HALF YEARLY

ENVIRONMENT CLEARANCE COMPLIANCE REPORT

OF

CLUSTER 1

J-11015/78/2011-IA.II(M)

FOR THE PERIOD OF

OCTOBER 2017 TO MARCH 2018

Eastern Coalfields Limited
(A subsidiary of Coal India Ltd.)

HALF YEARLY ENVIRONMENT AL CLEARANCE COMPLIANCE REPORT

CLUSTER NO.:1
Period: October 2017 to March 2018

A- SPECIFIC CONDITIONS:

<table>
<tr><th>Sl No</th><th>Specific Conditions</th><th>Compliance</th></tr>
<tr><td>i</td><td>The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.</td><td>The cluster was accorded EC on 16.01.2015 for maximum production capacity of 3.3 MTY. On 18.12.2017, Cluster 1 has been accorded amended EC for same maximum production limit upto 3.3 MTY. Production details of mines(MTY, from October 2017 to March 2018) are given as follows –
<table>
<tr><th>Sl. No</th><th>Name of Mine</th><th>Peak Capacity as per EC (MTY)</th><th>Production from October2017 to March 2018 (MT)</th></tr>
<tr><td>1.</td><td>Chapapur UG</td><td>0.75</td><td>0.058207</td></tr>
<tr><td></td><td>Chapapur OC</td><td></td><td></td></tr>
<tr><td>2.</td><td>Badjna UG</td><td>0.15</td><td>0.032513</td></tr>
<tr><td>3.</td><td>Hariajam UG</td><td>0.10</td><td>0.032293</td></tr>
<tr><td>4.</td><td>Khoodia UG</td><td>0.05</td><td>0.018220</td></tr>
<tr><td></td><td>Khoodia OC</td><td></td><td></td></tr>
<tr><td>5.</td><td>Lakhimata UG</td><td>0.95</td><td>0.037138</td></tr>
<tr><td></td><td>Lakhimata OC</td><td></td><td></td></tr>
<tr><td>6.</td><td>Shampur B UG</td><td>0.10</td><td>0.034562</td></tr>
<tr><td></td><td>Shampur B OC</td><td></td><td></td></tr>
<tr><td>7</td><td>Mandman UG</td><td>Amalgamated with Lakhimata OC</td><td>0.00</td></tr>
<tr><td>8.</td><td>Nirsha OC</td><td>0.40</td><td>0.00</td></tr>
<tr><td>9.</td><td>Shampur A UG</td><td>0.20</td><td>0.00</td></tr>
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			Shampur A OC		
		10.	Gopinathpur UG	0.20	0.100164
			Gopinathpur OC		
		11.	Kapasara UG	0.40	0.193830
			Kapasara OC		
			TOTAL	**3.30**	**0.506927**
ii	The validity of the EC is for the life of the Mine or as specified in the EIA Notification, 2006	The life of the mine as per EC .			
iii	No underground mining shall be carried out below and within 45 m of the NH-2 and rivers flowing through the cluster.	No underground mining is carried out below and within 45 meter of the NH-2 and rivers flowing through the cluster without prior permission of DGMS. Khoodia and Pusai rivers flow within the leasehold area of the cluster but no working is going on below and within 45 meter of the rivers.			
iv	The EC be only for peak value only. PP should ensure the mine water discharge shall comply with the prescribed standards.	Production does not exceed EC peak value. Mine water discharge quality complies with prescribed standards. Regular monitoring is done by CMPDIL; and the fortnightly reports of the cluster for the period are enclosed.			
v	All commitments made in the Public Hearing shall be fully implemented.	All commitments made in the Public Hearing are being fully implemented. General issues like suppression of dust by spraying of water, plantation, etc. are taken care of.			
vi	There shall be no voids and OB dumps after the end of mining. New voids shall be completely filled up to near ground position. 50% of old voids shall be filled up and other 50% of old voids shall be filled up to 15 meter for the purpose of pisciculture.	There shall be no voids and OB dumps after the end of mining. New voids shall be completely filled up to near ground position. 50% of old voids shall be filled up and other 50% of old voids shall be filled up to 15 meter for the purpose of pisciculture. To comply with this condition, steps have been taken in the open cast mines of Cluster 1, which is explained as follows: Gopinathpur: SG quarry which is an old void located in west side of the running open cast mine has been backfilled to about 50% upto the ground level. The OB excavated currently is being used for concurrent backfilling of the active mine in the west side of it. Kapasara: In the last six months i.e. from Oct'17 to Mar'18, backfilling has been done in the decoaled area with about 1.52 lac cu. m of OB. During the period May. 2011 to August, 2015, 26.47 L cu. M (approx.) of OB has been used in backfilling an old void and in internal dumping as well. About 10.55 L cu. M of OB has been dumped internally and in backfilling purpose during the period Sept. 2015 to Sept. 2017. An external OB dump of about 3.52 L cu. m exists in the leasehold which is not active at present and will be completely re-handled in backfilling purpose.			
vii	There shall be no fly ash utilization in the mine voids. Fire in the OBDs	At present there is no fly ash utilization. At present there is no fire in the leasehold area of the cluster.			

