HALF YEARLY

ENVIRONMENT CLEARANCE COMPLIANCE REPORT

OF

CLUSTER 12

J-11015/76/2011-IA.II(M)

FOR THE PERIOD OF

OCTOBER 2024 TO MARCH 2025

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

EASTERN COALFIELDS LIMITED
(A Subsidiary of Coal India Limited)
O/o The Agent, Sonepur Bazari Project
PO: Sonepur-713378, Dist.: Paschim Bardhaman

Ref: GM(OP)/SBA/25-26/Env/7

Date- 15/05 /25

UNDERTAKING

Information provided in Half Yearly EC compliance report for the period Oct'2024 to March'2025 in respect of the following mines of Cluster no. 12 is true to the best of my knowledge:

SL. NO.	MINES	NAME OF THE AGENT	SIGNATURE OF THE AGENT
1	Sonepur Bazari OCP	Shri Rajkishore Singh	

15/5/25

Agent/ Project Proponent
(Sonepur Bazari Project)

ECL

ईस्टर्न कोलफील्ड्स लिमिटेड
Eastern Coalfields Limited
(कोल इंडिया की एक अनुषंगी)
(A Subsidiary of Coal India Limited)
(भारत सरकार का एक उपक्रम)
(A Govt. of India Undertaking)

UNDERTAKING

Information provided in Half Yearly EC compliance report for the period **1st October 24 to 31st March 2025** in respect of Jhanjra UGP of cluster no. 12 is true to the best of my knowledge:

S. No.	Manager of the Mine	Name of the Manager	Signature of the Manager
1.	Jhanjra UG	S.K. Sinha	16.5.2025

Agent 16/5/25
Jhanjra Project Colliery

EASTERN COALFIELDS LIMITED
(A Subsidiary of Coal India Limited)
Office of the Agent
Bankola 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.: ECL/BC/Ag/2025-26/44 **Dated:** 7/5/25

UNDERTAKING

Information provided in Half yearly EC compliance report for the period October'24 to March'25 in respect of the Bankola UG of Cluster No. 12 is true to the best of my knowledge:

Agent
Bankola Colliery
03/05/2025

Manager
Bankola Colliery
03/5/25

EASTERN COALFIELDS LIMITED
(A Subsidiary of Coal India Limited)
Office of the Agent
Kumardihi A 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.:KA/Mgr/2025/Env./ 738

Dated: 08.05.2025

UNDERTAKING

Information provided in Half yearly EC compliance report for the period October'24 to March'25 in respect of the Kumardihi A UG of Cluster No. 12 is true to the best of my knowledge:

08/05/2025
Agent
Kumardihi A Colliery

Manager 08/05/2025
Kumardihi A Colliery
Colliery Manager
Kumardihi 'A' Colliery

EASTERN COALFIELDS LIMITED
(A Subsidiary of Coal India Limited)
Office of the Agent
Nakrakonda-Kumardihi B 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.: NK-K13/AGT/2025/243 **Dated:** 03/05/2025

UNDERTAKING

Information provided in Half yearly EC compliance report for the period October'24 to March'25 in respect of the Nakrakonda- Kumardihi B UG& OC of Cluster No. 12 is true to the best of my knowledge:

Agent 3/5/2025
NKD-KUM B Colliery

Manager 03/05/2025
NKD-KUMB Colliery

EASTERN COALFIELDS LIMITED
(A Subsidiary of Coal India Limited)
Office of the Agent
Shyamsundarpur 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.: SRTcm/Agent/ECLSY/1329 **Dated:** 06.05.2025

UNDERTAKING

Information provided in Half yearly EC compliance report for the period October'24 to March'25 in respect of the Shyamsundarpur UG of Cluster No. 12 is true to the best of my knowledge:

6/5/25
Agent
Shyamsundarpur Colliery

6/5/25
Manager
Shyamsundarpur Colliery

ईस्टर्न कोलफील्ड्स लिमिटेड
एजेंट का कार्यालय, तिलाबनी कोलियरी
बांकोला क्षेत्र, पी0 - उखरा, जिला- पश्चिम बर्धमान, पिन – 713363
ई-मेल आइ डी: tilaboniproject@gmail.com

Eastern Coalfields Limited
OFFICE OF THE AGENT, TILABONI COLLIERY
BANKOLA AREA: P.O. - UKHRA, DIST- PASCHIM BARDHAMAN, PIN - 713363
E-mail ID: tilaboniproject@gmail.com

Ref. No.: TLB/AG/EC/25-26/ 176 **Dated:** 08.5.25

UNDERTAKING

Information provided in Half yearly EC compliance report for the period October'24 to March'25 in respect of the Tilaboni UG of Cluster No. 12 is true to the best of my knowledge:

08/05/2025
Agent
Tilaboni Colliery

08/05/25
Manager
Tilaboni Colliery

Eastern Coalfields Limited
(A subsidiary of Coal India Limited)
Office of the Agent, Manderboni- South Samla (A) UG
Pandaveswar Area
P.O. – Gogla, Dist.- Paschim Bardhaman, PIN-713381

Ref. No.: ECL/PAND/AGT/MSAM/ 25-26

Dated: 15-05-2025

UNDERTAKING

Information provided in the Half yearly EC compliance report for the period of October 2024 to March 2025 in respect of Manderboni- South Samla Amalgamated UG mine of Cluster no.12 is true to the best of my knowledge.

14/05/2025
Manager (Envt.)
Pandaveswar Area

15/5/25
Manager
Manderboni- South Samla (A) UG

15/05/25
Dy. GM(Mining)/Agent
Manderboni- South Samla (A) UG

Eastern Coalfields Limited
(A subsidiary of Coal India Limited)
Office of the Agent, Madhaipur UG&OC
Pandaveswar Area
P.O. – Nutandanga , Dist.- Paschim Bardhaman, PIN-713381

Ref. No: ECL/MDP/ENV/25-26/212

Dated: 15-05-2025

UNDERTAKING

Information provided in Half yearly EC compliance report for the period of October 2024 to March 2025 in respect of Madhaipur UG under Madhaipur UG&OC mine of Cluster no.12 is true to the best of my knowledge.

Manager (Envt.)
Pandaveswar Area

Manager
Madhaipur UG&OC

Dy. GM(Mining)/Agent
Madhaipur UG&OC

Eastern Coalfields Limited
(A subsidiary of Coal India Limited)
Office of the Agent, Madhaipur UG&OC
Pandaveswar Area
P.O. – Nutandanga , Dist.- Paschim Bardhaman, PIN-713381

Ref. No.: ECL/MOCP/ENV/25-26/211

Dated: 15-05-2025

UNDERTAKING

Information provided in Half yearly EC compliance report for the period October 2024 to March 2025 in respect of Madhaipur OC Patch under Madhaipur UG& OC mine of Cluster no.12 is true to the best of my knowledge.

Manager (Envt.)
Pandaveswar Area

Manager
Madhaipur UG&OC

Dy. GM(Mining)/Agent
Madhaipur UG&OC

Eastern Coalfields Limited
(A subsidiary of Coal India Limited)
Office of the Agent, Khottadih UGP
Pandaveswar Area
P.O. – Khottadih , Dist.- Paschim Bardhaman, PIN-713378

Ref. No.: ECL/KTD/ENV/25-26/

Dated: 14-05-2025

UNDERTAKING

Information provided in Half yearly EC compliance report for the period of October 2024 to March 2025 in respect of Khottadih UGP under Khottadih UG&OC mine of Cluster no.12 is true to the best of my knowledge.

14/05/2025
Manager (Env.)
Pandaveswar Area

14/5/25
Manager
Khottadih UGP

14.05.'25
Dy. GM(Mining)/Agent
Khottadih UGP

Eastern Coalfields Limited
(A subsidiary of Coal India Limited)
Office of the Agent, Khottadih OCP
P.O. – Khottadih , Dist.- Paschim Bardhaman, PIN-713378

Ref No.: ECL/KOCP/ENV/25-26/ Dated: 14-05-2025

UNDERTAKING

Information provided in Half yearly EC compliance report for the period of October 2024 to March 2025 in respect of Khottadih OCP under Khottadih UG&OC mine of Cluster no. 12 is true to the best of my knowledge.

14/05/2025
Manager (Env.)
Pandaveswar Area

14/05/25
Manager
Khottadih OCP

14/5/2025
Dy. GM(Mining)/Agent
Khottadih OCP

Eastern Coalfields Limited
(A subsidiary of Coal India Limited)
Office of the Agent, Pandaveswar UG
Pandaveswar Area
P.O. – Pandaveswar , Dist.- Paschim Bardhaman, PIN-713346

Ref. No.: ECL/PND/ENV/2025-26/207

Dated:15-05-2025

UNDERTAKING

Information provided in Half yearly EC compliance report for the period of October 2024 to March 2025 in respect of Pandaveswar UG mine under Pandaveswar-Dalurband UG&OC group of mines of Cluster no.12 is true to the best of my knowledge.

14/05/2025
Manager (Env.)
Pandaveswar Area

15/05/25
Manager
Pandaveswar UG

15/5/25
Dy. GM(Mining)/Agent
Pandaveswar UG

Eastern Coalfields Limited
(A subsidiary of Coal India Limited)
Office of the Agent, Dalurband OCP
P.O. – Pandaveswar , Dist.- Paschim Bardhaman, PIN-713346,W.B.

Ref No.: ECL/DLB/ENV/25-26/ Date:14 -05-2025

UNDERTAKING

Information provided in the Half yearly EC compliance report for the period of October 2024 to March 2025 in respect of Dalurband OCP mine under Pandaveswar-Dalurband UG & OC group of mines of Cluster no.12 is true to the best of my knowledge.

14/05/2025
Manager (Env.)
Pandaveswar Area

14.5.25
Manager
Dalurband OCP

14/5/2025
Dy. GM(Mining)/Agent
Dalurband OCP

Half Yearly EC Compliance report for mine under Cluster No. 12 of ECL

Period:-Oct 2024-Mar 2025

SPECIFIC CONDITIONS

Condition (I)

Grant of EC is only for the non-forest area plus the forest area within the mining lease for which FC is available. No mining activities will be allowed in forest area for which FC is not available as per the following table:

S No.	Name of Mine	Forest Clearance Not available (Ha.)
1	Jhanjra UGP (Expansion)	99 Ha
2	Tilaboni UGP (Expansion)	64.8 Ha
3	Rangamati A UGP	91.0 Ha
4	Sonepur-Bazari OCP	32.65 Ha
Total		**287.45 Ha**

Compliance

Sonepur Bazari Area: Stage-II Forest Clearance for 32.65 Ha Forest Land in Sonepur Bazari OCP has been obtained by MoEFCC vide reference no. 5-WBC063/2013-BHU Dated 28th March, 2017.Forest land handed over to ECL vide letter no. 01/8-3 Dated 21.07.2017.

Jhanjra Area: Complied. FC off all Forest land within the leasehold boundary of Jhanjra Area has been obtained. Stage II Forest clearance has been obtained for diversion of 78 Ha forest land (vide 8-101/2014-FC dated 14th March, 2016) and renewal of lease of 90.30 Ha forest land (vide 8-68/1992-FC dated 16th August, 2016) at Jhanjra.

Bankola Area: Complied. Competent authority of MoEF&CC has accorded 'in-principle' approval under Section 2 (1) of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 vide Proposal No. IRO/KOL/WB/MIN/41301/2019 related to approval of the Central Government, for non-forestry use of 38.38 ha of forest land in favour of Eastern Coal Field Limited (ECL) for the Tilaboni UG Coal Mine Project in Durgapur Forest Division of West Bengal.

Pandaveswar Area: FC is not applicable for any mines under Pandaveswar Area, ECL.

Condition (II)

The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.

Compliance

The maximum production from the mines at any given time will be under the limit as prescribed in the EC.

S No	Name of Mine	Peak EC capacity (MTY)	Production from Apr 23 to Mar 24 (in MT)
1	Jhanjra UG	5.0	0.92
2	Sonepur Bazari OCP	14.00	12.46
3	Bankola UG	0.3	0.16
4	Shyamsundarpur UG	1.59	0.55
5	Tilaboni UG	2.14	0.19
6	Kumardihi A UG	0.20	0.08
7	Nakrakonda-Kumardih B UG & OC	4.12	1.58
8	Pandaveswar –Dalurband UG & OC	2.25	0.82
9	Manderboni-South Samla	0.28	0.062

		UG		
	10	Madhaipur UG & OC	0.65	0.14
	11	Nutandanga UG	Nil	0.00
	12	Kendra UG	Nil	0.00
	13	Samla UG & OC	0.60	0.00
	14	Khottadih UG & OC	2.70	1.66

Condition (III)	The validity of the EC is for the life of the mine or as specified in the EIA Notification, 2006, whichever is earlier.
Compliance	Complied. The validity is as per life of the mine as mentioned in EC.
Condition (IV)	All safety measures shall be taken as per CMR, 1957 & related Circulars.
Compliance	Being complied. All safety measures are being taken as per CMR, 1957 and related Circulars.
Condition (V)	The production shall be within the same Mining Lease area.
Compliance	Being complied. The production is within the same Mining Lease area.
Condition (VI)	Coal shall be transported by rail only. Coal transportation from mine to siding should be by conveyor belt. The loading to siding by pay loaders into railway wagons.
Compliance	**Sonepur Bazari Area:** Coal is transported by rail through railway siding within our mine premises. Rapid Loading system with Silo facility is constructed and is in operation for coal transportation and loading. **Jhanjra Area:** Coal is transported by trucks covered by tarpaulin over black topped roads from mine to railway siding located at a distance of 6-7 kms from mine to POCP Railway Siding at Jhanjra. Construction of a dedicated railway siding at Jhanjra is under process. work Order for construction of railway siding has been given to RITES Ltd on 08.01.2020 of Rs. 241.01 Crores. The work is under Process and current physical progress as on 05.05.2025 is 59.51%. Also, the work order for construction of CHP of Capacity 5 MTY has been awarded to M/s Shapoorji Pallonji Ltd for Rs. 233.69 Crore on 23.12.2020, the period of completion is 02 years. The work is under Process and current physical progress as on 05.05.2025 is 55.75%. **Bankola Area**: Coal is transported to railway sidings from the mines outlet by dedicated black-topped road especially constructed for the purpose. Coal transportation from mine to siding is done through tarpaulin covered trucks. Mobile Water tankers are used for spraying on roads. **Pandaveswar Area**: Coal is transported to railway sidings from the mines outlet by dedicated black-topped road especially constructed for the purpose. Coal transportation from mine to siding through belt conveyors is not feasible because, the capacities of the mines are low. Coal from Khottadih OCP, Khottadih UGP, Dalurband OC Phase-III and Pandaveswar UG is transported by trucks covered with tarpaulin, over black topped roads to Selected Samla Railway Siding, located at 1.5 to 4 kms distance from mines. Coal produced from Madhaipur UG & OC mine is transported by tarpaulin covered trucks to POCP Railway Siding which is present at a distance of 9.0 Km from Madhaipur UG&OC mine. Coal produced from Manderboni-South Samla UG is transported by tarpaulin covered trucks to POCP Railway Siding situated at a distance of 5 km from the mine.
Condition (VII)	Independent network of railway siding inside cluster be developed. Railway sidings should be constructed at the earliest and till then proponent may use mechanically covered trucks for transportation of coal.
Compliance	**Sonepur Bazari OCP**: Railway siding is in operation at Sonepur Bazari Project within our

	project premises. **Jhanjra Area**: Coal is transported by trucks covered by tarpaulin over black topped roads from mine to railway siding located at a distance of 6-7 kms from mine to POCP Railway Siding at Jhanjra. Construction of a dedicated railway siding at Jhanjra is under process. The DPR has been approved by Eastern Railway on 05.12.2019. Further, work Order for construction of railway siding has been given to RITES Ltd on 08.01.2020 of Rs. 241.01 Crores. The work is under Process and current physical progress as on 05.05.2025 is 55.75%. **Bankola Area:** There are currently 2 nos. active railway sidings (Bankola I & Bankola II) and POCP-II siding serving for Bankola Area in Cluster 12. Coal is transported to railway sidings from the mines outlet by dedicated black-topped road especially constructed for the purpose. Coal transportation from mine to siding is done through tarpaulin covered trucks. **Pandaveswar Area**: There are currently 4 independent railways sidings (Bankola, Purushottampur, Selected Samla and Sonepur Bazari) serving to the mines in Cluster 12. Transportation of coal from mine to railway siding is being done by tarpaulin covered trucks
Condition (VIII)	Three tier green belt shall be raised around the railway sidings and along the road sides to prevent dust and noise pollution.
Compliance	**Sonepur Bazari Area**: Continuous avenue plantation is being done along roadside. 7 Ha plantation has been done at OB dump beside new railway siding is planted in the FY 2021-2022. 400 numbers plants were planted at New CHP/ Silos in FY 2021-2022. 5 Ha miscellaneous plantation around railway siding has been carried out in the FY 2023-24. **Jhanjra Area:** The siding is bound by a thick brick wall of 20 feet height approx. Plantation already exists along the POCP Railway Siding at Jhanjra. Additionally, plantation over 1 Ha. area has been carried out in the FY 2019-20 at POCP I and II Railway Siding and is being maintained by Forest Department. Also, a Park, namely Chandrashekhar Azad Udyan has also been developed at the POCP railway siding for environmental protection. Avenue plantation has been created along coal transportation road along a length of 2.5 KM in the FY 2023-24. Plantation is already available around the new railway siding under construction still more area has been and will be chosen for development of plantation around new siding. A plantation area of 5 Ha is planned near under construction railway siding at Jhanjra in the FY 25-26. **Bankola Area:** Roadside Plantation along 5.5 km 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. Plantation of 1.78 km roadside completed in FY 23-24. Vertical Green Barrier is also proposed to be constructed in FY 2025-26 in both siding-I & Siding-II. **Pandveswar Area:** Plantation over 1 Ha. area has been carried out in the FY 2019-20 at POCP I and II Railway Siding. Plantation of 25000 saplings has been done over 10 Ha land nearby the Selected Samla Railway Siding during the year 2018-19. Three tier plantations have been done over 2.5 Ha land along NH 60 and in between NH60 and Bilpahari Rehabilitated Village. During the year 2023-24, plantation along both sides of 2.3 km coal transportation road was done at Manderboni-South Samla UG mine under Pandaveswar Area. During the year 2024-25, a total of 4420 nos of saplings were planted over 2.7 Ha area under Khottadih OCP, Pandaveswar Area.

Condition (IX)	Stowing and depillaring shall be as per the recommendations of the DGMS.
Compliance	Not Applicable for open cast mines. Stowing and depillaring are being done in all the mines as per the recommendations of the DGMS for UG mines of the Cluster.
Condition (X)	The proponent must comply with the Raniganj Action Plan. The unstable areas within the cluster will be brought under plantation after the population residing over these areas is rehabilitated under the Master plan for Raniganj Coalfield to be implemented by ADDA.
Compliance	Raniganj Action Plan is being implemented by ADDA.
Condition (XI)	Trees with deep rooted system should be planted so as to prevent soil erosion.
Compliance	Plantation work is being carried out each year by West Bengal Forest Department. Deep-rooted local mixed species are being planted to prevent soil erosion. The planted species include Arjun (Terminalia arjuna), Sisoo (Dalbergia sissoo), Gama, Chhatim (Alstonia scholaris), Siris (Albizia lebbeck), Krishnachura (Delonix regia), Radhachura (Peltophorum pterocarpum), Neem, Chatim, Karanj, Mehagini, Jamun, Kadam etc.
Condition (XII)	Proponent should plant additional 10 Ha/year over the next 10 years at various locations in the cluster.

