

स्टील ऑथोरिटी ऑफ इंडिया लिमिटेड
(भारत सरकार का प्रतिष्ठान)
सो मारचरपुर ओर माइन्स
मनोहरपुर ओर माइन्स
पोस्ट - बिरिया, पो-सिद्धमुनि, झारखण्ड- 833106
दूरभाष-09306922006,
E-mail: momchiria@gmail.com



STEEL AUTHORITY OF INDIA LIMITED
(A Government of India Enterprise)
RAW MATERIALS DIVISION
MANOHARPUR ORE MINES
P.O. - CHIRLA, W. Singhbhum, Jharkhand-833106
P. Ph. No. 69308128774
E-mail: momchiria@gmail.com

Ref. No. MOM/PC/6/49

Date: 18/11/2017.

To,
Additional PCCF (IFS)
Ministry of Environment, Forest and Climate Change
Regional Office (ECZ)
Bungalow No. A - 2, Shyamali Colony
Ranchi - 834 002

Sub: Six Monthly Compliance of the Conditions Stipulated in Environmental Clearance of Sukri
Luturburu Mining project for the period April-2017 to September-2017 of M/s SAIL.

Sir,

We are hereby submitting status of compliance for the above period up to 30th September, 2017
to the conditions stipulated in the Environmental Clearance granted by MoEF vide
No.J-11015/247/2009-IA.II(M), Dated: 10th June, 2013 in respect of Sukri-Luturburu Mining project
of Manoharpur Ore Mines of M/s SAIL for production of 0.75 MTPA of Iron ore.

It may please be noted that mine is not in operation since 22.03.2009 for want of Stage II Forestry
Clearance.

Thanking you,

Yours faithfully,
For Steel Authority of India Ltd.

18.11.17
General Manager (Mines)
Manoharpur Ore Mines
Raw Material Division, SAIL

Copy to:

1. Director, IA, MoEF&CC, GOI, Indira Paryavaran Bhavan, Aliganj, Jor Bagh Road, New Delhi - 110 003.
2. Member Secretary, JSPCR, HFC, Bhubaneswar, Ranchi - 834 004
3. In-charge, Eastern Zone, CPCB, Southern Concave, Block 502, 5th & 6th Floors, 1582 Rajdanga Main Road, Kolkata - 700 107 (W. B.)

**Status of Compliance to Conditions Stipulated in
Environmental Clearance granted**

by

MoEFCC

Vide Order No:J-11015/247/2009-IA. II(M),

Dated:10th June, 2013 for 0.75 MTPA

Of

Sukri Luturburu Iron Ore mining project

(Period: April'2017 to September'2017)



STEEL AUTHORITY OF INDIA LIMITED

RAW MATERIALS DIVISION
MANOHARPUR ORE MINES
P.O. – CHIRIA, PIN : 833106
DIST. : SINGHBHUM (WEST)
JHARKHAND STATE



Environment Clearance letter No:J-11015/247/2009-IA. II(M), Dated:10th June, 2013 of Sukri Luturburu Iron Ore Mining project for production of 0.75 MTPA (ROM) of iron ore.

