life	:	5 years.	
11	Man power	:	51 Person	
12	Water Requirement	:	15.967 KLD (Drinking: 0.765 KLD, Dust Suppression: 7.36KLD, Plantation: 7.842 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No crusher	

16	Nearest Water Body	:	Torai Nadi – 4.50 Km towards South direction
17	Nearest Habitation	:	Ramakura
18	Nearest Rail Station	:	Pakur railway station is 13.76 km from mine site at East direction
19	Nearest Air Port	:	Deoghar Airport is about 104.52 km in East direction
20	Nearest Forest	:	DFO Pakur Division letter no.-387 Dated- 05.03.2024 certified that the distance of reserved / protected forest is more than 250 m from proposed project site..
21	Road & Highways	:	NH-133A (Pakur-Hirapur Road), at 4.37 km in NE Direction of the mine site

CO-ORDINATES

Latitude	Longitude
24°38'08.159" N	87°43'12.004" E
To	
24°38'19.603" N	87°43'12.989" E

LAND DETAILS

Khata no.	Plot no.
24	764
04	740 & 739
32	738
19	759 (P), 754 (P) & 742 (P)
32/Ka	744 (P), 760 (P), 753 (P), 756 (P), 757 (P), 761 & 762
09	741 (P)
34	731
17	763

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 366/M, dated 16.03.2024.
2	CO	:	The CO, Hiranpur vide letter no. 130/Ra., dated 07.03.2024 has

			mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation of 12 house at a distance of 140 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO	:	DMO, Pakur vide memo no. 498/M, dated 15.04.2024 certified that 01 other mining lease area (6.03 Acre) exists within 500 m radius from proposed project site and total area is 12.12 Acre (4.90 Ha).
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2647, dated 30.12.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Pakur Forest Division vide letter no. 387, dated 05.03.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Pakur has been certified vide memo no. 499/M, dated 15.04.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 81, Page no. 119).
7	Gram Sabha	:	BDO, Hiranpur vide letter no. 300/Vi. dated 09.03.2024 informed that Gram Sabha conducted on 05.03.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide Memo No. 676/M, dated 20.05.2024.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	1.49 Ha	Life of Mine – 5 year
3	Waste Generation	:	23396 cum (O.B)	
4	Stripping Ratio	:	1:0.12	
5	Working Days	:	300	
6	Benches: size & No	:	3 m x 3 m, No. of benches -8	
7	Elevation of Mine	:	72 - 67 AMSL	
8	Ground Level Elevation	:	67 AMSL	
9	Ultimate Working Depth	:	46 AMSL	

10	Water Table	:	24 AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	43.5 kg Slurry explosives/day
13	Diesel/Fuel requirement	:	HSD – 860 liters / day (258KL/year)

Production Details

Years	Production In cum/Year	Production In Cum/Day	O.B Production in cum/Year	Production In Tons/Year	Prod. In Tons. /Day
1st	29711	99	23396	86162	287
2nd	29894	100	0	86693	289
3rd	21682	72	0	62878	210
4th	25720	86	0	74588	249
5th	39424	131	0	114330	381
Total	**146431**	**131 (Max)**	**23396**	**424650**	**381 (Max)**

Land Use

Existing Land Use pattern

Pattern of Utilization	Present/Existing land use pattern in (acres)	Present/Existing land use pattern in (Ha)
Mining Activities	0.18	0.07
Offices/ Store /crusher/ Magazine etc.	0.00	0.00
Dumping	0.00	0.00
Mining Road	0.00	0.00
Garland drain	0.00	0.00
Settling pond	0.00	0.00
Green belt/Safety Zone	0.00	0.00
Unutilized	5.91	2.39
Total	**6.09**	**2.46**

Land Use Pattern for Proposed Plan Period of five Years:

Pattern of Utilization	Land use for proposed plan period (in acres)	Land use for proposed plan period (in Ha)
Mining Activities	3.68	1.49

Offices/ Store /crusher/ Magazine etc.	0.02	0.01
Dumping	0.09	0.04
Mining Road	0.08	0.03
Garland drain	0.19	0.07
Settling pond	0.05	0.02
Green belt/Safety Zone	1.98	0.80
Total	**6.09**	**2.46**

Land Use at the Conceptual stage i.e. end of mine :

Pattern of Utilization	Land used at the conceptual stage ie end of mine life in (acres)	Land used at the conceptual stage ie end of mine life in (Ha)	Area to be converted in the conceptual period.
Mining Activities	3.68	1.49	Water body
Offices/ Store /crusher/ Magazine etc.	0.02	0.01	Plantation
Dumping	0.09	0.04	-
Mining Road	0.08	0.03	Water body
Garland drain	0.19	0.07	-
Settling pond	0.05	0.02	-
Green belt/Safety Zone	1.98	0.80	Green Belt
Total	**6.09**	**2.46**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Safety Zone	0.80 Ha	2000
2	Along Approach Road	0.46 km	614
TOTAL			**2614**

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

Solid Waste Management

There is 23,396 Cum. O.B. will be generated in mining plan period in which 12,000 & 4,536 Cum. O.B. will used in leveling of safety zone & haul road respectively. Remaining 6,860 Cum. O.B. will be used for backfilling of mine void at the end of life of mine.

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

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

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

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

- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

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

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

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

Transportation

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

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
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k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Ramakura Stone Mine of Shri Chandan Kumar Tiwari & Shri Amlan Kusum Sinha, Village : Ramakura, Thana no. : 76, Thana : Hiranpur, Distt. : Pakur, Jharkhand (2.46 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – V along with following specific conditions :

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

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

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

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

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

****

9. **Kheribari Stone Mine of M/s N.S. Stone Works (Partners : (i) Mohammad Noorujjaman Shekh (ii) Shri Pradip Kumar Gupta (iii) Shri Santosh Kumar Sah), Village : Kheribari, Thana no. : 23, Thana : Maheshpur, Distt. : Pakur, Jharkhand (2.80 Ha).**

(Proposal No : SIA/JH/MIN/ 473573/2024)

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

This is a new project which has been taken for appraisal on 02.06.2024.

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

EC Application for: Proposed Capacity- 61840cum/annum or 179336 TPA

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Kheribari Stone Mine

2	Lessee:	:	M/s N. S. STONE WORKS 1. MOHAMMAD NOORUJJAMAN SHEKH S/O LATE MANJUR SHEKH 2. SHRI PRADIP KUMAR GUPTA S/O- LATE BHUNESHWAR PRASAD GUPTA 3. SHRI SANTOSH KUMAR SAH S/O- SHRI SURESH SAH	
3	Lessee Address	:	M/s N. S. STONE WORKS PARTNERS- 1. MOHAMMAD NOORUJJAMAN SHEKH S/O LATE MANJUR SHEKH VILLAGE- RAHASPUR, POST + PANCHAYAT – RAHASPUR, DISTRICT - PAKUR, STATE – JHARKHAND (816107) 2. SHRI PRADIP KUMAR GUPTA S/O- LATE BHUNESHWAR PRASAD GUPTA AT – RAJ HIGH SCHOOL ROAD, PAKUR 3. SHRI SANTOSH KUMAR SAH S/O- SHRI SURESH SAH, VILLAGE – DOADRI, POST+ THANA – RAMLA, DIKVANI, DISTRICT – GODDA, STATE – JHARKHAND	
4	Lease Area	:	2.80 Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital: 91.35 Lakhs	Recurring: 15.40 Lakhs per year
7	EMP Budget	:	Capital: 12.50 Lakhs	Recurring: 5.554Lakhs per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 539288 cum	Tonnes: 1563935tons
10	Mine Life	:	11 years.	
11	Man power	:	41Person	
12	Water Requirement	:	22.07 KLD (Drinking: 0.62 KLD, Dust Suppression: 14.4 KLD, Plantation: 7.05 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	BansloiNadi – 6 Km towards Southdirection	
17	Nearest Habitation	:	Nil	

18	Nearest Rail Station	:	Pakur Railway Station, at 18 km in NE direction
19	Nearest Air Port	:	DeogharAirport, Deoghar is 103 km in North-West direction.
20	Nearest Forest	:	DFO Pakur, letter no.- 163 Dated- 30/01/2024certified that the distance of reserved / protected forest is more than 250 m from proposed project site.
21	Road & Highways	:	SH-18 (Latipara-Dumka road) is at a distance of 14 Km in West direction.

