ENVIRONMENTAL CLEARANCE

PARIVESH

(Pro-Active and Responsive Facilitation by Interactive, and Virtuous Environment Single-Window Hub)

Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

To,

The Whole Time Director
SHIVA CEMENT LTD
Village-Telighana, P.O-Bringatoli,P.S.-Kutra, Tehsil-Kutra, Sundargarh,,Sundargarh,Orissa-770018

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 Ministry vide proposal number IA/OR/MIN/176862/2020 dated 13 Nov 2021. The particulars of the environmental clearance granted to the project are as below.

1.	**EC Identification No.**	**EC22A001OR112279**
2.	**File No.**	J-11015/47/2020-IA-II(M)
3.	**Project Type**	New
4.	**Category**	A
5.	**Project/Activity including Schedule No.**	1(a) Mining of minerals
6.	**Name of Project**	Proposed Limestone Mine (Khatkurbahal (North) Block, Area: 156.43 ha) with production capacity of Limestone 1.6 MTPA and Mineral Reject 0.035 million TPA (ROM 1.635 million TPA), Top Soil 0.033 MTPA & Waste 3.875 MTPA (Total excavation - 5.543 MTPA) with Proposed crusher & screen with capacity of 800 TPH Limestone at Villages Khatkurbahal & Phalsakani, Tehsil Kutra, District Sundargarh, Odisha by M/s. Shiva Cement Ltd.
7.	**Name of Company/Organization**	SHIVA CEMENT LTD
8.	**Location of Project**	Orissa
9.	**TOR Date**	09 Nov 2020

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

Date: 17/03/2022

(e-signed)
Pankaj Verma
Scientist E
IA - (Non-Coal Mining sector)

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.

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No. J-11015/47/2020-IA-II(M)
Government of India
Ministry of Environment, Forest and Climate Change
Impact Assessment Division
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2nd Floor, Prithvi Wing,
Indira Paryavaran Bhavan,
Jor Bagh Road, Aliganj,
New Delhi-110 003
Dated: 17th March, 2022

To

M/s. Shiva Cement Ltd,
Plot No. YY-5, Civil Township,
7 & 8 Area, Rourkela,
Odisha – 769 004.

Subject: - Proposal for Environmental Clearance of M/s. Shiva Cement Ltd for mining of Limestone in Khatkurbahal (North) Block with production capacity of Limestone 1.6 MTPA and Mineral Reject 0.035 million TPA (ROM 1.635 million TPA), Top Soil 0.033 MTPA & Waste 3.875 MTPA (Total excavation - 5.543 MTPA) along with proposed crusher & screen with capacity of 800 TPH in the mine lease area of 156.43 ha, located at Villages Khatkurbahal & Phalsakani, Tehsil Kutra, District Sundargarh, Odisha – [File. No: J-11015/47/2020-IA-II(M), Proposal No: IA/OR/MIN/176862/2020; Consultant: JM EnviroNet Pvt. Ltd] – Environmental Clearance regarding.

Sir,

This has reference to your online proposal no. IA/OR/MIN/176862/2020 of M/s. Shiva Cement Ltd for mining of Limestone in Khatkurbahal (North) Block with production capacity of Limestone 1.6 MTPA and Mineral Reject 0.035 million TPA (ROM 1.635 million TPA), Top Soil 0.033 MTPA & Waste 3.875 MTPA (Total excavation - 5.543 MTPA) along with proposed crusher & screen with capacity of 800 TPH in the mine lease area of 156.43 ha, located at Villages Khatkurbahal & Phalsakani, Tehsil Kutra, District Sundargarh, Odisha. The mine lease area is located between Latitude 22°16'45.31025" N to 22°17'10.12835" N and Longitude 84°27'36.13496" E to 84°29'18.22107" E. The mine lease area falls under the Survey of India Toposheet No: F45G7, F45G8, F45G11 & F45G12 and falls in Seismic Zone-II. The Project Proponent presented the KML file during the presentation to indicate the location of mine lease on Google Earth.

2. The Project Proponent has made an online application vide IA/OR/MIN/176862/2020 dated 13.11.2021 and submitted Form 2 and EIA report under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 1(a) Mining of Minerals and 2(b) Mineral Beneficiation and falls under Category "A" as the mining lease area is greater than 100ha and appraised at the Central level.

3. The proposal was earlier considered in the 42nd EAC (Non-Coal Mining) meeting held during 30th November – 3rd December, 2021, wherein the Committee noted that in the instant proposal while granting Terms of Reference vide F.No J-11015/47/2020-IA-II(M) dated 19.11.2020 it was specifically mentioned in the Specific Terms of Reference Point *(i) that "the transportation of mineral has to be carried out through conveyor belt and the installation of conveyor belt shall be completed before commencing the operations."* But during the meeting, Consultant/PP informed the Committee that the transportation will be carried out by road till the execution of OLBC. The Committee opined that this attracts to the deviation from already granted ToR dated 19.11.2020 for preparing EIA/EMP for the project, hence the Committee warned the consultant to ensure that such type of noncompliance should not be repeated in future. The Committee was of the view that no road transportation will be allowed and hence PP needs to revise the transportation plan accordingly. Therefore, the Committee deferred the proposal for want of additional information. The Project Proponent vide Letter No SCL/North Block/Mine/EC/MoEF-2022-04 dated 31.01.2022 submitted the information on PARIVESH Portal and the proposal was reconsidered in the 46th EAC meeting held during 15th - 17th February, 2022.

