

Ref. No. SMI/KIOM/23-24/116(A)

DATE: 01.06.2023

To,
The Member Secretary,
State Environment Impact Assessment Authority, Odisha
(Ministry of Environment, Forests & Climate Change)
Qr. No-5RF-2/1, Unit-IX, Bhubaneswar -751 022

Subject : Submission of Environmental Clearance compliances status of the stipulated conditions for Iron Ore production of 1.5 MTPA in respect of Khandbandh Iron Ore Mines of Sree Metaliks Ltd for the period October 2022 to March 2023 - Reg.

Reference: SEIAA file no. 61542/564-MINB1/02-2022 & EC Identification No. EC22B001OR133726 dt. 30.06.2022

Dear Sir,

With reference to the above cited subject and gazette notification, we are submitting herewith the six monthly compliance report in soft copy by E-mail i.e. seiaaorissa@gmail.com & roez.bsr-mef@nic.in and also uploading the same in our company website i.e. <https://sreemetaliks.com> for 1.50 Million TPA Iron ore production with comprehensive data analysis reports (supporting photographs and monitoring reports) for the period October 2022 to March 2023 in respect of Khandbandh Iron Ore Mines of Sree Metaliks Ltd.

Thanking you.

Yours faithfully,

For Khandbandh Iron Ore Mines of Sree Metaliks Ltd


Mines Manager
Khandbandh Iron Ore Mines
M/s Sree Metaliks Limited

Enclosed : As above & Compliance Copy with detailed analysis report and supporting photographs and monitoring data.

Copy to :

(1) The Director (S)

Eastern Regional Office, Ministry of Environment & Forest, Government of India,
A-3 Chandrasekharapur, Bhubaneswar - 751 023

(2) The Chairman,

State Pollution Control Board, Orissa A/118, Nilakantha nagar, Unit - VIII,
Bhubaneswar - 751 012

(3) The Member Secretary, Central Ground Water Authority, A2, W3 Curzan Road
Barracks, K.G. Marg, New Delhi - 110 001.

CIN U26939WB1995PLC075633

SML HOUSE, MAIN ROAD, BARBIL - 758035, KEONJHAR, ORISSA, INDIA

Six monthly compliance reports of conditions laid down vide letter no. 61542/564-MINB1/02 2022 dated 30.06.2022 of SEIAA in respect of Khandbandh Iron Ore Mines of Sree Metaliks Ltd.

NAME OF THE PROJECT:

**Khandbandh Iron Ore Mines (35.774 Ha)
of Sree Metaliks Ltd`**

CLEARANCE LETTER NO. & DATE:

- **SEIAA LETTER NO. 61542/564-MINB1/02-2022**
- **EC No. EC22B001OR133726**
- **DATED 30.06.2022.**
- **PRODCUTION CAPACITY: 1.50 MTPA**

PERIOD OF COMPLIANCE REPORT:

OCTOBER, 2022 TO MARCH, 2023

**Six monthly compliance reports of conditions laid down vide letter no. 61542/564-MINB1/02 2022
dated 30.06.2022 of SEIAA in respect of Khandbandh Iron Ore Mines of
Sree Metaliks Ltd.**

SL.N O	A. STIPULATED CONDITONS	STATUS
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,	We are abiding by the said condition and order issued by the competent authority with due compliance from time to time.
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.	We are abiding by the said condition of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014
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.	We are abiding by the said condition.
4	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.	The project is not coming within 10 kms of any Eco Sensitive Zone. The NOC from NBWL is not applicable for this project.
5	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.	The project has obtained the Forest Clearance over the entire forest area involved in the project i.e. 35.774 Ha from the MOEFCC, GOI under the FC Act, 1980. Copy enclosed as Annexure # 1.
6	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.	We have obtained the consent to establish from the SPCB, Odisha vide letter no. 19449/IND-II-NOC-6578 Dated 06.12.2021 and Consent to Operate from the SPCB, Odisha vide Letter No.18238/IND-I-CON-6573 dated. 29.09.2022 and effectively implementing the conditions stipulated therein. Copy of the same is attached

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		herewith as Annexure-2.
7	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.	We are abiding by the said condition and order issued by the competent authority with due compliance from time to time.
8	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.	Mining Operation is being carried out on the surface right areas only and as per the approved land use plan approved in Mining Plan by IBM.
9	The Project Proponent shall follow the mitigation measures provided in MoEF&CC Office Memorandum No. Z-I1013/57/2014-1A.11 (M), dated 29 th 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".	Not Applicable, as the mining Lease area is not part of any habitational area or not surrounded by any habitational area.
10	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 groundwater for the project	The project has already obtained the necessary clearances from the competent authority for the drawl of the requisite quantity of Surface water i.e. 150 KLD and groundwater i.e. 9.8 KLD. The copy of Groundwater NOC is enclosed as Annexure - 3.
11	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	It has been complied.
12	State Pollution Control Board shall be responsible for display of this EC letter at its Regional Office, District Industries Centre and Collector's Office / Tahsildar's Office for 30 days.	It has been complied.
13	The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local	We have advertised in the two local newspapers, i.e., Samaj-Odia Daily (vernacular language) and The Odisha

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	<p>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 and web site of the Ministry of Environment, Forest and Climate Change (www.environmentclearance.nic.in). A copy of the advertisement may be forwarded to the concerned MoEF & CC Regional Office for compliance and record.</p>	<p>Post - English daily within stipulated time period. A copy of the same has been submitted to the Regional Office of this Ministry located at Bhubaneswar.</p>
14	<p>The Project Proponent shall inform the MoEF & CC/SEIAA, Odisha 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.</p>	<p>We are abiding by the said condition.</p>
Sl.no	B. Specific Conditions	Status
15	<p>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.</p>	<p>The project has already established 4 no. of AAQ monitoring station in the core and 4 no. AAQ monitoring station in the buffer zone for monitoring of the AAQ as per NAAQs notifications made by the CPCB and the project is also adopting the analysis of sample as cleared indicated in the NAAQs. The copy of the monitoring report is attached herewith as Annexure -4.</p>

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16	<p>Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metaled 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 a sources shall be regularly controlled by installation of required equipment's/ 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.</p>	<p>Two numbers of Water Tankers with different capacities of 1 X 16KL & 1 X 12KL are provided for adequate water sprinkling on adjacent concrete roads & also provided the mist canon for suppression of the air-borne dust. Apart from that, the project has also installing 750 m length of auto fixed sprinkling system on the mines main haul road areas towards dust suppression purposes. AAQ monitoring data is being carried out at haul road, loading/unloading point, transfer point, Fugitive Dust Emission source points and monitoring results are well within the norms, the test results is given in Annexure-5 The photographs of water tanker are given below as Photo#1.</p>
17	<p>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.</p>	<p>As per the approved mining plan by the Indian Bureau of Mines, GoI and hydrogeology study, the groundwater table exists at 510 m RL and present mines operation is restricted at 547 M RL. So, there is no occurrence of groundwater intersection during the reporting period.</p>
18	<p>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</p>	<p>We are maintaining the record of the flow rate of the springs and perennial nallahs in and around the mining lease the report are enclosed as Annexure-6. Proponent provided the drinking water by water tanker in regular basis. The project is also regularly monitoring the water table in open/dug wells located at respective villages to ascertain the impact of the mining over ground water table. The water level data is enclosed as Annexure-6(A). The project also monitoring the ground water quality on regular basis the report of the same are attached herewith as</p>

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	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.	Annexure - 6(B).
19	Project Proponent shall regularly monitor and maintain records w.r.t. groundwater 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.	The project is carrying out the monitoring of ground water level and quality regularly by covering core and buffer zone area of the project. The monitoring is being carried with specified parameters of SPCB/CPB/MoEF&CC standards and all the test results are found well within the prescribed norms. We have installed the Piezo-meter to monitor the ground water table inside our mines by establishing a network of existing wells and constructing new piezometers. The report of the same is being submitted to MOEF on six monthly.
20	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-a-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 / SEIAA,	We are maintaining the record of the flow rate of the springs and perennial nallahs in and around the mining lease .Water quality of up-stream and down-stream of water bodies are being monitored regularly and the report of the same is submitted to respective authorities on regular basis. The Surface water quality data is enclosed as Annexure-7 . Sufficient number of Gullies is provided for better management of water. Regular Monitoring of pH of the mines surface run off is being carried and reports of the same is being submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office on six monthly basis. The project is carrying out the monitoring of ground water level and quality on regularly by covering core

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	<p>Odisha. 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 be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, SEIAA, Odisha, 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.</p>	<p>and buffer zone area of the project. The monitoring is being carried with specified parameters of SPCB/CPB/MoEF&CC standards and all the test results are found well within the prescribed norms.</p>
21	<p>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.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.</p>	<p>The quality of discharged water is being monitored regularly (COD, TDS, DO, PH and Total Suspended Solids (TSS)] the report of surface runoff is attached herewith as Annexure - 8.The monitoring data results are updated in the company website also.</p>
22	<p>The project proponent shall construct retaining wall and settling pond within the Lease area. Further, check dams shall be constructed at strategic locations in which rain water passes in rainy season. Finally, the excess superannuated after sedimentation shall be allowed to spill away through stone pitch structure to the nearby valley.</p>	<p>The project is ensuring and implementing the necessary precautionary measures by construction of retaining wall of gabion boxes, check dams, check weirs, settling pits, etc. at strategic locations in which rain water passes in rainy season. Finally, the excess superannuated after sedimentation shall be allowed to spill away through stone pitch structure to the nearby valley. For prevention and control of soil erosion and management of silt. Apart from that, the project has also constructed concrete structures of RCC wall at the toe of the dump and</p>

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		strategic locations for prevention of the soil erosion and management of silts. The details of retaining wall check dams and settling ponds are given below in Table#1 . The photographs of same are given as Photo # 2 .
23	De-silting of agricultural lands in buffer zone and beyond including nearby Nallah's /rivers perennially periodically and perpetually caused due to wash up of minerals/OB/dumps shall be done as per SOP submitted. A legal affidavit shall be submitted within 6 months from the date of issue of Environmental Clearance to this effect with periodicity of de-silting.	The de-silting of agricultural land in buffers zone and nearby nallah perennially was done periodically.
24	Detail design of the existing retaining wall and the proposed for the expansion from a chartered Civil Engineer shall be submitted within 6 months from the date of issue of Environmental Clearance to ensure that no silt after wash up is escaped from the core & buffer zone of the mines.	The project is ensuring and implementing the construction of guard wall of gabion boxes, check dams, check weirs, settling pits, etc. at the toe of the dumps for prevention and control of soil erosion and management of silt. Apart from that, the project has also constructed concrete structures of RCC wall at the toe of the dump and strategic locations for prevention of the soil erosion and management of silts.
25	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, MoEF & CC annually.	The Rain water harvesting facilities developed in Premises of colony area so as to augment the ground water resources in the area. Photo#3 .
26	Industrial waste water (workshop and waste water from the mine) should be properly collected and treated in an ETP as proposed 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	Oil & Grease Separation unit is provided within the mining lease area with the provisions of sediment settling and filtering of oil and grease. The final outlet is having provision for reuse of treated water for workshop, plantation, dust suppression etc. Purposes. The oil and grease collected from the unit are collected into the leak proof barrels/drums and sold to the

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	effluent shall be treated after its initial passage through Oil and grease trap.	authorized re-processors. The photo of the same is enclosed as photo#4 .
27	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.	We will abide by the said condition.
28	The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.	No deep hole drilling and blasting is done in the mines.
29	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.	No lighting system is facing towards the villages, so there is no disturbance of the biological clock of the villagers. The mine is also conducting the controlled blasting, so there is no impact of dust, vibration impact and noise on the villagers.
30	The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The worker 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.	Workers engaged in Operations are provided with earplugs/muffs, besides this acoustic enclosure for all machine operating cabins are provided. It is being monitored by Noise Level Meter; the results reveals very well within norms. The monitoring reports are attached herewith as Annexure -9 .
31	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	We are carrying out the mining operation as per the approved Mining plan as approved by IBM, GoI and if any change in the technology, we will take the approval of SEIAA. The copy

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	<p>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.</p>	<p>of approved mining plan is attached herewith as Annexure-10.</p>
32	<p>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.</p>	<p>The Project is in operation since 2018; therefore, the date of financial closure, final approval of the project and date of land development of the project will be intimated.</p> <p>A Final mine closer plan along with a detailed corpus fund will be submitted to the Ministry of Environment & Forest, 2 years in advance of final mine closure for approval.</p>
33	<p>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-a-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 / SEIAA, Odisha</p>	<p>We are carrying out the mining operation as per the approved Mining plan as approved by IBM, GoI and if any change in the technology, we will take the approval of SEIAA.</p> <p>However, the project has started backfilling of the proposed southern part of the exhausted mines quarry-1 of an area 3.740 Ha. Out of total ML area of 35.774 Ha as approved in the Mining Plan by IBM. The back-filling area will be monitored and managed with plantation till the vegetation is established and becomes self-sustained to restore the land to a condition. And the compliance of the same to be submitted to Moef& CC in half-yearly</p>

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		basis.
34	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.	The overburden (OB) generated during the mining operation is being stacked at the earmarked dump site(s) only and its active one. Proper terracing of OB dump is being carried out so that the overall slope shall not exceed as per the approved mining plan. The dump is provided with a retaining wall at the toe followed by a garland drain and settling pits. . No Topsoil is being generated from mining operation as its operation is restricted to already broken up area only. If any, it will be stored at earmarked site(s) only with proper protection measures.
35	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.	The reject/waste generated during the mining operation is being stacked at the earmarked dump site(s) only and its active one. Proper terracing of OB dump is being carried out so that the overall slope shall not exceed as per the approved mining plan. The dump is provided with a retaining wall at the toe followed by a garland drain and settling pits.
36	The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.	The reclamation of dumps will be done in scientific manner with as per the approved mining plan. Plantation and environment safeguard measures like provision of Coir matting, plantation, retaining wall, garland drainage provided at the bottom of the dump slopes. The photographs of the dump management is given here as Photo#5 .
37	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	The maximum heights of the dumps are maintained as per the Mining plan. The OB dumps is being scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, we are using the geo textiles for stabilization of the dump. The entire excavated area shall be backfilled and afforested.

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	impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ levelling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners / Bentonite etc. shall be undertaken for stabilization of the dump.	
38	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, Govt. of India, Bhubaneswar as well as SEIAA, Odisha.	The dumps are within the height of 30 meters.
39	Catch drains, settling tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and topsoil & OB / waste dumps to prevent runoff 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.	Catch drains, check dams, check weirs, settling pits, etc. constructed at the toe of the dumps for prevention and control of soil erosion and management of silt. Apart from that, the project has also constructed concrete structures of RCC wall at the toe of the dump and strategic locations for prevention of the soil erosion and management of silts. The collected water is being used for the dust suppression and gardening purpose. The de-siltation of the check dams, and catch drains are being done in regularly.
40	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.	The project is ensuring and implementing the necessary precautionary measures by construction of guard wall of gabion boxes, check dams, check weirs, settling pits, etc. at the toe of the dumps for prevention and control of soil erosion and management of silt. Apart from that, the project has also constructed concrete structures of RCC wall at the toe of the dump and strategic locations for prevention of the soil erosion and management of silts.

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41	<p>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.</p>	<p>No Topsoil is being generated from mining operation as its operation is restricted to already broken up area only, if any, it will be stored at earmarked site(s) only with proper protection measures.</p>
42	<p>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.</p>	<p>The project has started backfilling of the proposed southern part of the exhausted mines quarry-1 area of 3.740 Ha. Till 2022-23 out of total ML area of 35.774 Ha as approved in the Mining Plan by IBM. The back-filling area will be monitored and managed with plantation till the vegetation is established and becomes self-sustained to restore the land to a condition that is fit for the growth of fodder, flora, fauna, etc.</p>
43	<p>No Transportation of the minerals shall be allowed in case of roads passing through 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</p>	<p>The transportation of the mineral is being carried out in the specified road and the road is being maintained by the project proponent up to main road. The mineral is being transported through road as permitted by District Administration, Keonjhar. The pollution due to transportation load on the environment is being effectively controlled by water sprinkling regularly. Vehicular emissions are being kept under control by regularly maintaining the vehicles. Project is obtaining Pollution Under Control (PUC) certificate for all the vehicles which are running in the mines from authorized pollution testing centres. The PUC certificate of vehicle is attached herewith as Annexure-11. We are also ensuring that all the trucks used for the mineral transportation are covered with tarpaulin to avoid the spillage of ore. Photo enclosed as</p>

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	control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.	Photo # 6.
44	The Main haulage road within the mine lease should be provided with a permanent water 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 equipment's 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.	The mines main haul road and other mines roads are provided with water sprinkling system i.e. mobile water tankers and permanent fixed sprinkling systems is under progress. Dry fog system is being installed in our Crusher and screen plant areas to avoid the air borne dust and also encapsulation is provided in conveyor belts of the plants. The photographs of the same are attached herewith as Photo#7.
45	Traffic management shall be done as per recommendation of Traffic Management Study Report.	Traffic management is being followed as per Traffic Management Study Report.
46	The Project Proponent shall provide parking plaza for the heavy vehicles within the lease area as recommendation of NEERI.	The Project Proponent provided parking plaza for the heavy vehicles within the lease area as recommendation of NEERI.
47	The Project Proponent shall develop green belt 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.	Safety zone plantation over 7.5 meter all along the lease boundary already carryout with saplings of 10,500 numbers, it is because every year we are doing re-plantation in gap areas and we are also following the Forest Dept. guidelines for the same. The photographs of the same are attached as Photo#8.

