

ENVIRONMENTAL CLEARANCE COMPLIANCE OF
CLUSTER-XI (GRANTED VIDE J-
11015/77/2011-IA.II (M) Dated 26.08.2013)

(April'2016 – Sept' 2016)

Sl. No.	A. Specific Conditions by MOEF:	Compliance
i.	No mining shall be undertaken in/under the forestland until prior forestry clearance has been obtained under the provisions of FC Act 1980.	Application for Forest clearance was applied vide ref. no. WJA/MND/GM/2011/21 dt.22.9.11 to D.F.O., Dhanbad. D.F.O. demanded jungle-jhari report for the whole lease –hold area of the unit. C.O., Dhanbad was requested to provide the report. D.C.'s & C.O.'s office provided 'Jungle-Jhari' report for only 4 Mouzas showing unavailability /tearing off Khatiyani. Accordingly we applied for forest clearance to D.F.O. vide letter no. WJA/MND/GM/2014/4719 dt. 9.10.14 for onward submission to M.O.E.F. DFO, Dhanbad directed us to apply through On-Line. Accordingly online registration for the same was done vide Unique Proposal no. FP/JH/MIN/9699/2015. Form 'A' application for the same has been completed, toposheets uploaded and Geo-reference is being done.
ii.	You will need to seek and obtain approval under the FC Act for diversion of the entire forest land located within the mining lease within a period of two years from 1.2.2013 i.e. date of issue of FC Division's guidelines vide. no. 11-362/2012-FC, failing which the mining lease area will be reduced to the non-forest area plus the forest area for which you have been able to obtain the FC at the end of this time period. In the case of reduction in mine lease area, you will need to get a revised mining plan approved from the Competent Authority for reduced area and enter into a new mining lease as per reduced lease area. The EC will be construed to be available for the mining lease area as per the revised mining lease deed.	Agreed
iii.	The maximum production in the cluster shall not exceed beyond that for which environmental clearance has been granted for the cluster XI as per given below:	It is being complied. The production from the cluster is within the limit for which environmental clearance has been granted. Enclosed as Annexure I .
Iv.	The open cast quarries of the abandoned mines should be backfilled to the ground level and restored with native species.	Shall be complied. Now it is not applicable.
V.	All coal from smaller UG mines should be transported by high capacity and mechanically covered trucks/ tippers.	Agreed. Coal from smaller u/g mines is transported by covering trucks with Tarpaulin.

vi.	Green belts shall be developed on both sides of the roads.	Agreed. Almost 70 % of plantation already done. A garden with fountain has been developed near Moonidih Colliery office. Time to time plantation is done either departmental or with the help of DFO.
vii.	Action plan for quenching of fires and rehabilitation alongwith the details of master plan be submitted to the MoEF for Monitoring purpose.	It is being Complied. (Plan is already submitted and uploaded on BCCL website in respect of P.B. Area).
viii.	Presently coal to Munidih washery from other mines of the cluster is taking place through NH. An alternate route for coal transportation may be explored.	In the process of exploration. No alternate route for coal transportation has been explored till date.
ix.	For understand the composition of emissions from coal mine fires, BCCL may.	Agreed
x.	Initiate action as proposed in the visit report of the EAC to Dhanbad.	Action as proposed in the visit report of EAC initiated to Dhanbad.
xi.	The approved mining plan be submitted to the MoEF.	Agreed. It is under process. Feasibility report has been submitted.
xii.	The measure to identify in the Environmental Plan for Cluster- XI groups of mine and the conditions given in this environmental clearance letter shall be dovetailed to the implementation of the Jharia Action Plan.	Environmental plan for Custer XI group of mines and the conditions given on the environment clearance has been dovetailed.
xiii.	The proponent shall prepare time -series maps of the Jharia Coalfields through NRSA to monitor and prevent fire problems in the Jharia Coalfields by Isothermal mapping /imaging and monitoring temperatures of the coal seams (whether they are close to spontaneous ignition temperatures) and based on which, areas with potential fire problems shall be identified. Measures to prevent ingress of air (Ventilation) in such areas, to prevent restart fresh/spread fires in other areas including in mines of cluster II shall be undertaken. Expertise available internationally could also be utilized for control of fire in Jharia Coalfields and for their reclamation and to further minimize time for fire and subsidence control. Isothermal mapping using thermal imaging has been got done by NRSA. Measures would be taken to prevent ingress of air (ventilation) in such areas, which may re-start fresh fires.	It has been complied. NRSC was engaged for preparation of time series maps to monitor and prevent fire problems of Jharia Coalfield by Isothermal mapping/imaging and monitoring temperatures of the coal seams and NRSC has submitted their final report in March'2014 in which the area of fire has been reduced from 9.00 Km ² to 2.18 Km ² . Enclosed as Annexure II..
xiv.	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.	Agreed. There is no river passing from P.B.Area.
xv.	No mining shall be undertaken where underground fires continue. Measure shall be	It is being complied

	taken to prevent/check such fire including in old OB dump areas where the fire could start due to presence of coal/shale with sufficient carbon content.	
xvi.	Mining shall be carried out as per statuette from the streams/nalas flowing within the lease and Maintaining a safe distance from the Nalas flowing along the lease boundary. A safety barrier of a minimum 60m width shall be maintained along the nalas/water bodies.	Agreed. Complied as per statute.
xvii.	Thick green belt shall be developed along undisturbed areas, mine boundary and in mine reclamation. A total area of 254.67 ha shall be reclaimed and afforested.	Agreed. Already developed in respect of Moonidih u/g mine. Green belt is being developed and 5 ha of ecological park (taken up in FY 2015-16) and 2 ha (taken up in FY 2016-17) is under construction in lease hold area of Bhagabandh colliery of cluster XI.
xviii.	Details of transportation, CSR, R&R and implementation of environmental action plan for the clusters- XI should be brought out in a booklet form within a year and regularly updated.	Complied. Enclosed as Annexure III.
xix.	Specific mitigative measures identified for the Jharia Coalfields in the Environmental Action Plan prepared for Dhanbad as a critically polluted are and relevant for Cluster XI shall be implemented.	It is being complied in the name of Dhanbad Action Plan. It has been prepared in consultation with Jharkhand Pollution Control Board for entire BCCL, not on cluster basis. It is being implemented comprehensively for all the mines of BCCL. Some of the salient actions of this cluster are as under: <ol style="list-style-type: none"> 1. Covered Truck Transport. 2. Construction of Pucca Road. 3. Construction of water reservoir for mine water utilization. 4. Plantation. Etc. Enclosed as Annexure IV
xx.	The locations of monitoring stations in the Jharia Coalfields should be finalized in consultation with the Jharkhand State Pollution Control Board. The Committee stated that smoke/dust emission vary from source to source (fuel wood, coal, fly ash from TPPs, silica from natural dust, etc.) and a Source Apportionment Study should be got carried out for the entire Jharia Coalfields. Mineralogical composition study should be undertaken on the composition of the suspended particulate matter (PM ₁₀ and PM _{2.5}) in Jharia Coalfields and also quantified. These studies would help ascertain source and extent of the air pollution, based on which appropriate mitigative measures could be taken.	It is being complied. Establishment of ambient environment quality monitoring stations has been finalized with the consultation of Jharkhand State Pollution Control Board. Annexure V. The monitoring of ambient environment was done by Central Institute of Mining & Fuel Research (CIMFR), Dhanbad which is a CSIR laboratory recognized under the EP Rules. Presently CMPDIL is carrying out the ambient environment monitoring work. Final report yet to be submitted by CMPDIL. Enclosed as Annexure IX.
xxi.	The proponent will continue the existing Road-Rail transport network system in view of the implementation of the Master Plan (for 10 years) and another 5 years gestation period after the completion of Master Plan for consolidation of the backfilled dug out fire	Action has been taken for the transportation plan for conveyor cum rail system of dispatch. CMPDIL, RI-II has been requested to conduct study and prepare the plan in this regard. No OEM/HEMM Equipment Manufacturer supplies the mechanically covered trucks for the transportation of

	<p>areas and unstable areas is required. All mitigation measures (like covered trucks, green belting on either sides of the roads, enhanced water sprinkling, strengthening and maintaining the roads etc.) shall be adopted up to 15 years (phase-I) with the existing road-rail transport system. In phase-II, BCCL shall implement conveyor-cum-rail transport to avoid movement of trucks within the cluster for coal transportation in Phase-II which shall start after 15 years. Transportation of coal shall be by Rail and Conveyor belt, minimizing the existing road transport system in all the mines of the cluster and shall continue after 15 years. Loading of coal by pay loaders shall be discontinued. Adequate number of suitably designed off-take points shall be provided.</p>	<p>Coal and OB in India. Possibility is being explored at local level. By that time transportation is being done by covering vehicle with tarpaulin cover.</p> <p>Enclosed as Annexure VI.</p>
xxii.	<p>16944 nos of PAFs should be rehabilitated at cost of Rs 53776.60 Lakhs as per the approved Jharia Action Plan.</p>	<p>Implementation of master plan has already been started through Jharia Rehabilitation and Development Authority (JRDA), Dhanbad</p>
xxiii.	<p>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.</p>	<p>It is being complied and will be implemented as the case may be.</p>
Xxiv.	<p>Coal Extraction shall also be optimized in areas where agricultural production is continuing. Some pillars shall be left below the agricultural land. No depillaring & coal extraction should be carried out below habitation, H.T. Lines & beneath road, water bodies.</p>	<p>Agreed. Being implemented as per statute.</p> <p>There is no agriculture land in P.B.Area, hence this condition does not apply.</p>
Xxv.	<p>Subsidence shall be monitored closely and if subsidence is found exceeding the permitted limits, then the landowners shall be adequately compensated with mutual agreement with the landowners.</p>	<p>Agreed It is being complied.</p>
xxvi.	<p>3-tier plantation should be developed 2 km stretch of road from the mine using native species.</p>	<p>Developed in respect of Moonidih Mine. It is being complied in respect of all mines of P.B.Area.</p>
xxvii.	<p>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.</p>	<p>Already provided in respect of Moonidih Mine (Approach road already blacktopped and maintained).Already provided in Moonidih washery.</p> <p>It is being also complied in respect of all mines of P.B.Area. Mobile water tankers are used for spraying water.</p>

xxviii.	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 and township etc., by planting native species in consultation with the local DFO/Agriculture Department.	It is being complied. 1. 1380 plants were planted near algaria site till March 2016 2. 2000 plants are planted between April and September 2016 in PB Area. Being implemented in respect of Moonidih Colliery.
xxix.	Acid Water Treatment Plant, volume of water to be treated and disposal of brine should be provided.	Agreed. Presently there no acid water in Cluster-XI mines.

Xxx.	Mine discharge water outside the ML shall be monitored, particularly for TDS and treated to conform to prescribed levels before discharge into the natural environment.	Agreed. Being Monitored. Moonidih washery is operating under closed water circuit system.
Xxxi.	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.	Agreed. Mine water is being used for the industrial as well as domestic purpose. Mine water is also utilized for the community and irrigation purposes.
xxxii.	Besides carrying out regular periodic health check up of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health checkup for occupational diseases and hearing impairment, if any, through an agency such as NIOH, Ahmadabad within a period of one year and the results reported to this Ministry and to DGMS.	Being Complied. NIOH has done the health surveillance, though report is awaited from their end. NIOH also done an Awareness workshop on occupational diseases.
xxxiii.	The mining in the existing mines would 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, having bearing with movement of wild life until such time they are closed/phased out.	Agreed
xxxiv.	Sufficient coal pillars shall be left unextracted around the air shaft (within the subsidence influence (area) to protect from any damage from subsidence, if any.	Already implemented in case of Moonidih Mine. Agreed in respect of all mines of P.B.Area.
xxxv.	High root density tree species shall be selected and planted over areas likely to be affected by subsidence.	Being Complied. Planted in respect of Moonidih Colliery.

xxxvi.	Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by Cutting drains.	Agreed
xxxvii.	Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.	Agreed
xxxviii.	The CSR Action Plan shall consist of need-based CSR Action Plan, CSR Auditing and monitoring mechanism etc. The proponent will spend 5 % of the retained earning of the previous year subject to a minimum of Rs. 5/- per tonne of coal production which should be adjusted as per the annual inflation The progress made thereon shall be uploaded on the company annually on the company website. Monitoring of the impacts of activities under CSR shall be carried out periodically.	Being Complied. CSR work carried out in FY 2016-17 is enclosed as Annexure - III
xxxix.	Third party evaluation shall be got carried out regularly for the proper implementation of activities undertaken in the project area under CSR. Issue raised in the Public Hearing shall also be integrated with activities being taken up under CSR. The details of CSR undertaken along with budgetary provisions for the village-wise various activities and expenditure thereon shall be uploaded on the company website every year. The company must give priority to capacity building both within the company and to the local youth, who are motivated to carry out the work in future. The gap/space available between the entire mine area should be suitably planted with native species. Plantation should also be made in vacant area and along the road side so as to reduce dust pollution.	It is being complied.
XI.	Central recreation park with herbal garden should be developed for use of all inhabitants.	Ecological park of (5 hectare in FY 2015-16 and 2 hectare in FY 2016-17) in the lease hold of Bhagabandh colliery is under construction.
Xli.	The mine water should be treated properly before supply to the villager.	It is being complied. An action plan for the utilization and treatment of surplus Mine Water has been prepared by Environment, Civil and CSR department jointly. In this regard, 26 Mines have been identified for the implementation of scheme in the Phase-I. A pilot scale mine water treatment plant in collaboration with CSIR, CIMFR is installed at P.B. Area office to convert mine water into drinking water.