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	shall be quenched by blanketing and should be re-vegetated.	
viii	The surface drainages shall be preserved.	Surface drainages are preserved.
ix	The quality of water should be conformed to the prescribed standards before discharge into nallah.	Regular monitoring of quality of water is carried out by CMPDIL and found to conform to prescribed standards. Fortnightly reports of Mine Water Quality for the period for the cluster are enclosed.
x	All safety measures shall be taken as per CMR, 1957 & RELATED Circulars.	All safety measures are being taken as provided in CMR 1957 & related Circulars.
xi	The production shall be within the same Mining Lease area.	The production is within the same Mining Lease area.
xii	Coal shall be transported by rail only, Coal transportation from mine to siding should be by conveyor belt. The loading to siding by pay loaders into railway wagons.	As of now, coal transportation from different mines of the cluster to railway siding is being done by tarpaulin covered trucks. The loaded trucks are made wet at first and then covered with tarpaulins for transportation. Coal transportation from mine to siding through belt conveyors is not feasible because 1. The capacity of the mine is less. 2. The belt conveyor has to cross over populated areas and NH 2. The loading in siding is done by pay loaders into railway wagons.
xiii	Independent network of railway siding inside cluster be developed. Railway siding should be constructed at the earliest and till then proponent may use mechanically covered trucks for transportation of coal.	A central Pool Railway siding exists inside the Cluster. As of now, coal transportation to railway siding is being done by tarpaulin covered trucks. The loaded trucks are made wet at first and then covered with tarpaulins for transportation. ECL is exploring the availability of mechanically covered trucks in market for coal transportation. Till then the coal transportation is being done through tarpaulin covered trucks.
xiv	Three tier green belts shall be raised around the railway sidings and along the road sides to prevent dust and noise pollution	A three tier green belt of shrubs and trees is proposed to be planted in the siding area.
xv	Stowing and depillaring shall be as per the recommendations of DGMS.	Only development activity is being done in the cluster. As of now, there is no plan for depillaring and stowing. Depillaring, if taken up in future will be done by caving / stowing with approval from DGMS.
xvi	The proponent must comply with the Raniganj Action Plan. The unstable areas within the cluster will be brought under plantation after the population residing over these areas is rehabilitated under the Master plan for Raniganj Coalfields to be implemented by ADDA.	The cluster does not contain any unstable area and is therefore not within the purview of the Master plan for Raniganj Coalfield.
xvii	Trees with deep rooted system should be planted so as to prevent soil erosion.	Trees with deep rooted system are planted around the mines in the cluster and more trees of same system will be planted in future. In this regard, on our request, the DFO, Dhanbad has provided a list of deep rooted trees that have been planted in the mine leasehold .

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	Proponent should plant additional 10Ha/ year over the next 10 years at various locations in the Cluster.	For the FY 2017-18, plantation work in 4.5 Ha (in Hariajam Colliery leasehold) for the cluster has been carried out by the Forest Department, Dhanbad. Maintenance work of plantation work (FY 2015-16) in 12 Ha of land within Cluster 1 is being done by Forest Department, Dhanbad in FY 2017-18.
xix	River/nallah shall be desilted and restored back to functional state.	Nallah existing in the leasehold are desilted and cleaned regularly.
xx	Wild life conservation plan be prepared and submitted to the MOEFCC with the approval of the State Govt.	Work order for preparation of Wildlife conservation plan is issued to CIMFR, Dhanbad. Site visits of the Cluster have been done. The Final report has been submitted to DFO, Dhanbad.
xxi	Proponent shall use high resolution image of all clusters for evaluating land use, plantation etc.	Baseline land-use study was based on high resolution satellite imagery of 2011. Further changes in land use and plantation will be tracked by carrying out satellite imagery at every three years interval that started in 2015.
xxii	Separate drainage pattern be provided.	The existing drainages are sufficient and preserved.
xxiii	Sand stowing must be used as recommended by CMPDI.	Presently there is no depillaring activity going on in any UG mines of the cluster, hence, No sand stowing is required.
xxiv	Action plan for prevention and mitigation of subsidence be prepared and implemented.	At present only development work with Bord and Pillar Method is being carried out and no depillaring (caving/stowing) is being done, there is no subsidence at present.
xxv	The OC patches to be operated will be completely filled-up after exhaustion of reserves and reclaimed with plantation	OC patches within the cluster will be completely filled up after exhaustion of reserves and reclaimed with plantation
xxvi	The OB shall be completely re-handled at the end of the mining.	The OB of this cluster will be completely re-handled at the end of the mining.
xxvii	There shall be no residual OB dump after the mining	There shall be no residual OB dump after the mining in this cluster.
xxviii	After completion of mining activities, the subsided areas shall be graded and planted upon.	Presently there are no subsided areas. Subsided areas, if any, occurring during mine life will be graded and planted upon.
xxix	Coal Extraction shall also be optimized in areas where agriculture production is continuing. Some pillars shall be left below the agricultural land. No depillaring and coal extraction should be carried out below habitation, H.T Lines and beneath road, water bodies.	No depillaring activity is presently undertaken. Future depillaring activity, if any, will be taken up in consultation and with the approval of DGMS. Coal pillars will be left intact to protect surface features like H.T. Lines, roads and water bodies.
xxx	The land excavated after mining must be brought back to original condition for agricultural/plantation purpose.	Excavated land will be brought back to original condition for agriculture / horticultural / plantation purpose, as per MCP.
xxxi	Water discharged from the mine should be as good as surface drinking water.	Mine discharge water is analysed on fortnightly basis by CMPDI and found to be within the specified norms. Report for the cluster for the period is enclosed. There are four (04) nos. of pressure filters within the cluster, each of 10 K GPH capacity to treat mine water after primary and double