CO-ORDINATES

1	Latitude		From N 24°32'48.608"	To N 24°32'54.663"
2	Longitude		From E87°42'24.148"	To E 87°42'21.435"

LAND DETAILS

J.B. no.	Plot no.
35	718 (P), 720 (P), 721, 722 (P) & 723 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Pakur vide memo no. 359/M, dated 15.03.2024.
2	CO	:	The CO, Maheshpur vide letter no. 51/Ra., dated 11.01.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation of 16-18 house at a distance of 275 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO	:	DMO, Pakur vide memo no. 521/M, dated 18.04.2024 certified that no other mining lease area exists within 500 m radius from proposed project site and total area is 6.919 Acre (2.80 Ha).
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 814, dated 27.04.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Pakur Forest Division vide letter no. 163, dated 30.01.2024 certified that the distance of reserved / protected

			forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Pakur has been certified vide memo no. 522/M, dated 18.04.2024 that this project is mentioned in approved DSR of Pakur District as a potential area (Sl. no. 170, Page no. 131).
7	Gram Sabha	:	BDO, Maheshpur (Pakur) vide letter no. 94/Vi. dated 17.01.2024 informed that Gram Sabha conducted on 16.01.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Pakur vide Memo No. 593/M, dated 09.05.2024.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	2.80 Ha	Life of Mine – 11 year
3	Waste Generation	:	39736cum (O.B.)	
4	Stripping Ratio	:	1:0.16	
5	Working Days	:	300	
6	Benches: size & No	:	6 m x 6 m, No. of benches -7	
7	Elevation of Mine	:	96 - 91 AMSL	
8	Ground Level Elevation	:	91 AMSL	
9	Ultimate Working Depth	:	52 AMSL	
10	Water Table	:	37 AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	56 kg Slurry explosives/day	
13	Diesel/Fuel requirement	:	HSD – 1060liters / day (318 KL/year)	

Production Details

SUMMARY OF YEARWISE OF PRODUCTION						
Years	**Production In Cum/Year**	**Production In Cum/Day**	**O.B Production in Cum/Year**	**Production In Tons/Year**	**Prod. In Tons. /Day**	**Bench RL in metre (AMSL)**

1st	48480	162	23280	140592	469	OB: B-B' (96-94), Stone: B-B' (94-88)
2nd	42636	142	16456	123644	412	OB: A-A' (95-93), Stone: A-A' (93-87)
3rd	61840	206	0	179336	598	Stone: B-B' (88-82)
4th	42704	142	0	123842	413	Stone: A-A' (87-83)
5th	55920	186	0	162168	541	Stone: B-B' (82-76)
Total	**251580**	**206 Max.**	**39736**	**729582**	**598 Max.**	**Depth - 20 m with OB**

Land Use

Existing Land Use pattern

SL	Pattern	Existing Land Use (Ha)
1	Mining Area	0.00
2	Office	0.00
3	Dumping	0.00
4	Road	0.00
5	Garland drain	0.00
6	Settling Pond	0.00
7	Green belt/ Safety Zone	0.00
8	Utilized	0.00
9	Unutilized	2.80
	TOTAL	**2.80**

Land Use Pattern for Proposed Plan Period:

SL	Pattern	Proposed plan period Land Use (Ha)
1	Mining Area	2.21
2	Office	0.03
3	Dumping	0.05
4	Road	0.02
5	Garland drain	0.02
6	Settling Pond	0.01
7	Green belt/ Safety Zone	0.46
	TOTAL	**2.80**

Land Use Pattern at Conceptual Stage i.e. end of mine:

SL	Pattern	Land Use (Ha)	Area to be converted in the conceptual period.
1	Mining Area	2.21	Water body
2	Office	0.03	Green Belt
3	Dumping	0.05	Green Belt
4	Road	0.02	Water body
5	Garland drain	0.02	-
6	Settling Pond	0.01	-
7	Green belt/ Safety Zone	0.46	Greenbelt
	TOTAL	**2.80**	

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.46 Ha	1150
2	Along Approach Road		0.90km	1200
TOTAL				**2350**

- 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

In the mining plan period, a total of 11,050 cum. of topsoil will be generated. Out of this, 6,900 cum. will be utilized for leveling the safety zone, while the remaining 4,150 cum. will be allocated for plantation along the approach road. Out of the total overburden (O.B.) of 28,686 cum., 3,366 cum. will be used for leveling the haul road, with the remaining 25,320 cum. designated for partial backfilling of the mine void at the end of its life.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.

- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

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

Mitigation measures:

Use of Sharp Drill Bits

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

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

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

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

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

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

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

RISK ASSESSMENT

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

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6

6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

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

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

Preventive Measures:

Slope Failure

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

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

Drilling Operations

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

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

Falls from the edge of a bench

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

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

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

Control Measures

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

Dust generation during drilling

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

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

Noise Generation during drilling

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

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

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

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

Blasting Operations

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

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

- Blast hole geometry shall be properly designed.

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

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

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

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Kheribari Stone Mine of M/s N.S. Stone Works (Partners : (i) Mohammad Noorujjaman Shekh (ii) Shri Pradip Kumar Gupta (iii) Shri Santosh Kumar Sah), Village : Kheribari, Thana no. : 23, Thana : Maheshpur, Distt. : Pakur, Jharkhand (2.80 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – V along with following specific conditions :

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II. **Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.**
III. **Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.**

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

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

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

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10. **Moremo Stone Mine of M/s Phulo Jhano Stone Mines, Village : Moremo, Thana no. : 09, Thana : Rajabhitha, Distt. : Godda, Jharkhand (1.98 Ha).**

(Proposal No : SIA/JH/MIN/ 475465/2024)

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

This is a new project which has been taken for appraisal on 02.06.2024.

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

EC Application for: Proposed Capacity- 77060 cum/annum or 208062 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Moremo Stone Mine	
2	Lessee:	:	M/s Phulo Jhano Stone Mines 1) Shri Ranjeet Kisku, S/O Late VishunKisku 2) MeryNishaHansda, W/O- SubhashHembram 3) Pravin Kumar Murmu, S/O- ShokhaMurmu 4) Sufal Hembram, S/O- Late DevnathHembram	
3	Lessee Address	:	Village- Chota Simi, P.O.: Kusumghati, Thana: Rajabhitha, District-Godda, (Jharkhand)	
4	Lease Area	:	1.98 Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital: 115.25 Lakhs	Recurring: 18.90 Lakhs per year
7	EMP Budget	:	Capital: 7.31Lakhs	Recurring: 4.054Lakhs per year

8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 4,58,236 cum	Tonnes: 12,37,237tons
10	Mine Life	:	8 years.	
11	Man power	:	38Person	
12	Water Requirement	:	7.78 KLD (Drinking: 0.57 KLD, Dust Suppression: 3.36 KLD, Plantation: 3.85 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Sundar Dam – 7.38 Km towards South West direction	
17	Nearest Habitation	:	Bara Simmi Village at 1.469KM	
18	Nearest Rail Station	:	Godda Railway Station, at 33.39 km in NE direction	
19	Nearest Air Port	:	DeogharAirport,Deoghar is 98.31 km in North-East direction.	
20	Nearest Forest	:	DFO Pakur, letter no.- 846 Dated- 15/06/2023 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.	
21	Road & Highways	:	NH-133 (Deoghar-Pirpanti road) is at a distance of 14.7 Km in West direction.	