Xlii	Mine discharge water shall be treated to meet standards prescribed standards before discharge into natural water courses/agriculture. The quality of the water discharged shall be monitored at the outlet points and proper records maintained thereof and uploaded regularly on the company website.	It is being complied. Mine discharge water is being allowed to settle down in the mine sumps before passing through sedimentation tank. The monitoring of water quality parameters was being done through Central Institute for Mining and Fuel Research (CIMFR), Dhanbad and presently CMPDIL is carrying out the environmental monitoring work. Mine water quality data has been enclosed as Annexure IX.
Xliii	The void shall be converted into a water reservoir of a maximum depth of 15-20 m and shall be gently sloped and the upper benches of the reservoir shall be stabilized with plantation and the periphery of the reservoir fenced. The abandoned pits and voids should be backfilled with OB and reclaimed with plantation and or may be used for pisciculture.	Agreed (As working in PB area does not approach combined seam therefore water reservoir cannot be formed. In due course this point will be complied in future)
Xliv	Regular monitoring of groundwater level and quality of the study area 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 including Arsenic and Fluoride during the month of May. Data thus collected shall be submitted to the Ministry of Environment & Forest and to the Central Pollution Control Board/SPCB quarterly within one month of monitoring. Rainwater harvesting measures shall be undertaken in case monitoring of water table indicates a declining trend.	It is being complied. CMPDI RI-II has prepared a report for Location and design of Piezometers. Tender is being prepared for award of work of establishing a network of dug wells and construction of new piezometers for groundwater monitoring purpose. Groundwater monitoring data has been enclosed as Annexure VII.
xlvi	ETP shall also be provided for workshop, and CHP, if any. Effluents shall be treated to conform to prescribe standards in case discharge into the natural water course.	Agreed. There is no effluent found now .However there is arrangement for treatment of effluent. There is no CHP under Cluster XI

xlvi	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 and its Regional office at Bhubaneswar.	It has been complied. Presently a time series map of vegetation cover in the Jharia Coal Field is being carried out through CMPDI, Ranchi using satellite imagery. Further CMPDI has been requested to prepare “Time series of land use maps based on satellite imagery of the core zone and buffer zone.
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xlvi.	A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests five year before mine closure for approval. Habitat Restoration Plan of the mine area shall be carried out using a mix of native species found in the original ecosystem, which were conserved in-situ and ex-situ in an identified area within the lease for reintroduction in the mine during mine reclamation and at the post mining stage for habitat restoration. the mining plan and post- mining plan, closure plan should be prepared and submitted to the Ministry;	<p>Agreed.</p> <p>Mine Closure Plan is approved in respect of Moonidih Colliery by CMPDIL.</p>
xlvi.	A separate management structure for implementing environment policy and socio-economic issues and the capacity building required in this regard.	Complied.
xli.	The raw coal, washed coal and coal wastes (rejects) shall be stacked properly at earmarked.	Agreed.
1.	Site(s) within stockyards fitted with wind breakers/shields. Adequate measures shall be taken to ensure that the stored minerals do not catch fire.	Agreed.
li.	Hoppers of the coal crushing unit and washery unit shall be fitted with high efficiency bag filters and mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of closed belt conveyor systems and from transportation roads.	<p>Agreed.</p> <p>Sprinklers area working nearby hoppers of Coal crushing unit and mobile water tankers are used for spraying water in transportation road.</p>
lii.	All approach roads shall be black topped and internal roads shall be concreted. The roads shall be regularly cleaned with mechanical sweepers.	<p>Already implemented in respect of Moonidih mine</p> <p>Cleaning of roads done manually. It is being complied for other units of Cluster- XI.</p>

liii.	Green belt of 3 ha shall be developed all along the periphery of the site, along the areas such as the washery unit, crushing unit, and stockyard. A 3-tier avenue plantation would be developed along vacant areas, near washery, storage yards, loading points and transfer points and along internal roads and main approach roads and on the road upto the railway siding and at the siding. The road between the coal washery and the main -road shall be black topped and thick 3-tier vegetation between the washery and villages/habitations shall be developed. In addition, a 10m thick green avenue plantation in the transportation route from washery to Majhri Railway Siding (of WCL) shall be provided in consultation with and approval of WCL under CSR.	<p>Agreed.</p> <p>Here there is no Majhri Railway siding (of WCL).</p>
liv.	Trucks engaged for mineral transportation outside the washery upto the railway siding shall be optimally loaded. The trucks shall be properly maintained and emissions shall be below notified limits. Facilities for parking of trucks carrying raw coal from the linked coalmines shall be created within the Unit.	<p>Being Complied.</p> <p>The trucks which are carrying coal from different collieries to Moonidih washery are regularly maintained in their workshop and are parked at proper place.</p>
lv.	Records of quantum of coal (in TPD) and ash content of raw coal being washed, clean coal and coal rejects produced from every batch of washing shall be maintained and details thereof uploaded on the company website.	<p>Being Complied.</p> <p>Records of Coal fines/Slurry are maintained by Moonidih coal washery.</p>
lvi.	The washery unit shall be a zero-discharge facility and no wastewater shall be discharged from the washery into the drains/natural watercourses. Recycled water shall be used for development and maintenance of green belt and in the Plant Operations.	<p>There is zero discharge from the washery and water is recycled for the plant operations and for the development of plantation inside the washery premises.</p>
lvii.	Coal fines shall be recovered from the coal slurry, washery discharge and used in power generation and records of quantum of coal fines collected and used shall be properly maintained.	<p>Stock of slurry is maintained, records of coal fines are maintained.</p>
lviii.	No additional groundwater shall be used for the Plant Operations. Any additional water requirement envisaged shall be obtained by recycle/reuse to the maximum extent and from rainwater harvesting measures.	<p>Agreed</p>

lix.	Heavy metal content in raw coal, and washed coal shall be analysed once in a year and records maintained thereof.	Agreed
lx.	Corporate Environment Responsibility:	Enclosed as Annexure-VIII
a.	The Company shall have a well laid down Environment Policy approved by the Board of Directors.	Agreed
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/conditions.	Agreed
c.	The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.	Agreed
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.	Agreed
Sl. No	B. General Conditions Conditions by MOEF:	Compliance
i.	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.	Being Followed.
ii.	No change in the calendar plan of production for quantum of mineral coal shall be made.	Being Followed.
iii.	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM10, PM 2.5, SO 2 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.	The fixing up of locations of monitoring stations in the Jharia Coalfields has been taken up with the Jharkhand State Pollution Control Board. Enclosed as ANNEXURE V The work of monitoring of ambient environment has been done through CMPDI, Regional Institute-II, Dhanbad which is having CSIR laboratory recognized under the EP Rules.

iv.	Data on ambient air quality (PM 10, PM 2.5, SO 2 and NO x) and heavy metals such as Hg, As, Ni, Cd, Cr 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 EPA rules, 1986 shall be furnished as part of compliance report.	It is complied. Monitoring for the same is done by CMPDI which is having own laboratory recognized under EPA Rules.
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.	Being Complied.
vi.	Industrial wastewater (workshop and wastewater 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.	CMPDI Dhanbad is carrying out regular monitoring of environmental quality work. There is arrangement for treatment of effluent discharge to prescribed standards.
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.	It is being complied.
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, 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 analysed through a laboratory recognized under EPA Rules, 1986.	It is being complied.
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.	Being complied. Vocational training Centers under separate Human Resource Development Department is conducting regular training programme on these issues. Enclosed as Annexure XI .

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.	Initial Medical Examination (IME) and Periodical Medical Examination (PME) of all the personnel are carried out as per the Statutes and Director General of Mines Safety (DGMS) `s guideline.
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 full-fledged Environment Department, headed by a HoD (Environment) along with a suitable qualified multidisciplinary team of executives (12 nos.) which includes Environment, Mining, Excavation, Civil, Survey ,Electrical & mechanical, Forestry disciplines executives and technicians (4 nos.) has been established in Headquarters. They are also trained in ecological restoration, sustainable development, rainwater harvesting methods etc. At the project level, one Executive in each area has also been nominated as Project Nodal Officer (Environment) and is also entrusted with the responsibility of compliance and observance of the environmental Acts/ Laws including environment protection measures .The activities are monitored on regular basis at Area and at Headquarters levels. GM (Environment) at head quarter level, co-ordinates with all the Areas and reports to the Director (Technical) and in turn he reports to the CMD of the company. The team is multidisciplinary and very much motivated under the guidance of company's Director (Technical) and CMD. Further capacity building at both corporate and operating level is being done.
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.	It is being complied. Agreed to report the same soon. It is being initiated with respect to Moonidih colliery also.

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 www.envfor.nic.in	It has been complied.
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xiv.	A copy of the environmental clearance letter shall be marked to concern 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 environmental clearance letter shall be 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.	Complied.
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 at least once 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 NO_x (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.	Complied.
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 Office (s) of CPCB and the SPCB.	Being complied.
xviii.	The Regional Office of this Ministry located at Ranchi 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.	Agreed .It has been complied & shall be complied.

xix.	The Environmental statement for each financial year ending 31 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.	Being complied. Agreed.
7	The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.	Agreed
8	The proponent is required to obtain all necessary clearances/approvals that may be required before the start of the project.	Agreed
9	The Ministry or any other competent authority may stipulate any further condition for environmental protection.	Agreed
10	Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provisions of the Environment (Protection) Act, 1986.	Agreed
11	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. The proponent shall ensure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of groundwater and surface water and occupational and other diseases due to the mining operations.	Agreed

12	The Environmental Clearance is subject to the outcome of the Writ Petition filed by M/S Bharat Coking Coal Limited (BCCL) in response to the closure orders issued by the Jharkhand State Pollution Control Board which is pending in the Jharkhand High Court.	Agreed
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Additional General Manager
P.B. Area

अपर-बलहारी क्षेत्र
पुटकी
Addl. General Manager
Post-keee Balihari Area

Project officer
Moonidih Washery

28/11/16
PROJECT OFFICER
MOONIDIH COAL WASHERY

Project officer
Moonidih Colliery

28-11-16
PROJECT OFFICER/AGENT
MOONIDIH COLLIERY
B.C.C. LTD.

ANNEXURE- I

A. Production from April'15 to Sept'16 of Cluster XI mines

Month		April' 16	May' 16	June' 16	July' 16	Aug' 16	Sep' 16	Total (Million ton)
Cluster XI	P.B.Project	1914	1388	1077	1082	1321	2040	0.008
	Gopalichuck	1526	915	1951	1390	799	572	0.007
	Bhagabandh	1114	1210	1238	1323	1542	1343	0.007
	K.B.10/12 Pits	1642	1720	1152	1998	799	572	0.007
	Moonidih UG Mine	46180	60320	60116	30000	36490	54130	0.282
	Total (in Million ton)							0.311

ANNEXURE-II

DELINEATION OF SURFACE COAL FIRE IN THE JHARIA COALFIELD, DHANBAD, JHARKHAND USING REMOTE SENSING DATA

**GEOSCIENCES GROUP
RS & GIS APPLICATIONS AREA
NATIONAL REMOTE SENSING CENTRE
INDIAN SPACE RESEARCH ORGANISATION
DEPT. OF SPACE, GOVT. OF INDIA
HYDERABAD-500 037
MARCH, 2014**





Jharia coal field, Dhanbad, Jharkhand.

5. There is a decrease in areal extent of the fire (Figure 10) from 2006 to 2012.

Note: Estimations of fire extent (in terms of sq.km.) both in 2006 and in the present 2012 study are pixel based. They do not represent the actual ground area under fire. These estimations are made for comparative purpose only, to indicate the increase or decrease of areal disposition of fire. Hence, they should not be quoted as fire area on the ground.

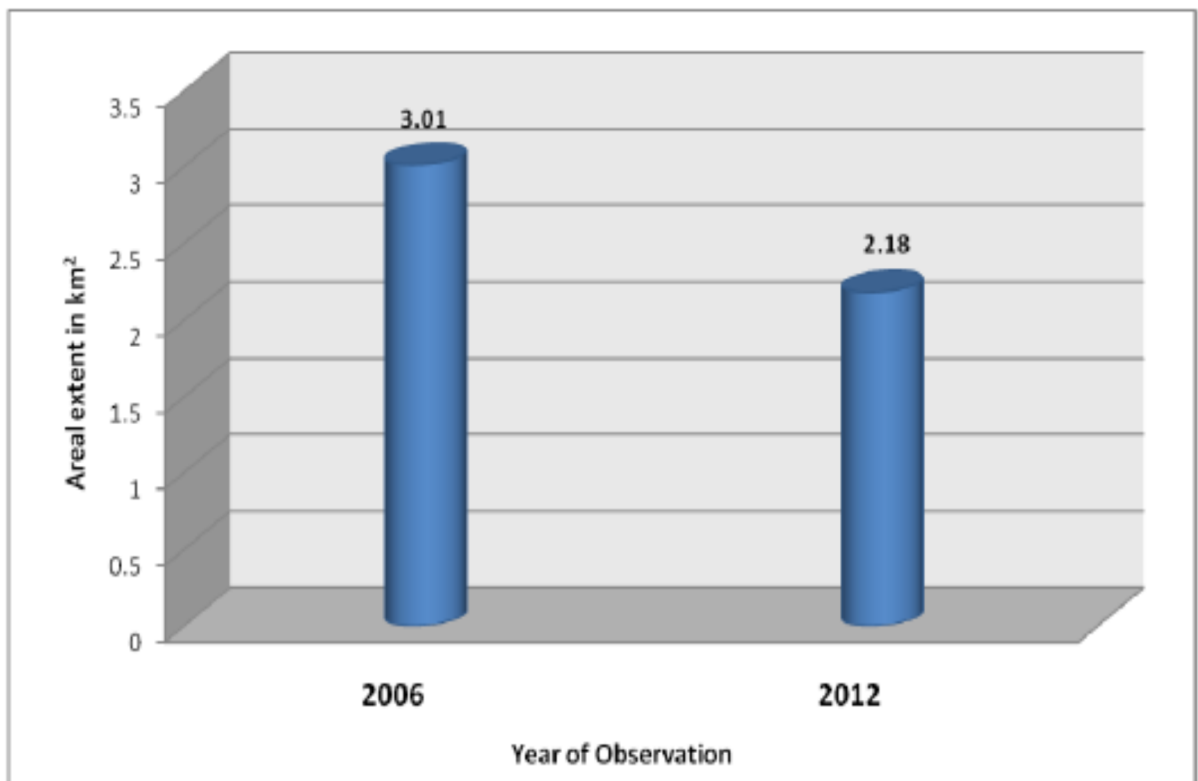


Figure 10: Total fire area statistics

ANNEXURE –III

CSR, R&R and Transportation Plan of Cluster XI

As per EC Condition (Specific Condition No XVIII)

Details of transportation, CSR, R&R and implementation of environmental action plan for each of the 17 clusters should be brought out in a booklet form



Bharat Coking Coal Limited
(A Mini Ratna Company)
P.B Area
Dhanbad

**UNDERSTANDING THE SCOPE OF CSR INTERVENTION
(BASELINE STUDY REPORT)**



FOR

BHARAT COKING COAL LTD. (BCCL)

DHANBAD

BY-

NATIONAL CORPORATE SOCIAL RESPONSIBILITY HUB

TISS, MUMBAI

25th NOVEMBER 2013

CIL'S POLICY FOR CORPORATE SOCIAL RESPONSIBILITY (CSR)

Introduction

Mining of coal has profound impact on the people living in and around the areas where the mines are established. The obvious impact of the introduction of any production activity in such areas change the traditional lifestyle of the original inhabitants and indigenous communities and also change the socio-economic profile of the Area. Hence, the primary beneficiaries of CSR for the company are:

- Land oustees
- PAPs and
- Those staying within the radius of 25 Kms of the Project.

