



Ref: MCL/OA/RSA/SAM/2020-21/ 68

Date: 12/05/2020

To,
**The Chief Conservator of Forest,
Ministry of Environment & Forest,
Regional Office (Eastern Zone),
A/3, Chandrasekharapur,
Bhubaneswar-751023, Odisha.
E-mail-mef@ori.nic.in.**


Sub: Submission of Half Yearly (October 2019 to March 2020) Compliance Report of the conditions stipulated in the Environment Clearance in respect of Hirakhand Bundia Mine, Orient Area, MCL from (October 2019 to March 2020)

Dear Sir,

Enclosed please find herewith a copy of Half Yearly Compliance Report of the conditions stipulated in the Environment Clearance (EC) as per condition no. xvii of General Conditions of Environment Clearance in respect of Hirakhand Bundia Mine, Orient Area, MCL for your kind information.

Thanking you,

Yours faithfully,

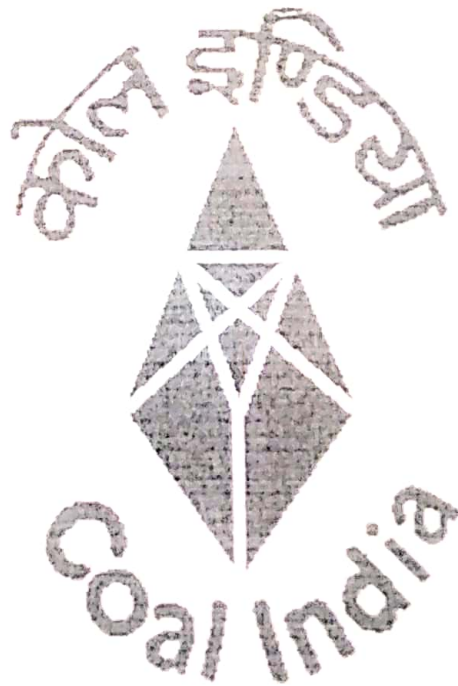

Sub-Area Manager
Hirakhand Bundia Mine,
Rampur Sub-Area, MCL.
Sub-ଫୋନ୍ ରାମପୁର
Rampur Sub-Area
ରାମପୁର ଓପ-ଫୋନ୍

Copy to:

1. Director, EIA Monitoring Cell,
Ministry of Environment, Forest and Climate change,
Indira Paryavaran Bhavan,
Jorbagh Road, New Delhi-110003.
2. The Member Secretary,
Orissa State Pollution Control Board,
Paribesh Bhawan, A/118,
Nilakantha Nagar, Unit-VIII,
Bhubaneswar-751012, Odisha.
3. Regional Officer,
State Pollution Control Board (Odisha),
Plot No-370/5971, Babubagicha (Cox Colony),
St. Marry Hospital Road,
Post- Industrial Estate,
Dist- Jharsuguda, Odisha.
4. CGM (Env.), MCL, SBP for kind information.
5. GM, Orient Area for Kind information.
6. NO (env.), Orient Area, MCL.
7. NO (env.), HBM, RSA.
8. Office copy.

**HALF YEARLY COMPLIANCE
REPORT
OF ENVIROMENTAL CLEARANCE
CONDITIONS
(OCTOBER'2019 TO MARCH'2020)**

**HIRAKHAND BUNDIA U/GMINE, (0.95 MTPA)
ORIENT AREA.**



MAHANADI COAL FIELDS LIMITED

HALF YEARLY COMPLIANCE REPORT OF ENVIROMENTAL CLEARANCE CONDITIONS

(HALF-YEARLY ENDING MARCH '2020)

Name of the Project: Hirakhand Bundia Mine, MCL (0.95 MTPA)

No. & date of MOEF clearance: letter No. J-11015/651/2007-IA.II(M) Dated 26th February, 2013

PRESENT STATUS OF PROJECT:-

Hirakhand Bundia Mine coal production for the year 2019-20 is **0.395300 MT**. Production capacity for which EC is granted is **0.95 MTPA**.

