

SIX MONTHLY EC COMPLIANCE REPORT
FOR
ROIDA 'C' IRON & MN ORE MINES
OF
M/S. OMC LTD. OPERATED BY IDCOL
FOR THE PERIOD OF
OCTOBER-2017 TO MARCH-2018

A. Specific Conditions :-

- (i) **All the conditions stipulated by the State Pollution Control Board in their consent to establish should be effectively implemented.**

Compliance Status

The Consent to establish for expansion of Iron ore production of 10000 to 40000 MT/Month, Manganese Ore to 600Mt per Month has been obtained from the OSPCB, Bhubaneswar Odisha; vide letter No.1525 /IND-II-NOC-3961 dated 27.01.2006, which also include installation of 90 Tons per hour Crushing & Screening plant within the ML area.

Further, we have obtained the Consent to establish from the OSPCB, Bhubaneswar Odisha, vide letter no 18178/IND-II-NOC-5960 dated 20.11.2015 of one (01) number of 150 TPH capacity mobile Iron ore screening unit within the ML area. All the conditions stipulated in the consent to establish are being adhered and effectively implemented.

- (ii) **The environmental clearance is subject to grant of forestry clearance. The project proponent shall obtain necessary forestry clearance under the Forest (Conservation) Act, 1980 for an area of 192.81 ha forestland before starting mining operation in that area. Till such time mining activities shall be restricted to an area of 96.783 ha for which forestry clearance has been obtained from the Ministry on 29.10.1998, after getting the requisite forestry clearance transferred in their name.**

Compliance Status

We have obtained the Forest Clearance from MOEF, Govt. of India vide their letter No 8-121/1997-FC, dated 14-01-2008 over an area of 96.783hactrers out of the M.L area of 192.81 hectares forest land. Mining operation is being confined within that approved land. Copy of MOEF approval letter is attached as **Annexure - 3**.

- (iii) **The mining operation shall not intersect groundwater table. Prior approval of the ministry of Environment & Forest and Central Ground Water Authority shall be obtained for mining below water table.**

Compliance Status

Our mining activity is not intersecting the ground water table. Ultimate pit limit will be at RL500m. Borehole drilled beyond the ultimate pit limit have not encountered the ground water. Therefore, the mining operation will not intersect the ground water table.

- (iv) **Top soil, if any shall be stacked properly with proper slope with adequate measures and should be used for reclamation and rehabilitation of mined out areas.**

Compliance Status

The earlier generated top soil has already been utilized for plantation and topsoil generation is not expected due to the exposures of laterite as well as Iron ore. However, in case of top soil generated in future, it will be stored in an earmarked area and necessary precaution will be taken to preserve its nutrient values, so that it can be used for land reclamation and raising of plantations.

- (v) **The over burden should be stacked at earmarked dump site (s) only and should not be kept active for long period. The maximum height of the dump should not exceed 36 m, each stage should preferably be of 12 m and over all slope of the dump shall not exceed 28°. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. Backfilling should start from the year 2009 onwards. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self sustaining, compliance status should be submitted to the Ministry of Environment & Forests on six monthly basis.**

Compliance Status

Overburden is being stacked at earmarked site as approved in the Mining Plan/Scheme. The overburden generated are dumped in two number of active OB Dump (Dump no.-1 & Dump no.-2). Stabilization has been done in all the three inactive OB dumps by terracing and plantation. Individual terrace slope of the dumps are at 37°30' while overall dump slope angle is being maintained at 28° with the horizontal. Garland drains and Retaining wall are provided all along the toe of the dumps to prevent the wash-off. Settling pits have been constructed at the bottom of the dump areas to arrest / control flow of silts during monsoon.

- (vi) **Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine working, OB dumps and mineral dump. The water so collected should be utilized for watering the mine area roads, green belt development etc. The drains should be regularly desalted particularly after monsoon and maintained properly. Garland drain (size, gradient and length) shall be constructed for mine pit and OB dumps 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 setting of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.**

Compliance Status

In the entire area, where ever possibility of wash off or flow of sediments etc. is anticipated, the retaining wall, garland drain and check dam have been provided at the strategic points.