Half yearly compliance report for the period: April'2017 to September'2017

A. Specific Condition

| Sl. No | Condition | Compliance Status as on September'2017 |
|--------|---|---|
| i | The project proponent shall obtain Consent to Establish and Consent to Operate from the Jharkhand State Pollution Control Board and effectively implement all the conditions stipulated therein. | Consent to Establishment was obtained from Jharkhand State Pollution Control Board for a capacity of 0.75 MPTA, vide letter Ref. no: PC/NOC/JSR/333/09-G-1819, dated: 22.05.2014. |
| ii | Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No. 460 of 2004, as may be applicable to this project. | Noted. |
| iii | Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to the project. | Provision of Wildlife (Protection) ACT 1972 is not attracted to the Project as there are no Wildlife sanctuaries, National Parks or similar places specified in the Act within 10 KM radius of the project. |
| iv | Environmental clearance has been accorded to the broken up granted of 33.40 ha forest land for which for which forestry clearance has been granted. No mining activity will be allowed in forest area for which the Forest Clearance is not available. | Stage-1 Forest Clearance was obtained vide letter Ref: F.No.8-70/2009-FC, dated: 07.03.2011 for mine working over 153.036 ha. Compliance report on the conditions stipulated in Stage – 1 FC was submitted to DFO on 22/07/2013. Govt. of Jharkhand forwarded the Stage -1 compliance to MoEF & CC, New Delhi on 22.09.2014. Grant of Final Clearance is awaited. |
| v | The project proponent will seek and obtain approval under the FC Act, 1980 for diversion of the entire forest land located within the mining lease within a period of two years from 01.02.2013 i.e. the date of issue of guidelines by FC vide there letter F.NO.11-362/2012-FC, failing which the mining lease area will be reduced to the non forest area plus the forest area for which the project proponent has been able to obtain the FC at the end of this time period. In the case of reduction in mine lease area, | Not Applicable |



| Sl. No | Condition | Compliance Status as on September'2017 |
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| | the project proponent will need to get a revised mining Plan approved from the competent authority for reduced area and enter into a new mining lease as per reduced lease area. The EC will be constructed to be available for the mining lease area as per the revised mining lease deed. | |
| vi | The Mining operations shall be restricted to above the groundwater table and it should not intersect the groundwater table. In case of working below the groundwater table, prior approval of the Ministry of Environment and Forests and the Central Ground Water Authority shall be obtained, for which a detailed hydro-geological study shall be carried out. | <p>Water table level at our mining lease area is about 400 m AMSL and ultimate depth of our proposed workings will be above 645 m AMSL. Hence there is no possibility for intersecting of Mine workings with the ground water table.</p> <p>Due to any reason it is required to work below the groundwater table, we will obtain prior approval of the Ministry of Environment and Forests and the Central Ground Water Authority shall be obtained, for which a detailed hydro-geological study will be carried out.</p> |
| vii | The project proponent shall ensure that no natural watercourse and/or water resources shall be obstructed due to any mining operations. The first order streams and the seasonal nallahs originating from the mining lease area shall be protected. | No working during April' 2017 to September' 2017. Proper Precautions will be taken to avoid obstructions to Natural water resources by providing drains and bounds etc. at required places during operations period. |
| viii | 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. | No working during April' 2017 to September' 2017. After starting operations, the top soil will be temporarily stored at earmarked site. The stored top soil will be used in plantation works. |
| ix | The over burden (OB) generated 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 and their phase-wise stabilization shall be carried out. The maximum height of the dump shall be 30m in three terraces of 10 m each so that the overall slope should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textile shall | <p>No working during April' 2017 to September' 2017. After starting operations the over burden (OB) generated during the mining operations will be stored at earmarked site. Phase-wise stabilization will be carried out.</p> <p>Six monthly Compliance Status is being submitted to Ministry of Environment & Forests and Climate Change and its Regional Office located at Ranchi.</p> |



| Sl. No | Condition | Compliance Status as on September'2017 |
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| | be undertaken for stabilization of the dump. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustained. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhubaneswar on six monthly basis. | |
| x | Catch drains and siltation ponds of appropriate size shall be constructed around the mine working soil, mineral and OB dump(s) to prevent run off of water and flow of sediments directly into the Hamsadagaar Nallah, the Koina River, the seasonal nallahs 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 de-silted particularly after the monsoon and maintained properly. | No working during April' 2017 to September' 2017. After starting operations, Repair of old Retaining wall, Garland drain, siltation pond and construction of new Retaining wall at required places will be carried out. |
| xi | Garland drains, setting tanks and check dams of appropriate size, gradient and length shall be constructed around the mine pit, soil, mineral and over burden dumps to prevent run off of water and flow of sediments directly into the Hamsadagaar Nalla, the Koina River, the seasonal nallahs 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 silt material. Sedimentation pits shall be constructed at the corners of the garland drains and de-silted at regular intervals. | No working during April' 2017 to September' 2017. After starting operations, repair of old Garland drains, siltation tanks, check Dams and construction of new Retaining wall Garland drains, setting tanks and check dams at required places will be carried out. |
| xii | Dimension of the retaining wall at the toe of the over burden dumps and the OB benches within the mine to check run-off and siltation shall be based on the rain fall data. | No working during April' 2017 to September' 2017. Dimension of the retaining wall and check dams will be designed based on the rainfall data. |



