

**HALF YEARLY**  
**ENVIRONMENT CLEARANCE COMPLIANCE REPORT**  
**OF**  
**CLUSTER 11**  
**J-11015/245/2011-IA.II(M)**  
**FOR THE PERIOD OF**  
**OCTOBER 2019 TO MARCH 2020**



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

**EASTERN COALFIELDS LIMITED**

**(A Subsidiary of Coal India Limited)**

Office of the Agent  
Khandra Colliery



P.O. Ukhra

District : Paschim Burdwan

West Bengal-713363

CIN: U10101WB1975GOI030295

Ph.: No. 0341-2665491/492/493/494

Fax No. 0341-2665366

Ref. No.: KC/अ/बन्य/2020/69

Dated: 20/5/2020

## UNDERTAKING

Information provided in Half yearly EC compliance report for the period October'19 to March'20 in respect of the Khandra UG of Cluster No. 11 is true to the best of my knowledge:

  
Agent  
Khandra Colliery  
20.5.2020

  
Manager  
Khandra Colliery  
18/05/2020

**EASTERN COALFIELDS LIMITED**  
**(A Subsidiary of Coal India Limited)**

Office of the Agent  
Shankarpur Colliery



P.O. Ukhra  
District : PaschimBurdwan  
West Bengal-713363

CIN: U10101WB1975GOI030295  
Ph.: No. 0341-2665491/492/493/494  
Fax No. 0341-2665366

Ref. No.: SKP/AGT/020/93

Dated: 12/05/2020

## UNDERTAKING

Information provided in Half yearly EC compliance report for the period October,19 to March'20 in respect of the Shankarpur Colliery of Cluster No. 11 is true to the best of my knowledge:

*JZdS*  
12/5/2020  
Agent

Shankarpur Colliery

*P. S. S.*  
12/5/2020  
Manager  
Shankarpur Colliery



EASTERN COAL FIELDS LIMITED  
A subsidiary of Coal India Limited.  
Office of the Agent  
CBI/Shankarpur OC Patch/Bonbahal OC, Kenda Area.  
P.O:- Bahula , Dist: - Burdwan.  
Pin:-713322. West Bengal

### UNDERTAKING

Information provided in Half yearly EC compliance report for the period Oct'19 to March'20 in respect of the following mines of Cluster no. 11 is true to the best of my knowledge:

SL NO.	MINES	NAME OF THE MANAGER	SIGNATURE OF THE MANAGER
1.	CBI(UG)		
2.	Bonbahal OC Patch(25 Ha)	Ratnesh Kumar	
3.	Shankarpur/CL Jambad OC Patch/mine(52 Ha)	Rai	

Agent

(CBI (UG)/ Bonbahal OC Patch/ Shankarpur OC Patch mines)



EASTERN COAL FIELDS LIMITED  
A subsidiary of Coal India Limited.  
Office of the Agent  
C L Jambad & Siduli , Kenda Area.  
P.O:- Bahula , Dist: - Burdwan.  
Pin:-713322. West Bengal

### UNDERTAKING

Information provided in Half yearly EC compliance report for the period Oct'19 to March'20 in respect of the following mines of Cluster no. 11 is true to the best of my knowledge:

SL NO.	MINES	NAME OF THE MANAGER	SIGNATURE OF THE MANAGER
1.	CL Jambad (UG)	T. JANA	
2.	Siduli (UG + OC )	B.K. Tewari	

Agent  
(CL Jambad & Siduli Mines)  
29/01/2020



EASTERN COAL FIELDS LIMITED  
A subsidiary of Coal India Limited.  
Office of the Agent  
Lower Kenda & Bahula , Kenda Area.  
P.O:- Bahula , Dist: - Burdwan.  
Pin:-713322. West Bengal

### UNDERTAKING

Information provided in Half yearly EC compliance report for the period Oct'19 to March'20 in respect of the following mines of Cluster no. 11 is true to the best of my knowledge:

SL NO.	MINES	NAME OF THE MANAGER	SIGNATURE OF THE MANAGER
1.	Lower Kenda (UG)	B.R. MANNA	
2.	Bahula (UG)	N. Kumar	

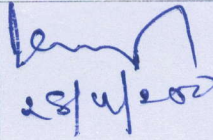
Agent  
(Bahula & Lower Kenda Mines)



EASTERN COAL FIELDS LIMITED  
A subsidiary of Coal India Limited.  
Office of the Agent  
New Kenda Group of Mines, Kenda Area.  
P.O:- Kenda , Dist: - Burdwan.  
Pin:-713342. West Bengal

### UNDERTAKING

Information provided in half yearly EC compliance report for the period Oct'19 to March'20 in respect of the following mines of Cluster no. 11 is true to the best of my knowledge:

SL NO.	MINES	NAME OF THE MANAGER	SIGNATURE OF THE MANAGER
1.	New Kenda (UG)	KSSJ Mohan Raw	 28/4/2020
2.	W kenda OC Patch/mine(49 Ha)		
3.	New Kenda OC mine		

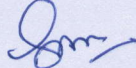

Agent  
(New Kenda Group of Mines)

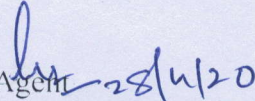


EASTERN COAL FIELDS LIMITED  
A subsidiary of Coal India Limited.  
Office of the Agent  
Chora Haripur Group of Mines, Kenda Area.  
P.O:- Haripur, Dist: - Burdwan.  
Pin:-713378. West Bengal

### UNDERTAKING

Information provided in Half yearly EC compliance report for the period Oct'19 to March'20 in respect of the following mines of Cluster no. 11 is true to the best of my knowledge:

SL NO.	MINES	NAME OF THE MANAGER	SIGNATURE OF THE MANAGER
1.	Krishnagar(UG)		
2.	Haripur group of Mines		
i)	Haripur (UG + OC)	S. N. Sarker	
ii)	Chora 10 pit	S. Acharyee	
iii)	Chora 7,9 pit	A. Kundu	

  
Agent

(Krishnanagar/Haripur(UG+OC)/Chora 7.9 pit/Chora 10 pit)

# Half Yearly Compliance Report for mines under Cluster -

## 11

EC No. (J-11015/245/2011-IA-II.(M)),Dt.10<sup>th</sup>September, 2016

Period: Oct 19-Mar 20

SPECIFIC CONDITIONS						
CONDITION		COMPLIANCE				
i	The Maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.	Sl No.	Name of the Mine	Peak EC Capacity (MTY)	Production (MT) Oct'19-Mar'20	
		1	Khandra U/G	0.20	0.036548	
		2	Shankarpur U/G	1.16	0.132922	
		3	Krishnanagae UG	0.05	Temporarily Closed	
		4	Haripur group of mines	2.3	0.476797	
		a	Haripur (UG + OC)	0.75	Haripur UG is Temporarily closed & OCP Not yet started	
		b	CBI (UG)	0.10	0.029309	
		c	Chora 7,9 & 10 pit (UG)	0.15	0.070283	
		d	Bonbahal OC patch (OC)	0.5	0	
		e	Shankarpu/ CL Jambad OC patch/ Mine (52 Ha)	0.8	0.377205	
		5	New Kenda Group of mines	2.00	0.046058	
		a	New Kenda (UG)	0.05	0.01347	
		b	West Kenda OC Patch	0.75	Not yet started	
		c	New Kenda OC mine (240 Ha)	1.2	0.032588	
		6	Bahula group of mines	0.45	0.126986	
		a	Lower Kenda (UG)	0.15	0.034429	
		b	Bahula (UG)	0.25	0.071028	
		c	CL jambad (UG)	0.05	0.021529	
		7	Siduli (UG + OC)	1.2	0.04474, OCP not yet started	
		ii	The validity of the EC is for the life of mine or as specified in the EIA Notification, 2006 whichever is earlier.	Complied.		
		iii	The socio economic study conducted by PP needs to be authenticated by an institute of repute such as Indian institute of forest Management /XLRI,	Kenda: Compkied.  Bankola: Not applicable for Shankarpur UG and Khandra UG mines under Bankola Area.		