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48	<p>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.</p>	<p>The project as started backfilling of 3.740 Ha. upto year 2022-23 as approved in the Mining Plan by IBM. However, the project has planted 5200 no. saplings of native species across the safety zone, river safety zone, etc. in consultation with local Forest Dept. during the reporting period. Photos of the same are given in as Photos#8A. The year wise plantation details are also submitted to the respective authorities & it's mentioned in Table no. # 2.</p>
49	<p>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-clay shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.</p>	<p>No grazing land is involved in the project.</p>
50	<p>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. and implemented in consultation with the State Forest and Wildlife Department. A copy of</p>	<p>The project has prepared the Wild Life Conservation Plan in consultation with DFO and the same got approved by PCCF (Wildlife) & Chief Wild Life Warden, Bhubaneswar with an estimated cost of INR 14 Lakhs towards activities to be implemented within the ML area and INR 68 Lakhs towards activities to be implemented by the DFO in the project impact area. The project has carried out the following activities towards the implementation of the Wild Life</p>

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	Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.	Conservation Plan within the ML area in consultation with DFO such as plantation of blank areas, conservation measures of soil & moisture, rainwater harvesting measures in core & buffer areas followed by fire protection measures in around of ML area. Further, the project has actively participated in wildlife awareness promotion programs like WED, Wildlife week celebration, etc., and has made provision of funds for the other unforeseen expenses. A copy of the approval of the Wild Life Conservation plan is enclosed as Annexure -12.
51	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.	Initial Medical Examination & Periodical Medical Examination of the workers engaged in the project is being undertaken periodically for employees, who are engaged in the process of mining & are likely exposed to dust to observe any contractions due to exposure to dust. This is being carried as per in compliance to Mines Act 1952 & rules 1956 and amendments thereto. The Periodical Medical Examination & Initial Medical Examination was held for 23 No. of employees (IME-7 & PME-28) from October 2022 to March 2023. The various tests include PFT, X-Ray, and lung spirometry, etc. Based on the above tests, there is none of the above-mentioned employees was found by Silicosis/ Pneumoconiosis or occupational health-related diseases during the examination. The test certificate of the employees is enclosed as Annexure- 13.
52	A commitment in form of an undertaking for periodical occupational health check-up of the employee and the local people shall be done through an occupational health expert as per the detailed action plan submitted with the proposal within 6 months from the date of issue of environmental Clearance.	Initial Medical Examination & Periodical Medical Examination of the workers engaged in the project is being undertaken periodically for employees, who are engaged in the process of mining & are likely exposed to dust to observe any contractions due to exposure to dust.

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53	<p>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 neighbourhood 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.</p>	<p>The Project Proponent is committed towards 'Zero Harm' from their mining activities and is being carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and appropriate control measures are being taken for protect the health and wellbeing of workers and nearby community. The proponent is maintaining accurate and systematic records of the HRA.</p>
54	<p>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</p>	<p>Initial Medical Examination & Periodical Medical Examination of the workers engaged in the project is being undertaken periodically for employees, who are engaged in the process of mining & are likely exposed to dust to observe any contractions due to exposure to dust. This is being carried as per in compliance to Mines Act 1952 & rules 1956 and amendments thereto. The Periodical Medical Examination & Initial Medical Examination was held for 23 No. of employees (IME-7 & PME-28) from October 2022 to March 2023.</p> <p>The various tests include PFT, X-Ray, and lung spirometry, etc. Based on the above tests, there is none of the above-mentioned employees was found by Silicosis/ Pneumoconiosis or occupational health-related diseases</p>

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	<p>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).</p>	<p>during the examination.</p>
55	<p>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 ha 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.</p>	<p>Initial Medical Examination & Periodical Medical Examination of the workers engaged in the project is being undertaken periodically for employees, who are engaged in the process of mining & are likely exposed to dust to observe any contractions due to exposure to dust. This is being carried as per in compliance to Mines Act 1952 & rules 1956 and amendments thereto. The Periodical Medical Examination & Initial Medical Examination was held for 23 No. of employees (IME-7 & PME-28) from October 2022 to March 2023.</p> <p>The various tests include PFT, X-Ray, and lung spirometry, etc. Based on the above tests, there is none of the above-mentioned employees was found by Silicosis/ Pneumoconiosis or occupational health-related diseases during the examination.</p>
56	<p>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.</p>	<p>The personnel's working at dusty areas provided with proper PPEs i.e. nose masks etc. The working force is also being trained with safety and health norms as per Mines and DGMS guidelines.</p>

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57	<p>Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water.</p>	<p>The is no such housing being made for the labours within the lease area however the project has provided a temporary housing facility for the work force by facilitating fuel for cooking, septic tank followed by soak pit for domestic effluents (STP-Ultra Filtration Unit), drinking water, medical health care etc. outside the ML area.</p>
58	<p>The project proponent shall arrest the flow of surface run off and washings from mining lease area to protect the cultivated land nearby. As committed in the public hearing, the PP shall form committee with the villagers to discuss the issues and fulfil their demands through the committee.</p>	<p>To prevent the mines surface run off water, we have provided the adequate size, shape of check dams, check weir are followed by proper settling ponds. Settling pits are connected with the garland drains and de-siltation of the settling pits is being carried out regular intervals.</p>
59	<p>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 as proposed. The Status Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.</p>	<p>We are abiding by the said condition.</p>
60	<p>The project proponent shall comply in true sprit all the issues raised and recorded in proceedings of public hearing w.r.t. environment / pollution I CER shall be complied by the project proponent as per OM F. No. 22-65/2017-IA III, dated 30.09.2020 of MoEF&CC, Govt. of India.</p>	<p>We are abiding by the said condition.</p>
61	<p>As per the MoEF & CC, Govt. of India Office Memorandum dated 30.09.2020, the project proponent is required to prepare and implement Corporate Environment Responsibility (CER) Plan. The activities proposed under CER</p>	<p>We are abiding by the provisions made in the CER and a time bound action plan is to be submitted and the same for its implementation in phased manner.</p>

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	<p>shall be restricted to the affected area around the project. The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villages and administration. The activities proposed for CER shall be implemented and to be completed within three years 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 and to the District Collector. It should be posted on the website of the project proponent.</p>	<p>The project has earmarked the funds for implementation of environment protection measures and the same is being used for environmental protection measures.</p>
62	<p>Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Regional Office of MoEF & CC, Bhubaneswar, SPCB, Odisha along with the Six Monthly Compliance Report.</p>	<p>Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company is prepared and the fund earmarked for environmental protection is being utilized for the said purpose only. The details of the same are mentioned in table no. #3.</p>
63	<p>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.</p>	<p>The Digital procession of the entire lease area using remote sensing technique will be carried out within 5 years interval time. Once the data is generated, the same will be communicated to SEIAA, Odisha and MOEF & CC.</p>
64	<p>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.</p>	<p>The Project is in operation since 2018, therefore, the date of financial closure, final approval of the project and date of land development of the project will be intimated.</p>

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65	The project proponent shall establish a solar power plant with 30KVA capacity Within the lease area as proposed.	We will abide by the said conditions.
66	It shall be mandatory for the project management to submit six (06) monthly compliance reports on post environmental monitoring in respect of the stipulated terms and conditions in this Environmental Clearance to the State Environment Impact Assessment Authority (SEIAA).Odisha, SPCB & Regional Office of the Ministry of Environment & Forest, Odisha in hard and soft copies on 1st June and 1st December of each calendar year. The proponent shall also upload the compliance report including results of monitored data, as applicable in the website of the Ministry for monitoring of EC Conditions.	The project is submitting half yearly compliance report to SEIAA, Orissa as well as the Integrated Regional Office (IRO) of MOEF&CC, Bhubaneswar on 1st June and 1st December of each calendar year. The details are mentioned in Table no. # 4.
67	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the Odisha State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective to the MoEF & CC & its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.	The project proponent is submitting the environmental statement for each financial year ending 31st March in Form-V as the Odisha State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, and also we put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective to the MoEF & CC & its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board. The copy of latest submitted compliance as Annexure - 14.
68	The proponent shall submit/upload six monthly reports-on the status of compliance of the stipulated Environmental Clearance conditions, including results of monitored data on their website and shall update the same periodically. it shall simultaneously be sent to the Regional Office of MoEF & CC, Govt. of India, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO ₂ ,	The said critical parameters are being monitored & uploaded to the company's website bearing the address https://www.sreemetaliks.com/ . The said monitored parameters i.e. for AAQ: PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , CO & discharge for surface run-off discharge from the mine (treated), etc. are being displayed at the main gate of the mines of the company for the public domain. The details of the same are enclosed as

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	NO (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Annexure -15 & photo as Photo #9.
69	The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MoEF & CC & its concerned Regional Office, SEIAA, Odisha, Central Pollution Control Board and State Pollution Control Board.	The project is submitting half yearly compliance report to the MoEF & CC & its concerned Regional Office, SEIAA, Odisha, Central Pollution Control Board and State Pollution Control Board.
70	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, Govt. of India.	A separate Environmental management cell with suitable qualified personnel is already set-up under the control of a Senior Executive, who is directly reporting to the Head of the Organization Cell of our mines.
71	The proponent shall comply all the specific conditions as recommended by CSIR-NEERI on carrying capacity study (as applicable) in time bound manner as proposed.	The project proponent is complying all the specific conditions as recommended by CSIR-NEERI on carrying capacity study.
72	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.	The project has started backfilling of the proposed southern part of the exhausted mines quarry-1 area of 3.740 Ha. Till 2022-23 out of total ML area of 35.774 Ha as approved in the Mining Plan by IBM. The back-filling area will be monitored and managed with plantation till the vegetation is established and becomes self-sustained to restore the land to a condition that is fit for the growth of fodder, flora, fauna, etc.
73	The project proponent shall augment infrastructure on drinking water, health care and education in nearby villages as per time bound action plan submitted.	We are abiding by the said condition. Khandbandh Iron Ore Mines of Sree Metaliks Limited has started operation in March 2018. Most of the issues as rose during the public hearing meeting like road development, Employment, Supply of drinking water, etc. are taken

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		into consideration and are full filled.
74	The project proponent shall obtain permission from DGMS under 106 (2b) to carry out blasting operation within the lease area.	The project proponent obtained the 106(2)(b) permission from the DGMS through letter no. 330863/ SEZ/ Chaibasa Region/Perm/2021/8894 Date 30.06.2021 to carry out the blasting within the lease area. The copy of the same is attached herewith as Annexure - 16.
75	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.	We will extend all our cooperation during any such inspections by the Authority.
76	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.	We are abiding by the said condition.
77	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.	We are abiding by the said condition and order issued by the competent authority with due compliance from time to time.
78	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.	We are abiding by the said condition

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TABLE # 01

Details of the EMP measures implemented

Table No. 1.1 – Environmental Protection measures

Sl. No	Particulars	Location	Dimensions in M
1	Retaining Wall (L x W x H) in M	Near mine gate sub-grade dump	133X1X1
2	Retaining Wall (L x W x H) in M	Work shop side dump	104x1x1
3	Retaining Wall (RCC) (L x W x H) in M	Nallah side	160x1.5x1
4	Garland drain (L x W x H) in M	From weighbridge gate to bottom crusher side	150x1x0.5
5	Garland drain (L x W x H) in M	On running bench besides mine haul road	200x1x0.5
6	Check dam	Near Pillar No F	8x1x1.5 6x1x1.5
7	Check Weir	Near Pillar No E	27.24x1x1
8	Settling Pit (in CUM)	Near Pillar No E	40x20x3.5 30x20x3.0
		Near Pillar No D	20x10x3.0

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Table # 2

Plantation in this reporting period

Sl. No.	Particulars	Location	Quantity
1	Plantation (in Nos.)	Gap filling in S/Z	4,640
2		Dump i.e. back filling area	5,860
2	Coir Matting (in Sq. M)	SG Dump	5500 sq. M.

TABLE # 03

Details of the Environmental Expenses

Yearly Environmental Expenses					
Sl. No	Description	Budget: Capital Cost (As per EIA/EMP)	Expense in 2019-20 (in Lakhs)	Expense in 2020-21 (in Lakhs)	Expense in 2022-23 (in Lakhs)
Air Quality Management					
1	Dust Suppression	24.00	24.00	26.00	24.50
	Dry fog	12.00	12.00	13.50	5.62
Water Quality Management					
2	Retaining Wall & Garland drain	26.285	25.00	23.00	25.0
	Check Dam, Settling Ponds, etc.			3.0	5.0
Dump Management					
3	Plantation	0.85	0.65	1.0	5.0
	Coir Matting & grass seed application			2.50	5.20
4	Occupational Health & Hygiene				

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	IME/PME	0.50	0.26	4.58	1.20
	Safety Items				
	Environmental Monitoring				
5	Monitoring Charges	10.00	6.00	6.00	6.0
	Calibration of Instruments	4.00	0.00	1.0	0.50
	Electronic display board			2.65	0.10
	Water Conservation Measures				
6	Rainwater harvesting and its maintenance	10.00	6.00	7.00	0.50
	Others	--	0	0	-
	TOTAL	87.635	73.91	90.23	78.62

TABLE # 04

Submission of EC Compliance details

EC Compliance submission Details		
Sl. No.	Period	Date of Submission
1.	April to September 2018	30.11.2018
2.	October 2018 to March 2019	26.05.2019
3.	April to September 2019	25.11.2019
4.	October 2019 to March 2020	13.07.2020
5.	April to September 2020	14.11.2020
6.	October 2020 to March 2021	25.05.2021
7.	April to September 2021	27.11.2021
8.	Oct 21 to March 2022	29.05.2022
9.	April to September 2022	30.11.2022

Reporting Period: OCTOBER 2022 TO MARCH 2023



Government of India/ भारत सरकार
 Ministry of Environment, Forest & Climate Change/ पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
 Eastern Regional Office/ पूर्वी क्षेत्र कार्यालय
 A/3, Chandrasekharpur, 751 023, Bhubaneswar
 Bhubaneswar - 751 023/ भुवनेश्वर - 751 023



Telephone: 0674-2301210, 2301248, 2302452, 2302453. Fax: 674-2302432. E mail: ceo.ebrc.mca@nic.in

No.5-ORC097/2010-BHU

16th December, 2016



Principal Secretary,
 Forest & Environment Department,
 Govt. of Orissa,
 Bhubaneswar.

Annexure - 2

Stage to forest clearance order

Sub:- Diversion of 30.980 ha of forest land in Baitarani Reserve Forests in Keonjhar district, Orissa for Iron ore mining by M/s Sree Metaliks Ltd.

I am directed to refer to State Govt. letter No. 10F(Cons)88/2009-4788/F&E dated 08.03.2010, wherein prior approval of the Ministry of Environment & Forests for diversion of 30.980 ha of forest land in Baitarani Reserve Forests in Keonjhar district, Orissa for Iron ore mining by M/s Sree Metaliks Ltd., was sought in accordance with Section-2 of the Forest (Conservation) Act, 1980. After due consideration of the proposal by the Ministry of Environment & Forests and on the basis of recommendation of State Advisory Group held on 19.10.2010, the in-principle approval for diversion of the said forest land was accorded by Ministry vide this office letter of even number dated 11.03.2011, subject to fulfillment of certain conditions. The State Government has furnished compliance report in respect of the conditions stipulated in the in-principle approval and has requested to grant final approval of the proposal.