CO-ORDINATES

1	Latitude	:	From N 24°58'38.254"	To N 24°58'33.051"
2	Longitude	:	From E87°28'22.731"	To E 87°28'18.272"

LAND DETAILS

J.B. no.	Plot no.
02	3 (P) & 4 (P)

STATUTORY CLEARANCES

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

			Godda vide memo no. 211/M, dated 16.02.2024.
2	CO	:	The CO, Boarijore vide letter no. 901/Ra., dated 10.12.2022 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Godda vide memo no. 214/M, dated 17.02.2024 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 913, dated 17.05.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Godda Forest Division vide letter no. 846, dated 15.06.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved District Survey Report (DSR) of Godda District (Page no. 57, Sl. no. 7).
7	Gram Sabha	:	Gram Sabha conducted on 16.08.2022.
8	Mine Plan Approval	:	Approved by District Mining Officer, Godda vide Memo No. 232/M, dated 21.02.2024.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	1.98 Ha	Life of Mine – 8year
3	Waste Generation	:	27210cum (O.B.)	
4	Stripping Ratio	:	1:0.097	
5	Working Days	:	300	
6	Benches: size & No	:	6 m x 6 m, No. of benches -6	
7	Elevation of Mine	:	244 - 217 AMSL	
8	Ground Level Elevation	:	217 AMSL	
9	Ultimate Working Depth	:	182 AMSL	
10	Water Table	:	167 AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	

12	Explosive Requirement	:	72 kg Slurry explosives/day
13	Diesel/Fuel requirement	:	HSD – 1196liters / day (358.8 KL/year)

Production Details

SUMMARY OF YEARWISE OF PRODUCTION						
Years	Production In Cum/Year	Production In Cum/Day	Removal ofMorram Cum.	Production In Tons/Year	Prod. In Tons. /Day	Bench RL in metre (AMSL)
1st	43566	145	14186	117628	392	A-A': 244 – 230 (O.B.) B-B': 243-229 (O.B.) A-A': 242-236 (Stone), B-B': 241-235(Stone), A-A': 236-230(Stone), B-B:' 235-229(Stone)
2nd	45874	153	5810	123860	413	A-A': 230-224 (O.B.), B-B': 229-223 (O.B.) A-A': 230-224 (Stone), B-B' : 229-223(Stone),
3rd	45334	151	7214	122402	408	A-A': 224-220 (O.B.), B-B': 223-218 (O.B.) A-A': 224-220 (Stone), B-B' :223-218 (Stone)
4th	77060	257	0	208062	694	A-A': 220-214(Stone), B-B' :218-212 (Stone)
5th	66812	223	0	180392	601	A-A' 214-208 (Stone), B-B' 212-206(Stone)

Total	278646	186	27210	752344	502	Depth : 38 m (including O.B.)

Land Use

Existing Land Use pattern

SL	Pattern	Existing Land Use (Ha.)
1	Mining Area	0.00
2	Office	0.00
3	Dumping	0.00
4	Road	0.00
5	Garland drain	0.00
6	Settling Pond	0.00
7	Green belt/ Safety Zone	0.00
8	Utilized	0.00
9	Unutilized	1.98
	TOTAL	**1.98**

Land Use Pattern for Proposed Plan Period:

SL	Pattern	Land Use (Acres)
1	Mining Area	1.425
2	Office	0.004
3	Dumping	0.105
4	Road	0.016
5	Garland drain	0.024
6	Settling Pond	0.008
7	Green belt/ Safety Zone	0.400
	TOTAL	1.980

Land Use Pattern after Life of the Mine:

SL	Pattern	Existing Land Use (Acres)	Area to be converted in the conceptual period.
1	Mining Area	1.425	Water body
2	Office	0.004	Plantation
3	Dumping	0.105	Plantation

4	Road	0.016	Plantation
5	Garland drain	0.024	-
6	Settling Pond	0.008	-
7	Green belt/ Safety Zone	0.400	Greenbelt
	TOTAL	1.980	

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.401 Ha	1002
2	Along Approach Road		0.21km	280
TOTAL				**1282**

- 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

In the mining plan period, a total of 9,975 cum. of topsoil will be generated. Out of this, 6,010 cum. will be utilized for leveling the safety zone, while the remaining 3,965 cum. will be allocated for plantation along the approach road. Out of the total overburden (O.B.) of 17,235 cum., 2,700 cum. will be used for leveling the haul road, with the remaining 14,535 cum. designated for partial backfilling of the mine void at the end of its life.

Water Quality Management

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

Air Quality Management

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

Mitigation measures:

Use of Sharp Drill Bits

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

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

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

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

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

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

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

RISK ASSESSMENT

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

Hazard identification & Risk Analysis in Stone Mining operation

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

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

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

Preventive Measures:

Slope Failure

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

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

Drilling Operations

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

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

Falls from the edge of a bench

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

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

Control Measures

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

Dust generation during drilling

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

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

Noise Generation during drilling

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

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

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

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

Blasting Operations

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

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

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

- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

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

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

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

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

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

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

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

- Untrained drivers
- Overturning vehicles

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

Transportation

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

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

Undertaking submitted affirming:

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

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

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Moremo Stone Mine of M/s Phulo Jhano Stone Mines, Village : Moremo, Thana no. : 09, Thana : Rajabhitha, Distt. : Godda, Jharkhand (1.98 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – V along with following specific conditions :

I. **Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.**
II. **Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.**
III. **Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.**
IV. **Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.**
V. **Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.**
VI. **Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.**

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11. Piparwar UG (Phase I) (0.87 MTPA) Piparwar area of M/s Central Coalfields Ltd., Village : Benti, Mangardaha, Kichto, Thena & Bijain, Tehsil : Tandwa, Distt. : Chatra, Jharkhand (464.69 Ha)

(Proposal No : SIA/JH/CMIN/ 466609/2024)

Name of the consultant: CMPDI, Kanke Road, Ranchi

This is a greenfield underground coal mine project which has been taken for appraisal on 02.06.2024.

Application for: Extension of validity of ToR for underground Coal Mining: 0.87 MTPA in an area of 464.69 Ha

Project Category : B1 – The proposal was considered by the committee to extend the validity of "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 **1(a) Mining of Minerals (Coal)** as per EIA Notification, 2006.

Piparwar UG (Phase-I) is a greenfield underground coal mining project which has been planned to work within and beneath the leasehold of Piparwar OCP. Project is located in NK Coalfields under administration of Piparwar area of Central Coalfields Limited. This project falls within revenue villages Benti, Mangardaha, Kichto, Thena & Bijain of Tandwa CD Block, Chatra Dist. of Jharkhand.

An application in Form-I was submitted to MoEF&CC as per EIA Notification, 2006 on 12.03.2020 for obtaining ToR. EAC had appraised the project on 17th April 2020 and MoEF&CC recommended terms of reference (ToR) for Piparwar UG (Phase-I) 0.87 MTPA & 464.69 HA. on 08.06.2020 vide letter no: IA-J-11015/10/2020-IA-II (M).

The ToR of Piparwar UG (Phase-I) was issued vide no: IA-J-11015/10/2010-IA-II(M) Dated: 08.06.2020. As per the ToR letter, validity of ToR was for 3 years. Further, the ToR validity of proposal was extended upto 31.03.24 in line with MoEF&CC S.O. 221 (E) Dated: 18.01.2021. MoEF&CC S.O. 751(E) dated 17.02.2020 states that the validity of ToR for new project will be valid upto 4 years.

Accordingly, the instant application is for amendment in above condition so that validity of ToR can be extended for a period of 1 year i.e., upto March 31, 2025.