A. Specific Conditions:

Condition No.	Conditions stipulated in the EC	Compliance
(i)	Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural drainage pattern, water bodies, vegetation, structure, roads, and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures shall be taken to avoid loss of life and material. Cracks shall be effectively plugged with ballast and clayey soil/suitable material.	Not applicable as no depillaring operation has been commenced in the mine.
(ii)	No mining shall be carried out in the area which does not have valid Forestry Clearance.	Stage-I FC has been obtained for the mine and Stage-II/ Final FC is under process. Presently mining operation is being carried out as per order of the Hon'ble Supreme Court of India. Letter no. for Stage-I clearance is F.No. 8-82/2012-FC, dtd.29/01/2013.
(iii)	Mining shall be carried out as per statute at a safe distance from the river/nallah flowing adjacent to the lease boundary.	Mining is being carried out as per statute at a safe distance from Ib-river flowing adjacent to the lease boundary. As per CMR 2017Reg.149(6)(b) no workings shall be made in mine vertically below any spot lying within horizontal distance of 15m from either bank of river or canal. But the distance of river from mouth of Incline is 345mtrs which is far greater than safe distance as per statute.

(iv)	High root density tree species shall be selected and planted over areas likely to be affected by subsidence.	Adequate numbers of high root density tree species have been planted over the areas likely to be affected by subsidence. At present no suitable land is available for plantation within the lease hold area of the mine. Major species planted include Karanj, Chakunda, Ber, Kaju, Hybrid Mango, Guava, and Jungle Jalebi.
(v)	Coal extraction shall also be optimized in areas where agricultural production is continuing. Some pillars shall be left below the agricultural land. No coal depillaring shall be undertaken below areas of habitation.	No depillaring operation has been carried out so far below agricultural land, villages and other surface structures.
(vi)	Subsidence shall be monitored closely and if subsidence is found exceeding the permitted limits, then the land owners shall be adequately compensated with mutual agreement with the landowners.	As yet no depillaring operation has been done in the mine. So, no subsidence yet occurred.
(vii)	Garland drains (size, gradient and length) around the safety areas such as mine shaft and low lying areas and sump capacity shall be designed keeping 50% safety margin over an above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. Sump capacity shall also provide adequate retention period to allow proper settling of silt material.	Garland drains have been provided around mine openings. Sumps of adequate capacity have been established below ground keeping in view of maximum rainfall & adequate retention time, sufficient number of pumps of adequate capacity have been installed below ground. Length of surface garland drain= 586mtr. Sump Capacity=10 Million Gallon Pump capacity= 1000GPM (02 nos. of pumps used for surface discharge)
(viii)	Water sprinkling system shall be provided to check fugitive emissions from loading operations, conveyor system, haulage roads, transfer points, etc. Major approach roads shall be black topped and properly maintained.	To check fugitive emissions water sprinkling system has already been provided at loading points, conveyor system, haulage roads and transfer points. Major approach roads have been black topped and maintained. Length of black topped road where water sprinkling is carried out is 1300mtrs.
(ix)	A progressive afforestation plan shall be prepared and implemented over the mine lease area acquired and shall include areas under green belt development, areas along roads, infrastructure, along ML boundary	Adequate plantation has been done in the mine lease area as per the advice of forest department. Block plantation has been developed during 2005-06 to 2011-12 by planting a total of 1, 54,575

	and township etc, by planting native species in consultation with the local DFO/ Agriculture Department.	saplings covering an area of 63.83 ha which includes avenue plantation of 3200 saplings. Besides, 1500 saplings were supplied plantation in the School Premises of Rajpur, Loisingh, Chandinimal, Kudopali and Gourmal Gram Panchayat during 2014-15. The species include: Karanj, Chakunda, Ber, Kaju, Hybrid Mango, Guava, Jungle Jalebi etc. Distributed 50,000 mango saplings in near- by rural schools of Jharsuguda district during 2015-16. The details of plantation are provided at Annexure – ‘A’ .
(x)	Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board quarterly within one month of monitoring.	The groundwater level from three wells of the nearby villages is being monitored by CMPDIL. As per the data the maximum level was 1.35m (bgl) at Kudopali village well and minimum was 4.22m (bgl) at Anapali village well. Water is supplied to Bundia and Kudopali villages. Water level monitoring data is attached in Annexure-B . Maximum and minimum difference in water level between November and February is 1.17m at Chingriguda village well and 0.69m at Anapali village well respectively. Ground water level is also being monitored by piezometers.
(xi)	The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource, in case water table shows a declining trend. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.	No incident of drying of drinking water well in the nearby village has been reported or observed. Moreover, water to nearby villages is supplied by the project as and when required. Drinking water is supplied departmentally to Bundia village, Sukupada village and kartikpada village daily through pipelines/water tankers and supplied to Bundia colony through Bundia filter plant.
(xii)	Besides carrying out regular periodic health checkup of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health checkup for	Regular health checkup for occupational diseases in respect of all workers engaged in mining operations is being conducted at NSC Hospital by ILO trained doctors as per Mines Rules'