2. In this connection, I am directed to say that on the basis of the compliance report furnished by the State Government of Odisha vide their letter No.10F(Cons)477/2011-14946/F&E dated 11.08.2016, approval of the Ministry of Environment, Forest & Climate Change is hereby granted under Section 2 of the Forest (Conservation) Act, 1980 for diversion of 30.980 ha of forest land in Baitarani Reserve Forests in Keonjhar district, Orissa for Iron ore mining by M/s Sree Metaliks Ltd., subject to the fulfillment of the following conditions:-

- i) Legal status of the diverted forest land shall remain unchanged.
- ii) Additional amount of NPV of the diverted forest land, if any, becoming due after finalization of the same by the Hon'ble Supreme Court of India, shall be charged by State Govt. from the user agency. An undertaking from the user agency shall be obtained in this regard.
- iii) Compensatory Afforestation shall be raised and maintained over 31.00 ha of non-forest land identified in village Champajhar in Plot No.166/179(P) and 166/180(P) of Khata No.24 of Parbat-II KISSAM in Telkoi Tehsil of Keonjhar district from the funds provided by the user agency.

Contd....2

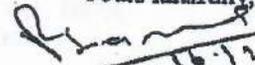
- iv) Additional compensatory afforestation shall be raised and maintained over an equivalent open/degraded forest area i.e. 31.00 ha identified in BJP Range under Keonjhar Forest Division from the funds provided by the user agency in addition to the proposed compensatory afforestation on non-forest land. The DGPS map of this area to be submitted to Regional Office within a month.
- v) The non-forest land which has been transferred and mutated in favour of the State Forest Department for the purpose of compensatory afforestation shall be notified by the State Govt. as RF under Section 4 or PF under Section 29 of Indian Forest Act, 1927 or under the relevant section of the local Forest Act. The Nodal Officer shall report compliance within a period of six months and send a copy of the original notification declaring the non-forest land as RF under section 4 or as PF section 29 of India Forest Act, 1927, or under the relevant section of the local Forest Act as the case may, to this office for information and record.
- vi) Following activities shall be undertaken by the user agency at the project cost:
- (a) A plan containing appropriate mitigative measures to minimize soil erosion and chocking of streams shall be implemented.
 - (b) Planting of adequate drought hardy plant species and sowing of seeds in the appropriate area within the mining lease to arrest soil erosion.
 - (c) Construction of check dams, retention/toe walls to arrest sliding down of the excavated material along the contour.
 - (d) Stabilize the overburden dumps by appropriate grading/benching, so as to ensure the angles of repose at any given place is less than 28° .
 - (e) Strict adherence to the prescribed top soil management.
- vii) The user agency shall obtain Environment Clearance as per the provisions of the Environment (Protection) Act, 1986, if required.
- viii) Fencing, protection and regeneration of the Safety Zone area (7.5 metre strip all along the inner boundary of the area identified to undertake mining) shall be done at the project cost. Besides this afforestation on degraded forest land to be selected elsewhere measuring one and half times the area under safety zone shall also be done at the project cost.
- ix) The period of diversion of the said forest land under this approval shall be for a period co-terminus with the period of the mining lease proposed to be granted under the Mines and Minerals (Development & Regulation) Act, 1957 as amended in 2015, or Rules framed thereunder.
- x) The user agency either himself or through the State Forest Department shall undertake gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests (having crown density less than 0.4), if any, located in the area within 100 m. from outer perimeter of the mining lease.

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- #
- xi) The user agency shall undertake de-silting of the village tanks and other water bodies located within five km from the mine lease boundary so as to mitigate the impact of siltation of such tanks/water bodies, whenever required.
 - xii) The user agency shall undertake mining in a phased manner and take due care for reclamation of the mined out area. The concurrent reclamation plan shall be executed by the user agency from the very first year, and an annual report on implementation thereof, shall be submitted to the Nodal Officer, Forest (Conservation) Act, 1980, Government of Odisha and the Addl. PCCF (Central), Ministry of Environment, Forests & CC, Regional Office (Eastern Zone), Bhubaneswar. If it is found from the annual report that the activities indicated in the concurrent reclamation plan are not being executed by the user agency, the Nodal Officer or the Addl. PCCF (Central) may direct that the mining activities shall remain suspended till such time, such reclamation activities are satisfactorily executed.
 - xiii) The State Govt. shall ensure implementation of approved Site Specific Conservation Plan in their leasehold area as well as its impact area as per the guidelines of Chief Wildlife Warden, Odisha at the project cost.
 - xiv) The State Govt. shall ensure implementation of approved Regional Wildlife Management Plan of mining lease area at the project cost.
 - xv) The user agency shall pay towards cost of removal of trees enumerated to the State Government before commencement of work and tree felling should be in phased manner, strictly as per requirement and under supervision of Forest Department.
 - xvi) No labour camp shall be established on the forest land.
 - xvii) The user agency shall provide fuelwood, preferably alternate fuel, to labourers and the staff working at the site so as to avoid any damage and pressure on the adjacent forest areas.
 - xviii) Earth or any other materials shall not be borrowed from adjoining forest area, and debris resulting during construction shall not be disposed in the forest area.
 - xix) The user agency while executing works shall not fell any tree or damage forest growth in surrounding forest area in the manner.
 - xx) No additional or new path will be constructed inside forest area for transportation of construction materials for execution of the project work.
 - xxi) The boundary of the mining lease and safety zone shall be demarcated on ground at the project cost, by erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, forward and back bearing and distance from pillar to pillar.
 - xxii) The forest land shall not be used for any purpose other than that specified in the proposal and in no circumstances be transferred to any other user agency, department or person without prior approval of the Ministry of Environment, Forests & Climate Change.

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- xxiii) The State Government shall complete settlement of rights, in term of the Scheduled Tribes and Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, if any, on the forest land to be diverted and submit the document evidence as prescribed by this Ministry in it's letter No.11-9/1998-FC (P) dated 03.08.2009, in support thereof.
- xxiv) The user agency shall submit annual self monitoring report on compliance of stipulated conditions to the Nodal Officer (FCA) of the State and Eastern Regional Office of this Ministry.
- xxv) Any other conditions that the Regional Office (Eastern Zone), Bhubaneswar of this Ministry and State Government of Odisha may stipulate from time to time, in the interest of conservation, protection and development of forests and wildlife, which shall be complied by the user agency.
- xxvi) The user agency and the State Government shall ensure compliance to provisions of the all Acts, Rules, Regulations and Guidelines, for the time being in force, as applicable to the project.
- xxvii) In case of non-compliance of any of the above conditions, the State Govt. shall report to this office as per procedure laid down in the clause 1.9 of guidelines issued under Forest (Conservation) Act, 1980.

3. As has been mentioned at Para-2 of the Stage-II approval, this approval for diversion of forest land is subject to the fulfillment of stipulated conditions mentioned in this approval letter. Therefore, in the event of non-compliance of any of the conditions laid out in this approval letter, the Eastern Regional Office of MoEFCC may withdraw the said approval for diversion of the forest land and stop the non-forest activity being carried out in the forest land besides initiating the legal action as per provisions of Forest (Conservation) Act, 1980.

Yours faithfully,

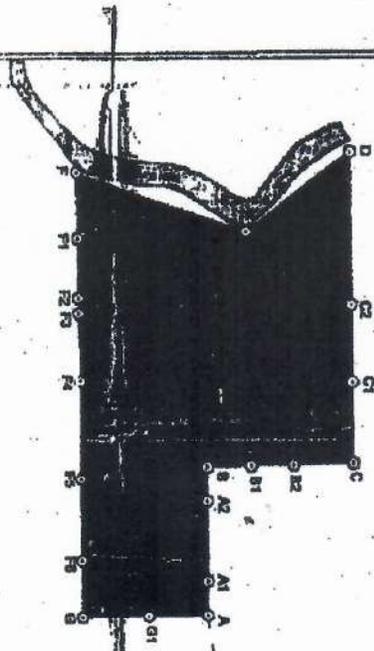

16.12.2016
(R.K. Samal)

Conservator of Forests (Central)

Copy to:-

1. The Inspector General of Forests(FC), Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Agni Block, Aliganj, Jor Bagh Road, New Delhi - 110 003.
2. The Director, ROHQ, Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Agni Block, Aliganj, Jor Bagh Road, New Delhi - 110 003.
3. The Principal Chief Conservator of Forests, Forest Department, Govt. of Odisha, Aranya Bhawan, Chandrasekharapur, Bhubaneswar-751023.
4. The Addl. PCCF & Nodal Officer (FC), Forest Department, Govt. of Odisha, Aranya Bhawan, Chandrasekharapur, Bhubaneswar-751023.
5. The Divisional Forest Officer, Keonjhar Forest Division, Keonjhar.
6. The Managing Director, M/s Sree Metaliks Ltd., N-4/46, IRC Village, Bhubaneswar.
7. Guard File.

Conservator of Forests (Central)



- INDEX**
- M. L. Boundary
 - Village Boundary
 - Nadi
 - Reserved Forest

SCHEMATIC REPRESENTATION

Area of 1000 Hectares, 1000000 Sq. Meters

RESERVED FOREST

Area of 1000 Hectares, 1000000 Sq. Meters

Sl. No.	Area (Hectares)	Area (Sq. Meters)	Total Area (Hectares)	Total Area (Sq. Meters)
1	1000	1000000	1000	1000000
2	1000	1000000	2000	2000000
3	1000	1000000	3000	3000000
4	1000	1000000	4000	4000000
5	1000	1000000	5000	5000000
6	1000	1000000	6000	6000000
7	1000	1000000	7000	7000000
8	1000	1000000	8000	8000000
9	1000	1000000	9000	9000000
10	1000	1000000	10000	10000000

Director
Forest Deptt.
Bhopal

Handwritten signature and date

APPROVED BY
Handwritten signature
Date: 10/10/2014

Handwritten signature
Divisional Forest Officer,
Keonjhar Division

KHANDABANDH IRON ORE MINE
OVER AN AREA OF 35.774 HECTARES
IN BAITWARI R.F. DISTRICT KEONJHAR, O.P.

APPLICANT
SREE METALIKS LTD

LEASE PLAN

SCALE - 1" = 1 MILE PLATE - II

Ref. No.:SML/SPCB/ 2023-24/037

Date: 20.04.2023

To

THE MEMBER SECRETARY,
State Pollution Control Board, Odisha,
A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar - 751012.

Subject: Submission of compliance report under Consent Order to Operate for Khandbandh Iron Ore Mines of M/s. SreeMetaliks Ltd. for the period April, 2022 to March, 2023 - Reg.

Reference: Vide consent order No.18238/IND-I-CON-6573 Dated 29.09.2022

Respected Sir,

With reference to the above mentioned subject, we are herewith submitting the annual consent order compliance reports of Khandbandh Iron Ore Mining Project of M/s. SreeMetaliks Ltd. for the period of April, 2022 to March, 2023 through email - parivesh1@ospcboard.org and the hard copy of same will also be submitted to your good.

This is for your kind information, please.

Thanking You,

Yours sincerely,

For Khandband Iron Ore Mines of M/s Sree Metaliks Ltd.


Mines Manager

Mines Manager
Khandbandh Iron Ore Mines
M/s. Sree Metaliks Limited

Encl: As Above

CC to: The Regional Officer, SPCB, Odisha, Regional Office, College Road, Dist.-Keonjhar, Odisha.

CIN : U26939WB1995PLC075633

Head Office : SML HOUSE, MAIN ROAD, BARBIL - 758035, KEONJHAR, ORISSA, INDIA

Registered Office : 8/1, New Tangra Road, China Town, Kolkata - 700 046

W : www.sreemetaliks.com, **E :** info@sreemetaliks.com



(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Khandbandh Iron Ore Mines Of M/s Sree Metaliks Ltd.		
Project Address:	At-khandbandh,, Po-joda, Dist-keonjhar		
Town:	Joda	Block:	Joda
District:	Kendujhar	State:	Odisha
Pin Code:			
Communication Address:	S K Ray,, Flat No-k8/552, Kalinganagar, Bhubaneswar, Bhubaneswar, Khordha, Odisha - 751003		
Address of CGWB Regional Office :	Central Ground Water Board South Eastern Region, Bhujal Bhawan, Khandagiri Square, Nh-5, Bhubaneshwar, Khordha, Odisha - 750001		

1. NOC No.:	CGWA/NOC/MIN/REN/1/2021/6467											
2. Application No.:	21-4/2347/OR/MIN/2019	3. Category:	Safe									
		(GWRE 2020)										
4. Project Status:	Existing Ground Water	5. NOC Type:	Renewal									
6. Valid from:	21/11/2021	7. Valid up to:	20/11/2023									
8. Ground Water Abstraction Permitted:												
	Fresh Water	Saline Water	Dewatering	Total								
	m ³ /day	m ³ /year	m ³ /day	m ³ /year	m ³ /day	m ³ /year	m ³ /day	m ³ /year				
	9.80	3577.00										
9. Details of ground water abstraction /Dewatering structures												
	Total Existing No.:1						Total Proposed No.:0					
	DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu
Abstraction Structure*	0	0	1	0	0	0	0	0	0	0	0	0
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps												
10. Ground Water Abstraction/Restoration Charges paid (Rs.):										5601.00		

(Compliance Conditions given overleaf)

This is an auto generated document & need not to be signed.

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011

Phone: (011) 23383561 Fax: 23382051, 23386743

Website: cgwu-noc.gov.in

पानी बचाये - जीवन बचाये
SAVE WATER - SAVE LIFE

Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

- 1) Installation of tamper proof digital water flow meter with telemetry on all the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate.
- 2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.
- 3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II of the guidelines.
- 4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.
- 5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.
- 6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.
- 7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.
- 8) Industries abstracting ground water in excess of 100 m³/d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- 9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.
- 10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/dischage of effluents or any such matter as applicable.

General conditions:

- 11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).
- 12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).
- 13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.
- 14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises falling which the firm shall be responsible for any consequences arising thereupon.
- 15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.
- 16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.
- 17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is/are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.
- 18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.
- 19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.
- 20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.
- 21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.
- 22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.
- 23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.
- 24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.
- 25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.
- 26) In case of new infrastructure projects having ground water abstraction of more than 20 m³/day, the firm/entity shall ensure implementation of dual water supply system in the projects.
- 27) In case of infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.
- 28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.
- 29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 27.01.2021 falling which penalty/EC/cancellation of NOC shall be imposed as the case may be.
- 30) This NOC is issued subject to the clearance of Expert Appraisal Committee (EAC) (if applicable).

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)



Environmental Research and Services (India) Pvt. Ltd.

(An ISO/IEC 17025 : 2017 (NABL) Accredited Laboratory, OSPCB Empanelled Laboratory and ISO 9001 : 2015 Certified Company)

Plot No: B-22, Sector-B, Industrial Estate Chandaka, Infocity Road, Bhubaneswar-751024, Odisha
Tel: +91-9437021932, +91-9937690329, E-mail: ersibbsr@gmail.com

ULR-TC744023000000137F

Test Report Format No.: ERSIPL/FM/37

TEST REPORT (AMBIENT AIR)

Pg No: 1 of 1

Date: 30 Mar 2023

Test Report No: ERSIPL/TR/AA/053

Name and Address of the Customer : Khandbandh Iron Ore Mines of M/s Sree Metaliks Ltd
Khandbandh, Joda, Keonjhar-758034

Sample Collected by : Representative of ERS (I) Pvt. Ltd.

Sample Collected in presence of : Representative of Customer.

Date of Sampling/Monitoring : 21-22.03.2023

Sample Received on : 25.03.2023

Analysis Started on : 25.03.2023

Analysis Completed on : 30.03.2023

Method of Sampling : ERSIPL/MSP/06

Quantity of Sample : 01 sample for each parameter

Environment Condition : Sunny/Rainy

Sample ID. No.

