



Government of India  
Ministry of Environment, Forest and Climate Change  
(Issued by the State Environment Impact Assessment  
Authority(SEIAA), JHARKHAND)

To,

The -1

MANJUSHA LAL

Tulsi Bhawan, Pawan Colony Hinoo, Doranda, Ranchi, Doranda,  
Jharkhand,  
834002 -834002

**Subject:** Grant of Environmental Clearance (EC) to the proposed Project Activity  
under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC)  
in respect of project submitted to the SEIAA vide proposal number  
SIA/JH/MIN/448773/2023 dated 15 Oct 2023. The particulars of the environmental  
clearance granted to the project are as below.

1. EC Identification No.	EC23B001JH155262
2. File No.	EC/SEIAA/2023-24/3030/2023
3. Project Type	New
4. Category	B
5. Project/Activity including Schedule No.	1(a) Mining of minerals
6. Name of Project	Hardag Stone Deposit
7. Name of Company/Organization	MANJUSHA LAL
8. Location of Project	JHARKHAND
9. TOR Date	N/A

The project details along with terms and conditions are appended herewith from page  
no 2 onwards.

Date: 29/11/2023

(e-signed)  
Ashok Kumar, IFS  
Member Secretary  
SEIAA - (JHARKHAND)

*Note: A valid environmental clearance shall be one that has EC identification  
number & E-Sign generated from PARIVESH. Please quote identification  
number in all future correspondence.*

*This is a computer generated cover page.*





## State Level Environment Impact Assessment Authority, Jharkhand

Nursery Complex, Near Dhurwa Bus Stand, P.O+P.S-Dhurwa, Ranchi, Jharkhand-834 004

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Letter No.- EC/SEIAA/2023-24/3030/2023/

Ranchi, Date :

To: Smt. Manjusha Lal,  
W/o- Sri Neeraj Kumar Lal,  
At – Tulsi Bhawan, Pawan Colony, Hinoo,  
Thana - Doranda, District - Ranchi,  
State - Jharkhand, Pin Code – 834002

Sub: Environmental Clearance for the project “Hardag Stone Deposit of Smt. Manjusha Lal, Village : Hardag, Thana : Ranchi, Distt. : Ranchi, Jharkhand (1.08 Ha).” (Proposal No. : SIA/JH/MIN/448773/2023) – regarding.

Ref: Your application no. Nil, dated – 16.10.2023.

It is in reference to “Hardag Stone Deposit of Smt. Manjusha Lal, Village : Hardag, Thana : Ranchi, Distt. : Ranchi, Jharkhand (1.08 Ha).” submitted by you for seeking prior Environmental Clearances (EC).

This is a new project which has been taken for appraisal on 19.10.2023.

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

**EC Application for: Stone: 18,363 Cu.M. / year i.e 51,418 Tonnes / year.**

### PROJECT and LOCATION Details:

Sl	Parameter	Details
1	Project Name	: Hardag Stone Deposit of Smt. Manjusha Lal
2	Applicant Address:	: Smt. Manjusha Lal W/o- Sri Neeraj Kumar Lal At – Tulsi Bhawan, Pawan Colony, Hinoo, Thana - Doranda, District - Ranchi, State - Jharkhand, Pin Code – 834002
3	Applied Area Address :	: In Mouza - Hardag, Thana – Ranchi, Thana No. - 275, District - Ranchi, Jharkhand
4	Applied Area	: Ha: 1.08 Hectares Acres: 2.67 Acres
5	Type of Land	: Non Forest – Raiyati Land
6	Project Cost	: 20 Lakhs
7	EMP Budget	: Capital: 3.06 Lakhs Recurring: 4.27 Lakh / year
8	CSR / CER Budget	: Rs. 0.40 Lakhs

9	New or Expansion	:	New
10	Mineable Reserves	:	Cu.M.: 91.609 Cu. M. Tonnes: 2,56,504 Tonnes
11	Mine Life	:	5 years (4 years 11 months)
12	Man power	:	25
13	Water Requirement	:	6.09 ~ 6.10 KLD Drinking: 0.25 KLD, Dust Suppression: 2.98 KLD, Plantation: 2.86 KLD
14	Water Source	:	From nearby authorized sources.
15	DG Set / power	:	No
16	Crusher	:	No
17	Nearest Water Body	:	Kanchi River is flowing approx 0.84 km away towards SSW direction of applied area.
18	Nearest Habitation	:	Hajam village is situated approx. 0.69 Km aerial distance away in South East direction.
19	Nearest Rail Station	:	Balasiring Railway station is situated approx. 8.08 Km aerial distance away in NNW direction.
20	Nearest Air Port	:	Birsa Munda International Airport, Ranchi, Jharkhand is situated approx. 12.80 Km aerial distance away in North direction.
21	Nearest Forest	:	Nearest forest land is 950m away from the proposed project.
22	Road & Highways	:	Highway: NH-20 is about 2.05 Km aerial distance away from the applied area in West direction.