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		settling in sumps.
xxxii	Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural drainage pattern, water bodies, vegetation, structure, road, 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.	At present only development work with Bord and Pillar Method is being carried out at UG Mines of the cluster and no depillaring (caving/stowing) is being done, there is no subsidence at present.
xxxiii	If subsidence is found exceeding the permitted limits, then the land owner shall be adequately compensated with mutual agreement of the landowners.	No depillaring (caving/stowing) is being done; hence there is no subsidence at present. If found in future, Land owner shall be adequately compensated with mutual agreement of the landowners.
xxxiv	Water sprinkling system shall be provided to check fugitive emissions from loading operations, conveyor system, haulage road, transfer points. etc. Major approach roads shall be black topped and properly maintained.	Spraying of water at regular intervals by mobile water tankers is being done at loading points, etc. A fixed water sprinkling system is in operation at the Central Pool railway siding of this cluster. Manual water sprinkling/spraying arrangements have been provided at the coal depots of Lakhimata Colliery, Khoodia and Shampur B collieries. Water spraying arrangement has been installed in 6 nos. tipplers namely at Chapapur, Badjna and Hariajam Collieries to wet coal while being tippled into loading trucks. Major approach roads are blacktopped and properly maintained.
xxxv	The CSR cost should be Rs 5 per Tonnes of Coal produced which should be adjusted as per the annual inflation.	CSR cost at the rate of 2% of the net profit has been kept for the purpose. The mines within this cluster are not making any profit and are in loss for many years. However, in 2017-18, CSR expenditure for mines of cluster 1&2 of mines was Rs. 2.45 crores (approx.) for construction of classrooms at JNV, Benagoria and school building in Mugma Area.
xxxvi	The mining in the existing mines should be phased out after expiry of the current mining lease and after reclamation of mined over area. The operating mines may be analyzed and monitored for compliance of conditions, bearing with movement of wildlife and until such time they are closed/ phased out.	It shall be complied as per Mine Closure Plan (MCP).
xxxvii	Everybody in the core area should be provided with mask for protection against fugitive dust emissions.	Dust mask for protection against fugitive dust emissions is provided to the personnel working near dust producing sources.
xxxviii	Dusts mask to be provided to everyone working in the mining area.	Dust mask for protection against fugitive dust emissions is provided to the personnel working near dust producing sources.

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	The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area	Supervision is done regularly to ensure wearing of dust masks near dust producing sources.
xl	People working in the core area should be periodically tested for the lung diseases and the burden of cost on account of working in the coal mine area.	Periodic Medical Examination is carried out to test lung diseases and other health problems for the personnel working in mines of the cluster.

Name of mine	No. of Employees sent for PME (Oct'17 to Mar'18)	Pneumoconiosis cases	Hearing Loss cases
Chapapur	370	Nil	Nil
Badjna	35	Nil	Nil
Hariajam	81	Nil	Nil
Khoodia	40	Nil	Nil
Lakhimata	87	Nil	Nil
Shampur B	46	Nil	Nil
Gopinathpur	39	Nil	Nil
Kapasara	03	Nil	Nil
Mandman	05	Nil	Nil
Nirsa	00	Nil	Nil
Shampur A	00	Nil	Nil
TOTAL	**370**	**Nil**	**Nil**

xli	The mining area should be surrounded by green belt having thick closed thick canopy of the tree cover.	Vegetation exists in the leasehold area of the cluster. Continual efforts are on to strengthen the green belt cover around the mining area with the help from the Forest department.
xlii	Besides carrying out regular periodic health check-up their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, through an specialized agency/ institution within the District/State and the results reported to this Ministry and DGMS.	During PME carried out, cases of pneumoconiosis and noise induced hearing loss (NIHL) is nil. Details tabulated in condition no. xl. Suspected cases, if any, of occupational health diseases like Pneumoconiosis and Noise Induced Hearing Loss will be sent to higher medical board within company for comprehensive check-up.

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	The embankment constructed along the river boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side and stabilized with plantation so as to withstand the peak water flow and prevent mine inundation.	Badjna: There is embankment strengthened by stone pitching on the river front side constructed on Pusai River flowing over a small area within the leasehold area of Badjna Colliery to prevent in rush of water into the mine. Chapapur: No entry point of mine is below the HFL. The lowest entry point is above 5 m of HFL. So there is no need of embankment and no risk of inundation from Pusai River flowing nearby. The RLs at mine openings at various inclines are: No. 1: 144.78 m, No. 2: 144.42 m, No. 3: 145.62 m Hariajam: Khoodia river (HFL is +132.80 m) flows in the Southside and Pusai river (HFL is +134.30 m) is flowing in north side and all the mine openings are above the HFL of Khoodia river and also above the HFL of Pusai river. Hence there is no risk of inundation from Khoodia and Pusai river. There is, at present no requirement of an embankment to be constructed on Khodia River flowing over a small area in the colliery. The RLs at 5&6 inclines is 108.00 m and at 27 & 28 inclines is 139.00 m. Khoodia: Pusai River is situated at a distance far away from the mine entry and HFL of the river is much below the mine entry though an embankment is provided in between, so there is no risk of mine inundation. RL is 144.17 m. Lakhimata: There is NO embankment required, as any river does not pass through the leasehold area of Lakhimata Colliery. RL is 136.92 m. Mandman: There is an embankment constructed on Mandman Colliery against Jore flowing within the leasehold area of Mandman Colliery. HFL of Jore is +132.05 m (2000) and all the mine openings are above the HFL. RL is 114.59 m. Shampur B: Khoodia river flows in the downside and HFL of Khoodia river is +123.41 m (1978) and all the mine openings are above the HFL of Khoodia river. Hence there is no risk of inundation from Khoodia river. The RLs at inclines are: No.6-126.9 m, no.5- 129.13 m, No. 2- 127.88 m and no.7- 136.91 m. Kapasara: Jhilia nallah flows along the eastern boundary of the mine. The mine entries have been planned such that there is no danger of inundation. Embankment is made along the nallah bank. The RL is 131.51 m. Gopinathpur: The existing embankment in the eastern side of the OCP along the Pusai river has adequate width and height as per norms. The mine entries have been planned such that there is no danger of inundation. The embankment will be stabilised by stone pitching on the river front side so as to withstand the peak water flow and prevent mine inundation. The RL is 130.27 m. on embankment top.