Proper retaining wall and garland drain followed and sumps/settling pits have been constructed at the bottom of the dump, stack-yard etc to arrest / control flow of silts during rain. The sumps/settling ponds are de-silted regularly after monsoon.

The sump have been constructed with adequate capacity with safety margin so that, most of the surface run off water is percolated down in the settling ponds during the rainy season and rest quantity is passed through the proper channel i.e. check dam.

The details of Retaining Wall & Garland Drain

Sl. No.	Dump Location	Retaining Wall				Gerland Drain	
		Length in mtrs.	Dimensions in mtr HxW	Co-Ordinates (start - close)		Length in mtrs	Dimensions in mtr
1	Fines-1 stack	59	1.5 x 1	22° 02' 06.1" N 85° 24' 11.7" E	22° 02' 05.0" N 85° 24' 11.4" E	70	1 x 1
2	Sub-Grade Fines-1 Stack & Fines-2 Stack	358	1.5 x 1	22° 01' 58.8" N 85° 24' 12.0" E	22° 01' 54.4" N 85° 24' 4.2" E	368	1 x 1
3	OB Dump-1 (active)	371	1.5 x 1	22° 02' 05.0" N 85° 24' 11.4" E	22° 01' 58.8" N 85° 24' 11.9" E	380	1 x 1
4	Dump-2 (Inactive)	160	1.5 x 1	22° 01' 54.6" N 85° 23' 59.0" E	22° 01' 54.4" N 85° 24' 02.2" E	170	1 x 1
5	Dump-3 (active)	676	1.5 x 1	22° 02' 22.4" N 85° 23' 43.0" E	22° 02' 27.0" N 85° 23' 40.8" E	482	1 x 1
6	Dump-6 (Inactive)	500	1.5 x 1	22° 02' 36.0" N 85° 23' 56.5" E	22° 02' 37.8" N 85° 24' 00.5" E	260	1 x 1
7	Dump-7 (Inactive)	892	1.5 x 1	22° 02' 32.9" N 85° 24' 04.9" E	22° 02' 33.4" N 85° 24' 05.0" E	628	1 x 1

DETAILS OF SETTLING POND TO PREVENT CARRYING OF SILT WITH RUN-OFF			
Location	Northing	Easting	Dimensions in mtrs. L x W x H
Eastern Boundary near OB Dump-1 & Sub-Grade Dump	22° 01' 58.8"	85° 24' 11.9"	12.5 x 6.9 x 4.1
Eastern Boundary near Fines-1 Dump	22° 02' 5.3"	85° 24' 11.4"	15 x 3.8 x 1.2
Western Boundary near OB Dump-3	22° 02' 27.2"	85° 23' 39.4"	8 x 8 x 3
Northern Boundary near OB dump-6	22° 02' 36.0" N	85° 23' 56.5" E	20 x 5 x 3
Northern Boundary near OB dump-7	22° 02' 40.0" N	85° 24' 09.3" E	15 x 3.8 x 1.2

- (vii) **Plantation shall be raised in an area of 35.0 ha including a green belt of adequate width by planting the native species around ML area ,OB dumps, roads etc. In consultation with the local DFO/Agriculture Department. The density of the trees should be around 2000 plants per ha.**

Compliance Status

The plantation requirement to cover the area of 35.0 ha will be at the end of mine life after exhaustion of mineral deposit. At present, no mining pit has exhausted of mineral deposit and no reclamation/ rehabilitation by plantation could be taken up for the mining pit area. However, we have taken up plantation within the lease in the safety zones along ML Boundary, Road Side and dead dumps etc. Till date about 1, 08,595 nos of saplings have been planted over an area of 35.742 Ha both inside & outside the lease area. Plantation has been done in the vacant non-mineralized areas, safety zone and over burden dump slopes in the mine. At present there is no vacant space in the mines for plantation.