4. **The details of the Terms of References (TOR) are furnished as below:**

Date of application	Proposal No	Consideration	Details	Date of accord
30.09.2020	IA/OR/MIN/ 176862/2020	27th - 28th Oct, 2020	Terms of Reference for 1.6 MTPA (ROM) Limestone, Mineral Reject 0.035 MTPA, Topsoil 0.033 MTPA & Waste 3.875 MTPA (Total excavation – 5.543MTPA) and installation of crusher & screen of 800 TPH in the mine lease area of 156.43 ha	19.11.2020

5. **Details of Mine lease:**

S.no	Letter of Intent (LoI)	Date of the grant	Name of the Mineral	Period of Grant	Granted by	Mine lease area in Ha
1	Letter of Intent (LOI) for grant of mine lease through an e auction vide Lr no.9010/S&M,	18.11.2019	Limestone	50 years	Department of Steel & Mines, Government of Odisha	156.43

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	Bhubaneswar and LoI is valid for a period of 3 years from the date of its issuance					
2	Corrigendum issued vide Lr No 1647/S&M, Bhubaneswar that LOI issued vide No. 9010/SM dtd 18.11.2019 may be corrected and read as area of Ha.156.43 computed from land schedule and as Ha.156.012 computed through DGPS Survey	14.02.2020	Limestone	-	Government of Odisha	-

6. Land use/Land Cover of the Mine Lease Area:

Private land	113.969 ha
Government land	42.461 ha (Including)
Grazing land (Govt Land)	5.979 ha
Total Mining lease area (MLA)	156.43 ha
Private land for crusher, workshop & other infrastructure outside the MLA	No infrastructure is proposed outside the ML area
Details of grazing land falling in mineralized zone and non-mineralized zone and measures taken for protection of grazing land	PP reported that 5.979ha grazing land falls within the mine lease area in which 3.403ha falls in mineralized zone and 2.577ha falls under non-mineralized area. Out of 3.403ha, 2.984ha will be covered under mining and remaining area will be no-mining area. PP submitted that as per Odisha Govt. Rules (Letter No. 25616/ R&DM, Bhubaneswar, dated 27-08-2014), equal extent of compensatory land will be provided in the same Village Khatkurbahal over an area of 3.294ha at a distance of 1.5 km from the mine lease area. PP also submitted that

	Rs. 5.17 Cr already allocated towards purchase and development of alternate grazing land. Further, PP submitted the measures to be taken for protection of grazing land in non-mineralized area as follows: (i) Proper fencing will be done surrounding the patches of grazing land to prevent cattle from going inside the working area, (ii) 7.5 m safety barrier will be left along the grazing land & no mining activities will be done in the grazing land measuring 2.577ha in the non-mineralized area. Display board with 'no mining zone' will be prominently displayed. And (iii) Budget of Rs. 12 Lakhs [Rs. 8 Lakh towards fencing and Rs. 4 Lakh towards development such as grassing, plantation etc. (Recurring cost: Rs.2 Lakh/annum)] allocated for protection and development of grazing land. PP also submitted the map demarcating the mineralized and non-mineralized zone in the grazing land of 5.979ha and also the map showing the alternate grazing land located at about 1.5km, S from the mine lease area.

7. Mining plan details:

Mining Plan including Progressive Mine Closure Plan approved by Indian Bureau of Mines	Letter No.	MP/A/02-ORI/BHU/2020-21
	Date	03.06.2020
	Validity	5 years from the date of lease execution
	Mine lease area	156.43 ha
	Mineral	Limestone
	Approved Capacity	1.6 Million Tonne
Additional information (if any)	PP submitted an undertaking vide letter dated 17.01.2022 that the Dolomite excavated during mining of Limestone will be stacked separately on non-mineralized area within the lease area and shall not be used for any other purpose until the company obtains all necessary permissions from the concerned authorities.	
Mining Parameters	**Quantitative Description**	
Method of mining	Opencast Fully Mechanized	
Total Geological Resources	49.91 Million Tonnes	
Mineable reserves	23.61 Million Tonnes	
Life of the Mine	~17 years	

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Bench Height	6 m (10 mine benches)
Bench Width	9 m
Individual bench slope	80°
Overall pit slope	45°
Drilling/Blasting	The drilling of blast holes will be done by rig mounted hydraulic rock drills. The drill diameter will be 115 mm and the machines will be operated by compressed air. The average rate of drilling will be about 12m/hr. Overburden as well as ore zone (consisting of limestone, and rejects) will be loosened by way of primary blasting with hole depth of 6.6 m, burden 2.5 m & powder factor of 6t/kg for ease in excavation by the excavators and oversized boulders will be broken by the deployment of rock breakers instead of secondary blasting.
RoM output size	-50 mm
Transportation details	The transport of Limestone will be done by 25 Ton capacity dumpers from mine faces to crusher (average distance b/w quarry & crushing unit is 1.5 km) and after crushing the limestone will be dispatched to the Cement plant initially by road (19.2 km) and later by OLBC (8.7 km). Installation of OLBC will take approximately two and a half years. A maximum of 0.8 MTPA material will be transported in first 3 years through road with total trips 214 (to & fro) & with 42 increase in PCU/hour.
Dumper's capacity	25 T
Mineral beneficiation	PP submitted that the instant proposal does not involve any wet mineral beneficiation process or any chemical mineral beneficiation process.
Over land belt conveyor (OLBC)	PP submitted that in compliance to the Specific Terms of Reference Point (i) of ToR letter dated 19.11.2020, M/s Shiva Cement Ltd will install 8.7 km long Over Land Belt Conveyor (OLBC). PP reported that it will take 2.5 years (30 months) to commission the OLBC and submitted the month wise implementation schedule of Over Land Belt Conveyor (OLBC). PP also submitted an undertaking vide letter dated 28.01.2022 that the "Environmental Clearance, if granted will be functional only after installing the Over Land Belt