Poor and needy section of the society living in different parts of India are the second beneficiaries. In the aforesaid backdrop, policy on Corporate Social Responsibility of CIL has been framed after incorporating the features of the Companies Act 2013 and as per notification issued by Ministry of Corporate Affairs, Govt. of India on 27.02.2014 as well as DPEs guidelines and broadly covers the following: -

- a) Welfare measures for the community at large, so as to ensure the poorer section of the Society derived the maximum benefits.
- b) Contribution to the society at large by way of social and cultural development, imparting education, training and social awareness especially with regard to the economically backward class for their development and generation of income to avoid any liability of employment.
- c) Protection and safeguard of environment and maintaining ecological balance.

Objectives

The main objective of CSR policy is to lay down guidelines for the coal companies to make CSR a key business process for sustainable development for the society. It aims at supplementing the role of the Govt. in enhancing welfare measures of the society based on the immediate and long term social and environmental consequences of their activities. CIL will act as a good Corporate Citizen, subscribing to the principles of Global Compact for implementation.

Areas Covered under CSR

- The poor and needy Section of the Society living in different parts of India are covered.
- The CSR Programme also covers the existing components of Special Component Plan (SCP) and Tribal Sub Plan (TSP) for development of the SC and ST population besides development components for the entire population.

80% of the budgeted amount is spent within the radius of 25 Km of the Project Site/Mines/Area HQ/Company HQ and 20% of the budget is spent within the State.

Allocation of Fund

The fund for the CSR is allocated based on 2% of the average net profit of the Company for the three immediate preceding financial years or Rs. 2.00 per ton of Coal Production of previous year whichever is higher.

Scope

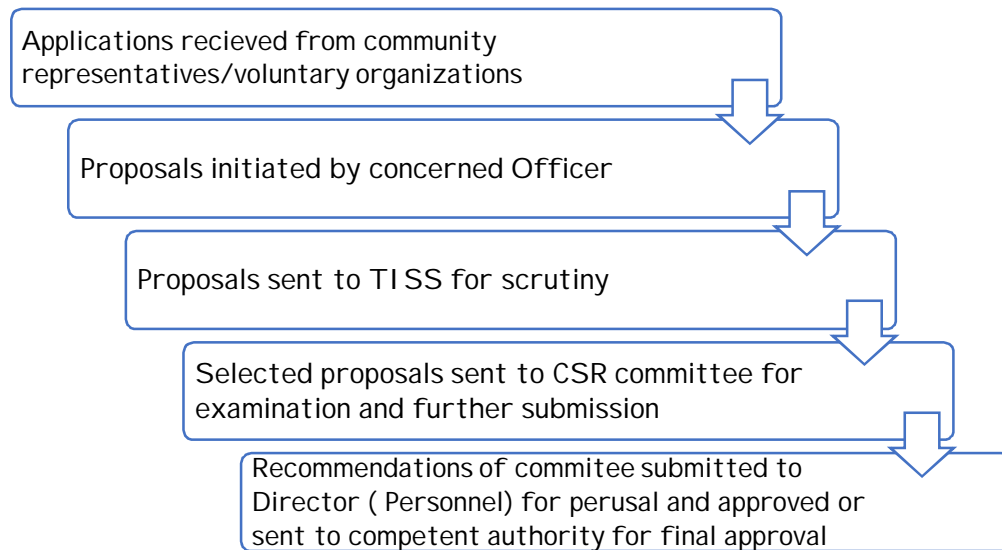
As per Schedule VII of New Companies Act 2013, the following are the Scope of Activities under Corporate Social Activities:

- i) Eradicating hunger, poverty and malnutrition, promoting healthcare including preventive health care and sanitation and making available safe drinking water.
- ii) Promoting education, including special education and employment enhancing vocation skills especially among children, women, elderly, and differently abled and livelihood enhancement projects;
- iii) Promoting gender equality, empowering women, setting up homes and hostels for women and orphans, setting up old age homes, day care centers and such other facilities for senior citizens and measures for reducing inequalities faced by socially and economically backward groups;
- iv) Ensuring environmental sustainability, ecological balance, protection of Flora and Fauna, animal welfare, agro-forestry, conservation of natural resources and maintaining quality of soil, air and water;
- v) Protection of national heritage, art and culture including restoration of buildings and sites of historical importance and works of art; setting up public libraries, promotion and development of traditional arts and handicrafts;
- vi) Measures for the benefit of armed forces veterans, war widows and their dependents
- vii) Training to promote rural sports, nationally recognized sports, Paralympics sports and Olympic sports;
- viii) Contribution to the Prime Minister's National Relief Fund or any other fund set up by the Central Government for socio-economic development and relief and welfare of the Scheduled Castes, the Scheduled Tribes, other backward classes, minorities and women;
- ix) Contributions or funds provided to technology incubators located within academic institutions which are approved by the Central Government;
- x) Rural development projects

Implementation

- The investment in CSR is project based and for every project time framed periodic mile stones should be finalized at the outset.
- Project activities identified under CSR are implemented by Specialized Agencies. Specialized Agencies are made to work singly or in tandem with other agencies. Specialized agencies that are included presently for implementation of CSR projects in Cluster VII are through Contracted agencies for civil works.

Institutional Arrangement



Baseline study done by TISS (Putki Balihari Area)
Kenduahdih

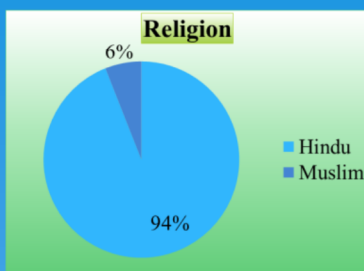
Tola: Kenduahdih (Ward 12) | Panchayat: Kenduahdih | Block: Dhanbad
| District: Dhanbad

Census Year	2001
Households	150
Population	1300

Source of water	
Irrigation	None
Drinking Purpose	Tank, Public and private tap

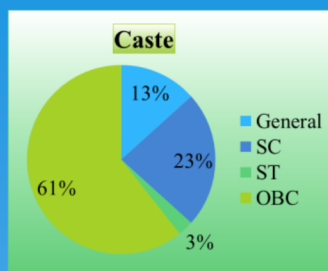
Crop Grown
Paddy
Maize
Wheat
vegetables

Recreation / Common Facilities
Playground
Samaaj Mandir
Cremation Place, community hall



Migration Pattern	
Location	Status
Outside State (Agri Labour)	Few

Accessibility to Forest/Mining Produce
Coal Collection, Firewood
Cultivation



Sources of Livelihood
Own farm activities
Agricultural labour
Non-agri labour (rural)
Salaried employment
Petty business/trade
Collect & sale forest/mining products, factory labor
Rent/pension/remittance

Common Transport Facilities
Motor Cycle
Bicycle

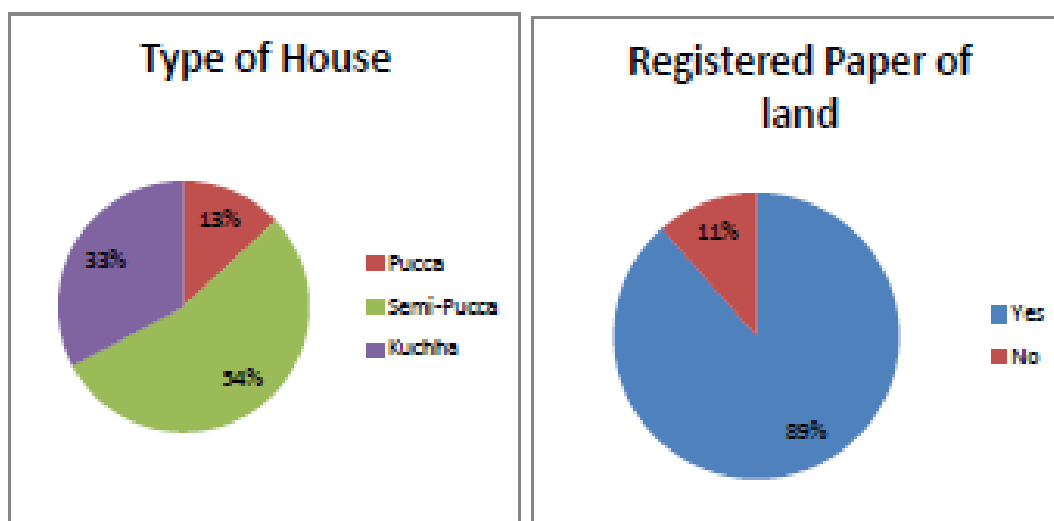
Facilities Located in Villages
Cemented tar road
PDS Shop
Grocery Shop
Pre-Pri/Nursery School
Govt Primary School
Pvt. Primary School
Govt Secondary School
Higher Sec School
Pvt Clinic (RMP+)
Asha worker
Dai

Facilities Located More Than 5 Kms
Weekly Market
Block Development Office (Dhanbad)
District Headquarters (Dhanbad)
Warehouse (Dhanbad)
APMC/Mandi (Dhanbad)
ITI/Polytechnic(Dhanbad)
Health Sub – Centre (Karkend Mor)
Primary Health Centre(Dhanbad)
Veterinary Clinic(Karkend Mor)

Facilities Located Within 5 Kms
Bus Stop (Putki)
Daily Evening Market (Boragarh)
DTP/Xerox (Bhagabandh)
Post Office (Bhagabandh)
Railway Station (Bhagabandh)
Police Station (Putki)
Gram Panchayat Office (South Balihari)
Cooperative Society (Putki)
Bank for S/B account (Bhagabandh)
Degree College(Jharia)
CHC Govt /Gen Hospital (Bhagabandh)
Private Hospital (Bhagabandh)
Medical Shop/Chemist (Bhagabandh)

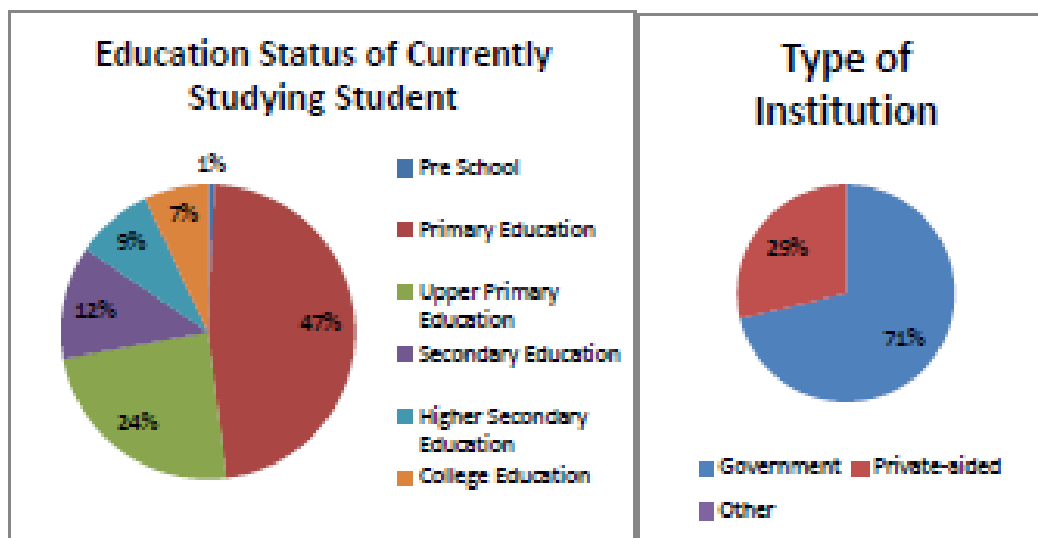
HOUSEHOLD STATUS

4.10.1.1 HOUSEHOLD STATUS



In Kenduahdih Basti, 40% of the households are found to be Semi- Pucca while 48% are Kuchha and 12% are Pucca. 95% of the houses are registered while only 5% was found to be non-registered. Nearly 85% of the houses in this village are electrified.

