

Six Monthly EC Compliance Report

Period: October, 2017 to March, 2018



MURGABEDA IRON ORE MINES

M/s. D. R. PATNAIK

**At - Boneikela, PO - Joda,
Dist. - Keonjhar, Odisha - 758 034**

www.miom-drp.com

**Six Monthly EC Compliance Reports
Of
Murgabeda Iron Ore Mine of
M/s. D. R. Patnaik
For the Period
October- 2017 to March- 2018**

**STATUS OF ENVIRONMENTAL CLEARANCE CONDITIONS – “MURGABEDA IRON
ORE MINE –PROJECT OF M/S. D. R. PATNAIK” LOCATED NEAR VILLAGE
MURGABEDA (THAKURANI R.F.) OF KEONJHAR DIST., ODISHA**

Sl. No	SPECIFIC CONDITIONS	PRESENT STATUS
1	The applicant (Project Proponent) will take necessary measures for prevention, control and mitigation of Air Pollution, water pollution, noise pollution and land pollution including solid waste management as mentioned by him in form-I, final EIA reports and Environment management Plan (EMP) in compliance with prescribed statutory norms and standards	The mine is not in operation since dated 18 th April 2010, for want of forest/statutory clearance. However, the project proponent has recently obtained the Stage-I Forest Clearance Vide letter No.10 F (cons) 498/2011-17321/F & E dated 20.9.2014. Adequate measures have been taken by providing retaining wall along with garland drain all around the mines dump areas to prevent mines runoff water to the nearby water bodies. Other necessary measures have also been implemented like gully plugs at regular intervals etc. There are no such OB dumps, the sub grade dumps are stabilized at ear marked area with proper sloping and terracing, for better stabilization. The enclosed photos are witnessing the above. The photo copy of the same is enclosed as photo-1 & 2 . Dump details are given in Annexure - 1
2	The applicant will take necessary steps for socio economic development of the people of the area on need based assessment for providing employment, education, health care, drinking water and sanitation, road and communication facilities. After a detailed primary Socio-Economic survey in core zone and buffer.	Different projects has undertaken in consultation with “ JANASADHANA ” for the socio-economic development of the local people belongs to adjoining villages. A detailed implementation status report of the same is given in Annexure - 2

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3	The applicant will comply with the points, concerns and issues raised by the people during public hearing on 29th June, 2009 in accordance with the commitments made by him thereon.	We have full-filled the commitment regarding the demands raised during the public hearing and compliance are made as per the commitments. All the public hearing issues has been complied as per the commitment in phased manner like development of peripheral activities i.e. Development/renovation of the Murga Mahadev temple, guard wall all along Nallah, established environment cell, education, drinking water, road, street light, livelihood etc.
4	The applicant will take statutory clearance/approval/permissions from the concerned authorities in respect of his project as and when required.	Necessary statutory clearances/ approval/ permissions from the concerned authorities have been obtained such as: Consent to Operate from SPCB, Ground Water Permission from CGWA, Hazardous waste authorization, approved mining plan from IBM, Forest clearance from MoEF, etc. Wildlife Conservation Plan (Copy attached to Annexure – 3), Forest Clearance Letter (Copy attached to Annexure – 4).
5	For post environmental clearance monitoring, the applicant will submit half-yearly compliance report in respect of the stipulated terms and conditions of this Environmental Clearance to the State Environmental Impact Assessment Authority (SEIAA), Orissa on 1st June and 1st December of each calendar year.	The Half yearly compliance report is being submitted herewith for the same i.e. for the period April to September, 2017. Earlier submitted details are attached as Annexure -5 .
6	The core zone should be monitored intensively with no. of stations as prescribed by CPCB, Delhi and unit of pollutant level should be expressed as NAAQ of CPCB, Delhi. The detail methodology adopted for analysis of samples shall be cleared indicated	The mine is not in operation since dated 18th April 2010, for want of forest/statutory clearance. There is provision of monitoring of AAQ in the core as well as buffer zone of the ML area. Monitoring of AAQ used to carry out every month except during monsoon. The monitoring report was