<table>
<tr><td>Compliance</td><td>
Sonepur Bazari Area: Additional 10 Ha road side plantations were carried out in the FY 2015-16 and 9.0 Ha plantation has been done during the FY 2017-18. 12 Ha plantation in & around railway siding and the roadside was completed in the FY 2020-21. 400 nos plantation all around new CHP/Silos is carried out in FY 2021-2022. 15 Ha plantation at OB Dump completed in the current FY 2023-24. 14 Ha miscellaneous plantations at OB Dump completed in the FY 2024-25.
Jhanjra Area: Plantation over 5 Ha. Land has been carried for the year 2022-23 at Jhanjra Area. A plantation area of 15 Ha and avenue plantation of 2.5 Km length has been carried out at Jhanjra Area during the FY 2023-24. Another 15 Ha plantation will be carried out in the FY 2024-25. Alsso, in the FY 2025-26 a total plantation area of 25 Ha is proposed to be undertaken including 2 Ha of Miyawaki plantation. Plantation carried out in the previous 5 years through state forest department is tabulated below:
<table>
<tr><th>Year</th><th>Plantation (Ha.)</th></tr>
<tr><td>2020-21</td><td>10 Ha.</td></tr>
<tr><td>2021-22</td><td>10 Ha.</td></tr>
<tr><td>2022-23</td><td>10 Ha. (5 Ha Miscellaneous and 5 Ha under Green India Mission)</td></tr>
<tr><td>2023-24</td><td>15 Ha and 2.5 Km Avenue Plantation</td></tr>
<tr><td>2024-25</td><td>15 Ha</td></tr>
</table>

Pandaveswar Area: During the year 2021-22, plantation of 37500 nos of tree saplings of miscellaneous species have been done over 10 Ha and 5 Ha backfilled lands of Khottadih OCP and Dalurband OC Phase-III mine respectively. During the year 2022-23, plantation of 20000 saplings of miscellaneous species has been done over 6.5 Ha and 1.5 Ha land of Khottadih OCP and Madhaipur OCP respectively. During the year 2023-24, avenue plantations have been done over 2.5 Ha OB dump land and 1 Ha roadside plantation respectively at Khottadih OCP and 2.3 km roadside plantation of miscellaneous species has been done at Manderboni-South Samla UG. During the year 2024-25, a total of 4420 nos of saplings were planted over 2.7 Ha area under Khottadih OCP, Pandaveswar Area.

Bankola Area: The plantation details in compliance of the conditions is tabulated below for the last 3 years:
<table>
<tr><th>Year</th><th>Location</th><th>Area (in Ha)</th></tr>
<tr><td>2022-23</td><td>Shyamsundarpur UG</td><td>10</td></tr>
<tr><td>2023-24</td><td>Shyamsundarpur UG</td><td>10</td></tr>
<tr><td>2024-25</td><td>Shyamsundarpur UG</td><td>10</td></tr>
</table>
Additionally, in the year 2025-26 it is proposed to develop plantation over 2 Ha in Kumardihi UG and 6 Ha in Shyamsundarpur UG.
</td></tr>
<tr><td>Condition (XIII)</td><td>River/Nallah shall be desilted and restored back to functional state.</td></tr>
<tr><td>Compliance</td><td>Desiltation of nallah is being done periodically.</td></tr>
<tr><td>Condition (XIV)</td><td>Wild life conservation plan be prepared and submitted to the MoEF & CC with the approval of the State Govt.</td></tr>
<tr><td>Compliance</td><td>Wild Life Management Plan has been approved by PCCF, Wildlife & Chief Wildlife Warden, West Bengal on 10.07.2024.</td></tr>
<tr><td>Condition</td><td>Proponent shall use high resolution image of all clusters for evaluating land use, plantation etc.</td></tr>
</table>

(XV)	
Compliance	Complied with. Land use pattern and plantation is being monitored by satellite surveillance based on satellite imagery by CMPDIL.
Condition (XVI)	Separate drainage pattern be provided.
Compliance	Drains have been provided in the open cast mines of the Cluster.
Condition (XVII)	Sand stowing must be used as recommended by CMPDI.
Compliance	**Sonepur Bazari OCP:** Not Applicable, since the mine is an open cast project. **Jhanjra Area**: Not Applicable. De-pillaring practice is being followed at Jhanjra as per DGMS conditions. **Bankola Area:** Stowing is carried out at Bankola UG and Shyamsundarpur under Bankola Area in the Cluster. Sand stowing is being used as recommended by CMPDIL. **Pandaveswar Area**: Sand stowing is being done as recommended by CMPDIL.
Condition (XVIII)	Action plan for prevention and mitigation of subsidence be prepared and implemented.
Compliance	The condition is not applicable for Open cast mines of the cluster. Action plan for prevention and mitigation of subsidence has been prepared and implemented as per DGMS guidelines for underground mines of cluster. 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 Bankola UG and Shyamsundarpur UG.
Condition (XIX)	The OC patches to be operated will be completely filled-up after exhaustion of reserves and reclaimed with plantation.
Compliance	**Sonepur Bazari Area:** OB is being concurrently backfilled into the decoaled areas. Plantation is also being done simultaneously as the dumping is completed. Total 1150.71 Ha area has been excavated till Mar 2024 out of which backfilling is being carried out in 692.48 Ha area. Plantation in 255.00 Ha area has been done on these backfilled dumps. **Bankola Area:** Overburden is being re-handled to fill mine voids. Nakrakonda-Kumardihi 'B' OCP will be completely filled-up after exhaustion of reserves and reclaimed with plantation as per approved MCP. **Pandaveswar Area**: At Khottadih OCP Dalurband OC Phase-III and Madhaipur OC Patch mines under Pandaveswar Area, OB is being concurrently backfilled into the mined-out areas. At Khottadih OCP, 254.75 Ha area land has been excavated till March 2025 out of which 42 Ha area has been backfilled. Plantation over 111.2 Ha area of Khottadih OCP has been done since 2014-15. At Dalurband OC-2 & Phase-III 74.98 Ha land area has been excavated till March 2025 out of which backfilling has been carried out in 39.4 Ha area. At Madhaipur OC Patch 23.5 Ha land Area has been excavated till March 2025 out of which backfilling has been carried out in 8.5 Ha area. Total plantation till date on backfilled areas and external dump is back on track as per EMP calendar plan. Plantation over 131.5 Ha land has been done so far since 2014-15.

<table>
<tr><td></td><td>During 2020-21, plantation over 32.5 Ha land has been done, out of which plantation over 26 Ha internal OB dump has been done at Khottadih OCP, 0.5 Ha plantation inside the Bauri Para Rehab Site of Khottadih OCP, 1 Ha plantation along the 1.1 Km coal transport road of Khottadih OCP and 5 Ha plantation over external OB dump created by Dalurband OC Phase-III at Bilpahari. During the year 2021-22, plantation of 25000 tree saplings of miscellaneous has been done over 10 Ha internal OB dump land under Khottadih OCP and 12500 saplings have been planted over 5 Ha internal OB dump of Dalurband OC Phase-III mine under Pandaveswar-Dalurband UG&OC group of mines.

During the year 2022-23, plantation of 20000 saplings of miscellaneous species has been done over 6.5 Ha and 1.5 Ha land of Khottadih OCP and Madhaipur OCP respectively. During the year 2023-24, avenue plantations have been done over 2.5 Ha OB dump land and 1 Ha roadside plantation respectively at Khottadih OCP and 2.3 km roadside plantation of miscellaneous species has been done at Manderboni-South Samla UG. During the year 2024-25, a total of 4420 nos of saplings were planted over 2.7 Ha area under Khottadih OCP, Pandaveswar Area.</td></tr>
<tr><td>Condition (XX)</td><td>The OB shall be completely re-handled at the end of the mining.</td></tr>
<tr><td>Compliance</td><td>The OB will be completely re-handled at the end of the mining.
Additionally, in Bankola Area, Kumardihi B OCP is completely filled up, Query no. 2 at Kumardihi-A has been converted to a park, Dihi Park. Dihi Park is proposed to be developed in to an ecological park. Nakrakonda B OCP and Nakrakonda B OCP (Extension) are included in the Project Report of Nakrakonda-Kumardihi ‘B’ OCP.</td></tr>
<tr><td>Condition (XXI)</td><td>There shall be no residual OB dump after the mining.</td></tr>
<tr><td>Compliance</td><td>Noted an Agreed. The condition is being complied for OC mines of the cluster.</td></tr>
<tr><td>Condition (XXII)</td><td>After completion of mining activities, the subsided areas shall be graded and planted upon.</td></tr>
<tr><td>Compliance</td><td>The subsided area will be graded and planted upon after completion of mining activities as per the approved Mine Closure Plan.</td></tr>
<tr><td>Condition (XXIII)</td><td>Coal extraction shall also be optimised 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</td></tr>
<tr><td>Compliance</td><td>No depillaring activity takes place without acquiring the land above. No depillaring and coal extraction is being carried out below habitation, H.T. Lines & beneath roads, water bodies.</td></tr>
<tr><td>Condition (XXIV)</td><td>Rehabilitation of the households falling within this cluster to be carried out in two phases within 10 years.</td></tr>
<tr><td>Compliance</td><td>Sonepur Bazari Area: Phase-wise rehabilitation of the households is being carried out. Total 2405 PAFs have been shifted till now.
Jhanjra Area: There is no requirement of Rahabilitation at Jhanjra
Pandaveswar Area: Rehabilitation done at Khottadih OCP under Pandaveswar Area is as follows: -
<table>
<tr><th>Sl No.</th><th>Name of the village</th><th>No. of PAFS (approx.)</th><th>No. of PAFS shifted during 2020-21</th><th>No. of PAFS shifted during 2021-22</th><th>No. of PAFS shifted during 2022-23</th></tr>
<tr><td>1</td><td>Bilpahari</td><td>809</td><td>395</td><td>43</td><td>371</td></tr>
</table></td></tr>
</table>

Condition (XXV)	The land excavated after mining must be brought back to original condition for agricultural/plantation purpose.
Compliance	**Sonepur Bazari Area**: Year wise plantation is being done at OB Dump. Till date 255.00 Ha of land has been biologically reclaimed. The land excavated after mining will be brought back to original condition suitable for agriculture/plantation. **Jhanjra Area:** Condition not applicable for UG mines. Reclamation of degraded land will be done as per approved Mine Closure Plan of the Cluster.
Condition (XXVI)	Water discharged from the mine should be as good as surface drinking water.
Compliance	**Sonepur Bazari Area:** Mine water discharged is used for HEMM washing, dust sprinkling etc. purposes. All the mine water is being used in the mine itself for industrial purposes. No water is being discharged outside from the mine. **Bankola Area**: Mine discharge water is being treated in 1. Pressure filter – 1 unit each at Kumardihi 'B', Bankola, Shankarpur, Kumardihi 'A', and Tilaboni colliery. 2 units at SSP colliery. 2. Slow Sand Filter – 1 unit each at Moira Colliery, Khandra Colliery, and Area Complex. 2 units at SSP colliery. 3. Rapid Gravity Filter – 1 unit at Bankola Colliery. 4. Reverse Osmosis Plant – 1 unit each at Bankola, Colliery, Khandra Colliery, Shankarpur Colliery, and Shyamsundarpur Colliery. The water is fortnightly tested for parameters namely pH, TSS, TDS, Oil & Grease and COD and conforms to the MoEF Schedule-VI Standards. The water is then used for domestic and mining uses. **Pandaveswar Area**: Mine water discharged is being treated in – (i) Pressure filters- Operating at Khottadih Colliery (UG) and Dalurband (ii) Reverse osmosis plant-Functioning at Khottadih Colliery (UG) Mine water quality monitoring is being done by CMPDI, RI-1. The discharged mine water is fortnightly tested for parameters namely pH, TSS, TDS, Oil &Grease and COD and conforms to the MoEF Schedule-VI. **Jhanjra Area**: A part of mine water is also supplied for domestic purposes after treatment through water treatment plant and 5000 LPH Capacity RO Plant (4 nos. 1 No.each at MIC and 3-4 incline and 2 nos. at colony).
Condition (XXVII)	Final mine void 453 Ha and depth will not be more than 20-30 m. The void area will be converted into water body. The mine void should be used for pisciculture purpose.
Compliance	Noted an Agreed. The compliance of the condition will be ensured at the end of mining activities.
Condition (XXVIII)	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.
Compliance	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. The condition is not applicable for OC mines of the Cluster.
Condition (XXIX)	If subsidence is found exceeding the permitted limits, then the landowners shall be adequately compensated with mutual agreement of the landowners.
Compliance	Surface land is already acquired under either CBA Act or direct purchase and Compensation as per Company's R&R Policy is given to the land owners prior to subsidence.
Condition (XXX)	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.
Compliance	**Sonepur bazari Area**: Water sprinkling system has been provided to check fugitive emissions. Water sprinklers have been provided at input hopper, transfer point and discharge chutes. Fixed Water sprinklers has been provided at new railway siding. Mobile sprinklers have also been provided on haulage road. Truck Mounted mist sprinkler are running within mines for dust suppression. Major approach roads are black topped. Proper maintenance of roads is done regularly. Water sprinkling on the roads is done with the help of mobile water sprinklers. Truck Mounted Mist Fog canon has also been installed in Mines. **Bankola Area:** Water Sprinkling is being done on the approach road with Mobile Water tankers. Fog cannon is installed at Bankola Railway siding. Regular sprinkling of water is carried out over the surface through fixed and mobile sprinklers to check fugitive emissions at Railway Siding. Two(2) no's Fog canon are installed at Bankola-I siding and 3 Nos Fog canon are installed at Bankola-II siding. Additionally, one (1) no truck mounted fog canon is employed at Bankola-I and Bankola-II siding. Apart from that, a total of 3 no's Fog /mist generator installed at CHP of Shyamsundarpur colliery. One additional Fog canon 30m in siding-II will be installed in the FY 2025-26 and a portable water sprinkler is also installed in siding-II. **Pandaveswar Area**: The coal transportation roads from colliery to Railway Siding are black topped and Water Sprinkling is being done on the approach road with Mobile Water tankers. Regular sprinkling of water is carried out over the surface through mobile sprinklers to check fugitive emissions at Railway Siding, Transfer Points, Haulage Roads etc. **Jhanjra Area**: 13 Nos Fixed water sprinklers have been installed at POCP I Railway Siding, Jhanjra UGP and 16 Nos Fixed water sprinklers have been installed at POCP-2 Railway Siding. Regular sprinkling of water is also carried out over the surface through fixed and 03 Nos mobile sprinklers to check fugitive emissions at Railway Siding, Transfer Points, Transport Roads etc. Jhanjra area also has Mechanical Road sweeping machine which is being used for cleaning of roads and thus prevent fugitive dust emissions. We have already procured truck mounted fog cannon machine of 12 KL capacity which will be used in roads, railway sidings, transfer points etc to suppress air pollution, if any in the area.
Condition (XXXI)	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.

Compliance

Sonepur Bazari Area: The CSR activities at Sonepur Bazari OCP are done under following heads:

- Food Distribution
- Heath Care
- Infrastructure
- Education Development
- Water Supply

Following activities were undertaken in CSR from April 2024- March 2025:

1. Running of Mobile Medical Van (MMV)
2. Water Tankers Supplying Domestic Water to 5 Villages- 1.61 Lakh
3. Bolero or equivalent Vehicles for Transportation of School going Children and Villagers from Madhudanga and Bhatmura to Pandabeshwar- 10.86 Lakh
4. Skill Development (Beauty Therapist)- 6.99 lakh

Bankola Area: As per the revised CSR policy of CIL 2% of the average profit of preceding 3 years is the norm for CSR expenditure in the entire ECL command areas. CSR expenditure for FY 2023-24 for Bankola Area is 2.27 lac. CSR Expenditure upto Sep'2024 is Nil

Pandaveswar Area: Details of CSR expenditure done in Pandaveswar Area since 2016-17 is as follows-

SL No.	Year	Name of CSR work	Expenditure in lakh Rs.
1	2019-20	Installation of Solar Street Light in Kendra(GP) & Baidyanathpur(GP)	40.0 Lakhs
2		Establishment of Mini science centre at Rakhal Chandra Balika Vidyalaya, Pandaveswar	5.0 Lakhs
3		Operation of Mobile Medical Van-6	25.0 Lakhs
4	2020-21	Distribution of food items	4.80 Lakhs
5		Operation of Mobile Medical Van	8.86 Lakhs
6		Training of 50 nos of mining sirdars of SC/ST community	0.23 Lakhs
7	2021-22	Installation and commissioning of water filtration plant at Sonabandhi Village under CSR scheme of ECL	95.0 Lakhs
8	2022-23	Distribution of National Flag	2.5 Lakhs
9	2023-24	Operation of Mobile Medical Van in the	19.16 Lakhs

Jhanjra Area: list of CSR activities at Jhanjra Area is below for FY 2024-26:

Sl.No	Name of the Activity	Project Cost (In Rs. Lakhs)	Location (Name of the village/Block/ District, State)
1	SWABHIMAAN - Installation of sanitary napking vending machine & sanitary napkin incinerator along with napkin supply	17.88	Laudoha, Faridpur Durgapur, Paschim Bardhaman, W.B

	2	Installation of water purifier cum cooler at HOPE Special School Laudoha	0.25	Laudoha, Faridpur Durgapur, Paschim Bardhaman, W.B
	3	Construction of hall at HOPE Special School Laudoha	12.70	Laudoha, Faridpur Durgapur, Paschim Bardhaman, W.B
	4	Installation of water cooler & overhead water tank along with pipeline and other associated works at KTBI Higher Secondary School Laudoha	2.91	Laudoha, Faridpur Durgapur, Paschim Bardhaman, W.B
	5	Construction of drain (275 feet) at Nakrakonda Majhipara	4.94	Nabaghanpur, Faridpur Durgapur, Paschim Bardhaman, W.B
	6	Construction of concrete shed at Durga Mandir Laudoha	12.33	Laudoha, Faridpur Durgapur, Paschim Bardhaman, W.B
	7	Construction of ghat at pond in Nabaghanpur	2.63	Nabaghanpur, Faridpur Durgapur, Paschim Bardhaman, W.B
	8	Cleaning and deepening of pond at Old Colony Jhanjra	27.59	Jhanjra, Faridpur Durgapur, Paschim Bardhaman, W.B
	9	Construction of Ghat with changing room at Nakrakonda Majhipara near Dangal para	2.32	Nakrakonda, Faridpur Durgapur, Paschim Bardhaman, W.B
	10	Construction of cultural shed & changing room at Ruidaspara Kulboni village	12.96	Kulboni, Faridpur Durgapur, Paschim Bardhaman, W.B
	11	Construction of Mini Community Hall at Maheshpur Village	28.73	Maheshpur, Faridpur Durgapur, Paschim Bardhaman, W.B
	12	Construction of pucca shed near Kabarsthan in Rangamati village	16.52	Rangamati, Faridpur Durgapur, Paschim Bardhaman, W.B
		Total	**141.76**	

Condition (XXXII)	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.
Compliance	Agreed. The compliance will be taken up as per the approved Mine Closure Plan.
Condition (XXXIII)	Everybody in the core area should be provided with mask for protection against fugitive dust emissions.
Compliance	Dust masks have been provided to everybody in the core area. Protection against dust is provided as per the Regulation 143 of CMR, 2017.
Condition (XXXIV)	Dust mask to be provided to everyone working in the mining area.
Compliance	Dust masks for protection against fugitive dust emissions have been provided to the personnel working in mining area.
Condition (XXXV)	The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.

<table>
<tr><td>Compliance</td><td>The Mining Sardar & Overman are personally responsible for ensuring compulsory wearing of dust mask in the core area.</td></tr>
<tr><td>Condition (XXXVI)</td><td>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.</td></tr>
<tr><td>Compliance</td><td>Sonepur Bazari Area: Regular PME/IME of employees' departmental as well as contractual workers is done for people working in core areas. Total 235 PME/IME of departmental employees & 58 nos of contractual workers has been done from Oct 2024- Mar 2025.

Bankola Area: 20% of the workforce is covered under periodic medical examination each year including lung diseases the cost of which is borne by the company. PME//IME of 776 nos of departmental employees and 30 nos of contractual employees has been undertaken from a period of Oct 24 to Mar 25 in Bankola Area.

Jhanjra 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. 10 Bedded Area Hospital also exists at Jhanjra Area.