4.10.1.2 EDUCATION



In Kenduahdih Basti, it has been found that 35% of the students are enrolled in Primary education followed by 28% in Upper primary, 10% in secondary education, and 5% in higher secondary, 3% in college. Education after 12th standard is found comparatively less with any

Major Problems and Recommendations

Area	Major Problems and Recommendations
Education	There is no road which can join schools to main working road
	No electricity and in-house circuiting of lights and fans in the class room of primary school
	Shakti Nath Mehto School needs school boundary and toilet in school premises
Water Supply	Pipeline already exists in this village. More number of pipelines are required in Harijan Basti of Kenduahdih
Health Care	Mobile medical Van should treat children every month in primary school
	Maternity health camp should be initiated through MMV
Social Empowerment	Nearly 5-6 SHG has been identified in this village. SHG (<i>Ma Saraswati Mahila Samuh</i>) already exist in the village. They need are trained in agriculture. They need support of land to start collective farming of horticultural crops. They are also trained in preparation <i>Agarbatti</i> and bangles made from lac.
	Vocational training school for girls and boys is needed in this village. School building of Shakti Nath Mehto School can be used for providing vocational training center in the weekends or after the school hours with prior permission of the school administration. Not only that the training center for women to start small enterprise can be establish in the same school premises.
Sanitation	No toilets in any of the households. Toilets is needed to construct
Infrastructural Development	There <i>Kuccha</i> road in the village which creates problem during rainy season
	On hand pump/tap point is needed in ICDC
	One kitchen room is required in primary school
	Playground boundary in needed with gate in primary school

4.10.2 BHAGABANDH

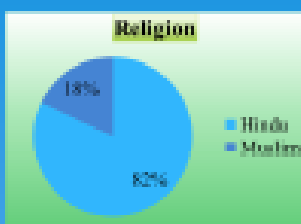
**Tola: Bhagabandh(Ward 12) | Panchayat:Bhagabandh| Block: Dhanbad
| District: Dhanbad**

Census Year	2001
Households	720
Population	4409

Source of water	
Irrigation	None
Drinking Purpose	Tank, public and private tap

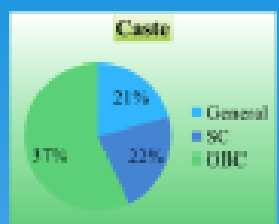
Crop grown
Paddy
Maize
Vegetables

Recreation / Common Facilities
Playground
Sarasaj Mandir
Cremation Place



Migration Pattern	
Location	Status
Outside State (Agri Labour)	Rarely

Accessibility to Forest/Mining Produce
Coal Collection, fire wood
Cultivation



Sources of Livelihood
Owen farm activities
Cattle rearing
Non-agri labour (rural)
Salaried employment
Petty business/trade
Collect & sale forest/mining products, factory labor
Rent/pension/remittance
Common Transport Facilities
Motor Cycle, Share Auto
Bicycle

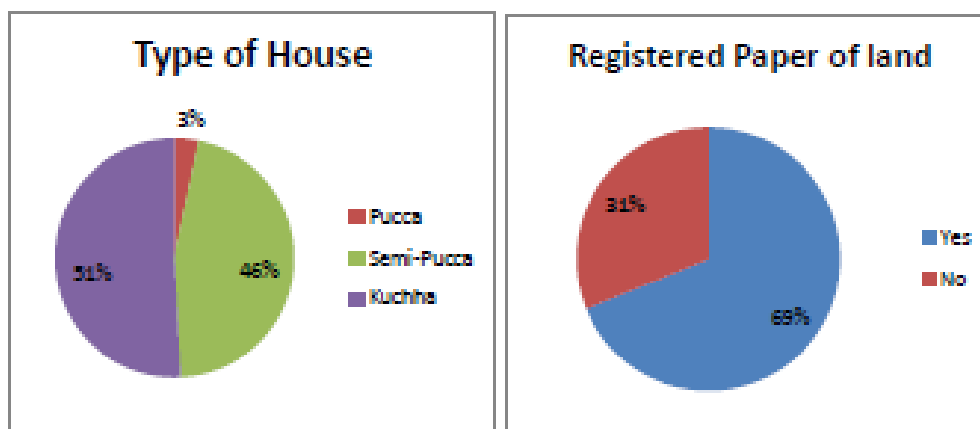
Facilities Located Within the village
Cemented tar road
Grocery Shop
DTP/Aarog
PDS Shop
Post Office
Bank for S/B account
Pre-Pri/Nursery School
Govt Primary School
Govt Secondary School
Pvt. Secondary School
CHC Govt /Gen Hospital
Pvt Clinic (MBBS/BAMS+)
Medical Shop/Chemist
Asha worker
Dai(Trained/Untrained)
Pvt Clinic (RMP+)

Facilities Located with 5 kms
Bus Stop (Putki)
Daily Evening Market (Putki)
Weekly Market (Putki)
Police Station (Putki)
Veterinary Clinic (Putki)
Health Sub – Centre (Putki)

Facilities Located more than 5 kms
Railway Station (Dhanabd)
Block Development Office (Dhanabd)
District Headquarters (Dhanabd)
Warehouse (Dhanabd)
APMC/Mandi (Dhanabd)
Degree College (Dhanabd)
Primary Health Centre (Dhanabd)

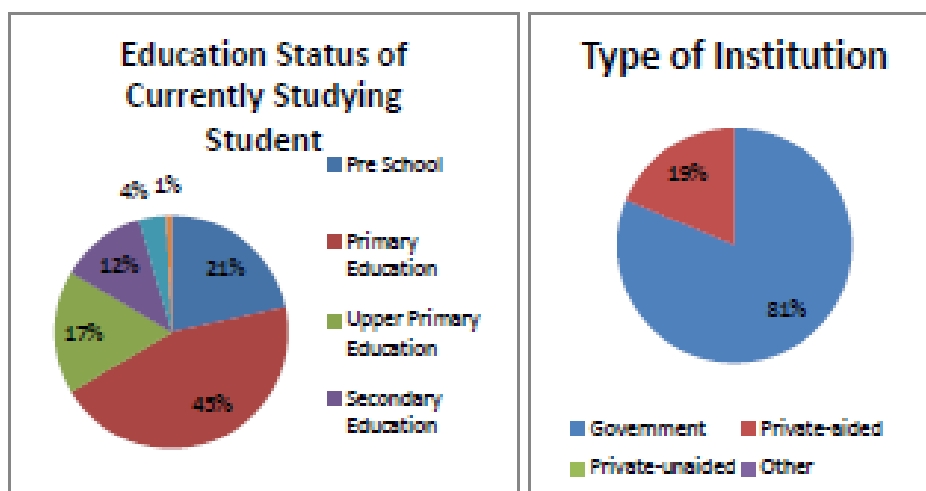
Household Status

4.10.2.1 HOUSEHOLD STATUS



In Bhagabandh Village, 3% of the sample is living in pucca house and 51% were having kuccha house while 46% were having semi -pucca house. Among the sample 69% of the people have registered paper of land while 31% of them do not have registered paper of land. 94% of the sample is living in electrified.

4.10.2.2 EDUCATION



In Bhagabandh Village, status of education does not seem positive as far as college education is considered, only 1% of the children among sample households are found at the time of data collection enrolled in higher education. Among the students of sample households who are currently studying, 45% are currently studying in primary school, 17% are in upper primary school, 12% in secondary school and another 4% is studying in

Major Problems and Recommendations

AREA	MAJOR PROBLEMS AND RECOMMENDATIONS
Education	There should scholarship for the children belongin to underprivileged section of the society who is going for education after matriculation to schools of Dhanbad by BCCL
	Library is required in this village
	Evening school has been requested by the people
Water Supply	More number of tap points are required in Manjhi Tola of Bhagabandh Basti
Health Care	Maternity health compa
	Regular check-up of primary school children
Rural Electrification	School should have in-house electric fitting of fans and light
Sports & Culture	Sports equipment should be provided to the sports club
Sanitation	No toilets in houses.
	There should be provision for garbage disposal By BCCL at regular interval along with fumigation
	Ponds should be cleaned with involving community by providing them daily wage as followed in MNREGS
Social Empowerment	SHG for women and men should be formed to start Income Generation activity
	Group activity on Piggery and poultry has been requested by the people. But for that a formal group has to be formed who have to register in the local bank
	Women who are not getting widow pension should be supported with livestock's like poultry, duckery and goatry
Infrastructural Development	Playground for children with boundary
	Repair of damage road should be done so that medical vans or ambulance should reach at the door step for pregnant women
	Playground with boundary should be constructed
	There is requirement of High school covering students from nearby villages like Bhagabandh. It can be done constructing additional school building in government secondary school in the village itself

CSR Projects undertaken during the year 2016-17

CSR activities carried out by Healthcare/Medical Department during April – October, 2016

S. No.	Venue	No. of Beneficiaries attended Wellness Clinic
1	P.B Project Dispensary	164
2	Putki Dispensary	23
3	Bhagabandh Dispensary	163
4	KB 10/12 Pit Dispensary	225
5	Gopalichuck Dispensary	78
	Total	653

S. No.	Venue	No. of Beneficiaries attended CSR Clinic
1	P.B Project Dispensary	297
2	Putki Dispensary	44
3	Bhagabandh Dispensary	0
4	KB 10/12 Pit Dispensary	251
5	Gopalichuck Dispensary	0
	Total	592

Construction of toilets in 193 schools at West Singbhum district of Jharkhand including subsequent maintenance of 5 years under “Swachh Vidyalaya Abhiyan” by P.B Area of BCCL

Name of District	Name of Block	No. of School	No. of Toilets	Remarks
West Singbhum	Hathgamaharia	29	51	Work in progress
	Jaganathpur	56	110	
	Jhinkpani	4	8	
	Kumardungi	35	61	
	Majhgaon	34	60	
	Manjhari	12	22	
	Tantnagar	23	42	
Total		193	354	

Report on C.S.R. activities from April 2016 to Sept 2016 of W.J.Area

- 1. C.S.R clinicNo. of patients.....3470**
- 2. Village camp**

Date	Name of village	No. of beneficiaries
13/10/2016	Amdih Basti	67
14/10/2016	Karitand Basti	74
17/10/2016	Tetangabad	51
18/10/2016	Jatudih	32
19/10/2016	Singra Basti	121
20/10/2016	Charkitand	97
21/10/2016	Pathergaria	101

Transportation Plan

The transportation plan for cluster XI for the financial year 2016-17 is shown below:

S1. No.	Mine	Existing siding	Other Transport Sites	Existing Transport distance (in KM)	Avg. Capacity of Dumper (T)
1.	P.B. Project	Burragarh		7	15
			Jamadoba Washery	9	15
			Moonidih washery	4.75	15
			Mahuda washery	10	15
2.	Gopalichuck	Burragarh		5.9	15
			Moonidih	6.6	15
3.	Bhagabandh	Burragarh		1-2	18
			Moonidih	4-5	18
4.	KB 10-12	Burragarh		3-4	18

ANNEXURE-IV
COMPLIANCE OF DHANBAD ACTION PLAN

(1) Covering of loaded transport vehicles

It has been complied. The clause of covering of loaded coal transport vehicle has also been incorporated in the transport agreement/ contract.

(2) Coal transport roads shall be made pucca

Mine	Proposed pucca road in Mtrs	Work Completed in Mtrs	Proposal processed/ approved	Likely date of completion
P.B. project	150			Owing to the restriction due to implementation of Govt. of India approved Master Plan and The Jharkhand State Restriction on construction in unsafe areas, Act 2002. BCCL is in the process of constructing 5.10 km WBM Roads.

(3) All drillings to be done with dust containment and suppression systems. Sprinklers will be installed including at all coal stock & sidings

Complied. Water sprinkling at all coal stock and sidings is being done by mobile water tankers and through pipe lines. Proposal for installation of fixed sprinklers at siding is under process.

(4) Mobile Sprinklers

Sl. no.	Mine/Workshop	No. of mobile sprinklers	Total Capacity(KL)	Trips per day
1	Bhagabandh UG Mine	1	45	2
2	P.B. project Colliery UG Mine	1	40	2
3	Central Auto Workshop	1	8	2
4	Kustore Akra Workshop	1	45	2

(5) The direction of surface run-off of the premises of collieries shall be diverted to created water bodies.

Creation of water bodies in coal bearing area will pose safety threats to nearby mine and it will be violation of mines act. This will also create grave danger of inundation of the adjacent mines since the mines are 100 years old and interconnected with each other. However, artificial ponds have been created where, there are no chances of future coal extraction.

(6) Dealing of mine fires

A Master plan for Dealing with fires and subsidence and rehabilitation in the Leasehold of BCCL has been approved by Govt. of India vide letter no- 22020/1/2005-CRC dated 12 08 09. In fire patch of V/VI/VII/VIII seam of Gareria Secn. At East Bassuriya about 1, 70,000 cu. m. mitti and non-combustible material has been filled, rest will be filled by quarry OB.

(7) The waste water shall be passed through oil separator-cum-filtration system

Complied. 1 number of Oil Separator has been constructed at P.B. Project Colliery

(8) The removed OBs shall be utilized for low land filling or for making roads

This condition does not apply as there is no OCP in P.B. Area under cluster XI

(9) Tree plantation on the dumps

Complied. As there is no OCP in P.B. Area under cluster XI. However, ecological park is being under construction in lease hold of Bhagabandh. 5 Ha site was taken up in FY 2015-16 and 2 Ha in FY 2016-17. 2000 saplings have been planted starting from April'16 till September'16

(10) All hazardous wastes shall be disposed off

Complied.

- a. All units have applied for authorization as per Hazardous Wastes (Management, Handling and Trans boundary Movement) Rules.
- b. Burnt/used oil is disposed off as per rule.
- c. Disposal of Hazardous waste, burnt Oil / batteries is being done through E-auctioning to authorized recycler/ re-processor having valid authorization from CPCB/ SPCB. Return are also being filed.

(11) Monitoring and Reporting six monthly

Monitoring work has been done by CMPDI, Dhanbad as per work order issued by BCCL HQ.

(12) Introduction of GIS/ GPS

CMPDI, HQ has been given the job of satellite surveillance of the Jharia coal field through NRSA Hyderabad and the information is being uploaded in the website.

ANNEXURE-V



झारखण्ड राज्य प्रदूषण नियंत्रण पर्वद्
Jharkhand State Pollution Control Board
HIG-1, Housing Colony, Dhanbad-826001

Ph: 0326-2204933

(7)

Letter No.....2650

Dated6/7/13.....

From,

Regional Officer,
Dhanbad

To,

HOD (Envt.),
M/s. B.C.C.L.,
Koyla Bhawan, Koyla Nagar,
Dhanbad.

Sub: **Fixing up monitoring station/Sampling location of Air, Water & Noise.**

Sir,

With reference to you letter no. GM(Env.)/F-JSPCB/2013/783, dt. 06.07.2013 We have approved Air, Water & Noise monitoring Station/Sampling location after verification and return a copy of the map.

Encl-A/a.

Your's faithfully,

(Dinesh Prasad Singh)
Regional Officer.

Memo.....

Dhanbad, dated.....