PROJECT AND LOCATION DETAILS:

Sl	Parameter		Details	
1	Project Name	:	Piparwar UG (Phase-I)	
2	Project Proponent	:	Shri Sanjay Kumar, Project Officer, Piparwar UG (Phase-I),	
3	Address	:	Piparwar Area, Central Coalfields Limited, PO-Bachra, Dist-Chatra, Jharkhand, Pin-829201 Phone Number – 8987784403	
4	Area	:	Ha: 464.69 ha	Acres: 1,148.25 Acres
5	Type of Land	:	Forest Land: 165.95 Ha & Non-Forest Land: 298.74 Ha	

6	Project Cost	:	39031 Lakh	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Coal: 8.83 Million Tonnes	OB: NA as it is an UG project
11	Mine Life	:	14 years	
12	Man power	:	119	
13	Water Requirement	:	480 KL/Day	
14	Water Source	:	Mine seepage & rain water stored in mine sump	
15	DG Set / power	:	The power shall be supplied to the proposed main mine substation from existing 33 kV overhead transmission line supplying power to opencast project	
16	Crusher	:	No	
17	Nearest Water Body	:	Damodar River (0.1 KM)	
18	Nearest Habitation	:	Khalari (7 KM)	
19	Nearest Rail Station	:	Ray (5 KM)	
20	Nearest Air Port	:	Ranchi (70 KM)	
21	Nearest Forest	:	Within Project boundary	
22	Road & Highways	:	State Highway No 7	

CO-ORDINATES:

1	Latitude	:	From 23°42'39.81'' N	To 23°44' 09.21'' N
2	Longitude	:	From 85°01'09.02'' E	To 85°03'15.47'' E.

Total forest land falling within the project boundary of Piparwar UG (Phase I) is 165.95 Ha, involving total of 5 proposals. Different forest proposals in Piparwar UG (Phase I) are mentioned below:

SN	Forest Proposal	Area as per FC Obtained (Ha)	Area involved in Piparwar UGP (Ha)	MoEF&CC file no with date of Stage-II FC	Present Status
1	Piparwar Coal Project of CCL	13.11	2.82	8-172/89-FC dated 02.12.1992	• Application for change in land use has been submitted on 19.07.2023 vide application no FP/JH/REDIV/437226/2023 • Currently proposal is pending at State Secretary for Recommendation.
2	Piparwar	43.30	27.47	8-172/89-FC	• Renewal application submitted

SN	Forest Proposal	Area as per FC Obtained (Ha)	Area involved in Piparwar UGP (Ha)	MoEF&CC file no with date of Stage-II FC	Present Status
	Opencast Project of CCL			dated 03.01.1995	on 22.07.2019 vide application number FP/JH/MIN/ 41321/2019 • DFO Chatra South to forward the proposal.
3	Piparwar Project of CCL	28.22	12.38	8-48/98-FC dated 21.09.2001	• Application for change in land use has been submitted on 20.07.2023 vide application number FP/JH/REDIV/437130/2023 • Proposal recommendation from Nodal officer to State secretary (forest), GOJ.
4	Piparwar Opencast Mining	101.87	85.47	8-54/2003-FC dated 13.01.2004	• Application for change in land use has been submitted on 18.07.2023 vide application number FP/JH/REDIV/437021/2023 • Proposal recommendation from Nodal officer to State secretary (forest), GOJ.
Total Area (Notified Forest)		**186.50**	**128.14**		
5	Piparwar Underground (Phase I) - Stage-I FC of **GM JJ** land	-	37.81		• Stage-I FC Application submitted vide FP/JH/MIN/44975/2020 Dt. 09.03.2020. • **Present Status:** EDS raised by DFO Chatra (South) dated 12.03.2024- "The proposal is being sent to UA for rectification regarding application of CA rules as per Van Sanrakshan evam Samvardhan Rules 2023."
Grand Total			**165.95**		

Working Details:

1	Mining Method	:	Bord & Pillar with Caving. Development & depillaring will be done with Continuous Miner (CM)

2	UG Mining Area	:	403.56 Ha
3	No of Seams considered	:	Lower Bachra (Bottom Section)
4	Average Grade	:	G-5
5	Life	:	14 Years
6	Coal Evacuation	:	Through Belt Conveyor
7	Man & Material Supply System	:	Free Steered Vehicles & multi utility Vehicles
8	Roof Support	:	With Resin Bolts, Mobile Breaker Line support
9	Coal Linkage	:	It is proposed to use tipping trucks to transport coal from Piparwar UGP to Piparwar siding, which is 900 meters away from the proposed project
10	Depth	:	104m to 194m below surface

Proposed Calendar Program:

Year	Coal Production in MTY
1	Construction Period
2	Construction Period
3	0.36
4	0.75
5	0.87
6	0.87
7	0.87
8	0.87
9	0.87
10	0.87
11	0.87
12	0.75
13	0.51
14	0.37
Total	**8.83**

Land Details :

VILLAGE - BENTI											
S.N	Khata No.	Plot No.	Area (Ha)	S.N	Khata No.	Plot No.	Area (Ha)	S.N	Khata No.	Plot No.	Area (Ha)
1	98	2P	2.85	37	60	598	0.43	73	78	636	0.46
2	98	3	0.03	38	60	599	0.53	74	72	637	0.64
3	82	4	0.68	39	81	600	0.06	75	62	638	0.66
4	90	5	0.54	40	81	601	0.36	76	75	639	0.34
5	98	6	0.09	41	98	602	0.05	77	98	640	1.94
6	18	7	0.68	42	60	603	0.02	78	75	641	0.56
7	98	8	0.19	43	60	604	1.3	79	75	642	0.28
8	98	9	15.95	44	60	605	0.37	80	61	643	0.42
9	82	10	0.83	45	98	606	0.51	81	98	644	12.85
10	90	11	0.63	46	41	607P	0.07	82	61	645	0.28
11	83	12	0.48	47	32	610P	0.99	83	17	646	0.47
12	98	13	0.06	48	69	611	0.47	84	98	647	13.65
13	16	14	1.54	49	69	612	0.17	85	42	648	0.28
14	28	15	0.7	50	13	613	0.57	86	61	649	0.77
15	98	16P	12.74	51	69	614	0.05	87	61	650	0.57
16	16	40	1.37	52	69	615	0.3	88	90	651	0.72
17	12	41	0.42	53	63	616	0.54	89	98	652	0.11
18	12	42P	0.1	54	63	617	0.02	90	61	653	0.43
19	41	51P	0.16	55	98	618	0.49	91	42	654	0.98
20	98	52P	19.62	56	41	619	0.25	92	98	655	0.21
21	57	580P	0.04	57	98	620	0.15	93	61	656	0.76
22	98	581	0.02	58	63	621	0.14	94	98	657	0.04
23	57	582	0.13	59	23	622	0.38	95	42	658	0.56

24	98	583	0.25	60	60	623	0.2	96	72	659	0.49
25	14	586P	0.31	61	98	624	1.58	97	98	660	3.28
26	49	587	0.13	62	61	625	0.27	98	98	661	4.86
27	98	588	0.02	63	42	626	0.17	99	75	662	1.03
28	17	589	0.81	64	42	627	0.18	100	75	663	0.08
29	63	590	0.09	65	90	628	0.44	101	79	664	0.16
30	98	591	0.02	66	98	629	0.02	102	90	665	0.26
31	98	592	0.01	67	41	630	0.78	103	17	666	0.47
32	98	593	0.03	68	90	631	0.53	104	90	667	0.39
33	54	594	0.03	69	14	632	0.15	105	98	668	0.03
34	17	595	0.56	70	14	633	0.16	106	61	669	0.25
35	23	596	0.39	71	25	634	0.41	107	61	670	0.01
36	16	597	0.54	72	17	635	0.18	108	61	671	0.01
109	90	672	0.1	149	75	712	1.44	189	42	753	0.42
110	55	673	0.14	150	98	713	0.01	190	43	754	0.9
111	61	674	0.36	151	75	714	0.01	191	78	755	0.19
112	98	675	0.02	152	42	715	0.63	192	75	756	0.67
113	42	676	0.17	153	42	716	0.36	193	42	757	0.55
114	42	677	0.48	154	42	717	0.01	194	84	758	0.29
115	90	678	0.13	155	75	718	1.29	195	72	759	0.34
116	61	679	0.2	156	75	719	0.04	196	78	760	0.28
117	55	680	0.02	157	89	720	0.02	197	98	761	1.3
118	78	681	0.78	158	55	721	0.01	198	25	762	0.76
119	98	682	0.03	159	55	722	0.38	199	80	763	0.32
120	90	683	0.61	160	99	723	0.08	200	78	764	0.12
121	90	684	0.01	161	89	724	0.37	201	51	765	0.12