- (viii) **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.**

Compliance Status

The unit has water reservoir at IKIWL, Barbil and uses this water for dust suppression in the mine and mineral processing plant as well as uses this water for domestic consumption. About 22 KLD of water is used for various activities like dust suppression, plantation, etc and around 28 KLD water is used for its domestic consumption. The lessee has been submitting to SPCB.

- (ix) **Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should 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 ministry of Environment and forest and its regional office ,Central Ground Water Authority and Regional Director Central ground Water Board.**

Compliance Status

Regular monitoring of ground water has been done quarterly basis by S K Mitra during mining operation.

- (x) **Permission from the competent authority should be obtained for drawl of water from Kundra nallah and also ground water ,if any.**

Compliance Status

There is no consumption of surface water at present.

- (xi) **Vehicular emissions should be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicle used in mining operation and in transportation of mineral. The vehicle should be covered with a tarpaulin and shall not be overloaded.**

Compliance Status

The vehicles are maintained properly and the monitoring is done regularly for the emission of the vehicles to ascertain whether the vehicles meet the pollution norms. The tests are being conducted on regular basis by engaging the outer agency. The vehicles which are carrying the loaded materials are being fully covered with tarpaulins. No overloading is allowed to the vehicles.

- (xii) **Blasting operation should be carried out only during the dry time .Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.**

Compliance Status

Blasting operation is being carried out during the day time at our mines with the controlled blasting technique, by using delay detonator, nonel etc.

- (xiii) **Drills shall either be operated with dust extractors or equipped with water injection system.**

Compliance Status

Drilling machine with inbuilt water injecting system is being operated at our mines towards minimization of the dust.

- (xiv) **Consent to operate should be obtained from SPCB prior to start of enhanced production from the mine.**

Compliance Status

Consent to operate order has been obtained from State Pollution Control Board (SPCB) vide letter no 3299/IND-I-CON-251 dated 22-03-2018 valid from 01.04.2018 to 31-03-2019 for production of 0.46MTPA Iron Ore and .007 MTPA Manganese Ore. All the conditions stipulated in the consent to operate are being adhered and implemented. (ANNEXURE-I copy enclosed)

- (xv) **Sewage treatment plant should be installed for the colony. ETP should also be provided for workshop and wastewater generated during mining operation.**

Compliance Status

No workshop is there inside the lease area, so no waste water is generated. Hence no ETP is required.

- (xvi) **The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna such as elephant, sloth bear, palm civet, wolf, mouse deer etc. spotted in the study area. Action Plan for conservation of flora and fauna shall be prepared and implemented 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 allocation shall be included in the project cost of action plan may be submitted to the Ministry and its Regional Office within months.**

Compliance Status

A sum of Rs 19,35,660.00 has been deposited in shape of demand draft drawn in favour of CAF, Orissa, A/c no- 1585 in Corporation Bank, Lodi Road, New Delhi towards implementation of wildlife Management plan in mining area & Rs. 5,80,698.00 (Rupees five lakhs eighty thousand six hundred ninety eight) in shape of DD drawn in favour of CAF Odisha, A/c no. 344902010105428 of Union bank of India towards differential amount of wild life management plan.

- (xvii) **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.**

Compliance Status

The mineral deposit in the area has not been exhausted yet and the closure plan is not envisaged at present. However, the closure plan will be implemented as per the plan approved by IBM and the details plan will be submitted to the ministry in time. Further, the Project has submitted a Bank guarantee of Rs. 20,90,000/- for rehabilitation of 83.600 Ha mined out area @ Rs 25,000/- Ha as a part of the management of the mines closure of the Project. It has been approved by IBM in the scheme of mining on 30-12-2016.

B. General Conditions.

- (i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forest.**

Compliance Status

The Mining method is semi mechanized, having shovels, dumper combinations and screening & crushing of iron ore. The mining operations are adhered to the mining plan/schemes approved by IBM.