| Sl. No | Condition | Compliance Status as on September'2017 |
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| xiii | The void left unfilled in an area of 5ha shall be converted into water body. The higher benches of excavated void/mining pit shall be terraced and plantation done to stabilize the slopes. The slope of higher benches shall be made gentler for easy accessibility by local people to use the water body. Peripheral fencing shall be carried out all along the excavated area. | No working during April' 2017 to September' 2017. After exploitation of the ore or During Mine closure the following activities steps will be taken for the use of public, 1. The slope of higher benches shall be made gentler and void area 5 ha will be converted into water body. 2. Plantation will be done to stabilize the slopes. 3. Peripheral fencing will be carried out all along the excavated area. |
| xiv | Plantation shall be raised in an area of 225.755 ha including a 7.5 m wide green belt in the safety zone around the mining lease, over burden dumps, mine benches, around water body, along the roads etc. by planting the native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha. Greenbelt shall be developed all along the mine lease area in a phased manner and shall be completed within first five years. | No working during April' 2017 to September' 2017. Greenbelt will be developed all along the mine lease area in a phased manner and shall be completed within first five years after the start of mining operations. |
| xv | Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as around loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard. | No working during April' 2017 to September' 2017. Regular water sprinkling will be done on haul roads, loading and unloading point and all transfer points during operation period. |
| xvi | The project authority should implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board. | As the mine pits are located at the hill top, all the surface runoff from the mining areas have been diverted to mine pits, from where it seeps in to the ground. Further, Draft Technical Feasibility Study report for rainwater harvesting prepared by M/s KRG rainwater Foundation, Chennai was submitted recently. Final report will be submitted to Central Ground Water Board for |