122	61	685	0.02	162	21	725	0.75	202	98	766	1.56
123	99	686	0.03	163	21	726	0.23	203	79	768	0.81
124	61	687	0.39	164	17	727	0.02	204	21	769	0.75
125	98	688	0.02	165	17	728	0.18	205	42	770	0.77
126	17	689	0.16	166	17	729	0.66	206	25	771	0.47
127	17	690	0.02	167	98	730	0.08	207	51	772	0.37
128	17	691	0.08	168	78	731	1.25	208	50	773	0.75
129	98	692	0.23	169	80	732	0.36	209	43	774	0.55
130	99	693	0.19	170	55	733	0.21	210	25	775	0.56
131	99	694	0.39	171	98	734	0	211	98	776	0.13
132	89	695	0.11	172	98	735	0.08	212	43	777	0.63
133	49	696	0.51	173	89	736	0.54	213	98	778	0
134	54	697	0.5	174	75	737	0.24	214	98	779	0.1
135	92	698	0.47	175	98	738	2.53	215	98	780	0.02
136	98	699	0.06	176	75	739	0.37	216	98	781	0.02
137	69	700	0.3	177	98	740	2.55	217	25	782	0.84
138	98	701	0.59	178	21	741	0.5	218	98	783	0.05
139	75	702	1.02	179	89	742	0.11	219	98	784	0.01
140	98	703	1.36	180	75	743	0.08	220	43	785	0.74
141	89	704	0.07	181	99	744	0.08	221	98	786	0.02
142	75	705	0.27	182	21	745	0.66	222	69	787	0.21
143	84	706	0.06	183	99	746	0.17	223	98	788	0.25
144	98	707	0.76	184	78	747	0.27	224	80	789	0.43
145	72	708	0.1	185	89	748	0.16	225	98	790	2.68
146	89	709	0.12	186	75	749	0.12	226	80	791	0.91
147	98	710	0.01	187	75	750	0.4	227	2	792	0.61

148	60	711	0.42	188	78	752	0.34	228	2	794P	0.22
229	2	795P	0.09	269	21	836	0.21				
230	2	796	0.32	270	98	837	0.02				
231	2	797	0.22	271	75	838	0.06				
232	2	798	0.5	272	75	839	0.15				
233	98	799	0.01	273	42	840	0.04				
234	98	800	0.04	274	99	841	0.13				
235	72	801	0.17	275	84	842	0.12				
236	79	802	0.42	276	78	843	0.16				
237	94	803	0.15	277	80	844	0.66				
238	81	804	0.09	278	75	845	0.19				
239	21	805	0.17	279	50	846	0.25				
240	2	806	0.59	280	50	847	0.2				
241	51	807	0.04	281	50	848	0.17				
242	98	808	0.09	282	50	849	0.17				
243	72	809	0.17	283	98	850	0				
244	98	810	0.04	284	75	851	0.16				
245	72	811	1.14	285	98	852	0.02				
246	98	812	0.02	286	98	853	0.11				
247	98	813	0.09	287	98	854	0.01				
248	98	814	0.16	288	75	855	0.1				
249	84	815	0.28	289	75	856	0.02				
250	78	816	0.18	290	50	857	0.18				
251	99	817	0.04	291	75	858	0.56				
252	42	818	0.42	292	78	859	0.21				
253	98	819	0.11	293	25	860P	0.23				

254	98	820	0.31	294	75	865	0.47				
255	75	821	0.04	295	78	867	0.3				
256	79	822	0.1	296	60	868	0.83				
257	98	823	0	297	60	869	0.04				
258	75	824	0.08	298	89	870P	0.06				
259	43	825	0.01	299	89	871	0.1				
260	98	827	0.01	300	23	872	0.3				
261	98	828	0.01	301	23	876P	0.09				
262	98	829	0.01	302	99	877	0.83				
263	98	830	0.01	303	98	887P	10.98				
264	79	831	0.17	**Total Area in Benti**		**200**					
265	79	832	0.06								
266	79	833	0.06								
267	79	834	0.04								
268	79	835	0.17								

VILLAGE- MANGARDAHA

S.N	Khata no.	Plot No.	Area (Ha)	S.N	Khata no.	Plot No.	Area (Ha)	S.N	Khata no.	Plot No.	Area (Ha)
1	22	4	6.68	38	7	105	0.06	75	11	144	0.67
2	18	5	0.2	39	7	106	0.22	76	3	145	0.22
3	19	7	0.68	40	1	107	0.9	77	15	146	0.19
4	9	8	1.04	41	22	108	0.06	78	22	147	5.16
5	18	9	0.34	42	9	110	0.39	79	8	148	0.04
6	9	10	0.59	43	1	111	1.03	80	22	149	0.48
7	22	12	2	44	22	112	0.26	81	18	150	0.08
8	22	13	20.51	45	1	113	0.21	82	8	151	0.01

9	22	14	20.79	46	13	114	0.53	83	13	152	0.46
10	4	56	0.81	47	6	115	0.64	84	9	153	0.3
11	22	57	8.4	48	7	116	0.08	85	13	154	0.09
12	11	58	0.23	49	22	117	0.3	86	13	155	0.23
13	22	59	0.02	50	9	118	0.38	87	13	156	0.01
14	22	60	0.14	51	11	119	0.54	88	23	157	0.04
15	7	61	1.37	52	22	120	0.05	89	22	158	0.67
16	19	62	0.3	53	21	121	0.02	90	22	159	0.04
17	12	63	0.1	54	19	122	0.16	91	21	160	0.15
18	22	64	0.3	55	22	123	0.06	92	1	161	0.16
19	11	65	0.06	56	4	124	0.06	93	11	162	0.15
20	22	66	0.3	57	4	125	0.01	94	11	163	0.01
21	3	67	0.23	58	11	126	0.01	95	9	164	0.02
22	22	68	1.12	59	14	127	0.1	96	9	165	0.38
23	22	76	0.44	60	4	128	0.31	97	19	166	0.02
24	7	77	0.09	61	6	129	0.06	98	14	167	0.07
25	7	78	0.09	62	22	130	0.06	99	19	168	0.19
26	9	79	0.1	63	4	131	0.08	100	4	169	0.16
27	11	80	0.22	64	5	132	0.2	101	9	170	0.23
28	5	81	0.04	65	5	133	0.03	102	8	171	0.2
29	3	94	0.03	66	1	134	0.48	103	15	172	0.1
30	3	95	0.06	67	1	135	0.13	104	19	173	0.42
31	3	96	0.07	68	22	136	0.37	105	23	174	0.8
32	9	97	0.76	69	14	138	0.06	106	4	175	0.14
33	7	99	0.15	70	9	139	0.65	107	22	176	5.16
34	9	100	0.09	71	8	140	0.02	108	23	177	0.06