- (ii) No change in the calendar plan including excavation, quantum of mineral iron ore and manganese ore and waste should be made.**

Compliance Status

The production is being limited to the permissible quantity. The excavation, quantum of mineral, iron ore, Manganes & OB for last three years are as follows;

Sl. No.	Year	Mineral	Quantity (In MT)	Mineral	Quantity (In MT)	OB (In MT)
1	2015-2016	Iron Ore	1,10,327.920	Manganese	Nil	370080
2	2016-2017	Iron Ore	329860.000	Manganese	Nil	219717
3	2017-2018	Iron Ore	389510.000	Manganese	NIL	602033

- (ii) Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RPM, SPM, So₂, 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 six months.**

Compliance Status

Ambient Air Quality monitoring was conducted on monthly basis at four location (near main gate, bhuiya roida, canteen, camp hatting) .The test results are very well within the prescribed norms and copy of the same is enclosed in **Annexure-4**

- (iii) Data on ambient air quality (RPM, SPM ,SO₂, Nox) 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.**

Compliance Status

The monitoring data of the ambient air quality is being submitted to Ministry including its Regional office located at Bhubaneswar and the State Pollution Control Board / Central pollution Control Board once in six months.

- (iv) **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.**

Compliance Status

For fugitive dust suppression on the haulage road, mineral processing area, fines stock yard and sized ore stock yard, loading, unloading and transfer points. Two number of mobile water tankers of capacity 18 KL each is used for water sprinkling arrangement and register is being maintained.

- (v) **Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operation of HEMM, etc should be provided with earplug/muffs.**

Compliance Status

The machines engaged in the mines are being maintained properly and regularly to minimize the noise pollution. Controlled blasting is taken up in the mines. 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 are well within the norms.

- (vi) **Industrial waste water (workshop and waste water from the mine) should be proper 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.**

Compliance Status

No workshop is there inside the lease area, so no waste water is generated.

- (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 contraction due to exposure to dust and take corrective measures, if needed.

Compliance Status

Workers engaged in dusty areas 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 are well within norms.

Initial Medical Examination & Periodical Medical Examination of the workers engaged in the project is being undertaken periodically for departmental & contractual workers along with the pre-medical examination of persons employed, 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 1955 and amendments there to.

- (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.**

Compliance Status

We have established an Environmental Cell headed by the Manager Mines to look after the implementation of the various pollution control measures and other Environment Management System requirements.

- (x) **The funds earmarked for environmental protection measures should be taken 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.**

Compliance Status

The fund earmarked for environmental protection is being utilized for the said purpose only. The detail of the same is as follows;

Particulars	Expenses
Dust suppression, Water sprinkling (water tanker)	678000
Pollution monitoring	449426
Occupational health	31350
Doctor, Medicines ,Ambulance	364800
Green belt, Sapling cost, Labour cost	56000
Construction of retaining wall & sumps	188160
Grand Total	1767736.00

- (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.**

Compliance Status

The Project is in operation since 1977 and the mining operation is in progress. Subsequent renewal period has been extended up to 2027. The mineral deposit in the area has not been exhausted yet and the closure plan is not envisaged at present. However, the closure plan will be implemented as per the plan approved by IBM and the details plan will be submitted to the ministry in time.

- (xii) **The Regional Office of the Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The project authorities should extend full co operation to the office (s) of the Regional Office by finishing the requisite data/information/monitoring reports.**

Compliance Status

We are always extending our full cooperation during any such inspections by the Authority.

- (xiii) **A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any from whom suggestion/ representative has been received while processing the proposal.**

Compliance Status

It has been complied with intimating the letters to local Gram Panchayat, Municipality, DDM Office, Zila Parishad, Divisional Forest Officer etc.

- (xiv) **State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office e/ Tahsildar's Office for 30 days.**

Compliance Status

This has been compiled from SPCB, Bhubaneswar.

- (xv) **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 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 the Ministry located Bhubaneswar.**

Compliance Status

We have advertised in the newspapers within stipulated time period. A copy of the same got submitted to the Regional Office of this Ministry located at Bhubaneswar.