24/5/18
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7
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	There shall be no over flow of OB into the river and into the agricultural fields and massive plantation of native species shall be taken up in the area between the river and the project.	There is no OB flowing into any river and into agricultural fields within the cluster. OB from running mines is being used for concurrent backfilling. filling up of old voids and in internal dumping.
xlv	Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilized for watering the mine area, road, green belts development, etc. the drains shall be regularly desilted and maintained properly. Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and 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.	In OC mines, catch drains (garland drains) have been constructed along the toe of OB dumps and regular de-silting is carried out to keep the drains in good condition. Sump capacity is present to allow proper settling of silt. Underground sumps of adequate capacity are there in UG mines of the cluster for settling. The sumps are desilted and cleaned as and when necessary.
xlvi	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 and 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 setting of silt material.	Garland drains of adequate dimensions have been provided to evacuate maximum single day rainfall recorded. Tanks and ponds are provided to allow primary settling of mine water before being discharged or supplied for domestic purpose.
xlvii	Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check runoff and siltation shall be based on the rainfall	For old settled O.B Dumps, deep rooted plants have been planted to check the soil erosion and for running O.B Dump the retaining wall will be made after the closing of the particular OB dump.
xlviii	Crushers at the CHP of adequate capacity for the expansion project shall be operated with high efficiency bag filters water sprinkling systems shall be provided to check fugitive emission from crushing operation, conveyor system, haulage roads, transfer points, etc.	One crusher with inbuilt water sprinkling system has been installed at Central Pool Siding. Presently, adequate Water Spraying is being done by mobile tankers. One fixed type sprinkling system has been constructed at the central pool railway siding of the cluster. Manual water sprinkling/spraying arrangements have been provided at the coal depots of Lakhimata Colliery, Khoodia and Shampur B collieries. Water spraying arrangement has been installed in 6 nos. tipplers namely at Chapapur, Badjna and Hariajam Collieries to wet coal while being tippled into loading trucks.
xlix	Mine discharge water outside the ML shall be monitored, particularly for TDS and treated to conform to prescribed levels before discharge	Monitoring of mine water discharge, including TDS is carried out fortnightly by CMPDI, Asansol and found to be well within prescribed limits. The report is enclosed.

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	into the natural environment.	
l	Drills shall be wet operated.	Spraying with water is done for dust suppression before drilling in underground.
li	The project authorities shall undertake regular repairing and tarring of roads used for mineral transportation. A 3-tier green belts comprising of a mix of native species shall be developed all along the major approach roads.	As per requirement, regular repairing and tarring of roads are being done on priority basis. Both sides of approach roadway are well vegetated naturally.
lii	Controlled blasting shall be practiced with use of delay detonators and only during day time. The mitigative measures for control of ground vibration and to arrest the fly ash rocks and boulders shall be implemented.	Controlled blasting is being practiced with use of delay detonators. In underground mine hence there is no restriction on timing on controlled blasting. In OC mines, blasting is done only in controlled manner with proper delay detonators. The blasting is scheduled only around 1 P.M to 3.00 PM. The siren alert system is also practiced for safety purposes. Control of ground vibration and to arrest the fly rocks and boulders has been ensured by controlled blasting. Time to time Vibration study is conducted by CMPDI as per requirement.
liii	A progressive afforestation plan shall be implemented covering an area of 539 ha at the end of mining, which includes waste dump area (169ha) Excavation area (200 ha), Mine infrastructure / Built-up area (82 ha); Green Belts (20 ha) by planting native species in consultation with the local DFO / Agricultural Department. The density of the trees shall be around 2500 plants per ha Massive plantation shall be carried out in open spaces in and around the mine and a 3-tier avenue plantation along the main approach roads to the mine.	For the FY 2017-18, plantation work in 4.5 Ha (in Hariajam Colliery leasehold) for the cluster has been awarded to Forest Department, Dhanbad. Maintenance work of plantation work (FY 2015-16) in 12 Ha of land within the Cluster 1 is being done by Forest Department, Dhanbad. Plantation is being at the rate of 2500 nos of plants per hectare.
liv	The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.	Mine closure Plan has already been prepared for the purpose. Restoration and reclamation shall be done accordingly.
lv	Compensatory Ecological and Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.	Mine closure Plan has already been prepared for the purpose. Compensatory ecological and restoration of wasteland shall be done accordingly.
lvi	No groundwater shall be used for mining operations.	No ground water is being used for mining operations.
lvii	An estimate total 235.7 Mm^3 of OB	The status of Chapapur OC, Gopinathpur OC and Kapasara OC of