#### CO-ORDINATES (as per DGPS survey report)

1	Latitude	:	From N23°11'53.57"	To N23°12'00.80"
2	Longitude	:	From E85°18'30.21"	To E85°18'34.98"

#### LAND DETAILS

<b>Khata No.</b>	56	57
<b>Plot Nos.</b>	1974, 1978, 1983, 1984, 1985, 1981	1980, 1982

#### STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Office, Ranchi vide letter no. 1162/M dated 05.10.2023.
2	CO	:	The CO, Namkum, Ranchi vide letter no. 1452(ii), dated 07.08.2023 has mentioned the plot no. of the project is not recorded as "Jangle Jhari" in R.S. Khatyan or Register II.
3	DMO	:	DMO, Ranchi vide memo no. 1170/M, dated 06.10.2023 certified that two other mining lease area (3.59 Acre & 6.00 Acre) exists

			within 500 m radius from proposed project site and total area is 12.26 Acre.
4	DFO Wild Life	:	DFO, Wild Life, Ranchi vide letter no. 734, dated 08.08.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Forest Distance	:	Division Forest Officer, Ranchi Forest Division vide letter no. 2914, dated 02.08.2023 certified that the distance of notified forest is 950 meter from proposed project site.
6	DSR	:	The DC – cum - District Magistrate, Ranchi vide letter no. 1176/M, dated 07.10.2023 has informed that this project is part of District Survey Report (DSR) at Ranchi district and accordingly necessary action with regard to Environmental Clearance can be taken.
7	Gram Sabha	:	Gram Sabha conducted on 28.07.2023.
8	Mine Plan Approval	:	Approved by the Assistant Mining Officer, Ranchi vide Memo No. 1173/M dated 07.10.2023.

#### Working Details

1	Mining Method	:	Opencast Mechanized Mining.
2	Quarry Area	:	5 years – 0.48 Ha      Life of Mine – 0.48 Ha
3	Waste Generation	:	5 years– 5672 Cu.M      Life of Mine – 5672 Cu.M (Gritty Soil & Intercalated Waste)      (Gritty Soil & Intercalated Waste)
4	Stripping Ratio	:	1 : 0.02
5	Working Days	:	300 Days
6	Bench: size & No	:	Size: 6m x 6m, No. – 4.
7	Elevation of Mine	:	Highest RL 602m AMSL, Lowest RL 599m AMSL.
8	Ground Level Elevation	:	599m AMSL
9	Ultimate Working Depth	:	578m AMSL
10	Water Table	:	568m AMSL
11	Topography of Mine	:	Gently sloping land.
12	Explosive Requirement	:	9.45 Tons/year
13	Diesel/Fuel requirement	:	42 KL/year ( 140 Litres/day)

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**Production Details**

Year	Production of stone		Removal of Gritty Soil (Cum)	Intercalated Waste Generation (CuM)	Bench RL in Meters
	(Cum)	(Tonne)			
1st Year	18321	51298	Nil	964	602m – 596m
2nd Year	18321	51298	Nil	964	602m – 596m
3rd Year	18335	51338	Nil	965	602m – 590m
4th Year	18269	51152	Nil	962	596m – 584m
5th Year	18363	51418	850	967	602m – 578m
<b>Total</b>	<b>91609</b>	<b>256504</b>	<b>850</b>	<b>4822</b>	

**Land Use**

SL	Pattern	Existing Land Use (Ha)	Proposed Current Plan Period (Ha)	Proposed Land Use at End of Life of Mine (Ha)	Land Usage at Conceptual Stage
1	Mining Area (Quarry)	Nil	0.48 (including backfilling 0.052 Ha)	0.48	Water body
2	Green Belt Within Safety Barrier	Nil	0.50	0.50	Plantation
3	Road	0.01	--	--	--
4	Blocked area due to Electric Line safety	0.10	0.10	0.10	Public Use
5	Unutilized	0.97	Nil	Nil	--
	<b>TOTAL</b>	<b>1.08</b>	<b>1.08</b>	<b>1.08</b>	

