

Half Yearly Compliance Report for the period October 2013 to March 2014 on compliance to the conditions stipulated in the Environmental Clearance letter no. J-11015/165/2011-IA.II (M) dated 10.09.2013 of MoEF, GOI in respect of Oraghat Iron Ore Mine of M/s Rungta Sons (P) Limited located in Sundergarh district of Odisha

<p>(I) Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to this project.</p>	<p>No ecologically sensitive area such as National Park/ Wildlife Sanctuary /Biosphere Reserve /Tiger Reserve /Elephant Reserve etc. is located in the core and buffer zone of the mine. Site Specific Conservation Plan for conservation of flora & fauna has been approved by the PCCF (Wildlife) cum Chief Wildlife warden of Odisha for a total amount of Rs. 123 Lakh (Core Zone Rs 30 lakh + Buffer Zone Rs 93 Lakh). An amount of Rs 93 Lakh has been deposited with the forest department for implementation of activities in the buffer zone.</p>
<p>(ii) No mining activities will be allowed In forest area for which the Forest Clearance is not available.</p>	<p>The mine has 74.933 ha. of forest land. Forest Clearance over 64.133 hectares additional forest land (including 4.929 hectares for safety zone) has been accorded by Ministry of Environment & Forests, Govt. of India, New Delhi vide letter no. 8-18/2011-FC dated 7th February 2014. Mining activities are confined within 59.204 ha (excluding safety zone over 4.929 ha) of diverted forest land. Copy of the Stage-II approval is enclosed as annexure-I.</p>
<p>(iii) The project proponent shall obtain Consent to Operate from the State Pollution Control Board, Orissa and effectively implement all the conditions stipulated therein.</p>	<p>Consent to operate has been granted by the SPCB.</p>
<p>(iv) Implementation of the site specific conservation plan for the core & buffer zone which has been approved by PCCF, Wildlife, Odisha.</p>	<p>The site specific conservation plan in the core zone is being implemented. For implementation of the scheme in buffer zone requisite fund has been submitted to the forest department.</p>
<p>(v) Implementation of Environment Management Policy of the Company w.r.t. judicious use of Mineral\ resources for growth & development synchronizing mining & environment with prosperity.</p>	<p>This condition is being complied.</p>
<p>(vi) The pollution due to transportation load on the environment will be effectively controlled & water sprinkling will also be done regularly. Vehicles with PUCOnly will be allowed to ply.</p>	<p>Static water sprinkling system has been installed and operated within the mine lease area in addition to three water tankers provided for. . Vehicles with PUC certificate is only allowed within the mine lease area.</p>
<p>(vii) There shall be planning, developing and implementing facility of rainwater harvesting measures on long term basis In consultation with Regional Director, Central Groundwater</p>	<p>A feasibility report of rain water harvesting has been approved by Regional Director, Central Ground Water Board. Two rain water harvesting structures of capacity 15577 m³ and 3327 m³ has been made within the lease area.</p>

Board and Implementation of conservation measures to augment ground water resources in the area in consultation with Central Ground Water Board.	Also, rain water is diverted to two mining pits where there is recharge of the run off during monsoon.
(viii) Regular monitoring of ground water table to be carried out at the upstream and depth of water available in the dug well is to be measured. Monitoring to be done by establishing a network of existing wells and constructing new piezometers.	Monitoring of ground water table is being done by constructing peizometer in the area.
(ix) A study Is required to be conducted to identify presence of natural water course or any water resources in both buffer and core zone in the monsoon season.	This condition shall be complied.
(x) Monitoring of Ambient Air Quality to be carried out based on the Notification, as amended from time to time by the Central Pollution Control Board.	Monitoring of ambient air quality is being done as per the latest notification. The data is enclosed at Annexure-II.
(xi) Water sprinkling should be increased at places loading and unloading points & transfer point to reduce fugitive emissions.	In addition to the static water sprinkling system covering the haul road water three water tankers are being engage at loading & unloading points and transfer points.
(xii) The upliftment of scheduled caste/scheduled tribe population, specific programmes have been taken in to consideration specially with respect to education, health care, livelihood generation, Infrastructure development & promotion of sports & culture for SC/ST population and that these will be intensified in future.	This condition is being complied.
(xlii) The mining operations shall be restricted to above ground water table and it should not Intersect groundwater table. In case of working below ground water table, prior approval of the Ministry of Environment and Forests and Central Ground Water Authority shall be obtained, for which a detailed Hydro - geological study shall be carried out.	Ultimate working depth of the mine will be 550 m RL. The water table in the core zone varies from 543m to 548m RL. Mine working will not intersect groundwater table.
(xiv) The project proponent shall ensure that no natural water course and/or water resources shall be obstructed due to any mining operations.	There is no natural water course within the lease area.
(xv) The top soil, if any, shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation. The over burden (OB) generated	There is no top soil generation at present.