| Sl. No | Condition | Compliance Status as on September'2017 | | | | | | | | | | | | | | | | | | | | | |
|--------|--|---|----|----------|--|----|---------------------------------------|------------|----|---------------------------------------|-----------|----|-------------------------------------|-----------|----|-------------|-----------|----|-----------------|-----------|----|-------------------|-----------|
| | | their view and recommendations. | | | | | | | | | | | | | | | | | | | | | |
| xvii | 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 installing new piezometers during the mining operation. The periodic monitoring (at least four times on a year-pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January); once in each season shall be carried out in consultation with the State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the Ministry of Environment and Forest and its Regional Office Bhubaneswar, the Central Ground Water Authority and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out. | <p>Network of 6 nos. of existing Dug Wells located around the mines have been selected for ground water level monitoring.</p> <p>Ground water table levels at the selected wells are being monitored at regular intervals i.e. 4 times in a year.</p> <p>The Range of water levels during pre-monsoon (April-May), monsoon (August), 2017 is as follows,</p> <table border="1"> <thead> <tr> <th>ID</th><th>Location</th><th>Water level below the Ground Surface (in meters)</th></tr> </thead> <tbody> <tr> <td>G1</td><td>Adjacent to community centre at Anqua</td><td>4.40- 7.55</td></tr> <tr> <td>G2</td><td>Opposite to community centre at Anqua</td><td>4.87-7.70</td></tr> <tr> <td>G3</td><td>Near Anqua Model Steel Village Gate</td><td>2.22-2.80</td></tr> <tr> <td>G4</td><td>Siva Mandir</td><td>3.80-3.90</td></tr> <tr> <td>G5</td><td>Near CNI Church</td><td>5.90-8.10</td></tr> <tr> <td>G6</td><td>Near Bishra Chowk</td><td>1.95-5.60</td></tr> </tbody> </table> <p>In addition to above two piezometers one at Chiria (150 feet) and another at Dhobil Village 200 feet provided in February'17 and are being monitored at regular intervals i.e. 4 times in a year. Ground water levels and quality during pre-monsoon (April-May), monsoon (August), 2017 and piezometer photograph is placed in Annexure – 1.</p> | ID | Location | Water level below the Ground Surface (in meters) | G1 | Adjacent to community centre at Anqua | 4.40- 7.55 | G2 | Opposite to community centre at Anqua | 4.87-7.70 | G3 | Near Anqua Model Steel Village Gate | 2.22-2.80 | G4 | Siva Mandir | 3.80-3.90 | G5 | Near CNI Church | 5.90-8.10 | G6 | Near Bishra Chowk | 1.95-5.60 |
| ID | Location | Water level below the Ground Surface (in meters) | | | | | | | | | | | | | | | | | | | | | |
| G1 | Adjacent to community centre at Anqua | 4.40- 7.55 | | | | | | | | | | | | | | | | | | | | | |
| G2 | Opposite to community centre at Anqua | 4.87-7.70 | | | | | | | | | | | | | | | | | | | | | |
| G3 | Near Anqua Model Steel Village Gate | 2.22-2.80 | | | | | | | | | | | | | | | | | | | | | |
| G4 | Siva Mandir | 3.80-3.90 | | | | | | | | | | | | | | | | | | | | | |
| G5 | Near CNI Church | 5.90-8.10 | | | | | | | | | | | | | | | | | | | | | |
| G6 | Near Bishra Chowk | 1.95-5.60 | | | | | | | | | | | | | | | | | | | | | |
| xviii | 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. | No working during April' 2017 to September' 2017. Regular monitoring of flow rate of water at the perennial nalla i.e. Hamsadagaar Nalla, is being done and records are being maintained. | | | | | | | | | | | | | | | | | | | | | |



| Sl. No | Condition | Compliance Status as on September'2017 |
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| xix | Regular monitoring of water quality upstream and downstream of the Hamsadagaar Nalla shall be carried out and record of monitored date should be maintained and submitted to the Ministry of Environment and Forests, its Regional Office, Bhubaneswar, the Central Groundwater Authority, the State Pollution Control Board and the Central Pollution Control Board. | Regular Water monitoring is being done on quarterly basis and results and reports are being submitting to submitted to Ministry of Environment and Forests, it's Regional Office, Ranchi, Jharkhand State Pollution Control Board and other statutory authorities. |
| xx | The Project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of water (surface water and ground water) required for the project. | Permission obtained from Water Resource Department, Govt. Of Jharkhand and agreement has been made with Water Ways Division, Chaibasa on 03.08.2017, for drawl of water from Hamsadagara Nalla to the tune of 0.62 MCM per annum for Manoharpur Ore Mines, Chiria. |
| xxi | Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board. | Draft Technical Feasibility Study report for rainwater harvesting prepared by M/s KRG rainwater Foundation, Chennai was submitted recently. Final report will be submitted to Central Ground Water Board for their view and recommendations. Prioritizing the approved rainwater harvesting schemes for implementation in phased manner with time schedules. |
| xxii | Appropriate mitigative measures shall be taken to prevent pollution of the Koina River in consultation with the State Pollution Control Board. | No working during April' 2017 to September' 2017. However retaining wall and drains are constructed around the lease area to prevent pollution of water bodies. |
| 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 from mine face to the beneficiation plant. The vehicles shall be covered with a tarpaulin and shall not be overloaded. | No working during April' 2017 to September' 2017. Will be followed during operation. |
| xxiv | No blasting shall be carried out after the Sunset, 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 | No working during April' 2017 to September' 2017. Will be followed during operation. |