	Conveyor (OLBC) for captive consumption of limestone".
Crusher	PP submitted that Limestone crusher with capacity of 800 TPH will be installed within the mine lease area to bring down the limestone to less than 80 mm to make it suitable for feeding to the grinding system.
Topsoil generation and management	Total of 0.06084 million cum (0.033 MT) of top soil will be generated during plan period. The topsoil will be stacked initially and used subsequently in the safety zone and back-filling area. An area of 5,000 m^2 has been earmarked to accommodate 15,000 m^3 at a time at 3m average height. Total of 0.296886 million cum (0.534 MT) of top soil will be generated during conceptual stage. Topsoil will be used in plantation/greenbelt development to stabilize the backfilled area.
Waste generation and management	PP reported that a total of 10.606 Million Ton (Clay: 0.405 Million Ton, OB/SB: 3.566 Million Ton, Dolomite: 6.635 Million Ton) of waste will be generated during plan period and Total 57.924 Million Ton (Clay: 6.885 Million Ton, OB/SB: 10.928 Million Ton, Dolomite: 40.111 Million Ton) of waste will be generated at the end of life of mine. PP submitted that the waste will be initially dumped in a non-mineralized area/barren area covering an area of 13.51ha, and later 17.183 million ton of waste will be backfilled in 14.845ha at the end of mine life. M/s Shiva Cement Ltd will approach the MoEF&CC for amendment in EC for inclusion of Dolomite in the EC/backfilling of Dolomite within 5 years.
Habitation	The area under habitation is 5.354 ha having 48 houses which will not be disturbed.
Nallah	One nallah is passing in the NW direction in lease area. It flows from NW to NE and merge into Sankh River. 50 m safety barrier zone will be left along nala course.
Village Road	i. There are 4 roads passing through the lease area. (Two tar roads & two kaccha roads) ii. Tar Roads: Both are passing through the central part of the lease area (one is connecting Village Elga to Village Kulenbahal and other one is connecting Village Khatkurbahal to village Patratoli) iii. Kaccha Roads: One is located in Eastern part of the lease area which is connecting village Khatkurbahal to village Patratoli & the other kaccha road is located in the central part of the

	lease area connecting both tar roads to each other. iv. 50 m wide corridor on either side of the roads will be left as a safety zone.
Two old pits	There are 2 old pits existing within the mine lease area. PP submitted the letter from the Office of the Deputy Director of Mines, Rourkela Circle vide Lr No. 11/Mines, dated 04.01.2022 stating that there are two old pits within the mining lease area. One pit has already been developed like a Pond and the other pit seems to be very old. Though outcrops are there, no blasting has carried out and both the pits seem to be trial pit made earlier before the Mining Block put to auction to the successful bidder M/s. Shiva Cement Ltd.
Water table	Pre-monsoon: 238-235 m AMSL (12-15 m bgl); Post-monsoon: 240-238 m AMSL (10-12 m bgl)
Ultimate Working Depth	190 m AMSL (60 m bgl)
Ground water intersection	Yes

8. Nearest village / town/ highway/railway station / water bodies

Particulars	Particular's Name	Distance & Direction
Nearest village	Khatkurbahal Phalsakani	Habitation falls within the lease area ~300 m, SE
Nearest Town / City	Rajgangpur	~12.5 km, SW
Nearest State/National Highway	SH-10	~5.5 km, SSW
Nearest Railway Station	Sonakhan Railway station	~12.9 km, SE
Nearest water bodies	Tambo Nala	~3.0 km, NE
	Seasonal Nala	Passing through the lease area
	Sankh River	~5.0 km, ENE

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9. Water requirement:

Total water requirement	82.0 KLD		Drinking, Canteen, washing etc.	15.0 KLD
	Fresh water	72.5 KLD	Water sprinkling for dust suppression, wet drilling etc	59.0 KLD
	Treated water	9.5 KLD	Plantation	4.0 KLD
			Workshop	4.0 KLD
Source	Ground water and sump of existing mine and later from this mine sump as and when developed			
Permission	Application for ground water abstraction submitted vide application number 21-4/2599/OR/MIN/2020 dated: 26.10.2020 and same is under process. Application has been forwarded from CGWB to CGWA on 28.09.2021.			