	occupational diseases and hearing impairment, if any, through an agency in the district State and the results reported to this Ministry and to DGMS.	1955 at five and 3 year intervals. PME includes health checkup for occupational diseases and hearing impairment. PME report is being accepted by DGMS <table border="1"> <thead> <tr> <th>Year</th> <th>Periodical Medical Examination</th> <th>Initial Medical Examination</th> </tr> </thead> <tbody> <tr> <td>2017</td> <td>375</td> <td>00</td> </tr> <tr> <td>2018</td> <td>260</td> <td>00</td> </tr> <tr> <td>2019</td> <td>276</td> <td>00</td> </tr> </tbody> </table>	Year	Periodical Medical Examination	Initial Medical Examination	2017	375	00	2018	260	00	2019	276	00
Year	Periodical Medical Examination	Initial Medical Examination												
2017	375	00												
2018	260	00												
2019	276	00												
(xiii)	Activities under CSR undertaken for the neighbouring villages shall be for not less than Rs 5/tonne of coal and the progress made thereon shall be uploaded by the company annually on the company website.	Adequate fund has been allocated for activities under CSR scheme of MCL which is being done in the neighboring villages. CSR expenses is being carried by Orient Area as a whole and also by MCL HQ. CSR expenses for the period 2019-20 of Orient Area=18.55 Lakh (Orient Area)												
(xiv)	A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.	A Progressive Mine Closure Plan has already been submitted to the Ministry of Environment & Forests. The Final Mine Closure Plan along with details of Corpus Fund shall be submitted to MOEF 5 years in advance of final mine closure for approval.												

B.General Conditions:

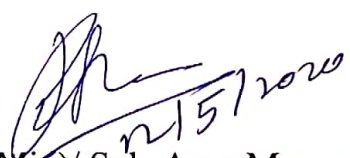
Condition No.	Conditions stipulated in the EC	Compliance
(i)	No change in technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.	There has been no change in mining technology and scope of working so far.
(ii)	No change in the calendar plan including quantum of mineral coal and waste being produced shall be made.	There has been no change in calendar plan of extraction quantum of coal. Coal production 2017-18=4,45,550te Coal production 2018-19=3,87,401te Coal production 2019-20=3,95,300te
(iii)	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring PM ₁₀ , PM _{2.5} , SO ₂ and NO _x . Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically	Four Ambient air quality monitoring stations have been established at Hirakhand Bundia Mine in consultation with State Pollution Control Board. The data show that SPM ranged from 148 µg/m ³ to 310 µg/m ³ , RPM (PM ₁₀) 98 µg/m ³ to 258 µg/m ³ and PM _{2.5} from 13µg/m ³ to 68µg/m ³ . The details

	sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, in particulates shall be carried out at least once in six months.	of AAQ data are attached in Annexure - C .
(iv)	Data on ambient air quality (PM ₁₀ , PM _{2.5} , SO ₂ and NO _x and heavy metals such as Hg, As, Ni, Cr, etc) and other monitoring data shall be regularly submitted to the Ministry including its Regional Office at Bhubaneswar and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognized under the EP Rules, 1986 shall be furnished as part of the compliance report.	Data of ambient air quality is being submitted (half yearly) to MOEF, State Pollution Control Board & Central Pollution Control Board. The data of AAQ monitoring is attached in Annexure - C .
(v)	Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.	Adequate measures have been taken under CMR, 2017 & relevant DGMS circulars to reduce noise level below 85 dBA at the working places. Noise level is monitored at Hirakhand Bundia Mine and as per the data the minimum and maximum noise levels are: 64.7 dBA and 69.7 dBA during day time and 60.1 dBA and 65.2 dBA during night time. The monitoring data of noise is attached in Annexure - D .
(vi)	Industrial waste water (workshop and waste water from the mine) shall be properly collected, and treated so as to conform to the standards including for heavy metals before discharge prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluents.	Underground Mine. No waste water is discharged from workshop. Waste water from the mine is collected in sedimentation ponds and treated suitably (with alum dosing etc.) before being allowed to discharge on ground.
(vii)	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transportation of the mineral shall be covered with tarpaulins and optimally loaded.	Vehicular emissions kept under control by regular checking of exhaust emissions by state authority. Vehicles used for transporting coal are optimally loaded and covered with tarpaulins before they are dispatched.