<p>during the mining operations shall be stacked at earmarked dump site(s) only and It should not be kept active for a long period of time. The maximum height of the dumps shall not exceed 8 m and width 20 m and overall slope of the dumps shall be maintained to 45°. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. The entire excavated area shall be backfilled and afforested. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhubaneswar on six monthly basis.</p>	<p>Over Burden has been dumped as per approved Mining Scheme by Indian Bureau of Mines. Overall dump slope is being maintained below 27°. Dump slope is suitably terraced. Plantation is being carried out on the inactive part of the dump with grass cover for stabilizing the dump.. Over 1.0 hectare area of the dump slope has been stabilized. Coir mat has been put on the stabilised part of the dump. The excavated area has not yet been fully exhausted and mature for back filling.</p>																
<p>(xvi) Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, mineral and OB dumps to prevent run off of water and flow of sediments directly into the river and other water bodies. The water so collected should be utilized for watering the 'mine area', roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly. The drains, settling tanks and check dams, of appropriate size, gradient and length shall be constructed both around the mine pit and over burden dumps to prevent run off of water and flow of sediments directly into the river and other water bodies and sump capacity 'should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of slit material. Sedimentation pits shall be constructed at the corners of the garland drains and desilted at regular intervals.</p>	<p>Cemented catch drains have been constructed on the dump slope which allows the rain water to pass through it and is connected with garland drain at the toe of the dump. Double chamber settling tank has been constructed at the end of the garland drain. The sedimentation tank and drains are regularly de-silted and maintained. The water collected in the settling pond is utilized for watering the mine area. Garland drain has been made all around toe of the dumps. Sedimentation pits have been constructed at the end of the garland drain. The details of the settling tank, garland drain & retaining wall is mentioned below.</p> <table border="1" data-bbox="717 1243 1487 1671"> <thead> <tr> <th>Name of The Dump</th> <th>Length of retaining wall</th> <th>Length of Garland Drain</th> <th>No. of Settling tank with capacity</th> </tr> </thead> <tbody> <tr> <td>DumpNo-1</td> <td>859.20mtr.</td> <td>920 mtr.</td> <td>A:-2 chamber of 780m³ (320+460)m³ B:-1 chamber of 1120m³</td> </tr> <tr> <td>DumpNo-2</td> <td>442.30mtr.</td> <td>480 mtr.</td> <td></td> </tr> <tr> <td>Sub-grade-2</td> <td>262mtr.and another 103.7mtr.G.I.sheet</td> <td>210mtr.</td> <td>3327m³(777+2550)m³</td> </tr> </tbody> </table> <p>Besides this one rain water harvesting structures has been made at strategic location to collect the runoff from the mine and run off is also diverted to two nos of mining pit.</p>	Name of The Dump	Length of retaining wall	Length of Garland Drain	No. of Settling tank with capacity	DumpNo-1	859.20mtr.	920 mtr.	A:-2 chamber of 780m ³ (320+460)m ³ B:-1 chamber of 1120m ³	DumpNo-2	442.30mtr.	480 mtr.		Sub-grade-2	262mtr.and another 103.7mtr.G.I.sheet	210mtr.	3327m ³ (777+2550)m ³
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<p>(xvii) Dimension of the retaining wall at the</p>	<p>Boulder retaining wall of dimension (1.5 m height and 1.5</p>																