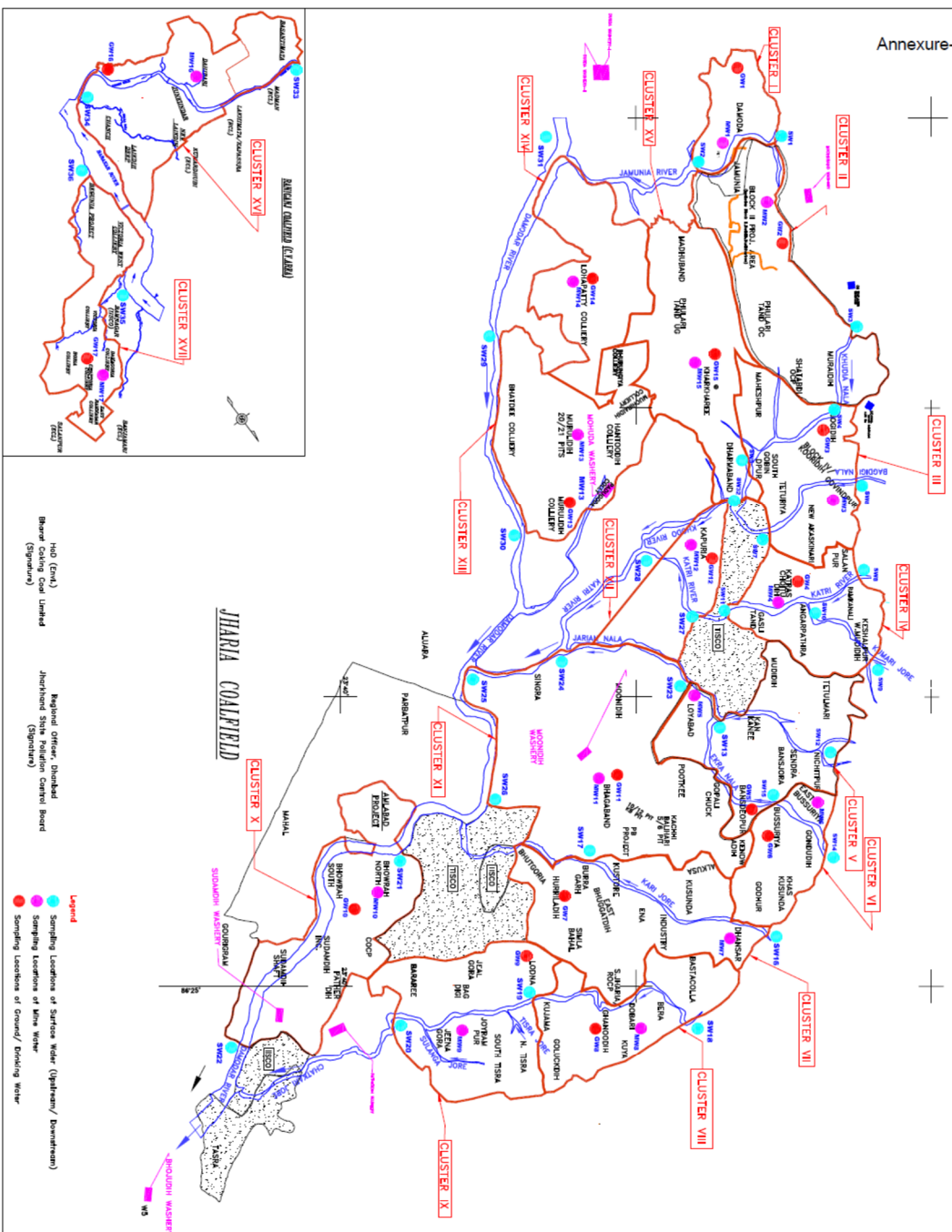
Copy to: The Member Secretary, Jharkhand State Pollution Control Board for information & enclose a copy of the map for necessary action.

Encl-A/a.

(Dinesh Pd. Singh)
Regional Officer.

Water Sampling Locations in BCCL

Annexure-03

[illegible]

H40 (Encl.)
 Bharat Coking Coal Limited
 (Signature)

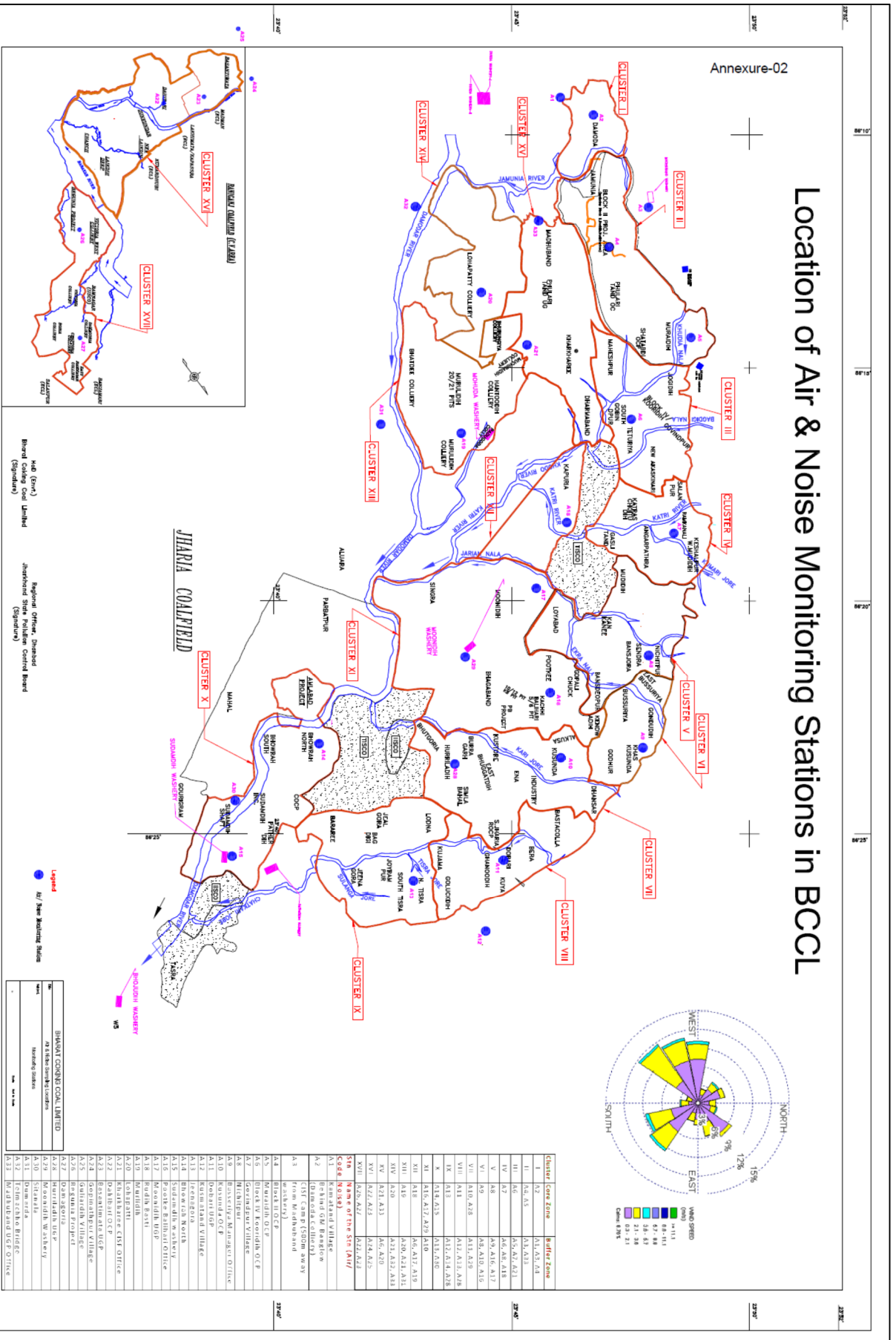
Regional Officer, Dhanbad
 Jharkhand State Pollution Control Board
 (Signature)

Sampling Locations of Surface Water (Upstream/ Downstream)
 Sampling Locations of Mine Water
 Sampling Locations of Ground/ Drinking Water

Company	BPCLAT COOKING COAL LIMITED
Pin	WATER SAVER, PIN LOCATION: 8
Address	WATER COOKING STATIONS
Phone	8444 444 444

Location of Air & Noise Monitoring Stations in BCCL

Annexure-02



ANNEXURE- VI



Point XVI
cmpdi
A Mini Ratna Company

सेंट्रल माईन प्लानिंग एण्ड डिजाइन इंस्टीट्यूट लिमिटेड
(कोल इंडिया लिमिटेड की अनुषंगी कम्पनी / भारत सरकार की एक लोक उपक्रम)
पंजीकृत कार्यालय : गोंदवाना प्लेस , काँके रोड , राँची - 834031 (झारखण्ड) भारत
क्षेत्रीय संस्थान-2, पत्रा. बीसीसीएल टाउनशीप, कोयला नगर, धनबाद 826005 (झारखण्ड) भारत
Central Mine Planning & Design Institute Limited
(A Subsidiary of Coal India Limited / Govt. of India Public Sector Undertaking)
Registered Office : Gondwana Place, Kanke Road, Ranchi -834031(Jharkhand)
Regional Institute-II, P.O. BCCL Township, Koylanagar, Dhanbad 826005(Jharkhand) India
Corporate Identity No. U14292JH1975GOI001223

पत्रांक: आर.आई.-2/पर्यावरण/एम-30/1150

दिनांक: 20.06.2015

✓ सेवा में,
उप महाप्रबंधक (पर्यावरण)
बी. सी. सी. एल.
कोयला भवन
धनबाद ।



विषय: Study of installation of Rail-cum-Conveyor System in BCCL for transportation of coal.

महोदय,

This has reference to your letter no. BCCL/GM(Env.)/F-EC/13/622, dated 25.05.2013 for conducting the study and preparation of plan for installation of Rail-cum-Conveyor System for coal transportation in BCCL as a part of compliance of environmental clearance (EC) conditions stipulated by MoEF & CC in EC orders of different clusters. In this regard, we would like to inform you the following:

- As per EC clearance order transportation plan for Rail-cum-Conveyor system should dovetailed with Jharia Action Plan (Master Plan). The system of transportation is required to be installed in 2nd phase of EC implementation i.e. after completion of Master Plan (10 years) and 5 years of gestation period.
- JRDA has issued direction to RITES for traffic survey and data collection to initiate feasibility study regarding Diversion of Railway lines from fire affected and subsidence prone areas
- Coal transportation route / conveyor installation layout will be finalized after liquidation of coal mine fire, rehabilitation of 595 unstable sites, road and rail route alignment and location of Rly. Sidings of BCCL.

CMPDI will be able to submit the plan / study for installation of Rail-cum-Conveyor System in BCCL for transportation of coal only after diversions and re-alignments of roads and railway lines and relocation of railway sidings

This is for your kind information.

Sd/- Amanatendu Singh
For compliance purpose.

[Signature]
23/6/15

भवदीय
[Signature]
(वि. कु. सिंह)
क्षेत्रीय निदेशक



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GROUNDWATER LEVEL & QUALITY REPORT

FOR CLUSTER OF MINES, BCCL

(Assessment year - 2015)

[CLUSTER - I, II, III, IV, V, VI, VII, VIII, IX, X, XI, XIII, XIV, XV & XVI]

JHARIA COALFIELD AND RANIGANJ COALFIELD (PART)

(BHARAT COKING COAL LIMITED)

MARCH - 2016

Regional Institute - II
Central Mine Planning & Design Institute Ltd.

(An ISO 9001:2000 Company)

(A Subsidiary of Coal India Ltd.)

Koyla Bhawan Complex, Koyla Nagar

DHANBAD - 826005

Annexure – V

GROUNDWATER QUALITY DATA (DUG WELLS)

Parameter in (mg/l) except pH	Cluster IX	Cluster X	Cluster XI	Cluster XIII	Cluster XIV	Cluster XV	Cluster XVI	IS: 10500 – 1991 Norms
Colour	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	Colourless	5/25
Odour	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless	Odourless	Unobjectionable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity	<5NTU	<5NTU	<5NTU	<5NTU	<5NTU	<5NTU	<5NTU	5/10
pH	7.29	7.31	6.10	7.32	7.00	7.66	6.07	6.5-8.5
Alkalinity as CaCO ₃	264	288	48	268	68	396	140	200/800
T. Hardness	380	596	144	376	152	396	220	300/600
Iron as Fe	0.04096	0.04415	0.03194	0.02876	0.02163	0.02538	0.03357	0.30/1.0
Chloride (Cl)	68	348	92	44	48	64	92	250/1000
R. Chloride	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.2 Min
TDS	954	907	351	387	339	522	354	500/2000
Calcium	296	488	72	296	96	140	168	75/200
Copper	0.00392	0.00758	0.00233	0.00234	0.00152	0.00188	0.00365	0.05/1.50
Manganese	0.00242	0.07291	0.11526	0.00362	0.00239	0.00335	0.00629	0.10/0.30
Sulphate	56.44	95.99	40.37	48.96	51.50	48.61	153.26	200/400
Lead	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	0.05
Zinc	0.04465	0.04826	0.29754	0.02631	0.03197	0.02145	0.08467	5/15
Chromium	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.05
MPN count/100 ml	17	11	4	< 2	< 2	< 2	2	-
Phenolic Compounds	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001/0.002
Cadmium	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	0.01

*Sampling location details and sampling date has been given in Annexure-IV.

ANNEXURE-VIII



BHARAT COKING COAL LIMITED
(A Subsidiary of Coal India Limited – A Maharatna Company)

CORPORATE ENVIRONMENTAL POLICY

Bharat Coking Coal Limited (BCCL), a subsidiary of Coal India Limited, is a Public Sector Undertaking engaged in mining of coal and allied activities. It is the only producer of Prime Coking Coal in India. BCCL was incorporated in 1972 to operate coking coal mines operating in the Jharia and Raniganj Coalfields. Currently, the Company operates 66 coal mines and 8 Coal Washeries.