	Jamshedpur.	
iv	All safety measures shall be taken as per CMR, 2017 & related circulars.	All safety measures are being taken as per CMR- 2017 & related Circulars.
v	The production shall be within mining lease area.	The production is within the same Mining lease.
vi	The loading system from Continuous Miner to Mine Car needs to be improved to utilize the continuous miner efficiently.	Kenda: There is no continuous miner in the Kenda area of cluster No.11.Not applicable. Bankola: There is no continuous miner in Khandra and Shankarpur Colliery under Bankola Area.
vii	There shall be no external dump and mine voids at the end of mining. The land shall be brought back the surface level for agricultural use.	Kenda: The backfilling is being done as per mine closure plan and after technical reclamation, biological reclamation is being done as per MCP. Bankola: Not applicable since there is no OC in Cluster 11 under Bankola Area.
viii	Controlled blasting in all the mines to be resorted to.	Controlled blasting is practised in all the mines.
ix	Till the OB dump is re-handled, it shall be covered with grass cover.	Not applicable as there is no external OB dump due to underground mining.
x	Suitable garland drains and settling tank be provided.	Garland drains have been provided wherever is required.
xi	Socio-economic study to be carried out in order to establish the necessity of mining on New Kenda OC Patch. Presently EC is recommended to the cluster without New Kenda OC Patch.	Kenda- Complied.  Not applicable for Bankola Area.
xii	Coal transportation shall be: in pit underground mine-coal tubs at the faces are being hauled by Tugger Haulage; opencast mine-coal at surface is transported to the nearby coal depot by dumpers through tiplers, surface to siding by dumpers.	Dumper with polythene cover is used for transportation of coal from UG faces to Siding.
xiii	Independent network of railway sidings inside the cluster to be developed and should be constructed at the earliest till then proponent may use mechanically covered trucks for transportation of coal.	Kenda: Bahula railway siding is inside the cluster. Coal transportation to railway siding from coal depot is being done by tarpaulin covered truck.  Bankola: There are currently active 2 railways sidings (Bankola I and Bankola II) serving to the mines under Bankola Area. Transportation of coal from mine to railway siding is being done by tarpaulin covered trucks.
xiv	Three tier green plants shall be raised around the railway sidings and along the road side to prevent dust and noise pollution.	Kenda: Noted and Agreed. Depending upon the availability of land, three tier plantations would be done along the road side. However, Plantation along Bahula railway sidings has been done. Total 3750 Nos of trees (1.5 Ha Land) have been planted along Bahula Railway sidings.

		Bankola: Both sides of connecting roadway are well vegetated naturally. Plantation along 5.5km roadways has been done along coal transportation road and siding. A boundary wall is also constructed around Bankola Siding-I & Siding-II to prevent dust and noise pollution.
xv	Stowing and depillaring shall be as per the recommendations of the DGMS.	Stowing and depillaring are being done in all the mines as per the recommendations of the DGMS.
xvi	The proponent must comply with the Raniganj Action Plan .The unstable area within the cluster will be brought under the plantation after the population residing over these areas is rehabilitated under the Master Plan for Raniganj Coalfields to be implemented by ADDA	Work in progress and is being implemented by ADDA, Govt. of West Bengal.
xvii	Trees with deep rooted system should be planted so as to prevent soil erosion.	Deep rooted tree species planted are as follows- Neem, Seemul, Karanch, Shisham, Arjun, Babool & Sirish.
xviii	Proponent should plant additional 10 Ha/year over the next 10 years at various locations in the cluster.	<p>Kenda: In 2016-17, 16 Ha of plantation ,2018-19, 3 Ha &amp; In FY 2019-20, 9 Ha of plantation with density 2500 species /Ha have been planted in Kenda Area under cluster 11. The details of plantation is as follows:-</p> <ol style="list-style-type: none"> <li>1. OB Dump Area-----14 Ha (10 Ha in FY 2015-16 &amp; 4 Ha in FY 2016-17).</li> <li>2. Backfilled Area-----3 Ha( in FY 2016-17).</li> <li>3. Others-----9 Ha ( in FY 2016-17).</li> <li>4. Backfilled Area-----3 Ha (in FY 2018-19).</li> <li>5. Internal OB Dump Area-----7.5 Ha (in FY 2019-20)</li> </ol> <p>Along Railway sidings---1.5 Ha(in FY 2019-20)</p> <p>Bankola: 12 ha plantaion and 5.5 km roadside plantation has been completed in Bankola Area. In 2016-17. 3 Ha orchard plantation is being done at Bankola colony for orchard plantation.</p> <p>The species planted are as follows-</p> <ul style="list-style-type: none"> <li>• Tabernaemontana divaricata (Tagar)</li> <li>• Duranta goldiana</li> <li>• Ixora sp. (Rangan)</li> <li>• Hibiscus</li> <li>• Mussaenda sp.</li> <li>• Allamanda sp.</li> <li>• Palm</li> <li>• Spathodea</li> <li>• Lagerstroemia (Jarul)</li> <li>• Cassia delonix (Gulmohar)</li> <li>• Saraca Asoka (Ashok)</li> <li>• Polyalthia longifolia (Debdaru)</li> <li>• Callistemon sp. (Cheel/bottle brush)</li> </ul>
xix	Rivers/nallahs shall be desilted and restored back to functional state.	Kenda: There is no siltation from the mine into Rivers/Nallahs. However cleaning of nallahs is an annual pre monsoon activity in each mine of the cluster.

		Bankola: At present 2 nos. UG mines are working under Bankola Area in Cluster-11.No activity is carried out in the UG mines which may cause siltation in any river/nallah in vicinity. However, river/nallah will be desilted and restored back to functional state when required.																
xx	Wildlife conservation plan be prepared and submitted to MOEFCC with the approval of the state Govt.	Kenda: No forest /Wildlife area falls under mining lease areas of mines under Kenda Area.  Bankola: Wildlife Conservation plan of entire Raniganj Coalfield has been prepared and sent to Addl. PCCF (Wildlife), Govt. of West Bengal for approval.																
xxi	Proponent shall use high resolution image of all clusters for evaluating land use, plantation etc.	Land use pattern and plantation is being monitored by satellite surveillance based on satellite imagery conducted by CMPDIL.																
xxii	Separate drainage pattern be provided.	Separate drainage pattern will be provided where required.																
xxiii	Sand stowing must be used as recommended by CMPDI.	Sand stowing is being used as recommended by CMPDIL. Stowing is carried out at Khandra UG under Bankola Area in the Cluster.																
xxiv	Action plan for prevention and mitigation of subsidence be prepared and implemented.	No underground mining is carried out below within 45m of the Major Roads, Railway line and nallah flowing through the cluster. Coal pillars are left intact vertically below and within the angle of draw of villages and other surface features.  Depillaring is done with sand stowing in Khandra UG. The mining method adopted in consultation with DGMS and their approval.																
xxv	The OC Patch to be operated will be completely filled-up after exhaustion of reserves and reclaimed with plantation.	Kenda: The OC Patch to be operated is being filled up as per approved mine closure plan and at the end of technical reclamation, Biological reclamation will be done as per Approved mine closure plan. The following details is given below:- <table border="1" data-bbox="611 1218 1517 1738"> <thead> <tr> <th>S. No.</th> <th>Name of the Mines</th> <th>Achievement for backfilling mined out de-coaled from 01.10.2019 to 31.3.2020 in Ha.</th> <th>Achievement for biological reclamation/Plantation from 01.10.2019 to 31.3.2020 in Ha.</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>New Kenda OCP</td> <td>Nil</td> <td>Nil</td> </tr> <tr> <td>2.</td> <td>Shankarpur/C L Jambad/ OC Patch/Mine</td> <td>2.50 Ha</td> <td>Nil</td> </tr> <tr> <td>3.</td> <td>Bonbahal OCP</td> <td>Nil</td> <td>Nil</td> </tr> </tbody> </table> Bankola: Not applicable since there is no OC in Cluster 11 under Bankola Area.	S. No.	Name of the Mines	Achievement for backfilling mined out de-coaled from 01.10.2019 to 31.3.2020 in Ha.	Achievement for biological reclamation/Plantation from 01.10.2019 to 31.3.2020 in Ha.	1.	New Kenda OCP	Nil	Nil	2.	Shankarpur/C L Jambad/ OC Patch/Mine	2.50 Ha	Nil	3.	Bonbahal OCP	Nil	Nil
S. No.	Name of the Mines	Achievement for backfilling mined out de-coaled from 01.10.2019 to 31.3.2020 in Ha.	Achievement for biological reclamation/Plantation from 01.10.2019 to 31.3.2020 in Ha.															
1.	New Kenda OCP	Nil	Nil															
2.	Shankarpur/C L Jambad/ OC Patch/Mine	2.50 Ha	Nil															
3.	Bonbahal OCP	Nil	Nil															
xxvi	After completion of mining activities, the subsided areas shall be graded and planted upon.	Complied.																
xxvii	Coal Extraction shall also be	Coal Extraction is being carried out as per DGMS permissions and																

	optimized in areas where agricultural 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.	guidelines.
xxviii	Water discharged from the mine should be as good as surface drinking water.	<p>Kenda: The Mine water is fortnightly tested for parameters namely pH, TSS, TDS, Oil and Grease and COD and conforms to MoEF Schedule-VI standards.(As per Annexure-A). At Present, in Kenda area, Water treatment plant ( having pressure filter and chlorination unit) at Bahula Colliery, Siduli colliery, New Kenda Colliery, Lower Kenda , C L Jambad, Chora 7,9 Pit have been installed. One R.O plant had been installed at Kenda Area Complex. Under CSR, One water treatment filter plant had been installed at New Kenda Colony.</p> <p>Bankola: Mine discharge water is being treated in</p> <p><b>i) Pressure filter</b> – 1 unit each at Kumardihi ‘B’, Bankola, Shankarpur, Kumardihi ‘A’, and Tilaboni colliery. 2 units at SSP colliery.</p> <p><b>ii) Slow Sand Filter</b> – 1 unit each at Moira Colliery and Area Complex. 2 units each at Khandra colliery and SSP colliery.</p> <p><b>iii) Rapid Gravity Filter</b> – 1 unit at Bankola Colliery.</p> <p><b>iv) Reverse Osmosis Plant</b> – 1 unit at Bankola Colliery and Shyamsundarpur Colliery.</p> <p>The water is fortnightly tested for parameters namely pH, TSS, TDS, Oil &amp; Grease and COD and conforms to the MoEF Schedule-VI Standards. The water is then used for domestic and mining uses.</p>
xxix	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.	Regular inspection is being carried out by the pit safety committee headed by Safety Officer on the surface over and around the working area for any sign of subsidence. It is pertinent to point out that underground mining is being carried out in conjunction with hydraulic sand stowing as per DGMS stipulations. Crack filling is also carried out wherever required.
xxx	If subsidence is found exceeding the permitted limits, then the landowners shall be adequately compensated with mutual agreement of the landowners	Surface land is already acquired under CBA Act and Compensation as per Company’s R&R Policy is given to the land owners prior to subsidence.
xxxi	Water sprinkling system shall be provided to check fugitive emissions from loading	Kenda: The coal transportation roads from colliery to Railway Siding are black topped and Water Sprinkling is being done on the approach