<p>toe of over burden dumps and benches within the mine to check run-off and siltation shall be based on the rain fall data.</p>	<p>m width) has already been constructed around the toe of the OB dump to check wash off during monsoon. Total Length of Retaining wall provided is 2540 meter & garland drain of equal length has been provided.</p>
<p>(xviii) Effective safeguard measures such as regular water sprinkling shall be carried out In critical areas prone to air pollution and having high levels <i>or</i> SPM and RSPM such as howl road, loading and unloading point and transfer points. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.</p>	<p>Three water tankers (one tanker of 20 KL and two nos. of 12KL each) have been engaged for sprinkling of water at dust generating points. Static water sprinkling system has been installed over 3.2 km length in mine haul road to suppress fugitive dust emissions. Mobile crushing & Screening plants are fitted with dry fog system to suppress the dust generated during the crushing & Screening. Ambient Air Quality conforms to the norms prescribed by Central Pollution Control Board.</p>
<p>(xix) 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 maintained.</p>	<p>This condition is being complied.</p>
<p>(xx) Regular monitoring of water quality upstream and downstream of water bodies shall be carried out and record of monitoring data should be maintained and submitted to the Ministry of Environment and Forests, its Regional Office, Bhubaneswar, Central Groundwater Authority, Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board.</p>	<p>Water quality upstream and downstream of sona river is being monitored. The report is enclosed as Annexure-III. This is being submitted to the concerned office.</p>
<p>(xxi) Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring shall be carried out four times in a year - pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to Ministry of Environment and Forests and Its Regional Office, Bhubaneswar, Central Ground Water Authority and Regional Director, Central Ground Water Board.</p>	<p>Ground water level is being monitored in the area and the quality of water is tested which is enclosed as Annexure – IV.</p>
<p>(xxii) The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and ground water for the project.</p>	<p>Water drawl permission (both ground water and surface water) has been taken from the State Irrigation Department and CGWA.</p>

<p>(xxiii) Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The mineral transportation shall be carried out through covered trucks only and the vehicles carrying the mineral shall not be overloaded.</p>	<p>Vehicular emission is regularly monitored. Vehicle engaged in the mining operation are regularly maintained outside ML area. Transporting vehicles carrying minerals outside mine area are covered with tarpaulin and overloading of vehicles are strictly restricted.</p>
<p>(xxiv) Blasting operation shall be carried out only during the daytime. Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented. Drills shall either be operated with dust extractors or equipped with water Injection system.</p>	<p>Blasting operation is being carried out only during day time. This is being followed as per DGMS norms. NONEL is being practiced to reduce dispersal of fly rocks too far off distance & also generation of noise & vibration to reduce impact to structure and also buildings. Besides, SME (Site Mixed Slurry Emulsion) is also being practiced as per DGMS norms. Rock breakers are extensively used to avoid blasting. Wetting of blasting area is also being carried out before blasting to reduce dust generation.</p>
<p>(xxv) Mineral handling plant shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.</p>	<p>Three water tankers (one tanker of 20 KL and two nos. of 12KL each) have been engaged for sprinkling of water at dust generating points. Static water sprinkling system has been installed over 3.2 km length in mine haul road to suppress fugitive dust emissions. Mobile crushing & Screening plants are fitted with dry fog system to suppress the dust generated during the crushing & Screening.</p>
<p>(xxvi) Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.</p>	<p>Initial Medical Examination & Periodic Medical Examination is carried out at periodic intervals along with Mobile health checking is being done regularly for occupational health surveillance. Apart from this specialized checking is being carried out at Utkal Poly Clinic, Bhubaneswar.</p>
<p>(xxvii) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna namely leopard, elephant etc. spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and Implemented In consultation with the State Forest and Wildlife Department. Necessary allocation of funds for implementation of the conservation' plan shall be made and the funds so allocated shall be included in the project cost. All the safeguard measures brought out in the Wildlife Conservation Pan so prepared specific to the project site shall be effectively implemented. A copy of action plan shall be submitted to the Ministry of Environment</p>	<p>Site specific conservation plan for conservation of both flora and fauna has been prepared and approved by the Competent Authority (PCCF Wildlife & Chief Wildlife Warden Odisha). Copy of the same has already been submitted with earlier compliance. A sum of Rs.93.0 lakhs has been deposited to the DFO, Bonai for implementation of the same. Proportionate fund for implementation of Regional Wildlife Management Plan has been deposited to the Forest Department.</p>