10. The Project Proponent reported that there is no forest land involved in the lease area. In support of this, PP submitted the letter obtained from DFO, Sundargarh vide letter Memo No. 4824/4F (Misc)/2021 dated 29.09.2021. PP reported that the nearest Reserve Forest from the mine site are Banglapahari RF (2.0 km, NNW), Kadopani PF (9.5 km, NNW), Brahmani RF-7.5 km, NNW), Lampti RF (3.5 km NNW), Bhursulia RF (7.5 km, WNW), Jhandapaharh RF (5.5 km, ENE), RF (7.0 km, WSW), Kalijapathar RF (6.0 km WSW), PF (4.5 km, West), RF (3.5 km, WSW), Dahijira RF (3.5 km, SSW), Khatang RF (6.0 km, SSE), Gurhiali RF (9.0 km, SSE), Khatang RF (4.5 km SSE), Luhuraberni RF (9.0 km, SSE) and Jurajam PF (9.0 km, South) are found within 10 km radius of the mine lease. Further, PP submitted that there are no Wild Life Sanctuaries, National Parks, Elephant/Tiger Reserves (existing as well as proposed) within 10 km of the mine lease area. PP submitted the Letter regarding the same along with the authenticated location map obtained from DFO, Sundargarh vide letter dated 29.09.2021 and from the Office of the PCCF(Wild Life) & Chief Wildlife Warden vide Memo no. 10767/CWLW-FDWC-MISC-0034-2021 dated 05.11.2021.

11. The Project Proponent reported that there are no Schedule-I species identified in the 10 km radius of the study area and PP submitted the authenticated list of Flora and Fauna obtained from DFO, Sundargarh vide letter Memo No. 4824/4F (Misc)/2021 dated 29.09.2021.

12. Green belt/plantation details:

Proposed area for green belt/plantation	58.493 ha
Budget for green plant & plantation till the end of life of mine.	Rs. 3.28 Crore (Capital) Rs. 15 Lakh/annum (Recurring)
Budget for nursery	No Provision for Nursery
Saplings proposed	Karanja (*Pongamia glabra*), Mango (*Mangifera indica*), Sisu (*Dalbergia Latifolia*), Kadamba (*Neolamarckia cadamba*), Simaria (*Bursera simaruba*), etc.
Particulars for Green belt/plantation	**Area covered (in Ha)**

7.5 m barrier & non-mineralized zone	3.41 ha (7.5 m safety Barrier Zone)
50 m safety zone of nallah, roads, electric lines	30.988 ha
500 m safety zones of nearest habitation villages	
Additional information (if any)	14.845 ha (backfilled area) & 9.25 ha (Worked out benches)

13. The primary baseline data for specific micro-meteorology data, ambient air quality, waste quality, noise level, soil and flora & fauna has been collected during Post Monsoon season. The Monitoring results of ambient air, surface water, soil, ambient noise and ground water for the month of October to December, 2020 have been reported and no major divergence was observed with respect to concentration values of various parameters of collected samples.

Baseline Data (Air / Water / Noise / Soil / Ground water table/ others)					
Period of baseline data collection	October to December, 2020				
Season (Summer / Pre-monsoon / Post-monsoon / Winter)	Post Monsoon season				
Period	Results of Baseline monitoring				
AAQ parameters at 11 locations	Pollutant	Min, µg/m³	Max, µg/m³	98 %l e , µg/m³	Standard, µg/m³
	PM2.5	20.4	58.7	57.9	60
	PM10	42.3	94.8	93.7	100
	SO2	5.0	12.7	12.5	80
	NOx	11.9	27.6	27.3	80
AAQ modelling (Incremental GLC)	Pollutant	Baseline Concentration, µg/m³	Incremental Concentration, µg/m³	Total GLC, µg/m³	Standard
	PM2.5	42.5	1.4	43.9	60
	PM10	72.1	3.4	75.5	100
	SO2	9.0	1.8	10.8	80
	NOx	16.6	0.4	17.0	80
Noise level at 11 locations	Day Time: 48.9 to 66.2 Leq dB (A) Night Time: 40.9 to 59.5 Leq dB (A)				
Surface water quality at 7 locations	pH varied from 6.94 to 7.55 indicating slightly alkaline. The colour and turbidity within the permissible range and odour was found agreeable at				