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		carried as per NAAQs notifications made by the CPCB. The monitoring location is enclosed as Annexure -6
7	The proponent shall submit ground too thing baseline data on flora & fauna and CSR activities already carried out within three months to the SEIAA.	The site specific Wild Life Conservation Plan has been prepared by Mr. P.K. Sarangi, Rtd. IFS Officer & got approved by PCCF (Wildlife), Chief Wildlife Warden, Odisha. The project has estimated cost of Rs. 38.70 Lakhs which includes cost for both buffer zone i.e. Rs. 25.40 Lakhs and core zone i.e. Rs. 13.30 Lakhs for the conservation and management of wildlife. The project proponent has constructed check dam & check weirs to restrict the mixing of undesired substances in nearby streams & also established guard wall along the sides of Nallahs. The copy of the same is attached as Annexure – 3 . A detailed CSR activity on the same got submitted.
8	Adequate buffer zone shall be maintained between two consecutive mineral bearing deposits.	There is only one mines pit located in the mines area and the project has maintained the 7.5 m width of safety zone around the ML area and following as per the approved mining plan/scheme.
9	Zero waste mining concept shall be implemented either by putting up palletization plant or disposal of low grade ores/fines to prospective buyers.	Due to the incorporation of better & efficient machineries and latest technologies, it is ensured that zero wastes will be coming out due to the mining activity. Steps have been initiated to work out in this context.
10	The following shall be implemented viz. (a) dump run off should be diverted into setting ponds until it is clear (b) adequate rain water harvesting and ground water recharging facilities should be developed in the core zone, (c) attempt should be made to achieve zero water balance.	<ul style="list-style-type: none"> a. Dump run off are being diverted to mines pit area and balance quantity is channelized to settling pits with proper checks before disposal to natural water bodies. b. The project has implemented the roof top rain water harvesting structures and settling pits cum harvesting structures in the mines

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		<p>areas towards recharge of the ground water.</p> <p>c. Steps have been taken to achieve zero water balance like implementation STP for treatment of domestic effluent and reuse of the treated water for mines dust suppression and nearby gardening purposes.</p> <p>The photo of the same is enclosed as Photo 3 & 4</p>
11	Maintenance of roads through which transportation of ores are undertaken shall be carried by the project regularly at its own cost.	The project has black topped the transportation approach village roads along with the other projects and regular maintenance of the main approach road along with the mines haul roads are being carried out. Photo no. - 05.
12	Fugitive dust generation shall be controlled. Fugitive dust emission shall be regularly monitored at locations of nearest human habitation (including schools and other public amenities located nearest to sources of dust generation as applicable) and records shall be submitted to the SEIAA. Orissa.	As the project is not operation, there is no fugitive dust emission monitoring. Monitoring of AAQ was carried out in different locations of nearest human habitation in consultation with SPCB except during monsoon.
13	Transportation of ore shall be done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore /dust takes place.	The project has taken steps towards public roads to ensure that the trucks should not be overloaded during transportation; besides these trucks will be covered with tarpaulins while transportation of the iron ore. Time to time awareness program will be carried out for the operators/drivers etc. towards the same.
14	Rain water harvesting shall be undertaken to recharge the ground water source.	In this regard KRG Rain Water foundation, Chennai got engaged in consultation with Regional Director, CGWB, and Bhubaneswar and roof top rain water harvesting structures got

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		implemented towards augmentation of ground water in the camp area. The photo of the same is enclosed above as above photo no. – 03 & 04.
15	Monitoring of ground and surface water quality shall be regularly conducted and records should be maintained and data shall be submitted regularly to SEIAA, Orissa.	The mine is not in operation since dated 18th April 2010, for want of forest/statutory clearance. There is provision of monitoring of the ground water quality at 5 locations namely, Bileipada village, Mahadev Nasa village, Deojhar village, Daldir & Murgabeda as well as monitoring of the surface water quality for surface water bodies i.e. Baitarini River, Suna River, Mahadev Nallah. The records were maintained. The registers are being maintained for monitoring parameters. The monitoring data covers a total of 46 parameters (9 Physical, 36 Chemicals and 1 bacteriological) and results are very well within the norms.
16	The proponent shall ensure that no silt originating due to mining activity is transported in the surface water course. Measures for prevention and control of soil erosion and management of silt shall be undertaken. Protection of dumps against erosion shall be carried out with geo-textile matting or other suitable material, and thick plantations of native trees and shrubs shall be carried out at the dump slopes. Dumps shall be protected by retaining walls.	The project has provided necessary precautionary measures like siltation pit towards protection of silt carry over into the nearby surface water bodies followed by retaining walls and garland drains at the toe of the dumps. Apart from that interference like guard wall all across the bank of the Nallah, a length of 267 M and check weirs at the strategic locations are provided. The above measures have been taken up to reduce flow of sediments to the 1 st order stream such as MurgaMahadev Nallah and 2nd order streams such as Baitarini River and also other water bodies present in the buffer area. It has been taken based on the rain fall data of past 50 years from the IMD station i.e. Keonjhar and all the sump capacity have been designed by giving 50 % safety margin. The photos