1. ERSIPL/AA/187
2. ERSIPL/AA/188
3. ERSIPL/AA/189
4. ERSIPL/AA/190

Locations (Core Zone)

1. Near Mines Office
2. Near Pillar No- F1
3. Near Work Shop, Pillar No. B
4. Near Pillar No.C2

TEST FINDINGS:

Sl. No	Test Parameters	Test method	Unit	Permissible Limit as per NAAQ Standards CPCB Nov-2009	Results			
					ERSIPL/AA/187	ERSIPL/AA/188	ERSIPL/AA/189	ERSIPL/AA/190
1	Particulate Matter (size less than 10 µm) or PM 10	IS 5182(Part 23): 2006, Reaffirmed-2017, Gravimetric Method	µg/m ³	100.0	70.03	66.93	69.07	68.86
2	Particulate Matter (size less than 2.5 µm) or PM 2.5	IS 5182 (Part 24): 2019, Gravimetric Method	µg/m ³	60.0	29.35	31.65	30.28	27.80
3	Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, Reaffirmed-2017, Improved West & Gaeke Method	µg/m ³	80.0	7.86	6.87	7.27	7.85
4	Oxides of Nitrogen (NO _x)	IS 5182 (Part 6): 2006, Reaffirmed -2017	µg/m ³	80.0	10.28	11.64	12.19	11.17

(Authorized Signatory)

S.P. Pattanaik
Tech. Manager

**Environmental Research and Services (India) Pvt. Ltd.****(OSPCB 'A' Category Empanelled Laboratory and ISO 9001 : 2015 Certified Company)**Plot No: B-22, Sector-B, Industrial Estate Chandaka, Infocity Road, Bhubaneswar-751024, Odisha
Tel: +91-9437021932, +91-9937690329, E-mail: ersibbsr@gmail.com**Test Report Format No.: ERSIPL/FM/37
TEST REPORT (AMBIENT AIR)**

Pg No: 1 of 1

Date: 30 Mar 2023**Test Report No: ERSIPL/TR/AA/T-053**

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Date of Sampling/Monitoring : 21-22.03.2023

Sample Received on : 25.03.2023

Analysis Started on : 25.03.2023

Analysis Completed on : 30.03.2023

Method of Sampling : As per guidelines for sampling & measurement of notified AAQ parameters (NAAQS 2009)-CPCB

Quantity of Sample : 01 sample for each parameter

Environment Condition : Sunny/Rainy

Sample ID. No.

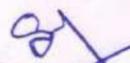
1. ERSIPL/AA/187
2. ERSIPL/AA/188
3. ERSIPL/AA/189
4. ERSIPL/AA/190

Locations (Core Zone)

1. Near Mines Office
2. Near Pillar No- F1
3. Near Work Shop, Pillar No. B
4. Near Pillar No.C2

TEST FINDINGS:

Sl. No	Test Parameters	Test method	Unit	Permissible Limit	Results			
					ERSIPL / AA/ 187	ERSIPL / AA/ 188	ERSIPL / AA/ 189	ERSIPL / AA/ 190
1	Ozone (O ₃) 8 Hrly	As per Guidelines for the measurement of Ambient Air Pollutants, Vol - I, CPCB, May 2011	µg/m ³	100.0	46.0	42.0	34.0	32.0
2	Lead (Pb)		µg/m ³	1.0	ND	ND	ND	ND
3	Arsenic (As)		ng/m ³	6.0	ND	ND	ND	ND
4	Nickel (Ni)		ng/m ³	20.0	ND	ND	ND	ND
5	Ammonia (NH ₃),		µg/m ³	400.0	ND	ND	ND	ND
6	Benzene (C ₆ H ₆),		µg/m ³	5.0	ND	ND	ND	ND
7	Benzo(a)Pyrene (BaP) Particulate phase only		ng/m ³	1.0	ND	ND	ND	ND
8	Carbon Monoxide (CO)	By CO Monitor	mg/m ³	2.0	<1.14	<1.14	<1.14	<1.14


(Authorized Signatory)
S.P. Pattanayak
Tech. Manager

.....END OF TEST REPORT.....



Environmental Research and Services (India) Pvt. Ltd.

(An ISO/IEC 17025:2017 (NABL) Accredited Laboratory, DSPCB Empanelled Laboratory and ISO 9001:2015 Certified Company)

Plot No: B-22, Sector-B, Industrial Estate Chandaka, Infocity Road, Bhubaneswar-751024, Odisha
Tel: +91-9437021932, +91-9937690329, E-mail: ersibbsr@gmail.com

ULR-TC744023000000138F

Test Report Format No.: ERSIPL/FM/37

TEST REPORT (AMBIENT AIR)

Date: 30 Mar 2023

Test Report No: ERSIPL/TR/AA/054

Name and Address of the Customer : Khandbandh Iron Ore Mines of M/s Sree Metaliks Ltd
Khandbandh, Joda, Keonjhar-758034

Sample Collected by : Representative of ERS (I) Pvt. Ltd.

Sample Collected in presence of : Representative of Customer.

Date of Sampling/Monitoring : 22-23.03.2023

Sample Received on : 25.03.2023

Analysis Started on : 25.03.2023

Analysis Completed on : 30.03.2023

Method of Sampling : ERSIPL/MSP/06

Quantity of Sample : 01 sample for each parameter

Environment Condition : Sunny

Sample ID. No.

1. ERSIPL/AA/191
2. ERSIPL/AA/192
3. ERSIPL/AA/193
4. ERSIPL/AA/194

Locations (Buffer Zone)

1. Near village Jodan
2. Near village Bichhakhund
3. Near village Ganua
4. Near village Khandbandha

TEST FINDINGS:

Sl. No	Test Parameters	Test method	Unit	Permissible Limit as per NAAQ Standards CPCB Nov- 2009	Results			
					ERSIPL/ AA/ 191	ERSIPL/ AA/ 192	ERSIPL/ AA/ 193	ERSIPL/ AA/ 194
1	Particulate Matter (size less than 10 μm) or PM 10	IS 5182 (Part 23): 2006, Reaffirmed-2017, Gravimetric Method	$\mu\text{g}/\text{m}^3$	100.0	72.58	69.75	69.38	72.10
2	Particulate Matter (size less than 2.5 μm) or PM 2.5	IS 5182 (Part 24): 2019, Gravimetric Method	$\mu\text{g}/\text{m}^3$	60.0	29.57	30.05	33.46	30.89
3	Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, Reaffirmed-2017, Improved West & Gaeke Method	$\mu\text{g}/\text{m}^3$	80.0	7.03	6.81	7.52	7.48
4	Oxides of Nitrogen (NO _x)	IS 5182 (Part 6): 2006, Reaffirmed -2017	$\mu\text{g}/\text{m}^3$	80.0	12.71	12.08	11.29	11.82

(Authorized Signatory)

S.P. Pattanayak
Tech. Manager



Environmental Research and Services (India) Pvt. Ltd.

(OSPCB 'A' Category Empanelled Laboratory and ISO 9001:2015 Certified Company)

Plot No: B-22, Sector-B, Industrial Estate Chandaka, Infocity Road, Bhubaneswar-751024, Odisha
Tel: +91-9437021932, +91-9937690329, E-mail: ersibbsr@gmail.com

Test Report Format No.: ERSIPL/FM/37

TEST REPORT (AMBIENT AIR)

Date: 30 Mar 2023

Test Report No: ERSIPL/TR/AA/T-054

Name and Address of the Customer :

Khandbandh Iron Ore Mines of M/s Sree Metaliks Ltd
Khandbandh, Joda, Keonjhar-758034

Sample Collected by :

Representative of ERS (I) Pvt. Ltd.

Sample Collected in presence of :

Representative of Customer.

Date of Sampling/Monitoring :

22-23.03.2023

Sample Received on :

25.03.2023

Analysis Started on :

25.03.2023

Analysis Completed on :

30.03.2023

Method of Sampling :

As per guidelines for sampling & measurement of notified AAQ parameters (NAAQS 2009)-CPCB

Quantity of Sample :

01 sample for each parameter

Environment Condition :

Sunny

Sample ID. No.

Locations (Buffer Zone)

1. ERSIPL/AA/191
2. ERSIPL/AA/192
3. ERSIPL/AA/193
4. ERSIPL/AA/194

1. Near Village Jalahuri
2. Near village Bichhakhund
3. Near village Ganua
4. Near village Khandbandha

TEST FINDINGS:

Sl. No	Test Parameters	Test method	Unit	Permissible Limit	Results			
					ERSIPL / AA/ 191	ERSIPL / AA/ 192	ERSIPL / AA/ 193	ERSIPL / AA/ 194
1	Ozone (O ₃) 8 Hrly	As per Guideline s for the measure ment of Ambient Air Pollutants , Vol - I, CPCB, May 2011	µg/m ³	100.0	42.0	33.0	36.0	44.0
2	Lead (Pb)		µg/m ³	1.0	ND	ND	ND	ND
3	Arsenic (As)		ng/m ³	6.0	ND	ND	ND	ND
4	Nickel (Ni)		ng/m ³	20.0	ND	ND	ND	ND
5	Ammonia (NH ₃),		µg/m ³	400.0	ND	ND	ND	ND
6	Benzene (C ₆ H ₆),		µg/m ³	5.0	ND	ND	ND	ND
7	Benzo(a)Pyrene (BaP) Particulate phase only		ng/m ³	1.0	ND	ND	ND	ND
8	Carbon Monoxide (CO)	By CO Monitor	mg/m ³	2.0	<1.14	<1.14	<1.14	<1.14

(Authorized Signatory)
S.P. Pattanayak
Tech. Manager

.....END OF TEST REPORT.....



Environmental Research and Services (India) Pvt. Ltd.

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ULR-TC744023000000139F

Test Report Format No.: ERSIPL/FM/37

TEST REPORT (AMBIENT AIR) - Fugitive Emission

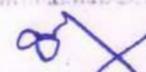
Pg No: 1 of 1

Date: 30 Mar 2023
Test Report No: ERSIPL/TR/AA/055
 Name and Address of the Customer : Khandbandh Iron Ore Mines of M/s Sree Metaliks Ltd
 Khandbandh, Joda, Keonjhar-758034.
 Sample Collected by : Representative of ERS (I) Pvt. Ltd.
 Sample Collected in presence of : Representative of Customer.
 Date of Sampling/Monitoring : 21-22.03.2023
 Sample Received on : 25.03.2023
 Analysis Started on : 25.03.2023
 Analysis Completed on : 30.03.2023
 Method of Sampling : ERSIPL/MSP/06
 Quantity of Sample : 01 sample for each parameter
 Environment Condition : Sunny/Rainy

Test Findings

Sl. No	Monitoring Stations	Sample Id	Date of Monitoring	Analysis Result in $\mu\text{g}/\text{m}^3$
				PM (Particulate Matter)
				IS: 5182 (Part 4)- 1999, Reaffirmed 2019, Gravimetric Method
1	Near Mines Bench	195	21.03.2023	196.74
2	Near Haul Roads (inside lease)	196	21.03.2023	208.46
3	Near Crushing Point	197	21.03.2023	187.80
4	Near Screening Plant	198	22.03.2023	197.88
5	Near Ore storage and loading	199	22.03.2023	190.63
6	Near Waste Dump	200	22.03.2023	196.26
Permissible Limits				1200.0

Note: *Monitoring carried out with control measures


 (Authorized Signatory)
 S.P. Pattanayak
 Tech. Manager

.....END OF TEST REPORT.....



Environmental Research and Services (India) Pvt. Ltd.

(OSPCB 'A' Category Empanelled Laboratory and ISO 9001:2015 Certified Company)

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Tel: +91-9437021932, +91-9937690329, E-mail: ersibbsr@gmail.com

FLOW RATE OF SURFACE WATER

Date: 31 Oct 2022

Name and Address of the Customer : Khandbandh Iron Ore Mines of M/s Sree Metaliks Ltd
Khandbandh, Joda, Keonjhar-758034

Surface Water Flow Rate Measured by : Representative of ERS (I) Pvt. Ltd.
Surface Water Flow Rate Measured in the presence of : Representative of the Customer

Sl. No.	Name of the Water Bodies	Date of Measurement	Flow Rate (Velocity) in Meter/Sec.
01	River Baitarani, near village Jalahuri	21.10.2022	0.489
02	Dalco Nala Near TATA Pump House No.07	21.10.2022	0.330
03	Suna Nadi (up-stream of Mines Lease Area)	21.10.2022	0.422
04	Suna Nadi (down-stream of Mines Lease Area)	21.10.2022	0.401

(Authorized Signatory)

S.P.Pattanayak
Tech.Manager

.....END OF TEST REPORT.....



CIN - U73100OR1995PTC003889



GSTIN : 21AAACE6224D1ZE

Annexure - ~~6A~~

Environmental Research and Services (India) Pvt. Ltd.

(OSPCB 'A' Category Empanelled Laboratory and ISO 9001 : 2015 Certified Company)

Plot No: B-22, Sector-B, Industrial Estate Chandaka, Infocity Road, Bhubaneswar-751024, Odisha
Tel: +91-9437021932, +91-9937690329, E-mail: ersibbsr@gmail.com

DEPTH OF GROUND WATER TABLE

Date: 30 Mar 2023

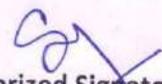
Name and Address of the Customer : Khandbandh Iron Ore Mines of M/s Sree Metaliks Ltd
Khandbandh, Joda, Keonjhar-758034

Date of Measurement : 21/22.03.2023

Measurement taken by : Representative of ERS (I) Pvt. Ltd.

Measurement taken in presence of : Representative of the Customer

Sl. No.	Location	Depth (Below surface level in meter)
01	Open Well village Jajanga	2.29
02	Open well Near Village Jalahuri	2.06
03	Open Well Near Village Khandbandh	3.23
04	Open Well Near Village Jurudi	1.6


(Authorized Signatory)
S.P. Pattanayak
Tech. Manager

.....END OF TEST REPORT.....



Environmental Research and Services (India) Pvt. Ltd.

(An ISO/IEC 17025 : 2017 (NABL) Accredited Laboratory, OSPCB Empanelled Laboratory and ISO 9001 : 2015 Certified Company)

Plot No: B-22, Sector-B, Industrial Estate Chandaka, Infocity Road, Bhubaneswar-751024, Odisha
Tel: +91-9437021932, +91-9937690329, E-mail: ersibbsr@gmail.com

ULR-TC744023000000140F

Test Report Format No.: ERSIPL/FM/40

TEST REPORT (Water/ ~~Waste Water~~)-Ground Water

Pg No: 1 of 1

Date: 30 Mar 2023

Test Report No: ERSIPL/TR/WA/073

Name and Address of the Customer

: Khandbandh Iron Ore Mines of M/s Sree Metaliks Ltd
Khandbandh, Joda, Keonjhar-758034

Date of Sampling

: 21.03.2023

Sample Collected by

: Representative of ERS (I) Pvt. Ltd.

Sample Collected in presence of

: Representative of Customer.

Sample Received on

: 25.03.2023

Analysis Started on

: 25.03.2023

Analysis Completed on

: 30.03.2023

Method of Sampling

: IS 3025: Part 1: 1987, Reaffirmed 2019

Quantity of Sample

: 2ltrs

Type of Container

: Glass Bottle & HDPE Bottle

Environment Condition

: All Tests carried out in Room Temperature

Sample ID. No.

1. ERSIPL/WA/167
2. ERSIPL/WA/168
3. ERSIPL/WA/169

Locations

1. Open well in Village Jajanga
2. Open well in Village Khandbandh
3. Open well in Village Jalahuri

Sl	Parameters Analysed	Test Method	Unit	Permissible Limit as per IS:10500, 2012	Result		
					ERSIPL/WA/167	ERSIPL/WA/168	ERSIPL/WA/169
01	pH Value	IS 3025:Part 11: 1983 Reaffirmed-2017	--	6.5 to 8.5	6.87	6.91	6.93
02	Turbidity	IS 3025:Part 10: 1984 Reaffirmed-2017	NTU	1.0	0.57	0.41	0.56
03	Total Hardness as CaCO ₃	IS 3025:Part 21: 2009 Reaffirmed-2019	mg/L	200.0	54.0	78.0	132.0
04	Total Iron	IS 3025:Part 53: 2003 Reaffirmed-2019	mg/L	0.3	0.06	0.06	0.08
05	Chloride	IS 3025:Part 32: 1988 Reaffirmed-2019	mg/L	250.0	23.65	31.54	39.42
06	Total Dissolved Solids	IS 3025:Part 16: 1984 Reaffirmed-2019	mg/L	500.0	181.4	157.1	271.4
07	Calcium as Ca	IS 3025:Part 40: 1991 Reaffirmed-2019	mg/L	75.0	12.02	17.64	32.87
08	Sulphate as SO ₄	IS 3025:Part 24: 1986 Reaffirmed-2019	mg/L	200.0	11.67	6.03	21.79
09	Fluoride	IS 3025:Part 60: 2008 Reaffirmed-2013	mg/L	1.0	<0.1	<0.1	<0.1
10	Total Alkalinity as CaCO ₃	IS 3025:Part 23: 1986 Reaffirmed-2019	mg/L	200.0	146.0	142.0	190.0

(Authorized Signatory)
S.P. Pattanayak
Tech. Manager

.....END OF TEST REPORT.....