	all the locations. Total hardness (40 to 225 mg/l), Total dissolved solids (66 to 314 mg/l), Alkalinity (44.78 to 179.1 mg/l) and conductivity (105 to 552 mg/l) were found to be within the limits. BOD varied from 1.8 to 3.6 mg/l & COD varied from 7.6 to 16.8 mg/l indicating that water is clear.
Ground water quality at 8 locations	pH varied from 6.88 to 7.58. Total hardness varied from 62 mg/l to 295 mg/l. TDS varied from 97 mg/l to 384 mg/l. The water samples contain, chloride varied from 7.39 to 87.4 mg/l, SO4 varies from BDL (DL 1.0 mg/l) to 32.4 mg/l, Ca from 10.02 to 78.16 mg/l, Mg varies from 7.29 to 19.44 mg/l. The ground water /drinking water samples were collected from 8 locations, found to be potable.
Soil quality at 8 locations	Soil samples exhibits brown and blackish which indicates good fertility and presence of organic matter in the soil samples. The texture of the soil sample found to be loam, sandy loam and sandy clay loam. pH ranged from 4.55 to 7.12 which is slightly alkaline. All the essential nutrients were observed to be present in a higher amount than the other micro nutrient and macro nutrient.
Traffic study	About 5333 TPD (Peak) of Limestone will be transported to the cement plant (after crushing) located at a distance of ~19.2 km by road through 25 tonne capacity tippers. Increase in PCU's per hour at normative will be 42 and at peak will be 81.
Ground vibration carried out by Central Institute of Mining & Fuel Research (CSIR-CIMFR), Dhanbad during January 2022	PP submitted that the mathematical modeling for anticipated ground vibration due to blasting has been carried out by Central Institute of Mining & Fuel Research (CSIR-CIMFR), Dhanbad. PP also submitted that the deep hole controlled blasting was carried out at the present working mine. During the field study, a total of eight experimental blasts were conducted at different working benches of the mine with varying drilling patterns and charging pattern of holes. The total no of holes in the blasting round varied from 04 to 11 no.s and the depth of the hole varied between 3.6 and 5.7m. The total explosive charge in the blasting rounds varied from 79.23 kg to 200.10 kg. The distance of vibration monitoring point from the blasting site varied from 100 to 345m. A total of 36 ground vibration data were recorded at different vibration monitoring stations from the eight experimental blasts. The magnitude of the ground vibration varied from 0.539 to 7.07 mm/s. The highest magnitude of 7.07 mm/s was recorded at the distance of 100m from the blast and the maximum explosive charge and total explosive charge were 27.80 kg and 200.10 kg respectively. The air overpressure recorded from the experimental blasts varied from 103.5 to 33.7 dB (L). Since higher values of dominant frequencies i.e., >8 Hz were obtained in all the cases, the safe level of peak particle velocity (PPV) for the residential structures of nearby village has been taken as 10 mm/s as per the DGMS Standards. In Khatkurbahal North Block, the residential houses of the nearby villages are located within 300 m from the mining lease boundary in the Northern,

	Southern and Western side of the lease area. However, no residential houses are found within 500m in the Eastern side of the lease area. Some of the public roads are also passing though the lease area. Most of the houses in the surrounding villages are made of bricks and cement with single storey. The electric transmission lines and poles are also present all along the public road. Based on the numerical modeling and the experimental blast conducted at the existing mine, it was observed that the magnitude of ground vibration con be contained within 10 mm/s for the blasting zone of 100 to 300 m from the village houses/structures. Flyrock can also be controlled by using proper blast design patterns and muffling arrangements.

14. Public Hearing (PH) Details

Advertisement for PH with date	14.07.2021 (Times of India and Dharitri)
Date of PH	24.08.2021
Venue	Behind Jagannath Temple, Khatkurbahal Village under Kutra Block of District Sundergarh, Odisha
Chaired by	1. Shri Biswajit Mohapatra Additional District Magistrate, Sundargarh 2. Shri Dr. P.K. Mohapatra, Regional Officer, Rourkela, State Pollution Control Board, Odisha
Main issues raised during PH	Major issues were related to road construction, school bus, education facility, school construction, drinking water, health care facility, R&R etc
Budget proposed for addressing issues raised during PH	PP allocated combined budget for both mine (Existing 72.439 ha & Proposed 156.43 ha) i.e., Rs. 7.77 Crore budget. In which Rs 2.3 Crore is allocated for Existing mine and Rs 5.47 Crore is for Proposed Mine. Rs 5.47 Crore- Capital Rs 0.2 Crore – Recurring
Additional information (if any)	PP submitted that in addition to this, Company has a proposal of Construction of Skill Development Centre and a 20-bed hospital near its cement plant (Telighan) with the amount of Rs. 1.5 Crore and Rs. 3.0 Crore respectively. This amount will be spent in issues raised during public hearing of cement plant.

15. The Project Proponent submitted that proposed mine area is 156.43 ha, out of which 113.969 ha is Private Land & 42.461 ha is Government land. Out of total 42.461 ha Government Land, 5.979 ha is Grazing Land. As per the Khasra details there are 201 PAFs involved in the lease area in which 48 PAFs having structures/houses within lease area which will not be displaced due to the mining activity. Since the part of project site falls in a scheduled area, the land will be acquired by the state government and then the same will be leased out to M/s Shiva Cement Limited as per the provisions of Odisha Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Rules, 2016. Letter for acquisition of entire land of 156.43 ha has been obtained vide letter no. 8985/SM, Bhubaneshwar, the SM-MC2-MMCA-0017-2020 Dated: 19.10.2020. PP also submitted that although land will be acquired through State Government, company has also allocated budget of Rs. 104.418 Crore towards R & R.

16. The Project Proponent submitted that they have initiated the pilot scale study for using electrical vehicles for transportation. PP has ordered 5 no.s of heavy duty EVS (55 tons) in one of the company's plants and the vehicles are expected to be delivered by March, 2022. Trials of EVs in some mining units of Group companies are also underway. On the basis of successful outcome of the pilot scale studies and cost economy, PP plans to implement the use of EVs in this mine and will phase out diesel operated vehicles within a span of 10 years from the start of mining operations. PP reported that after successful outcome of pilot project during 1st five year, 20% of diesel vehicles will be replaced with 8-10 no.s of electric vehicles and in 2nd five year, 80% of diesel vehicles will be replaced with 10-12 no.s of electric vehicles. PP also submitted that the company will also look for commercial viability of using Hydrogen as a fuel and if within next 10 years, the technology is more technically and commercially viable than EV, the plan will be accordingly accustomed.