**ENVIRONMENT MANAGEMENT****Green Belt Development**

SL	Location		Area / Length	No of Trees
1	Safety Zone	:	0.50 Ha	1250
2	Haul / Approach Road	:	0.08 Km	80
3	Distributed in Anganwadi, Panchayat Bhawan or in schools		--	100

### **Solid Waste Management**

- Waste (Gritty Soil & Intercalated Waste) Generation will be 5672 Cu.M. during the life of Mine.
- The southern portion of the applied area is covered with a layer of gritty soil and in north portion stone is exposed up to the surface. During quarry development in 1st, 2nd, 3rd & 4th year intercalated waste will be removed and this will be used in haul road dressing & in 5th year removed gritty soil & intercalated waste soil will be backfilled within the exhausted quarry.

### **Water Quality Management**

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

### **Air Quality Management**

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months

### **Risk & Hazards**

Following are the associated Risk and Hazards associated with the stone mining process

- Accident due to explosives.



- Accident due to operation of heavy mining equipment.
- Fall of animal in to abundant pit.

### **Mitigation Measures**

In order to take care of above hazard/disasters, the following control measures will be adopted:

- Opencast mechanized method of mining will be adopted.
- Working will be carried out in one shift of 8 hours during day time only.
- No explosive will be stored at mine site.
- All applicable rules of MMR 1961, Mines Act-1952, Mines Rules 1955, MCR-1960, MCDR-1988 will be followed for safe, scientific & systematic working.
- The working will be done under the supervision of a Qualified Mines Manager.
- The height and width of the benches maintain properly.
- Working of mine will be done as per approved plans.
- Permanent fencing will be provided at the top edge of opencast working.
- All protective equipment of a type approved by the DGMS will be provided to the workers viz. foot wear, helmets, ear plug, dust mask, gloves, goggles, shin guards etc.

### **Water Reservoir Safety Management**

- Proper Barbed wire fencing will be done all around the project site to restrict the common animals to enter into the area.
- Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of the life of the mine.

### **Mitigation Measures for Hardag Stone Deposit of Smt. Manjusha Lal, in Village – Hardag, Thana- Ranchi, Thana No. – 275, District- Ranchi, Jharkhand, over an area of 2.67 Acres (1.08 Ha).**

Settling tank and garland drain will be provided in the South East direction. Calculation for settling tank has been given below

Settling Tank Design calculation for the proposed project:-

#### **Total water accumulates in the mine is as follows:**

Total Area :-	1.08 Ha
Water reservoir at ultimate stage :-	0.48 Ha
Rest of the area :-	0.50 Ha
Direct catchment area is :-	0.48 Ha
Considered only 60% area from the Rest area as a catchment area :-	0.30 Ha
Total area available	0.78 Ha

#### **Surface runoff in the pit $Q_z = CIA$**

Where C= runoff co efficient = 0.195

I = Monsoon annual rainfall = 1.09 m

A = Area in Ha = 0.78 Ha

**Total surface runoff from the catchment area (q) =  $0.195 \times 1.09 \times 0.78 \text{ Ha} \times 10000 = 1658 \text{ cum}$**







**Design of sedimentation tank**

Total annual yield is 1658 cum

Hence per day yield is 1658 cum / 120 (rainy days) = 14 cum

Garland drain along with settling tank will be maintained in the boundary side to prevent siltation of low lying areas and in rush of water into the mine. The size of the drain will be 690 m x 2.0 m x 1.5 m. The settling tank will be 1 in number of size 5 m in length, 5 m in width and 2 m in depth separated into two chambers

Hence the drain, settling tank and sump is of sufficient capacity.

Check dam will be also constructed. It will be worked as small barriers built across the direction of water flow.


In this condition zero discharge will be maintained. Hence there will be no damages caused due to mining in the catchment area of the river / nalla falling in study area as the ground water recharge rate is higher than the extraction rate of mining region.

Water accumulated in the mine pit will be used for dust suppression. This water will also be made available to villagers on demand for irrigation purpose after testing. No discharge of water will be made to any surface water course.