Pandaveswar Area: Details of PME done in Pandaveswar Area from October 2024 to March 2025 is as follows:

<table>
<tr><th>SL. No.</th><th>COLLIERY NAME</th><th>April 2024</th><th>May-2024</th><th>June-2024</th><th>July-2024</th><th>August-2024</th><th>Sept-2024</th><th>Oct-2024</th><th>Nov-2024</th><th>Dec-2024</th><th>Jan-2025</th><th>Feb-2025</th><th>Mar-2025</th></tr>
<tr><td>1</td><td>Madhaipur UG &OC</td><td>05</td><td>02</td><td>59</td><td>36</td><td>18</td><td>10</td><td>2</td><td>12</td><td>29</td><td>2</td><td>13</td><td>2</td></tr>
<tr><td>2</td><td>Manderboni-South Samla UG</td><td>20</td><td>13</td><td>08</td><td>17</td><td>22</td><td>15</td><td>16</td><td>7</td><td>80</td><td>11</td><td>8</td><td>25</td></tr>
<tr><td>4</td><td>Pandaveswar UG</td><td>27</td><td>33</td><td>22</td><td>22</td><td>26</td><td>20</td><td>24</td><td>11</td><td>9</td><td>13</td><td>18</td><td>12</td></tr>
<tr><td>5</td><td>Dalurband OCP</td><td>1</td><td>4</td><td>3</td><td>1</td><td>2</td><td>2</td><td>0</td><td>0</td><td>0</td><td>0</td><td>3</td><td>5</td></tr>
<tr><td>6</td><td>Khottadih UG</td><td>68</td><td>29</td><td>46</td><td>55</td><td>62</td><td>32</td><td>44</td><td>44</td><td>28</td><td>47</td><td>31</td><td>55</td></tr>
<tr><td>7</td><td>Khottadih OCP</td><td>16</td><td>8</td><td>14</td><td>14</td><td>22</td><td>7</td><td>15</td><td>0</td><td>42</td><td>25</td><td>0</td><td>14</td></tr>
<tr><td>8</td><td>TOTAL</td><td>137</td><td>89</td><td>152</td><td>145</td><td>152</td><td>86</td><td>101</td><td>74</td><td>188</td><td>98</td><td>73</td><td>113</td></tr>
</table>
</td></tr>
<tr><td>Condition (XXXVII)</td><td>The mining area should be surrounded by green belt having thick closed thick canopy of the tree cover.</td></tr>
<tr><td>Compliance</td><td>Sonepur Bazari Area: Plantation of 255 Ha in OB dump and 97.2 Ha at other area has been done till date. Plantation in 7.5 meter strip all along the boundary of the lease boundary within the mine lease area will be done. Rs. 1,23,75,000.00 have been deposited in Ad-hoc CAMPA A/c for this purpose. Plantation of 7.5 meter strip all along the boundary lease will be done by West Bengal Forest Department.
Bankola Area: UG mines causes very low pollution load which is concentrated in mine working faces and transfer points. The collieries are surrounded by densely populated villages and private agricultural lands. Natural vegetation exists around mines. Plantation is being carried out wherever land is available.</td></tr>
</table>

Jhanjra Area: A total plantation of more than 72.5 Ha has been carried out since 2019-20 at Jhanjra Area up to 2024-25. A plantation area of 15 Ha and avenue plantation of 2.5 Km length has been carried out at Jhanjra Area during the FY 2023-24. Another 15 Ha plantation has been carried out in the FY 2024-25. Also, in the FY 25-26 a total plantation area of 25 Ha is proposed to be undertaken at Jhanjra Area including 2 ha Miyawaki plantation.

Pandaveswar Area: Green belt developed under Pandaveswar Area is tabulated below:

Year	Name of Species	Location	Area in Ha	No. of Sapling	Density	Survival rate
2022-23	Mango, Kathal, Arjun, Jamun, Guava	North Side of Bilpahari Rehab. Site near Khottadih OCP	3 Ha	7500	2500/Ha	95%
	Karanj, Arjun, Chhatim, Guava, Sirish, Neem, Gamhar, Kadam	OB Dump of Khottadih OCP Near Coal Depot	3.5 Ha	8750	2500/Ha	95 %
		OB Dump Of Madhaipur OC Patch	1.5 Ha	3750	2500/Ha	95 %
2023-24	Mango, Jamun, Jackfruit, Guava, Amla	OB Dump of Khottadih OCP near General Para Rehab Site	2.5 Ha	1050	420/Ha	98%
		Both side of road in between General para and Bauri Para Rehab Site	1 Ha	420	420/Ha	95 %
	Krishnachura, Radhachura, Jarul, Chhatim, Karanj, Sonalu, Spathodia	Manderboni-South Samla UG roadside plantation	2.3 Km	4600	2000/km	98 %
2024-25	Mango,Jamun,Jackfruit,Guava, Amla	Near General Para Rehab Site	01 Ha	420	420/Ha	90%
	Krishnachura, Radhachura,Jarul, Chhatim, Karanj, Sonalu,	OB Dump of Khottadih OCP Behind Agent	1.2 Ha	3000	2500/Ha	90%

		Spathodia	Office				
			Both side of road near west side of Coal Depot of Khottadih OCP	0.5 Ha	1000	2500/Ha	90%
Condition (XXXVIII)	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 a specialized agency /institution within the District/State and the results reported to this Ministry and to DGMS.						
Compliance	**Sonepur Bazari Area:** Health check-up of 10% of the workers identified from workforce engaged in active mining operations of has been conducted by National Institute for Occupational Safety & Health (NIOSH) in the FY 2023-24. **Bankola Area**: Total 790 employees of ECL was conducted by NIOH which included 461 workers identified from workforce engaged in active mining operations in Bankola Area in January 2023. **Jhanjra Area**: work order has been issued and accepted by NIOH for carrying out health check-up for occupational diseases and hearing impairment of 2800 workers of ECL which includes 10 % of workers identified from workforce engaged in active mining operations from Jhanjra Area. NIOH has completed the occupational Health survey report submitted on Feb 2025. **Pandaveswar Area:** PME is being carried out for all employees once in every 5 years (@ 20% employees/year). 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. Also, NIOH has conducted Occupational Heath check- up of 10% of the workers identified from workforce engaged in active mining operations.						
Condition (XXXIX)	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.						
Compliance	In Pandaveswar Area, an embankment has been made against Ajay River, which flows nearby the Pandaveswar UG, is of suitable dimension and critical patches have been strengthened by stone pitching on the river front side.						
Condition (XL)	There shall be no overflow of OB into the river and into the agricultural fields and massive plantation of native species shall be taken up in the area between the river and the project.						
Compliance	No overflow of OB takes place into the river and into the agricultural fields from the mines of Pandaveswar Area.						
Condition (XLI)	Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilized for watering the mine area, 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.						
Compliance	**Sonepur Bazari Area**: Catch drains are made all along the office road and Silt Settling Pond is constructed to arrest silt from soil & OB. Garland drain has been provided along the toe of the						

	external dump for collecting and discharging rainwater from soil & OB dumps. Drain is being maintained properly & cleaning is being done regularly. Garland Drain is constructed keeping sufficient margin and above the peak sudden rainfall and maximum discharge. **Bankola Area**: 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 the start of the monsoon season as part of our annual monsoon preparation program. **Pandaveswar Area**: In Pandaveswar Area, garland drains have been constructed at Madhaipur OC Patch, Khottadih OCP and Dalurband OC Phase-III for containment of storm water. Settling tank has also been constructed at Khottadih OCP for settling of suspended particles in the mine water.
Condition (XLII)	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.
Compliance	**Sonepur Bazari Area**: Garland drain has been constructed keeping sufficient safety margin over and above the peak sudden rainfall with an average width of 3m & average depth of 1.5 to 2.5 m. **Bankola Area**: Garland drain is present at Sarpi sub-station, Sarpi pumping station, ESP pit, transformer room, incline mouth and CHP. Total length of the garland drain 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 drains, wherever required, are maintained and required sump capacity is also maintained in the mine. Catch drains are being maintained properly & cleaning is being done regularly according to the monsoon preparation plan. Garland drains of sufficient capacity are provided at the bottom of the OB dumps to arrest the rainfall runoffs at Nakrakonda-Kumardihi B OC. **Pandaveswar Area**: In Pandaveswar Area garland drains have been constructed at Madhaipur OC Patch, Khottadih OCP and Dalurband OC Phase-III for containment of storm water. Total length of garland drain at Khottadih OCP is about 2 km and that of Dalurband OC Phase-III is 0.5 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.
Condition (XLIII)	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.
Compliance	**Sonepur bazari Area:** Proper benching in dumps is being done while maintaining slope stability to check run-off from OB dumps. Also regular plantation on OB dumps is carried out to stabilize the dumps and check run-off for OC mines of the Cluster. Retaining wall of 950m length and 5 m height has been constructed at the toe of OB dump. **Pandaveswar Area**: To check run-off and siltation proper benching has been done over dumps at Khottadih OCP, Madhaipur OC Patch and Dalurband OC Phase-III while maintaining slope stability as per norms to check run-off from OB dumps. Also, regular plantation on OB dumps is carried out to stabilize the dumps and check run-off.
Condition	Crushers at the CHP of adequate capacity for the expansion project shall be operated with high

(XLIV)	efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc.
Compliance	**Sonepur Bazari Area:** Water sprinklers with mist formation have been installed at input hopper, transfer point and discharge Chutes in the CHP to check fugitive emissions. New Silo with environment protection measures and sprinkling system is also in operation. Truck mounted mist fog cannon has also been installed in mine premises. **Bankola Area:** The CHP of Shyamsundarpur Colliery under Bankola Area is equipped with water sprinklers to arrest fugitive emissions. Sprinkling on CHP approach road is being done through mobile water sprinklers. 3 nos. of fog canons are installed at Shyamsundarpur CHP to arrest fugitive emissions. **Pandaveswar Area**: There is only one CHP existing under Pandaveswar Area which is at Khottadih Colliery and is equipped with water sprinkler to arrest fugitive emissions. There is no crusher at the CHP of Khottadih Colliery (UG). **Jhanjra Area**: No CHP exists at Jhanjra.
Condition (XLV)	Mine discharge water outside the mining lease shall be monitored, particularly for TDS and treated to conform to prescribed levels before discharge into the natural environment.
Compliance	**Sonepur Bazari Area**: There is zero discharge of water outside the mine lease. All the mine water is being used for industrial purposes. Sedimentation of mine water takes place in the mine sump where sufficient retention time for the siltation process is given to set down properly. TDS level of mine water is within the prescribed level. Regular water quality testing is being done through CMPDIL RI-I. **Bankola Area**: Mine water discharge quality complies with prescribed standards. Regular monitoring is done by CMPDIL. The quality of mine water is within permissible limits. **Pandaveswar Area**: Mine discharge water is analysed on regular basis by CMPDIL and is found to be within the specified norms of CPCB. **Jhanjra Area**: Regular monitoring is done by CMPDIL. Mine water discharge quality complies with prescribed standards as per General Standards for Discharge of Effluent (Schedule VI). The quality of mine water is within permissible limits.
Condition (XLVI)	Drills shall be wet operated.
Compliance	At Sonepur Bazari OCP wet drilling is being carried out. Total population of drills with such arrangement is given below: Model 70E – 9 (nine) nos, Model 650D – 4 (four) nos Dust guards are also provided in the drills. Water spraying is done for dust suppression before drilling in all underground and OC mines under Pandaveswar Area.
Condition (XLVII)	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.
Compliance	**Sonepur Bazari Area**: Regular repairing & maintenance of roads is being done. Tree plantation along the approach roads is being carried out. 12 Ha road side plantation of mix native species is completed along NH-60 and railway siding on the FY 2020-21. 5 Ha plantation along railway siding has been competed in the FY 2023-24.

Jhanjra Area: As per requirement, Regular repairing and tarring of roads are being taken on priority basis. Both sides of approach roadway are well vegetated naturally. Regular maintenance and re-surfacing of coal transport road is carried out

Bankola Area: As per requirement, Regular repairing and tarring of roads are being taken on priority basis. Both sides of the approach roadway are well vegetated naturally.

Pandaveswar Area: As per requirement, regular repairing and tarring of roads are being taken on priority basis. During the year 2020-21, three tier plantations has been done along both sides of coal transport road of length 1.1 Km of Khottadih OCP. Further, plantation already exists along both sides of most of the coal transport road coming under ECL land.

Details of Existing 3 tier plantation along roadside in Pandaveswar Area is as follows:

S No.	Name of the Site planted	Year of Plantation	Area Planted	No. of Saplings Planted	Latitude	Longitude
1.	Plantation over 2.50 Ha land of ECL between NH60 in Pandaveswar Area.	2019-20	2.50 Ha	6250	23.72477559	87.22833042
2.	Transportation road of Khottadih OCP from workshop to Khottadih C type Quarter in Pandaveswar Area.	2020-21	1.00 Km	2500	23.72044135	87.23982604
3.	Manderboni-South Samla UG roadside plantation	2023-24	2.3 km	4600	23.7077048	87.31479828

Condition (XLVIII)	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.
Compliance	Controlled blasting is being done with help of delay detonators (using Nonel system). Blasting is done only in day time. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders are being taken. Controlled blasting is done as per DGMS permission.
Condition (XLIX)	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 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.
Compliance	**Sonepur Bazari Area**: Plantation is being done on reclaimed external dumps, internal dumps, in the plain land including CHP, along the approach roads, townships etc. through Forest Department, Durgapur & Green Projects Wing. Density of the trees is maintained at 2500 plants per Ha. Total plantation in 357.20 Ha has been done till now. Details of which are given in the following table:

S No.	Location	Plantation

1	External OB Dumps	69.0 Ha.
2	Internal OB Dumps	186.0 Ha
3	Plain Land (including CHP, along approach roads etc.)	102.2 Ha
Total		**357.20 Ha**

20 Ha roadside and OB plantation was done in FY 2020-2021. 35 Ha plantation has been completed in FY 2021-2022. 15 Ha plantation in current FY was done in the FY 2022-23. 15 Ha plantation completed in the current FY.

Pandaveswar Area: Details of plantation being done in Pandaveswar Area:

Year	Name of Species	Location	Area in Ha	No. of Sapling	Density	Survival rate
2022-23	Mango, Kathal, Arjun, Jamun, Guava	North Side of Bilpahari Rehab. Site near Khottadih OCP	3 Ha	7500	2500/Ha	95%
	Karanj, Arjun, Chhatim, Guava, Sirish, Neem, Gamhar, Kadam	OB Dump of Khottadih OCP Near Coal Depot	3.5 Ha	8750	2500/Ha	95 %
		OB Dump Of Madhaipur OC Patch	1.5 Ha	3750	2500/Ha	95 %
2023-24	Mango, Jamun, Jackfruit, Guava, Amla	OB Dump of Khottadih OCP near General Para Rehab Site	2.5 Ha	1050	420/Ha	98%
		Both side of road in between General para and Bauri Para Rehab Site	1 Ha	420	420/Ha	95 %
	Krishnachura, Radhachura, Jarul, Chhatim, Karanj, Sonalu, Spathodia	Manderboni-South Samla UG roadside plantation	2.3 Km	4600	2000/km	98 %
2024-25	Mango,Jamun,Jackfruit,Guava, Amla	Near General Para Rehab Site	01 Ha	420	420/Ha	90%

	Krishnachura, Radhachura,Jarul, Chhatim, Karanj, Sonalu, Spathodia	OB Dump of Khottadih OCP Behind Agent Office	1.2 Ha	3000	2500/Ha	90%
		Both side of road near west side of Coal Depot of Khottadih OCP	0.5 Ha	1000	2500/Ha	90%

Jhanjra Area: A plantation area of 15 Ha and avenue plantation of 2.5 Km length has been carried out at Jhanjra Area during the FY 2023-24. Another 15 Ha plantation has been carried out in the FY 2024-25. Also, in the FY 25-26 a total plantation area of 25 Ha is proposed to be undertaken at Jhanjra Area including 2 ha Miyawaki plantation.

Plantation carried out in the previous 5 years through state forest dept. are listed below

Year	Plantation (Ha.)
2019-20	10 Ha.
2020-21	10 Ha.
2021-22	10 Ha.
2022-23	10 Ha. (5 Ha Miscellaneous and 5 Ha under Green India Mission)
2023-24	15 Ha and 2.5 Km Avenue Plantation
2024-25	15 Ha

A total plantation of more than 72.5 Ha has been carried out since 2019-20 at Jhanjra Area.

Bankola Area: The plantation details in compliance of the conditions is tabulated below for the last 3 years:

Year	Location	Area (in Ha)
2022-23	Shyamsundarpur UG	10
2023-24	Shyamsundarpur UG	10
2024-25	Shyamsundarpur UG	10

Additionally, in the year 2025-26 it is proposed to develop plantation over 2 Ha in Kumardihi UG and 6 Ha in Shyamsundarpur UG.

Condition (L)	The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.
Compliance	Concurrent reclamation of the decoaled area is being carried out using the land in a sustainable manner. Reclamation of degraded land will be done as per the approved Mine Closure Plan.
Condition (LI)	Compensatory Ecological & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.

Compliance	Mine Closure Plan has already been prepared and approved for the purpose. Compensatory Ecological & Restoration of waste land is being carried out by spreading top soil & plantation over it.
Condition (LII)	No groundwater shall be used for mining operations.
Compliance	Being complied with. No ground water is used for mining operations. Additionally, NOC for usage of Groundwater is applied to SWID, Govt. of West Bengal and granted.
Condition (LIII)	Quarry area is 2325 Ha. Backfilled quarry area of 1856 Ha shall be reclaimed with plantation by planting native plant species in consultation with the local DFO/Agriculture Department. The density of trees shall be around 2500 plants per ha.
Compliance	**Sonepur bazari Area**: Continuous backfilling is being done in the quarried area. Total 1150.71 Ha area has been excavated till March 2025 out of which backfilling is being carried out in 692.48 Ha area. Dumps are being finally reclaimed by planting native species through Forest Department & West Bengal Wasteland Development Corporation Limited under the supervision of DFO Durgapur. Density of the trees is kept 2500 plants per Ha. Plantation in 255.0 Ha area has been done so far OB Dumps till date. **Bankola Area**: Backfilling will be done as per EMP and MCP of Nakrakonda Kumardihi B UG&OC. The condition is not applicable for UG mines under Bankola Area. **Pandaveswar Area**: At Khottadih OCP Dalurband OC Phase-III and Madhaipur OC Patch mines under Pandaveswar Area, OB is being concurrently backfilled into the mined-out areas. At Khottadih OCP, 254.75 Ha area land has been excavated till March 2025 out of which 42 Ha area has been backfilled. Plantation over 111.2 Ha area of Khottadih OCP has been done since 2014-15. At Dalurband OC-2 & Phase-III 74.98 Ha land area has been excavated till March 2025 out of which backfilling has been carried out in 39.4 Ha area. At Madhaipur OC Patch 23.5 Ha land Area has been excavated till March 2025 out of which backfilling has been carried out in 8.5 Ha area. Total plantation till date on backfilled areas and external dump is back on track as per EMP calendar plan. Plantation over 131.5 Ha land has been done so far since 2014-15. During 2020-21, plantation over 32.5 Ha land has been done, out of which plantation over 26 Ha internal OB dump has been done at Khottadih OCP, 0.5 Ha plantation inside the Bauri Para Rehab Site of Khottadih OCP, 1 Ha plantation along the 1.1 Km coal transport road of Khottadih OCP and 5 Ha plantation over external OB dump created by Dalurband OC Phase-III at Bilpahari. During the year 2021-22, plantation of 25000 tree saplings of miscellaneous has been done over 10 Ha internal OB dump land under Khottadih OCP and 12500 saplings have been planted over 5 Ha internal OB dump of Dalurband OC Phase-III mine under Pandaveswar-Dalurband UG&OC group of mines. During the year 2022-23, plantation of 20000 saplings of miscellaneous species has been done over 6.5 Ha and 1.5 Ha land of Khottadih OCP and Madhaipur OCP respectively. During the year 2023-24, avenue plantations have been done over 2.5 Ha OB dump land and 1 Ha roadside

	plantation respectively at Khottadih OCP and 2.3 km roadside plantation of miscellaneous species has been done at Manderboni-South Samla UG. During the year 2024-25, a total of 4420 nos of saplings were planted over 2.7 Ha area under Khottadih OCP, Pandaveswar Area.
Condition (LIV)	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.
Compliance	Ground water level monitoring is being done regularly by CMPDIL through a network of old wells and piezometric borewells. Ground water quality is tested and compared to Indian Drinking Water Standard (IS-10500) by CMPDIL. The results are well within the prescribes standard. All the Data collected are being regularly submitted to the MoEF&CC and to the WBPCB with the half yearly compliance report.
Condition (LV)	The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring indicates a decline in water table. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
Compliance	**Sonepur Bazari Area**: Rainwater Water Harvesting system is installed in Project Office of Sonepur Bazari Area and different colonies under S.B Area. Artificial water recharge system like pond has been made in nearby villages. Tanker water is provided to nearby needy villages on demand basis regularly. Financial help is also provided on opening of new wells, their maintenance and installation of hand pumps. **Bankola Area**: At present three artificial ground water recharge system is constructed i.e. Rainwater Harvesting system near- 1) SSpur Agent Office (Approximate quantity of the area covered: 1600 sqm), SSpur village at Shyamsundarpur UG. 2) Bankola Area Hospital (Approximate quantity of the area covered: 2500 sqm) under Tilaboni UG 3) Nakrakonda-Kumardihi B UG&OC - 1 nos. 4) Bankola Area Office Mine discharged water is supplied by tanker or pipeline to Ukhra village, Shankarpur Village, Kumardihi village, Lal Bangla, Shyamsundarpur village and other locations. **Pandaveswar Area**: Rooftop rain water harvesting system has set up at Pandaveswar Area Office premises. No declining trend has been noticed in the water table in the mines leasehold. The mine discharge is effectively being utilized to meet the domestic demands of the community thus reducing the strain on ground water resources. In Pandaveswar Area mine water is supplied to Khottadih, Aam Bagan and Dalurband villages after treatment of mine water by Pressure filters present at Khottadih and Dalurband Villages **Jhanjra Area**: The mine discharge is effectively being utilized to meet the domestic demands of the community thus reducing the strain on ground water resources. The total domestic water demand of Jhanjra Area is met by rainwater harvesting project at Purushottampur OCP. Rain water harvesting system has also been setup at Jhanjra Area Office,