17. Court case details

Court Case	There is no any Court Cases pending against the project and/or land in which the project is proposed to be set up

18. Affidavit/Undertaking details

Affidavit in a Non-Judicial Stamp paper of Rs 100 bearing L 557488 dated 09.09.2020	The Company will comply with all the statutory requirement & judgment of Hon'ble Supreme Court dated 2nd August 2017 in writ Petition (civil) No. 114 of 2014 in the matter of common cause versus Union of India & Ors.
PP submitted an undertaking dated 16.10.2021	The conditions laid down in Terms of Reference prescribed by MoEF&CC, New Delhi vide letter no. J-11015/47/2020-IA.II (M) dated 19.11.2020 have been complied with, and the data submitted and information presented in this report are factually correct.
Consultant submitted an Undertaking	The conditions laid down in Terms of Reference

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dated 11.11.2021	prescribed by MoEF&CC, New Delhi vide letter no. J-11015/47/2020-IA.II (M) dated 19.11.2020 have been complied as per data/details provided by Project Proponent & as per Mining Plan approved by IBM, Bhubaneswar and the data submitted are factually correct.
Declaration of the consultant for the Hydrogeology study carried out by NABET Accredited Ground Water Consultant Organization (GWCO)	PP submitted that the Hydrogeology Study carried out by J.M EnviroNet Private Limited, NABET accredited Ground Water Consultant Organization vide Certificate No: NABET/GWCO/IA/GW018, the same is valid up to 8th Sep, 2026.
Plagiarism Certificate checked on 13.11.2021	The Head of the Accredited Consultant Organization/ Authorized person certified that this EIA Report has been evaluated by using online in-house software viz. small tools htpps://smalltools.com/plagiarism-checker/. The report produced has been analyzed by the system and based on it, I certify that the EIA Report produce in accordance with good scientific practice.

19. Details of the EMP

S. No	Particulars	Capital Cost (Rs. In Lacs)	Recurring Cost/Annum (Rs. In Lacs)
A.	**Air Quality Monitoring and Management**		
i.	**Mitigative Measures**		
1	Permanent water sprinkling arrangements for main haulage road	10	5
2	2 water tankers for water sprinkling in other roads and mining areas	30	6
3	Motor Grader & Soil Compactor for haul road maintenance	45	5
4	Bag filter installation at Crusher	65	10
5	Water Sprinkler system at crusher hopper and transfer point	5	2
6	Plantation along nallah, village road and around the habitation, near office, backfilled area with total 99160 no. of saplings from 1st year onwards till the life of mine.	281	10

7	Green belt around 7.5 m periphery covering an area of 3.41 ha (No. of saplings: 6138)	47	5
ii	**Monitoring**		
1	1 No of CAAQMS in downwind direction- within mine site and display board at Mines Main Gate	3	3.5
2	Ambient Air Quality monitoring - monthly at 8 locations- within core & buffer zone	50	10
3	Fugitive dust emission monitoring (3 locations monthly) Near Mine office, Near working pit, Near Crusher hopper		1
4	Personal Dust Monitoring	2	0.5
	Sub Total A.	**538**	**58**
B.	**Water Quality Monitoring and Management**		
i.	**Mitigative Measures**		
1	Garland Drain around waste dump (L*W*D = 420 m x 1 m x 1 m)	5	0.25
2	Retaining Wall around waste dump (L*W*H = 210 m x 1 m x 1.5 m)	6	0.25
3	Channelized Catch Drains	8	0.5
4	3 nos. of Settling Tank / Sedimentation Pond (Length*Width*Depth =20 m x 5 m x 3 m)	10	0.5
5	Construction of Protective Bunds along the water reservoir	3	0.25
6	Construction of 3 nos. of Check Dams in and around the area of mine boundary and its annual maintenance	25	1.5
ii	**Monitoring**		
1	Installation of 1 Piezometer along the lease periphery in the Premises	1.5	0.5
2	flow measurement and Surface Water & Ground water quality analysis (4 locations * 4 times in a year)	-	0.8
3	Raw water analysis (PZ wells) (4 locations * 2 times in a year)	-	0.2
4	Workshop Waste Water Quality Analysis (monthly) as well as	-	0.25

	maintenance of oil-water separators		
Sub Total B		**58.5**	**5**
C.	**Others**		
1	Procurement of the Blast Vibration Measuring Instrument & Noise level meter and yearly calibration	5	1
2	Peak Particle Velocity Monitoring for nearest habitation i.e. Khatkurbahal, Kulenbahal, Phalsakani	8	1.5
3	Noise Monitoring (4 locations * monthly frequency)		1
4	Personal Noise Monitoring		1
5.	Digital mapping of entire mine area once in three years (Rs. 3 Lacs once in 3 years)	-	1
6.	Wildlife conservation activities in consultation with local DFO (digging of water pits, plantation of native species in forest area, awareness programmes for community (Total budget Rds. 50 Lakh for 10 years or Rs 5 lakh per year)	-	5
Sub Total C		**13**	**10.5**
Grand Total (A+B+C)		**609.5**	**73.5**
D.	**Budget for issues raised during Public Hearing**		
1.	Public Hearing Action Plan for three years	547	20
Sub Total D		547	20
Grand Total (A+B+C+D)		**1156.5 says 1157**	**93.5 says 94**