Our mission is to produce the planned quantity of coal efficiently and economically with due regard to safety, conservation and quality. BCCL affirms its commitment for environment friendly mining with right mitigation of pollution, reclamation of the degraded land, preservation of biodiversity and proper disposal of waste following the best environmental practices including judicious use of the non-renewable energy on the path of continual improvement. Towards this commitment, BCCL shall endeavor to:

- ❖ Conduct mining and associated operations in an environmentally responsible manner to comply with applicable laws and other requirements related to environmental aspects.
- ❖ Design projects with due consideration of Sustainable Development by integrating sound environmental management practices in all our activities.
- ❖ Prevent pollution of surrounding habitation by continuous monitoring and adopting suitable measures for environment protection.
- ❖ Ensure compliance of all applicable Environmental and Forest Clearance conditions and other statutory conditions issued by regulatory agencies.
- ❖ Implement the Environmental Management Plans in all our mines effectively to mitigate pollutions on air, water and noise; proper disposal of wastes and reclamation and ecological restoration of degraded land; and by also dovetailing the Jharia action/ Master Plan for dealing with Fires, Subsidence and Rehabilitation of affected people with the Environmental Management Plans under the Cluster Concept.
- ❖ Strive to conserve Bio-Diversity through Ecological restoration methods.
- ❖ Conserve natural resources through recycling of wastes on the principle of Reduce, Recycle and Reuse. Put special thrusts on efficient energy utilization as a measure to reduce carbon foot-print.
- ❖ Strive for continual improvement in our environmental performances by setting targets, measuring progress and taking corrective action.
- ❖ Create environmental awareness among the employees and the local communities through pro-active communication and training and encourage our business associates to adopt similar approach for environmental protection.

Place: Dhanbad
Date: 25.5.12


Chairman-cum-Managing Director

Chairman-cum-Mg. Director
BHARAT COKING COAL LIMITED
Keyla Bhawan, Dhanbad-826 005

ANNEXURE-IX

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ENVIRONMENTAL MONITORING REPORT OF BHARAT COKING COAL LIMITED, CLUSTER – XI

(FOR THE Q.E. JUNE, 2016)

E. C. no. J-11015/77/2011-IA.II (M) dated 26.08.2013.

September, 2016



CMPDI

ISO 9001 Company
Regional Institute-II
Dhanbad, Jharkhand

EXECUTIVE SUMMARY

1.0 Introduction

The purpose of environmental monitoring is to assess the quality of various attributes that affects the fauna and flora. In accordance with the quality of these attributes appropriate strategy is to be developed to control the pollution level within the permissible limits. The three major attributes are air, water and noise level.

Bharat Coking Coal Limited (BCCL), a Subsidiary company of Coal India Limited is operating Underground and Opencast Mines in Jharia Coalfield (JCF) is a part of Gondwana Coalfields located in Dhanbad district of Jharkhand, the JCF is bounded by 23°37' N to 23°52' N latitudes and 86°09' E to 86°30' E longitude occupying an area of 450 Sq.km. BCCL has awarded Environmental monitoring work of Jharia Coalfield (JCF) to Central Mine Planning & Design Institute Limited (CMPDIL). The environmental monitoring has been carried out as per the conditions laid down by the MoEF&CC while granting environmental clearance of project, consent letter issued by the respective SPCB, and other statutory requirements.

2.0 Sampling location and rationale

2.1 Ambient air sampling locations

The ambient air quality monitoring stations were selected to represent core, buffer zone area. The rationale has been based on the guidelines stipulated by MoEF&CC, consent letter of SPCB, as well as other statutory requirements.

2.2 Water sampling stations

The Water sampling stations were selected for mine sump water, drinking water supply, well/ Hand pump water also surface water samples.

2.3 Noise level monitoring locations

Noise levels vary depending on the various activities in mining areas. The monitoring of noise level in different locations will be helpful to take appropriate mitigating measures. The noise levels were recorded in mining area, washery and in residential area.

3.0 Methodology of sampling and analysis

3.1 Ambient air quality

Parameters chosen for assessment of ambient air quality were Particulate Matter (PM₁₀), Fine Particulate Matter (PM_{2.5}), Sulphur Di-oxide (SO₂) and Nitrogen Oxides (NO_x). Respirable Dust Samplers (RDS) and Fine Dust Sampler (PM_{2.5} sampler) were used for sampling of PM₁₀, SO₂, & NO_x and Fine Dust Sampler (PM_{2.5} sampler) were used for sampling of PM_{2.5} at 24 hours interval once in a fortnight and the same for the gaseous pollutants. The samples were analysed in Environmental Laboratory of CMPDI, RI-I, Asansol.

3.2 Water quality

Water samples were collected as per standard practice. The effluent samples were collected and analyzed for four parameters on fortnightly basis. Effluent samples were also analyzed for 27 parameters on half-yearly basis. The drinking and Surface water samples were collected and analyzed for 25 and 17 parameters respectively, on quarterly basis. Thereafter the samples were preserved and analyzed at the Environmental Laboratory at CMPDI (HQ), Ranchi.

3.3 Noise level monitoring

Noise level measurements in form of 'Leq' were taken using Integrated Data Logging Sound Level Meter. Noise levels were measured in Decibels, 'A' weighted average, i.e. dB(A).

4.0 Results and interpretations

4.1 Air quality

It has been seen from the analysis results that the 24 hours average concentration parameters like PM₁₀, PM_{2.5}, SO₂ and NO_x are mostly within the permissible limits in all sampling locations as per MoEF&CC Gazette Notification No. GSR 742(E) dt 25.09.2000 Standards for Coal Mines and National Ambient Air Quality Standard -2009. Sometimes the concentration of PM₁₀ & PM_{2.5} exceeds the limits due to heavy public traffic, poor road condition, coke oven plants, burning of coal by surrounding habitants, brick making, municipal waste dumps and industries like Steel Plant, thermal Plants including their fly ash etc.

4.2 Water quality

The test results indicate that the major parameters compared with MoEF&CC Gazette Notification No. GSR 742(E) dt 25.09.2000 Standards for Coal Mines, IS.10500/2012 (Drinking water) and IS: 2296 (Surface water), are within permissible limits.

4.3 Noise Level

During the noise level survey it has been observed that the noise level in the sampling locations is within the permissible limits prescribed as per MoEF&CC Gazette Notification No. GSR 742(E) dt 25.09.2000 Standards for Coal Mines for Industrial Area and Noise pollution (Regulation and Control) Rules, 2000.

CHAPTER-II

AMBIENT AIR QUALITY MONITORING

2.1 Location of sampling station and their rationale:

(as per G.S.R. 742 (E) dt. 25th December, 2000)

2.1.1 Ambient Air Quality Sampling Locations

I. CORE ZONE Monitoring Location

i) Pootkee Balihari Office (A16): Industrial Area

The location of the sampling station is 23°40.977' N 086°23.963' E. The sampler was placed at an elevated platform approx. 1.5m above ground level at Project Office.

ii) Moonidih UGP (A17): Industrial Area

The location of the sampling station is 23°39'32" N & 86°26'13" E. The sampler was placed at an elevated platform approx. 1.5m above ground level at project office.

iii) Moonidih Washery (A29): Industrial Area

The location of the sampling station is 23°44'31" N & 086°26'13" E. The sampler was placed at a height of approx. 1.5m above ground level at Project office.

II. BUFFER ZONE Monitoring Location

I) Kusunda OCP (A10)

The location of the sampling station is 23°46.822' N & 86°24.241' E. The sampler was placed at a height of approx. 1.5m above ground level at Safety Office.

2.2 Methodology of sampling and analysis

Parameters chosen for assessment of ambient air quality were Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Sulphur Di-oxide (SO₂) and Nitrogen Oxides (NO_x). Respirable Dust Samplers (RDS) & fine particulates for PM_{2.5} sampler were used for sampling PM₁₀ & PM_{2.5} respectively at 24 hours interval once in a fortnight and the same for the gaseous pollutants. The samples were analyzed in Environmental Laboratory of CMPDI, RI-I, Asansol.

2.3 Results & Interpretations

The results of Ambient Air Quality are presented in tabular form along with Bar chart for each monitoring station. The interpretations of different parameters are given below:

2.3.1 Ambient air quality

Particulate Matter PM₁₀

In core zone under Industrial area varies from 58 to 88 μm^3

In buffer zone in Industrial area varies from 64 to 88 μm^3

Particulate Matter PM_{2.5}

In core zone under Industrial area varies from 25 to 43 μm^3

In buffer zone in Industrial area varies from 32 to 44 μm^3

Sulphur Dioxide:

In core zone under Industrial area varies from 10 to 12 μm^3

In buffer zone in Industrial area varies from 10 to 12 μm^3

Oxides of Nitrogen:

In core zone under Industrial area varies from 20 to 28 μm^3

In buffer zone in Industrial area varies from 20 to 29 μm^3

AMBIENT AIR QUALITY DATA

Name of the Company: Bharat Coking Coal limited

Year : 2015-16.

Name of the Cluster : Cluster – XI

Q.E.: June 2016

Station Code/Name: (a) A16 Pootkee Balihari office

Category:

(b) A17 Moonidih UGP

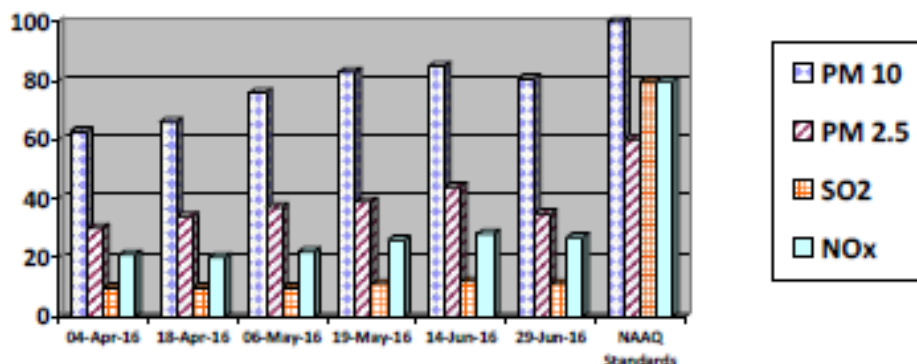
Industrial.

(c) A29 Moonidih Washery

ZONE: Core

(a). Station Code/Name: A16- Pootkee Balihari office Category: Industrial¹.

Sl. No.	Dates of sampling	PM 10	PM 2.5	SO ₂	NO _x
1	04 - Apr -16	63	30	<10.0	21
2	18 - Apr - 16	66	34	<10.0	20
3	06 - May -16	76	37	<10.0	22
4	19 - May -16	83	39	11	26
5	14 - Jun - 16	85	44	12	28
6	29 - Jun - 16	81	35	11	27
NAAQ Standards		100	60	80	80



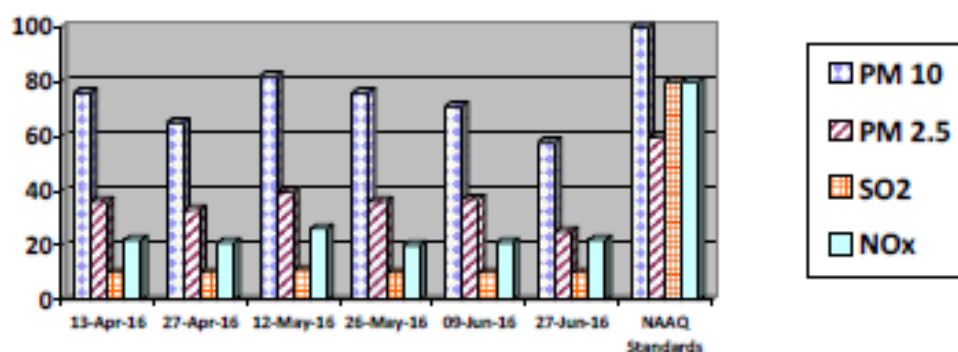
Note:

- All values are expressed in microgram per cubic meter.
- 24 hours duration

¹ Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed.....Dated 19.07.2016. Job No. 110310

(b). Station Code/Name: A17- Moonidih UGP Category: Industrial².

Sl. No.	Dates of sampling	PM 10	PM 2.5	SO ₂	NO _x
1	13 - Apr -16	78	36	<10.0	22
2	27 - Apr - 16	65	33	<10.0	21
3	12 - May -16	82	40	11	26
4	26 - May -16	76	36	<10.0	20
5	09 - Jun - 16	71	37	<10.0	21
6	27 - Jun - 16	58	25	<10.0	22
NAAQ Standards		100	60	80	80



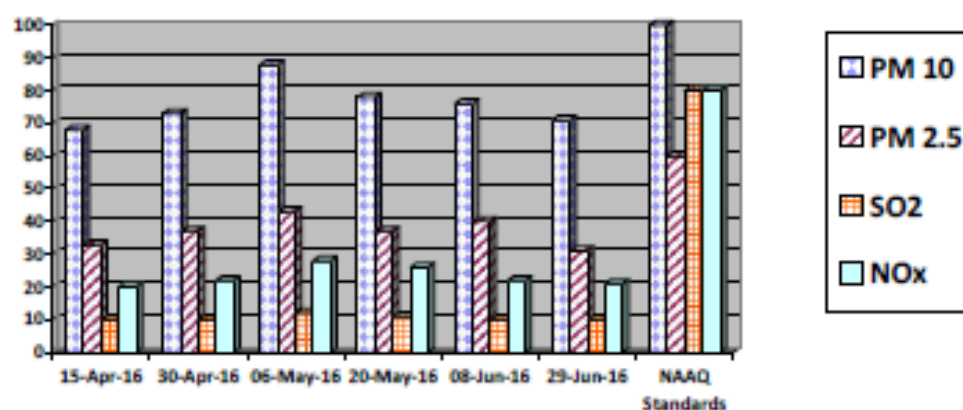
Note:

- All values are expressed in microgram per cubic meter.
- 24 hours duration

² Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed.....Dated 19.07.2016. Job No. 110310

(c). Station Code/Name: A29- Moonidih Washery Category: Industrial³.

Sl. No.	Dates of sampling	PM 10	PM 2.5	SO ₂	NO _x
1	15 - Apr -16	68	33	<10.0	20
2	30 - Apr - 16	73	37	<10.0	22
3	06 - May -16	88	43	12	28
4	20 - May -16	78	37	11	28
5	08 - Jun - 16	76	40	<10.0	22
6	29 - Jun - 16	71	31	<10.0	21
NAAQ Standards		100	60	80	80



Note:

- All values are expressed in microgram per cubic meter.
- 24 hours duration

³ Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed.....Dated 19.07.2016. Job No. 110310

AMBIENT AIR QUALITY DATA

Name of the Company: Bharat Coking Coal limited

Name of the Cluster : Cluster – XI

Station Code/Name: (a) A10 Kusuda OCP

Year : 2015-16.