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	will be generated during the entire life of the mine. Out of which 200 Mm^3 of OB will be dumped in eight external dump and 35.7 Mm^3 in eight internal OB Dumps. The OB dump height is upto 60 m. the maximum slope of the dump shall not exceed 28 degrees. Monitoring and management of reclaimed dump sites shall continue till the vegetation becomes self-sustaining and compliance status shall be submitted to MOEF&CC and its Regional Office on yearly basis.	this cluster as follows: CHAPAPUR: It is a mixed mine, total estimated 13.42 Mm3 of OB will be generated which will be internally dumped. The inclination of dump will not be more than 28 degree. OB dumps will be reclaimed as per MCP and the progress shall be submitted to MOEF&CC and its Regional Office. GOPINATHPUR: an estimated 1.0 L m3 (approx.) of OB will be generated in the foreseeable future. All of the OB is being dumped internally. There are no external dumps. Monitoring and management of reclaimed dump sites will be done as per MCP. KAPASARA: An estimated 40 L m3 (approx.) of OB has been generated during the period May 2011 to Sept. 2017, out of which 3.0 L cu m (approx.) has been dumped externally and the rest used up in internal dumping and backfilling purpose. The height of the dump is 15 to 20 m and slope is maintained between 26 deg to 28 deg. Monitoring and management of reclaimed dump sites will be done as per MCP .
lviii	Of the total quarry area 200 ha. The backfilled quarry area of (200 ha) shall be reclaimed with plantation by planting native plants species in consultation with the local DFO / Agriculture Department.	In Chapapur OC, total quarry (excavated) area is about 49.51 Ha, out of which about 23.75 Ha has been backfilled. In GOCP the total quarries (excavated) area is about 28.25 Ha, out of which about 13.20 Ha has been backfilled. In KOCP the total quarries (excavated) area is approx. 40 Ha, out of which 15 Ha (approx.) is backfilled. The back-filled quarry area of shall be reclaimed with plantation by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.
lix	Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new piezometers. 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. Date thus collected shall be submitted to the Ministry of Environment, Forests & Climate change and to the Central Pollution Control Board quarterly within one month of monitoring.	Monitoring report for GWL is presently being done by establishing a network of dug-wells earmarked as hydrograph stations and the water levels in meters below ground level (mbgl) is being recorded during the months of January, May, August & November every year. The report of observed GWL for each dug-well is enclosed. The work order for installation of piezometers has been issued.
lx	The company shall put up artificial groundwater recharge measures for augmentation of ground water resource in case monitoring indicates decline in water table. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.	There are several old abandoned quarries in the cluster which serve as water reservoirs that help in ground water recharge. People from the nearby villages also use this water for domestic purpose. Moreover, two projects of rainwater harvesting have been completed in 2015-16. One is at the General Manager's Office, Mugma Area and another at Guest House, Mugma Area with catchment area of 1021(approx.) sq. m and 561(approx.) sq. m respectively. Both the projects have been constructed as ground water recharge measures. In 2017-18, two more proposals for construction of RWH at the GM Bungalow and Gopalpura Colony

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			have been approved.
xi	Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater		It has been discussed and suggested that proposal for any new colony in Mugma Area should mandatorily incorporate the design and construction of an STP for the colony.
lxii	land oustees shall be compensated as per the norms laid our R & R Policy of CIL, or the National R & R Policy or R & R Policy if the State Government whichever is higher.		If required, Land oustees shall be compensated as per the norms laid out in R & R Policy of CIL.
lxiii	For monitoring land use pattern and for post mining land use, a time series of land use maps, based on satellite imagery (on a scale of 1:5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for any one particular season which is consistent in the time series), and the report submitted to MOEF & CC and its concerned Regional office.		Baseline land-use study was based on high resolution satellite imagery of 2011. Further changes in land use and plantation will be tracked by carrying out satellite imagery at every three years interval which started in 2015.
lxiv	A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forest & Climate change within 6 months of grant of Environment Clearance.		MCPs for all mines of the cluster have been prepared.
lxv	The project authorities shall in consultation with the Panchayets of the local villages and administration identify socio-economic and welfare measures under CSR to be carried out over the balance life of the mine.		CSR activities are being carried out in consultation with local panchayats of respective mines within the cluster.
lxvi	Corporate Environment Responsibility		
	a)	The Company shall have a well laid down Environment Policy approved by the Board of Directors.	"Corporate Environmental Policy 2012" of Coal India Limited has already been formulated.
	b)	The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/condition.	"Corporate Environmental Policy 2012" of Coal India Limited has prescribed standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/condition.
	c)	The hierarchical system or Administrative Order of the company to deal with	The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions has been furnished in

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		environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.	"Corporate Environmental Policy 2012" of Coal India Limited
	d)	To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large	The company is having a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company.

B. GENERAL CONDITIONS:

Sl. No.	Compliance Conditions	Compliance Status
i	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment, Forests & Climate Change.	Change in mining technology and scope of working, if any, shall be made with prior approval of the Ministry of Environment, Forests & Climate Change.
ii	No change in the calendar plan of production for quantum of mineral coal shall be made.	There shall be no change in the calendar plan of production for quantum of mineral coal.
iii	For ambient air quality-monitoring, stations shall be established in the core zone as well as in the buffer zone for PM10, PM 2.5, SO2 and NOx monitoring. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc carried out at least once in six months.	Air quality monitoring is being carried out at six locations within the cluster on fortnightly basis by CMPDI, Asansol. These six locations have been decided based on the meteorological data and topographical features of the cluster. Heavy metal analysis report enclosed.
iv	Data on ambient air quality (PM10, PM 2.5, SO2 and NOx) and heavy metals such as Hg, As, Ni, Cd, Cr, etc and other monitoring data shall be regularly submitted to the Ministry including its concerned Regional Office 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 EPA rules, 1986 shall be furnished as part of compliance report.	Ambient Air Quality report enclosed indicates parameters within limits set by NAAQS. Fortnightly Monitoring report for AAQ (PM10, PM2.5, SO2 & NOX the period is being enclosed. Heavy metal analysis report enclosed.