(viii)	Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analyzed through a laboratory recognized under EP Rules, 1986.	Environmental monitoring work is being done through CMPDIL having adequate laboratory facilities as required by State Pollution Control Board.
(ix)	Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.	Persons working in dusty areas are provided with dust masks and educated on health and safety aspects through training.
(x)	Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed.	Periodical occupational health checkup of all workers is carried out once in every five years regularly and corrective measures are being taken as and when necessary.
(xi)	A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the company.	A separate environment management cell headed by GM (Envt.) at Company HQ who reports directly to DT (P&P) of Company.
(xii)	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its Regional Office at Bhubaneswar.	Funds earmarked for environmental protection measures are kept in a separate account head of "Environment". Year-wise expenditure is reported to MOEF, State Pollution Control Board by Company HQ.
(xiii)	The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days 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 may also be seen at the website of the ministry of Environment & Forests at http://envfor.nic.in	Advertisement relating to the fact that the project has been accorded environmental clearance was made in the Oriya daily "DHARITRI (Sambalpur)" and English Newspaper "NEW INDIAN EXPRESS (Bhubaneswar)" on Dtd.05.03.2013.

(xiv)	A copy of the environmental clearance letter shall be marked to concerned Panchayat/Zila Parishad, Municipal Corporation or Urban Local Body and local NGO, if any, from whom any suggestion/ representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on the company's website.	A copy of environmental clearance has been given to the concerned local panchayats and Municipal Corporation and also displayed on the company's website.
(xv)	A copy of the clearance letter shall be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Centre and Collector's Office/Tahsildar's Office for 30 days.	A copy of the clearance letter has been sent to the State Pollution Control Board, Odisha, Bhubaneswar Regional Office, District Industry Centre, Collector's Office and Tahsildar's Office, Jharsuguda for display of such clearance.
(xvi)	The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in the public domain. The monitoring data of environmental quality parameters (air, water, noise and soil) and critical pollutants such as PM ₁₀ , PM _{2.5} , SO ₂ and NO _x (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mines office and in corporate office and on the company's website.	The environmental clearance letter has been uploaded on the company's website. The monitoring data of environmental quality parameters is being displayed at the entrance of the project premises and mines office and in corporate office and on the company's website.
(xvii)	The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the MOEF, the respective Zonal offices of CPCB and the SPCB.	Six monthly reports on the status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) is being submitted to the respective Regional Office of the MOEF, the respective Zonal offices of CPCB and the SPCB.
(xviii)	The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the	The requisite data/ information/ monitoring reports are being furnished to the Regional Office of MOEF, Bhubaneswar.

	requisite data/ information/monitoring reports.	
(xix)	The environmental statement for each financial year ending 31st March in Form-V 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 uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MOEF by E-mail.	The environmental statement for financial year ending 31 st March'2019 in Form-V has been submitted to State Pollution Control Board, Odisha, Bhubaneswar vide letter no. MCL/HQ/ENVT&FOREST/2019/3452 dated 09/09/2019 and shall be so continued in future also.


 21/5/2020
 Chief Manager (Min)/ Sub-Area Manager,
 Hirakhand Bundia Mine,
 Rampur Sub-Area.
 Sub-Area Manager
 उप-क्षेत्र प्रबंधक
 Rampur Sub-Area
 रामपुर उप-क्षेत्र

FORM -I

**MINISTRY OF ENVIRONMENT & FOREST
REGIONAL OFFICE
MONITORING PROFORMA PART-I (DATA SHEET)**


1. Project Type: River-Valley/Mining Industry/Thermal /Nuclear/Other (Specify) : Mining Industry (COAL)
2. Name of the Project : Hirakhand Bundia Mine (0.95MTPA)
3. Clearance Letter(s) OMno .&Date : J-11015/651/2007-IA.11 (M) Dated 26/02/2013
4. Location : Dist: Jharsuguda, Odisha.
- (a) District(s), State(s)
5. a) Address of concerned project Chief Engineer (with pin code and telephone/telex/Fax nos. **Tel. no.06645-244684**) : **Office of the Colliery Manager, Hirakhand Bundia mine, at/PO: Kudopali, Dist: Jharsuguda, Odisha, Pin: 768216,**
- b) Address of Executive project Engineer/Manager (with pin code and telephone/telex/Fax nos.) : -do-
6. Salient Feature:
- a. of the project : Start of mine –Opened on dtd.01.02.1980;
- Production started on dtd.23.04.1982
- Mine lease area- 422.350 Ha
Coal reserve-33.227 Million Tonne
(As on 01/04/2020)
Extractable reserve-23.947 Million Tonne
(As on 1.4.2020)
The Grade of coal- G-13 (from 01/04/2020)
Mining Technology: Bord&Pillar with LHDs.
Targeted output- 0.95 MTPA of augmented project
Life of mine- 26 years from 28/08/2009
- b. of the Environmental Management plans : **Coal extraction from panels shall be done alongwith sandstowing to prevent damage to forest land due to**
- Subsidence which shall be limited to 1877mm**
7. Break up of the project area : **Total Mine lease area- 422.350 Ha**
- a. Submergence area (Forest and Non-Forest) : **Forest – 139.680Ha**
Non-Forest - 246.285 Ha (Govt. plus tenancy)
- b. Others : **Agricultural- 35.385Ha, Surface water bodies-1.0 Ha.**