and Forests and Its Regional Office, Bhubaneswar.							
(xxviii) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	The labour force comes from nearby villages. Safe drinking water, STP and health care facility is being provided in the mine camp.						
(xxix) The proponent shall complete all the tasks as per the action plan submitted with the budgetary provisions during the public hearing held on 19.07.2012.	This condition is being complied.						
(xxx) A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.	Final Mine Closure Plan along with corpus fund will be submitted to the Ministry of Environment & Forests before 5 years of Final Mine Closure for approval.						
B. General conditions							
(i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.	Shovel dumper combination is being followed for mining operation. Mineral handling system such as crusher & screening is also being practiced to separate Iron ore of size less than 10 mm and 10-30 mm, 5-18 mm grade size. Consent to Operate for all this activities has been obtained. In case of change in scope of working is made in future, requisite permission shall be obtained accordingly.						
(ii) No change in the calendar plan including excavation, quantum of mineral Iron ore, beneficiation plant and waste should be made.	The production of Iron ore including quantum solid waste generation has not been changed is as per the approved IBM/EC condition. Production and OB / Waste generation during October 2013 – March 2014. <table border="1" data-bbox="717 1285 1487 1472"> <thead> <tr> <th>Sl.No.</th> <th>Production</th> <th>O.B Generation</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>15457.580mt.</td> <td>2680.02mt.(1340m³)</td> </tr> </tbody> </table>	Sl.No.	Production	O.B Generation	1	15457.580mt.	2680.02mt.(1340m ³)
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1	15457.580mt.	2680.02mt.(1340m ³)					
(iii) Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM, SPM, SO ₂ & NO _x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.	Eleven Locations has been selected for fugitive dust and Ambient Air Quality monitoring in consultation with State Pollution Control Board, Odisha.						

<p>(iv) Data on ambient air quality (RSPM, SPM, SO₂ & NO_x) should be regularly submitted to the Ministry Including its Regional office located at Bhubaneswar and the State Pollution Control Board / Central Pollution Control Board once in six months.</p>	<p>Data on Ambient Air Quality is Being submitted regularly. Ambient Air quality and Particulate matter report for the Quarter ending December 2013 & March 2014 is enclosed as Annexure - II.</p>
<p>(v) Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.</p>	<p>Static water sprinkling system has been installed on the haul road of the mine covering a length of 3.3 km to suppress fugitive dust emission. In other locations water is sprinkled through tankers (3 nos.).</p>
<p>(vi) Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.</p>	<p>Monitoring of noise level also is carried out at 5 locations & the monitoring data indicates that the Leq levels are within 85 dB (A). The workers at crushers and screening plants also wear ear muffs. The noise level monitoring data is given in Annexure - IV.</p>
<p>(vii) Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap should be Installed before discharge of workshop effluents.</p>	<p>There is no workshop within the mining lease area. Conditioning monitoring of all the HEMMS is being carried out once in a six month to better performance of all the vehicles so that generation of noise and vehicular emission are being checked. The POL used is also being adhered to within 0.06% of sulphur.</p>
<p>(viii) 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>Training programme, Periodical Medical Examination and other medical check-up is being conducted regularly</p>
<p>(ix) Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.</p>	<p>Occupational health surveillance program of the workers are being undertaken periodically to observe any contractions due to exposure to dust and corrective measures are taken if found abnormal. Nose masks are provided to employees exposed to dust generated area.</p>
<p>(x) A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.</p>	<p>The mine is having a separate environment management cell. Detail has already been submitted in the earlier compliance report.</p>
<p>(xi) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Bhubaneswar.</p>	<p>The year wise expenditure for environmental protection measures is regularly reported to the Ministry. The expenditure incurred on this account for the reporting period is enclosed herewith as Annexure VI.</p>