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		regarding the same have been enclosed as photo – 6.
17	Trenches / garland drains shall be constructed at foot of dumps to arrest silt from being carried to water bodies. Adequate number of check dams shall be constructed across seasonal or perennial Nallahs (if any) flowing through the ML area be arrested. De-silting at regular intervals shall be carried out.	We ensure that there should not be any silt materials mixed in nearby Nallah and all. To arrest silt from mines run off, a no. of catch drains and settling cum percolation pits have been constructed around the mines working areas. Nallah protection guard walls have also been constructed across the length of the Nallah. Time to time de-silting is followed before each monsoon. The photo of the same is attached as photo 06 & 07.
18	Provisions shall be made for the housing the labors within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. the housing may be in the form of temporary structures to be removed after the completion of the project.	There is no such construction activity inside the project area. They are being engaged from the adjoining villages. However, we have provided the site specific STP for treatment of domestic effluents and the treated water is being utilized for adjoining plantation & gardening purposes.
19	Occupational health and safety measures for the workers including identification of work related health hazards, training on malaria eradication, HIV, and health effects on exposure to mineral dust etc. shall be carried out. The proponent shall engage a full time qualified doctor who is trained in occupational health. Periodic monitoring for exposure to respirable mineral dust on the workers shall be conducted and records maintained including health records of the workers. Awareness program for workers on impact of mining on their health and precautionary measures like use of personal equipment's etc. shall be carried out periodically. Review of	Initial Medical Examination & Periodical Medical Examination of the workers engaged in the project is being undertaken periodically for permanent and outsider employees 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 1956 and amendments there to. The various tests include PFT, X-Ray, and lung spirometry etc. Workers are provided with protective respiratory devices & time to time training on safety & health aspects is being provided. A full time qualified Occupational health doctor with provision of Occupational Health

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	impact of various health measures undertaken (at interval of five years or less) shall be conducted followed by follow up action wherever required. Occupational Health center shall be established near the mine site itself.	center has been provided near the mines area.
20	Shelter belt that is wind break of 15 m width and consisting of at least five tiers around the lease facing the human habitation, school/agricultural fields etc. (if any in the vicinity) in the safety zone/backfilled and reclaimed areas, around voids and roads shall be raised. Green belt development and selection of plant species shall be as per CPCB guidelines. Density of the trees has to be around 2500 plants per hectare, herbs and shrubs shall also form a part of afforestation program besides tree plantation. Help and guidance of local DFO may be sought in the matter. Details of year wise afforestation program including rehabilitation of mined out area shall be submitted to the SEIAA, Orissa within six months.	<p>There is no such human habitation/schools etc. within the ML area. However, the project has covered all the sub-grade dumps with application of mixed grass seeds along the slopes to stabilize and also to reduce wash off in case of rains during monsoon.</p> <p>A safety zone of 7.5 m width around the ML boundary is being maintained. In this regard, the project has covered the dumps with application of mixed grass seeds along the slopes to stabilize and also to reduce wash off in case of rains during monsoon.</p> <p>The project has done 18,000 numbers of saplings in and around the ML area till the reporting period 2017-18. in safety zone, & peripheral area of ML. Copy of the same is attached as photo no. 08</p>
21	This environmental clearance is subjected to forest clearance under the Forest (Conservation) Act, 1980.	The lessee had applied for forest clearance over an area of 13.904 ha forest land including 1.214 Ha of safety zone for mining & its allied activities during 1st RML period under Forest Conservation Act 1980, for which it has got Stage-I Forest Clearance Vide letter No.10F (cons) 498/ 2011-17321/F & E on dated. 20.9.2014. Copy of the same is enclosed as Annexure –4.
22	The mining operation shall be restricted to above ground water	As such mining activity does not intersect ground water table of the area. The Ultimate working depth is 530 AMSL