20. Details of project cost and employment:

Particulars	Budget (Rs. In Crore)
Capital Cost for Environment Protection	6.10
Budget for addressing the Public Hearing issues	5.47
Total Cost for EMP	11.57
Recurring Cost for EMP	1.0
Project Cost	160
Employment	306 persons

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21. **Observation and Recommendation of the Committee:**

The proposal for Environmental Clearance was considered in the 46th EAC (Non-Coal Mining) meeting held during 15th - 17th February, 2022. After detailed deliberations made by the Project Proponent and the Consultant, the Committee **recommended** the proposal for grant of Environmental Clearance for M/s. Shiva Cement Ltd for mining of Limestone in Khatkurbahal (North) Block with production capacity of Limestone 1.6 MTPA and Mineral Reject 0.035 million TPA (ROM 1.635 million TPA), Top Soil 0.033 MTPA & Waste 3.875 MTPA (Total excavation - 5.543 MTPA) along with proposed crusher & screen with capacity of 800 TPH in the mine lease area of 156.43 ha, located at Villages Khatkurbahal & Phalsakani, Tehsil Kutra, District Sundargarh, Odisha subject to the specific conditions in addition to the standard EC conditions applicable for non-coal mining projects.

22. The Ministry of Environment, Forest and Climate Change has examined the proposal in accordance with the Environmental Impact Assessment Notification, 2006 and further amendments thereto and hereby accords the above mentioned Environmental Clearance after accepting the recommendation of EAC during its 46th EAC (Non-Coal Mining) meeting held during 15th - 17th February, 2022 for M/s. Shiva Cement Ltd for mining of Limestone in Khatkurbahal (North) Block with production capacity of Limestone 1.6 MTPA and Mineral Reject 0.035 million TPA (ROM 1.635 million TPA), Top Soil 0.033 MTPA & Waste 3.875 MTPA (Total excavation - 5.543 MTPA) along with proposed crusher & screen with capacity of 800 TPH in the mine lease area of 156.43 ha, located at Villages Khatkurbahal & Phalsakani, Tehsil Kutra, District Sundargarh, Odisha subject to compliance of the terms & conditions and the environmental safeguards mentioned below:-

A. SPECIFIC CONDITIONS

i. The Environmental Clearance (EC) will be functional only after the execution of mine lease deed.

ii. The transportation of the mineral should be carried out through the over land conveyor belt only.

iii. Grazing land falling in the mineralized zone needs to be diverted and developed at Village Khatkurbahal as per extant rules. Access to grazing land in the mine lease area shall not be disturbed and protected by way of developing plantation in such a way to minimize the risk to cattle and people.

iv. Movement of the material within the mine lease area should be preferably done with electric vehicles as proposed by the PP.

v. A detailed action plan needs to be prepared for deploying EMP funds for addressing public hearing concerns and action taken report on work done and

expenditure incurred under capital and recurring expenses to be submitted annually to the Integrated Regional Office.

vi. The budget of Rs 5.47 Cr to address the concerns raised by the public including in the public hearing to be completed within 3 years from the date of start of mining operations. PP shall comply with all action plans made for public hearing concerns and make regular maintenance and record the progressive activity outcomes.

vii. The Project Proponent shall carry out the plantation with the survival rate of not less than 90% by planting 10 ft seedlings. Causalities should be replaced with new saplings every year and be counted separately other than the total proposed saplings. PP shall complete the peripheral plantation within 6 months from the start of mining operations. PP shall undertake the progressive bench plantation up to HFL for eco restoration of water bodies. PP shall also submit the details such as photographs (before & after with geo-location date & time), number of species planted, density of plantation and survival rate in the EC compliance report.

viii. The Project Proponent should consult with the Forest Department for demarcation for removal of 184 no.s of trees in the mine lease area and should explore the possibility of replanting with the indigenous species.

ix. The Project Proponent shall also organize employment-based apprenticeship/ internship training program every year with appropriate stipend for the youth and other programs to enhance the skill of the local people. The data should be maintained for the training imparted to the persons and the outcome of the training, for the assessment of the training program should be analyzed periodically and improved accordingly.

x. The Dolomite excavated during mining of Limestone to be stacked separately on non-mineralized area within the lease area and should not be utilized for any other purpose.

xi. The Project Proponent applied for the both 1(a) Mining of Minerals and 2(b) Mineral beneficiation and submitted that the instant proposal does not involve any wet mineral beneficiation process or any chemical mineral beneficiation process. Hence, the Project Proponent shall ensure that the no mineral beneficiation shall be carried out without the prior permission from the MoEF&CC.

xii. The Project Proponent should implement the Rehabilitation of project affected families (PAFs) and payment of compensation to PAFs as per the policy and guidelines of the Central/State Government, as provided under the law.

xiii. The Project Proponent shall follow the preventive measures prescribed by the CSIR-CIMFR to control the blast induced ground vibration and its monitoring data near the receptors and its implementation status should be submitted to the Ministry's Integrated Regional Office every 6 months.

xiv. The Project Proponent shall strictly follow the mitigation measures provided in MoEF&CC Office Memorandum No. Z-11013/57/2014-IA.II(M), dated 29th October, 2014.

xv. The Project Proponent should periodically monitor and maintain the health records of the mine workers digitally prior to mining operations, at the time of operation of mine and post mining operations. Regular surveillance on Silicosis shall be carried through regular occupational health check-up every year for mine workers.

xvi. The Project Proponent should obtain the permission from the Competent Authority for withdrawal of ground water and abstraction before commencing the mining operations.