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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.	Noise monitoring is being done by CMPDI, Asansol. Report is enclosed. Noise level has always been below 85 dBA. Reports for the fortnights for the period for the cluster are enclosed.
vi	Industrial waste water (workshop and waste water from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.	Mine discharge water samples are tested in laboratory at CMPDI on fortnightly basis. Mine water quality conforms to the standards prescribed under GSR 422(E) dated 19th May 1993 and 31st December 1993. The mine water quality reports the fortnights for the cluster are enclosed.
Vii	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.	Vehicular emissions are kept under control and regularly monitored. Coal transportation from mine to railway siding is being done by tarpaulin covered trucks. The loaded trucks are made wet at first and then covered with tarpaulins for transportation.
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 EPA rules, 1986.	Monitoring of environmental parameters is carried out on regular basis by CMPDIL. Laboratory at CMPDIL, RI-I, Asansol is having all necessary facilities.
Ix	Personnels 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.	Dust mask for protection against fugitive dust emissions is provided to the personnel working near dust producing sources. Training and awareness programmes in form of vocational training are carried out at cluster level. Various training programmes are also conducted at various levels for the personnel working in dusty areas.
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 and records maintained thereof. The quality of environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the company while outsourcing.	PME of workers are carried out periodically and cases of Pneumoconiosis and noise induced hearing loss is nil. Details have been given in Specific condition no. XL.
Xi	A separate environmental management cell with suitable qualified personnel shall be set up under the	A separate Environment Management Cell with qualified personnel has been established for Mugma

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	control of a Senior Executive, who will report directly to the Head of the company.	Area. The cell reports to the General Manager, Env. & Forest, ECL, HQ, Barachak House.
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 concerned Regional Office.	Funds for environmental protection are kept in budget each year and are not diverted for other purposes.
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 is available with the State Pollution Control Board and may also be seen at the website of the Ministry of Environment, Forests & Climate Change at www.envfor.nic.in	Advertisement details - The amended EC accorded on 18th December 2017 has been notified in *The Telegraph* dated 04.01.2018. Accordance of the Environment Clearance from MoEF & CC to Cluster 1 & Cluster 2 mines of Mugma Area, ECL was publicly notified in *The Telegraph* on 07.02.2015, on page no. 10.
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 company's website.	Complied.
Xv	A copy of the clearance letter shall also 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 Sector and Collector's Office/ Tehsildar's Office for 30 days.	A copy of the Environmental clearance letter has been sent the concerned Jharkhand State Pollution Control Board.
Xvi	The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions shall also be uploaded by the project authorities on their website and updated every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM10, PM 2.5, SO2 and NOx (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.	The EC letter is uploaded on the company's website. The monitoring data of environmental quality parameter (air, water and noise) and critical pollutant such as PM10, PM 2.5, SO2 and NOx (ambient) and critical pectoral parameters are being displayed at the entrance of the mine premises and mine office. The half yearly compliance report of EC for the period April 2017 to September 2017 has been uploaded on ECL website.

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xvii	The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Offices of CPCB and the SPCB.	Compliance reports on status of compliance of the stipulated environmental clearance conditions for the period April 2017 to September 2017(both in hard copy and by e- mail) have been submitted to the respective Regional Office of the Ministry, respective Zonal Offices of CPCB and the SPCB of Jharkhand.
Xviii	The Regional Office of this Ministry located in the Region 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 requisite data/ information/ monitoring reports.	The Project authorities will extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/ information/ monitoring reports, when asked.
Xix	The Environmental Statement for each financial year ending 31 march in From V is mandated to be submitted by the project proponent for 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 MoEFCC by e-mail.	Complied. The Environmental Statement for the year 2016-17 has been submitted to State Pollution Control Board of Jharkhand and emailed to Regional Office, MoEF&CC, Ranchi.
4	The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.	All commitments and recommendations are being implemented presently.
5	The commitment made by the proponent to the issues raised during Public Hearing be implemented by the Proponent.	The commitment made by the proponent to the issues raised during Public Hearing has been implemented by the Proponent.
6	The proponent is required to obtain all necessary clearances/approvals that may be required before the start of the project. The ministry or any other competent authority may stipulate any further condition for environmental protection.	Agreed and noted.
7	The ministry or any other competent authority may stipulate any further condition for environmental protection.	Agreed and noted.
8	The Proponent shall set up an Environment Audit	Agreed and noted.

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	cell with responsibility and accountability to ensure implementation of all the EC Conditions.	
9	Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Agreed and noted.
10	The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution)Act, 1974, the Air (Prevention & Control of Pollution)Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India/ High Courts and any other Court of Law relating to the subject matter. The proponent shall ensure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination of ground water and surface water, and occupational and other diseases due to the mining operations.	Agreed and noted.
11	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Agreed and noted.

Information provided in Half yearly EC compliance report for the period October 2017 to March 2018 in respect of Cluster no. 1 group of mines is true to the best of my knowledge.