	<p>operations, conveyor system, haulage roads, transfer points, etc. Major approach roads shall be black topped and properly maintained.</p>	<p>road with Mobile Water tankers. 21 Nos. of fixed type sprinkler has been installed along Bahula railway sidings under Kenda Area (ECL). Also, water spraying arrangement has been provided at each coal depot.</p> <p>Bankola: The coal transportation road from colliery to Railway Siding has been black topped in order to prevent fugitive dust emission. Water Sprinkling is being done on the approach road with Mobile Water tankers. Regular sprinkling of water is carried out over the surface through fixed and mobile sprinklers to check fugitive emissions at Railway Siding, Fixed water sprinklers have been installed at Bankola I and Bankola II Railway Sidings under Bankola Area.</p>
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xxxii	<p>The CSR cost should be Rs 5 per Tonne of Coal produced which should be adjusted as per the annual inflation. Rs 1358 Lakh/annum shall be earmarked for holding medical camps from CSR fund.</p>	<p>As per the revised CSR policy of CIL 2% of the average profit of preceding 3 years is the norms for CSR expenditure in the entire ECL command areas. Kenda: The following CSR activity which is in progress in Kenda Area (ECL) is mentioned below:-</p> <table border="1" data-bbox="614 757 1516 2024"> <thead> <tr> <th data-bbox="614 757 715 902">S.No.</th> <th data-bbox="715 757 906 902">Name of the Activity</th> <th data-bbox="906 757 1125 902">Project Cost/Work order Value(In Rs.)</th> <th data-bbox="1125 757 1516 902">Status(Ongoing/Completed)</th> </tr> </thead> <tbody> <tr> <td data-bbox="614 902 715 1176">1.</td> <td data-bbox="715 902 906 1176">Installation of Solar LED Lights in Chora and Kenda GP and village in Kajora Area.</td> <td data-bbox="906 902 1125 1176">Approx. Amount:-₹ 65,83,705.60.00</td> <td data-bbox="1125 902 1516 1176">Approved.</td> </tr> <tr> <td data-bbox="614 1176 715 1449">2.</td> <td data-bbox="715 1176 906 1449">Dignity and Care for Women and Girls through Social enterprise of hygiene products .</td> <td data-bbox="906 1176 1125 1449">₹ 14,53,277.00</td> <td data-bbox="1125 1176 1516 1449">It is under process for competent approval.</td> </tr> <tr> <td data-bbox="614 1449 715 1583">3.</td> <td data-bbox="715 1449 906 1583">A pilot Project on STEM in Kenda Area.</td> <td data-bbox="906 1449 1125 1583">₹ 10,63,000.00</td> <td data-bbox="1125 1449 1516 1583">Approved.</td> </tr> <tr> <td data-bbox="614 1583 715 1830">4.</td> <td data-bbox="715 1583 906 1830">Supplying of Water through Tankers at Four locations under Bahula Gram Panchayet, Kenda Area .</td> <td data-bbox="906 1583 1125 1830">₹ 5,80,514.00</td> <td data-bbox="1125 1583 1516 1830">Approved. It is under tendering process.</td> </tr> <tr> <td data-bbox="614 1830 715 2024">5.</td> <td data-bbox="715 1830 906 2024">Renovation of Bahula Free Primary School and Installation of Water</td> <td data-bbox="906 1830 1125 2024">Approx. Amount:-₹ 14,65,000.00</td> <td data-bbox="1125 1830 1516 2024">It is under process for competent approval.</td> </tr> </tbody> </table>	S.No.	Name of the Activity	Project Cost/Work order Value(In Rs.)	Status(Ongoing/Completed)	1.	Installation of Solar LED Lights in Chora and Kenda GP and village in Kajora Area.	Approx. Amount:-₹ 65,83,705.60.00	Approved.	2.	Dignity and Care for Women and Girls through Social enterprise of hygiene products .	₹ 14,53,277.00	It is under process for competent approval.	3.	A pilot Project on STEM in Kenda Area.	₹ 10,63,000.00	Approved.	4.	Supplying of Water through Tankers at Four locations under Bahula Gram Panchayet, Kenda Area .	₹ 5,80,514.00	Approved. It is under tendering process.	5.	Renovation of Bahula Free Primary School and Installation of Water	Approx. Amount:-₹ 14,65,000.00	It is under process for competent approval.
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5.	Renovation of Bahula Free Primary School and Installation of Water	Approx. Amount:-₹ 14,65,000.00	It is under process for competent approval.																							

			Purifier-cum-Cooler , Bahula under ECL-CSR Kenda Area.		
		6.	Water Supply Through Tankers at Five Locations in New Kenda Gram panchayat.	₹ 14,86,316.00	The work is going on.
		7.	Water supply arrangements to Kenda village, Kenda Mouza, Kenda Area, ECL.	Project Cost: Rs. 8505716.69 Expenditure in FY 2019-20:- Rs.13,78,493	Completed.
Bankola: CSR expenditure for FY 2019-20 for Bankola Area is Rs. 31,55,285. The detailed CSR expenditure is attached in Annexure D.					
xxxiii	The mining in the existing mines should be phased out after expiry of the current mining lease and after reclamation of mined over area. The operating mines may be analyzed and monitored for Compliance of conditions, bearing with movement of wildlife and until such time they are closed/phased out.	Complied as per progressive and Final Mine Closure Plan (MCP).			
xxxiv	Everybody in the core area should be provided with mask for protection against fugitive dust emissions.	In order to provide protection against fugitive dust emission, dust masks are being provided to people working in the core area. Protection against dust is provided as per the Regulation 123 of CMR, 2017.			
xxxv	Dust mask to be provided to everyone working in the mining area.	Dust mask have been provided to everyone working in the mining area.			
xxxvi	The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.	Supervisory staff ensures the dust masks are worn compulsorily in the core area.			
xxxvii	People working in the core area should be periodically tested for the lung diseases and the burden of cost on account of working in the coal mine area.	20% of the work force is covered under periodic medical examination each year including lung diseases the cost of which is borne by the company.			
		Kenda:			
		<b>Month</b>		<b>PME achievement for the Month (Nos. of Person)</b>	

			<b>ECL Employees</b>	<b>Contractual worker</b>																													
			<b>Oct'2019</b>	<b>30</b>																													
			<b>Nov'2019</b>	<b>141</b>																													
			<b>Dec'2019</b>	<b>135</b>																													
			<b>Jan'2020</b>	<b>99</b>																													
			<b>Feb'2020</b>	<b>0</b>																													
			<b>March'2020</b>	<b>98</b>																													
		Total 503nos. of ECL employees and 47nos. of Contractual employees have been medically examined till the month of Mar 2020.																															
xxxviii	The mining area should be surrounded by green belt having thick closed thick canopy of the tree cover.	UG mines cause very low pollution load which is concentrated in mine working faces and transfer points. The collieries are surrounded by densely populated village and private agricultural lands. Natural vegetation exist around mines.  Plantation is being carried out wherever land is available. However, at Bankola Area, 12 ha plantation along with 5.5 km roadside plantation and 5 Ha orchard plantation is created on 2016-17.																															
xxxix	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 check-up for occupational diseases and hearing impairment, if any, through an specialized agency /institution within the District/State and the results reported to this Ministry and to DGMS.	Bankola: We are carrying out Periodical Medical Examination (PME) for all employees once in every 5 years (@ 20% employees/year). This PME is mandatory for all employees. Special cases diagnosed during such PMEs are monitored at shorter intervals as directed by the PME Board of Doctors. All serious diseases and impairments are reported to DGMS at regular intervals. The details are given in <b>Annexure B</b>  Kenda: Total no. of person which has gone through PME in the FY 2019-20 from Oct'2019 to March' 2020 is given below:-	<table border="1"> <thead> <tr> <th rowspan="2">Name of the area</th> <th rowspan="2">Month</th> <th colspan="2">PME achievement for the Month (Nos. of Person)</th> </tr> <tr> <th>ECL Employees</th> <th>Contractual worker</th> </tr> </thead> <tbody> <tr> <td rowspan="6">Kenda</td> <td>Oct'2019</td> <td>30</td> <td>0</td> </tr> <tr> <td>Nov'2019</td> <td>141</td> <td>11</td> </tr> <tr> <td>Dec'2019</td> <td>135</td> <td>22</td> </tr> <tr> <td>Jan'2020</td> <td>99</td> <td>12</td> </tr> <tr> <td>Feb'2020</td> <td>0</td> <td>0</td> </tr> <tr> <td>March'2020</td> <td>98</td> <td>2</td> </tr> <tr> <td colspan="2"><b>Total</b></td> <td><b>503</b></td> <td><b>47</b></td> </tr> </tbody> </table>		Name of the area	Month	PME achievement for the Month (Nos. of Person)		ECL Employees	Contractual worker	Kenda	Oct'2019	30	0	Nov'2019	141	11	Dec'2019	135	22	Jan'2020	99	12	Feb'2020	0	0	March'2020	98	2	<b>Total</b>		<b>503</b>	<b>47</b>
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xl	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.	Not applicable as there is no river within the mine lease area of the collieries under Bankola Area in cluster 11.																															
xli	There shall be no overflow of OB into the river and into the	Not Applicable as there is no river in vicinity of the Cluster. However, plantation will be carried out at suitable places wherever land is available.																															