(xii) The project authorities should Inform to the Regional Office located at Bhubaneswar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	This is a running mine. So there is no specific date for final approval or financial closure. However Environmental clearance has been accorded by the MoEF.
(xiii) The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / Information / monitoring reports.	Full co-operation will be extended to the monitoring officers.
(xiv) The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Bhubaneswar, Central Pollution Control Board and State Pollution Control Board.	Six monthly status reports are being submitted to the Ministry on regular basis.
(xv) The project proponent shall submit six monthly report on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Bhubaneswar, Central Pollution Control Board and State Pollution Control Board.	Six monthly status reports are being submitted to the Ministry & concerned offices on regular basis.
(xvi) A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation has been received while processing the proposal.	A copy of the same has already been displayed in Panchayat office.
(xvii) State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office) Tehsildar's Office for 30 days.	It had been displayed.
(xviii) The project authorities should advertise at least In two local newspapers widely circulated, one of which shall be In the vernacular language of the locality concerned, within 7 days of the Issue of the clearance letter Informing that the project has been accorded environmental clearance and a copy of the clearance letters available with	The EC was advertised in two News Papers.

the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at <http://envfor.nic.in> and a copy of the same should be forwarded to the Regional Office of this Ministry located Bhubaneswar.

F. No. 8-18/2011-FC
Government of India
Ministry of Environment and Forests
(F.C. Division)

Paryavaran Bhawan,
CGO Complex, Lodhi Road,
New Delhi - 110 003.
Dated: 14th February, 2014

To,
The Principal Secretary (Forests),
Government of Orissa,
Bhubaneshwar.

Sub: Diversion of 64.133 hecatres of additional forest land (including 4.929 ha. for safety zone) for Iron Ore Mining and allied activities in Oraghat iron ore mines of M/s. Rungta Sons Private Ltd. under Bonai Forest Division, Sundergarh district of Odisha.

Sir,

I am directed to refer to Government of Orissa's letter No. 10F (Cons) 63/2010-2057/F&E dated 05.02.2011 on the above-mentioned subject wherein prior approval of the Central Government for the diversion of 64.133 hecatres of additional forest land (including 4.929 ha. for safety zone) for Iron Ore Mining and allied activities in Oraghat iron ore mines of M/s. Rungta Sons Private Ltd. under Bonai Forest Division, Sundergarh district of Odisha, was sought, in accordance with Section 2 of the Forest (Conservation) Act, 1980. After careful consideration of the proposal by the Forest Advisory Committee constituted under Section-3 of the said Act, stage-I approval for diversion of the said forest land was accorded by the Ministry vide its letter of even number dated 1st March 2011, subject to fulfillment of certain conditions. The State Government has furnished compliance report in respect of the conditions stipulated in the stage-I approval and has requested the Central Government to grant final approval.

2. State Government while submitting report on compliance to conditions stipulated in the stage-I approval accorded by this Ministry vide its letter of even number dated 1st March 2011 referred to guidelines issued by this Ministry vide letter No. 11-285/ 2011-FC dated 5th November 2013 and requested this Ministry to accord (i) final approval under the Forest (Conservation) Act, 1980 for diversion of 64.133 hecatres of additional forest land, including 4.929 hecatres of forest land located within safety zone in favour of M/s. Rungta Sons (P) Ltd. for iron ore mining in Oraghat iron ore mines in Sundargarh district of Odisha during the original mining lease period which has already expired on 9th December 2012; and (ii) final approval for entire forest land of 74.933 hecatres located within the mining lease having total area of 82.961 hecatres during first renewal of mining lease (1st RML) for a period, co-terminus with lease period to be granted by the State Government, not exceeding twenty years *w.e.f.* 10.12.2012. The said proposal has been examined by the Forest Advisory Committee constituted by the Central Government under Section 3 of the aforesaid Act.

3. In this connection, I am directed to say that on the basis of the compliance report furnished by the State Government of Odisha vide letter No. 10F(Cons)483/2012-26575/ F&E dated 23rd

14/02/14

December 2013 and recommendation of the Forest Advisory Committee, approval of the Central Government is hereby granted under section-2 of the Forest (Conservation) Act, 1980 for diversion of 64.133 hectares of forest land (including 4.929 hectares for safety zone) in favour of M/s Rungta Sons Private Ltd. for Iron Ore Mining and allied activities in their Oraghat iron ore mines under Bonai Forest Division, Sundergarh district of Odisha (i) during original period of mining lease which has already expired on 9th December 2012; and also for (ii) first renewal of mining lease for a period, co-terminus with period of the mining lease to be granted by the State Government, not exceeding twenty years *w.e.f.* 10.12.2012, subject to fulfilment of the following conditions:

- (i) Legal status of the diverted forest land shall remain unchanged;
- (ii) State Government shall raise compensatory afforestation, from funds already realised from the user agency, over the non-forest land equal in extent to the 27.658 ha. virgin DLC forest land being diverted;
- (iii) State Government shall raise the compensatory afforestation over the degraded forest land equal in extent to the forest land being diverted (*i.e.* 64.133 ha.) from funds already realised from the user agency;
- (iv) Following activities shall be undertaken by the user agency at the project cost:
 - (a) Scheme containing appropriate mitigative measures to minimize soil erosion and choking of streams prepared by the user agency duly approved by the Regional Chief Conservator of Forest, Rourkela;
 - (b) Scheme for planting of adequate drought hardy plant species and sowing of seeds in the appropriate area to arrest soil erosion prepared by the user agency duly approved by the Regional Chief Conservator of Forest, Rourkela;
 - (c) Scheme for construction of check dams, retention / toe walls to arrest sliding down of the excavated material along the contour prepared by the user agency and duly approved by the Regional Chief Conservator of Forest, Rourkela;
 - (d) Scheme for stabilization of the overburden dumps by appropriate grading/benching so as to ensure that that angles of repose at any given place is less than 28° prepared by the user agency and duly approved by the Regional Chief Conservator of Forest, Rourkela; and
 - (e) Scheme prepared by the user agency for top soil management and duly approved by the Regional Chief Conservator of Forest, Rourkela.
- (v) State Government shall realize additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India and transfer the same to Ad-hoc CAMPA;
- (vi) User agency shall obtain the Environmental Clearance as per the provisions of the Environmental (Protection) Act, 1986, or any other clearances required for such project;
- (vii) State Forest Department shall undertake fencing, protection and afforestation of the safety zone area (7.5 meter strip all along the outer boundary of the area identified to undertake mining) from funds already realised from the user agency;

22/11/17

- (viii) State Forest Department shall undertake afforestation on degraded forest land, one and half time in extent to the area used for safety zone from funds already realised from the user agency;
- (ix) 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 as per the scheme prepared by the user agency duly approved by the Regional Chief Conservator of Forests, Rourkela;
- (x) User agency shall undertake mining in a phased manner as per the approved mining plan and take due care for reclamation of the mined over area as per the approved mining plan. Report on implementation of reclamation of the mined over area, as per the approved mining plan thereof shall be submitted to the Nodal Officer, Forest (Conservation) Act, 1980, Government of Odisha and the concerned Regional Office of this Ministry. 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 concerned Regional Office of this Ministry may direct that the mining activities shall remain suspended till such time, such reclamation activities are satisfactorily executed;
- (xi) No labour camp shall be established on the forest land;
- (xii) User agency shall provide firewood preferably alternate fuel to the labourers and the staff working at the site so as to avoid any damage and pressure on the adjacent forest areas;
- (xiii) 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, DGPS coordinates, forward and back bearing, and distance from adjoining pillars etc.
- (xiv) The forest land shall not be used for any purpose other than that specified in the proposal;
- (xv) Any other condition that the concerned Regional Office of this Ministry and State Government of Odisha may stipulate, from time to time, in the interest of conservation, protection and development of forests & wildlife;
- (xvi) User agency shall submit annual report on compliance to condition stipulated in this approval to the State Government and concerned Regional Office of this Ministry; and
- (xvii) 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.

Yours faithfully,

Sd/-

(H. C. Chaudhary)

Assistant Inspector General of Forests

Copy to:

1. The Principal Chief Conservator of Forests, Government of Odisha, Bhubaneswar.

2/1/04 2/17

Monitoring of AAQ & Particulate Matter for quarter ending December 2013
All parameters are expressed in $\mu\text{ gm/m}^3$
(8 hourly monitored data)
(Core Zone)

Station Name	PM _{2.5}	PM ₁₀	SO ₂	NO _x	CO Hourly average
Mine office	15	34	<3	10	<0.1

As per MoEF Notification New Delhi, 4th October, 2010 [GSR 809 (E)],

(Buffer Zone)