**Environmental Research and Services (India) Pvt. Ltd.****(OSPCB 'A' Category Empanelled Laboratory and ISO 9001 : 2015 Certified Company)**Plot No: B-22, Sector-B, Industrial Estate Chandaka, Infocity Road, Bhubaneswar-751024, Odisha
Tel: +91-9437021932, +91-9937690329 , E-mail: ersibbsr@gmail.com**Test Report Format No.: ERSIPL/FM/40****TEST REPORT (Water/ ~~Waste Water~~)-Ground Water**

Pg No: 1 of 2

Date: 30 Mar 2023
Name and Address of the Customer : Khandbandh Iron Ore Mines of M/s Sree Metaliks Ltd
 Khandbandh, Joda, Keonjhar-758034
Date of Sampling : 21.03.2023
Sample Collected by : Representative of ERS (I) Pvt. Ltd.
Sample Collected in presence of : Representative of Customer.
Sample Received on : 25.03.2023
Analysis Started on : 25.03.2023
Analysis Completed on : 30.03.2023
Method of Sampling : IS 3025: Part 1: 1987, Reaffirmed 2019
Quantity of Sample : 2ltrs
Type of Container : Glass Bottle & HDPE Bottle
Environment Condition : All Tests carried out in Room Temperature

Sample ID. No.

1. ERSIPL/WA/167
2. ERSIPL/WA/168
3. ERSIPL/WA/169

Locations

1. Open well in Village Jajanga
2. Open well in Village Khandbandh
3. Open well in Village Jalahuri

Sl	Parameters Analysed	Test Method	Unit	Permissible Limit as per IS:10500, 2012	Result		
					ERSIPL/WA/167	ERSIPL/WA/168	ERSIPL/WA/169
01	Colour	IS 3025:Part 04: 1983 Reaffirmed-2017	Hazen	5.0	<5.0	<5.0	<5.0
02	Odour	IS 3025:Part 05: 1983 Reaffirmed-2017	--	Agreeable (A)	A	A	A
03	Taste	IS 3025:Part 07,08: 1984 Reaffirmed-2017	--	Agreeable (A)	A	A	A
04	Residual Free Chlorine	IS 3025:Part 26: 1986 Reaffirmed-2019	mg/L	0.2 (min)	Nil	Nil	Nil
05	Copper	IS 3025:Part 42: 1992 Reaffirmed-2019	mg/L	0.05	<0.02	<0.02	<0.02
06	Manganese	IS 3025:Part 59: 2006 Reaffirmed-2017	mg/L	0.1	<0.01	<0.01	<0.01
07	Nitrate as NO ₃	IS 3025:Part 34: 1983 Reaffirmed-2019	mg/L	45.0	<5.0	<5.0	<5.0
08	Phenolic Compound	IS 3025:Part 43: 1992 Reaffirmed-2019	mg/L	0.001	ND	ND	ND
09	Mercury	IS 3025:Part 48: 1994 Reaffirmed-2019	mg/L	0.001	ND	ND	ND
10	Cadmium	IS 3025:Part 41: 1992 Reaffirmed-2019	mg/L	0.003	ND	ND	ND
11	Selenium	IS 3025:Part 56: 2003 Reaffirmed-2019	mg/L	0.01	ND	ND	ND



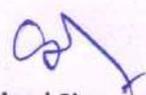
Environmental Research and Services (India) Pvt. Ltd.

(OSPCB 'A' Category Empanelled Laboratory and ISO 9001 : 2015 Certified Company)

Plot No: B-22, Sector-B, Industrial Estate Chandaka, Infocity Road, Bhubaneswar-751024, Odisha
Tel: +91-9437021932, +91-9937690329, E-mail: ersibbsr@gmail.com

12	Total Arsenic	IS 3025:Part 37: 1988 Reaffirmed-2019	mg/L	0.01	ND	ND	ND
13	Cyanide	IS 3025:Part 27: 1986 Reaffirmed-2019	mg/L	0.05	ND	ND	ND
14	Lead	IS 3025:Part 47: 1994 Reaffirmed-2019	mg/L	0.01	ND	ND	ND
15	Zinc	IS 3025:Part 49: 1994 Reaffirmed-2019	mg/L	5.0	<0.1	<0.1	<0.1
16	Anionicdetergents	IS 13428 :2005 Reaffirmed-2019	mg/L	0.2	ND	ND	ND
17	Total Chromium	IS 3025:Part 52: 2003 Reaffirmed-2019	mg/L	0.05	ND	ND	ND
18	Polynuclear aromatic hydrocarbons	APHA 6440	mg/L	0.0001	ND	ND	ND
19	Mineral Oil	IS 3025:Part 39: 1991 Reaffirmed-2019	mg/L	0.5	ND	ND	ND
20	Pesticides	USEPA gas-liquid chromatography	mg/L	---	ND	ND	ND
21	Aluminium	IS 3025:Part 55: 2003 Reaffirmed-2019	mg/L	0.03	ND	ND	ND
22	Boron	IS 3025:Part 57: 2005 Reaffirmed-2019	mg/L	0.5	ND	ND	ND
23	Nickel	IS 3025:Part 54: 2003 Reaffirmed-2019	mg/L	0.02	ND	ND	ND

ND - Not Detected


(Authorized Signatory)
S.P. Pattanayak
Tech. Manager

.....END OF TEST REPORT.....



Environmental Research and Services (India) Pvt. Ltd.

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ULR-TC744022000000439F

Test Report Format No.: ERSIPL/FM/40

TEST REPORT (WATER/WASTE WATER)

Pg No: 1 of 1

Date: 31 Oct 2022

Test Report No: ERSIPL/TR/WA/241

Name and Address of the Customer : Khandbandh Iron Ore Mines of M/s Sree Metaliks Ltd
Khandbandh, Joda, Keonjhar-758034

Date of Sampling : 21.10.2022
Sample Collected by : Representative of ERS (I) Pvt. Ltd.

Sample Collected in presence of : Representative of Customer.

Sample Received on : 24.10.2022

Analysis Started on : 24.10.2022

Analysis Completed on : 31.10.2022

Method of Sampling : IS 3025: Part 1: 1987, Reaffirmed 2019

Quantity of Sample : 2ltrs

Type of Container : Glass Bottle & HDPE Bottle

Environment Condition : All Tests carried out in Room Temperature

Sample ID. No.

1. ERSIPL/WA/585 (Surface Water)
2. ERSIPL/WA/586 (Surface Water)
3. ERSIPL/WA/587 (Surface Water)
4. ERSIPL/WA/588 (Surface Water)

Location

1. Water from river Baitarani, near village Jalahuri
2. Water from Dalco Nala Near TATA Pump House No.07
3. Water From Suna Nadi (up-stream of Mines Lease Area)
4. Water From Suna Nadi (down-stream of Mines Lease Area)

S. No.	Test Parameters	Test Method	Unit	Result				Surface water quality standard as per IS :2296 (Class - B)*
				ERSIPL/WA/585	ERSIPL/WA/586	ERSIPL/WA/587	ERSIPL/WA/588	
1	pH Value	IS 3025: Part 11:1983, Reaffirmed 2017	--	6.83	6.75	6.77	6.93	6.5 - 8.5
2	Dissolved Oxygen	IS 3025: Part 38:1991, Reaffirmed 2019	mg/L	7.5	7.6	7.6	7.8	5.0 (min)
3	BOD (3 days at 27 ⁰ C)	IS:3025:Part 44:1993 Reaffirmed 2019, 27 ⁰ C 3 days	mg/L	3.2	3.1	3.5	3.3	3.0
4	Fluoride (as F)	IS 3025: Part 60:2008, Reaffirmed 2019	mg/L	<0.1	<0.1	<0.1	<0.1	1.5
5	Hexavalent Chromium (as Cr ⁺⁶)	IS 3025: Part 52:2003, Reaffirmed 2019	mg/L	ND	ND	ND	ND	0.05

ND-Not Detected,

* - Class - B - Water for outdoor bathing


(Authorized Signatory)
S.P. Pattanayak
Tech. Manager



Environmental Research and Services (India) Pvt. Ltd.

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Tel: +91-9437021932, +91-9937690329, E-mail: ersibbsr@gmail.com

Test Report Format No.: ERSIPL/FM/40

TEST REPORT (WATER/WASTE WATER)

Pg No: 1 of 1

Date: 31 Oct 2022

Test Report No: ERSIPL/TR/WA/T-241

Name and Address of the Customer : Khandbandh Iron Ore Mines of M/s Sree Metaliks Ltd
Khandbandh, Joda, Keonjhar-758034

Date of Sampling : 21.10.2022

Sample Collected by : Representative of ERS (I) Pvt. Ltd.

Sample Collected in presence of : Representative of Customer.

Sample Received on : 24.10.2022

Analysis Started on : 24.10.2022

Analysis Completed on : 31.10.2022

Method of Sampling : IS 3025: Part 1: 1987, Reaffirmed 2019

Quantity of Sample : 2ltrs

Type of Container : Glass Bottle & HDPE Bottle

Environment Condition : All Tests carried out in Room Temperature

Sample ID. No.

1. ERSIPL/WA/585 (Surface Water)
2. ERSIPL/WA/586 (Surface Water)
3. ERSIPL/WA/587 (Surface Water)
4. ERSIPL/WA/588 (Surface Water)

Location

1. Water from river Baitarani, near village Jalahuri
2. Water from Dalco Nala Near TATA Pump House No.07
3. Water from Suna Nadi (up-stream of Mines Lease Area)
4. Water from Suna Nadi (down-stream of Mines Lease Area)

S. No.	Test Parameters	Test Method	Unit	Result				Surface water quality standard as per IS :2296 (Class - B)*
				ERSIPL/WA/585	ERSIPL/WA/586	ERSIPL/WA/587	ERSIPL/WA/588	
1	Phenolic Compounds	IS 3025: Part 43:1992, Reaffirmed 2019	mg/L	ND	ND	ND	ND	0.005
2	Colour	IS 3025: Part 04:1983, Reaffirmed 2017	Hazen	5-10	5-10	5-10	5-10	300
3	Total Coliform	IS 1622:1981, Reaffirmed 2019	MPN/100 ml	8.0	12.0	4.0	6.0	500.0
4	Arsenic (as As)	IS 3025: Part 37:1988, Reaffirmed 2019	mg/L	ND	ND	ND	ND	0.2

ND-Not Detected,

* - Class - B - Water for outdoor bathing


(Authorized Signatory)
S.P. Pattanayak
Tech. Manager

.....END OF TEST REPORT.....



Environmental Research and Services (India) Pvt. Ltd.

(An ISO/IEC 17025 : 2017 (NABL) Accredited Laboratory, OSPCB Empanelled Laboratory and ISO 9001 : 2015 Certified Company)

Plot No: B-22, Sector-B, Industrial Estate Chandaka, Infocity Road, Bhubaneswar-751024, Odisha
Tel: +91-9437021932, +91-9937690329, E-mail: ersibbsr@gmail.com

ULR-TC744022000000289F

Test Report Format No.: ERSIPL/FM/40

TEST REPORT (WATER/WASTE WATER)

Pg No: 1 of 1

Date: 27 July 2022

Test Report No: ERSIPL/TR/WA/160

Name and Address of the Customer : Khandbandh Iron Ore Mines of M/s Sree Metaliks Ltd
Khandbandh, Joda, Keonjhar-758034

Date of Sampling : 17.07.2022

Sample Collected by : Representative of ERS (I) Pvt. Ltd.

Sample Collected in presence of : Representative of Customer.

Sample Received on : 20.07.2022

Analysis Started on : 20.07.2022

Analysis Completed on : 26.07.2022

Method of Sampling : IS 3025: Part 1: 1987, Reaffirmed 2019

Quantity of Sample : 2ltrs

Type of Container : Glass Bottle & HDPE Bottle

Environment Condition : All Tests carried out in Room Temperature

Sample ID. No.

Location

1. ERSIPL/WA/397 (Surface Runoff Water)

1. Surface Runoff Water from Mines Leasehold

S. No.	Test Parameters	Test Method	Unit	Result	Permissible Limit as per CTO
				ERSIPL/WA/397	
1	pH	IS 3025: Part 11:1983, Reaffirmed 2017	No	6.85	5.5-9.0
2	Oil & Grease	IS 3025: Part 39:1991, Reaffirmed 2019	mg/L	8.11	10.0
3	Total Suspended Solids	IS 3025: Part 17:1984, Reaffirmed 2017	mg/L	47.90*	100.0/50.0 (Rainy Day/ Non-Rainy Day)

*Sample collected during Rainy Day


(Authorized Signatory)
S.P. Pattanayak
Tech. Manager

.....END OF TEST REPORT.....



CIN - U73100OR1995PTC003889



GSTIN : 21AAACE6224D1ZE

Annexure - ②

Environmental Research and Services (India) Pvt. Ltd.

(OSPCB 'A' Category Empanelled Laboratory and ISO 9001 : 2015 Certified Company)

Plot No: B-22, Sector-B, Industrial Estate Chandaka, Infocity Road, Bhubaneswar-751024, Odisha
Tel: +91-9437021932, +91-9937690329, E-mail: ersibbsr@gmail.com

AMBIENT NOISE LEVEL MEASUREMENT REPORT

Date: 30 Mar 2023

Name and Address of the Customer : Khandbandh Iron Ore Mines of M/s Sree Metaliks Ltd
Khandbandh, Joda, Keonjhar-758034

Date of Reading : 21.03.2023

Sample Collected by : Representative of ERS (I) Pvt. Ltd.

Sample Collected in presence of : Representative of the Customer

Sl. No.	Location	Result in dB(A) Leq	
		Day time (6.00AM – 10.00 PM)	Night time (10.00PM – 6.00AM)
01	Mines Office (Core)	59.2	57.6
02	Near Pillar No. F1 (Core)	58.4	54.5
03	Near Work Shop, Pillar No. B (Core)	59.4	57.8
04	Near Pillar No. C2, (Core)	61.9	58.2
05	Near village Jalahuri (Buffer)	54.7	52.1
06	Near village Bichhakhundi (Buffer)	51.2	54.1
07	Near village Ganua (Buffer)	58.2	56.5
08	Near village Khandbandha (Buffer)	56.1	54.7
	PERMISSION		
	Industrial Area	75.0	70.0
	Residential Area	55.0	45.0

(Authorized Signatory)

S.P. Pattanayak
Tech. Manager

.....END OF TEST REPORT.....



भारत सरकार GOVERNMENT OF INDIA
खान मंत्रालय MINISTRY OF MINES
भारतीय खान ब्यूरो INDIAN BUREAU OF MINES
क्षेत्रीय खान नियंत्रक के कार्यालय
OFFICE OF THE REGIONAL CONTROLLER OF MINES



Phone: 0674-2352463
Tele Fax: 0674-2352490
E-mail: rc.bhubaneshwar@ibm.gov.in

Plot No 149, Pokhaript
BHUBANESWAR-751020

No. MRMP/A/47-ORI/BHU/2020-21

Date: 23.02.2021

सेवामे

Shri Mahesh Kumar Agarwal, Managing Director,
M/s Sree Metaliks Ltd, Post Box No-28,
P.O-Barbil, Dist- Keonjhar,
Odisha-758035

विषय: Approval of modification of Review of Mining Plan of Khandbandh Iron Ore Mine along with Progressive Mine Closure Plan (PMCP), over an area of 35.774 ha in Keonjhar district of Odisha State, submitted by M/s Sree Metaliks Ltd under Rule 17(3) of Mineral Concession Rules, 2016.

- संदर्भ: - i) Your letter No. Nil dated 13.01.2021.
ii) This office letter of even no. dated 14.01.2021.
iii) This office letter of even no. dated 14.01.2021 addressed to the Director of Mines, Govt. of Odisha, copy endorsed to you.
iv) This office letter of even no. dated 27.01.2021.
v) Your letter No. Nil dated 01.02.2021.