	agricultural fields and massive plantation of native species shall be taken up in the area between the river and the project.	
xlii	Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilised for watering the mine area, roads, green belt development, etc. The drains shall be regularly desilted and maintained properly. Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material.	Bankola: Permanent masonry drains of size range 200 to 600 m, 0.90 m to 2 m and 0.6 m to 2 m depth and 1 in 30 gradients, depending on the catchment have been constructed for evacuation of rain water. The size of the drain is large enough to take care of heavy downpours. The drain is cleared of debris before start of the monsoon season as part of our annual monsoon preparation program.  Kenda: Catch drains and siltation ponds have been provided at the toe of the dumps wherever required
xliii	Garland drains (size, gradient and length) around the safety areas such as mine shaft and low lying areas and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. Sump capacity shall also provide adequate retention period to allow proper settling of silt material.	Garland drain is present at Sarpi sub-station, Sarpi pumping station, ESP pit, transformer room, incline mouth and CHP. Total length of garland length is about 5 km. Width of garland drains are usually kept at 0.90 m while depth of the drain varies from 0.6 m to 1.5 m depending on the catchment and gradient of the drain. Garland drain wherever required are maintained and required sump capacity is also maintained in the mine.
xliv	Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation shall be based on the rainfall data.	Bankola: Not applicable as there are no OC mines under Bankola Area within the cluster.  Kenda: To check runoff and siltation, proper benching in dump is being done while maintaining slope stability. Regular Plantation on OB dumps is being done to stabilize the dumps.
xlvi	Crushers at the CHP of adequate capacity for the expansion project shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc.	Bankola: Not applicable as there are no CHP under Bankola Area within the cluster 11.  Kenda: The crusher at Bahula siding inside the cluster is equipped with water sprinkler to arrest fugitive emissions from crushing operations. Apart from the, fixed type sprinkler has been installed along bahula railway sidings under Kenda Area (ECL).
xlvii	Mine discharge water outside the mining lease shall be monitored, particularly for TDS and treated	Mine water discharge quality complies with prescribed standards. Regular monitoring is done by CMPDIL. The quality of mine water is within permissible limits. Reports are enclosed in Annexure-A for

	to conform to prescribed levels before discharge into the natural environment.	both Bankola and Kenda area..																								
xlvi	Drills shall be wet operated.	Water spraying is done for dust suppression before drilling in underground and OC mines.																								
xlvi	The project authorities shall undertake regular repairing and tarring of roads used for mineral transportation. A 3-tier green belt comprising of a mix of native species shall be developed all along the major approach roads.	<p>As per requirement, Regular repairing and tarring of roads are being taken on priority basis.</p> <p>Bankola: Both sides of approach roadway are well vegetated naturally. Plantation Done:</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Name of Species</th> <th>Area in Ha</th> <th>No. of saplings</th> <th>Density</th> <th>Survival rate</th> </tr> </thead> <tbody> <tr> <td>2016-17</td> <td>Kamini, Rangan, Krishnachura, Jaba, Karabi, Bougenvelia, Pathodia, Jamun, Radhachura etc.</td> <td>5.5 Km (Roadside)</td> <td>-</td> <td>-</td> <td>35%</td> </tr> <tr> <td>2016-17</td> <td>Chatim, Krishnachura, Radhachura, Karanch, Aamla etc.</td> <td>12 Ha</td> <td>22500</td> <td>2500/Ha</td> <td>75%</td> </tr> <tr> <td>2014-15</td> <td>Chatim, Krishnachura, Radhachura, Karanch, Aamla etc.</td> <td>3 Ha</td> <td>1200</td> <td>400/Ha</td> <td>95%</td> </tr> </tbody> </table>	Year	Name of Species	Area in Ha	No. of saplings	Density	Survival rate	2016-17	Kamini, Rangan, Krishnachura, Jaba, Karabi, Bougenvelia, Pathodia, Jamun, Radhachura etc.	5.5 Km (Roadside)	-	-	35%	2016-17	Chatim, Krishnachura, Radhachura, Karanch, Aamla etc.	12 Ha	22500	2500/Ha	75%	2014-15	Chatim, Krishnachura, Radhachura, Karanch, Aamla etc.	3 Ha	1200	400/Ha	95%
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xlix	Controlled blasting shall be practiced with use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.	Complied. Controlled blasting is being done as per DGMS permission and conditions.																								
l	A Progressive afforestation plan shall be implemented covering an area of 6215.5 ha at the end of mining, which includes reclaimed external Ob dump area (404.74 Ha), internal dump area (1856.54 ha), and Green belt land (364.57 ha), and in township located outside the lease by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha. Massive plantation shall	<p>Bankola: It is proposed to plant 10 Ha per year within the cluster at the density of 2500 plants/Ha.</p> <p>Kenda: , In 2018-19 &amp; 2019-20, Total 12 Ha plantation have been done through Forest department, Durgapur &amp; Waste Bengal Waste land Development Corporation Ltd. under the supervision of DFO, Durgapur. Density of the trees is maintained at 2500 Plants per Ha. Details of plantation done at Different location inside the cluster under Kenda Area, ECL is given below:-</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Name of Species</th> <th>Area in</th> <th>No. of Saplings</th> <th>Density</th> </tr> </thead> <tbody> </tbody> </table>	Year	Name of Species	Area in	No. of Saplings	Density																			
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	be carried out in open spaces in and around the mine and a 3-tier avenue plantation along the main approach roads to the mine.			Ha																		
		2018-19	Neem, Karanj, Sisoo, Chatim etc.	3 Ha	7500	2500/ha																
		2019-20	Chatim, Karanj, Palash, Jarul etc.	9 Ha	22,500	2500/Ha																
li	The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.	Mine closure Plan has already been prepared for the purpose. Restoration and reclamation shall be done accordingly.																				
lii	Compensatory Ecological & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.	<p>Mine closure Plan has already been prepared for the purpose. Compensatory ecological and restoration of wasteland shall be done accordingly.</p> <p>Kenda: The details of plantation at different location in Kenda Area inside the cluster is given below:-</p> <ol style="list-style-type: none"> <li>1. Backfilled Area-----3 Ha (in FY 2018-19).</li> <li>2. Internal OB Dump Area-----7.5 Ha(In FY 2019-20).</li> </ol> <p>Along Bahula Railway Siding----1.5 Ha(In FY 2019-20).</p>																				
liii	No groundwater shall be used for mining operations.	No ground water is being used for mining operations.																				
liv	An estimated total 258.26Mm <sup>3</sup> of OB will be generated during the entire life of the mine. OB will be dumped in four internal dumps covering an area of 408 Ha of land. The OB dump height is up to 60m.the minimum slope of the dump shall not exceed 28 degrees. Monitoring and management of reclaimed dump site shall continue till the vegetation becomes self-sustaining and Compliance status submitted to MOEF & CC and its regional office on yearly basis	<p>Not applicable since there is no OC in Cluster 11 under Bankola Area.</p> <p>Kenda: Agreed.</p> <table border="1"> <thead> <tr> <th>S.No.</th> <th>Name of the Mines</th> <th>Quantity of OB Generated (in Lakh cum) from Oct'2019 to March'2020.</th> <th>Quantity of OB Backfilled (in Lakh cum) from Oct'2019 to March'2020.</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Shankarpur/C L Jambad OC Patch/mine</td> <td>10.8932</td> <td>9.70</td> </tr> <tr> <td>2.</td> <td>Bonbahal OC Patch</td> <td>Nil</td> <td>Nil</td> </tr> <tr> <td>3.</td> <td>New Kenda OCP</td> <td>0.6025</td> <td>Nil</td> </tr> </tbody> </table>					S.No.	Name of the Mines	Quantity of OB Generated (in Lakh cum) from Oct'2019 to March'2020.	Quantity of OB Backfilled (in Lakh cum) from Oct'2019 to March'2020.	1.	Shankarpur/C L Jambad OC Patch/mine	10.8932	9.70	2.	Bonbahal OC Patch	Nil	Nil	3.	New Kenda OCP	0.6025	Nil
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lv	Of the total quarry area 408 Ha the backfilled quarry area of (408 Ha) shall be reclaimed with plantation by planting native plant species in consultation with the local DFO /Agricultural department The density of the	<p>Bankola: Complied. There are no OC in Bankola Area within leasehold of Cluster 11.</p> <p>Kenda: Agreed. In 2018-19 &amp; 2019-20, Total 38 Ha plantation has been done at different location in kenda area with the help of Forest</p>																				