Q.E.: June, 2016

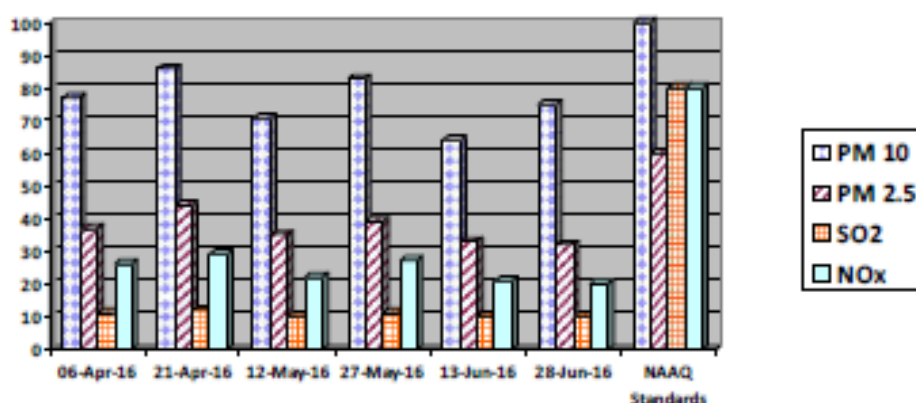
Category:

Industrial.

ZONE: BUFFER

(a). Station Code/Name: A10 – Kusuda OCP, Category: Industrial⁴.

Sl. No.	Dates of sampling	PM 10	PM 2.5	SO ₂	NO _x
1	06 - Apr -16	77	37	11	26
2	21 - Apr - 16	88	44	12	29
3	12 - May -16	71	35	<10.0	22
4	27 - May -16	83	39	11	27
5	13 - Jun - 16	64	33	<10.0	21
6	28 - Jun - 16	75	32	<10.0	20
	NAAQ Standards	100	60	80	80



Note:

- All values are expressed in microgram per cubic meter.
- 24 hours duration.

⁴ Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed.....Dated 19.07.2016. Job No. 110310

CLUSTER XI, BCCL ENVIRONMENTAL MONITORING REPORT

CHAPTER – III

WATER QUALITY MONITORING

3.1 Location of sampling sites (Refer Plate No. - II)

- i) **Mine Discharge of Bhagabandh (MW11)**
A sampling point is fixed to assess the effluent quality of Mine discharge. This location is selected to monitor effluent discharge in to Kari jore.
- ii) **Drinking Water quality at Bhagabandh (DW11)**
- iii) **Surface Water quality at U/S of Jarian Nala (SW23)**
- iv) **Surface Water quality at D/S of Jarian Nala (SW24)**
- v) **Surface Water quality at U/S of Damodar River (SW25)**
- vi) **Surface Water quality at D/S of Damodar River (SW26)**

3.2 Methodology of sampling and analysis

Water samples were collected as per standard practice. The effluent samples were collected and analyzed for four parameters on fortnightly basis. The drinking and Surface water samples were collected & thereafter the samples were preserved and analyzed for 25 and 17 parameters respectively, on quarterly basis at the Environmental Laboratory at CMPDI (HQ), Ranchi.

3.3 Results & Interpretations

The results are given in tabular form along with the applicable standards. Results are compared with Schedule - VI, effluent prescribed by MoEF&CC. Results show that most of the parameters are within the permissible limits.

WATER QUALITY DATA

(EFFLUENT WATER FOUR PARAMETERS)

Name of the Company: **Bharat Coking Coal Limited** Year : **2015-16.**

Name of the Project: **Cluster - XI**

Month: **April, 2016.**

Name of the Stations & Code :

1. MW11- Mine Discharge of Bhagabandh

First Fortnight

Sl. No.	Parameters	MW11 (Mine Discharge)	As per MOEF&CC General Standards for schedule VI
		06.04.2016	
1	Total Suspended Solids	42	100 (Max)
2	pH	7.71	5.5 - 9.0
3	Oil & Grease	<2.0	10 (Max)
4	COD	32	250 (Max)

Second Fortnight

Sl. No.	Parameters	MW11 (Mine Discharge)	As per MOEF&CC General Standards for schedule VI
		16.04.2016	
1	Total Suspended Solids	36	100 (Max)
2	pH	8.02	5.5 - 9.0
3	Oil & Grease	<2.0	10 (Max)
4	COD	28	250 (Max)

All values are expressed in mg/lit unless specified.

1. 22/04/16
2. 16/04/16
Analysed By


Dy. Technical Manager
Env. Lab, CMPDI(MQ)
(Authorized Signatory)

WATER QUALITY DATA

(EFFLUENT WATER FOUR PARAMETERS)

Name of the Company: **Bharat Coking Coal Limited** Year : **2015-16.**

Name of the Project: **Cluster - XI**

Month: **May, 2016.**

Name of the Stations & Code :

1. MW11- Mine Discharge of Bhagabandh

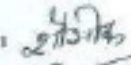
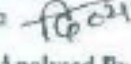
First Fortnight

Sl. No.	Parameters	MW11 (Mine Discharge)	As per MOEF&CC General Standards for schedule VI
		12.05.2016	
1	Total Suspended Solids	28	100 (Max)
2	pH	7.5	5.5 - 9.0
3	Oil & Grease	<2.0	10 (Max)
4	COD	20	250 (Max)

Second Fortnight

Sl. No.	Parameters	MW11 (Mine Discharge)	As per MOEF&CC General Standards for schedule VI
		21.05.2016	
1	Total Suspended Solids	32	100 (Max)
2	pH	7.79	5.5 - 9.0
3	Oil & Grease	<2.0	10 (Max)
4	COD	24	250 (Max)

All values are expressed in mg/lit unless specified.

1. 
2. 
Analysed By


Dy. Technical Manager
Env. Lab, CMPD(HQ)
(Authorized Signatory)

WATER QUALITY DATA

(EFFLUENT WATER FOUR PARAMETERS)

Name of the Company: **Bharat Coking Coal** Year : **2015-16.**
Limited

Name of the Project: **Cluster - XI**

Month: **June, 2016.**

Name of the Stations & Code :

**1. MW11- Mine Discharge of
Bhagabandh**

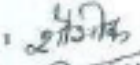
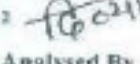
First Fortnight

Sl. No.	Parameters	MW11 (Mine Discharge)	As per MOEF&CC General Standards for schedule VI
		08.08.2016	
1	Total Suspended Solids	46	100 (Max)
2	pH	8.02	5.5 - 9.0
3	Oil & Grease	<2.0	10 (Max)
4	COD	24	250 (Max)

Second Fortnight

Sl. No.	Parameters	MW11 (Mine Discharge)	As per MOEF&CC General Standards for schedule VI
		21.08.2016	
1	Total Suspended Solids	36	100 (Max)
2	pH	7.82	5.5 - 9.0
3	Oil & Grease	<2.0	10 (Max)
4	COD	24	250 (Max)

All values are expressed in mg/lit unless specified.

1. 
2. 
Analysed By


Dy. Technical Manager
Env. Lab, CMPDI(HQ)
(Authorized Signatory)

WATER QUALITY (SURFACE WATER- ALL PARAMETERS)

Name of the Company: **Bharat Coking Coal Limited** Year : **2015-16.**

Name of the Project: **Cluster - XI**

Period: **Q. E. June, 2016.**

Area : **Bhagabandh UGP**

Project: **Bhagabandh UGP**

Cluster **XI**

Stations:

1. Upstream in Jarian Nala SW-23
2. Downstream in Jarian Nala SW-24
3. Upstream in Damodar river SW-25
4. Downstream in Damodar river SW-26

Date of Sampling:

21/06/2016
21/06/2016
21/06/2016
21/06/2016

Sl No	Parameter	Sampling Stations				Detection Limit	BIS Standard & Method
		SW-23	SW-24	SW-25	SW-26		
1	Arsenic (as As), mg/l, Max	<0.002	<0.002	<0.002	<0.002	0.002	IS 3025/37:1988 R : 2003, AAS-VGA
2	BOD (3 days 27°C), mg/l, Max	2.4	2.6	2.6	2.8	2.00	IS 3025/44:1993, R : 2003 3 day incubation at 27°C
3	Colour (Hazen Unit)	yellowish	yellowish	colourless	colourless	Qualitative	Physical/Qualitative
4	Chlorides (as Cl), mg/l, Max	72	86	62	72	2.00	IS-3025/32:1988, R-2007, Argentometric
5	Copper (as Cu), mg/l, Max	<0.01	<0.01	<0.01	<0.01	0.03	IS 3025/42:1992 R : 2009, AAS-Flame
6	Dissolved Oxygen, min.	6.1	5.6	5.8	5.2	0.10	IS 3025/38:1989, R : 2003, Winkler Azide
7	Fluoride (as F) mg/l, Max	1.08	1.17	1.05	1.08	0.02	APHA, 22 nd Edition SPADNS
8	Hexavalent Chromium, mg/l, Max	<0.01	<0.01	<0.01	<0.01	0.01	APHA, 22 nd Edition, 1,5 - Diphenylcarbohydrazide
9	Iron (as Fe), mg/l, Max	0.15	0.15	<0.06	<0.06	0.06	IS 3025/53:2003, R : 2009, AAS-Flame
10	Lead (as Pb), mg/l, Max	<0.005	<0.005	<0.005	<0.005	0.005	APHA, 22 nd Edition AAS-GTA
11	Nitrate (as NO ₃), mg/l, Max	8.42	15.51	4.0	6.2	0.50	APHA, 22 nd Edition, UV-Spectrophotometric
12	pH value	7.41	8.18	7.69	8.55	2.5	IS-3025/11:1983, R-1996, Electrometric
13	Phenolic compounds (as C ₆ H ₅ OH), mg/l, Max	<0.002	<0.002	<0.002	<0.002	0.002	APHA, 22 nd Edition 4-Amino Antipyrine
14	Selenium (as Se), mg/l, Max	<0.002	<0.002	<0.002	<0.002	0.002	APHA, 22 nd Edition AAS-GTA
15	Sulphate (as SO ₄) mg/l, Max	160	210	45	59	2.00	APHA, 22 nd Edition Turbidity
16	Total Dissolved Solids, mg/l, Max	512	568	278	314	25.00	IS 3025/16:1984 R : 2006, Gravimetric
17	Zinc (as Zn), mg/l, Max	0.03	0.02	0.01	0.02	0.01	IS 3025/49:1994, R : 2009, AAS-Flame

1. 21/06/16
2. 21/06/16
Analysed By

21/06/16
Dy. Technical Manager
Env. Lab. (MMP/407)
(Authorized Signatory)

All values are expressed in mg/lit unless specified.

WATER QUALITY

(DRINKING WATER- ALL PARAMETERS)

Name of the Company: **Bharat Coking** Year : **2015-16.**

Coal Limited

Name of the Project: **Cluster - XI**

Period: **Q. E. June, 2016.**

Area : **Bhagabandh UGP**

Project: **Bhagabandh UGP**

Cluster **XI**

Stations:

1. Drinking Water from Bhagaband DW-11

Date of Sampling:
26/05/2016

Sl. No	Parameter	Sampling Stations			Detection Limit	IS 10500 Drinking Water Standards	Standard / Test Method
		DW-11	2	3			
1	Boron (as B), mg/l, Max	<0.20			0.20	0.5	APHA, 22 nd Edition, Carmine
2	Colour, in Hazen Units	2			1	5	APHA, 22 nd Edition, Pt.-Co. Method
3	Calcium (as Ca), mg/l, Max	78			1.60	75	IS-3025/40:1991, EDTA
4	Chloride (as Cl), mg/l, Max	92			2.00	250	IS-3025/52:1988, R-2007, Argentometric
5	Copper (as Cu), mg/l, Max	<0.03			0.03	0.05	IS 3025/42:1992 R:2009, AAS-Flame
6	Fluoride (as F) mg/l, Max	0.70			0.02	1.0	APHA, 22 nd Edition, SPAD185
7	Free Residual Chlorine, mg/l, Min	0.05			0.02	0.2	APHA, 22 nd Edition, DPD
8	Iron (as Fe), mg/l, Max	<0.06			0.06	0.3	IS 3025/53:2003, R:2009, AAS-Flame
9	Lead (as Pb), mg/l, Max	<0.005			0.005	0.01	APHA, 22 nd Edition, AAS-OTA
10	Manganese (as Mn), mg/l, Max	<0.02			0.02	0.1	IS-3025/59:2006, AAS-Flame
11	Nitrate (as NO ₃), mg/l, Max	3			0.5	45	APHA, 22 nd Edition, UV-Spectrophotometric
12	Odour	Agreeable			Qualitative	Agreeable	IS 3025/55:1983, R-2012, Qualitative
13	pH value	8.05			2.5	6.5 to 8.5	IS-3025/11:1983, R-1996, Electrometric
14	Phenolic compounds (as C ₆ H ₅ OH), mg/l, Max	<0.001			0.001	0.001	APHA, 22 nd Edition, 4-Amino Antipyrine
15	Selenium (as Se), mg/l, Max	<0.002			0.002	0.01	APHA, 22 nd Edition, AAS-OTA
16	Sulphate (as SO ₄) mg/l, Max	156			2.00	200	APHA, 22 nd Edition, Turbidity
17	Taste	Acceptable			Qualitative	Acceptable	APHA, 22 nd Edition, Taste
18	Total Alkalinity (CaCO ₃), mg/l, Max	360			4.00	200	IS-3025/23:1986, Titration
19	Total Arsenic (as As), mg/l, Max	<0.002			0.002	0.01	IS 3025/37:1988 R:2003, AAS-VGA
20	Total Chromium (as Cr), mg/l, Max	<0.04			0.04	0.05	IS-3025/52:2003, AAS-Flame
21	Total Dissolved Solids, mg/l, Max	770			25.00	500	IS 3025/16:1984 R:2006, Gravimetric
22	Total Hardness (CaCO ₃), mg/l, Max	448			4.00	200	IS-3025/21:1983, R-2002, EDTA
23	Turbidity, NTU, Max	4			1.0	1	IS-3025/10:1984 R-1996, Nephelometric
24	Zinc (as Zn), mg/l, Max	0.29			0.01	5.0	IS 3025/49:1994, R:2009, AAS-Flame

26/5/16
26/5/16
Analysed By

26/5/16
26/5/16
Dy. Technical Manager
Env. Lab, CWPDI(HQ)
(Authorized Signatory)

All values are expressed in mg/lit unless specified.