(Cont.....P/2)

8. Break up of project affected population with enumeration of those losing house/dwelling units only, agricultural land only, both dwelling unit and agricultural land and land less laborers/artisans. : NA
- a. SC, ST/Adivasis : NA
- b. Others : NA
9. Financial Details:
- a) Project cost as originally planned and Subsequently estimates and the year of price reference. : P.R- 1982. Project cost -lakhs
F.R.1994-95 –do-Rs.0.29 lakhs
F.R.Nov.2013 –do-Rs.205.16 lakhs
- b) Allocation made for environmental management plans, with item –wise and year wise break-up. : ECO development cost- Rs271.55 lakhs
Subsidence Management Cost- Rs 208.88 lakhs
Anti-pollution measurement Cost-Rs 62.67lakhs
- Cost of strengthening of existing forest land on surface- Rs 52.50 lakhs
- c) Benefit cost ratio/internal rate of return and the year of assessment : Cost Rs. 4175.49/te,
Profit/Loss Rs.-2356.81/te (Loss) in 2019-20
- d) Whether 9 c) includes the cost of environment management plans so far :
- e) Actual expenditure incurred on the project :
- f)Actual expenditure incurred on the Envnt. Mgmt plans, so far : Miscellaneous Cost like subsidence prediction studies etc. Rs Lakhs
TOTAL- Rs. Lakhs
: 139.680 Ha.
: Stage-I Forest Clearance for 1300.935 Ha of forest land for U/G mining including 99.06 ha of
- 10.Forest land requirements
- a) The status of approval of a diversion of forest land non-forestry use, forest land for surface breaking has been obtained for O.C-Mine No.1&2, O.C-Mine No.3, HBM & HRC (Combined). Stage-II Forest Clearance is under process : Stage-I Forest Clearance for 1300.935 Ha of forest land for U/G mining including 99.06 ha of
- b) The status clear felling : Nil.
- c) Comments on the viability and Sustainability programme in the light of actual field experience so far :
11. Status of construction
- a) Date of commencement (Actual and /orplanned) : dtd.01.02.1980
- b) Date of completion (Actual and /orplanned) : completion planned in the year 2035

(Cont.....P/3)

- 12. Reason for the delay if the project is yet to start : NA
- 13. Date of site visit : Inspected by officials from OSPCB, Jharsuguda on Dated: 30/01/2017
- a) The date on which the project was monitored : Dtd.30/01/2017
- b) Date of visit for this monitoring report :
- 14. Details of correspondence with project authority for obtaining action, information and status of compliance to safe guard :


Chief Manager (Mining) Sub-Area Manager,
Hirakhand Baidia Mine,
Rampursub-Block

RECEIVED
30/01/2017
OSPCB
JHARSUGUDA

FORM-II


PROFORMA FOR PROVIDING INFORMATION ON REHABILITATION

1. No. of villages affected : Nil (Rehabilitation Plan not applicable)
2. Families affected : SC- NIL, ST- NIL, OTH- NIL, Total- NIL
3. Compensation package offered per family :

State/Centre norms	Project Package
As per state Govt. Package	NA

4. Budget estimate for rehabilitation : NA
a) Total Outlay : NA
b) Amount paid/used. : NA
5. Employment details :
a) Total employment to be provided : NA
b) Employment given so far. : NA
6. Rehabilitation & Resettlement details : NA
a) Nos. of families rehabilitated : NA
i. Name of the site : NA
ii. Families rehabilitated : SC- NIL, ST- NIL, OTH- NIL, Total- NILb)
Families yet to be rehabilitated : NA
i. Name of site : NA
ii. No. of families : SC- NIL, ST- NIL, OTH- NIL, Total- NIL