<table>
<tr><td></td><td>Jhanjra Guest House, Chinese Hostel and Jhanjra DAV School. The water requirement of local villages is being fulfilled by the project authorities. 4 dedicated R.O. Plant of Capacity 5000 LPH for drinking water supply has also been set up at Jhanjra</td></tr>
<tr><td>Condition (LVI)</td><td>Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.</td></tr>
<tr><td>Compliance</td><td>Sonepur Bazari Area: A Sewage Treatment Plant with capacity 600 cum/d is present at R.N. Colony of and an Effluent Treatment Plant with capacity 7200 cum/d is present at workshop for treating workshop and CHP waste water effluent.
Bankola Area: Oil & grease traps are present in the following mines - Bankola UG, Shyamsundarpur UG, Tilaboni UG, Nakrakonda Kumardihi B UG. Sewage generated from residential colonies goes through Septic Tank and soak pit. STP of 10 KLD capacity is installed in Bankola Area Complex. Another STP of 20 KLD capacity is installed in near Bankola Area Siding. STP of 30 KLD capacity is installed in Sarpi Colony, Shyamsundarpur Colliery.
Pandaveswar Area: Colonies under mines are situated in scattered way and at present sewage generated in the colonies goes through septic tanks. ETP has been constructed at Khottadih UG&OC mine for the treatment of effluent. Tender for the work of, installation and commissioning of modular STP for the colony of Khottadih UG&OC mine under Pandaveswar Area, has been finalized and the work order will be issued soon. This proposed work will be completed by June, 2025. Oil and grease trap has been constructed at Khottadih UG&OC mine for the treatment of the mine wastewater.
Jhanjra Area: Mine water discharge is treated through settling pond and pressure filters. The sewage generated from residential colony is treated through Septic Tanks. A proposal for STP is under process and will be installed with in June 2025.</td></tr>
<tr><td>Condition (LVII)</td><td>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.</td></tr>
<tr><td>Compliance</td><td>Complied. Land outsees are being compensated as per the norms laid out under R&R Policy of CIL.</td></tr>
<tr><td>Condition (LVIII)</td><td>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.</td></tr>
<tr><td>Compliance</td><td>Complied with. Satellite monitoring is periodically done through CMPDIL Ranchi. Reports are being submitted to the MoEF & its Regional office and are also at the website of CMPDIL.</td></tr>
<tr><td>Condition (LIX)</td><td>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.</td></tr>
<tr><td>Compliance</td><td>Being Complied. MCP for all mines have been prepared and approved

Corpus Fund deposited for mines under Pandaveswar Area under Cluster no. 12 is tabulated below:

<table>
<tr><th>S. No.</th><th>Area under Cluster no. 12</th><th>Corpus Fund deposited (in Rs.)</th></tr>
<tr><td>1</td><td>Pandaveswar Area</td><td>64,04,32,076.00
(As on 31.03.2025)</td></tr>
</table>
</td></tr>
</table>

Half Yearly EC Compliance report for mine under Cluster No. 12 of ECL

Period:-Oct 2024-Mar 2025

<table>
<tr><td>Condition (LX)</td><td>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.</td></tr>
<tr><td>Compliance</td><td>
Sonepur Bazari Area: Socio-economic and other welfare measures under CSR are identified in consultation with the Panchayats of the local villages and administration.
Socio-economic study of following 07 Tribal villages has been completed :
i)) Arsola, ii) Kuchibeda, iii) Banghat
iv) Bangapada v) Basak danga
vi) Nichu Basak Danga vii) Chatim Danga
viii) Sonepur
Following expenditure were made in CSR from April 2024-March 2025:
1.Running of Mobile Medical Van (MMV)
2.Water Tankers Supplying Domestic Water to 5 Villages
3.Bolero or Equievalent Vehicles for Transportation of School going Children and Villagers from Madhudanga and Bhatmura to Pandabeshwar
4.Skill Development (Beauty Therapist)

Bankola Area: CSR expenditure for FY 2023-24 for Bankola Area is 2.27 lac. The activity undertaken is ‘Project on tailoring and Jewellery making in Ichapur Panchayat’.

Pandaveswar Area: List of CSR activities carried out in Pandaveswar Area during since the year 2016-17 is as follows–
<table>
<tr><th>Year</th><th>Activity</th><th>Expenditure</th></tr>
<tr><td rowspan="3">2019-20</td><td>Installation of Solar Street Light in Kendra(GP) & Baidyanathpur(GP)</td><td>40.0 Lakhs</td></tr>
<tr><td>Establishment of Mini science centre at Rakhal Chandra Balika Vidyalaya, Pandaveswar</td><td>5.0 Lakhs</td></tr>
<tr><td>Operation of Mobile Medical Van-6</td><td>25.0 Lakhs</td></tr>
<tr><td rowspan="3">2020-21</td><td>Distribution of food items</td><td>4.80 Lakhs</td></tr>
<tr><td>Operation of Mobile Medical Van</td><td>8.86 Lakhs</td></tr>
<tr><td>Training of 50 nos of mining sirdars of SC/ST community</td><td>0.23 Lakhs</td></tr>
<tr><td>2021-22</td><td>Installation and commissioning of water filtration plant at Sonabandhi Village under CSR scheme of ECL</td><td>95.00 Lakhs</td></tr>
<tr><td>2022-23</td><td>Distribution of National Flag</td><td>2.5 Lakhs</td></tr>
<tr><td>2023-24</td><td>Operation of Mobile Medical van in Pandaveswar Area</td><td>19.16 lakhs</td></tr>
</table>
Jhanjra Area: Details of CSR activities undertaken in Jhanjra Area are listed below:
<table>
<tr><th>Sl.No</th><th>Name of the Activity</th><th>Project Cost (In Rs. Lakhs)</th><th>Location (Name of the village/Block/ District, State)</th></tr>
</table>
</td></tr>
</table>

	1	SWABHIMAAN - Installation of sanitary napking vending machine & sanitary napkin incinerator along with napkin supply	17.88	Laudoha, Faridpur Durgapur, Paschim Bardhaman, W.B	
	2	Installation of water purifier cum cooler at HOPE Special School Laudoha	0.25	Laudoha, Faridpur Durgapur, Paschim Bardhaman, W.B	
	3	Construction of hall at HOPE Special School Laudoha	12.70	Laudoha, Faridpur Durgapur, Paschim Bardhaman, W.B	
	4	Installation of water cooler & overhead water tank along with pipeline and other associated works at KTBI Higher Secondary School Laudoha	2.91	Laudoha, Faridpur Durgapur, Paschim Bardhaman, W.B	
	5	Construction of drain (275 feet) at Nakrakonda Majhipara	4.94	Nabaghanpur, Faridpur Durgapur, Paschim Bardhaman, W.B	
	6	Construction of concrete shed at Durga Mandir Laudoha	12.33	Laudoha, Faridpur Durgapur, Paschim Bardhaman, W.B	
	7	Construction of ghat at pond in Nabaghanpur	2.63	Nabaghanpur, Faridpur Durgapur, Paschim Bardhaman, W.B	
	8	Cleaning and deepening of pond at Old Colony Jhanjra	27.59	Jhanjra, Faridpur Durgapur, Paschim Bardhaman, W.B	
	9	Construction of Ghat with changing room at Nakrakonda Majhipara near Dangal para	2.32	Nakrakonda, Faridpur Durgapur, Paschim Bardhaman, W.B	
	10	Construction of cultural shed & changing room at Ruidaspara Kulboni village	12.96	Kulboni, Faridpur Durgapur, Paschim Bardhaman, W.B	
	11	Construction of Mini Community Hall at Maheshpur Village	28.73	Maheshpur, Faridpur Durgapur, Paschim Bardhaman, W.B	
	12	Construction of pucca shed near Kabarsthan in Rangamati village	16.52	Rangamati, Faridpur Durgapur, Paschim Bardhaman, W.B	
		Total	**141.76**		

Condition (LXI)	Corporate Environment Responsibility: a) The Company shall have a well laid down Environment Policy approved by the Board of Directors. 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. 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. 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.
Compliance	a)"Corporate Environmental Policy" of Eastern Coalfields Limited has been formulated and approved. The same is available on the Company's website. b) The environment policy ensures compliance of EC conditions and other statutory conditions issued by regulatory agencies. c) Environment Management Cell(EMC) has been established at each area of ECL which is responsible for looking after the compliances of the EC conditions of all the Clusters present in

	that area. The head of this EMC reports directly to the GM of the area. d) Complied, system of reporting non-compliances/ violations of environmental norms exists.
GENERAL CONDITIONS	
Condition (I)	No. change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment, Forest & Climate Change
Compliance	Change in mining technology and scope of working, if any, is being made with prior approval of the Ministry of Environment, Forests & Climate Change.
Condition (II)	No change in the calendar plan of production of quantum of mineral cost shall be made.
Compliance	There is no change in the calendar plan of production for quantum of mineral coal.
Condition (III)	Four ambient air quality monitoring stations shall be established in the core s\zone as well as in the buffer zone for PM_{10}, $PM_{2.5}$, SO_2 and NO_x 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.
Compliance	Continuous Ambient Air Quality Monitoring Station is being installed at the Project Office. Ambient air quality monitoring is being done at cluster level. 14 (fourteen) ambient air quality monitoring stations have been established within cluster 12, after detailed study of the project area and local meteorology. Quarterly monitoring is carried out on the above stations regularly through CMPDIL. Reports are enclosed in **Annexure-A.**
Condition (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 concerned Regional Office and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification Of samples through analysis from independent laboratories recognized under the EPA rules, 1986 shall be furnished as part of compliance report.
Compliance	Continuous Ambient Air Quality Monitoring Station has been installed at all the areas under ECL command for real time monitoring of ambient air quality. Amonitoring for PM_{10}, $PM_{2.5,}$ SO2 and NOx and heavy metals such as Hg, As, Ni, Cd, Cr is being carried out on regular basis. Monitoring data are sent 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 with six monthly EC Compliance.
Condition (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.
Compliance	Adequate measures are being taken for control of noise levels below 85 dBA in the work environment. • All HEMM and light vehicles are provided with silencers • Noise monitoring is being carried out regularly and found to be within permissible levels. • Workers exposed to high sound levels are provide with ear muffs and their working hours are reduced to prevent long exposure time. • Periodical Medical Examinations of workers is also being carried out at 5 year intervals in which audiometric tests are carried out. Noise level monitoring is carried out by CMPDIL on fortnightly basis. Noise levels are within the permissible limits.
Condition	Industrial Wastewater (workshop and wastewater from the mine) shall be properly collected,

(VI)	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.
Compliance	**Sonepur Bazari Area**: Sedimentation of mine water takes place in the mine sump where sufficient retention time for siltation process is given to set down properly. Effluent Treatment Plant is present at workshop for treatment of waste water from workshop & CHP. **Bankola Area**: Industrial wastewater is treated through Oil & grease traps, which are present in the following mines - Bankola UG, Shyamsundarpur UG, Tilaboni UG, Nakrakonda Kumardihi B UG. Mine discharge water samples are tested in a laboratory at CMPDI on a fortnightly basis. Mine water quality conforms to the standards prescribed under GSR 422(E) dated 19th May 1993 and 31st December 1993. The mine water quality enclosed in **Annexure A.** **Pandaveswer Area**: Sedimentation of mine water takes place in the mine sump where sufficient retention time for siltation process is given to set down properly. Water discharged from the mine is being regularly analyzed by CMPDIL and found conforming to the MoEF Schedule VI Standards for discharge of effluents. Oil and grease trap has been installed at Khottadih UG&OC for the treatment of the mine wastewater. **Jhanjra Area**: Water discharged from the mine is being regularly analyzed by CMPDIL and found conforming to the MoEF Schedule VI Standards for discharge of effluents. Pressure filters of 32000 GPH capacity exists at Jhanjra to treat the pumped out mine water.
Condition (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.
Compliance	Vehicular emissions are kept under control and regularly monitored. Coal transportation from Colliery to railway siding is being done by tarpaulin covered trucks. Vehicles are tested for proper emission standards on routine basis and reports are being maintained.
Condition (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
Compliance	Monitoring of environmental quality parameters is being done by RI-I, CMPDIL, who has well equipped NABL accredited laboratories with skilled manpower.
Condition (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.
Compliance	Protective wears are being supplied and used by workmen judiciously. Adequate trainings and safety week programme are being provided to increase the awareness and to provide necessary information on safety. Occupational health surveillance i. e. Periodic Health Examination (PME) has been completed for people involved in active mining.
Condition (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 by the company while outsourcing.
Compliance	Regular PME/IME of employees, workers is done for any contractions due to exposure to dust and for other health related issues. PME of employees is being done regularly. **Sonepur Bazari Area**: Total 235 PME/IME of employees' departmental & 58 nos of contractual workers has been done from Oct 2024- Mar 2025. **Bankola Area:** PME/IME of 776 nos of departmental employees and 30 nos. contractual

<table>
<tr><td></td><td>employees were conducted in Bankola Area from a period of Oct 24- Mar 25.
Pandaveswar Area: PME of 1408 nos of employees including contractual workers were conducted in Pandaveswar Area from Oct 2024 to March 2025.
Jhanjra Area: Every year, 20% of the workforce is covered under occupational health surveillance programme in the form of Periodical Medical Examinations. Regular PME of employees, workers is done for any contractions due to exposure to dust and for other health related issues.

Occupational Health Survey for people involved in active mining has been completed by NIOH. Final Report of the survey has also been submitted on Feb 2025.</td></tr>
<tr><td>Condition (XI)</td><td>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.</td></tr>
<tr><td>Compliance</td><td>A separate environmental management cell with qualified personnel has been established for all the Areas under Cluster 12. The cell reports to the respective Area AGM and Area GM and GM, Environment and Forest; ECL.</td></tr>
<tr><td>Condition (XII)</td><td>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.</td></tr>
<tr><td>Compliance</td><td>The funds earmarked for environmental protection measures are kept in separate account and are not diverted for other purpose.
Bankola Area: Expenditure details for the last 5 FY is tabulated below:
<table>
<tr><th>F/Y</th><th>Capital Expenditure</th></tr>
<tr><td>2021-22</td><td>Rs 120.95 lakh</td></tr>
<tr><td>2022-23</td><td>Rs 88.53 lakh</td></tr>
<tr><td>2023-24</td><td>Rs 72.22 lakh</td></tr>
<tr><td>2024-25</td><td>Rs 39.00 lakh</td></tr>
<tr><td>2025-26</td><td>Rs 50.00 lakh</td></tr>
</table>

Pandaveswar Area: Expenditure details for the last 5 years is tabulated below:
<table>
<tr><th>Year</th><th>Name of Work</th><th>Expenditure (in Rs.)</th></tr>
<tr><td rowspan="3">2020-21</td><td>Plantation over 32.5 Ha land and maintenance of plantation</td><td>8246250.00</td></tr>
<tr><td>Construction of Rainwater Harvesting Structure at Khottadih Hostel, Panthnagar Hospital and at DAV School, Pandaveswar</td><td>500000.00</td></tr>
<tr><td>Construction of Oil and Grease trap at Khottadih UG</td><td>109000.00</td></tr>
<tr><td rowspan="2">2021-22</td><td>Plantation over 10 Ha Internal OB Dump Land under Khottadih OCP, Pandaveswar Area</td><td>2187000.00</td></tr>
<tr><td>Plantation over 5 Ha Internal OB Dump Land under Dalurband OC Phase-III, Pandaveswar Area</td><td>1093500.00</td></tr>
</table>
</td></tr>
</table>

	2022-23	Plantation over 8 Ha land and maintenance of previous years plantation	4848553.00
		Dust suppression through mobile tanker	2289609.075
		Installation and commissioning of Air pollution control Device at AB Pit of Pandaveswar UG	975769.14
	2023-24	Installation and commissioning of Continuous Ambient Air Quality Monitoring Station(CAAQMS)	9000000.00
		Construction of drain at Madhaipur UG for mine water discharge to siltation pond	500000.00
		Deployment of water tanker of 12 K.L. capacity for suppression/spraying on coal despatch road from coal depot to SS Railway Siding under Khottadih OCP (384 days)	1267340.00
		Maintenance of plantations at different mines of Pandaveswar Area created during 2019-20,2020-21, 2021-22 &2023-24	2300000.00
	2024-25	Maintenance of plantations at different mines of Pandaveswar Area created during 2020-21, 2021-22 &2023-24	32,43,471.00
		Installation and commissioning of CAAQMS at Pandaveswar Area	9000000.00
		Deployment of water tanker for dust suppression prupose	1500000.00
	Total		**5,51,81,097.21**
Condition (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 http://envfor.nic.in.		
Compliance	Complied with. It has been published in two local newspapers.		
Condition (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.		
Compliance	Copies were made available to Panchayats/ local NGO etc. It is also made available at Area Office, Sonepur Bazari and ECL Headquarters, Sanctoria.		
Condition (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 Office for 30 days.		
Compliance	Action taken by them.		
Condition (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_{10}, $PM_{2.5}$, SO_2 and NO_X(ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on Company's website.
Compliance	Complied. The clearance letter has been uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions is being regularly uploaded on the website.
Condition (XVII)	The Project Proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e- mail) to the respective Regional Office of the Ministry, respective Zonal Offices of CPCB and the SPCB.
Compliance	Being complied. The six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions is regularly being submitted to MoEF & CC RO Bhubaneswar & WBPCB.
Condition (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.
Compliance	Noted and agreed.
Condition (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.
Compliance	Being complied. Environmental Statement in Form-V for each financial year is being submitted regularly.

EC Compliance dated 3rd March, 2016

Condition	The silo loading facilities at Jhanjra Should be completed within three years, and the production from Jhanjra should be enhanced to 5 MTPA only after the commission both of the new railway siding, and the silo loading facilities
Compliance	Coal is transported by trucks covered by tarpaulin over black topped roads from mine to railway siding located at a distance of 6-7 kms from mine to POCP Railway Siding at Jhanjra. Construction of a dedicated railway siding at Jhanjra is under process. The DPR has been approved by Eastern Railway on 05.12.2019. Further, work Order for construction of railway siding has been given to RITES Ltd on 08.01.2020 of Rs. 241.01 Crores. The work is under Process and current physical progress as on 05.05.2025 is 59.51% Also, the work order for construction of CHP of Capacity 5 MTY has been awarded to M/s Shapoorji Pallonji Ltd for Rs. 233.69 Crore on 23.12.2020, the period of completion is 02 years. The work is under Process and current physical progress as on 05.05.2025 is 55.75%
Condition	In view of high levels of PM10 around Basabdaga and some other villages, immediate steps should be taken to make water sprinkling arrangements and to provide an adequate and effective green belt around these villages, so that the PM 10 levels are reduced
Compliance	Not applicable for Jhanjra. Water sprinkling arrangements already exists in Jhanjra.
Condition	After a period of six months from the date of issue of the amended EC, the PP shall report to the ministry the implementation status of the control measures mentioned at (ii) above, and the data on air quality as a result of the control measured taken till that time
Compliance	Not applicable.