| Sl. No | Condition | Compliance Status as on September'2017 | | | | | | | | | | | | | | | | |
|---------------------|---|---|---------------|--|---------------|--------|---------------------|-------|--------------|---------|-------------|---------|------------|-------|-------------|--------|-----------------|---------|
| | be implemented. | | | | | | | | | | | | | | | | | |
| xxv | Digital processing of the entire lease area using remote sensing technique should be done regularly once in three years for monitoring land use pattern and report submitted to the Ministry of Environment and Forests and its Regional Office located at Bhubaneswar. | <p>The entire mine lease is in Ankua RF of Saranda Reserve Forest. Digital processing of the entire lease area by using remote sensing technique was done by IIT, Kharagpur. 2014 Land use pattern of the lease area is as follows,</p> <table> <tr> <td>LU/LC classes</td> <td>Sukri LutuburuOre mining lease Area (ha)</td> </tr> <tr> <td>Built-up Land</td> <td>14.133</td> </tr> <tr> <td>Scrub land or grass</td> <td>0.000</td> </tr> <tr> <td>Dense forest</td> <td>314.860</td> </tr> <tr> <td>Open Forest</td> <td>237.583</td> </tr> <tr> <td>Water body</td> <td>4.162</td> </tr> <tr> <td>Wasted land</td> <td>38.816</td> </tr> <tr> <td>Total Area (ha)</td> <td>609.554</td> </tr> </table> | LU/LC classes | Sukri LutuburuOre mining lease Area (ha) | Built-up Land | 14.133 | Scrub land or grass | 0.000 | Dense forest | 314.860 | Open Forest | 237.583 | Water body | 4.162 | Wasted land | 38.816 | Total Area (ha) | 609.554 |
| LU/LC classes | Sukri LutuburuOre mining lease Area (ha) | | | | | | | | | | | | | | | | | |
| Built-up Land | 14.133 | | | | | | | | | | | | | | | | | |
| Scrub land or grass | 0.000 | | | | | | | | | | | | | | | | | |
| Dense forest | 314.860 | | | | | | | | | | | | | | | | | |
| Open Forest | 237.583 | | | | | | | | | | | | | | | | | |
| Water body | 4.162 | | | | | | | | | | | | | | | | | |
| Wasted land | 38.816 | | | | | | | | | | | | | | | | | |
| Total Area (ha) | 609.554 | | | | | | | | | | | | | | | | | |
| xxvi | Drills shall either be operated with dust extractors or equipped with water injection system. | No working during April' 2017 to September' 2017. Will be followed during operation. | | | | | | | | | | | | | | | | |
| xxvii | Mineral handling area 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. | No working during April' 2017 to September' 2017. Will be followed during operation. | | | | | | | | | | | | | | | | |
| xxviii | Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and wastewater generated during the mining operation. | Septic Tanks have been provided for the various accommodations. Proposal for installation Sewage treatment plant for colony is under consideration. | | | | | | | | | | | | | | | | |
| xxix | 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. | Pre-placement medical examination and periodical medical examination is being carried out and records maintained. | | | | | | | | | | | | | | | | |



| Sl. No | Condition | Compliance Status as on September'2017 |
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| xxx | The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna namely elephant, sloth bear, Indian wolf, python 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 Plan so prepared specific to the project site shall be effectively implemented. A copy of action plan shall be submitted to the Ministry of Environment and Forests and its Regional Office, Bhubaneswar. | <p>All precautions are under taken not to disturb the flora and fauna in the mining lease area. Necessary facilities are being extended to local forest department for their inspection and monitoring of forest area.</p> <p>Comprehensive Integrated Wild Life Management Plan for the West Singhbhum District has been prepared under aegis of SAIL and the report is under finalization by Govt. of Jharkhand.</p> <p>Measures suggested by Jharkhand Govt. for the leasehold shall be suitably implemented and demand raised by the State Govt. shall be paid for implementation of the Wild Life Management Plan by the Govt. of Jharkhand.</p> |
| xxxi | The entire mining lease area shall be fenced by erecting solar powered electric fencing all round it. The fencing so erected shall be maintained properly and the cost towards erection and maintenance of the solar powered electric fencing shall be borne by the project proponent out of the project cost. | Action is being taken for exemption of solar powered electric fencing in line with other projects. |
| xxxii | No transportation of ore outside the mine lease area shall be carried out after the sunset. | No working during April' 2017 to September' 2017. Will be followed during operation. |
| xxxiii | The critical parameters such as RSPM (Particulate matter with size less than 10 um i.e. PM10) and NOx in the ambient air within the impact zone, peak particle velocity at 300m distance or within the nearest habitation, whichever is lower shall be monitored periodically. Further, quality of discharged water shall also be monitored (TDS, DO, PH and Total Suspended Solids (TSS)). The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate | No working during April' 2017 to September' 2017. |