Proper Barbed wire fencing will be done all around the project site to restrict the common animals to enter into the area.

**Undertaking submitted affirming:**

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





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

The proposal was appraised by State Level Expert Appraisal Committee (SEAC) and recommended for grant of Environmental Clearance in its **110<sup>th</sup>** meeting held on **17<sup>th</sup>, 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup> and 21<sup>st</sup> October, 2023** 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.

State Level Environment Level Impact Assessment Authority (SEIAA), Jharkhand in its **110<sup>th</sup>** meeting held on **27<sup>th</sup>, 28<sup>th</sup> & 29<sup>th</sup> October, 2023** discussed the project proposal along with recommendations made by SEAC and decided to grant EC to the project.

On the basis of recommendation of SEAC and decision of SEIAA to grant of EC, Environmental Clearance is hereby issued to **"Hardag Stone Deposit of Smt. Manjusha Lal, Village : Hardag, Thana : Ranchi, Distt. : Ranchi, Jharkhand (1.08 Ha)."** alongwith the following conditions:

#### A. Specific Conditions:

1. This Environmental Clearance is valid subject to the following condition below –  
That this project has-
  - a. Obtained all legal rights to operate at concerned place.
  - b. Complied with all existing concerned laws of the land and
  - c. Complied with the decisions of SEIAA on the issue of Environmental Clearance till date.
2. 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.
3. 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 personnels.
4. This EC letter is subject to Hon'ble NGT order dated : 13.09.2018, order dated : 11.12.2018 and MoEF & CC O.M. dated : 12.12.2018.

5. No mining/activity shall be undertaken in the forest land or deemed forest without obtaining requisite prior forestry clearance.
6. The project proponent may apply simultaneously for forest and NBWL clearance, in order to complete the formalities without undue delay, which till process on their respective merits, no rights will vest in or accrue to them unless all clearance are obtained, if applicable.

#### **B. Statutory Compliance:**

1. 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.
2. 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".
3. The Project proponent complies with all the statutory requirements and judgement of Hon'ble Supreme Court dated 2<sup>nd</sup> 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.
4. 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".*

5. 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.
6. 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.
7. 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.



8. 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.
9. 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.
10. 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.
11. 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".
12. 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.
13. 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.
14. 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.
15. 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.Environmentclearance.nic.in](http://www.Environmentclearance.nic.in)). A copy of the advertisement may be forwarded to the concerned MoEF & CC Regional Office for compliance and record.
16. 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.
17. In all Stone Mining projects, depending upon the air pollution estimates based upon fuel use in operations and activities of the respective projects: required monitoring station based air quality monitoring shall be done in the influence area of the project with needed mitigation conditions to ensure sustainable Stone mining as per guidelines.



circulars and norms of MOEFCC / Hon'ble NGT or any other directives of regulatory / statutory bodies and competent Courts.

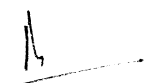
PP to take preventive steps to avoid flash flood conditions arising from mining operations and probable run off in rainy season conditions

18. PP shall maintain minimum distance from Reserved / Protected Forests as stipulated in applicable guidelines.

19. All statutory clearances shall be obtained before start of mining operations.

**C. Air quality monitoring and preservation:**

1. 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.
2. 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.
3. Approved devices for dust suppression shall be installed.
4. Personnel working in dusty areas should be provided with protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed. Detailed report shall be sent to Pollution Control Board periodically.
5. The proponent shall upload the status of compliance of the environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to Jharkhand State Pollution Control Board and its concerned Regional Office. The criteria pollutant levels namely : SPM, RSPM, SO<sub>2</sub>, NOx (ambient levels) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the project shall



be monitored and displayed at a convenient location near the main gate of the company in the company in the public domain.

**D. Water quality monitoring and preservation:**

1. 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.
2. 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.
3. 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.
4. 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.