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	table and it should not intersect the groundwater table.	which is far above the ground water level and ground water level exists 510 A MSL. Therefore, intersection of ground water table of the ML area will not occur.
23	The top soil shall temporarily be stored at earmarked site (s) only and it should not be kept unutilized for long (not more than 3 years). The topsoil shall be used for land reclamation and plantation.	There is no generation of the top soil during mining operations. In case of top soil generation 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 will be used for land reclamation and raising plantations.
24	The over burden (OB) generated during the mining operation shall be stacked at earmarked dump site(s) only and it should not be kept active for a long period of time and its phase-wise stabilization shall be carried out. Proper terracing of OB dump shall be carried out so that the overall slope shall not exceed 28°. Back filling shall be done as per approved mining plan. Back filling to start from 3rd year onwards of the mining operation and the entire quantity of waste shall be back-filled and liquidated within five years. There shall be no external OB dumps after the 6th year of the mining operations the backfilled area shall be afforested. Back-filling has to be done in a manner that it is restored to the normal ground level. Monitoring and management of Rehabilitated areas should continue till the vegetation is established and becomes self-generating compliance status to be reported to the appropriate authorities.	<p>There is one sub-grade dump which has grade value more than 45 % of Fe i.e. marketable grade. The sub-grades are stacked in an identified area inside ML area by maintaining with proper slope. Dump is also developed with garland drain and retaining wall at the base. Plantation of native species of different varieties of plants of 18, 000 species has been planted over waste dumps, safety zone & peripheral area of ML till 2017-18. Proper care and survival of vegetation is being carried.</p> <p>As per back filling, monitoring and management of rehabilitated area is concerned, we will abide by the conditions as per the approved mining scheme and progressive mine closer plan. Monitoring and management of rehabilitated areas will be continued until vegetation becomes self-sustaining.</p>

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25	The funds earmarked for the environment protection measures shall be judiciously utilized. Under no circumstances this funds shall be diverted for other purposes. Year wise expenditure for these funds should be reported to the SEIAA, Orissa.	The funds earmarked for environmental protection are being utilized for the same.
26	The critical parameters such as SPM, RSPM, and NO_x in the ambient air within the impact zone, peak particle velocity at 300 m distance or within the nearest habitation, whichever is closure 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 of the company in public domain. The circular no. J 20012/1/2006-1A.II (M) dated 27.05.2009 issued by Ministry of Environment and forest, which is available on the website of the Ministry www.envfor.nic.in shall also be refereed in this regard for its compliance.	All the critical parameters are being monitored like AAQ, Water Quality etc. and the data of the same is being displayed on a display board.
27	A final mine closer plan along with details of Corpus Fund shall be submitted to the SEIAA 5 years in advance of final mine closure for approval.	The Project has submitted a Bank guarantee of Rs. 42, 22,200 /- (Forty two lakhs twenty two thousand two hundred fifty rupees only) for rehabilitation 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 14.03.2018. A final mine closer plan along with detailed corpus fund will be submitted to

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		the ministry of Environment & Forest 5 years in advance of final mine closure for approval.
28	The project proponent shall obtained necessary prior permission of the competent authorities for drawl of requisite quantity of water (Surface water and ground water) required for the project.	The project proponent has already obtained NOC for withdrawal of ground water from Central Ground Water Authority.
29	The above mentioned stipulated conditions shall be complied in time bound manner. Failure to comply with any of the conditions mentioned above may result in withdrawal of this environmental clearance and attract action under the provisions of Environmental Protection (EP) Act, 1986.	We are abiding by the said conditions. We are submitting six monthly EC compliance reports once in a six month as per the schedule. The details have been enclosed as Annexure 5 .