| Sl. No | Condition | Compliance Status as on September'2017 |
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| | of the Company in public domain. The Circular No. J-20012/1/2006-IA (M) dated 27.05.2009 issued by Ministry of Environment and Forests, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance. | |
| xxxiv | A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval. | Not Applicable at present. Final Mine closure plan along with the fund details will be submitted to the ministry 5 years advance. |

B. General Conditions

| Sl. No | Condition | Compliance Status as on September, 2017 |
|--------|--|---|
| i | No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests. | No working during April' 2017 to September' 2017. Will be followed. |
| ii | No change in the calendar plan including excavation, quantum of mineral iron ore and waste should be made. | No working during April' 2017 to September' 2017. |
| iii | Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10um i.e. PM10) and NOx 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. | No working during April' 2017 to September' 2017. |
| iv | Data on ambient air quality RSPM (Particulate matter with size less than 10um i.e., PM10) & NOx should be regularly submitted to the Ministry of Environment and Forests including its Regional office located at Bhubaneswar and the State Pollution Control Board/Central Pollution Control Board | No working during April' 2017 to September' 2017. |



| | | |
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| | once in six months. | |
| 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. | No working during April' 2017 to September' 2017. |
| 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. | No working during April' 2017 to September' 2017. |
| 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 19 th May, 1993 and 31 st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents. | No working during April' 2017 to September' 2017. |
| 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. 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. | No working during April' 2017 to September' 2017. |
| ix | 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. | A full-fledged Environment Management Cell (EMC) has been established to look after environment aspects headed by an experienced engineer with more than 10 years' experience in the field of environment in the rank of Sr. Manager who directly reports Head of Mines. He is further assisted by one more experienced officer with a qualified M-Tech in Environmental Engineering for environment management at Mines. |



| | | | | | |
|------|---|--|-----------------|---------------------------|----------------------|
| | | Name, designation & qualification of members of Environment management cell. | | | |
| | | Sl. No | Name | Designation | Qualification |
| | | 1 | Sri S S Rao | Sr. Manager (Mining) | AMIE (Mining) |
| | | 2 | Sri Anupam Naik | Dy. Manager (Environment) | M.Tech (Environment) |
| | | In addition to the EMC at Mines level an Environment & lease department at our head quarter i.e. Raw Materials Division, Kolkata headed by a qualified person (M Tech in Environmental Engineering) and experience environmental engineers who facilitate all the RMD mines including MOM, Chiria mines in implementation and maintained of pollution control measures. Further two senior and experienced persons in the fields of Forest & Environment have been engaged by SAIL as advisors for guiding SAIL mines in management of Environment & Forest. | | | |
| x | 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 of Environment and Forests and its Regional Office located at Bhubaneswar. | Funds allocated for environmental management are spent only for Environment related purposes and not diverted to any other purpose. | | | |
| xi | 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. | Will be followed. | | | |
| xii | 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 is extended to the officers of the Regional Office, MoEF & CC, Bhubaneswar / Ranchi, by furnishing the requisite data / information / monitoring reports. | | | |
| xiii | The project proponent shall submit six monthly reports on the status of compliance of the stipulated EC conditions | Six monthly compliance reports on the status of implementation of environmental safeguards are being submitted to MoEF&CC, New Delhi, Regional | | | |