EC Compliance dated 31.07.2020

ADDITIONAL CONDITIONS	
Condition (i)	Production from Jhanjra shall be increased from 3.50 MTPA to 4.0 MTPA. However, the silo loading facilities at Jhanjra should be completed within three years and the production from Jhanjra should be enhanced to 5 MTPA only after commissioning of both the new railway siding, and the silo loading facilities. Also, PP should not seek further extension and expansion without completion of this condition.
Compliance	Coal is transported by trucks covered by tarpaulin over black topped roads from mine to railway siding located at a distance of 6-7 kms from mine to POCP Railway Siding at Jhanjra. Construction of a dedicated railway siding at Jhanjra is under process. The DPR has been approved by Eastern Railway on 05.12.2019. Further, work Order for construction of railway siding has been given to RITES Ltd on 08.01.2020 of Rs. 241.01 Crores. The work is under Process and current physical progress as on 05.05.2025 is 59.51% Also, the work order for construction of CHP of Capacity 5 MTY has been awarded to M/s Shapoorji Pallonji Ltd for Rs. 233.69 Crore on 23.12.2020, the period of completion is 02 years. The work is under Process and current physical progress as on 05.05.2025 is 55.75%
Condition (ii)	The project proponent shall obtain Consent to establish/Operate from the State Pollution Control Boards for the proposed changes in production capacity prior to commencement of the increased production.
Compliance	Consent to Establish and Consent to Operate has been granted from State Pollution Control Board.
Condition (iii)	Transportation of coal from Coal Handling Plant shall be through covered trucks.
Compliance	**Sonepur Bazari Area**: Rapid Loading Silo facility with dust suppression system is available for coal loading from CHP. **Jhanjra Area:** Transportation of Coal from Coal Handling Plant to railway siding is being done through covered trucks. Construction of Silo loading facility along with conveyor system is under construction at Jhanjra Area. **Pandaveswar Area:** Transportation of coal from respective mine coal depot/Coal Handling Plant to railway siding is done through covered trucks. **Bankola Area:** Dust suppression system is available for coal loading from CHP of Shyamsundarpur UG and Kumardihi B UG. In other area, tarpaulin is used for covering coal transported trucks.
Condition (iv)	To control the production of dust at source, the crusher and in-pit belt conveyors shall be provided with mist type sprinklers.

Compliance	**Sonepur Bazari Area:** Water sprinklers have been provided at input hopper, transfer point and discharge chutes of Coal Handling Plant. Silo loading System is also provided with dust suppression mechanism. **Jhanjra Area**: Continuous spraying of water through water spray nozzles is done at the Shearer of every machine for dust suppression at coal face. Fixed sprinklers are also installed along the conveyor belt to check the dust generation. In addition, water spray nozzles/wet fog system will be installed along the conveyor belt, drop points etc. to check fugitive emissions. **Bankola Area**: Water spraying arrangement is present at CHP. 2 nos. fog canons are also installed at Shyamsundarpur CHP and Crusher at Nakrakonda OC. **Pandaveswar Area:** To control the production of dust at source, the crusher and in-pit belt conveyors have been provided with mist type sprinklers at all mines under Pandaveswar Area.
Condition (v)	Mitigating measures shall be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient water sprinklers. Adequate corrective measures shall be undertaken to control dust emissions, which would include mechanized sweeping, water sprinkling/mist spraying on haul roads and loading sites, long range misting/fogging arrangement, wind barrier wall and vertical greenery system, green belt, dust suppression arrangement at loading and unloading points, etc
Compliance	**Sonepur Bazari Area**: Mobile Water Sprinklers are available to control dust and other fugitive emissions all along the road. Plantation is being carried out each year to control dust emissions. Construction of wind barrier wall is present along railway siding. Fixed sprinkler has been installed at truck receiving system. Delivery and commissioning of road Sweeping Machine is under process at Sonepur Bazari OCP. **Jhanjra Area**: Currently, 13 fixed sprinklers are installed at POCP-Railway siding. In addition, regular spraying of transport road is done to check the fugitive emissions. A total plantation of more than 72.5 Ha has been carried out since 2019-20 at Jhanjra Area up to 2024-25. In which, Plantation over 15 Ha subsided area and 2.5 Km avenue plantation has been carried out at Jhanjra Area in 23-24 and 15 Ha plantation in 24-25. Yearly plantation will be carried out over the available land in future as well. Spraying of water through mobile sprinkler is being done through mobile sprinklers on the roads outside the command area of ECL. Also we have procured a truck mounted fog cannon of 12 KL capacity which will be used to arrest fugitive emissions as well. Vertical gardens have been developed around the Jhanjra Area office and Jhanjra Guest House. Mechanical brooming system has been procured and has been commissioned at Jhanjra Area **Pandaveswar Area**: To control dust and other fugitive emissions at mines, water sprinkler is deployed at OC mines and at UG mines water sprinkling is done through pipes. Dust suppression and other fugitive emission control is done on coal transport roads and railway sidings by deploying mobile water sprinklers and fixed water sprinklers respectively. Time bound action plan and their status for development of 3 tier green belt and vertical greenery

<table>
<tr><td></td><td>system in Pandaveswar Area under Cluster no. 12 is tabulated below:

<table>
<tr><th>S No.</th><th>Activity description</th><th>Location for plantation</th><th>Creation year</th><th>Status</th></tr>
<tr><td>1</td><td>Development of Plantation over 2.50 Ha of dump.</td><td>Internal OB dump of Khottadih OCP</td><td>2023-24</td><td>Completed</td></tr>
<tr><td>2</td><td>Development of Plantation over plain land</td><td>Plain land of Bilpahari rehab site.</td><td>2023-24</td><td>Completed</td></tr>
<tr><td>3</td><td>Development of Plantation over 2.30 Km of avenue road</td><td>Avenue road at Manderboni-S Samla UG</td><td>2023-24</td><td>Completed</td></tr>
</table>

Bankola Area: Fog cannon is installed at Bankola Railway siding. 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 (22 nos) have been installed at Bankola I and Bankola II Railway Sidings. In addition, regular spraying of transport roads is done to check fugitive emissions.

A total plantation of more than 52 Ha has been carried out in the past 10 years.</td></tr>
<tr><td>Condition (vi)</td><td>Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.</td></tr>
<tr><td>Compliance</td><td>Continuous monitoring of occupational safety and other health hazards is regularly done. Monthly Periodical Medical Examination of workers actively engaged in mining is being done.</td></tr>
<tr><td>Condition (vii)</td><td>Persons of nearby villages shall be given training on livelihood and skill development to make them employable.</td></tr>
<tr><td>Compliance</td><td>Sonepur Bazari Area: Persons from nearby villages were trained for AC repairing, electrical fittings and automobile repairing in FY 2017-18 to make them employable.

Jhanjra Area: Persons of nearby villages are being given training on livelihood such as “Katha stitch” projects, vocational training etc under the CSR scheme.

Pandaveswar Area: Persons of nearby villages of mines under Pandaveswar Area are being given training on livelihood and skill development to make them employable.

Bankola Area: Persons of nearby villages are being given training and vocational training etc under the CSR scheme. CSR expenditure for FY 2023-24 for Bankola Area is Rs. 2.27 lac. The activity undertaken is ‘Project on tailoring and Jewellery making in Ichapur Panchayat’. Persons are also trained for tailoring, Jewellery and Jute Bag making.</td></tr>
<tr><td>Condition</td><td>Thick green belt of adequate width at the final boundary in the down wind direction of the</td></tr>
</table>

(viii) project site shall be developed to mitigate/check the dust pollution.

Compliance

Sonepur Bazari Area: Plantation is being done on reclaimed external dumps, internal dumps, in the plain land including CHP, along the approach roads, townships etc. through Forest Department, Durgapur & Green Projects Wing. Density of the trees is maintained at 2500 plants per Ha. Thick Plantation has been created in and around mine lease area. Total plantation in 357.20 Ha has been done till now. Details of which are given in the following table:

S No.	Location	Plantation
1	External OB Dumps	69.0 Hec.
2	Internal OB Dumps	186.0 Hec
3	Plain Land (including CHP, along approach roads etc.)	102.2 Hec.
Total		**357.20 Hec**

15 Ha plantations in current FY was completed in the FY 2022-23. 15 Ha plantations has been completed in FY 2023-24. 15 ha of miscellaneous plantation at OB dump has been completed in FY 2024-25.

Jhanjra Area: Thick green belt in the downwind direction will be planted to check the dust pollution.

Pandaveswar Area: Thick green belt is being developed at the final boundary in the down wind direction of the projects under Pandaveswar Area, the details of which is as follows:

Year	Name of Species	Location	Area in Ha	No. of Sapling	Density	Survival rate
2020-21	Chatim Krishnachura Radhachura Sonajhuri Karanch Amla , Neem, Shimul, Shisham, Sirish, Arjun,	Internal OB dump of Khottadih OCP	26 Ha	65000	2500/Ha	98%
		Both sides of coal transport road of Khottadih OCP from workshop to C-type quarters (length 1.1 Km)	1 Ha	2500	2500/Ha	95%
		Inside Bauri Para Rehab site	0.5 Ha	1250	2500/Ha	95%
		Internal OB dump of Old Bilpahari OC Patch (Dump created by Dalurband OC Phase-III)	5 Ha	12500	2500/Ha	95%

2021-22		Internal OB Dump of Khottadih OCP	10 Ha	25000	2500/Ha	95 %
		Internal OB Dump of Dalurband OC Phase-III	5 Ha	12500	2500/Ha	95 %
2022-23	Mango, Kathal, Arjun, Jamun, Guava	North Side of Bilpahari Rehab. Site near Khottadih OCP	3 Ha	7500	2500/Ha	95%
	Karanj, Arjun, Chhatim, Guava, Sirish, Neem, Gamhar, Kadam	OB Dump of Khottadih OCP Near Coal Depot	3.5 Ha	8750	2500/Ha	95 %
		OB Dump Of Madhaipur OC Patch	1.5 Ha	3750	2500/Ha	95 %
2023-24	Mango, Jamun, Jackfruit, Guava, Amla	OB Dump of Khottadih OCP near General Para Rehab Site	2.5 Ha	1050	420/Ha	98%
		Both side of road in between General para and Bauri Para Rehab Site	1 Ha	420	420/Ha	95 %
	Krishnachura, Radhachura, Jarul, Chhatim, Karanj, Sonalu, Spathodia	Manderboni-South Samla UG roadside plantation	2.3 Km	4600	2000/km	98 %
2024-25	Mango,Jamun,Jackfruit,Guava, Amla	Near General Para Rehab Site	01 Ha	420	420/Ha	90%
	Krishnachura, Radhachura,Jarul, Chhatim, Karanj, Sonalu, Spathodia	OB Dump of Khottadih OCP Behind Agent Office	1.2 Ha	3000	2500/Ha	90%
		Both side of road near west side of Coal Depot of Khottadih OCP	0.5 Ha	1000	2500/Ha	90%

	Bankola Area: Regular plantation activities are undertaken to check and mitigate dust pollution. Additional plantation will be done to develop thick green belt in the downwind direction will be planted to check the dust pollution.
Condition (ix)	Efforts shall be made for utilizing alternate sources of surface water, abandoned mines or else whatsoever and thus minimizing the dependability on a single source.
Compliance	**Sonepur Bazari Area:** There are no abandoned mines at Sonepur Bazari Area. Mine Sump water is being utilized for dust suppression within mines. **Jhanjra Area:** Rainwater harvesting system, re-use of mine water etc is being practised at Jhanjra UG to explore the alternate source of surface water. Domestic water supply at Jhanjra is also done through rainwater harvesting project at abandoned POCP mine. **Pandaveswar Area:** water utilization is not dependent on single a source, water is utilized from discharge from running UG mines namely Khottadih UG, Madhaipur UG and Purushottampur abandoned OC mine and Dalurband abandoned OC mine void **Bankola Area**: Techniques such as rainwater harvesting sites are established in multiple locations within the mines of Bankola Area. Domestic water supply is done through effective utilisation of mine water. Mine Sump water is being utilized for dust suppression within mines and also the treated water from STP is utilized for water sprinkling .
Condition (x)	Distance from the mine and OB Dump shall be 150 m away from river all along the bank of river.
Compliance	Distance of OB dump of Madhaipur OC Patch mine, which is nearby Ajay River, is 200 m away from the river all along the bank of the river.
Condition (xi)	Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.
Compliance	Monthly PME/IME is done for departmental as well as contractual workers. Phase-wise Occupational Health survey has also been conducted by NIOH, Ahmedabad report of which has been submitted on Feb 2025.
Condition (xii)	A third-party assessment of EC compliance shall be undertaken once in three years through reputed Government Institutes or any other expert agency identified by the Ministry.
Compliance	Third Party EC compliance has been undertaken at Sonepur Bazari Area by Indian Council of Forestry Research and Education. Additionally, Pandaveswar Area will take up the third party assessment of EC compliance in the current FY 2024-25. Work order for third party assessment of EC compliance for Pandaveswar Area, Jhanjra Area and Bankola Area has been awarded to CIMFR, Dhanbad. Work is under process.
Condition	Active OB Dump should not be kept barren/open and should be covered by temporary grass to

(xiii)	avoid air born of particles
Compliance	**Sonepur Bazari Area**: Active OB Dump is being covered with Saccharum spontaneum (Kans Grass) to avoid air born of particles. **Pandaveswar Area**: In Pandaveswar Area, there are three OC mines, namely Khottadih OCP, Dalurband OC Patch and Madhaipur OC Patch and active OB dumps created at these mines are covered with temporary grass to avoid air born of particles. **Bankola Area**: Not applicable for the UG mines in the area. At present OB extraction has started and will be covered by temporary grass, once the specific height is reached
Condition (xiv)	Project proponent to plant 100,000 nos. of native trees with broad leaves along the villages and 50,000 nos of native trees along transportation route to prevent the effect of air pollution in 2 years. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer and Ministry's Regional Office.
Compliance	**Sonepur Bazari Area**: 9 Ha (22,500 nos) plantation in FY 2017-2018 in between new railway siding and NH 60 and 12 Ha (30,000 nos) plantation along road and new railway siding has been carried out in FY 2020-2021. 400 nos plantation were carried out along New CHP/Silos in FY 2021-2022.5 Ha plantation along the railway siding completed in the present FY 2022-23. **Pandaveswar Area**: During the year 2022-23, plantation of 20000 saplings of miscellaneous species has been done over 6.5 Ha and 1.5 Ha land of Khottadih OCP and Madhaipur OCP respectively. During the year 2023-24, a total of 6070 nos of native tree saplings have been planted at different locations of Pandaveswar Area. During the year 2024-25, a total of 4420 nos of saplings were planted over 2.7 Ha area under Khottadih OCP, Pandaveswar Area **Jhanjra Area**: Native trees with broad leaves will be planted along the coal transportation route and villages to minimize the air pollution in consultation with the state forest department. **Bankola Area**: Around 26.50 Ha Plantation along Roadside near Kumardihi B has been done . Apart from that, 10.90 Ha Plantation Carried Out inside the Kumardihi B CM. Additionally, 1.78 Km Roadside Plantation along Nakrakonda OCP has been carried out in 2024-25. After completion of the Plantation activity, joint inspection was carried out with Range Officer and certified.
Condition (xv)	Project Proponent shall obtain blasting permission from DGMS for conducting mining operation near villages and also explore deployment of rock beakers of suitable capacity in the project to avoid blasting very near to villages. There shall be no damages caused to habitation/structures due to blasting activity.
Compliance	Blasting and all other mining operation is done only after obtaining necessary statutory permissions from DGMS.
Condition (xvi)	The Project Proponent shall complies with all the statutory requirements and judgment of Hon'b1e Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors. State Government shall ensure that

	the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department in strict compliance of judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
Compliance	Complied. There is no case of illegal mining / violation hence no compensation is levied for Cluster no. 12.
Condition (xvii)	Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The Recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented; The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mining activities.
Compliance	**Sonepur Bazari Area**: Periodic Medical Examination is being carried out each month for both contractual and departmental workers involved in active mining. Two dispensaries one at Workers Colony and other at Project Office is located for health check-ups for workers. Health survey with the help of ICMR-NIOH has been carried out in the FY 2023-24. Report of the survey has been submitted by NIOH on Feb 2025. **Jhanjra Area**: Currently there is a 10 bedded hospital at Jhanjra which has round the clock availability of Doctors and other paramedical staff, medicines, vaccines and equipment like X Ray, Spirometer, Audiometer, Semi auto analyzer, Oxygen Concentrator etc. In additional, regular PME is carried out of employees for occupational and chronic diseases. In addition, health survey of workers working at Mine face has been completed by NIOH and report submitted on Feb 2025. **Pandaveswar Area**: Occupational Health Specialist, for Regular and Periodical medical examination of the workers engaged in the Project, have been posted. Records of the health checkups are maintained properly. Also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. is done on half yearly basis and necessary remedial/preventive measures are taken accordingly. The Recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented. The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards is ensured before initiating the mining activities. **Bankola Area**: Bankola Area has 10 dispensaries which has round the clock availability of Doctors and other paramedical staff, medicines, vaccines and equipment like X Ray, Spirometer, Audiometer, Semi auto analyzer, ECG, Oxygen Concentrator and oxygen cylinder etc. Regular PME is carried out of employees for occupational and chronic diseases. Health check-up of workers working at Mine face is carried out by NIOH.
Condition	Project Proponent shall follow the mitigation measures provided in Office Memorandum No. Z-

(xviii)	11013/57/2014-IA. II (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".
Compliance	Noted and agreed all conditions under office Memorandum No. Z- 11013/57/2014-IA. II (M), dated 29th October, 2014 will be strictly followed.
Condition (xix)	The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours.
Condition (xix)	**Sonepur Bazari Area**: While working at night it is kept in mind that illumination and sound at night don't disturb both human and animal population. Industrial Noise level is measured each month by CMPDIL which indicates noise level is well below prescribed limit. **Pandaveswar Area**: In Pandaveswar Area no disturbance is done to any villagers nearby the mines by keeping the lights away from the villages and by keeping the noise level within the prescribed limits for day time and night hours. **Bankola Area**: While working at night it is kept in mind that illumination and sound at night don't disturb both human and animal population. Industrial Noise level is measured each month by CMPDIL which indicates noise level is well below prescribed limit.
Condition (xx)	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna, if any, spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. A copy of action plan shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office.
Compliance	Wild Life Management Plan for entire Raniganj Coalfields has been approved by PCCF, Wildlife & Chief Wildlife Warden, West Bengal on 10.07.2024. A wildlife plan is prepared by Divisional Forest Officer, Durgapur and is being implemented at Jhanjra at a cost of Rs. Rs. 53,64,500/-. The amount has already been deposited to adhoc CAMPA.
Condition (xxi)	Honorable Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said

	condition shall be sent to the Regional Office of the MoEFCC.
Compliance	Noted. The condition will be complied once the mining activity is over as per the approved mining Plan.