Station Name	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO Hourly average
Village Oraghat	29	11	<3	10	<0.1
Village Malda	33	10	<3	11	<0.1
Village Sanindpur	41	12	<3	08	<0.1
Village Pureibahal	31	11	<3	07	<0.1
Village Teherai	57	19	<3	11	<0.1

Work Zone Fugitive Emission Monitoring

(At a distance of 25 m from source)

Station Name	Particulate Matter
Downwind of Working Pit	204
Downwind of Mobile Crusher Plant	155
Downwind of Mobile Screening Plant	301
Downwind of OB Dump	294
Down Wind of Haulage Road	414

**Monitoring of AAQ & Particulate Matter for quarter ending March 2014
(8 hourly monitored data)**

All parameters are expressed in $\mu\text{gm}/\text{m}^3$

(Core Zone)

Station Name	PM _{2.5}	PM ₁₀	SO ₂	NO _x	CO Hourly average
Mine office	16	44	09	17	< 0.1

As per MoEF Notification New Delhi, 4th October, 2010 [GSR 809 (E)]
(Buffer Zone)

Station Name	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO Hourly average
Village Oraghat	37	13	08	25	< 0.1
Village Malda	38	13	05	08	< 0.1
Village Sanindpur	39	16	06	12	< 0.1
Village Pureibahal	62	21	06	44	< 0.1
Village Teherai	36	14	11	13	< 0.1

Work Zone Fugitive Emission Monitoring

(At a distance of 25 m from source)

Station Name	Particulate Matter
Downwind of Working Pit	598
Downwind of Mobile Crusher Plant	435
Downwind of Mobile Screening Plant	329
Downwind of OB Dump	433
Down Wind of Haulage Road	495

Annexure-III

Water quality of Sona River

Location:- Sona Nadi		Period: October to December - 2013		Period January to March - 2014	
Sl. No.	Parameters	Up Stream	Down Stream	Up Stream	Down Stream
1	Colour in hazen unit	<5	<5	<5	<5
2	Odour	Odourless	Odourless	Odourless	Odourless
3	Total Suspended Solids mg/l	5.0	7.5	3.0	2.5
4	pH value	6.63	6.66	7.03	7.03
5	Temperature °C	23.5	24.8	22.5	22.2
11	BOD (3 days at 27 ⁰ C) mg/l	01	01	01	01
12	COD mg/l	4	4	4	4
13	Lead (as Pb) mg/l	<0.01	<0.01	<0.01	<0.01
14	Cadmium (as Cd) mg/l	<0.01	<0.01	<0.01	<0.01
16	Total Chromium (as Cr) mg/l	<0.01	<0.01	<0.01	<0.01
17	Copper (as Cu) mg/l	<0.01	<0.01	<0.01	<0.01
18	Zinc (as Zn) mg/l	<0.01	<0.01	<0.01	<0.01
19	Nickel (as Ni) mg/l	<0.01	<0.01	<0.01	<0.01
20	Cyanide (as CN) mg/l	<0.002	<0.002	<0.002	<0.002
21	Fluoride (as F) mg/l	0.10	0.10	0.11	0.11
22	Dissolved Phosphate (as P) mg/l	<0.01	<0.01	<0.01	<0.01
24	Phenolic Compounds (as C ₆ H ₅ OH) mg/l	ND	ND	ND	ND
25	Manganese (as Mn) mg/l	0.04	0.06	0.06	0.45
26	Iron (as Fe) mg/l	0.36	0.37	0.32	0.33
27	Arsenic (as As) mg/l	<0.001	<0.001	<0.001	<0.001
28	Mercury (as Hg) mg/l	<0.001	<0.001	<0.001	<0.001
29	Selenium (as Se) mg/l	<0.001	<0.001	<0.01	<0.01
30	Total Nitrate (as NO ₃) mg/l	0.07	0.02	0.03	0.03

(Ground Water Level & Quality)