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Annexure – 1

Sub-Grade Dump Details			
Sl. No.	Location	Area In Ha.	Material
1	Dump-1 (Near South eastern side of the lease)	0.733	Sub grade ore
2	Dump – 2 (Near pillar no.7)	0.037	Sub grade ore
3	Dump – 3 (On pit benches)	0.235	Sub grade ore

Retaining Wall Details				
Sl. No.	Location	Length	Width	Height
1	Dump – 1 (Near out gate, Nallah side)	58	1.2	2
2	Dump – 3 (Near pillar no.14 to 16)	209	1.2	1.3

Annexure – 2

Socio-Economic Development Activities:-

Infrastructure

- Provided materials for Street Light Connections in nearby villages.
- Repairing and black topping of Village Road connecting Road from Deojhar to Murgabeda. Repairing of interior village roads

Education

- The school at village Murgabeda got improved by providing the teaching facility with the appointment of teachers. Renovation of school building & compound wall.
- Additional teachers have been posted in the adjoining villages.
- Distribution of Uniforms, Books, slates, pencil, etc. to the school students.
- Mid-day meal is being provided at free of cost for class 9th & 10th at Deojhar High School.

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- Facilitating the Independence & Republic Day functions at adjoining schools by funding the entire celebration by extending various tournaments among school children.

Health

- Health-Check-up camp covering adjoining villages and free supply of medicines.
- Extending the Dispensary along with the ambulance facility to local villages with the availability Doctor & Staff and free medicine.

Drinking Water Facility & Sanitation

- 2 No's of deep bore wells got provided at village.
- Regular & periodical supply of drinking water to the adjoining villages with the water tankers.

Other peripheral activities

- Murga Mahadev Temple renovation work (Bathing area has been tiled & guard bars, Cloth changing room, Glazed tiled Bench, etc.) already completed
- Regular maintenance of temple housekeeping, etc.
- Guard wall at the bank of Mahadev –Nalla towards its protection.

Employment Opportunities

- Locals from adjoining villages are engaged in various activities of mines.
- Besides the above Temple maintenance staff comprises 3.No. of Lady Employees are from Local villages.
- Posting of additional teachers in schools from locality.
- Development of self-help groups for villagers is under planning.

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• **Year Wise Expenses**

CSR Expense Details					
Sl. No	Description	Expense (in Lakhs) 2013-2014	Expense (in Lakhs) 2014-15	Expense (in Lakhs) 2016-17	Expense (In Lakhs) 2017-18
1	Infrastructure	1.33	0	0	0
2	Education	2.92	1.9	3.21	1.84
3	Health	4.10	3.2	4.61	3.66
4	Drinking Water Facility	1.96	1.5	0.12	0
5	Social welfare	2.00	1.2	0.98	1.64
6	Employment	37.78	28.86	0	0
7	Total	50.09	36.66	8.92	7.14

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Annexure -3 - Site Specific Wildlife conservation Plan approval letter

OFFICE OF THE PRINCIPAL CCF (WILDLIFE) & CHIEF WILDLIFE WARDEN, ORISSA 5TH FLOOR, B.D.A. APARTMENT, PRAKRUTI BHAWAN, NILAKANTHA NAGAR, BHUBANESWAR- 751012.

Memo No. 1242 Dt. 15.2.10
1WL-C-FC- 533/09

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

Sub: Approval of Site Specific Wildlife Conservation Plan for Murgabeda Iron Ore Mines by Sri D.R. Patnaik in Keonjhar Forest Division of Keonjhar district

Sir,

I am directed to inform you that the Site Specific Wildlife Conservation Plan for Murgabeda Iron Ore Mines by Sri D.R. Patnaik in Keonjhar Forest Division of Keonjhar district has been approved by PCCF(WL) & Chief Wildlife Warden, Orissa with revised financial forecast of Rs.38.70 lakhs for the following activities.

1. For activities to be implemented by User agency in project area	Rs. 13.30 lakhs.
2. For activities to be implemented by DFO, Keonjhar division in project impact area.	Rs. 25.40 lakhs.
Total	Rs. 38.70 lakhs

Various activities in the lease hold area will be executed by User Agency under the guidance of DFO, Keonjhar Division. Rs.25.40 lakhs may be deposited with DFO, Keonjhar division for implementation of various activities with-in the project impact area.