B. STANDARD CONDITIONS

I. 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) The Project proponent complies with all the statutory requirements and judgment 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.

3) 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 Judgment 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.

4) The Project Proponent shall follow the mitigation measures provided in MoEFCC's Office Memorandum No. Z-11013/57/2014-IA.II (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages

are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".

5) 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.

6) 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.

7) 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.parivesh.nic.in). A copy of the advertisement may be forwarded to the concerned MoEFCC Regional Office for compliance and record.

8) 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. PP needs to apply for 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

9) 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/PCI/I, 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.

10) 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 MoEFCC/ Central Pollution Control Board.

III. Water quality monitoring and preservation

11) 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 MoEFCC 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.

12) 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.

13) 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 including upstream and downstream. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. 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 MoEFCC. 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.

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

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

16) 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.

17) 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

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

19) 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.

20) 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

21) The Project Proponent shall adhere to approved mining plan, inter alia, including, total excavation (quantum of mineral, waste, over burden, inter burden and top soil etc.); mining technology; lease area; scope of working (method of mining, overburden & dump management, O.B& dump mining, mineral transportation mode, ultimate depth of mining, concurrent reclamation and reclamation at mine closure; land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life; etc.).

22) 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 MoEFCC and its concerned Regional Office.

VI. Land reclamation

23) The Overburden (O.B.), waste and topsoil 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 / waste dumps / topsoil dump like height, width and angle of slope shall be governed as per the approved Mining Plan and the guidelines/circulars issued by D.G.M.S. The topsoil shall be used for land reclamation and plantation.

24) 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.

25) Catch drains, settling tanks and siltation 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.

26) 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.

VII. Transportation

27) 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. [If applicable in case of road transport].

28) 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

29) 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.

30) 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.

31) 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.

IX. Public hearing and human health issues

32) 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.

X. Corporate Environment Responsibility (CER)

33) The Project Proponent shall submit the time- bound action plan to the concerned regional office of the Ministry within 6 months from the date of issuance of environmental clearance for undertaking the activities committed during public consultation by the project proponent and as discussed by the EAC, in terms of the provisions of the MoEF&CC Office Memorandum No.22-65/2017-IA.III dated 30 September, 2020. The action plan shall be implemented within three years of commencement of the project.

XI. Miscellaneous

34) 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.

35) 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.

36) The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC &its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.

37) 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.

38) 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.

39) In pursuant to Ministry's O.M No 22-34/2018-IA.III dated 16.01.2020 to comply with the direction made by Hon'ble Supreme Court on 8.01.2020 in W.P. (Civil) No 114/2014 in the matter Common Cause vs Union of India, the mining lease holder shall after ceasing mining operations, undertake regrassing the mining area and any other area which may have been disturbed due to other mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.

40) The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

41) Concealing factual data failure to comply with any or submission of false/ fabricated data and of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

23. The above conditions will 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 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 and any other Court of Law relating to the subject matter.

24. 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.

25. This issues with the approval of Competent Authority.

Yours faithfully,

Pankaj Verma

(Pankaj Verma)
Scientist 'E'

Copy to:

i. **The Secretary,** Ministry of Mines, Government of India Shastri Bhawan, New Delhi.
ii. **The Chief Secretary,** Government of Odisha, Secretariat, Bhubaneswar.
iii. **The Secretary,** Department of Environment, Government of Odisha, Secretariat, Bhubaneswar.
iv. **The Secretary,** Department of Mines and Geology, Government of Odisha, Secretariat, Bhubaneswar.
v. **The Secretary,** Department of Forests, Government of Odisha, Secretariat, Bhubaneswar.

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vi. **The Secretary,** Department of Steel and Mines, Government of Odisha, Secretariat, Bhubaneswar.
vii. **The Member Secretary,** Odisha Pollution Control Board, Parivesh Bhawan, A/118 Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012.
viii. **The Deputy Director General of Forests (C),** Ministry of Environment, Forest and Climate Change, Integrated Regional Office, A/3, Chandersekharpur, Bhubaneswar – 751023.
ix. **The Chief Wildlife Warden,** Prakurti Bhawan, 5th floor, BDA Apartment, Nilakanthanagar, Nayapalli, Bhubaneswar-751012, Odisha.
x. **The Chairman,** Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
xi. **The Controller General,** Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440001.
xii. **The Member Secretary,** Central Ground Water Board, Ministry of Agriculture and Irrigation, 12/1 Jam Nagar House, Shahjahan road, New Delhi 110011.
xiii. **The District Collector,** Sundargarh District, Govt. of Odisha.
xiv. **Guard File.**
xv. **PARIVESH Portal.**

Pankaj Verma

(Pankaj Verma)
Scientist 'E'

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Signature Not Verified
Digitally signed by Pankaj Verma
Scientist E
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