35	3	101	0.02	72	8	141	0.24	109	5	178	2.46
36	3	102	0.34	73	22	142	0.53	110	5	179	0.03
37	9	103	0.26	74	1	143	1.24	111	4	180	0.04
112	11	181	0.02	152	18	222	0.01	192	6	262	0.62
113	7	182	0.02	153	16	223	0.11	193	22	263	0.7
114	23	183	0.08	154	16	224	0.01	194	10	264	0.08
115	22	184	0.02	155	8	225	0.17	195	15	265	0.01
116	12	185	0.01	156	8	226	0.03	196	8	266	0.08
117	12	186	0.46	157	10	227	0.02	197	22	267	0.02
118	5	187	0.13	158	10	228	0.17	198	8	268	0.07
119	7	188	0.23	159	6	229	0.01	199	1	269	0.44
120	7	189	0.02	160	6	230	0.69	200	22	270	0.13
121	14	190	0.02	161	6	231	0.02	201	22	271	0.85
122	14	191	0.01	162	23	232	0.04	202	8	272	0.39
123	4	192	0.07	163	3	233	0.15	203	22	273	0.44
124	4	193	0	164	22	234	0.01	204	10	274	0.85
125	23	194	0	165	20	235	0.15	205	22	275P	12.8
126	12	195	0.01	166	2	236	0.01	206	10	276	0.46
127	17	196	0.13	167	2	237	0.13	207	23	277	0.53
128	17	197	0.01	168	1	238	0.1	208	8	278	0.55
129	5	198	0.03	169	18	239	0.11	209	19	279	1.27
130	5	199	0.55	170	20	240	0.17	210	22	280	0.06
131	1	200	0.32	171	2	241	0.19	211	15	282	1.25
132	5	201	0.32	172	12	242	0.25	212	22	283	0.04
133	23	202	0.11	173	4	243	0.02	213	14	287	0.16
134	22	203	0.54	174	4	244	0.12	214	8	288	0.14

135	12	204	0.36	175	1	245	0.13	215	22	289	0.01
136	12	205	0.02	176	22	246	0.02	216	14	318	0.11
137	22	206	0.55	177	3	247	0.02	217	3	321	0.35
138	22	207	2.12	178	3	248	0.03	218	1	322	0.91
139	22	208	0.28	179	1	249	0.4	219	22	323	0.33
140	10	209	0.03	180	22	250	0.04	220	4	324	0.13
141	10	210	0.26	181	20	251	0.01	221	4	325	0.15
142	10	211	0.1	182	18	252	0.12	222	1	326	0.15
143	8	212	0.38	183	18	253	0.01	223	3	327	0.19
144	23	213	0.11	184	19	254	0.19	224	4	328	0.18
145	1	214	0.8	185	16	255	0.02	225	3	329	0.3
146	3	215	0.01	186	16	256	0.15	226	22	330	0.22
147	10	216	0.11	187	8	257	0.28	227	1	331	0.34
148	3	217	0.19	188	10	258	0.28	228	5	332	0.2
149	6	219	0.54	189	15	259	0.01	229	5	333	0.34
150	23	220	0.24	190	15	260	0.38	230	10	334	0.16
151	18	221	0.13	191	9	261	0.21	231	1	335	1.1
232	13	336	0.2	271	9	342P	1.73				
233	22	338	0.03	272	14	355P	0.2				
234	9	339	0.94	273	11	356P	0.69				
235	20	340	0.76	274	3	360P	1.09				
236	10	343	0.1	275	6	370P	1.59				
237	22	344	0.22	276	19	371P	0.93				
238	6	345	0.56	277	6	372P	1.26				
239	7	346	0.11	278	11	6P	0.81				
240	7	347	0.25	**Total Area in Mangardaha**		**168.64**					

241	9	348	0.57								
242	11	349	0.48								
243	12	350	0.09								
244	11	351	0.15								
245	6	352	0.97								
246	6	353	0.57								
247	22	354	0.76								
248	1	361	0.37								
249	20	362	0.37								
250	18	363	0.16								
251	5	364	0.59								
252	19	365	0.13								
253	23	366	0.65								
254	18	367	0.16								
255	22	368	0.14								
256	20	369	0.16								
257	20	373	0.16								
258	19	374	0.13								
259	22	375	2.42								
260	22	376	0.29								
261	1	377	0.6								
262	22	281P	1.12								
263	4	284P	0.98								
264	20	285P	0.21								
265	15	286P	0.12								
266	7	312P	0.97								

267	22	313P	0.06								
268	11	314P	0.31								
269	5	337P	2.58								
270	3	341P	0.32								

VILLAGE- KITCHTO

S.N	Khata no.	Plot No.	Area (Ha)	S.N	Khata no.	Plot No.	Area (Ha)	S.N	Khata no.	Plot No.	Area (Ha)
1	8	616	0.55	5	12	619	0.56	9	16	623	0.27
2	16	613	1.5	6	39	620	0.44	10	15	624P	0.53
3	16	617	0.21	7	16	621	0.12	11	7	625P	0.6
4	14	618	0.57	8	12	622	0.98	12	15	626P	0.2
Total Area in Kitchto						**6.53**					

VILLAGE- THENA

S.N	Khata no.	Plot No.	Area (Ha)								
1	19	154P	0.22	4	13	158	0.04	6	13	160	0.04
2	10	155P	0.16	5	10	159	0.06	7	10	161P	0.52
3	13	156P	0.1	**Total Area in Thena**				**1.14**			

VILLAGE - BIJAIN

S.N	Khata no.	Plot No.	Area (Ha)	S.N	Khata no.	Plot No.	Area (Ha)	S.N	Khata no.	Plot No.	Area (Ha)
1	16	140	0.01	8	8	168	0.01	15	18	176	0.1
2	5	141	0.08	9	23	169	0.22	16	2	177	0.08
3	17	146	0.24	10	8	170	0.15	17	6	185	0.23
4	23	148	0.08	11	13	172	0.23	18	12	186	0.07
5	2	164	0.12	12	13	173	0.01	19	21	187	0.11
6	2	166	1.39	13	7	174	0.12	20	15	188	0.02

7	8	167	0.1	14	7	175	0.01	21	15	189	0.24
22	9	190	0.11	62	4	246	0.59	102	6	322	0.04
23	2	191	0.08	63	2	247	0.17	103	23	323	0.01
24	8	192	0.03	64	7	249	0.17	104	12	324	0.02
25	2	193	0.14	65	3	250	0.23	105	13	325	0.16
26	2	194	0.12	66	1	268	5.46	106	13	326	0.05
27	7	195	0.13	67	16	271	0.14	107	17	327	0.28
28	2	196	0.21	68	1	278P	6.68	108	10	328	0.25
29	2	197	0.26	69	4	288	0.98	109	2	329	0.13
30	15	199	0.23	70	1	289P	15.17	110	2	330	0.98
31	6	200	0.08	71	1	290	10.82	111	17	331	0.13
32	12	201	0.01	72	22	291	0.27	112	9	332	0.4
33	6	202	0.02	73	13	292	1.62	113	1	333	0.48
34	9	207	0.24	74	8	293	0.81	114	9	334	0.13
35	24	209	0.02	75	1	295	0.52	115	5	336	0.06
36	8	211	0.36	76	5	296	0.12	116	2	163P	0.14
37	8	212	0.09	77	5	297	0.6	117	2	165P	0.73
38	15	213	0.22	78	11	298	0.11	118	2	178P	0.53
39	24	214	0.01	79	11	299	0.13	119	6	203P	0.08
40	22	215	0.32	80	5	300	0.07	120	2	208P	0.95
41	8	216	0.25	81	11	301	0.01	121	23	210P	0.04
42	15	217	0.54	82	5	302	0.06	122	2	225P	0.27
43	6	218	0.33	83	9	303	0.01	123	2	226P	0.2
44	2	219	0.36	84	15	304	0.08	124	6	229P	0.4
45	5	220	0.11	85	23	305	0.01	125	2	230P	0.31
46	9	221	0.07	86	5	306	0.23	126	13	231P	0.26

47	11	222	0.04	87	23	307	0.03	127	15	267P	0.78
48	11	223	0.04	88	9	308	0.58	128	6	269P	0.71
49	2	224	0.2	89	1	309	0.25	129	2	270P	0.5
50	2	227	0.3	90	1	310	0.88	130	2	272P	2.51
51	2	228	0.44	91	15	311	0.16	131	1	279P	9.61
52	2	232	0.11	92	6	312	0.25	132	1	284P	2.44
53	7	233	0.12	93	10	313	0.51	133	2	285P	0.37
54	18	234	0.02	94	22	314	0.34	134	4	286P	0.85
55	2	237	0.13	95	8	315	0.28	135	1	294P	3.64
56	8	239	0.19	96	18	316	0.2	**Total Area in Bijain**		**88.38**	
57	2	240	0.11	97	13	317	0.47				
58	2	241	0.1	98	15	318	0.29				
59	6	242	0.03	99	12	319	0.14				
60	2	243	0.06	100	13	320	0.14				
61	7	245	0.3	101	22	321	0.21				

Land Acquisition:

Project area of 464.69 Ha, on which mining plan/Abridged PR has been prepared and approved by Board of Director of CCL, and for which ToR has been issued by MoEF&CC, is part of 1416.38 Ha land acquired as per Notification of MoC as per Section 11 of CBA Act 1957 vide 19/87/82-CL dated 10.03.1983.