महोदय,

In exercise of the power delegated to me vide Gazette Notification No. S.O. 1857(E) dated 18.05.2016, I hereby Approve the modification of Review of Mining Plan including Progressive Mine Closure Plan of Khandbandh Iron Ore Mine over an area of 35.774 ha of M/s Sree Metaliks Ltd in Keonjhar district of Odisha State submitted under Rule 17(3) of Mineral Concession Rules, 2016. This approval is subject to the following conditions:

- I. The modification of review of Mining Plan is approved without prejudice to any other law applicable to the mine area from time to time whether made by the Central Government, State Government or any other authority and without prejudice to any order or direction from any court of competent jurisdiction.
- II. The proposals shown on the plates and/or given in the document is based on the lease map /sketch submitted by the applicant/ lessee and is applicable from the date of approval.
- III. It is clarified that the approval of aforesaid modification of review of Mining Plan does not in any way imply the approval of the Government in terms of any other provision of Mines & Minerals (Development & Regulation) Act, 1957, or the Mineral Concession Rules, 2016 and any other laws including Forest (Conservation) Act, 1980, Environment (Protection) Act, 1986 or the rules made there under, Mines Act, 1952 and Rule & Regulations made there under.
- IV. Indian Bureau of Mines has not undertaken verification of the mining lease boundary on the ground and does not undertake any responsibility regarding correctness of the boundaries of the leasehold shown on the ground with reference to lease map & other plans furnished by the applicant / lessee.

- V. At any stage, if it is observed that the information furnished, data incorporated in the document are incorrect or misrepresent facts, the approval of the document shall be revoked with immediate effect.
- VI. If this approval conflicts with any other law or court order/ Direction under any statute, it shall be revoked immediately.
- VII. Validity of this document shall expire on 31.03.2026.
- VIII. Next Financial Assurance shall be due for submission on 31.03.2026.
- IX. The modification of Review of Mining Plan has been processed without field verification. Deficiencies/ discrepancies observed if any during the inspection will be communicated which should be incorporated in the modification of Review of Mining Plan by way of modification.

भवदीय / yours faithfully.

Encl: - One copy of modification
of Review of Mining Plan


(हरकेश मीना)

क्षेत्रीय खान नियंत्रक

प्रतिलिपि सादर सूचनार्थ:-

1. The Director of Mines, Directorate of Mines, Government of Odisha, Heads of the Department Building, Bhubaneswar- 751001, Odisha along with one copy of modification of review of Mining Plan by **REGISTERED PARCEL**.
2. Shri K Shankar, Old No-7, New No-11, F-2, First Floor, Sakunthala Enclave, Jawaharlal Nehuru Street, T Nagar, Chennai-600017.

(हरकेश मीना)

क्षेत्रीय खान नियंत्रक

OFFICE OF THE
PRINCIPAL CHIEF CONSERVATOR OF FORESTS (WILDLIFE)
AND CHIEF WILDLIFE WARDEN: ORISSA: BHUBANESWAR-
751012.

Memo No. 4400 /1WL(C)SSP-311 /2011.

Dated, Bhubaneswar the 2 th June, 2011.

To 2.7.11
The Chief Conservator of Forests (Nodal),
O/O the Principal Chief Conservator of Forests, Orissa,
Bhubaneswar.

Sub: Approval of site specific wildlife conservation plan of Khandabandh
Iron Ore Mines of M/S Sree Metaliks Ltd. in the district of Keonjhar.

I am directed to inform you that the Site Specific Wildlife
Conservation Plan for Khandabandh Iron Ore Mines of M/S Sree
Metaliks Ltd. in the district of Keonjhar has been approved by the
Principal Chief Conservator of Forests (WL) & Chief Wildlife Warden,
Orissa with financial forecast of Rs.82.00 lakhs for the following
activities.

- | | |
|--|-----------------------|
| 1.For activities to be implemented
by M/S Sree Metaliks Ltd.
in ML area | Rs.14.00 Lakhs |
| 2.For activities to be implemented by
the DFO, Keonjhar Division in the
Project impact area- | Rs.68.00 Lakhs |
| Total: | Rs.82.00 Lakhs |

Various activities in the lease hold area will be executed by the
User Agency under the guidance of D.F.O., Keonjhar Division. Rs.68.00
Lakhs may be deposited with the Divisional Forest Officer, Keonjhar
Division under CAMPA for implementation of various activities within the
project impact area.

Encl: Two Nos. of approved
S.S. WL Conservation Plan.

Approved by Principal C.C.F. (WL),
Orissa, Bhubaneswar.


Conservator of Forests (WL).

Contd..2

HI-TECH DIAGNOSTIC CENTRE

BANSPANI ROAD, OPPOSITE MAA MANGALA TEMPLE

JODA- 758034, DIST. : KEONJHAR, ODISHA

Date: 23.05.23

Certificate

As per Occupational Health Surveillance Programme of **Khandbandh Iron ore Mines of M/S Sree Metaliks limited, Khandbandh**, having a lease area over an extent of 35.774 Ha, routine **Periodical Medical Examination and Initial Medical Examination** of the persons engaged in the process of mining, crushing and who are likely to be exposed to dust and noise was conducted for **23** numbers of employees.

The employees were subjected to various tests including Lung Spirometry and High resolution X- Ray of the chest to observe the condition and functioning of lungs due to exposure of dust.

On the basis of the above tests, none of the employees was found to have any of the occupational health diseases like Siderosis, Silicosis and Pneumoconiosis etc.

We have also enclosed the list of persons who have undergone the above test during the period 01-10-2022 to 31-03-2023 as per the norms.


23/5/2023

Dr. Rabi Narayan Kar, M.B.B.S.,

Reg.No. – 6220

List Of Employees Under gone IME/PME for the Period from 01.10.22 to 30.04.23 (SML)

SN	Date	Type	ID NO	NAME	DESIGNATION	AGE
1	20-10-22	PME	T-10887	PRAKASH PRAJAPATI	Truck Driver(Off-Highway) K3	45
2	06-02-23	PME	T 11276	PREMLAL BISEN	Hydraulic Excavator Operator H1	40
3	10-12-22	PME	T 11114	BASANT KUMAR TRIPATHY	Electrician K2	45
4	20-04-23	IME	T 11360	MANASA RANJAN PARIDA	Junior Officer -Production	24
5	05-01-23	IME	T 11221	ASHOKA KUMAR PAATRA	Assistant Officer-Warehousing	37
6	07-11-22	PME	T 10906	ASHOK PASWAN	Assistant Mechanic-S1	45
7	19-10-22	PME	T 10881	RAGHWENDRA KUMAR	Deputy General Manager-Mines	50
8	13-10-22	PME	T 10880	OMPRAKASH DAS	Truck Driver(On-Highway)-K2	40
9	12-10-22	PME	T 10876	SUBRAT DAS	Assistant Mechanic-S2	35
10	03-02-23	PME	T 11273	PRASANTA PANIGRAHI	Electrician-K1	47
11	19-12-22	PME	T 11186	PURNA CHANDRA BARIK	Wheel Loader Operator K3	38
12	11-02-23	PME	T 11292	CHANDRA MOHAN MUNDA	Asst. Officer - Safety	32
13	10-12-22	PME	T 11116	RAGHUNATH MAJHI	Supervisor - mining	35
14	15-02-23	PME	T 11296	NILANDRI NAYAK	LMV Driver K1	37
15	21-02-23	PME	T 11306	SWADHIN KUMAR MAJHI	HMV Driver - K2	34
16	22-11-22	PME	T 11006	SOUMYARANJAN SAHOO	LMV Driver-K1	35
17	11-02-23	PME	T 11291	AJIT KUMAR NAIK	LMV Driver K1	33
18	21-02-23	PME	T 11307	PRADEEP KUMAR MAHANTA	LMV Driver-K1	32
19	27-10-22	PME	T 10890	SIMANTA NAIK	Warden	32
20	08-11-22	IME	A 13673	AJIT MAHANTA	Welder	37
21	08-11-22	IME	A 12674	SRIKANTA BEHURA	Foreman	37
22	12-12-22	IME	A 12781	SAMBIT KUMAR SETHY	Helper	19
23	22-03-23	IME	A 13007	BIRENDRA MINZ	Helper	20



Dr. Rabi Narayan Kar
M.B.B.S.
Regd. No - 6220
Sr. Medical Officer
Thriveni Earthmovers (P) Ltd.



Ref.No. : SML/SC/ES/OSPCB/22-23/186

Date:31.08.2022

To,
The Member Secretary,
State Pollution Control Board, Odisha,
Parivesh Bhawan, A/118, Nilakantha Nagar,
Unit-VIII, Bhubanesvvar-751012.

Subject: Environmental Statement of "Khandbandh Iron Ore Mines of M/s. Sree Metaliks Ltd." located in Khandbandh village, Tehsil-Barbil, Dist.: Keonjhar" for the year 2021-2022.

Respected Sir,

With reference to the above mentioned subject, we are herewith submitting "Annual Environmental Statement" for the financial year 2021-2022 (April, 2021 to March, 2022)" in Form-V as per rule-14 under Environment (Protection) Rules, 1986 of Khandbandh Iron Ore Mines of M/s. Sree Metaliks Ltd. through email — paribesh1@ospcboard.org. The hard copy of same will be submitted to your good office.

This is for your kind information, please.

Thanking You,

Yours Faithfully,

(Signature)
For Khandbandh Iron Ore Mines
M/s. Sree Metaliks Ltd.

Mines Manager
Khandbandh Iron Ore Mines
M/s. Sree Metaliks Limited

Encl.: As above.

Copy to: 1. The Regional Officer, SPCB, Regional Office, Keonjhar, Odisha.

2. The Jt. Director (S), Integrated Regional Office, MoEF&CC, A-3, Chandrasekharpur, Bhubaneswar- 751023 (Odisha). The soft of the Annual Environment Statement is mailed to: mef.or@nic.in

CIN : U26939WB1995PLC075633

SML HOUSE, MAIN ROAD, BARBIL - 758035, KEONJHAR, ORISSA, INDIA

Tel No. : 06767-276292/275585, Fax : 06767-275529/276219, Web : www.sreemetaliks.com, e-mail ID : mrsreemetaliks@gmail.com

[FORM-V]
(See Rule 14)
Environment Statement for the financial year ending the 31st March 2022

PART-A

(1) Name and address of the owner / Occupier of the industry, Operation or process	-	Khandbandh Iron Ore Mine M/s. Sree Metaliks Ltd. SML House, Main Road, Barbil – 758035, Keonjhar, Odisha. Email: smlmines@sreemetaliks.com Contact no: 6371087017
(2) Industry category Primary	-	(STC CODE) Secondary-(SIC Code)
(3) Production capacity Units	-	0.702 MTPA
(4) Year of establishment	-	21 March 2018
(5) Date of the last Environmental Statement Submitted	-	29.07.2021

PART-B

Water and Raw material Consumption:

(1) Water Consumption m ³ /day Process	-	150 m ³ / Day
Cooling (Water sprinkling on Haul roads) Plantation	-	130 m ³ / Day
Domestic (Drinking purpose)	-	10 m ³ / Day
Work shop	-	07 m ³ / Day
	-	03 m ³ / Day

Name of Product		Process water consumption per unit of output
-----------------	--	--

Sized Iron Ore		NA
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		During the previous Financial year
--	--	------------------------------------

		During the current Financial year
--	--	-----------------------------------

		(1)
--	--	-----

		(2)
--	--	-----

- (1)
(2)
(3)

1. Substituted by rule 2 (b) of the environment (Protection) amendment rules, 1993 notified vide G.S.R vide G.S.R 3'6 (E) dated 22.04.1993.

(ii) Raw material consumption	-	Not applicable
-------------------------------	---	-----------------------

Name of raw Material	Name of Products	Consumption of raw material per unit of out put
----------------------	------------------	---

		During the previous Financial year
--	--	------------------------------------

		During the current Financial Year
--	--	-----------------------------------

*Industry may use codes if disclosing details or raw material would violate contractual obligations, otherwise all industries have to name the raw materials used.

PART-C

Pollution discharged to environment /unit of output - Not Applicable
(Parameter as specified in the consent issued)

A) Water:

(Parameter as specified in the consent issued)			
Pollutants	Quantity of Pollutants Discharged (Mass / day)	Conc. of Pollutants Discharged (Mass / Volume)	% of variation from prescribed standard with reasons
Mines Surface runoff water Quality Report			
pH	NA	6.73	Within the Range
T.S.S	32.25 kg /day	2.25 mg/ lit	68.00 % below the norm
Oil & Grease	4.29 kg / day	0.290 mg/ lit	57.43 % below the norm

B) Air: Not Applicable

Note: Present there is no such trade effluent and source of emissions from current mines operation methodology.

PART - D
Hazardous Wastes

(As specified under Hazardous Waste/ Management and Handling Rules, 1986)

Hazardous waste [Waste Oil] [KL]	Total Quantity	
	During the previous Financial year	During the Current financial year
1) From process	NA	NA
2) From Pollution Control FACILITY	NA	NA
3) Used Oil	4.62 KL	8.4 KL
4) Oil contaminate waste	0.213 TON	0.050 TON

PART-E
Solid Waste

	Total Quantity	
	During the previous Financial year	During the current financial year
(a) From process:		
(Overburden and Intercalated Waste)	:256600(T)	276245 (T)
(b) From pollution control facility	: NA	NA
(c) (1) Quantity recycled or re-utilized Within the unit	: NA	NA
(2) Sold	: NA	NA
(3) Disposed	: It is dumped at ear marked areas within the ML Area	

PART-F

Please specify the characteristics (in terms of composition and quantum) of Hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of waste.

There is no such hazardous waste is being generated, other than used oil, oil contaminated waste, filter & filter material, empty barrels & waste battery.

- Used Oil: Collection in leak proof barrels and stored in isolated yards under shed with impervious floor having secondary containment pit at the corner for the temporary storage.
- Oil contaminated cotton waste, etc.: Compacted into small packages and stored under isolated area in the yard for the temporary storage till the safe disposal of the same.

- Overburden waste is being disposed at ear marked area inside the mine by following the proper sloping, terracing and further development of vegetation with plantation along with mixed grass and some parts are covered with coir mat applications. All the dumps have been provided with retaining wall followed by garland drain and settling at corner of each dump.

- After commencement of the mines operations, the top soil was collected till the period, 2019-20 and was stacked at the earmarked location which was subsequently utilized for the green belt development and site plantation purposes & rehabilitation of inactive dump slopes as per the approved Mining Plan.

PART-G

Impact of the pollution abatement measures taken on conservation of natural resources and the cost of the production.

- Rain water harvesting project is going on to recharge the ground water as a major step of natural conservation of water resources.
- The project has implemented surface run off management structures i.e. Check dams, check weir's, Settling Ponds, guard walls, garland drains etc. in core zone followed by roof top rain water harvesting measures in residential camp establishments in the buffer zone area.
- Plantation is being carried out to retain the soil captivity as well as to increase the water holding.

PART-H

Additional measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution.

- Water sprinkling on haul roads carried out by engaging two no's of 12KL capacity of water tanker on daily basis.
- Dry fog system is provided in all crusher & screen plants for dust suppression. Plantation in safety zone and dump areas has been carried out.
- Check-dam, check weirs for surface run-off & silt management during monsoon season.

PART-I

Any other particulars for improving the quality of the environment Step towards Environmental Awareness Program

- Project has observed the “World Environment Day, 5th June 2022” with the plantation campaign in the area.
- Steps are also taken by the project to create awareness about water conservation, wildlife conservation etc. at nearby villages.

Photos:

Photo #1 Showing OB Dump stabilization with plantation & geo-coir mat application



Photo #2 Showing Retaining wall & garland drain around OB Dumps



Photo #3 Showing settling cum harvesting pits along with check dam & check weir



Photo #4 Showing Plantation in Mine Lease Safety Zone



Photo #5 Showing 12 KL Water tanker for Dust Suppression on the Haul Road



Photo #6 Showing Dry fog system in Crusher and Screen Plant



Photo #7 Environment Awareness programme



The screenshot displays the 'Environment Compliance Reports' page on the Sree Metaliks website. The browser's address bar shows the URL: sreemetaliks.com/environment-compliance-reports/. The website header includes the Sree Metaliks logo and navigation links: Home, About Us, Our Products, Manufacturing Excellence, Sustainability, Blog, and Contact Us. The main heading is 'Environment Compliance Reports'. Below this, there are three tabs: 'Environmental Clearance', 'Environment Statement', and 'EC Compliance Reports' (which is currently selected). Under the 'EC Compliance Reports' tab, there are five report entries, each with a PDF icon and a download arrow:

- EC Oct-18 to Mar-19
- EC Apr-19 to Sept-19
- EC Oct-19 to Mar-20
- EC April-20 to Sept-20
- EC Oct-20 to Mar-21

Below these entries, there is a separate entry for 'EC April to Sept 2021'.