	trees shall be around 2500 Plants per Ha.	<p>Department. The details of Plantation is given below:-</p> <table border="1" data-bbox="611 259 1519 607"> <thead> <tr> <th data-bbox="611 259 716 405">Year</th> <th data-bbox="716 259 1157 405">Name of Species</th> <th data-bbox="1157 259 1246 405">Area in Ha</th> <th data-bbox="1246 259 1386 405">No. of Saplings</th> <th data-bbox="1386 259 1519 405">Density</th> </tr> </thead> <tbody> <tr> <td data-bbox="611 405 716 506">2018-19</td> <td data-bbox="716 405 1157 506">Neem,Karanj,Sisoo,Chatim etc.</td> <td data-bbox="1157 405 1246 506">3 Ha</td> <td data-bbox="1246 405 1386 506">7500</td> <td data-bbox="1386 405 1519 506">2500/ha</td> </tr> <tr> <td data-bbox="611 506 716 607">2019-20</td> <td data-bbox="716 506 1157 607">Chatim,Karanj, Palash, Jarul etc.</td> <td data-bbox="1157 506 1246 607">9 Ha</td> <td data-bbox="1246 506 1386 607">22500</td> <td data-bbox="1386 506 1519 607">2500/ha</td> </tr> </tbody> </table>	Year	Name of Species	Area in Ha	No. of Saplings	Density	2018-19	Neem,Karanj,Sisoo,Chatim etc.	3 Ha	7500	2500/ha	2019-20	Chatim,Karanj, Palash, Jarul etc.	9 Ha	22500	2500/ha
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lvi	Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment, Forests & Climate Change and to the Central Pollution Control Board quarterly within one month of monitoring.	<p>Ground water level monitoring is done through a network of existing wells and construction of new piezometer is under process.</p> <p>Kenda: One piezometer at New Kenda Colliery has been installed. Piezometer Water Table Monitoring report is enclosed herewith <b>(Annexure-A)</b>.</p>															
lvii	The company shall put up artificial groundwater recharge measures for augmentation of ground water resource in case monitoring indicates a decline in water table. The project authority shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.	<p>Bankola: In underground mines, recharging of water at surface will further add to the quantum of water percolating into the underground workings. Also, no declining trend has been noticed in the mine leasehold.</p> <p>At present three artificial ground water recharge system is constructed i.e Rainwater Harvesting system near SSPur Agent Office ( Approximate quantity of the area covered: 1600 sqm), at Bankola Area Hospital (Approximate quantity of the area covered: 2500 sqm), and Bankola Area Office is constructed.</p> <p>Mine discharged water is supplied by tanker or pipeline to Ukhra village, Shankarpur Village, Kumardihi village, Lal Bangla, Shyamsundarpur village and other locations.</p> <p>Kenda: Work has been completed for rainwater harvesting structure at Regional Hospital Chora and Kenda Area Office. The mine discharge is effectively being utilized to meet the domestic demands of the community thus reducing the strain on ground water resources.</p>															
lviii	Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP waste water.	<p>Bankola: Quantity of effluent generated from mining activities (viz. workshops) are very less, about 10 lit/day for which ETP is not required. Most of the sewage generated from residential colony goes to Septic Tank. Feasibility study for STP by IIT-ISM is completed.</p> <p>Kenda: Work has almost been completed for construction of the washing platform along with ETP at Shankarpur OCP. For STP( Sewage Treatment</p>															

		Plant), Work order has been awarded for construction of STP at New Kenda Colony and its work is in progress.												
lix	Land oustees shall be compensated as per the norms laid out R&R Policy of CIL or the National R&R Policy or R&R Policy of the State Government whichever is higher.	If required, Land oustees shall be compensated as per the norms laid out in R&R Policy of CIL												
lx	For monitoring land use pattern and for post mining land use, a time series of land use maps, based on satellite imagery (on a scale of 1: 5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for any one particular season which is consistent in the time series), and the report submitted to MOEF&CC and its concerned Regional office.	Land use pattern and plantation is being monitored by satellite surveillance based on satellite imagery.												
lxi	A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forest & Climate Change within 6 months of grant of Environmental Clearance.	Mine closure plan have been prepared for the mine as per the guidelines of MOC and the same has been placed before the board for approval.												
lxii	The project authorities shall in consultation with the Panchayats of the local villages and administration identify socio-economic and welfare measures under CSR to be carried out over the balance life of the mine.	<p>Complied. As per the revised CSR policy of CIL, 2% of the avg. net profit of preceding three years is the norm for CSR activities in the entire ECL command area.</p> <p>The following CSR activity which is in progress in Kenda Area (ECL) is mentioned below:-</p> <table border="1"> <thead> <tr> <th>S.No.</th> <th>Name of the Activity</th> <th>Project Cost/Work order Value(In Rs.)</th> <th>Status(Ongoing/Completed)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Installation of Solar LED Lights in Chora and Kenda GP and village in Kajora Area.</td> <td>Approx. Amount:-₹ 65,83,705.60.00</td> <td>Approved.</td> </tr> <tr> <td>2.</td> <td>Dignity and Care for Women and Girls through Social enterprise of hygiene</td> <td>₹ 14,53,277.00</td> <td>It is under process for competent approval.</td> </tr> </tbody> </table>	S.No.	Name of the Activity	Project Cost/Work order Value(In Rs.)	Status(Ongoing/Completed)	1.	Installation of Solar LED Lights in Chora and Kenda GP and village in Kajora Area.	Approx. Amount:-₹ 65,83,705.60.00	Approved.	2.	Dignity and Care for Women and Girls through Social enterprise of hygiene	₹ 14,53,277.00	It is under process for competent approval.
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		products .		
		3. A pilot Project on STEM in Kenda Area.	₹ 10,63,000.00	Approved.
		4. Supplying of Water through Tankers at Four locations under Bahula Gram Panchayet, Kenda Area .	₹ 5,80,514.00	Approved. It is under tendering process.
		5. Renovation of Bahula Free Primary School and Installation of Water Purifier-cum-Cooler , Bahula under ECL-CSR Kenda Area.	Approx. Amount:-₹ 14,65,000.00	It is under process for competent approval.
		6. Water Supply Through Tankers at Five Locations in New Kenda Gram panchayat.	₹ 14,86,316.00	The work is going on.
		7. Water supply arrangements to Kenda village, Kenda Mouza, Kenda Area, ECL.	Project Cost: Rs. 8505716.69 Expenditure in FY 2019-20:- Rs.13,78,493	Completed.

lxiii	<p>Corporate Environment Responsibility:</p> <p>a) The Company shall have a well laid down Environment Policy approved by the Board of Directors.</p> <p>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.</p> <p>c) The hierarchical system or</p>	<p>Complied.</p> <p>“Corporate Environmental Policy 2012” of Coal India Limited has already been formulated.</p> <p>“Corporate Environmental Policy 2012” of Coal India Limited has prescribed standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/condition.</p> <p>The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring Compliance with the environmental clearance conditions has been furnished in “Corporate Environmental Policy 2012” of Coal India Limited.</p>
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	<p>Administrative Order of the company to deal with environmental issues and for ensuring Compliance with the environmental clearance conditions shall be furnished.</p> <p>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.</p>	<p>The company is having a well laid down system of reporting of non-compliances/violations of environmental norms to the board of directors of the company.</p>
<b>GENERAL CONDITION</b>		
i	<p>No. change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment, Forest &amp; Climate Change</p>	<p>Complied. Change in mining technology and scope of working, if any, is being made with prior approval of the Ministry of Environment, Forests &amp; Climate Change.</p>
ii	<p>No change in the calendar plan of production of quantum of mineral cost shall be made.</p>	<p>There shall be no change in the calendar plan of production for quantum of mineral coal.</p>
iii	<p>Four ambient air quality monitoring stations shall be established in the core s\zone as well as in the buffer zone for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> 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.</p>	<p>Air quality monitoring is carried out by CMPDIL on fortnightly basis and all desired parameters are well within the prescribed limits. The Reports are enclosed in Annexure A.</p>
iv	<p>Data on ambient air quality (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>) and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly submitted to the Ministry including its concerned Regional Office and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification Of samples through analysis from independent laboratories recognized under the EPA rules, 1986 shall be</p>	<p>Air quality monitoring is carried out by CMPDI on fortnightly basis and data on ambient air quality shall be regularly submitted to the Ministry including its concerned Regional Officer and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Detailed Report on monitoring are attached in Annexure A.</p>