EC Compliance dated 31.07.2023

Condition I	PP shall construct STP's to the residential colonies and ETP to all workshops within one year. Accordingly, SPCB shall grant CTO to instant cluster as proposed above.
Compliance:	**Sonepur Bazari Area**: A Sewage Treatment Plant with capacity 600 cum/d is present at R.N. Colony of and an Effluent Treatment Plant with capacity 7200 cum/d is present at workshop for treating workshop and CHP waste water effluent. **Jhanjra Area:** ETP has already been installed at Jhanjra Area near long wall workshop. Proposal for the construction of STP at Jhanjra Colonies is under process and installation will be completed within June 2025. Currently, The sewage generated from residential colony is treated through Septic Tanks. **Pandaveswar Area**: Tender for the work of, installation and commissioning of modular STP for the colony of Khottadih UG&OC mine under Pandaveswar Area, has been finalized and the work order will be issued soon. This proposed work will be completed by June 2025. **Bankola Area:** Sewage generated from residential colonies goes through Septic Tank and soak pit. STP of 10 KLD capacity is installed in Bankola Area Complex. Another STP of 20 KLD capacity is installed near Bankola Railway Siding. Oil & grease traps are present in the following mines - Bankola UG, Shyamsundarpur UG, Tilaboni UG, Nakrakonda-Kumardihi B UG.
Condition II	PP shall obtain NOC from Central Ground Water Authority within six months of issuance of this letter.
Compliance:	West Bengal State does not falls in the purview of CGWA. NoC for groundwater abstraction has been obtained from State Water Investigation department (SWID), West Bengal for all the mines under Cluster no. 12.
Condition III	PP shall construct catch drains and siltation ponds in the opencast mines of Pandaveswar area to arrest silt and sediments flow within six minths.
Compliance:	There exists catch drain and siltation pond for Khottadih OCP and Madhaipur OC Patch mine under Pandaveswar Area. For Dalurband OC Patch, catch drain has been constructed and abandoned OC mine void is used as siltation pond.
Condition IV	PP shall not increase the area of quarry of Sonepur Bazari mine and only extract coal from existing quarry and working seams.
Compliance:	Complied. Mining operation is being carried out from existing quarry and working seams.
Condition V	PP shall submit the approved budget for Wildlife Conservation Plan to Forest Department within 6 month.
Compliance:	Raniganj wildlife conservation plan has been prepared and submitted to West Bengal Forest Department on 31.10.2023. Wildlife Management plan has been approved by PCCF, Wildlife and Chief Wildlife Warden, West Bengal on 10.07.2024.

Condition VI	PP shall construct tree plantation along with railway siding for mitigation of dust emission in this monsoon and Geotag it.
Compliance:	**Sonepur bazari Area:** 5 Ha plantation all along the railway siding was carried out in the FY 2023-24. The condition is being complied. **Jhanjra Area**: Tree plantation for a length of 2.5 Km along the new railway siding- under construction-(Existing coal transportation road) has been carried out in the FY 2023-24. The POCP-1 siding is bound by a thick brick wall of 10 feet height approx. Plantation already exists along the POCP Railway Siding at Jhanjra. Additionally, plantation over 1 Ha area has been carried out in the FY 2019-20 at POCP I and II Railway Siding and is being maintained by Forest Department. Also, a Park, namely Chandrashekhar Azad Udyan has also been developed at the POCP railway siding for environmental protection. **Pandaveswar Area**: Tree plantation along SS Railway Siding under Pandaveswar Area has been done. **Bankola Area**: Roadside plantation of 1.78 km was carried out in Nakrakonda-Kumardihi B UG&OC on FY-2023-24. Proposal for wind barrier in Bankola Railway siding is under process.
Condition VII	PP shall replace sand for stowing in underground mine to manufactured sand extracted from overburden dump and accordingly sand transportation shall be stopped within certain timeline
Compliance:	One proposal for utilisation of sand cum OB of Madhaipur OC Patch mine under Pandaveswar Area, for stowing purpose, is under process.
Condition VIII	PP must complete major non-compliance strictly within one year highlighted in monitoring report of IRO-Kolkata.
Compliance:	The major non-compliance highlighted in IRo-Kolkata report are listed below along with status of compliance: 1. PAs need to provide the details of thick green belt at the final boundary along with KML file of OCPs Status: Complied. The OCPs within this cluster have yet to reach their final boundary. Once the mine reaches its final boundary, the required safety zone plantation will be carried out in consultation with the concerned DFO. KML files of all the OCP has already been shared with IRO- Kolkata. 2. PAs need to conduct third-party assessment again for Sonepur-Bazari Area immediately. PAs also need to submit compliance report regarding the recommendation/comments of ICFRE mentioned in the third party assessment study for Sonepur Bazari Area. Status: Third party assessment of Sonepur Bazari OCP has been conducted by IIT, ISM Dhanbad in FY 2024-25. 3. PAs need to submit the certificate regarding plantation developed under Cluster 12 from

	concerned District Forest Officer needs to submit to Regional office. Status: Complied. Certificate regarding plantation developed under Cluster 12 from Deputy Conservator of Forests, Kolkata has been submitted along with the ATR of CCR to IRO-Kolkata on 16.12.2024.

Environment clearance of cluster 12 Ref No: J-11015/76/2011-IA-II (M) dated 20.03.2025.

<table>
<tr><td>Condition no I</td><td>Proponent shall install 3 nos of M sand plants by FY 2026-27 for processing of Over Burden in the following manner and shall ultimately replace the use of river sand with processed OB sand, as committed.
<table>
<tr><th>Details</th><th>Phase-I</th><th>Phase-II</th><th>Phase-III</th></tr>
<tr><td>Year</td><td>2024-25</td><td>2025-26</td><td>2026-27</td></tr>
<tr><td>No of Pob Plants to be installed</td><td>1 (installed)</td><td>2</td><td>3</td></tr>
<tr><td>% reduction in river sand transportation</td><td>15</td><td>30</td><td>55</td></tr>
</table></td></tr>
<tr><td>Compliance</td><td>Sonepur Bazari Area: Phase-wise installation of POB plants will be carried out as per the proposed schedule.

Bankola Area: The proposal for installation of M-sand Plants is initiated via E-office for making M-sand from OB dump of Nakrakonda OCP. Hence the Plant is expected to install by FY 2026-27. However, the scientific study regarding Material Characterization is yet to be conducted. However, the scientific study is expected to be completed within the FY 2025-26.

Pandaveswar Area: Phase wise installation of POB plants will be carried out as per proposed schedule given in the condition.

Jhanjra Area: The condition is not applicable as Jhanjra is a UG mine.</td></tr>
<tr><td>Condition II</td><td>Proponent shall construct the STP at Pandaveswar and Jhanjra Areas of Cluster No. 12 by June 2025, as committed.</td></tr>
<tr><td>Compliance</td><td>Pandaveswar Area: Tender for the work of, installation and commissioning of modular STP for the colony of Khottadih UG&OC mine under Pandaveswar Area, has been finalized and the work order will be issued soon. This proposed work will be completed by June 2025.

Jhanjra Area: ETP has already been installed at Jhanjra Area near long wall workshop. Proposal for the construction of STP at Jhanjra Colonies is under process and installation will be completed within June 2025. Currently, The sewage generated from residential colony is treated through Septic Tanks.</td></tr>
<tr><td>Condition II</td><td>Project proponent shall ensure that adequate mitigation measures as stated in the EMP shall be put in place to control the Particulate Matter (PM) levels at the project site below the prescribed NAAQS. Compliance status in this regard shall be submitted to the concerned Regional Office of MoEF&CC along with six monthly compliance report and also uploaded on the company’s web portal. Further, LED display of air quality shall be installed at prominent locations preferably outside the mine entrance for public viewing and in administrative complex.</td></tr>
<tr><td>Compliance</td><td>Sonepur Bazari Area: CAAQMS with LED Display is installed at Project Office. Scientific study to control the PM levels at the project site below NAAQMS will be conducted in the FY</td></tr>
</table>

	2025-26. Additional LED Display will installed in the FY 2025-26. **Bankola Area:** 1 No CAAQMS installed at Bankola Area Office for LED display of the air quality as it is the administrative office of Bankola Area and also for public viewing. **Pandaveswar Area**: CAAQMS with LED Display is installed at Project Office. Scientific study to control the PM levels at the project site below NAAQMS will be conducted in the FY 2025-26. Additional LED Display will be installed in the FY 2025-26. **Jhanjra Area:** CAAQMS with LED Display is installed at Jhanjra Area. Additional LED Display will installed in the FY 2025-26. Mechanical brroming machine and truck Mounted fog cannon machine is being used at Jhanjra Area for prevention of dust generation and as a mitigation measure.
Condition III	Water sprinkling on roads in and around the ML area shall be carried out on a regular basis to control the air pollution. A logbook shall be maintained for the activity and be in six-monthly compliance report. The action plan to control ambient air quality standards is prepared and regular implementation of the same shall be monitored.
Compliance	**Sonepur Bazari Area**: Water Sprinkling within mine lease area is being carried out on regular basis. Scientific Study to control air quality standards below air quality standard will be carried out in the FY 2025-26. Two nos. of Mist spray is also being used for dust suppression. **Bankola Area:** Water Sprinkling is being done on the approach road with Mobile Water tankers. Fog cannon is installed at Bankola Railway siding. Regular sprinkling of water is carried out over the surface through fixed and mobile sprinklers to check fugitive emissions at Railway Siding. Two(2) no's Fog canon are installed at Bankola-I siding and 3 Nos Fog canon are installed at Bankola-II siding. Additionally, one (1) no truck mounted fog canon is employed at Bankola-I and Bankola-II siding. Apart from that, a total of 3 no's Fog /mist generator installed at CHP of Shyamsundarpur colliery. One additional Fog canon 30m in siding-II will be installed in the FY 2025-26 and a portable water sprinkler is also installed in siding-II. **Pandaveswar Area:** Water Sprinkling within mine lease area is being carried out on regular basis. Scientific Study to control air quality standards below air quality standard will be carried out in the FY 2025-26**.** **Jhanjra Area:** Water Sprinkling within mine lease area is being carried out on regular basis.
Condition IV	In addition to the existing 4 CAAQMS, 5 number of additional Continuous Ambient Air Quality Monitoring Stations shall be installed at suitable locations in consultation with WBPCB by December 2025.
Compliance:	Additional CAAQMS will be installed in the FY 2025-26 at suitable locations in consultation with WBPCB by December 2025.
Condition V	Plantation shall be carried out in 331 ha land, in addition to 160.69 ha (already planted) in the next 5 years as per the plan submitted.

Compliance:	**Sonepur Bazari Area**: Plantation of 25 Ha is scheduled in the FY 2025-26. **Bankola Area:** Plantation will be carried out as per the requirement and the plantation plan submitted. **Jhanjra Area**: Plantation of 20 Ha is scheduled in the FY 2025-26.
Condition VI	PP shall not increase the area of quarry of Sonepur Bazari mine and only extract coal from existing quarry and working seams.
Compliance	**Sonepur Bazari Area**: There is no increase in the quarry area of Sonepur Bazari mine and extraction of coal is being done from the existing quarry and working seams.
Condition VII	Proponent shall carryout regular maintenance of the potholes on roads, repair and maintenance of roads, scrapping of material fallen on roads, and removal of scraps from mining areas. Along with this, PP shall make sure that all the pollution control equipment are in good working condition and maintenance of those equipment is regularly carried out.
Compliance:	**Sonepur Bazari Area:** Maintenance of potholes on roads and its repair is being carried out on regular basis. All the pollution control equipment is in good working condition and maintenance of those equipment is regularly carried out. **Bankola Area:** All the pollution control equipment such as Cyclone Separator, Fog canon is working at present and periodic maintenance is done. However, regular repairing of road, filling of pothole is carried out. Removal of scrap is done through E-Auction as per prevalent norms of ECL**.** **Jhanjra Area:** Maintenance of potholes on roads and its repair is being carried out on regular basis. All the pollution control equipment are in good working condition and maintenance of those equipment is regularly carried out.
Condition VIII	Project proponent shall distribute saplings of fruit bearing species to the villagers in the nearby area and shall also develop a plan to incentivize the villagers for maintaining the survival of these plants.
Compliance	**Sonepur Bazari Area:** Distribution of fruit bearing species to the villagers and Project Affected families will be done on the occasion of Vriksharopan Abhiyan 2025. **Bankola Area**: Sapling are distributed on the occasion of World Environment Day and Vrikshoropan Abhiyaan free of cost. Apart from that, watering facility is also provided to the villages for maintain the survival of these plants. **Jhanjra Area:** Distribution of fruit bearing species to the villagers area being done regularly and will be carried out during Vriksharopan Abhiyan 2025.
Condition VIII	Project Proponent shall strengthen the existing Primary Health Centre (PHC) & Community Health Centre (CHC) in the study area for better public health. PHCs & CHCs within the core and buffer zone shall be supported with adequate budget over 5 years, for improving facilities for enhancing quality of public health service. Compliance status in this regard shall be submitted

	along with the six-monthly compliance to the concerned Regional Office of MoEF&CC.
Compliance:	Noted and agreed. Digital Dispensary within mine lease area is being constructed to strengthen the existing Primary Health Centre (PHC).

Compliance photos of Jhanjra Area

Half Yearly EC Compliance report for mine under Cluster No. 12 of ECL

Period:-Oct 2024-Mar 2025


5000 LPH Capacity RO plant
MACORS


Mobile and Fixed Water Sprinklers


Coal Carrying on covered trucks

CAAQMS, Jhanjra Area

Truck Mounted fog Cannon

Effluent Treatment plant

Mechanical Brooming Machine

Compliance photos of Pandaveswar Area:

Photograph of plantation along the boundary wall of SS Railway Siding

Photograph of plantation over 2.5 Ha land along NH 60 and in between NH60 and Bilpahari Rehabilitated Village.

Photograph of plantation over 20 Ha OB dump land of Khottadih OCP during the year 2015-16

Photograph of plantation over 10 Ha open land under Pandaveswar UG during 2018-19

Photograph of plantation over 5 Ha OB dump land under Dalurband OC Phase-III during the year 2018-19

Display of Environment parameters at Khottadih OCP

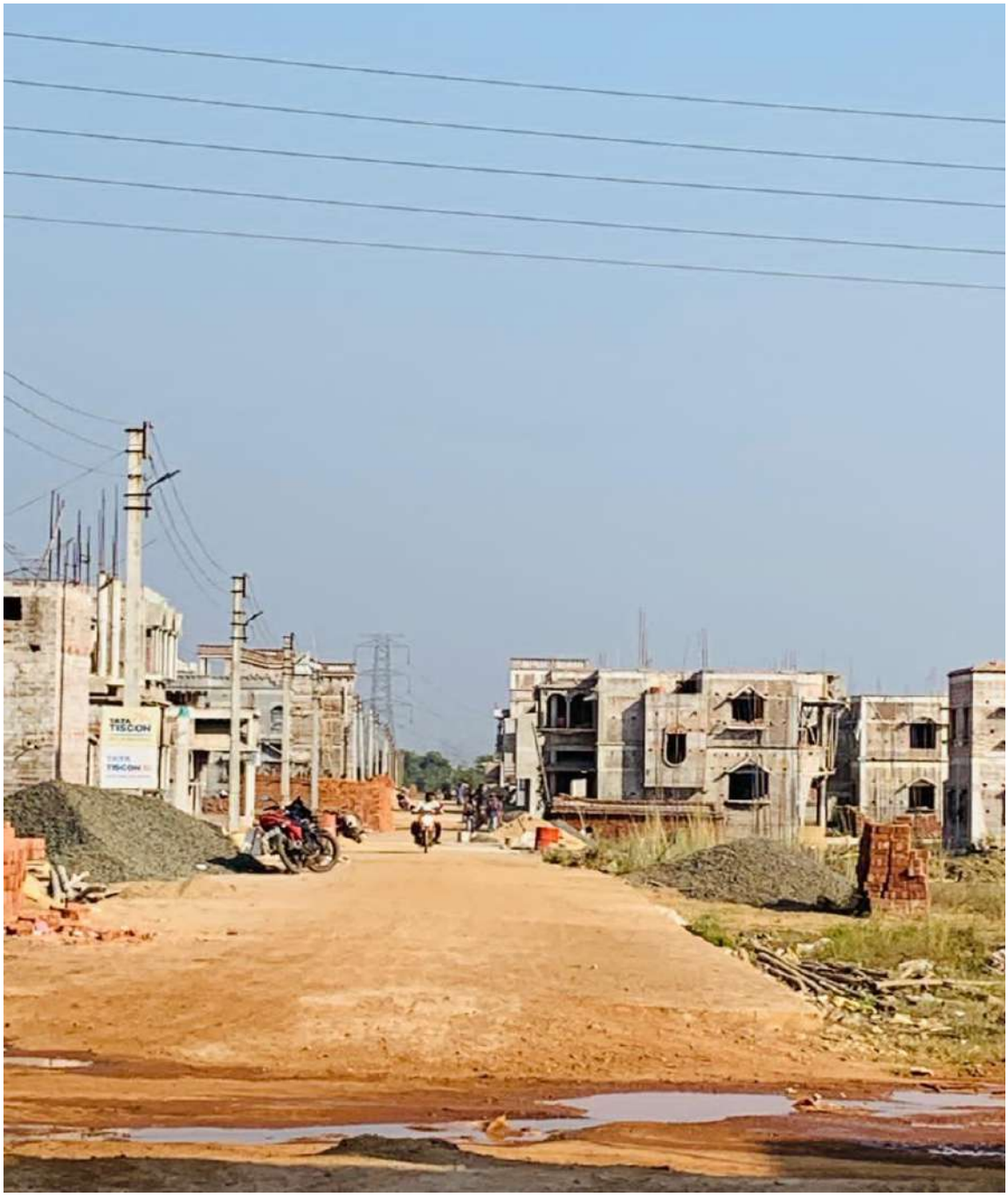
Display of Environment parameters at Madhaipur UG

Display of Environment parameters at Manderboni UG

Display of Environment parameters at Khottadih OCP

Photograph of plantation over 16 Ha backfilled land of Khottadih OCP during the year 2017-18

Photograph of constructed house at Bilpahari Rehab Site.



Photograph of under construction houses at Bilpahari Rehab site .

Photograph of Pressure filter installed at Khottadih colony for treatment of mine water.

Photograph of pressure filter installed at Dalurband for treatment of mine water

Photograph of RO filtration plant Set up at Khottadih UG

Photograph of dispensing system of RO treated water at Khottadih UG

Photograph of dust suppression by mobile sprinkler over the haul road of Khottadih OCP.

Photograph of recently procured truck mounted forg cannon dust suppression system in operation at S.S. Railway Siding under Khottadih OCP,Pandaveswar Area.

Photograph of Solar street light installed at Baidyanathpur village under CSR scheme of ECL

Photograph of sanitizer and mask distribution among local villagers amid corona pandemic

Photograph of toilet block constructed at Madhaipur Village under CSR scheme during 2015-16

Photograph of PCC road constructed at Madhaipur Village under CSR scheme of ECL

Photograph of community centre constructed at Govindpur village under CSR Scheme of ECL

Photograph of embankment constructed and stabilized with plantation along Ajay River nearby Pandaveswar UG mine.

Photograph of settling pond constructed at Khottadih OCP

Photograph of garland drain constructed at Khottadih OCP and Dalurband OCP mine

ANNEXURE-A

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. 12

(FOR THE MONTH OF MARCH, 2025)

(BANKOLA, SONEPUR BAZARI, PANDAVESWAR & JHANJRA AREA)

Eastern Coalfields Limited

cmpdi
A Mini Ratna Company

Regional Institute-1
Asansol (WB)

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.

CHAPTER-II
AMBIENT AIR QUALITY MONITORING

2.0 Ambient air quality sampling stations: Ambient air quality monitoring stations have been classified in to residential and industrial based on their locations in different clusters of mines. The following sampling stations have been selected to monitor the ambient air quality in cluster no. 12:

i) **Agent office, Kottadih OCP (12A1):** The sampler was placed at agent office of Kottadih OCP. This site was selected to assess the present ambient air quality status in core zone of Kottadih OCP.
ii) **Kumardihi A colliery store (12A2):** The sampler was placed at store office of Kumardihi colliery. This station was selected to assess the ambient air quality in the core zone where mining activities are in progress.
iii) **Danya village (12A3):** The air sampler was placed at Danya village to assess the present ambient air quality status in residential area.
iv) **GM Office Kenda Area (12A4):** The sampler was placed at GM office of Kenda area. This site was selected to assess the present ambient air quality status in industrial area of buffer zone of Shankarpur OCP of Kenda area.
v) **Khandra Bisheswar Pit (12A5):** The sampler was placed at Ichhapur High school. This site was selected to assess the present ambient air quality status in industrial area of buffer zone of Madhaiganj colliery.
vi) **Office of Jhanjra Incline No. 3 & 4 (12A6):** The sampler was placed at Chapla village. This site was selected to assess the present ambient air quality status in industrial area of buffer zone of Madhiganj colliery.
vii) **Dalurband colliery office near Dalurband Railway Siding (12A10):** The sampler was placed at agent office of Dalurband colliery. This station was selected to assess the ambient air quality in the core zone where mining activities are in progress.
viii) **Manderboni colliery office near railway siding (12A11):** The sampler was placed at pit office of Manderboni colliery. This station was selected to assess the ambient air quality in the core zone where mining activities are in progress.
ix) **Pandaveshwar pit office near railway siding (12A12):** The sampler was placed at pit office of Pandaveshwar colliery. This station was selected to assess the ambient air quality in the core zone where mining activities are in progress.
x) **Managers' office Madhaipur colliery near railway siding (12A13):** The sampler was placed at Managers' Office of Madhaipur Colliery. This station was selected to assess the ambient air quality in the core zone where mining activities are in progress.
xi) **Bankola workshop near railway siding (12A14):** The sampler was placed at Bankola workshop. This station was selected to assess the ambient air quality in the core zone.