Any other information:


Chief Manager (Min) Sub-Area Manager,
Hirakhand Bund Mine,
Rampur Sub-Area
उप-क्षेत्र
Rampur Sub-Area
रामपुर उप-क्षेत्र

FORM-III**FORMAT FOR PROVIDING PARTICULARS ON GREEN BELT/PLANTATION UNDER F C ACT, 1980 AND E (P), ACT, 1986**

1. a. Name of Organization : Hirakhand Bundia Mine, Orient Area, MCL.
 b. Evt. Clearance order No. : No. J-11015/651/2007-1A.II (M),
 Dated: 26/02/2013
 c. Forest Clearance order No. : F.No. 8-82/2012-FC, dtd.29/01/2013 for
 Stage-I FC.
2. Location, Block/Sub Division/ : Village- R Kudopalli, Block- Brajrajnagar
 Dist/State Sub Division- Jharsuguda,
 Dist- Jharsuguda, State- Odisha.
3. Address for communication : Colliery Manager, M/s Hirakhand Bundia Mine,
 Orient Area, MCL.
 P.O- Rampur Colliery,
 Dist: Jharsuguda (Odisha),
 Pin-768225.
4. Existing vegetation in the area/region :
 a. Species (Trees/shrub/Grasses/climbers) : Trees, Shrub, Grasses & Climbers
 b. major prevalent species of each type :
5. Land coverage by the project : **Total Mining Lease Area-422.35 Ha.**
 a. Total area under the project : **422.35 Ha.**
 b. Area covered for basic infrastructure : **7.62 Ha. (Infrastructure-5.12 Ha & road-2.5 Ha)**
 (road, building/factory etc.)
6. Details about natural vegetation :
 a. Name and number of tree/species felled : Nil
 b. Name and number of plants species still : NA as this is an underground mine.
 available in the area.
 c. By protecting the area will indigenous :
 d. Extent of green belt developed : 63.83 ha. for Orient Area
7. Plantation required to be carried out as per :
 a. Condition of Environment : As per stipulated condition no. ix (of
 specific conditions of EC)
 (Clearance in Ha/No. of plants/Ha) : 2500 no. of plants/Ha.
 b. Condition of Forest Conservation Act, :
 forest clearance in Ha/No.
 c. Voluntarily in Ha./No. : 2500 no. of plants /Ha.

8. Details about plantation

a. Total area available for plantation in the year 2019-20 in each category.

i. Green belt	ii. Ext. dump	iii. B/Farea	iv. Road sides	v. Block plantations
Nil	Nil	Nil	Nil	Nil

b. Plantation details (Category wise & methodology used)

Year of plantation	Species planted	Spacing	Height attained	Total area covered till March'2013	Proposed plantation programme in 2020-21
1992 to 2020	Given in Annexure-A	2m X 2m	1.5m to 8m	63.83 ha. for Orient Area	Nil

c. Survival % of plantation (for last five years) : 82.32 % to 86.56 % after 3 years of maintenance activity for such plantation.

9. Agency carrying out plantation and maintenance: ChattisgarhRajya Van Vikash Nigam, Korba, (CG) & Orissa Forest Development Corporation Ltd., Jharsuguda (C -KL) Division.

10. Financial Details.(Year wise and item wise)

Sl. No.	Year	Fund allocated (in Rs. for 03/05 years)	Expenditure made in Rs. for 03/05 years	Average cost of each surviving plants in Rs. (plantation scheme valid for 3 years & w.e.f. the year 2011-12 valid for 5 years)
1	1992-93	Nil	Nil	Nil
2	1993-94	Nil	Nil	Nil
3	1994-95	Nil	Nil	Nil
4	1995-96	Nil	Nil	Nil
5	1996-97	Nil	Nil	Nil
6	1997-98	Nil	Nil	Nil
7	1998-99	Nil	Nil	Nil
8	1999-00	Nil	Nil	Nil
9	2000-01	Nil	Nil	Nil
10	2001-02	Nil	Nil	Nil
11	2002-03	Nil	Nil	Nil
12	2003-04	Nil	Nil	Nil
13	2004-05	Nil	Nil	Nil
14	2005-06	590572.57	466868	44.33
15	2006-07	2294746.18	2248370	59.70
16	2007-08	636000	620566	60.31
17	2008-09	1041224.5	1041224.5	46.28
18	2009-10	760592	760592	41.83
19	2010-11	957600	957600	68.40
20	2011-12	1314800	1314800	113.34
21	2012-13	Nil	Nil	Nil
22	2013-14	Nil	Nil	Nil
23	2014-15	46,500	46,500	31.00
24	2015-16	Nil	Nil	Nil
25	2016-17	Nil	Nil	Nil