	furnished as part of compliance report.	
v	Adequate measures shall be taken for control of noise levels below 85dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.	Noise level monitoring is carried out by CMPDIL on fortnightly basis. Noise level has always been below 85 dBA. Noise data are enclosed (Annexure- A).
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 19 <sup>th</sup> May 1993 and 31 <sup>st</sup> December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.	Mine discharge water samples are tested in laboratory at CMPDI on fortnightly basis. Mine water quality conforms to the standards prescribed under GSR 422(E) dated 19th May 1993 and 31st December 1993. Bankola: The mine water quality enclosed in Annexure A.  Kenda: Reports are enclosed.(As per annexure –A). <b>Work has almost been completed for construction of washing platform along with ETP at SKOCP.</b>
vii	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the minerals shall be covered with tarpaulins and optimally loaded.	Vehicular emissions are kept under control and regularly monitored. Coal transportation from Colliery to railway siding is being done by tarpaulin covered trucks. The loaded trucks are made wet at first and then covered with tarpaulins for transportation.
viii	Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analyzed through a laboratory recognized under EPA rules, 1986	Monitoring of environmental parameters is carried out on regular basis by CMPDIL. Laboratory at CMPDIL, Asansol is having all necessary facilities.
ix	Personnel working under dusty area shall wear protective respiratory devices and they shall also be provided with adequate training and information and information safety and health aspects.	All protective devices have been provided to workmen and are replaced periodically. Adequate training to all personnel has also been provided. New recruits are trained at the VTC before their deployment. PMEs are carried out on all employees once in 5 years.
x	Occupational health surveillance program 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	Complied. Every year, 20% of the employees, workers are covered under occupational health surveillance programme in the form of Periodical Medical Examinations for any contractions due to exposure to dust and for other health related issues.  Bankola: PME of 828 workers has been conducted in Bankola Area in the year 2019-20 along with 18 Spirometry and 15 Audiometry tests. Details can be found in <b>Annexure B</b> .

	by the company while outsourcing.	Kenda: Total no. of person which have gone through the PME in FY 2019-20 from Oct'2019 to March'2020 is 503 for ECL employees and 47 for Contractual employees.
xi	A separate environmental management cell with suitable qualified personnel shall be set up under the control of a senior executive, who will report directly to the Head of the Company	A separate environmental management cell with qualified personnel has been established for all the Areas under Cluster 11. The cell reports to the respective Area GM and GM, Environment and Forest; ECL.
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.	Funds for environmental protection as kept in budget each year is not diverted for other purposes.
xiii	The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy 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, Forest and Climate Change at <a href="http://envfor.nic.in">http://envfor.nic.in</a> .	Complied.
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 suggestions/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on Company's website.	A copy of the environmental clearance letter for cluster 11 has been marked to concerned Panchayat / Zila Parishad, Municipal Corporation or Urban local body.  The EC letter is uploaded on the company's website. The link is given below : <a href="http://www.easterncol.gov.in">www.easterncol.gov.in</a>
xv	A copy of the environmental clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the regional office, District Industry Sector and Collector's Office/Tehsildar's	To EC letter is sent to State Pollution Control Board (SPCB) .

	Office for 30 days.	
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 the environmental quality parameters (air, water, noise & soil) and critical pollutant such as PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> and NO <sub>x</sub> (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on Company's website	The clearance letter is uploaded on the company's website. The link is given below : <a href="http://www.easterncol.gov.in">www.easterncol.gov.in</a> . The monitoring data of environmental quality parameter (air, water and noise) and critical pollutant such as PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> and NO <sub>x</sub> (ambient) and critical sectoral parameters are being displayed on Company's website. Reports enclosed as Annexure A from Bankola and Kenda area.
xvii	The Project Proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e- mail) to the respective Regional Office of the Ministry, respective Zonal Offices of CPCB and the SPCB.	Complied and Submitted.
xviii	The Regional Office of the Ministry located in the Region shall monitor compliances 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.	Complied.
xix	The environmental statement for each financial year ending 31 march in form-V is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the Company's website along the status of the EC conditions and shall be sent to the respective Regional Offices of the MOEFCC by e-mail.	Complied.

Additional condition for Kenda area		
1.	The soil contamination through oil spillage/leakage should either be bio-remediated using specific technology available in the market, or sent to secured land fill facility authorized by the SPCB.	Noted and Agreed.

# **ANNEXURE**

B.C & Expenditure details for the F.Y- 2019-20 (Budget: Rs. 17.86 Crores)														
Sl.no	Scope of Work	Name of work	Name of the Implementing Agency	Area	Date of Approval	Financial Status (Amount in Rs.)						Remarks	Within/Beyond 25 km radius	District & State
						Project Cost	New B.C Amount	Rev. B.C Amount	Total Payment in 2019-20	Liability till Mar'2020	Total Expenses 2019-20			
i	Environment & Sustainability	Installation of Solar Street Light Projects at Different villages in and around command areas of ECL. Raniganj Coalfields	Trinix Impex Pvt. Ltd.	Bankola					31,03,258	-	31,03,258			
47	Women Empowerment	Unnati- A Microenterprise of Handicrafts run by women	SRREOSHI	Bankola	12-Mar-2018	24,90,677	-	22,845	22,845	-	22,845	Ongoing	Within 25 km radius	West Bengal
viii	Skill Development	Training of 50 no. of Mining Sardar SC/ST candidates	ECL-HRD	Bankola			-	29,182	29,182		29,182		Within 25 km radius	West Bengal
<b>Total Rs.</b>									<b>31,55,285</b>					




**Eastern Coalfields Limited.**  
Bankola Area Hospital, PME Section  
Bankola Area.

**Monthly Report of PME done for the Month of Mar.2020.**

Sl. No.	Name of Colliery	PME done		
1	Bankola Colliery	12		
2	S.S.Pur Colliery	37		
3	Khandra Moira Colliery	00	Pathology	67
4	Kumardihi A Colliery	06	X Ray	74
5	K B NK Colliery	01	ECG	08
			Spirometry	02
6	Tilaboni Colliery	08	Audiometry	01
7	Sankarpur Colliery	11		
8	GM Office	0		
9	Area Hospital	0		
10	U.R.W	0		
	<b>TOTAL</b>	<b>75</b>		
*	Contra. Wkr	01		
*	Female Wkr	2		
*	> 45	58		
*	< 45	17		

**Dated 1<sup>st</sup> Apr.2020.**

  
P.M.E. In Charge,  
Bankola Area Hospital



**Eastern Coalfields Limited.**  
**Bankola Area Hospital, PME Section**  
**Bankola Area.**

**Monthly Report of PME done for the Month of Feb. 2020.**

Sl. No.	Name of Colliery	PME done		
1	Bankola Colliery	24		
2	S.S.Pur Colliery	39		
3	Khandra Moira Colliery	08	Pathology	99
4	Kumardihi A Colliery	13	X Ray	97
5	Kumardihi B Colliery	4	ECG	12
			Spirometry	04
6	Tilaboni Colliery	13	Audiometry	03
7	Sankarpur Colliery	15		
8	GM Office	0		
9	Area Hospital	0		
10	U.R.W	0		
	<b>TOTAL</b>	<b>116</b>		
*	Contra.Wkr	11		
*	Female Wkr	1		
*	> 45	84		
*	< 45	32		

**Dated 2<sup>nd</sup> Mar.2020.**

**P.M.E. In Charge,**  
**Bankola Area Hospital**

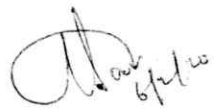


**Eastern Coalfields Limited.**  
Bankola Area Hospital, PME Section  
Bankola Area.

**Monthly Report of PME done for the Month of Jan. 2020.**

Sl. No.	Name of Colliery	PME done		
1	Bankola Colliery	31		
2	S.S.Pur Colliery	20		
	Khandra & Moira			
3	Colliery	17	Pathology	81
4	Kumardihi A Colliery	0	X Ray	76
	Kumardihi B & NK			
5	Colliery	0	ECG	8
			Spirometry	02
6	Tilaboni Colliery	11	Audiometry	01
7	Sankarpur Colliery	14		
8	GM Office	0		
9	Area Hospital	0		
10	U.R.W	0		
	<b>TOTAL</b>	<b>93</b>		
*	Contrac.Wkr	8		
*	Female Wkr	0		
*	> 45	67		
*	< 45	26		

Dated 6<sup>th</sup> Feb.2020.