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Chapapur, Badjna & HaNajam Gr.
Cluster 1, Mugma Area, ECL

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Badjna Colliery

Agent,
Lakhimata, Khoodia & Shatpur B Gr.
Cluster 1, Mugma Area, ECL

AGENT
Lakhimata Colliery
Mugma Area, ECL

Agent,
Gopinathpur, Mandman & Kapasara
Cluster 1, Mugma Area, ECL

Agent
Gopinathpur Colliery
Mugma Area, ECL

TABLE NO.- 1 A
AMBIENT AIR QUALITY REPORT

Cluster No.	Station No.	Station Name	Month	Fortnight	Date of Sampling	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_X ($\mu g/m^3$)	Remarks
1	1A1	In Nayadih village near Shampur - A	February	First	08-Feb-18	92.0	35.6	<10.0	15.1	-
	1A2	Near Mugma Village	February	First	06-Feb-18	91.2	35.7	<10.0	15.2	-
	1A3	In Garphalbari Near Kapasara UG	February	First	08-Feb-18	88.7	34.8	<10.0	14.7	-
	1A4	In Bharkunrabari village	February	First	06-Feb-18	88.4	34.0	<10.0	14.8	-
	1A5	In Baraban village	February	First	15-Feb-18	86.4	34.2	<10.0	14.4	-
	1A6	In Jhukundar village	February	First	06-Feb-18	85.9	34.0	<10.0	15.0	-
	1A10	Mugma III A near Railway siding	February	First	02-Feb-18	106.6	45.0	<10.0	17.4	-

National Ambient Air Quality Standards (NAAQS):

National Ambient Air Quality Standards (NAAQS) for residential, industrial and rural areas for 24 hourly samples:

Pollutant	PM_{10}	$PM_{2.5}$	SO_2	NO_X
Concentration ($\mu g/m^3$)	100.0	60.0	80.0	80.0

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager.....
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed.....Dated 28.02.18. Job No. 110310

TABLE NO-1 B
MINE WATER QUALITY REPORT

Sl. No.	Cluster No.	1				Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	1MW1	1MW2	1MW3	1MW4			
	Station Name	Hariajam UG	Badjna UG	Chapapur-II UG	Chapapur OC Patch			
	Month	February	February	February	February			
	Fortnight	First	First	First	First			
	Date of Sampling	08-Feb-18	08-Feb-18	15-Feb-18	08-Feb-18			
1	pH	7.45	7.57	7.84	7.20	5.5-9.0	pH meter	0.01
2	TSS	8	6	8	11	100.0	Spectrophotometric	5.0
3	TDS	720	770	680	700	Not Specified	TDS meter	1.0
4	Oil & Grease	<2.0	<2.0	<2.0	<2.0	10.0	Partition Gravimetric	2.0
5	COD	24	08	16	20	250.0	Closed Reflux	4.0

Note: All parameters are in mg/l except pH.

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager.....
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TABLE NO-1 C
MINE WATER QUALITY REPORT

Sl. No.	Cluster No.	1			Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	1MW5	1MW6	1MW7			
	Station Name	Khoodia UG	Lakhimata UG	Shampur-B UG			
	Month	February	February	February			
	Fortnight	First	First	First			
	Date of Sampling	15-Feb-18	15-Feb-18	15-Feb-18			
1	pH	7.43	8.05	7.17	5.5-9.0	pH meter	0.01
2	TSS	8	6	12	100.0	Spectrophotometric	5.0
3	TDS	650	725	815	Not Specified	TDS meter	1.0
4	Oil & Grease	<2.0	<2.0	<2.0	10.0	Partition Gravimetric	2.0
5	COD	16	24	28	250.0	Closed Reflux	4.0

Note: All parameters are in mg/l except pH.

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager.....
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed.....Dated 28.02.18. Job No. 110310

TABLE NO-1 D
MINE WATER QUALITY REPORT

Sl. No.	Cluster No.	1			Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	1MW8	1MW9	1MW10			
	Station Name	Mandman UG	Gopinathpur OC Patch	Kapasara OC Patch			
	Month	February	February	February			
	Fortnight	First	First	First			
	Date of Sampling	15-Feb-18	15-Feb-18	15-Feb-18			
1	pH	7.80	7.27	7.75	5.5-9.0	pH meter	0.01
2	TSS	18	7	14	100.0	Spectrophotometric	5.0
3	TDS	767	730	652	Not Specified	TDS meter	1.0
4	Oil & Grease	<2.0	<2.0	<2.0	10.0	Partition Gravimetric	2.0
5	COD	40	16	20	250.0	Closed Reflux	4.0

Note: All parameters are in mg/l except pH.

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TABLE NO.- 1 E
WORK-PLACE NOISE LEVEL REPORT

Cluster No.	Station No.	Station Name	Month	Fortnight	Date of Sampling	Noise Level in Day Time {dB(A)}
1	1N1	Pit-top Hariajam UG	February	First	02-Feb-18	64.6
	1N2	Pit-top Badjna UG	February	First	01-Feb-18	69.2
	1N3	Pit-top Chapapur-II UG	February	First	06-Feb-18	70.3
	1N4	Pit-top Khoodia UG	February	First	03-Feb-18	58.4
	1N5	Pit-top Lakhimata UG	February	First	08-Feb-18	62.5
	1N6	Pit-top Shampur-B UG	February	First	07-Feb-18	65.1
	1N7	Pit-top Mandman UG	February	First	09-Feb-18	66.0
	1N8	Workshop Gopinathpur OC Patch	February	First	02-Feb-18	62.3
	1N9	Workshop Kapasara OC Patch	February	First	01-Feb-18	67.7

Environmental standards:

National Ambient Air Quality Standards (NAAQS) in respect of noise for industrial, commercial, residential and silence zones:

Station Category	Limits for noise (Leq dB(A))	
	Day Time (6am-10pm)	Night Time (10pm-6am)
Industrial	75.0	70.0
Commercial	65.0	55.0
Residential	55.0	45.0
Silence	50.0	40.0

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager.....
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed.....Dated 28.02.18. Job No. 110310