Conservator of Forests (WL)

Memo No. 1243 dt. 15.2.10
Copy forwarded to the DFO, Keonjhar Division for information & necessary action with reference to Memo No. 3622 dt. 13.10.09 of CF, Keonjhar Circle.

Conservator of Forests (WL)

Memo No. 1244 dt. 15.2.10
Copy forwarded to CF, Rourkela Circle for information & necessary action with reference to his Memo No.3620 dt.13.10.09.

Conservator of Forests (WL)

Memo No. 1245 dt. 15.2.10
Copy forwarded to Sri D.R. Patnaik, Keonjhar, Orissa for information.

Enc. One No. appraised S.S. WL Conservation Plan.

Conservator of Forests (WL)

P.K. Sarangi IFS (Retd.)

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Annexure - 4 Forest clearance letter

Government of Odisha
Forest & Environment Department
-0-

No.10F (Con) 498/2011 17321 /F&E, Bhubaneswar, dated the 20-9-14

From Dr. Debabrata Swain, IFS
Special Secretary to Government

To **The Principal Chief Conservator of Forests, Odisha**


Sub: Proposal for diversion of 13.904 ha. of forest land including 1.214 ha. of forest land for safety zone in Murgabeda Iron Ore Mines in village Deojhar of Barbil Tahasil in Keonjhar district, Odisha for mining and allied activities during 1st RML period by Sri D.R. Patnaik

Sir,

I am directed to enclose herewith the Stage-I approval order of Government of India, MoEF&CC, Eastern Regional Office vide letter No. 5-ORC209/2014-BHU dt. 5.9.2014 for diversion of 13.904 ha. of forest land including 1.214 ha. of forest land for safety zone in Murgabeda Iron Ore Mines in village Deojhar of Barbil Tahasil in Keonjhar district, Odisha for mining and allied activities during 1st RML period by Sri D.R. Patnaik. In the above said Stage-I approval order, there is no order for transferring the forest land in favour of the user agency for which proposal was earlier recommended by the State Government to Government of India, MoEF, Eastern Regional office vide letter No. 9074/F&E dt 16.5.2014. The Stage-I approval order referred to above indicates that Government of India, MoEF&CC, Eastern Regional Office, agrees for diversion of above extent of forest land subject to compliance of 27(Twenty seven) no. of conditions by the user agency so as to consider the case for Stage-II(Final) forests clearance for this project.

Besides the conditions imposed by the Government of India, MoEF&CC, Eastern Regional Office, in their Stage-I order, the following additional conditions are also imposed by the State Government for compliance by the user agency.

- 1.818ha. of land including 1.214ha. of Forest Land earmarked as Safety zone shall be maintained as such. Under no circumstances, the safety zone area shall be used for mining and other allied activities.
- Durable 4' height RCC pillars and 2' embedded in the soil are to be constructed on the boundary line of the mining lease area and on the boundary line of forest area within the lease at the cost of User Agency. The forward bearing, backward bearing, pillar No. are to be mentioned on the pillars clearly. The DGPS reading for each and every pillar shall be submitted to . Divisional Forest Officer, Keonjhar for reference and record.
- The User Agency shall implement at their project cost the Site Specific Wildlife Plan in their leasehold area already by the Chief Wildlife Warden, Odisha at project cost.
- The User Agency shall pay towards cost of removal of trees enumerated before commencement of work on Stage-II approval and tree felling should be allowed in phases strictly as per requirement
- The user agency shall pay the differential contribution towards implementation of the Regional wildlife management plan for Keonjhar-Bonai region as per the revised rate..
- The user agency shall obtain Post-facto permission of Government of India, MoEF for transfer of lease from Sri Niranjana Patnaik to Sri D.R. Patnaik
- User agency shall furnish the exact land schedule of forest land proposed for diversion duly authenticated by the DFO, Keonjhar and Tehsildar concerned.