| | | |
|-----|--|--|
| | including results of monitored date (both in hard copies as well as by e-main) to the Ministry of Environment and Forests, its Regional Office Bhubaneswar, The respective Zonal Office of Central Pollution Control Board the State Pollution Control Board. The proponent shall upload the status of compliance of the EC conditions, including results of monitored date on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the Ministry of Environment & Forests, Bhubaneswar, the respective Zonal Office of Central Pollution Control Board and State Pollution Control Board. | Office – MoEF&CC, Ranchi, Central Pollution Control Board and State Pollution Control Board. Copy of the compliance report including environmental quality data is being uploaded to the SAIL web site i.e. www.sail.co.on . |
| xiv | A copy of the clearance letter shall be sent by the proponent to concerned panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the Local NGO, if any from whom suggestions/representations, if any were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent. | The copy of Clearance letter was notified in the public places. The clearance letter has been put on the Company website. |
| xv | The State Pollution Control Board should display a copy of the clearance letter at the Regional Office, District Industry Centre and the Collector's office/Tehsildar's office for 30 days. | -- |
| xvi | The environmental statement for each financial year ending 31 st March in Form-V as is mandated to be submitted by the project proponent to the concerned 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 environmental clearance conditions and shall also be sent to the Regional office of the Ministry of Environment and Forests, Bhubaneswar by e-mail. | Environmental Statement for the financial year 2016-17 ending 31 st March, 2017 has been submitted to the Jharkhand State Pollution Control Board vide reference No: MOM/PC/ 6/37, dated: 02-05-2017. |



| | | |
|------|---|--|
| xvii | <p>The project authorities should advertise at least in two local newspapers of the District or State in the project is located and 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 letter is available with 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 at Bhubaneswar.</p> | <p>Advertisement was given in two local newspapers Hindustan times (English) and Dainik Jagaran (Local Language Hindi) within 7 days of the issue of the clearance letter.</p> |
|------|---|--|

18.11.17
General Manager (Mines)
Manoharpur Ore Mines



Annexure-1

GROUND WATER LEVEL MEASUREMENTS & QUALITY**A. Ground Water levels in and around the Mines**

| Location ID | Location of Open Wells | Water level below the Ground Surface (in meters) | |
|-------------|---------------------------------------|--|------------------------|
| | | Pre-monsoon (May, 2017) | Monsoon (August, 2017) |
| G1 | Adjacent to community centre at Anqua | 7.55 | 4.40 |
| G2 | Opposite to community centre at Anqua | 7.70 | 4.87 |
| G3 | Near Anqua Model Steel Village Gate | 2.80 | 2.22 |
| G4 | Siva Mandir | 3.90 | 3.80 |
| G5 | Near CNI Church | 8.10 | 5.90 |
| G6 | Near Bishra Chowk | 5.60 | 1.95 |

| Sl. No. | Location of Piezometer | Water level below the Ground Surface (in meters) | |
|---------|------------------------|--|------------------------|
| | | Pre-monsoon (May, 2017) | Monsoon (August, 2017) |
| 1 | Chiria Village | 4.40 | 3.70 |
| 2 | Dhobil village | 3.70 | 3.00 |

B. Ground Water Quality in and around the Mines

| Date of sampling: | | 19.05.2017 (Pre-monsoon) | | | | | | |
|-------------------|--------------|--------------------------|--------|--------|--------|--------|--------|--------|
| S. No. | Parameters | Unit | G 1 | G 2 | G 3 | G 4 | G 5 | G 6 |
| 1 | pH | - | 7.07 | 7.02 | 6.98 | 6.89 | 6.88 | 7.09 |
| 2 | Temperature | °C | 32.90 | 32.50 | 32.80 | 32.30 | 32.30 | 32.20 |
| 3 | Turbidity | NTU | 3.66 | 2.62 | 1.03 | 1.37 | 6.40 | 5.58 |
| 4 | Conductivity | uS/cm | 340.00 | 329.00 | 192.00 | 304.00 | 351.00 | 254.00 |
| 5 | DO | mg/l | 5.02 | 6.35 | 6.25 | 6.02 | 5.90 | 7.18 |
| 6 | TDS | mg/l | 140.00 | 148.00 | 86.20 | 126.00 | 158.00 | 105.10 |
| 7 | TSS | mg/l | 18.20 | 15.60 | 11.30 | 21.50 | 45.80 | 25.30 |