TABLE NO.- 1 A
AMBIENT AIR QUALITY REPORT

Cluster No.	Station No.	Station Name	Month	Fortnight	Date of Sampling	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_X ($\mu g/m^3$)	Remarks
1	1A1	In Nayadih village near Shampur - A	February	Second	24-Feb-18	91.7	35.4	<10.0	15.0	-
	1A2	Near Mugma Village	February	Second	28-Feb-18	91.0	35.2	<10.0	14.8	-
	1A3	In Garphalbari Near Kapasara UG	February	Second	28-Feb-18	88.6	34.6	<10.0	14.6	-
	1A4	In Bharkunrabari village	February	Second	23-Feb-18	88.2	34.2	<10.0	14.9	-
	1A5	In Baraban village	February	Second	24-Feb-18	86.8	34.6	<10.0	14.6	-
	1A6	In Jhukundar village	February	Second	20-Feb-18	86.1	34.5	<10.0	15.2	-
	1A10	Mugma III A near Railway siding	February	Second	28-Feb-18	107.5	45.8	<10.0	17.6	-

National Ambient Air Quality Standards (NAAQS):

National Ambient Air Quality Standards (NAAQS) for residential, industrial and rural areas for 24 hourly samples:

Pollutant	PM_{10}	$PM_{2.5}$	SO_2	NO_X
Concentration ($\mu g/m^3$)	100.0	60.0	80.0	80.0

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager.....
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TABLE NO-1 B
MINE WATER QUALITY REPORT

Sl. No.	Cluster No.	1				Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	1MW1	1MW2	1MW3	1MW4			
	Station Name	Hariajam UG	Badjna UG	Chapapur-II UG	Chapapur OC Patch			
	Month	February	February	February	February			
	Fortnight	Second	Second	Second	Second			
	Date of Sampling	28-Feb-18	28-Feb-18	28-Feb-18	28-Feb-18			
1	pH	7.45	7.93	7.50	7.65	5.5-9.0	pH meter	0.01
2	TSS	7	6	10	12	100.0	Spectrophotometric	5.0
3	TDS	750	790	621	754	Not Specified	TDS meter	1.0
4	Oil & Grease	<2.0	<2.0	<2.0	<2.0	10.0	Partition Gravimetric	2.0
5	COD	16	12	24	28	250.0	Closed Reflux	4.0

Note: All parameters are in mg/l except pH.

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager.....
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed.....Dated 15.03.18. Job No. 110310

TABLE NO-1 C
MINE WATER QUALITY REPORT

Sl. No.	Cluster No.	1			Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	1MW5	1MW6	1MW7			
	Station Name	Khoodia UG	Lakhimata UG	Shampur-B UG			
	Month	February	February	February			
	Fortnight	Second	Second	Second			
	Date of Sampling	28-Feb-18	28-Feb-18	28-Feb-18			
1	pH	7.53	8.22	7.67	5.5-9.0	pH meter	0.01
2	TSS	9	16	21	100.0	Spectrophotometric	5.0
3	TDS	720	675	800	Not Specified	TDS meter	1.0
4	Oil & Grease	<2.0	<2.0	<2.0	10.0	Partition Gravimetric	2.0
5	COD	16	32	40	250.0	Closed Reflux	4.0

Note: All parameters are in mg/l except pH.

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager.....
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed.....Dated 15.03.18. Job No. 110310

TABLE NO-1 D
MINE WATER QUALITY REPORT

Sl. No.	Cluster No.	1			Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	1MW8	1MW9	1MW10			
	Station Name	Mandman UG	Gopinathpur OC Patch	Kapasara OC Patch			
	Month	February	February	February			
	Fortnight	Second	Second	Second			
	Date of Sampling	28-Feb-18	28-Feb-18	28-Feb-18			
1	pH	7.59	7.86	7.15	5.5-9.0	pH meter	0.01
2	TSS	23	16	8	100.0	Spectrophotometric	5.0
3	TDS	820	780	725	Not Specified	TDS meter	1.0
4	Oil & Grease	<2.0	<2.0	<2.0	10.0	Partition Gravimetric	2.0
5	COD	36	24	12	250.0	Closed Reflux	4.0

Note: All parameters are in mg/l except pH.

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Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed.....Dated 15.03.18. Job No. 110310

TABLE NO.- 1 E
WORK-PLACE NOISE LEVEL REPORT

Cluster No.	Station No.	Station Name	Month	Fortnight	Date of Sampling	Noise Level in Day Time {dB(A)}
1	1N1	Pit-top Hariajam UG	February	Second	17-Feb-18	69.2
	1N2	Pit-top Badjna UG	February	Second	16-Feb-18	64.1
	1N3	Pit-top Chapapur-II UG	February	Second	20-Feb-18	60.6
	1N4	Pit-top Khoodia UG	February	Second	19-Feb-18	59.4
	1N5	Pit-top Lakhimata UG	February	Second	21-Feb-18	66.2
	1N6	Pit-top Shampur-B UG	February	Second	22-Feb-18	67.5
	1N7	Pit-top Mandman UG	February	Second	23-Feb-18	62.9
	1N8	Workshop Gopinathpur OC Patch	February	Second	16-Feb-18	67.8
	1N9	Workshop Kapasara OC Patch	February	Second	24-Feb-18	61.3

Environmental standards:

National Ambient Air Quality Standards (NAAQS) in respect of noise for industrial, commercial, residential and silence zones:

Station Category	Limits for noise (Leq dB(A))	
	Day Time (6am-10pm)	Night Time (10pm-6am)
Industrial	75.0	70.0
Commercial	65.0	55.0
Residential	55.0	45.0
Silence	50.0	40.0

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager.....
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed.....Dated 15.03.18. Job No. 110310