 सत्यमेव जयते	<p>भारत सरकार Govt. of India श्रम एवं रोजगार मंत्रालय Ministry of Labour & Employment खान सुरक्षा महाविदेशालय Directorate-General of Mines Safety</p>	
NO: 330863 SEZ Chaibasa Region Perm 2021 8894		Date 30.06.2021

From:

Altaf Hussain Ansari

Director of Mines Safety

Chaibasa Region, Chaibasa.

To,

Shri Mahesh Kumar Agarwal

Owner, Khandabandh Iron Ore Mines

M/s. Sree Metaliks Limited

S.M.L. House

At + P.O.-Barbil-758035

District-keonjhar, Odisha.

Subject: Permission under Regulation 106(2)(b) of the Metalliferous Mines Regulations, 1961 for deployment of Heavy Earth Moving Machineries for digging and removal of overburden and ore without deep hole blasting at Khandabandh Iron Ore Mines of M/s. Sree Metaliks Limited.

Sir,

Please refer to your online application Id 142190 dated 04.03.2021 and the plans and sections submitted offline, on the above mentioned subject.

The matter has since been considered and examined in the light of the particulars furnished by you. In exercise of the powers conferred on the Chief Inspector of Mines (also designated as Director-General of Mines Safety) under provisions of Regulations 106(2)(b) of the Metalliferous Mines Regulations, 1961 and by virtue of the authorisation granted to me by the Chief Inspector of Mines (also designated as Director-General of Mines Safety) under Section 6(1) of the Mines Act, 1952, I, hereby permit you to deploy Heavy Earth Moving Machineries for excavation, digging and removal of Overburden & Ore in the area bounded by “1-2-3-4-5-6-7-8-9-1” as shown in blue colour bold lines without deep hole blasting as shown on Surface Plan No. 74/SML/SP/2021/2 dated 24.04.2021; at Khandabandh Iron Ore Mines of M/s. Sree Metaliks Limited; subject to the conditions specified in the Annexure ‘A’ attached with this permission and the following conditions being strictly complied with-

- (1) A person holding a First Class Managers’ Certificate of Competency under Metalliferous Mines Regulations, 1961, shall remain as Manager of the mine. This permission shall stand revoked as soon as the qualified Manager ceases to work at the mine.
- (2) Adequate numbers of supervisors including qualified Foremen & Mates shall be appointed to assist the manager. Mine Foreman’s district shall not contain more than two excavators ancillary equipment viz. dumpers, loaders and drills etc and one Foreman shall not supervise work of more than two Mining Mates.
- (3) No ore dressing/ handling/ processing plant shall be attached with the mine.
- (4) No deep hole drilling and blasting shall be done in the mine.
- (4) No person shall be engaged in ore/ overburden benches within 60m of any Heavy Earth Moving Machinery (HEMM) deployed therein.
- (5) Adequate general lighting as required under notification No. GSR-618(E), dated 28th April, 2017, published in the Gazette of India dated 21st June, 2017, Part II Section 3(i) (DGMS Legis. Circular No.3 of 2017) shall be kept provided and maintained during working hours at different places or areas where natural light becomes insufficient.
- (6) No working with HEMM shall be extended within 45.0m of any surface feature or public road not belonging to the owner unless the same is acquired or consent to operate is obtained from the owner concerned.
- (7) A suitable 'Code of Traffic Rules' for regulating the movement of HEMM (commensurate with the capacity/ size type of machines used in the mechanised opencast mine) shall be framed and enforced immediately. Such Code of Traffic Rules should be approved by Tri-partite Committee. A copy of such Code shall be submitted to Director of Mines Safety, Chaibasa for record.
- (8) The operator's cabins of HEMM shall be well designed and substantially built so as to ensure adequate protection to the operator against heat, dust, noise etc. and at the same time provide adequate safety to the operator in the event of overturning of HEMM. A seat belt for the safety of the operator shall also be provided.
- (9) A code of practice shall be drawn up for dealing with fires at different locations in the opencast mine, including HEMM. Arrangements for fighting fire should be provided on all HEMMs. Such arrangements should, if possible, operate automatically on appearance of fire.
- (10) Separate ore stockyards shall be maintained for dumping and dispatch of ore and it shall be ensured that

dispatch of mineral is not carried out from the dump yard where dumping is under progress. Further, buyers' trucks shall be parked away from the mine premises and only such trucks shall be allowed to enter the mine, which are due for loading during the shift. Also, it shall be ensured that only permitted quantity of mineral is loaded in the trucks so as to obviate the risk of accidents due to overloaded trucks in the mine premises.

(11) All persons to be employed to drive/ operate HEMM should be trained and their competency should be evaluated by a Board constituted by the management. The members of such board shall be persons who are not connected with imparting of training. However, the training officers may be co-opted in the Board as observer.

(12) Only such fitters/mechanics who possess driver's/ operator's license should be allowed to carry out test-run of HEMM.

(13) The portion of surface haul road in mine premises where there is heavy traffic of men and machines should be provided with a separate lane properly fenced off from the haul road for pedestrians and two wheelers.

(14) Trucks and other heavy vehicles, not belonging to management should not be allowed in the mine premises without a valid pass issued by the manager or other competent person. Before the pass is issued the engineer shall check the road-worthiness of such vehicles.

(15) In order to check entry of unauthorized vehicles into the mine premises, a properly manned check gate(s) at the entrance(s) shall be set up where record of entry and exit of each such vehicle shall be maintained.

(16) At the check gate the license of the drivers shall also be checked for eliminating the possibility of unlicensed persons driving the vehicles.

(17) Persons engaged in surface operations and, in particular, the contractor's workers, who incidentally are often inexperienced and least informed about job-safety matters, need closer and more competent supervision. To minimize accidents due to surface operations it shall be ensured that all persons engaged at any work within the mine premises through the contractors have received relevant training and other job-related briefings and that the drivers of vehicles belonging to contractors entering the mine premises have additionally been explained the salient provisions of "Traffic Rules".

(18) Each and every operation, including the operation carried out through contractor's workers or by outside agency, shall be placed under the charge of a competent supervisor, duly appointed and authorized by the manager, his jurisdiction being clearly demarcated.

(19) (a) A code specifying the duties and responsibilities of all officers of mining cadre, Mine Engineer, Supervisors, Technicians, Mechanics, Fitters, Machine Operators, helpers, loading supervisors etc. shall be drawn up and distributed to all.

(b) It shall be the responsibility of the Manager, Engineer and other supervisors to see that all persons working in the mine in all machines/ equipments etc. work as per the code and all machines and equipments etc. are installed, operated and maintained in safe working conditions.

(20) In the event of any change in the circumstances connected with this permission which is likely to endanger the life of persons employed in the mine or the mining operations for which this permission has been granted shall be stopped forthwith and intimation sent to the Director of Mines Safety thereof. The said mining operation shall not be resumed without express and fresh permission in writing from this Directorate.

(21) If at any time any one of the conditions subject to which this permission has been granted is violated or not complied with, this permission shall be deemed to have been revoked with immediate effect.

(22) This permission may be amended or withdrawn at any time if considered necessary in the interest of safety and is being issued under Regulation 106(2)(b) of the Metalliferous Mines Regulations, 1961 only without prejudice to any other provisions of law which may be or may become applicable at any time.

(23) This Directorate shall be informed as soon as the mining operations are commenced in accordance with the above permission. Intimation about completion of the mining operations should also be sent promptly and in any case not later than one month thereof.

(24) This permission shall be valid for a period of five (5) years from the date of issue of this letter.

Annexure 'A'

1.0. GENERAL:

I. Except where otherwise provided for in this conditional permission all provisions of the Metalliferous Mines Regulations, 1961 relating to opencast workings, use of explosives and machinery shall be strictly complied with.

II. (a) All damages to property not belonging to the owner of the mine and injuries to persons as a result of mining operations shall be adequately indemnified. Should there be any controversy in this respect; the decision of the DGMS shall be final and binding on the management.

(b) No workings shall be extended to any point within 45m of village, dwellings, Roadway, Roadway, Railway acquired land and Public structure, H.T. Power line etc.

III. No work whatsoever shall be done where the provisions of Regulation 127 of the Metalliferous Mines Regulations, 1961 are attracted due to the presence of River, jore and nallah in the vicinity. The entire ground lying within 15m of all the River, nallahs and jores shall be filled up and raised and consolidated to a R.L. of at least 3m above the highest flood level.

2.0. OPENCAST WORKINGS:

(a) The height of the benches in alluvium and soft rock formation shall not be more than 3m and in overburden, ore or other hard rock formation not be more than the digging height of the machine used for digging, excavation or removal.

(b) The width of any bench shall not be less than:

(i) the width of the widest machine plying on the bench plus 2m, or

(ii) if dumpers ply on the bench three times the width of the dumper, or

(iii) the height of the bench, whichever is more.

(c) If tippers or similar transport vehicles are deployed for transportation of ore, separate roads for such tipping trucks or similar vehicles shall be provided and safe loading practices shall be adopted avoiding plying of trucks on the same bench where men are to work, travel or rest.

(d) No manual workers shall be employed where HEMM is deployed in the mine.

3.0. FENCING AROUND OPENCAST WORKINGS:

(a) The periphery around the limits of opencast workings shall be kept fenced with a masonry wall not less than 0.40m thick and not less than 1.2m high, with parapet top.

(b) The edges of benches of the opencast workings shall be kept fenced with wire ropes strand or barbed wire supported by movable posts (wooden, iron or concrete). The gap between the adjacent rope strands or wires shall not be more than 0.30m and the bottom most rope strand wire shall not be more than 0.25m and the top most rope strand or wire not less than 1.0m from ground level.

(c) Before abandoning the mine, the pits/ quarry shall be filled upto adjacent ground level by earth, where ever applicable.

4.0. SPOIL OVERBURDEN OR DEBRIS BANKS:

I (a) Spoils, overburden or debris shall be deposited at places belonging to the mine and duly approved by the manager in writing.

b) Spoils, overburden or debris shall not be deposited, beneath transmission, telephone or power lines or near any public structure.

(c) The slope of a spoil bank face shall be determined by natural angle of repose of the material being deposited, but shall in no case exceed 37.5 degree from the horizontal. The spoil bank face shall not be retained by artificial means at an angle in excess of its natural angle of repose.

(d) Any spoil bank exceeding 30m in height shall be kept benched so that no such bench exceeds 30m in height and the general slope does not exceed 1 vertical to 1.5 horizontal. In no case, the height of any spoil bank shall be allowed to exceed 60m unless a scientific study on its stability has been done and a separate permission is obtained from this Directorate.

(e) The spoil bank face shall not be retained by and artificial means at an angle in excess of it's natural angle of slope.

II. (a) The spoils overburden or debris shall not be deposited within 45m of a railway or other structures and it shall not be permitted to approach any of the above said structures closer than a distance equal to 1.5 times the vertical height of its face.

(b) The toe of a spoil-bank shall not be permitted to approach a railway or other public works, public road or building or other permanent structure not belonging to the owner of the mine closer than distance equal to the vertical height of its face.

(c) A suitable fence shall be erected between any railways of public works or road or building or structures and the toe of an active spoil bank so as to prevent un-authorized persons from approaching the spoil bank.

(d) The backfilled area shall be kept benched and the distance of any active mine workings (faces) from the toe of bottom-most backfilled face (bench) shall not be less than 100m.

III. No person shall, or shall be permitted to approach the toe of an active spoil bank where he may be endangered from material rolling down the face. Suitable signs for warning the persons at conspicuous places

shall also be displayed.

IV. Dozers shall be provided with the following safety features in addition:

- 1) Roll over protection
- 2) Turbo charge guard.
- 3) Fire resistant hydraulic hoses and wiring near hot zone
- 4) Seat belt.

5.0. ROADS FOR TIPPING TRUCKS AND DUMPERS ETC:

I. All haul roads for dumpers or other mobile machinery shall be constructed to suit its load capacity and maintained in good condition. No vehicles other than heavy transport vehicles shall use haul roads except between designated points and when permitted in writing by the manager.

II. Where practicable, all roads leading from the opencast workings to surface shall be arranged to provide one-way traffic and no road shall be of a width less than three times plus 5m the width of the largest vehicle plying on that road. Where it is not practicable, definite turnouts, crossing points and waiting points shall be designated for use of vehicle.

III. All corners and bends shall be made in such a way that the operators and drivers of vehicle have clear view of distance of not less than 3 times the breaking distance of largest HEMM working at 40 Km/hour.

IV. Where it is not possible to ensure a visibility for a distance as mention in (III) there shall be provided with two roads of width not less than 2 times plus 3m of largest vehicle plying on the road with a strong road divider at centre with adequate lighting and reflector along the divider.

V. Where any road existing above level of surrounding area, it shall be provided with strong parapet wall or embankment of following dimensions:

- (a) Width at top not less than 1m.
- (b) Width at bottom not less than 2.5m.
- (c) The height not less than the diameter of any type of largest vehicle plying on road. It may be noted that just dumping of mud or OB shall not be treated as strong parapet wall.

VI. No road shall have gradient more than 1 in 16. Ramps with 1 in 10 gradients should not be more than 10m at one stretch.

VII. If large capacity dumpers and smaller capacity tipping trucks or similar transport vehicle are deployed in the mine, separate roads for tipping trucks or similar transport vehicles shall be provided.

VIII. Plying of dumpers or tipping trucks on the same bench where men are to work, travel or rest shall be avoided.

IX. Warning notices and road signs shall be posted along the haul roads at appropriate places like crossings, curves etc for guidance of drivers of dumpers/ trucks/ tippers.

X. At every curve, parapet wall or vertical posts with Zebra lines shall be provided to help the drivers to keep the trucks/ tippers/ dumpers on the track.

6.0. ADDITIONAL DUTIES OF ASSISTANT MANAGER INCHARGE OF OPENCAST WORKING:

I. During every shift, the opencast workings shall be placed under the charge of a qualified experienced Assistant Manager to have overall control and guidance of all operations.

II. During his shift the Assistant Manager shall: -

a) Make frequent inspections for evidence of any unsafe conditions including evidence of slide of material from high wall and shall guide so that operations are conducted in a safe and efficient manner.

b) Not allow any person to work under overhanging edges or where there is evidence of slides, until such danger has been removed.

c) Ensure that every person engaged in dressing operations on high walls is provided with and uses safety belt of a type approved by this Directorate.

d) Ensure that all loose material is removed from high walls before drillers are engaged there; and

(e) Ensure that parapet walls along truck roads are properly maintained.

7.0 ADDITIONAL DUTIES OF ENGINEERS PLACED IN CHARGE OF MACHINES AND EQUIPMENTS IN OPENCAST WORKINGS:

The machines and equipments at work shall be placed under the charge of qualified and experienced engineer to effect inspection, examination, safe operations and maintenance of the machines, equipments and accessories. The engineer/ engineers shall;

a) inspect, examine machines, equipments and accessories and satisfy himself that they are in sound and safe working order;

b) not allow any machine, equipment to be used, if it is found defective;

c) ensure that every machine, equipment, accessory used is in a safe and efficient order;

d) ensure that each operation, activity is carried on in safe and efficient manner.

8.0. INSPECTION, EXAMINATION, REPAIR AND MAINTENANCE OF HEMM AND OTHER MACHINES:

I. a) A code of practice for inspection, examination and repair of all breakdowns and repairs etc. shall be drawn up and practiced. A copy of the same shall be submitted to this Directorate promptly.

b) Every drilling and earth moving machinery or equipment or accessory (herein after called machine) shall be thoroughly examined at least once in each shift and maintained in good and safe working conditions.

c) A record of all such examinations and maintenances shall be maintained in a bound paged register and shall be signed by the engineer in charge of the shift and countersigned by the mine Engineer.

d) The layout of the workshop for maintenance of HEMM and other equipments shall be as per requirement mentioned in the DGMS Circular No.8 of 2003.

II. a) Every machine shall be allocated at least one day in every week for examination and maintenance, when it shall be thoroughly examined and inspected by the Engineer, who shall satisfy himself that it is mechanically sound and is in efficient working order before it is allowed to be re-used.

b) A report of every maintenance made under clause (a) shall be recorded in a bound paged book kept for the purpose, and shall be signed and dated by person making the inspection and countersigned by the Engineer.

c) If the Engineer, mechanical Foreman or other competent person making an inspection under Clause (I) (a), notices any defect in any machinery, the said machinery shall not be used until the defect has been remedied.

d) Any defect in machinery reported by its operator shall be promptly attended to.