  
P.M.E. In Charge,  
Bankola Area Hospital




**Eastern Coalfields Limited.**  
Bankola Area Hospital, PME Section  
Bankola Area.

**Monthly Report of PME done for the Month of Dec 2019.**

Sl. No.	Name of Colliery	PME done		
1	Bankola Colliery	28		
2	S.S.Pur Colliery	9		
3	Khandra Colliery	11	Pathology	74
4	Kumardihi A Colliery	1	X Ray	68
5	Kumardihi B Colliery	13	ECG	10
6	Moirra Colliery	0	Spirometry	05
7	Tilaboni Colliery	3	Audiometry	05
8	Sankarpur Colliery	20		
9	Nakrakonda Colliery	0		
10	GM Office	0		
11	Area Hospital	0		
12	U.R.W	0		
	<b>TOTAL</b>	<b>85</b>		
*	Contrac.Wkr	8		
*	Female Wkr	0		
*	> 45	66		
*	< 45	19		

Dated 2<sup>nd</sup> Jan.2020.

  
2/1/20  
P.M.E. In Charge,  
Bankola Area Hospital



**Eastern Coalfields Limited.**  
Bankola Area Hospital, PME Section  
Bankola Area.

**Monthly Report of PME done for the Month of Nov 2019.**

Sl. No.	Name of Colliery	PME done		
1	Bankola Colliery	26		
2	S.S.Pur Colliery	6		
3	Khandra Moira Colliery	8	Pathology	95
4	Kumardihi A Colliery	20	X Ray	79
5	NK KB Colliery	15	ECG	5
			Spirometry	02
6	Tilaboni Colliery	14	Audiometry	02
7	Sankarpur Colliery	18		
10	GM Office	0		
11	Area Hospital	0		
12	U.R.W	0		
	<b>TOTAL</b>	<b>107</b>		
*	Contra.Wkr	7		
*	Female Wkr	2		
*	> 45	80		
*	< 45	27		

**Dated 3<sup>rd</sup> Nov.2019.**

P.M.E. In Charge,  
Bankola Area Hospital



**Eastern Coalfields Limited.**  
Bankola Area Hospital, PME Section  
Bankola Area.

**Monthly Report of PME done for the Month of Oct.2019.**

Sl. No.	Name of Colliery	PME done		
1	Bankola Colliery	23		
2	S.S.Pur Colliery	12		
3	Khandra Colliery	04	Pathology	77
4	Kumardihi A Colliery	19	X Ray	34
5	Kumardihi B Colliery	4	ECG	9
6	Moirra Colliery	0	Spirometry	5
7	Tilaboni Colliery	1	Audiometry	3
8	Sankarpur Colliery	14		
9	Nakrakonda Colliery	0		
10	GM Office	0		
11	Area Hospital	0		
12	U.R.W	0		
	<b>TOTAL</b>	<b>77</b>		
*	Contrac.Wkr	6		
*	Female Wkr	2		
*	> 45	64		
*	< 45	13		

**Dated 03<sup>rd</sup> Nov.2019.**

P.M.E. In Charge,  
Bankola Area Hospital

**STRICTLY RESTRICTED**  
**FOR COMPANY USE ONLY RESTRICTED**

The information given in this report is not to be communicated either directly or indirectly to the press or to any person not holding an official position in the CIL / GOVERNMENT.

**ENVIRONMENT MONITORING REPORT  
OF  
CLUSTER NO. 11**

**(FOR THE MONTH OF FEBRUARY, 2020)**

**(KENDA & BANKOLA AREA)**

**Eastern Coalfields Limited**



*cmpdi*  
*A Mini Ratna Company*

**Regional Institute-1  
Asansol (WB)**

# **ENVIRONMENT MONITORING REPORT FOR CLUSTERNO. 11**

**(For the Month of February, 2020)**

## **CONTENTS**

<b>SL. NO.</b>	<b>CHAPTER</b>	<b>PARTICULARS</b>	<b>PAGE NO.</b>
1.	CHAPTER- I	INTRODUCTION	1
2.	CHAPTER-II	AMBIENT AIR SAMPLING & ANALYSIS	2 - 5
3.	CHAPTER-III	WATER SAMPLING & ANALYSIS	6 – 9
4.	CHAPTER-IV	NOISE LEVEL MEASUREMENT	10 – 12

**CHAPTER - I**  
**INTRODUCTION**

1.0 The environmental monitoring has been carried out as per conditions laid down by MoEF&CC while granting environmental clearance to different projects. CMPDIL has trained manpower and well equipped laboratory to carry out monitoring, analysis and R&D work in the field of environment.

Reports have been prepared for submission to MoEF&CC, SPCB and other statutory authorities.



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**CHAPTER-II****AMBIENT AIR QUALITY MONITORING****2.1 Location of sampling station and their rationale:****2.1.1 Ambient Air Quality Sampling Locations****I. Industrial Area Monitoring Location****i) Chora pit no.10, Haripur (11A1): Industrial Area**

The sampler was placed at 10No. pit office of Chora colliery, Haripur to assess the ambient air quality of industrial area in the core zone where mining activities are in progress.

**ii) Agent Office Belbaid near Railway siding (11A3): Industrial Area.**

The sampler was placed at Kali mandir of Belbaid colony. This site was selected to assess the present ambient air quality status in industrial area of core zone of Belbaid Incline of Kunustoria area.

**iii) Bhula Jambad Pit Office near Railway siding (11A4): Industrial Area.**

The sampler was placed at Bhula Jambad pit office railway siding. This site was selected to assess the present ambient air quality status in industrial area of core zone of Jambad OCP of Kajora area.

**Residential Area Monitoring Location****iv) GM office, Bankola area (11A2): Industrial Area.**

The sampler was placed at GM office, Bankola. This site was selected to assess the present ambient air quality status in industrial area of core zone.

**v) Moira Colliery Office (11A5): Residential Area**

The air sampler was placed at Moira colliery office. This site was selected to assess the present ambient air quality status in residential area of buffer zone of Moira.

**2.2 Methodology of sampling and analysis**

Parameters chosen for assessment of ambient air quality were Particulate Matter (PM<sub>10</sub>), Fine Particulate Matter (PM<sub>2.5</sub>), Sulphur Di-oxide (SO<sub>2</sub>) and Nitrogen Oxides (NO<sub>x</sub>). Respirable Dust Sampler (RDS) & Fine Dust Sampler (FDS) were used for sampling of PM<sub>10</sub> & gaseous pollutants and PM<sub>2.5</sub> respectively. The samples were analysed at Environmental Laboratory, CMPDI, RI-I, Asansol.

## 2.3 Results & Interpretations

The results of ambient air quality are presented in tabular form along with for each monitoring station. Sampling stations have been chosen keeping in view predominant wind direction and have been classified as permanent, pre monsoon (April – September) & post monsoon (October – March) air sampling stations. The interpretations of different parameters are given below:

### 2.3.1 Ambient air quality

#### **Particulate Matter (PM<sub>10</sub>)**

In industrial area varies from 182.4 to 618.8  $\mu\text{g}/\text{m}^3$  & in residential area from 104.6 to 138.7  $\mu\text{g}/\text{m}^3$ .

#### **Fine Particulate Matter (PM<sub>2.5</sub>)**

In industrial area from 19.0 to 68.8  $\mu\text{g}/\text{m}^3$  & in residential area from 35.2 to 45.4  $\mu\text{g}/\text{m}^3$

#### **Sulphur Dioxide (SO<sub>2</sub>):**

In industrial area below 10  $\mu\text{g}/\text{m}^3$  & in residential area below 10  $\mu\text{g}/\text{m}^3$ .

#### **Oxides of Nitrogen (NO<sub>x</sub>):**

In industrial area varies from 16.4 to 18.7  $\mu\text{g}/\text{m}^3$  & in residential area from 13.1 to 14.4  $\mu\text{g}/\text{m}^3$ .

**AMBIENT AIR QUALITY DATA**Name of the Company: **Eastern Coalfield Limited** Month: **February, 2020**Name of the Project : **Mines of Cluster No. 11****Industrial Area****1<sup>st</sup> fortnight**

Station Code	Station Name	Date of Sampling	Parameters			
			PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )
11A1	Chora pit office, Haripur	5-Feb-20	618.8	43.0	<10.0	17.5
11A3	Belbaid agent office	14-Feb-20	182.4	58.5	<10.0	16.8
11A4	Bahula-Jambad unit pit office	6-Feb-20	216.6	68.8	<10.0	18.7

**2<sup>nd</sup> fortnight**

Station Code	Station Name	Date of Sampling	Parameters			
			PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )
11A1	Chora pit office, Haripur	18-Feb-20	365.7	19.0	<10.0	17.8
11A3	Belbaid agent office	25-Feb-20	184.6	59.2	<10.0	16.4
11A4	Bahula-Jambad unit pit office	24-Feb-20	194.2	62.1	<10.0	18.2

**Residential Area****1<sup>st</sup> fortnight**

Station Code	Station Name	Date of Sampling	Parameters			
			PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )
11A2	Bankola GM office	6-Feb-20	138.7	45.4	<10.0	14.3
11A5	Moira colliery office	5-Feb-20	117.6	39.1	<10.0	13.6

**2<sup>nd</sup> fortnight**

Station Code	Station Name	Date of Sampling	Parameters			
			PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )
11A2	Bankola GM office	21-Feb-20	118.7	39.4	<10.0	13.1
11A5	Moira colliery office	24-Feb-20	104.6	35.2	<10.0	14.4