SL	Notification under Section 11 of CBA Act	Date	Area in Ha.
1	No. 19/87/82 - CL	10.03.1983	1416.38
Total Area in Ha			**1416.38**

Land Type Breakup:

SL	Pattern	Area (in Ha)
1	Notified Forest Land	128.14
2	GM JJ Land	37.81
3	GMK Land	108.32

4	GMA Land	4.63
5	Tenancy Land	185.79
	TOTAL	**464.69**

Pre-Mining Land Use:

SN	Land Use	Area in Ha	Remarks
1	Forest land	165.95	The present land use of this forest land: involves 73.69 Ha. of vegetated land, 80.84 Ha as backfilled mine quarry, roads and dump, 11.42 Ha. as mine void filled with water.
2	Plantation Area	118.32	This include natural vegetation and vegetation on biologically reclaimed area falling within the non-forest land
3	Mining Area	146	This include backfilled area and quarry falling within the non-forest land
4	Settlement	4	
5	Water filled mine void	21.42	This include water logged area falling within the non-forest area
6	Waste Land	9	This include surface roads, parking areas etc. falling within the non-forest area
Total Project Area		**464.69**	

Land Use During Mining:

SL	Pattern	Proposed Area (Ha)
1	UG Mining Area-As the proposed working is underground means, surface shall not be disturbed.	403.56
2	Water Reservoir- Existing mine void of exhausted Piparwar OCP will be converted into water reservoir to store the UG mine discharge	26.13
3	Infrastructure- Surface infra including mouth incline, surface bunker, W/S, S/S, store, rest shelter etc on the surface of void of exhausted Piparwar OCP.	30.00
4	Greenbelt	5.00

	TOTAL	**464.69**

Provision of Final Mine Closure of Piparwar OCP:

1. Final Mine closure Plan of Piparwar OCP has been prepared as per the latest mine closure guidelines.

Energy Conservation:

1. Solar Power Plant (20 MW) has been constructed at a cost of 142.95 Crores in Piparwar Area. Further additional 10 MW Solar Power Plant is proposed.
2. For decreasing the maximum demand of the project power factor of 0.98 will be maintained using automatic power factor correction Capacitor banks.
3. Energy efficient LED luminaires has been proposed for all types of illuminations.
4. Energy efficient motors have been proposed as energy conservation measures.
5. Periodical maintenance of equipment's, energy audits, optimization of distribution networks Promoting use of renewables and energy efficient appliances in Project and nearby villages.

Subsidence Management:

Subsidence prediction study has been carried out and management plan has been prepared in respect of proposed working in Piparwar UGP. Wherein, maximum subsidence has been estimated as 2.06 m in the eastern section of mine, which is unlikely to cause the any major topographical change.

Precautions against Subsidence Due to Depillaring by Caving:

1. As subsidence progresses, surface cracks should be filled up effectively with earth and the ground should be given adequate slope towards the water bodies for natural drainage, so that surface cracks may not provide the way for surface water to percolate below ground.
2. It is suggested that mine management should form a team that will be responsible for the proper and regular filling of surface cracks developed due to subsidence. The team will also maintain record of the development and filling of surface cracks. Mine management at the site should arrange adequate supply of filling materials. The crack filling material should be non-combustible in nature.
3. Surface drains should be made outside the subsidence area to prevent the surface water of adjoining area to come into active subsidence area.

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The land has been acquired under the Section 11 of CBA Act 1957 vide 19/87/82-CL dated 10.03.1983.
2	CO	:	The CO, Tandwa (Chatra) vide letter dated 16.05.2024 has mentioned that some plots of the Mouza : Kichto, Bijain, Benti, Mangardaha & Thena are recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II bearing total area 37.81 Ha for which diversion application of Forest land has been submitted vide

			proposal no. FP/JH/MIN/44975/2020.
3	DFO Wild Life	:	DFO, Wildlife Division, Hazaribagh vide letter no. 2841, dated 07.12.2023 certified that the said project is outside Eco Sensitive Zone of Lawalong Wildlife Sanctuary.
4	DFO Forest Distance	:	DFO, Chatra South Forest Division vide letter no. 1065, dated 22.05.2024 certified that the distance of forest land is **0 (Zeor) meters.**
5	Approval of Abridged Project Report	:	Abridged Project Report approved by Company Secretary, Central Coalfields Ltd. vide Ref No.: - CS/BM/507/2021/303, Dated: - 18.10.2021.
6	CGWA	:	NOC for Ground Water Abstraction vide NOC no. CGWA/NOC / MIN/ORIG /2024/19856, dated 05.02.2024 valid up to 04.02.2026.
7	Previous ToR	:	Previous ToR was granted by MoEF&CC, Govt. of India vide No: IA-J-11015/10/2010-IA-II(M) Dated: 08.06.2020.
8	Public Hearing	:	Conducted on 25.08.2023
9	Baseline Data Period	:	Baseline data period in the draft EIA October to December, 2020 (Post Monsoon).

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 30.05.2024, 31.05.2024, 01, 02 & 03.06.2024, the Committee recommends for extension of validity of ToR up to 31st March, 2025 to SEIAA. All terms & conditions mentioned in earlier ToR letter no. IA-J-11015/10/2010-IA-II(M) Dated: 08.06.2020 issued by MoEF&CC, Govt. of India are to be complied along with the following additional conditions :

I. Recent baseline study for one season after the date of public hearing is to be conducted and both the datas of 2020 and the current data are to be included in the final EIA / EMP.

II. As per additional condition 4 (i) of the ToR issued by MoEF&CC, Govt. of India, the Members of SEAC has visited the site on 15.06.2023 The Committee recommends that a protection measures for safe guard of the Damodar River is to be included in final EIA report as part of the additional study.

III. Measures must be taken to prevent flow of water from the mine area in to the Damodar River and same to be included in final EIA report as part of the additional study.

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Day 5 : June 03rd, 2024 [Monday]

A. Any other matter, if any, with the permission of Chair.

i. Letter dated 24.05.2024 of Narendra Mishra, IFS (Retd.) addressed to the Member Secretary, SEIAA which has been forwarded to SEAC for necessary comments.

The letter is regarding the applicability of prior Environmental Clearance on 01 project named Civil Services Officers Housing Society Ltd. Village : Sanga, Thana & Circle: Kanke, Distt. : Ranchi.

The SEAC Committee has examined the contents of the letter and has arrived on the following conclusion :

a. The applicability of Environmental Clearance for Building & Construction Project is as per 8 (a) of the schedule of EIA notification, 2006 which is based on the Built Up Area (BUA) between 20,000 Sq.m to < 1,50,000 Sq.m.

b. The applicability of Environmental Clearance for Township & Area Development Projects is as per 8 (b) of the schedule of EIA notification, 2006 which is based on the Built Up Area (BUA) 1,50,000 Sq.m & above and or the plot area of the project 50 Ha. or above.

The letter as above has not mentioned the Built Up Area of the single CSO project has not been provided. The plot area of 31.69 Ha. does not falls under Schedule 8 (b) of the EIA notification, 2006.

Further, the letter also mentioned that individual plots are being allotted or will be allotted to different individual members of the CSO, who will carry out their own individual construction activities on the plots allotted to them.