26	2017-18	Nil	Nil	Nil
27	2018-19	Nil	Nil	Nil
28	2019-20	Nil	Nil	Nil


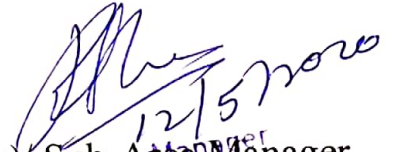
10. Inspection of plantation by fields experts and their comments and followup action.

: Inspected by Plantation Monitoring Committee of the District Environment Society, Jharsuguda accompanied by Sri N C Senapaty, N O (Envt.), Orient Area, MCL on dtd.26/11/2014.

11. Remarks/any other information.

: Orient Area, MCL may be assigned to take up Plantation outside the lease area.

Date:



 Chief Manager (Min) Sub-Area Manager,
 Hirakhand Bundia Mine
 Rampur Sub-Area
 12/5/2020
 रमपुर उप-क्षेत्र

(Annexure-A)

NAME OF THE SPECIES PLANTED IN AND AROUND HIRAKHAND BUNDIA MINE

Sl. No.	Local Name of Species
1	Karanj
2	Chakunda
3	Guava
4	Ber
5	Kaju
6	Jungle Jalebi
7	Hybrid Mango

MANGO SAPLINGS DISTRUBUTED BY ORIENT AREA DURING 2015-16

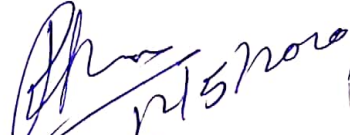
Sl. No.	Local Name of Species	Quantity
1	Mango(Langra)	10000
2	Mango (Amrapali)	10000
3	Mango (Mallika)	10000
4	Mango (Himsagar)	10000
5	Mango (Golapkhash)	10000

PLANTATION WORK UNDERTAKEN IN ORIENT AREA, MCL SINCE 2005-06

Year of plantation	No. planted		Total plantation area in Ha.
	Block plantation	Avenue plantation	
2005-06	18,400	1,600	8.36
2006-07	50,475	Nil	22.43
2007-08	12,500	Nil	5.00
2008-09	22,500	Nil	9.0
2009-10	22,000	Nil	8.80
2010-11	14,000	Nil	5.6
2011-12	10,000	1,600	4.64
2014-15	1,500	Nil	Within School Premises of Rajpur, Loisingh, Chandinimal, Kudopali and Gourmal Gram Panchayat
2015-16	NIL	NIL	Distributed 50,000 mango saplings in near- by rural schools of Jharsuguda district during 2015-16.
2016-17	NIL	NIL	Non availability of suitable land for plantation. However we requested Tahsildar (Jharsuguda) with a copy to District Collector (Jharsuguda) to provide suitable land for undertaking plantation activity.
2017-18	NIL	NIL	
2018-19	NIL	NIL	
2019-20	NIL	NIL	
Total	1,54,575		

100010M ESTA-due
 11-12-2018
 11-12-2018
 11-12-2018

Mahar


 Chief Manager (Min) Sub Area Manager,
 Hirakhand Bunkha Mine,
 Rampur Sub Area,
 Rampur Sub Area.
 रामपुर जय-क्षेत्र

(Annexure- B)

WELL WATER LEVEL MONITORING DATA
HirakhandBundia Mine, MCL.

Name of the Station	Date of sampling	Depth to Water Level (in m. bgl)
Kudopali Village well	26-11-19	2.46
Anapali village well	26-11-19	3.53
Chingriguda village well	26-11-19	2.90
Kudopali Village well	19-02-20	1.35
Anapali village well	19-02-20	4.22
Chingriguda village well	19-02-20	1.73

Sl. No.	Name of Station	Depth from GL (in m)		Difference in water level (m)
		November'19	February'20	
1	Kudopali Village well	2.46	1.35	1.11
2	Anapali Village well	3.53	4.22	0.69
3	Chingriduda Village well	2.9	1.73	1.17

Date of Sampling	Project	Name of Station	Ground water level(in m)
01-11-2019	Orient Area	Peizometer No. MIP 05, chauliberna	19.47
25-01-2020	Orient Area	Peizometer No. MIP 05, chauliberna	30.5