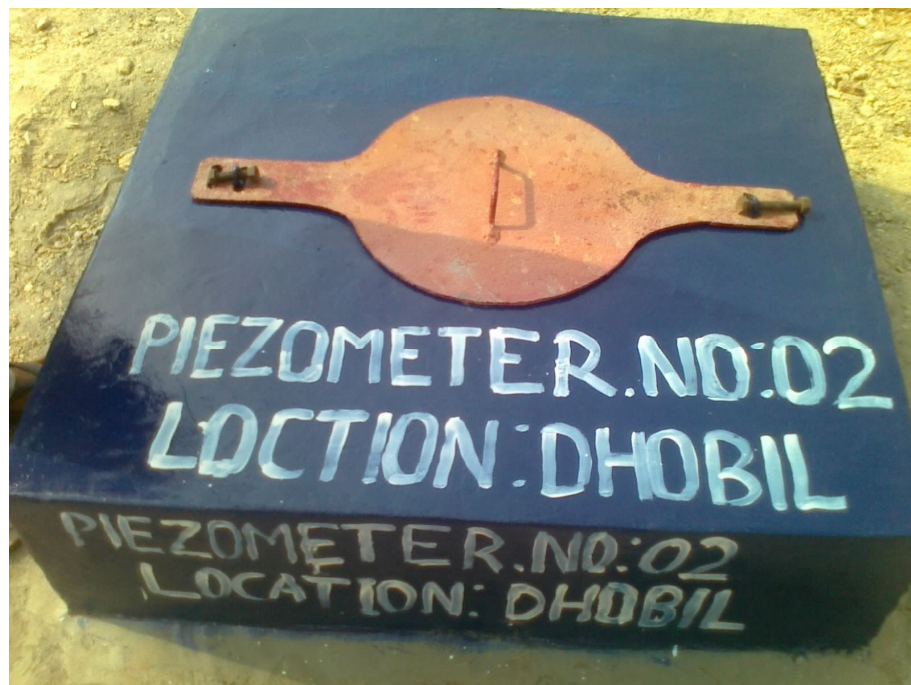
| Date of sampling: | | 28.08.2017 (Monsoon) | | | | | | |
|-------------------|--------------|----------------------|--------|--------|--------|--------|--------|--------|
| S. No. | Parameters | Unit | G 1 | G 2 | G 3 | G 4 | G 5 | G 6 |
| 1 | pH | - | 6.98 | 7.05 | 7.03 | 6.95 | 6.84 | 7.15 |
| 2 | Temperature | °C | 28.7 | 28.6 | 28.7 | 28.5 | 28.6 | 28.4 |
| 3 | Turbidity | NTU | 4.03 | 3.65 | 2.50 | 1.85 | 6.70 | 5.10 |
| 4 | Conductivity | uS/cm | 346.60 | 366.70 | 266.30 | 302.22 | 382.22 | 346.50 |
| 5 | DO | mg/l | 6.05 | 6.40 | 6.50 | 6.60 | 6.20 | 7.10 |
| 6 | TDS | mg/l | 156.00 | 165.00 | 120.00 | 136.00 | 172.00 | 115.00 |
| 7 | TSS | mg/l | 22.50 | 18.60 | 13.30 | 25.60 | 60.80 | 28.90 |



Annexure-1



1. Piezometer at Dhobil Village



2. Piezometer at Dhobil Village