WATER QUALITY

(GROUND WATER- ALL PARAMETERS)

Name of the Company: **Bharat Coking Coal Limited** Year : **2015-16.**

Name of the Project: **Cluster - XI**
Area : **Bhagabandh UGP**

Period: **Q. E. June, 2016.**

Project: **Cluster XI**
Bhagabandh UGP

Station:

Date of Sampling:
20/05/2016

1. Ground Water from Monnidih Bazar GW-11

Sl No	Parameter	Sampling Stations			Detection Limit	IS:10500 Drinking Water Standards	Standard / Test Method
		GW-11	2	3			
1	Boron (as B), mg/l, Max	<0.20			0.20	0.5	APHA, 22 nd Edition, Carmin
2	Colour, in Hazen Units	2			1	5	APHA, 22 nd Edition, Pt-Co. Method
3	Calcium (as Ca), mg/l, Max	133			1.60	75	IS-3025/40:1991, EDTA
4	Chloride (as Cl), mg/l, Max	60			2.00	250	IS-3025/32:1988, R-2007, Argentometric
5	Copper (as Cu), mg/l, Max	<0.03			0.03	0.05	IS 3025/42 : 1992 R : 2009, AAS-Flame
6	Fluoride (as F) mg/l, Max	0.25			0.02	1.0	APHA, 22 nd Edition, SPADNS
7	Free Residual Chlorine, mg/l, Min	0.08			0.02	0.2	APHA, 22 nd Edition, DPD
8	Iron (as Fe), mg/l, Max	<0.06			0.06	0.3	IS 3025 /53 : 2003, R : 2009, AAS-Flame
9	Lead (as Pb), mg/l, Max	<0.005			0.005	0.01	APHA, 22 nd Edition, AAS-OTA
10	Manganese (as Mn), mg/l, Max	<0.02			0.02	0.1	IS-3025/59:2006, AAS-Flame
11	Nitrate (as NO ₃), mg/l, Max	7			0.5	45	APHA, 22 nd Edition, UV-Spectrophotometric
12	Odour	Agreeable			Qualitative	Agreeable	IS 3025 /65:1983, R-2012, Qualitative
13	pH value	7.89			0.20	6.5 to 8.5	IS-3025/11:1983, R-1996, Electrode
14	Phenolic compounds (as C ₆ H ₅ OH), mg/l, Max	<0.001			0.001	0.001	APHA, 22 nd Edition, 4-Amino Antipyrine
15	Selenium (as Se), mg/l, Max	<0.002			0.002	0.01	APHA, 22 nd Edition, AAS-OTA
16	Sulphate (as SO ₄) mg/l, Max	126			2.00	200	APHA, 22 nd Edition, Turbidity
17	Taste	Acceptable			Qualitative	Acceptable	APHA, 22 nd Edition, Taste
18	Total Alkalinity (c ₄ CO ₃), mg/l, Max	264			4.00	200	IS-3025/23:1986, Titration
19	Total Arsenic (as As), mg/l, Max	<0.002			0.002	0.01	IS 3025 /37:1988 R : 2003, AAS-VGA
20	Total Chromium (as Cr), mg/l, Max	<0.04			0.04	0.05	IS-3025/52:2003, AAS-Flame
21	Total Dissolved Solids, mg/l, Max	980			25.00	500	IS 3025 /16:1984 R : 2005, Gravimetric
22	Total Hardness (c ₄ CO ₃), mg/l, Max	724			4.00	200	IS-3025/21:1983, R-2002, EDTA
23	Turbidity, NTU, Max	7			1.0	1	IS-3025/10:1984 R-1996, Nephelometric
24	Zinc (as Zn), mg/l, Max	0.06			0.01	5.0	IS 3025 / 49 : 1994, R : 2009, AAS-Flame

22/5/16
2-16/05/16
Analysed By

22/5/16
Dy. Technical Manager
Env. Lab, CMPD(HQ)
(Authorized Signature)

All values are expressed in mg/lit unless specified.

CHAPTER - IV

NOISE LEVEL QUALITY MONITORING

4.1 Location of sampling sites and their rationale

i) **Pootkee Balihari Office (N16)**

To assess the noise level in mine site, the noise levels were recorded in the mine area where all mining activities are in progress.

ii) **Moonidih UGP (N17)**

To assess the noise level in mine site, the noise levels were recorded in the mine area where all mining activities are in progress.

iii) **Moonidih Wahery (N29)**

To assess the noise level in mine site, the noise levels were recorded in the mine area where all mining activities are in progress.

iv) **Kusunda OCP (N10)**

To assess the noise level in mine site, the noise levels were recorded in the mine area where all mining activities are in progress.

4.2 Methodology of sampling and analysis

Noise level measurements in form of 'L_{eq}' were taken using Integrated Data Logging Sound Level Meter (NL-52 OF RION CO. Ltd. Make) during day time. Noise levels were measured for about one hour time in day time. Noise levels were measured in Decibels, 'A' weighted average, i.e. dB (A).

4.3 Results & Interpretations

Ambient noise levels were recorded during day time and the observed values were compared with standards prescribed by MoEF&CC.

The results of Noise levels recorded during day time on fortnightly basis are presented in tabular form along with the applicable standard permissible limits. The observed values in terms of L_{eq} are presented.

The observed values at all the monitoring locations are found to be within permissible limits.

NOISE LEVEL DATA

Name of the Company: **Bharat Coking** Year : **2015-16.**

Coal Limited

Name of the Project: **Cluster -XI**

Month: **April, 2016.**

Name of the Stations & Code :

1. Pootkey Balihari office (N16)
2. Moonidih UGP (N17)
3. Moonidih Washery(N29)
4. Kusunda OCP (N10)¹

(a) First Fortnight


Sl. No.	Station Name/Code	Category of area	Date	Noise level dB(A)LEQ	*Permissible Limit of Noise level in dB(A)
1	Pootkey Balihari Office (N16)	Industrial area	04.04.2016	58.6	75
2	Moonidih UGP (N17)	Industrial area	13.04.2016	56.7	75
3	Moonidih Washery (N29)	Industrial area	15.04.2016	55.3	75
4	Kusunda OCP (N10)	Industrial area	06.04.2016	62.4	75

(b) Second Fortnight

Sl. No.	Station Name/Code	Category of area	Date	Noise level dB(A)LEQ	*Permissible Limit of Noise level in dB(A)
1	Pootkey Balihari Office (N16)	Industrial area	18.04.2016	61.4	75
2	Moonidih UGP (N17)	Industrial area	27.04.2016	54.2	75
3	Moonidih Washery (N29)	Industrial area	30.04.2016	61.2	75
4	Kusunda OCP (N10)	Industrial area	21.04.2016	54.7	75

*Permissible limits of Noise Level as per MOEF&CC Gazette Notification No. GSR 742(E) dt. 25.09.2000 Standards for Coal Mines and Noise Pollution (Regulation and Control) Rules, 2000.

* Day Time: 6.00 AM to 10.00 PM, +Night Time: 10.00 PM to 6.00 AM.

¹ Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed..........Dated 19.07.2016. Job No. 110310

Cluster – XI, BCCL Environmental Monitoring Report

NOISE LEVEL DATA

Name of the Company: **Bharat Coking Coal Limited** Year : **2015-16.**

Name of the Project: **Cluster -XI**

Month: **May, 2016.**

Name of the Stations & Code :

1. Pootkey Balihari office (N16)
2. Moonidih UGP (N17)
3. Moonidih Washery(N29)
4. Kusunda OCP (N10)²

a. First Fortnight


Sl. No.	Station Name/Code	Category of area	Date	Noise level dB(A)LEQ	*Permissible Limit of Noise level in dB(A)
1	Pootkey Balihari Office (N16)	Industrial area	06.05.2016	58.7	75
2	Moonidih UGP (N17)	Industrial area	12.05.2016	56.8	75
3	Moonidih Washery (N29)	Industrial area	06.05.2016	54.5	75
4	Kusunda OCP (N10)	Industrial area	12.05.2016	55.6	75

b. Second Fortnight

Sl. No.	Station Name/Code	Category of area	Date	Noise level dB(A)LEQ	*Permissible Limit of Noise level in dB(A)
1	Pootkey Balihari Office (N16)	Industrial area	19.05.2016	55.4	75
2	Moonidih UGP (N17)	Industrial area	26.05.2016	54.3	75
3	Moonidih Washery (N29)	Industrial area	20.05.2016	57.6	75
4	Kusunda OCP (N10)	Industrial area	27.05.2016	56.8	75

*Permissible limits of Noise Level as per MOEF&CC Gazette Notification No. GSR 742(E) dt. 25.09.2000 Standards for Coal Mines and Noise Pollution (Regulation and Control) Rules, 2000.

* Day Time: 6.00 AM to 10.00 PM, +Night Time: 10.00 PM to 6.00 AM.

² Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed..........Dated 19.07.2016. Job No. 110310

Cluster – XI, BCCL Environmental Monitoring Report

NOISE LEVEL DATA

Name of the Company: **Bharat
Coking Coal Limited**

Year : 2015-16.

Name of the Project: **Cluster -XI**

Month: June, 2016.

Name of the Stations & Code :

1. Pootkey Balihari office (N16)
2. Moonidih UGP (N17)
3. Moonidih Washery(N29)
4. Kusunda OCP (N10)³

a. First Fortnight data


Sl. No.	Station Name/Code	Category of area	Date	Noise level dB(A)LEQ	*Permissible Limit of Noise level in dB(A)
1	Pootkee Balihari Office (N16)	Industrial area	14.06.2016	57.6	75
2	Moonidih UGP (N17)	Industrial area	09.06.2016	61.6	75
3	Moonidih Washery (N29)	Industrial area	08.06.2016	58.3	75
4	Kusunda OCP (N10)	Industrial area	13.06.2016	60.7	75

b. Second Fortnight data

Sl. No.	Station Name/Code	Category of area	Date	Noise level dB(A)LEQ	*Permissible Limit of Noise level in dB(A)
1	Pootkee Balihari Office (N16)	Industrial area	29.06.2016	59.2	75
2	Moonidih UGP (N17)	Industrial area	27.06.2016	57.3	75
3	Moonidih Washery (N29)	Industrial area	29.06.2016	56.8	75
4	Kusunda OCP (N10)	Industrial area	28.06.2016	58.9	75

*Permissible limits of Noise Level as per MOEF&CC Gazette Notification No. GSR 742(E) dt. 25.09.2000 Standards for Coal Mines and Noise Pollution (Regulation and Control) Rules, 2000.

* Day Time: 6.00 AM to 10.00 PM, +Night Time: 10.00 PM to 6.00 AM.

³ Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed..........Dated 19.07.2016. Job No. 110310

ANNEXURE-X



भारत कोकिंग कोल लिमिटेड

(कोल इंडिया लिमिटेड का एक अंग)

BHARAT COKING COAL LIMITED

(A Subsidiary of Coal India Limited)

Corporate Identity No. (CIN): U10101JH1972GOI000918

Civil Engineering Department, Koyla Nagar, Dhanbad – 826 005 (JH), India.

Phone: 0326-2230338, FAX: 0326-2230338, e-mail: gmcivil@bccl.gov.in

Ref. No.: BCCL/CED/GM (C)/E-NIT-46//2014-15/1637

Date: 31.03.2015

Cancellation of Tender

- Name of the Work : To conduct Source Apportionment Study for varying sources of gasses/smoke/dust emission from source to source for the entire Jharia Coalfields (within and up to 10 K.M from the periphery / boundary of BCCL, Dhanbad, Jharkhand).
- NIT Ref. No. : BCCL/CED/TC/e-NIT-46/2014-15/1289 dtd. 20.01.2015
- Estimated Cost : Rs. 56,00,000.00

The above referred tender stands cancelled. Out of 3 bidders, no bidders qualified in Part – I tender. This issues with competent approval.

Sd/-

General Manager (Civil)

Copy to:-

- 1) CVO/D (T) P&P/D(T) OP, BCCL
- 2) GM (Envr.), Koyla Bhawan
- 3) Chief Manager (Civil), TC
- 4) Prof (Dr.) L.C Singhi, IAS (Retd.), L-31, Third Floor, Kailash Colony, New Delhi-110048
- 5) Shri Naresh Chaturvedi, IAS, (Retd.), CL-14, Sector – II, Salt Lake, Kolkata – 700 091
- 6) M/s Automotive Research Association of India, S. No. 102, Vetil Hill, Off Paud Road, Kothrud, Pune – 411 038, MH
- 7) The Energy and Resources Institute (TERI), Darbari Set Block, IHC Complex, Lodhi Road, New Delhi – 110 003
- 8) M/s Bhagavathi Ana Labs Limited, #8-2-248/5/A/42, Venkateshwara Hills, RoadNo. 3, Banjara Hills, Hyderabad – 500 034
- 9) Notice Board.

..... for kind information

ANNEXURE-XI

A. Training from April'16 to September'16

No of employees (Departmental & Contractual) received training in Cluster XI (April'16 to September'16)	
Types of Training	Numbers
Basic Training (Departmental & Contractual Worker)	286
Refresher Training	569

B. PME report for cluster XI (P.B. Area) from April'16 to September'16

PME REPORT FOR THE MONTH OF APRIL'16 TO SEP'16							
Sl.no.	Unit/Colliery	April'16	May'16	June'16	July'16	Aug'16	Sep'16
1	Pootkee	6	NIL	NIL	NIL	NIL	3
2	Gopalichuck	10	NIL	15	45	NIL	21
3	Bhagabandh	3	NIL	18	48	NIL	16
4	KB 10/12 Pit	12	NIL	5	45	NIL	38
5	PBP Colliery	40	NIL	65	113	NIL	9
6	Other Areas	5	1	17	74	NIL	NIL
	Total	85	111	81	71	140	139