Period January - 2014 to – March 2014				
Sl.No.	Parameters	Tube well near Sanindpur School	Dug well from Sagar's House	Dug well near mine office
1	Colour in hazen unit	<5	< 5	< 5
2	Odour	Un-objectionable	Agreeable	Agreeable
3	Taste	Agreeable	Agreeable	Agreeable
4	Turbidity NTU	4.9	3.6	2.8
5	pH Value	6.41	6.26	6.70
6	Temperature °C	26.8	23.7	27.2
7	Total Hardness (asCaCO ₃) mg/l	79.13	39.56	24.98
8	Iron (as Fe) mg/l	0.1341	0.0792	0.2892
9	Chlorides (as Cl) mg/l	12.81	4.75	7.12
10	Residual Free Chlorine mg/l	0.0298	0.1642	0.3006
11	Total dissolved solids mg/l	120	46	40
12	Electrical Conductivity S/cm	201	71.9	61.3
13	Calcium (as Ca) mg/l	20.072	7.49	6.66
14	Magnesium (as Mg) mg/l	7.034	5.06	2.02
15	Copper (as Cu) mg/l	<0.01	< 0.01	< 0.01
16	Manganese (as Mn) mg/l	0.0686	0.0468	0.2617
17	Sulphate (as SO ₄) mg/l	<0.10	0.8104	0.5527
18	Total Nitrate (as NO ₃) mg/l	6.3102	< 0.90	< 0.90
19	Fluoride (as F) mg/l	<0.10	< 0.10	0.3028
20	Cadmium (as Cd) mg/l	<0.002	< 0.002	< 0.002
21	Cyanide (as CN) mg/l	<0.002	< 0.01	<0.002
22	Lead (as Pb) mg/l	<0.01	< 0.01	<0.01
23	Arsenic (as As) mg/l	<0.001	<0.001	<0.001
24	Mercury (as Hg) mg/l	<0.001	<0.001	<0.001
25	Selenium (as Se)mg/l	<0.001	<0.01	<0.01
26	Nickel (as Ni) mg/l	<0.01	<0.01	<0.01
27	Zinc (as Zn) mg/l	<0.01	< 0.01	< 0.01
28	Total Chromium (as Cr) mg/l	0.0219	<0.01	<0.01
29	Total Alkalinity (as CaCO ₃) mg/l	64	26	20
30	Acidity mg/l	14	10	04
31	Aluminum (as Al) mg/l	ND	ND	ND
32	Boron (as B) mg/l	<0.05	< 0.05	< 0.05
34	Sodium (as Na) mg/l	15.8	3.6	3.1
35	Potassium (as K) mg/l	9.6	3.1	< 1.6
36	Total Bacterial Count nos/100ml	Absent	Absent	Absent
37	E. Coli nos/100ml	Absent	Absent	Absent
38	S. Enteritidis nos/100ml	Absent	Absent	Absent

Noise quality Report

October – December 2013

Location	Leq Day Time (6.00 AM to 10.00 PM) dB(A)	Leq Night Time (10.00 PM to 6.00 AM) dB(A)	Lmax dB(A)	Lmin dB(A)
Mines Office Area	57.0	39.8	63.2	36.8
Village Oraghat	52.9	38.2	58.8	36.0
Village Malda	54.8	38.8	60.2	36.2

January - March 2014

Location	Leq Day Time (6.00 AM to 10.00 PM) dB (A)	Leq Night Time (10.00 PM to 6.00 AM) dB (A)	Lmax dB (A)	Lmin dB (A)
Mines Office Area	56.2	42.4	62.8	37.2
Village Oraghat	56.3	42.2	64.5	36.9
Village Malda	46.7	34.8	48.2	33.2

Annexure V

EXPENDITURE INCURED ON ENVIRONMENTAL PROTECTION DURING OCTOBER 2013- MARCH 2014

SL. NO	HEAD OF EXPENDITURE	Expenses in `
1	Plantation & post plantation care	16,560.00
2	STP maintenance expenses	72,537.00
3	Retaining wall construction	2,22,421.40
5	Barbaid wire fencing & pillar grouting	47,898.00
6	Environmental monitoring (Air, Water, Noise)	57,500.00
7	Garbage disposal tank maintenance	7,200.00
9	Garland drain cleaning	21,250.00
10	Settling tank construction	61,300.00
11	Cleanliness of mine camp area	20,700.00
12	Dry fogging system in crusher & screening plants	13,000.00
13	Water sprinkling in haul road by permanent arrangement	3,97,482.00
14	Water sprinkling through tankers	6,45,641.30
15	Water tax	9,54,599.00
16	Gardening in colony areas	1,600.00
TOTAL		25,39,688.70