*11/10/2014
+ 29-9-2014
out to K.K.P. DRP*

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Annexure – 5 EC Compliance submission details

EC Compliance submission Details		
Sl. No.	Period	Date of Submission
1	April 2017 to September 2017	25.11.2017
2	October, 2016 to March, 2017	26.05.2017
3	April, 2016 to September, 2016	19.11.2016
4	October, 2015 to March, 2016	25.05.2016
5	April, 2015 to September, 2015	16.11.2015
6	Oct 2014 to March, 2015	25.05.2015
7	Apr, 2014 to Sep, 2014	22.11.2014
8	October 2013 to March 2014	25.05.2014
9	April 2013 to September 2013	25.11.2013
10	October 2012 to March 2013	25.05.2013
11	April 2012 to September 2012	25.11.2012

Reporting Period: October- 2017 to March- 2018

**STATUS OF ENVIRONMENTAL CLEARANCE CONDITIONS – “MURGABEDA IRON
ORE MINE –PROJECT OF M/S. D. R. PATNAIK” LOCATED NEAR VILLAGE
MURGABEDA (THAKURANI R.F.) OF KEONJHAR DIST., ODISHA**

Annexure – 6A AAQ Locations

Details of Ambient Air Quality Monitoring Stations		
Identification/ Abbreviation of air Quality Sampling Stations.		
Station No.	Identification	Location
1	A1	Mines-site-office
2	A2	Village- Murgabeda
3	A3	Village - Boneikela
4	A4	Village - Bhadrasahi

Annexure – 6B – AAQ Monitoring data

Murgabeda Iron Ore Mines of Shri. D.R Patnaik						
Summarized Monthly Average Ambient Air Quality Monitoring Report						
Sampling Location	Month	Ambient Air Quality Parameters in $\mu\text{gm}/\text{m}^3$				
		Range	P.M-10	P.M.-2.5	SO₂	NO_x
Deojhar Village	Nov-17	Avg.	65.88	25.13	10.48	11.69
	Dec-17	Avg.	64.88	24.63	9.51	10.81
	Jan-18	Avg.	64.63	23.88	9.45	10.64
Mahadev Nasa Village	Nov-17	Avg.	65.00	22.50	9.49	10.63
	Dec-17	Avg.	58.50	18.50	9.61	10.88
	Jan-18	Avg.	52.75	16.00	10.01	11.19
Boneikela Village	Nov-17	Avg.	61.13	17.13	9.40	10.51
	Dec-17	Avg.	66.75	20.50	9.11	10.13
	Jan-18	Avg.	69.25	22.63	10.04	11.11
NOTE – The monitoring and analysis is carried by B. S. Envi-Tech Pvt. Ltd., Secunderabad, which is a NABL Accredited Laboratory						

Reporting Period: October- 2017 to March- 2018

**STATUS OF ENVIRONMENTAL CLEARANCE CONDITIONS – “MURGABEDA IRON
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Photos



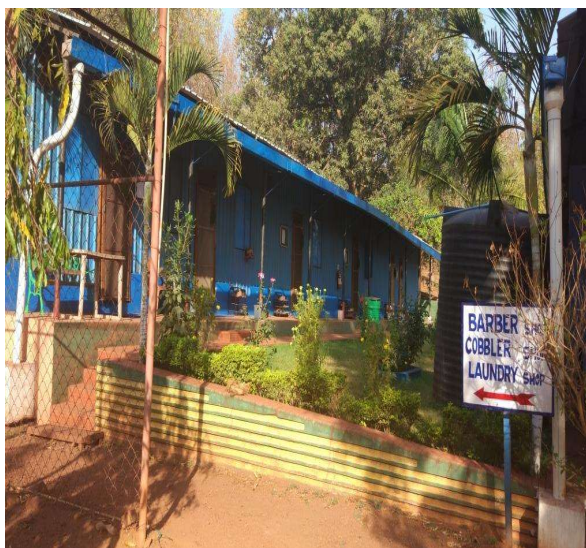
Pic 1- Retaining Wall constructed at the base
Of sub-grade dump



Pic 2- dump stabilization with plantation



Pic 3- Provision of guard wall all along the
Nallahs



Pic 4- Roof Top Rain water Harvesting
Structure

**STATUS OF ENVIRONMENTAL CLEARANCE CONDITIONS – “MURGABEDA IRON
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Pic 5- Black Top Road for mineral dispatch



Pic 6- settling pond and check dam.



Pic 7- Check weirs near bank of Nallah



Pic 8- Safety Zone Plantation