III. a) Any machinery found to be in an unsafe operating condition shall be tagged at the operator's position; "Out of Service, Do not Use" and its use shall be prohibited until the unsafe condition has been corrected.

b) All repairs to a machine shall be done at a location, which will provide a safe place for the persons engaged on repairs.

c) Except for testing, trial or adjustment, which must necessarily be done while the machine is in motion, every machine shall be shut down and positive means taken to prevent in operation while any repair or manual lubrication is being done.

d) Any machinery, equipment or part thereof which is suspended or held apart by use of slings, hoists jacks shall be substantially blocked or cribbed before men are permitted to work underneath or between the same.

e) The operator or driver shall not leave the machine while it is running unless it is placed under the charge of a competent person.

f) Power shall be disconnected when repairs are to be carried on any electrically powered machine/apparatus.

IV. In addition following provisions shall be ensured in general:

1) The approved type of audio visual alarm shall be provided in all equipment.

2) The approved type of fire suppression system shall be provided in all equipment.

3) The stability of HEMM shall be carried out at least once in year and after every major overhaul by an independent agency.

4) The crane and overhead crane shall be subject to proof load test and NDT test once in a year from a competent authority.

5) The pressure vessel receiver are subject to hydraulic and NDT test and shall be carried out by a competent authority.

6) In case of any defect in equipment such as brake, steering and safety device the equipment shall be immediately taken out of use and a record shall be kept.

7) The code of practice for installation operation and maintenance of all equipment shall be prepared and implemented before putting the equipment to use in mine.

8) The safety feature recommend in equipments shall be a part of notice inviting tender for new procurement and the design and drawing shall be obtained from OEM for fitting the same in old equipment.

9.0 DUTIES OF DRILL OPERATORS:

I. At the beginning of his shift, the drill operator shall examine the drilling equipment and satisfy himself that:

- a) Crown blocks are mounted securely;
- b) where compressed air operated drills are used, all hoses' connections are in order; and
- c) the drilling equipment is in safe working condition.
- d) Wet drilling system is in order.

II. The drill operator shall ensure that;

- a) work-persons keep clear of auger and drill stem while the drill is in motion;
- b) work-persons do not work under suspended tools, when tools are removed from the holes, these shall be lowered on the platform; and
- c) all finished drill holes are properly plugged so as avoid possible leg injuries to any one accidentally stepping into the hole.

10.0 DUTIES OF EXCAVATOR OPERATORS:

I. a) At the commencement of every shift, the operator shall personally inspect and test the machine, paying special attention to the following details:

- i) that every warning device is in working order; or
- ii) if the machine is required to work after day-light hours, he shall not take out the machine for work nor shall he work the machine, unless he is satisfied that it is mechanically sound and in efficient working order including the lighting fixtures.

b) The operator shall maintain a record of every inspection made under clause (a) in a bound paged book kept for the purpose and shall sign every entry made therein.

II. a) The operator shall keep the cab window clean so as to ensure clear vision at all times.

b) The walkways in or about the cab of any excavator shall be kept free of loose tools, grease containers or other materials that might fall or present a falling or tripping hazard.

III. a) The operator shall not operate the machine when persons are in such proximity as to be endangered.

b) He shall not swing the bucket over passing haulage unit when the trucks/dumpers are being loaded, he shall swing over the body of the truck/dumpers and not over the cab, unless the cab is protected by a

substantially strong cover.

IV. Before leaving the machine, the operator shall lower the bucket to the ground.

V. The operator shall not allow any un-authorized person to ride on the machine.

11.0 DUTIES OF TRUCK/ DUMPER OPERATORS:

I. A) Before commencing work, the driver shall personally inspect and test the vehicle, paying special attention to the following details:

i) that the brakes are in working order;

ii) that the warning devices including automatic audio visual reversing alarm are in working order and he shall not take out the vehicle for work nor shall he drive the vehicle, unless he is satisfied that it is mechanically sound and in efficient working order.

b) The driver shall maintain a record of every inspection made under clause (a) in a bound paged book kept for the purpose and shall be signed and dated by the person making the inspection.

II. The driver shall keep the cab window clean so as to ensure clear vision at all times

a) The driver shall ensure that the gear is in neutral position before stopping the engine.

b) The driver shall handle the truck/dumper carefully and keep it under control at all times. He shall negotiate downhill gradients in low gear so that minimum of braking is required.

c) He shall not drive too fast, shall avoid distractions and shall drive defensively. He shall not attempt to overtake another vehicle unless he can see clearly for enough ahead to be sure that he can pass it safely. He shall also sound audible warning signal before overtaking.

d) When approaching stripping equipment, the driver of the truck or dumper shall sound the audible warning signal and shall not attempt to pass the stripping equipment until he has received a proper audible signal in reply.

e) Before crossing a road or railway line, he shall reduce his speed, look in both directions along the road or line and shall proceed across the road or line only if it is safe to do so.

f) The driver shall not operate the truck or dumper in reverse unless he has a clear view of the area behind the vehicle or he has the assistance of a 'spotter' or 'pitmen/trip man' duly authorised in writing for the purpose by the manager. He shall give an audible warning signal before reversing a truck or dumper.

g) The driver shall be sure of clearance before driving through tunnels, archways, plant structure etc.

III. The driver shall see that the vehicle is not overloaded and that material is not loaded in a truck or dumper as to project horizontally beyond the sides of its body and that any material projecting beyond the front or rear is indicated by the red flag during day and a red light after daylight hours.

IV. The driver shall not allow any unauthorized person to ride on the vehicle. He shall also not allow more than the authorized number of persons to ride on the vehicle.

12.0 PROTECTIVE EQUIPMENTS, DUST ETC:

I. PROTECTIVE EQUIPMENT: Every person working in the opencast working shall be provided with, and shall use a hard hat and reinforced safety boots of a type approved by the Chief Inspector of Mines.

II. PRECAUTIONS AGAINST DUST: Adequate arrangements, to allay dry dust by wetting shall be made on roads and benches where HEMM, trucks and dumpers operate. All drills shall be provided with wet drilling arrangement and it shall be maintained in working order. No dry drilling operation shall be carried out.

13.0 GENERAL LIGHTING: Where natural lighting is insufficient, adequate general lighting as required under notification No. GSR-618(E), dated 28th April, 2017, published in the Gazette of India dated 21st June, 2017, Part II Section 3(i) as per the standards laid down in DGMS (Legis.) Circular No.03 of 2017 dated 06.11.2017, issued under Regulation 148(2) of the Metalliferous Mines Regulations, 1961, shall be provided at all opencast workings, haul roads, dump yards, sumps and other working places for working the mine beyond day-light hours.

14.0 DESIGN, OPERATION AND MAINTENANCE OF EXCAVATORS:

(A) DESIGN:

I. a) Every excavator shall be so designed as to afford the operator clear and uninterrupted vision all around.

b) Every excavator shall be provided with: -

i) efficient warning devices;

ii) adequate front and rear lights and a portable lamp for emergency, unless the excavator is not used after day-light hours; and

iii) an efficient portable fire extinguisher so placed as to be within easy reach of the operator.

II. A special retracting ladder mounted on the excavating machine.

III. The following safety feature shall be provided with Excavators:

i) All functions cut off switch.

ii) Swing Motor Brake.

iii) Fire resistant hydraulic hoses in place of ordinary hoses to decrease the chance of Fire. All the sleeves and conducts where cable/wire are passed shall be fire resistant.

iv) Turbo charger Guard.

v) Seat belt.

vi) Vent valve on top of hydraulic tank should be able to be removed without any tool.

vii) A baffle plate between cold zone and hot zone.

viii) Provision for Limiting of hydraulic cylinders-Stopppers.

(B) OPERATION:

I. Every excavator shall be under the charge of a competent person authorised in writing by the manager, herein called the 'Operator'.

II. a) No person other than the operator or his helper if any, or the manager or any person so authorised in writing by the manager shall ride on any excavator.

b) No person shall be permitted to ride in the bucket of a excavator.

III. Excavator boom shall be lowered to the ground during greasing operations.

IV. a) No excavator shall be operated in a position where any part of the machine suspected and leads or lines are brought closer than 3m to exposed high voltage lines, unless the current has been cut off and positive means taken to prevent the lines from being energized. A notice of this requirement shall be posted at the operator's position.

b) Electrical cables, if any, shall be laid in such a manner that they are not endangered either by falling rocks or by any mobile equipment.

V. The excavator bucket shall be pulled out of the bank as soon as it is full.

VI. a) When being operated in soft or unstable ground, every excavator shall be supported by mats, heavy planks or poles so as to distribute the load of the machinery over larger area and to prevent any danger of the excavator overturning itself.

b) When not in use, the excavator shall be moved to and stood on stable ground.

VII. If more than one stripping machines are in use in any area either on the same bench or on different benches, the machines shall be so spaced that there is no danger of accident from flying or falling objects etc. from one machine to the other.

15.0 DESIGN, OPERATION AND MAINTENANCE OF DUMPERS AND TIPPING TRUCKS:**(A) DESIGN:**

(I) Every tipping truck or dumper shall be provided with:

i) efficient brakes;

ii) efficient audible warning devices; and

iii) efficient head-lights, if the truck or dumper is required to work after day-light hours.

iv) an automatic audio-visual alarm which shall operate on reversal and be of such intensity which is not less than 5dB(A) above the surrounding noise level..

(II) In addition, the following safety features shall be provided in dumper:

1. Mechanical steering locking to prevent untoward movement of steering wheel and tyre while work persons working below the cabin while engine is running.

2. Blind spot mirror apart from rear view mirror to enable operator to have clear visibility of blind spot in and around dumpers.
3. Mechanical type Anti collision device to avoid head to tail collision on haul road such as tail gate, bumper extension or any other strong device.
4. Fire resistant hydraulic hoses in place of ordinary hoses to decrease the chance of fire. All the sleeves and conducts where cable/wire are passed shall be fire resistant.
5. Seat belt for operator.
6. The maximum speed of vehicle shall be restricted to 30km/hour by blocking higher gear or any other automatic means.
7. Propeller shaft guard.
8. Proximity warning device.
9. Cabin Guard Extension: Canopy shall cover the operator's cabin fully.
10. Exhaust/ Retard Brake: Device to control the speed of truck while operating down the gradient. Refer DGMS (Tech.) Circular No.02 of 2004.
11. Tail gate protection: Protection of operator against collision either by head on or head to tail.
12. Limiting speed device: Enable mine management to decide the maximum speed of vehicle to be operated in mine. The device may be Electronic or mechanical type speed governors.
13. Audio-visual alarm while reversing: The audio-visual alarm provided should confirm to DGMS (Tech.) Circular No.01 of 2010.
14. Provision of two brakes: One of brakes shall be fail safe. For details refer DGMS Circular No.09 of 1999.
15. Body lifting position locking arrangement: A hooter along with an indication is provided to indicate the body is still in lifted position.
16. Fire suppression System: Refer DGMS Circular No.10 of 2004. The fire suppression system shall be a factory fitment and of approved type from the Directorate.
17. Electric Wires and sleeves are to be of fire resistant quality: To decrease change of fire.
18. Turbo Charge and Exhaust tube coated with heat insulated paint: To decrease change of fire.
19. Battery Cut off Switch: To decrease chance of fire.
20. Retro reflectors on all sides: For visibility of truck during beyond daylight hours.
21. Proximity warning device: To alert operator when approaching any vehicles/obstructions.
22. Rear Vision System: To assist operator during reversing. Refer DGMS Circular No.12 of 2009.
23. Auto dipping System: To reduce glaring on eyes of operator during night operation.

24. Load Indicator and Recorder: Enables management to detect and prevent over loading.

(B) OPERATION:

I. Every truck or dumper shall be under the charge of a competent person authorised in writing by the manager herein called the 'Driver'. No person shall be so authorized unless he possesses a valid driving license to drive a heavy vehicle under the Motor Vehicles Act.

II. a) No person other than the driver or his helper, if any or the manager or any person authorised in writing by the manager shall ride on a truck or dumper.

b) No person shall be permitted to ride on the board of a running truck or dumper.

III. a) As far as possible, loaded trucks or dumpers shall not be reversed on gradients.

b) Sufficient stop blocks shall be provided at every tipping point and these shall be used on every occasion, material is dumped.

c) Standard traffic rules shall be adopted and followed during movement of all trucks and dumpers. They shall be prominently displayed at relevant places in the opencast workings and truck/dumpers roads.

IV. When not in use, every truck or dumper shall be moved to and parked at proper parking places.

V. No person shall be permitted to work on the chassis of a truck or dumper, with the body in a raised position until after the truck or dumper body has been securely blocked in position. The mechanical hoist mechanism shall not be depended upon to hold the body of the truck or dumper in a raised position.

VI. The safety features recommended in the dumpers/truck/tippers shall be made a part of the notice inviting tender for new procurement and the design drawing shall be obtained from OEM for fitting the same in old equipment.

(C) TESTING OF BRAKES:

At least once in two weeks, the brakes of the truck, dumper or any such other vehicles shall be tested as indicated below:

I. a) SERVICE BRAKE TEST:

The brake shall be tested on a specified gradient and speed when the vehicle is fully loaded. The vehicle shall stop within a specified distance when the brake is applied. The specified stopping distance shall be obtained from the manufacturer of the vehicle.

b) PARKING BRAKE TEST:

The parking brake shall be capable to hold the vehicle when it is fully loaded and placed at the maximum gradient of roadway, which is permitted for a period of at least ten minutes.

c) A record of such test shall be maintained in a bound paged book and shall be signed by the person carrying out the test and the engineer and manager.

(D) INSPECTION AND OTHER PRECAUTIONS:

I. Surprise inspection shall be carried out by the Engineer/ Superior official at an interval not exceeding 15 days to ensure that the examination schedule of machinery/ equipment are carried out.

II. While inflating tyres, suitable protective cages shall be used. Tyres shall never be inflated by sitting either in the front or on the top of the same.

III. While the vehicle is being loaded/ unloaded on gradient, the same shall be secured stationary by parking brake and other means such as suitably designed stopper blocks, which could be placed below the tyres.

IV. Operation and maintenance of HEMMs such as excavators, dumpers etc. shall be done strictly in accordance with the operation instructions. The operation instructions and maintenance schedule shall be obtained from the manufacturers.

V. a) Automatic Fire Protection System shall be provided and maintained in working order for surface heavy machinery such as blast hole drills, hydraulic excavators etc. It is also necessary that the recommended procedure for testing of such fire protection system at a given schedule by the manufacturer be also adopted. The automatic fire systems consist of one or more containers of fire suppressant (usually a dry chemical) connected by a fixed plumbing network to nozzles directed at specific pre-determined fire hazard areas of the machinery.

b) Optical, thermal or any other suitable type of sensing device shall be suitably located to sense the fire and actuate the suppressant to come out through the nozzles already fixed to deal with the fires. An over riding manual system along with fire alarm shall also be additionally provided for better effectiveness of the system.

VI. Entry of private trucks within the mine premises for dispatch of ore etc. shall be regulated and checks for driving license and it's validity, road worthiness of the vehicle, identity of the driver and his helpers, etc. shall be carried out whenever such trucks are allowed to enter into the mine premises. Further crowding of trucks near ore stockyards or inside the mine premises shall not be allowed and only required trucks for immediate loading shall be allowed inside the mine. The management shall provide proper supervision of the trucks and the loading Mazdoors. Management shall be responsible for ensuring compliance of all statutory provisions of the Mines Act, 1952 and subordinate legislation framed there under by all the contractor workers/truck drivers, helpers etc in so far as it applies to them. Further no truck shall be allowed to be loaded beyond its permissible capacity.

16.0 It shall be the duty of the Owner, Agent or Manager of every mine to establish and follow a ground control plan for control of all sides, slopes, faces in all opencast workings and overburden dumps. The height of bench and slope of its sides shall be so kept so as to ensure absolute stability under all conditions and shall not, in any case, exceed the general provisions as incorporated in this permission.

Yours Faithfully



ALTAF . HUSSAIN (DIRECTOR - CHAIBASA REGION)

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PHOTOS

Photo #1

Dust Suppression by Water Sprinkling Trucks



Photo #2

RCC & Boulder Retaining Wall at toe end of Dump



Check Dam & Settling Ponds



Photo#3

Rain Water Harvesting



Photo#4

Effluent Treatment Plant (Oil & grease separation system)



Photo#5

Coir mat, Dump Plantation, Garland Drain & Dump Retaining wall



Photo#6

Truck tarpaulin cover



Photo#7

Fixed Sprinkler, Crusher & Screen – Dry Fog, Water Sprinkling.





Photo#8

Safety Zone Plantation



Photo#8A

Plantation on dumps



Photo#9

Photo showing the Electronic Display Board at mine main gate.