Environmental Standards for Ambient Air Quality (AAQ) :

Station Category	Environmental standard for Raniganj Coalfield vide MOEF, Govt. of India, Gazette Notification No. GSR 742 (E) dated 25.09.2000 for 24 hourly samples at 500 meters from dust generating point		National Ambient Air Quality Standards (NAAQS), 2009 for industrial, residential and rural areas for 24 hours samples	
	Pollutant Concentration ( $\mu\text{g}/\text{m}^3$ )			
	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	PM <sub>2.5</sub>
Industrial	300.0	120.0	120.0	60.0
Residential	100.00	80.0	80.0	

## CHAPTER – III

### WATER QUALITY MONITORING

#### 3.1 Location of sampling sites and their rationale

- i) **New Kenda OC Patch (11MW3)**  
This location has been selected to monitor the discharge quality of mine effluent water.
- ii) **Lower Kenda (11MW4)**  
This location has been selected to monitor the discharge quality of mine effluent water. The water is being supplied to colony quarters after sedimentation tank.
- iii) **Chora Block Incline (11MW5)**  
This location has been selected to monitor the discharge quality of mine effluent.
- iv) **Chora 7, 9 & 10 Pits (11MW6)**  
This location has been selected to monitor the discharge quality of mine effluent to natural surface streams.
- v) **Bahula UG (11MW7)**  
This location has been selected to monitor the discharge quality of mine effluent after sedimentation tank. The water is being used for sprinkling to Bhula railway siding
- vi) **C L Jambad UG (11MW8)**  
This location has been selected to monitor the discharge quality of mine effluent to natural surface streams after sedimentation tank.
- vii) **Siduli UG (11MW9)**  
This location has been selected to monitor the discharge quality of mine effluent to natural surface streams after sedimentation tank.
- viii) **Khandra UG (11MW10)**  
This location has been selected to monitor the discharge quality of mine effluent to natural surface streams after sedimentation tank.
- ix) **Shankarpur UG (11MW11)**  
This location has been selected to monitor the discharge quality of mine effluent to natural surface streams after sedimentation tank.

**3.2 Methodology of sampling and analysis**

Water samples were collected as per standard practice. The effluent samples were collected and analysed for five parameters on fortnightly basis and all parameters on Half-yearly basis. The Ground water samples were collected and analysed for all parameters on annualy basis. Parameters like pH and Free Residual Chlorine were analysed on-site while collecting the samples. Thereafter the samples were preserved and analysed at the field laboratory located at RI-I Office campus.

**3.3 Results & Interpretations**

The results are given in tabular form along with the applicable standards. Results are compared with General Standards for Discharge of Effluent (Schedule VI) in case of effluent/mine water sample and compared with IS.10500: 2012 in case of drinking water sample. Results show that most of the parameters are within the permissible limits.

## Cluster No. 11

CMPDIL

### WATER QUALITY DATA (Effluent Water)

Name of the Company: **Eastern Coalfield Limited.**

Month: **February.** Year: **2020.**

Name of the Project: **Mines of Cluster No. 11**

Name of the station & code:     **1. 11MW3- New Kenda OC.   2. 11MW4- Chora Block Incline.   3. 11MW5- Chora 7, 9 & 10 Pits.**  
   **4. 11MW6- Chora 7, 9 & 10 Pits.   5. 11MW7- Bahula UG.**

#### First Fortnight data

Sl. No.	Parameters	Analytical results					General Standards for Discharge of Effluent (Schedule VI)	Method of Detection	Detection Limit
	Station Code	11MW3	11MW4	11MW5	11MW6	11MW7			
	Date of sampling	11-Feb-20	11-Feb-20	11-Feb-20	5-Feb-20	11-Feb-20			
1	pH	8.03	8.06	8.10	7.60	8.07	5.5 - 9.0	Electrometric	0.01
2	TSS	36	30	28	28	38	100 (Max)	Gravimetric Method	10.0
3	TDS	416	492	432	164	618	Not specified	Gravimetric Method	25.0
4	Oil & Grease	<2.0	<2.0	<2.0	<2.0	<2.0	10 (Max)	Partition Gravimetric	2.0
5	COD	28	24	36	24	24	250 (Max)	Closed Reflux	4.0

#### Second Fortnight data

Sl. No.	Parameters	Analytical results					General Standards for Discharge of Effluent (Schedule VI)	Method of Detection	Detection Limit
	Station Code	11MW3	11MW4	11MW5	11MW6	11MW7			
	Date of sampling	27-Feb-20	27-Feb-20	27-Feb-20	18-Feb-20	27-Feb-20			
1	pH	7.47	8.04	7.48	7.40	7.75	5.5 - 9.0	Electrometric	0.01
2	TSS	28	34	36	40	42	100 (Max)	Gravimetric Method	10.0
3	TDS	423	762	414	538	647	Not specified	Gravimetric Method	25.0
4	Oil & Grease	<2.0	<2.0	<2.0	<2.0	<2.0	10 (Max)	Partition Gravimetric	2.0
5	COD	24	28	36	28	28	250 (Max)	Closed Reflux	4.0

*All values are expressed in mg/L unless specified.*



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**CHAPTER - IV****NOISE LEVEL QUALITY MONITORING****4.1 Location of sampling sites and their rationale**

- i) **Chora 10 UG (11N1)**  
Noise level meter placed at Chora 10 UG pit - top to assess the noise level at workplace.
- ii) **Lower Kenda UG (11N2)**  
Noise level meter placed at Lower Kenda UG pit - top to assess the noise level at workplace.
- iii) **Chora Block Incline (11N3)**  
Noise level meter placed at Chora block incline UG pit - top to assess the noise level at workplace.
- iv) **Chora 7 & 9 Pits (11N4)**  
Noise level meter placed at Chora 7&9 UG pit - top to assess the noise level at workplace.
- v) **Bahula UG (11N5)**  
Noise level meter placed at Bahula UG pit - top to assess the noise level at workplace.
- vi) **C L Jambad UG (11N6)**  
Noise level meter placed at C L Jambad UG pit - top to assess the noise level at workplace.
- vii) **Siduli UG (11N7)**  
Noise level meter placed at Siduli UG pit - top to assess the noise level at workplace.
- viii) **Khandra UG (11N8)**  
Noise level meter placed at Khandra UG pit - top to assess the noise level at workplace.
- ix) **Shankarpur UG (11N9)**  
Noise level meter placed at Shankarpur UG pit - top to assess the noise level at workplace.
- x) **Shankarpur Face 4 OCP (11N10)**  
Noise level meter placed at mine site to assess the noise level at workplace.
- xi) **New Kenda UG (11N11)**  
Noise level meter placed at New Kenda UG pit - top to assess the noise level at workplace.

### 4.2 Methodology of sampling and analysis

Noise level monitoring is being carried out on quarterly basis. Noise level measurements were taken in form of 'Leq' using Integrated Data Logging Sound Level Meter (Make: RION, Model: NL-52). Noise levels were measured for about one hour. 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 only. The observed values were compared with standards prescribed in NAAQS, 2009 in respect of noise for Industrial, Commercial and residential areas. The observed values at all the monitoring locations are found to be within permissible limits.

The monitored values are presented in tabular form along with the applicable standard permissible limits.

## Cluster 11

CMPDIL

### NOISE LEVEL DATA

Name of the Company: **Eastern Coalfield Limited** Month: **February**. Year: **2019**.

Name of the Project: **Kenda Area**

Sl. No.	Station Code	Station Name	Measurement Details			Permissible Limit of Noise level in dB(A)
			Date	Duration (In Hrs.)	Noise level dB(A) Leq	
1	11N1	Chora 10 UG	5-Feb-20	9.00 to 10.00	64.3	75
2	11N2	Lower Kenda	5-Feb-20	10.30 to 11.30	58.7	75
3	11N3	Chora Block Incline	6-Feb-20	11.30 to 12.30	59.4	75
4	11N4	Chora 7 & 9 Pits	6-Feb-20	13.00 to 14.00	60.8	75
5	11N5	Bahula UG	6-Feb-20	14.30 to 15.30	57.3	75
6	11N6	C L Jambad UG	6-Feb-20	16.00 to 17.00	61.2	75
7	11N7	Siduli UG	5-Feb-20	12.00 to 13.00	64.9	75
8	11N8	Khandra UG	5-Feb-20	13.30 to 14.30	59.5	75
9	11N9	Shankarpur UG	6-Feb-20	8.30 to 9.30	66.3	75
10	11N10	Shankarpur Phase 4 OCP	5-Feb-20	15.00 to 16.00	62.8	75
11	11N11	New Kenda UG	6-Feb-20	10.00 to 11.00	63.5	75

National Ambient Air Quality Standards (NAAQS) in respect of noise for industrial, commercial and residential areas.

Station Category	Limits for noise (Leq dB (A))	
	Day Time: 6.00 AM to 10.00 PM	Night Time: 10.00 PM to 6.00 AM.
Industrial	75.0	70.0
Commercial	65.0	55.0
Residential	55.0	45.0