5. 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.
6. 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.
7. 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.
8. 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.
9. The mining operations shall be restricted to ground above water table and it should not intersect the groundwater table. In case of working below the ground water table, prior approval of the Ground Water Directorate, Government of Jharkhand / Central Ground Water Board shall be obtained. Benches height and slope shall be maintained as per approved Mining Plan. The Mining Plan has to be got approved by concerned authorities as per IBM or equivalent agencies. Safety measures shall be adopted in line with DGMS Guidelines.
10. The project proponent shall ensure that no natural watercourse and / or water resources shall be obstructed / diverted due to any mining operations. Adequate measures shall be taken for conservation and protection of the first order and the second order streams, if any emanating / passing through the mine lease area during the course of mining operation.
11. The project proponent shall implement approved conservation measures to augment ground water resources in the area in consultation with the Ground Water Directorate, Government of Jharkhand / Central Ground Water Board.
12. The project proponent shall if required, obtain necessary prior permission/NOC from the competent authorities for drawl of requisite quantity of water required from the source for the project.



13. Suitable rainwater harvesting measures shall be planned and implemented in consultation with the Ground Water Directorate, Government of Jharkhand / Central Ground Water Board.

**E. Noise and vibration monitoring and prevention:**

1. The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.
2. 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.
3. 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 labours 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/ labours are working without personal protective equipment.

**F. Mining Plan:**

1. 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.
2. 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.
3. 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.

4. No change in mining technology and scope of working should be made without prior approval of the Statutory authorities / Department of Mines, Government of Jharkhand / Jharkhand State Pollution Control Board, Ranchi during the EC period.
5. No change in the calendar plan including excavation, quantum of mineral and waste should be made.
6. The Project proponent shall make all internal roads pucca as per approved specification of Govt. of Jharkhand and shall maintain a good housekeeping by regular cleaning and wetting of the haul roads and the premises.
7. The Project proponent shall maintain register for production and dispatch and submit return to the Board.
8. Dispensary facilities for First Aid shall be provided at site.

**G. Land reclamation:**

1. 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.
2. 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.
3. The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.
4. 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.

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5. 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.
6. 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.
7. 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.
8. 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.

#### **H. Transportation:**

1. 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.
2. 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.

3. Vehicular emissions shall be kept under control by regular repairing of transport road and regular air quality monitoring. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded. No transportation of stone / sand outside the mine lease area shall be carried out after the sunset.

#### **I. Green Belt:**


1. 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.
2. 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.
3. 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.
4. 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.



5. 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.
6. The Project proponent shall not cut trees / carry out tree felling in leased out area without the permission of competent authority.

**J. Public hearing and human health issues:**

1. 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.
2. 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.
3. 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).
4. 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.
  5. 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.
  6. Project Proponent shall make provision for the housing for workers/labours or shall construct labour 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.
  7. 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.
  8. Measures should be taken for control of noise levels below prescribed norms in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.

**K. Corporate Environment Responsibility (CER):**

1. 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.



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/SEIAA/CPCB.

20. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
21. 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.
22. 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.
23. The above stipulations would be enforced among others under 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 made there under and also any other orders passed by the Hon'ble Supreme Court of India/ High Court of Jharkhand and any other Court of Law relating to the subject matter.
24. The SEIAA, Jharkhand or any other competent Authority may alter modify the above conditions or stipulate any further condition in the interest of Environment Protection.
25. 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.
26. 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.

Sd/-

Member Secretary  
State Level Environment Impact  
Assessment Authority, Jharkhand.

Memo No.- EC/SEIAA/2023-24/3030/2023/368

Ranchi, Date : 02/11/2023

Copy to:

1. Additional Chief Secretary, Department of Forests, Environment & Climate Change, Govt. of Jharkhand.
2. Deputy Commissioner, District – Ranchi, Jharkhand.
3. Divisional Forest Officer, Ranchi, Forest Division, Ranchi, Jharkhand.



4. Divisional Forest Officer, Wildlife Division, Ranchi, Jharkhand
5. Director IA Division, Monitoring Cell, MoEF and Climate Change, Indira Paryavaran Bhavan, Jorbag Road, Aliganj, New Delhi – 110003.
6. Integrated Regional Office, Ranchi, Ministry of Environment, Forest and Climate Change, 2<sup>nd</sup> Floor, Jharkhand State Housing Board (HQ), Harmu Chowk, Ranchi, Jharkhand – 834002.
7. District Mining Officer, Ranchi, Jharkhand.
8. Member Secretary, Jharkhand State Pollution Control Board, Ranchi.
9. Secretary, Jharkhand State Expert Appraisal Committee, Ranchi.
10. Website.
11. Guard file.

  
Member Secretary  
State Level Environment Impact  
Assessment Authority, Jharkhand