Chief Manager (Min) Sub-Area Manager,
Hirakhand Bundia Mine,

Sub-Area Manager
Rampur Sub-Area.
रामपुर उप-क्षेत्र

(Annexure – C)

AMBIENT AIR QUALITY REPORT (OCTOBER'19 TO MARCH'20)
HIRAKHAND BUNDIA U/G MINE
(Values are in $\mu\text{g}/\text{m}^3$)

SAMPLING STATION	DATE	SPM	RPM	SO ₂	NO _X	PM _{2.5}
Hirakhand Bundia Mine	11-10-2019	285	258	12.89	10.53	35
-do-	28-10-2019	183	136	9.36	13.16	23
-do-	09-11-2019	148	98	11.45	18.6	49
-do-	26-11-2019	293	212	6.7	12.4	13
-do-	09-12-2019	309	251	7.85	16.91	24
-do-	23-12-2019	208	162	8.89	14.94	68
-do-	08-01-2020	310	226	18.69	26.56	27
-do-	27-01-2020	180	150	11.27	15.78	58
-do-	24-02-2020	239	197	9.52	16.46	33
-do-	07-03-2020	233	155	10.08	20.54	23
-do-	24-03-2020	154	102	15.71	37.43	20
MAX	-	310	258	18.69	37.43	68
MIN	-	148	98	6.7	10.53	13
Permissible limit	-	500	250	120	120	60

मिनेरल डेपार्टमेंट
राज्य सरकार
जयपुर

Mahin

Chief Manager (Mih)/ Sub-Area Manager,
Hirakhand Bundia Mine,
Rampur Sub-Area

Sub-Area Manager
जयपुर
Rampur Sub-Area
राजपुर जयपुर क्षेत्र

(Annexure – D)

NOISE LEVEL REPORT (OCTOBER'19 TO MARCH'20)
HIRAKHAND BUNDIA U/G MINE
{Values are in dB(A)}

STATION	DATE	Noise- DAY (6.00AM to 10.00PM)	Noise- NIGHT (10.00PM to 6.00AM)
Hirakhand Bundia Mine	12-10-2019	66.1	62.9
-do-	26-10-2019	67.6	64.8
-do-	08-11-2019	67.3	62.8
-do-	27-11-2019	66.2	63.7
-do-	10-12-2019	67.2	62.4
-do-	24-12-2019	67.2	63.2
-do-	09-01-2020	66.9	62.7
-do-	23-01-2020	64.7	61.2
-do-	11-02-2020	67.4	64.3
-do-	26-02-2020	69.7	65.2
-do-	11-03-2020	66.2	60.1
-do-	25-03-2020	67.1	62.6
MAX		69.7	65.2
MIN		64.7	60.1
Permissible limit		75.0	70.0

Mohit
Chief Manager (Mining) Sub-Manager, Rampur Sub-Area
Hirakhand Bundia Mine, Rampur Sub-Area
21/3/2020
रामपुर उप-क्षेत्र

(Annexure-E)

EFFLUENT QUALITY REPORT (OCTOBER'19 TO MARCH'20)
HIRAKHAND BUNDIA U/G MINE

(Values are in mg/l except PH)

Name of the Month	Date of Sampling	pH	OG	TSS	COD	BOD	NO3N
October'19	15-10-2019	7.18	<4.0	52	40	---	---
	29-10-2019	8.17	<4.0	32	28	---	---
November'19	12-11-2019	8.06	<4.0	32	40	---	---
	28-11-2019	6.8	<4.0	34	12	---	---
December'19	14-12-2019	7.51	<4.0	46	28	---	---
	26-12-2019	6.86	<4.0	26	36	---	---
January'20	11-01-2020	6.87	<4.0	24	60	---	---
	29-01-2020	6.76	<4.0	26	56	---	---
February'20	10-02-2020	7.39	<4.0	14	36	---	---
	29-02-2020	6.98	<4.0	20	36	---	---
March'20	14-03-2020	7.89	<4.0	28	40	---	---
	23-03-2020	7.61	<4.0	26	48	---	---
Max		8.17	<4.0	52	60	---	---
Min		6.76	<4.0	14	12	---	---
Permissible Limit		5.5-9.0	10.0	100	250	---	---

Chief Manager (Min)/ Sub-Area Manager,
Hirakhand Bundia Mine,
Rampur Sub-Area

Sub-Area Manager
Rampur Sub-Area
12/5/2020