2.1 Methodology of sampling and analysis: The air quality 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. Particulate Matter (PM_{10}), Fine Particulate Matter ($PM_{2.5}$), Suspended Particulate Matter (SPM), Sulphur Dioxide (SO_2) and Oxides of Nitrogen (NO_x) are monitored on fortnightly basis. A few polluted sampling stations are monitored twice in a week. Heavy metals like Arsenic (As), Cadmium (Cd), Chromium (Cr), Mercury (Hg), Nickel (Ni) and Lead (Pb) are monitored half yearly.

The Respirable Suspended Particulate Matter (RSPM) Sampler & $PM_{2.5}$ Sampler machines are used for sampling of ambient air. The samples are collected and transported to Environmental Laboratory of CMPDI, RI-I, Asansol for analysis work.

2.2 Results & Interpretations: The observed value of Suspended Particulate Matter (SPM) varies from 256.8 to 692.3 µg/m^3 in industrial areas. The observed value of Particulate Matter (PM_{10}) varies from 55.1 to 685.4 µg/m^3 in industrial areas & from 82.6 to 93.5 µg/m^3 in residential areas. The observed value of Fine Particulate Matter ($PM_{2.5}$) varies from 9.8 to 95.8 µg/m^3 in industrial areas & from 18.5 to 28.7 µg/m^3 in residential areas· The observed value of Sulphur Dioxide (SO_2) has been found to be below 10 µg/m^3 in both industrial & residential areas· The observed value of Oxides of Nitrogen (NO_x) varies from 20.0 to 31.0 µg/m^3 in industrial areas & from 21.0 to 22.0 µg/m^3 in residential areas.

AMBIENT AIR QUALITY DATA

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman, West Bengal.

First fortnight:

Station Code	Station Name	Category of station	Date of Sampling	Parameter	Analytical Results ($\mu g/m^3$)	Name of method	Detection limit ($\mu g/m^3$)
12A2	Kumardihi A colliery store	Industrial	07-Mar-25	SPM	256.8	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	147.5	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	21.4	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	26.0	IS 5182 (Part 6): 2006, R: 2017	10
12A3	Danya village	Residential	07-Mar-25	PM_{10}	82.6	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	18.5	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	22.0	IS 5182 (Part 6): 2006, R: 2017	10
12A4	GM Office Kenda Area	Industrial	04-Mar-25	SPM	389.6	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	246.8	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	26.5	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	25.0	IS 5182 (Part 6): 2006, R: 2017	10
12A5	Khandra Bisheswar Pit	Industrial	04-Mar-25	SPM	258.6	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	182.6	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	18.4	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	29.0	IS 5182 (Part 6): 2006, R: 2017	10
12A6	Office of Jhanjra Incline	Industrial	04-Mar-25	SPM	347.9	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	257.9	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	24.5	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	28.0	IS 5182 (Part 6): 2006, R: 2017	10
12A10	Dalurband colliery office	Industrial	12-Mar-25	SPM	582.6	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	406.5	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	74.0	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	30.0	IS 5182 (Part 6): 2006, R: 2017	10

Station Code	Station Name	Category of station	Date of Sampling	Parameter	Analytical Results (µg/m³)	Name of method	Detection limit (µg/m³)
12A13	Managers' office Madhaipur colliery near railway siding	Industrial	13-Mar-25	SPM	689.5	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	541.6	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	57.5	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	23.0	IS 5182 (Part 6): 2006, R: 2017	10
12A14	Bankola workshop near railway siding	Industrial	10-Mar-25	SPM	472.5	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	214.7	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	38.7	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	24.0	IS 5182 (Part 6): 2006, R: 2017	10

*BDL- Below Detection Limit.

Second fortnight:

Station Code	Station Name	Category of station	Date of Sampling	Parameter	Analytical Results (µg/m³)	Name of method	Detection limit (µg/m³)
12A2	Kumardihi A colliery store	Industrial	26-Mar-25	SPM	577.9	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	417.3	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	18.9	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	24.0	IS 5182 (Part 6): 2006, R: 2017	10
12A3	Danya village	Residential	19-Mar-25	PM_{10}	93.5	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	28.7	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	21.0	IS 5182 (Part 6): 2006, R: 2017	10
12A4	GM Office Kenda Area	Industrial	19-Mar-25	SPM	462.8	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	340.5	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	39.7	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	25.0	IS 5182 (Part 6): 2006, R: 2017	10
12A5	Khandra Bisheswar Pit	Industrial	26-Mar-25	SPM	459.7	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	322.8	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	77.6	IS 5182 (Part 24): 2019	2.0

Station Code	Station Name	Category of station	Date of Sampling	Parameter	Analytical Results (µg/m^3)	Name of method	Detection limit (µg/m^3)
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	27.0	IS 5182 (Part 6): 2006, R: 2017	10
12A6	Office of Jhanjra Incline	Industrial	19-Mar-25	SPM	405.9	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	271.5	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	41.5	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	29.0	IS 5182 (Part 6): 2006, R: 2017	10
12A10	Dalurband colliery office	Industrial	19-Mar-25	SPM	532.7	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	358.1	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	62.6	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	31.0	IS 5182 (Part 6): 2006, R: 2017	10
12A13	Managers' office Madhaipur colliery near railway siding	Industrial	19-Mar-25	SPM	492.7	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	349.6	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	95.4	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	24.0	IS 5182 (Part 6): 2006, R: 2017	10
12A14	Bankola workshop near railway siding	Industrial	18-Mar-25	SPM	382.6	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	233.8	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	36.5	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	25.0	IS 5182 (Part 6): 2006, R: 2017	10

*BDL- Below Detection Limit.

Twice in a week Monitoring

Station Code	Station Name	Category of station	Date of Sampling	Parameter	Analytical Results (µg/m³)	Name of method	Detection limit (µg/m³)
12A1	Agent office, Kottadih OCP	Industrial	03-Mar-25	SPM	277.7	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	105.5	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	22.8	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	23.0	IS 5182 (Part 6): 2006, R: 2017	10
			04-Mar-25	SPM	416.8	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	273.8	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	47.4	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	27.0	IS 5182 (Part 6): 2006, R: 2017	10
			10-Mar-25	SPM	517.6	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	322.4	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	27.4	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	23.0	IS 5182 (Part 6): 2006, R: 2017	10
			11-Mar-25	SPM	537.9	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	417.1	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	53.7	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	21.0	IS 5182 (Part 6): 2006, R: 2017	10
			17-Mar-25	SPM	362.8	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	267.0	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	60.2	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	21.0	IS 5182 (Part 6): 2006, R: 2017	10
			18-Mar-25	SPM	471.5	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	355.3	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	27.4	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	26.0	IS 5182 (Part 6): 2006, R: 2017	10
			24-Mar-25	SPM	452.3	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	269.3	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	59.0	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	24.0	IS 5182 (Part 6): 2006, R: 2017	10
			25-Mar-25	SPM	563.2	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	414.4	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	18.0	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	22.0	IS 5182 (Part 6): 2006, R: 2017	10

*BDL- Below Detection Limit

Twice in a week Monitoring

Station Code	Station Name	Category of station	Date of Sampling	Parameter	Analytical Results (µg/m³)	Name of method	Detection limit (µg/m³)
12A11	Manderboni Colliery Office near railway siding	Industrial	03-Mar-25	SPM	465.3	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	281.6	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	38.9	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	21.0	IS 5182 (Part 6): 2006, R: 2017	10
			04-Mar-25	SPM	492.7	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	336.9	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	36.2	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	21.0	IS 5182 (Part 6): 2006, R: 2017	10
			13-Mar-25	SPM	465.8	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	254.6	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	37.4	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	22.0	IS 5182 (Part 6): 2006, R: 2017	10
			14-Mar-25	SPM	468.7	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	321.5	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	32.9	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	24.0	IS 5182 (Part 6): 2006, R: 2017	10
			17-Mar-25	SPM	582.5	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	375.9	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	36.7	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	22.0	IS 5182 (Part 6): 2006, R: 2017	10
			18-Mar-25	SPM	524.6	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	364.6	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	95.8	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	20.0	IS 5182 (Part 6): 2006, R: 2017	10
			24-Mar-25	SPM	692.3	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	685.4	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	62.3	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	21.0	IS 5182 (Part 6): 2006, R: 2017	10
			25-Mar-25	SPM	489.5	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	389.2	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	82.5	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	23.0	IS 5182 (Part 6): 2006, R: 2017	10

*BDL- Below Detection Limit.

Twice in a week Monitoring

Station Code	Station Name	Category of station	Date of Sampling	Parameter	Analytical Results (µg/m³)	Name of method	Detection limit (µg/m³)
12A12	Pandaveshwar Pit Office near railway siding	Industrial	03-Mar-25	SPM	276.1	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	55.1	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	21.4	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	24.0	IS 5182 (Part 6): 2006, R: 2017	10
			04-Mar-25	SPM	394.3	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	267.6	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	36.0	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	23.0	IS 5182 (Part 6): 2006, R: 2017	10
			12-Mar-25	SPM	507.9	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	390.4	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	46.1	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	23.0	IS 5182 (Part 6): 2006, R: 2017	10
			13-Mar-25	SPM	418.1	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	268.2	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	41.3	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	20.0	IS 5182 (Part 6): 2006, R: 2017	10
			17-Mar-25	SPM	572.6	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	385.1	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	60.5	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	24.0	IS 5182 (Part 6): 2006, R: 2017	10
			18-Mar-25	SPM	452.6	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	333.0	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	9.8	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	24.0	IS 5182 (Part 6): 2006, R: 2017	10
			24-Mar-25	SPM	471.6	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	340.6	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	36.2	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	22.0	IS 5182 (Part 6): 2006, R: 2017	10
			25-Mar-25	SPM	547.3	IS 5182 (Part 4):1999, R: 2019	5.0
				PM_{10}	342.0	IS 5182 (Part 23): 2006, R: 2022	3.5
				$PM_{2.5}$	26.5	IS 5182 (Part 24): 2019	2.0
				SO_2	BDL	IS 5182 (Part 2): 2001, R: 2017	10
				NO_x	20.0	IS 5182 (Part 6): 2006, R: 2017	10

*BDL- Below Detection Limit.

Environmental Standards for Ambient Air Quality (AAQ):

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 ($\mu g/m^3$)					Pollutant Concentration ($\mu g/m^3$)				
SPM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	SPM	PM_{10}	$PM_{2.5}$	SO_2	NO_x
600.0	300.0	Not Specified	120.0	120.0	Not Specified	100.0	60.0	80.0	80.0

AMBIENT AIR HEAVY METAL ANALYSIS REPORT

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman, West Bengal.

Station No.	Station Name	Date of Sampling	Arsenic (ng/m^3)	Cadmium (µg/m^3)	Chromium (µg/m^3)	Mercury (µg/m^3)	Nickel (ng/m^3)	Lead (µg/m^3)
Method of Detection			APHA 3114B AAS VGA	APHA 3113B AAS GTA	APHA 3111B AAS Flame	APHA 3112B AAS VGA	APHA 3113 B AAS GTA	APHA 3113 B AAS GTA
Detection Limit			**1.0**	**0.001**	**0.01**	**0.001**	**0.10**	**0.005**
12A1	Agent office of Kottadih OCP	13-Mar-25	<1.0	<0.001	<0.01	<0.001	<0.10	<0.005
12A2	Kumardihi A colliery store	13-Mar-25	<1.0	<0.001	<0.01	<0.001	<0.10	<0.005
12A3	Danya village	13-Mar-25	<1.0	<0.001	<0.01	<0.001	<0.10	<0.005
12A7	Durga mandir, Churor village	12-Mar-25	<1.0	<0.001	<0.01	<0.001	<0.10	<0.005
12A8	Dispensary of Konda village	12-Mar-25	<1.0	<0.001	<0.01	<0.001	<0.10	<0.005
12A9	Chapla village	12-Mar-25	<1.0	<0.001	<0.01	<0.001	<0.10	<0.005
12A10	Dalurband colliery office near Dalurband railway siding	12-Mar-25	<1.0	<0.001	<0.01	<0.001	<0.10	<0.005
12A11	Manderboni colliery office near railway siding	12-Mar-25	<1.0	<0.001	<0.01	<0.001	<0.10	<0.005
12A12	Pandaveshwar pit office near railway siding	13-Mar-25	<1.0	<0.001	<0.01	<0.001	<0.10	<0.005
12A13	Managers' office Madhaipur colliery near railway siding	13-Mar-25	<1.0	<0.001	<0.01	<0.001	<0.10	<0.005
12A14	Bankola workshop near railway siding	13-Mar-25	<1.0	<0.001	<0.01	<0.001	<0.10	<0.005

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

Heavy Metal	Arsenic (ng/m^3)	Cadmium (µg/m^3)	Chromium (µg/m^3)	Mercury (µg/m^3)	Nickel (ng/m^3)	Lead (µg/m^3)
Concentration	6	Not specified	Not specified	Not specified	20	0.5

CHAPTER – III
WATER QUALITY MONITORING

3.1 Mine water sampling stations:

i) **Pandaveswar UG (12MW1):** This location has been selected to monitor the discharge quality of mine effluent to natural surface streams after sedimentation tank.

ii) **Dalurband OC Phase-III (12MW2)**: This location has been selected to monitor the discharge quality of mine effluent used for sprinkling at road and mining area.

iii) **Manderboni UG (12MW3)**: This location has been selected to monitor the discharge quality of mine effluent to natural surface streams.

iv) **South Samla UG (12MW4):** This location has been selected to monitor the discharge quality of mine effluent to natural surface streams.

v) **Madhaipur UG (12MW5)**: This location has been selected to monitor the discharge quality of mine effluent to natural surface streams after sedimentation tank.

vi) **Sonepur Bazari OC (12MW6)**: This location has been selected to monitor the discharge quality of mine effluent to natural surface streams after siltation pond.

vii) **Kumardihi B UG (12MW7)**: This location has been selected to monitor the discharge quality of mine effluent to natural surface streams after sedimentation tank.

x) **Jhanjra UG (12MW10):** This location has been selected to monitor the discharge quality of mine effluent to natural surface streams after sedimentation tank.

x) **Tilaboni UG (12MW11)**: This location has been selected to monitor the discharge quality of mine effluent to natural surface streams after sedimentation tank.

xi) **Shyamsundarpur UG (12MW12)**: This location has been selected to monitor the discharge quality of mine effluent to natural surface streams after sedimentation tank.

xii) **Bankola UG (12MW13)**: This location has been selected to monitor the discharge quality of mine effluent to natural surface streams.

xiii) **Kottadih UG & OC (12MW14)**: This location has been selected to monitor the discharge quality of mine effluent use for boiler and remaining discharge to natural surface streams after sedimentation tank.

xiv) **Kumardihi A UG (12MW15)**: This location has been selected to monitor the discharge quality of mine effluent use for boiler and remaining discharge to natural surface streams after sedimentation tank.

xv) **Madhaipur OC (12MW16)**: This location has been selected to monitor the discharge quality of mine effluent discharge to natural surface streams.

3.2 Methodology of sampling and analysis: The water samples are collected as per standard practice and transported to environment laboratory for analysis work.

The mine water samples are collected and analysed for five parameters on fortnightly basis except during the months of March and September when mine water samples are analysed for 29 parameters.

The ground water samples are collected and analysed for 26 parameters during the month of May. Water samples from filter plants are collected and analysed quarterly in the months of June, September, December and March.

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 samples and compared with IS.10500: 2012 in case of drinking/ground water samples.

First fortnight:

Sl. No	Parameters	Analytical results (mg/l)					General Standards for Discharge of Effluent (Schedule VI)	Name of Method	Detection Limit (mg/l)
	Station Code	12MW1	12MW2	12MW3	12MW4	12MW5			
	Date of sampling	01-Mar-25	01-Mar-25	01-Mar-25	01-Mar-25	01-Mar-25			
1	pH value	7.97	8.02	7.96	7.91	8.04	5.5 - 9.0	IS 3025 (Part 11) : 1983, R: 2017	2.0
2	TSS	BDL	BDL	BDL	BDL	BDL	100	IS 3025 (Part -17): 1984, R: 2017	10.0
3	TDS	538	507	553	552	602	Not specified	IS 3025 (Part -16): 1984, R: 2017	25.0
4	Oil & Grease	BDL	BDL	BDL	BDL	BDL	10	IS 3025 (Part 39) : 1991, R: 2019	2.0
5	COD	24	16	24	20	12	250	APHA 5220C Closed Reflux	4.0

Sl. No.	Parameters	Analytical results (mg/l)					General Standards for Discharge of Effluent (Schedule VI)	Name of Method	Detection Limit (mg/l)
	Station Code	12MW6	12MW7	12MW10	12MW11	12MW12			
	Date of sampling	01-Mar-25	01-Mar-25	01-Mar-25	01-Mar-25	01-Mar-25			
1	pH value	7.43	7.91	7.96	7.85	7.72	5.5 - 9.0	IS 3025 (Part 11) : 1983, R: 2017	2.0
2	TSS	BDL	BDL	BDL	BDL	BDL	100	IS 3025 (Part -17): 1984, R: 2017	10.0
3	TDS	433	517	505	318	540	Not specified	IS 3025 (Part -16): 1984, R: 2017	25.0
4	Oil & Grease	BDL	BDL	BDL	BDL	BDL	10	IS 3025 (Part 39) : 1991, R: 2019	2.0
5	COD	32	28	8	24	20	250	APHA 5220C Closed Reflux	4.0

*BDL-Below Detection Limit. *All values are expressed in mg/l except pH.*

Sl. No.	Parameters	Analytical results (mg/l)				General Standards for Discharge of Effluent (Schedule VI)	Name of Method	Detection Limit (mg/l)
	Station Code	**12MW13**	**12MW14**	**12MW15**	**12MW16**			
	Date of sampling	01-Mar-25	01-Mar-25	01-Mar-25	01-Mar-25			
1	pH value	7.80	7.63	7.84	8.13	5.5 - 9.0	IS 3025 (Part 11) : 1983, R: 2017	2.0
2	TSS	BDL	BDL	BDL	BDL	100	IS 3025 (Part -17): 1984, R: 2017	10.0
3	TDS	362	543	588	527	Not specified	IS 3025 (Part -16): 1984, R: 2017	25.0
4	Oil & Grease	BDL	BDL	BDL	BDL	10	IS 3025 (Part 39) : 1991, R: 2019	2.0
5	COD	16	28	16	28	250	APHA 5220C Closed Reflux	4.0

*BDL-Below Detection Limit. *All values are expressed in mg/l except pH.*

Second fortnight:

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman, West Bengal.