As the BUA of the individual plots has not been provided, there is no evidence of applicability of EIA notification, 2006 for prior Environmental Clearance.

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The meeting concluded with thanks to all present.

Ashok Kumar Dubey, IFS (Retd.)
Member

Dr. Ajay Govind Bhatt
Member

Niranjan Lal Agarwalla
Member

Dr. Raju Kumar
Member

Srikant Verma, IFS
Member Secretary

03/06/2024
Ashok Kumar Singh, IFS (Retd.)
Chairman

Annexure –I

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, Forest and Climate Change as per OM no. F.no. IA3-22/10/2022-IA.III [E 177258], dated 08th June, 2022 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 2500 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. 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.

12. 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.

13. 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.

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

Annexure –II

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, Forest and Climate Change as per OM no. F.no. IA3-22/10/2022-IA.III [E 177258], dated 08th June, 2022 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 2500 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)

Adequate funds (at least 2.5 % of the project cost) shall be earmarked towards the Enterprise Social Commitment based on 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 is valid as per O.M. F. No. IA3-22/10/2022-IA.III[E177258], dated 08.06.2022. of MoEF&CC, Govt. of India.

Annexure – III

I. Statutory compliance:

i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.

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

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

iv. In the writ petition (Civil) no. 202/1995, T.N. Godaverman Thirumulpad vs union of India and ors. the Hon'ble Supreme Court passed an order dated 03.06.2022 " National Park or Wildlife Sanctuary must have an ESZ of minimum 01 km in which the activities prescribed and prescribed in the guidelines of 09th February, 2011 shall be strictly adhered to ".

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

vi. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.

vii. The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.

II. Air quality monitoring and preservation

i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (applicable to IF/EAF) as amended from time to time; S.O. 3305 (E) dated 7th December 2015(Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

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

iii. The project proponent shall install system carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PMlO and PM25 in reference to PM emission, and S02 and NOx in reference to S02 and NOx emissions) within and outside the plant area (at least at four locations one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions. (case to case basis small plants: Manual; Large plants: Continuous)

iv. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality / fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six- monthly monitoring report.

v. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources.

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

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

viii. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after *briquettingl* agglomeration.

ix. The project proponent shall use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin.

x. The project proponent shall provide covered sheds for raw materials like scrap and sponge iron, lump ore, coke, coal, etc.

xi. The project proponent shall provide primary and secondary fume extraction system at all melting furnaces.

xii. Design the ventilation system for adequate air changes as per ACGIH document for all tunnels, motor houses, Oil Cellars.

III. Water quality monitoring and preservation

i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 20 12 (applicable to IF / EAF) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories. (case to case basis small plants: Manual; Large plants: Continuous)

ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognised under 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. The project proponent shall provide the ETP for effluents of rolling mills to meet the standards prescribed in G.S.R 277 (E) 31st March 2012 (applicable to IF/EAF) as amended from time to time.

vii. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off

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

ix. The project proponent shall make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.

IV. Noise monitoring and prevention

i. Noise level survey shall be carried as per the 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 Conservation measures

i. The project proponent shall provide waste heat recovery system (pre-heating of combustion air) at the flue gases of reheating furnaces.

ii. Practice hot charging of slabs and billets/blooms as far as possible.

iii. Ensure installation of regenerative type burners on all reheating furnaces.

iv. Provide solar power generation on rooftops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly.

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

VI. Waste management

i. Used refractories shall be recycled as far as possible.

ii. Oily scum and metallic sludge recovered from rolling mills ETP shall be mixed, dried, and briquetted and reused melting Furnaces

iii. 100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding in this regard shall be submitted to the Ministry's Regional Office.

iv. The waste oil, grease and other hazardous waste shall be disposed of as per the

v. Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.

vi. Kitchen waste shall be composted or converted to biogas for further use.(to be decided on case to case basis depending on type and size ofplant)

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 programme 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 project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.

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

IX. Corporate Environment Responsibility

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

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

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

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

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

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

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

X. Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

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

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

iv. The project proponent shall monitor the criteria pollutants level namely; PMIO, S02, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the

ministry of Environment, Forest and Climate Change at environment clearance portal.

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

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

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

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

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

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

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

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

xiv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

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

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

C. Other Conditions:

i. The Authority reserves the right to add any new condition or modify the above conditions or to revoke the clearance if conditions stipulated above are not implemented to the satisfaction of Authority or for that matter for any other Administrative reason.

ii. The Prescribed EC is valid as per Notification no. S.O. 1807(E) dated 12.04.2022 of MoEF&CC, Govt. of India.

iii. In case of any deviation or alteration in the project proposed from those submitted to SEIAA, Jharkhand for clearance, a fresh reference should be made to SEIAA to assess the adequacy of the conditions imposed and to incorporate any new conditions if required.

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

Annexure – V

I. Statutory compliance

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

ii. In the writ petition (Civil) no. 202/1995, T.N. Godaverman Thirumulpad vs union of India and ors. the Hon'ble Supreme Court passed an order dated 03.06.2022 " National Park or Wildlife Sanctuary must have an ESZ of minimum 01 km in which the activities prescribed and prescribed in the guidelines of 09th February, 2011 shall be strictly adhered to ".

iii. The Project proponent complies with all the statutory requirements and judgement of Hon'ble Supreme Court dated 2nd August,2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors before commencing the mining operations.

iv. The Hon'ble Supreme Court vide order dated 08.01.2020 in W.P. (Civil) No.114/2014 in the matter of Common Cause vs. Union of India has directed that the area which has been mined should be restored so that grass and other vegetation including trees can grow in the mining area for the benefit of animals.

> *"The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.*

v. The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of Judgement of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors.

vi. This Environmental Clearance shall become operational only after receiving formal NBWL Clearance from MoEF&CC subsequent to the recommendations of the Standing Committee of National Board for Wildlife, if applicable to the Project.

vii. This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, if applicable to the Project.

viii. Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the concerned State Pollution Control Board/Committee.

ix. The PP shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation), Act, 2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.

x. The Project Proponent shall obtain consents from all the concerned land owners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.

xi. The Project Proponent shall follow the mitigation measures provided in MoEF&CC's Office Memorandum No. Z-11013/57/2014-IAJI (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".

xii. The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.

xiii. A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.

xiv. State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.

xv. The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change (www. Environment clearance.nic.in). A copy of the advertisement may be forwarded to the concerned MoEF & CC Regional Office for compliance and record.

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

II. Air quality monitoring and preservation

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

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

ii. Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from 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 shall not increase production rate and alter lease area during the validity of Environmental Clearance.

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

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

A. STANDARD TERMS OF REFERENCE (TOR)

1. **Executive Summary of the project.**
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. Land use 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. Land use 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 Environmental 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. 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.

12. Enterprise Social Commitment (ESC)

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.

13. 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.

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

15. Beside the above, the below mentioned general points should also be followed:

a) A note confirming compliance of the ToR, with cross referencing of the relevant sections/pages of the EIA report should be provided.

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

e) The questionnaire for environmental appraisal of LPG Bottling projects as prescribed by the Ministry shall also be filled and submitted.

f) All statutory clearances obtained for the project shall be included in the EIA report.

g) While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF 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 also be followed.

16. 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.

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

B. SPECIFIC TERMS OF REFERENCE FOR EIA STUDIES FOR CEMENT PLANTS

1. Limestone and coal linkage documents along with the status of environmental clearance of limestone and coal mines
2. Quantum of production of coal and limestone from coal & limestone mines and the projects they cater to;
3. For large Cement Units, a 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site.
4. Present land use shall be prepared based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land-cover mapping of the area.
5. If the raw materials used have trace elements, an environment management plan shall also be included.
6. Plan for the implementation of the recommendations made for the cement plants in the CREP guidelines must be prepared.
7. Energy consumption per ton of clinker and cement grinding
8. Provision of waste heat recovery boiler
9. Arrangement for use of hazardous waste