Station name and Station Code: 12MW1- Pandaveswar UG

MINE WATER QUALITY

Sl. No.	Parameters	Analytical Results	General Standards for Discharge of Effluent (Schedule VI)	Method of Detection	Detection Limit
	Date of Sampling	27-Mar-25			
1	Colour	3	Unobjectionable	IS 3025 (Part 4): 2021	1.0
2	Odour	Un-Objectionable	Unobjectionable	IS 3025 (Part 6): 1983, R: 2018	-
3	TSS	BDL	100	IS 3025 (Part 17):1984, R: 2017	10
4	pH	8.03	5.5-9.0	IS 3025 (Part 11): 1983, R: 2017	2.0
5	Temperature (^{0}C)	28.5	Shall not exceed 5 ^{0}C above the receiving water temperature	IS 3025 (Part 9): 1984, R: 2017	5.0
6	Oil & Grease	BDL	10	IS 3025 (Part 39): 1991, R: 2019	2.0
7	Total Residual Chlorine	BDL	1.0	APHA, 4500-Cl G. DPD Colorimetric	0.02
8	Ammonical Nitrogen	0.59	50	IS 3025 (Part 34): 1988, R: 2019	0.01
9	Total Kjeldahl Nitrogen	1.96	100	APHA 4500-N_{org} B. Macro-Kjeldahl	1.0
10	Free Ammonia	BDL	5.0	IS 3025 (Part 34): 1988, R: 2019	0.02
11	BOD	12.00	30	IS 3025 (Part 44): 1993, R: 2019	2.0
12	COD	24	250	APHA 5220C Closed Reflux	4.0
13	Arsenic	BDL	0.2	APHA 3112B AAS VGA	0.002
14	Lead	BDL	0.1	APHA 3113B AAS GTA	0.005
15	Hexavalent Chromium	BDL	0.1	APHA, 3500 – Cr^{6+} B. Colorimetric	0.01
16	Total Chromium	BDL	2.0	IS 3025 (Part 52): 2003, R: 2019	0.04
17	Copper	BDL	3.0	IS 3025 (Part 42): 1992, R: 2019	0.03
18	Zinc	0.03	5.0	IS 3025 (Part 49):1994, R: 2019	0.01
19	Selenium	BDL	0.05	APHA 3111B AAS Flame	0.002
20	Nickel	BDL	3.0	IS 3025 (Part 54): 2003, R: 2019	0.01
21	Fluoride	0.38	2.0	APHA, 4500 –F D. SPADNS	0.02
22	Dissolved Phosphate	1.33	5.0	APHA, 4500-P C. Vanadomolybdophosphoric Acid Colorimetric	0.30
23	Sulphide	0.014	2.0	APHA, 4500 - S^{2-} D. Methylene Blue	0.005
24	Phenolics	BDL	1.0	APHA, 5530 C. 4-Amino-Antipyrine-Chloroform Extraction	0.001
25	Manganese	BDL	2.0	IS 3025 (Part 59): 2006, R: 2017	0.02
26	Iron	BDL	3.0	IS 3025 (Part 53): 2003, R: 2019	0.06
27	Nitrate Nitrogen	6.17	10	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
28	Cadmium	BDL	2.0	APHA 3113B AAS GTA	0.0005
29	Total Dissolved Solids	510	Not Specified	IS 3025 (Part 16): 1984, R: 2017	25.0

*BDL -Below Detection Limit *All values are expressed in mg/l unless specified.*

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman, West Bengal.

Station name and Station Code: 12MW2- Dalurband OC Phase III

MINE WATER QUALITY

Sl. No.	Parameters	Analytical Results	General Standards for Discharge of Effluent (Schedule VI)	Method of Detection	Detection Limit
	Date of Sampling	27-Mar-25			
1	Colour	4	Unobjectionable	IS 3025 (Part 4): 2021	1.0
2	Odour	Un-Objectionable	Unobjectionable	IS 3025 (Part 6): 1983, R: 2018	-
3	TSS	BDL	100	IS 3025 (Part 17):1984, R: 2017	10
4	pH	7.54	5.5-9.0	IS 3025 (Part 11): 1983, R: 2017	2.0
5	Temperature (^{0}C)	28.7	Shall not exceed 5 ^{0}C above the receiving water temperature	IS 3025 (Part 9): 1984, R: 2017	5.0
6	Oil & Grease	BDL	10	IS 3025 (Part 39): 1991, R: 2019	2.0
7	Total Residual Chlorine	BDL	1.0	APHA, 4500-Cl G. DPD Colorimetric	0.02
8	Ammonical Nitrogen	0.62	50	IS 3025 (Part 34): 1988, R: 2019	0.01
9	Total Kjeldahl Nitrogen	1.94	100	APHA 4500-N_{org} B. Macro-Kjeldahl	1.0
10	Free Ammonia	BDL	5.0	IS 3025 (Part 34): 1988, R: 2019	0.02
11	BOD	10.00	30	IS 3025 (Part 44): 1993, R: 2019	2.0
12	COD	44	250	APHA 5220C Closed Reflux	4.0
13	Arsenic	BDL	0.2	APHA 3112B AAS VGA	0.002
14	Lead	BDL	0.1	APHA 3113B AAS GTA	0.005
15	Hexavalent Chromium	BDL	0.1	APHA, 3500 – Cr^{6+} B. Colorimetric	0.01
16	Total Chromium	BDL	2.0	IS 3025 (Part 52): 2003, R: 2019	0.04
17	Copper	BDL	3.0	IS 3025 (Part 42): 1992, R: 2019	0.03
18	Zinc	0.03	5.0	IS 3025 (Part 49):1994, R: 2019	0.01
19	Selenium	BDL	0.05	APHA 3111B AAS Flame	0.002
20	Nickel	BDL	3.0	IS 3025 (Part 54): 2003, R: 2019	0.01
21	Fluoride	0.42	2.0	APHA, 4500 –F D. SPADNS	0.02
22	Dissolved Phosphate	1.26	5.0	APHA, 4500-P C. Vanadomolybdophosphoric Acid Colorimetric	0.30
23	Sulphide	0.012	2.0	APHA, 4500 - S^{2-} D. Methylene Blue	0.005
24	Phenolics	BDL	1.0	APHA, 5530 C. 4-Amino-Antipyrine-Chloroform Extraction	0.001
25	Manganese	BDL	2.0	IS 3025 (Part 59): 2006, R: 2017	0.02
26	Iron	BDL	3.0	IS 3025 (Part 53): 2003, R: 2019	0.06
27	Nitrate Nitrogen	5.29	10	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
28	Cadmium	BDL	2.0	APHA 3113B AAS GTA	0.0005
29	Total Dissolved Solids	703	Not Specified	IS 3025 (Part 16): 1984, R: 2017	25.0

*BDL -Below Detection Limit *All values are expressed in mg/l unless specified.*

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman, West Bengal.

Station name and Station Code: 12MW3- Manderboni UG

MINE WATER QUALITY

Sl. No.	Parameters / Date of Sampling	Analytical Results (29-Mar-25)	General Standards for Discharge of Effluent (Schedule VI)	Method of Detection	Detection Limit
1	Colour	4	Unobjectionable	IS 3025 (Part 4): 2021	1.0
2	Odour	Un-Objectionable	Unobjectionable	IS 3025 (Part 6): 1983, R: 2018	-
3	TSS	BDL	100	IS 3025 (Part 17):1984, R: 2017	10
4	pH	7.61	5.5-9.0	IS 3025 (Part 11): 1983, R: 2017	2.0
5	Temperature (^{0}C)	28.5	Shall not exceed 5 ^{0}C above the receiving water temperature	IS 3025 (Part 9): 1984, R: 2017	5.0
6	Oil & Grease	BDL	10	IS 3025 (Part 39): 1991, R: 2019	2.0
7	Total Residual Chlorine	BDL	1.0	APHA, 4500-Cl G. DPD Colorimetric	0.02
8	Ammonical Nitrogen	0.84	50	IS 3025 (Part 34): 1988, R: 2019	0.01
9	Total Kjeldahl Nitrogen	1.68	100	APHA 4500-N_{org} B. Macro-Kjeldahl	1.0
10	Free Ammonia	BDL	5.0	IS 3025 (Part 34): 1988, R: 2019	0.02
11	BOD	14.00	30	IS 3025 (Part 44): 1993, R: 2019	2.0
12	COD	20	250	APHA 5220C Closed Reflux	4.0
13	Arsenic	BDL	0.2	APHA 3112B AAS VGA	0.002
14	Lead	BDL	0.1	APHA 3113B AAS GTA	0.005
15	Hexavalent Chromium	BDL	0.1	APHA, 3500 – Cr^{6+} B. Colorimetric	0.01
16	Total Chromium	BDL	2.0	IS 3025 (Part 52): 2003, R: 2019	0.04
17	Copper	BDL	3.0	IS 3025 (Part 42): 1992, R: 2019	0.03
18	Zinc	0.04	5.0	IS 3025 (Part 49):1994, R: 2019	0.01
19	Selenium	BDL	0.05	APHA 3111B AAS Flame	0.002
20	Nickel	BDL	3.0	IS 3025 (Part 54): 2003, R: 2019	0.01
21	Fluoride	0.36	2.0	APHA, 4500 –F D. SPADNS	0.02
22	Dissolved Phosphate	1.20	5.0	APHA, 4500-P C. Vanadomolybdophosphoric Acid Colorimetric	0.30
23	Sulphide	0.013	2.0	APHA, 4500 - S^{2-} D. Methylene Blue	0.005
24	Phenolics	BDL	1.0	APHA, 5530 C. 4-Amino-Antipyrine-Chloroform Extraction	0.001
25	Manganese	BDL	2.0	IS 3025 (Part 59): 2006, R: 2017	0.02
26	Iron	BDL	3.0	IS 3025 (Part 53): 2003, R: 2019	0.06
27	Nitrate Nitrogen	5.38	10	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
28	Cadmium	BDL	2.0	APHA 3113B AAS GTA	0.0005
29	Total Dissolved Solids	644	Not Specified	IS 3025 (Part 16): 1984, R: 2017	25.0

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman, West Bengal.

Station name and Station Code: 12MW4- South Samla UG

MINE WATER QUALITY

Sl. No.	Parameters / Date of Sampling	Analytical Results	General Standards for Discharge of Effluent (Schedule VI)	Method of Detection	Detection Limit
	Date of Sampling	28-Mar-25			
1	Colour	3	Unobjectionable	IS 3025 (Part 4): 2021	1.0
2	Odour	Un-Objectionable	Unobjectionable	IS 3025 (Part 6): 1983, R: 2018	-
3	TSS	BDL	100	IS 3025 (Part 17):1984, R: 2017	10
4	pH	8.00	5.5-9.0	IS 3025 (Part 11): 1983, R: 2017	2.0
5	Temperature (^{0}C)	28.6	Shall not exceed 5 ^{0}C above the receiving water temperature	IS 3025 (Part 9): 1984, R: 2017	5.0
6	Oil & Grease	BDL	10	IS 3025 (Part 39): 1991, R: 2019	2.0
7	Total Residual Chlorine	BDL	1.0	APHA, 4500-Cl G. DPD Colorimetric	0.02
8	Ammonical Nitrogen	0.88	50	IS 3025 (Part 34): 1988, R: 2019	0.01
9	Total Kjeldahl Nitrogen	2.35	100	APHA 4500-N_{org} B. Macro-Kjeldahl	1.0
10	Free Ammonia	BDL	5.0	IS 3025 (Part 34): 1988, R: 2019	0.02
11	BOD	14.00	30	IS 3025 (Part 44): 1993, R: 2019	2.0
12	COD	24	250	APHA 5220C Closed Reflux	4.0
13	Arsenic	BDL	0.2	APHA 3112B AAS VGA	0.002
14	Lead	BDL	0.1	APHA 3113B AAS GTA	0.005
15	Hexavalent Chromium	BDL	0.1	APHA, 3500 – Cr^{6+} B. Colorimetric	0.01
16	Total Chromium	BDL	2.0	IS 3025 (Part 52): 2003, R: 2019	0.04
17	Copper	BDL	3.0	IS 3025 (Part 42): 1992, R: 2019	0.03
18	Zinc	0.03	5.0	IS 3025 (Part 49):1994, R: 2019	0.01
19	Selenium	BDL	0.05	APHA 3111B AAS Flame	0.002
20	Nickel	BDL	3.0	IS 3025 (Part 54): 2003, R: 2019	0.01
21	Fluoride	0.48	2.0	APHA, 4500 –F D. SPADNS	0.02
22	Dissolved Phosphate	1.43	5.0	APHA, 4500-P C. Vanadomolybdophosphoric Acid Colorimetric	0.30
23	Sulphide	0.014	2.0	APHA, 4500 - S^{2-} D. Methylene Blue	0.005
24	Phenolics	BDL	1.0	APHA, 5530 C. 4-Amino-Antipyrine-Chloroform Extraction	0.001
25	Manganese	BDL	2.0	IS 3025 (Part 59): 2006, R: 2017	0.02
26	Iron	BDL	3.0	IS 3025 (Part 53): 2003, R: 2019	0.06
27	Nitrate Nitrogen	4.11	10	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
28	Cadmium	BDL	2.0	APHA 3113B AAS GTA	0.0005
29	Total Dissolved Solids	425	Not Specified	IS 3025 (Part 16): 1984, R: 2017	25.0

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman, West Bengal.

Station name and Station Code: 12MW5- Madhaipur UG

MINE WATER QUALITY

Sl. No.	Parameters	Analytical Results	General Standards for Discharge of Effluent (Schedule VI)	Method of Detection	Detection Limit
	Date of Sampling	29-Mar-25			
1	Colour	3	Unobjectionable	IS 3025 (Part 4): 2021	1.0
2	Odour	Un-Objectionable	Unobjectionable	IS 3025 (Part 6): 1983, R: 2018	-
3	TSS	BDL	100	IS 3025 (Part 17):1984, R: 2017	10
4	pH	7.62	5.5-9.0	IS 3025 (Part 11): 1983, R: 2017	2.0
5	Temperature (^{0}C)	28.6	Shall not exceed 5 ^{0}C above the receiving water temperature	IS 3025 (Part 9): 1984, R: 2017	5.0
6	Oil & Grease	BDL	10	IS 3025 (Part 39): 1991, R: 2019	2.0
7	Total Residual Chlorine	BDL	1.0	APHA, 4500-Cl G. DPD Colorimetric	0.02
8	Ammonical Nitrogen	0.74	50	IS 3025 (Part 34): 1988, R: 2019	0.01
9	Total Kjeldahl Nitrogen	1.62	100	APHA 4500-N_{org} B. Macro-Kjeldahl	1.0
10	Free Ammonia	BDL	5.0	IS 3025 (Part 34): 1988, R: 2019	0.02
11	BOD	12.00	30	IS 3025 (Part 44): 1993, R: 2019	2.0
12	COD	12	250	APHA 5220C Closed Reflux	4.0
13	Arsenic	BDL	0.2	APHA 3112B AAS VGA	0.002
14	Lead	BDL	0.1	APHA 3113B AAS GTA	0.005
15	Hexavalent Chromium	BDL	0.1	APHA, 3500 – Cr^{6+} B. Colorimetric	0.01
16	Total Chromium	BDL	2.0	IS 3025 (Part 52): 2003, R: 2019	0.04
17	Copper	BDL	3.0	IS 3025 (Part 42): 1992, R: 2019	0.03
18	Zinc	0.03	5.0	IS 3025 (Part 49):1994, R: 2019	0.01
19	Selenium	BDL	0.05	APHA 3111B AAS Flame	0.002
20	Nickel	BDL	3.0	IS 3025 (Part 54): 2003, R: 2019	0.01
21	Fluoride	0.38	2.0	APHA, 4500 –F D. SPADNS	0.02
22	Dissolved Phosphate	1.26	5.0	APHA, 4500-P C. Vanadomolybdophosphoric Acid Colorimetric	0.30
23	Sulphide	0.010	2.0	APHA, 4500 - S^{2-} D. Methylene Blue	0.005
24	Phenolics	BDL	1.0	APHA, 5530 C. 4-Amino-Antipyrine-Chloroform Extraction	0.001
25	Manganese	BDL	2.0	IS 3025 (Part 59): 2006, R: 2017	0.02
26	Iron	BDL	3.0	IS 3025 (Part 53): 2003, R: 2019	0.06
27	Nitrate Nitrogen	4.18	10	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
28	Cadmium	BDL	2.0	APHA 3113B AAS GTA	0.0005
29	Total Dissolved Solids	711	Not Specified	IS 3025 (Part 16): 1984, R: 2017	25.0

*BDL -Below Detection Limit *All values are expressed in mg/l unless specified.*

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman, West Bengal.

Station name and Station Code: 12MW6- Sonepur Bazari OC

MINE WATER QUALITY

Sl. No.	Parameters / Date of Sampling	Analytical Results (27-Mar-25)	General Standards for Discharge of Effluent (Schedule VI)	Method of Detection	Detection Limit
1	Colour	3	Unobjectionable	IS 3025 (Part 4): 2021	1.0
2	Odour	Un-Objectionable	Unobjectionable	IS 3025 (Part 6): 1983, R: 2018	-
3	TSS	BDL	100	IS 3025 (Part 17):1984, R: 2017	10
4	pH	7.50	5.5-9.0	IS 3025 (Part 11): 1983, R: 2017	2.0
5	Temperature (^{0}C)	28.7	Shall not exceed 5 ^{0}C above the receiving water temperature	IS 3025 (Part 9): 1984, R: 2017	5.0
6	Oil & Grease	BDL	10	IS 3025 (Part 39): 1991, R: 2019	2.0
7	Total Residual Chlorine	BDL	1.0	APHA, 4500-Cl G. DPD Colorimetric	0.02
8	Ammonical Nitrogen	0.56	50	IS 3025 (Part 34): 1988, R: 2019	0.01
9	Total Kjeldahl Nitrogen	1.79	100	APHA 4500-N_{org} B. Macro-Kjeldahl	1.0
10	Free Ammonia	BDL	5.0	IS 3025 (Part 34): 1988, R: 2019	0.02
11	BOD	14.73	30	IS 3025 (Part 44): 1993, R: 2019	2.0
12	COD	36	250	APHA 5220C Closed Reflux	4.0
13	Arsenic	BDL	0.2	APHA 3112B AAS VGA	0.002
14	Lead	BDL	0.1	APHA 3113B AAS GTA	0.005
15	Hexavalent Chromium	BDL	0.1	APHA, 3500 – Cr^{6+} B. Colorimetric	0.01
16	Total Chromium	BDL	2.0	IS 3025 (Part 52): 2003, R: 2019	0.04
17	Copper	BDL	3.0	IS 3025 (Part 42): 1992, R: 2019	0.03
18	Zinc	0.04	5.0	IS 3025 (Part 49):1994, R: 2019	0.01
19	Selenium	BDL	0.05	APHA 3111B AAS Flame	0.002
20	Nickel	BDL	3.0	IS 3025 (Part 54): 2003, R: 2019	0.01
21	Fluoride	0.42	2.0	APHA, 4500 –F D. SPADNS	0.02
22	Dissolved Phosphate	1.44	5.0	APHA, 4500-P C. Vanadomolybdophosphoric Acid Colorimetric	0.30
23	Sulphide	0.008	2.0	APHA, 4500 - S^{2-} D. Methylene Blue	0.005
24	Phenolics	BDL	1.0	APHA, 5530 C. 4-Amino-Antipyrine-Chloroform Extraction	0.001
25	Manganese	BDL	2.0	IS 3025 (Part 59): 2006, R: 2017	0.02
26	Iron	BDL	3.0	IS 3025 (Part 53): 2003, R: 2019	0.06
27	Nitrate Nitrogen	5.45	10	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
28	Cadmium	BDL	2.0	APHA 3113B AAS GTA	0.0005
29	Total Dissolved Solids	578	Not Specified	IS 3025 (Part 16): 1984, R: 2017	25.0

*BDL -Below Detection Limit *All values are expressed in mg/l unless specified.*

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman, West Bengal.

Station name and Station Code: 12MW7- Kumardihi B UG

MINE WATER QUALITY

Sl. No.	Parameters	Analytical Results	General Standards for Discharge of Effluent (Schedule VI)	Method of Detection	Detection Limit
	Date of Sampling	27-Mar-25			
1	Colour	4	Unobjectionable	IS 3025 (Part 4): 2021	1.0
2	Odour	Un-Objectionable	Unobjectionable	IS 3025 (Part 6): 1983, R: 2018	-
3	TSS	BDL	100	IS 3025 (Part 17):1984, R: 2017	10
4	pH	7.88	5.5-9.0	IS 3025 (Part 11): 1983, R: 2017	2.0
5	Temperature (^{0}C)	28.7	Shall not exceed 5 ^{0}C above the receiving water temperature	IS 3025 (Part 9): 1984, R: 2017	5.0
6	Oil & Grease	BDL	10	IS 3025 (Part 39): 1991, R: 2019	2.0
7	Total Residual Chlorine	BDL	1.0	APHA, 4500-Cl G. DPD Colorimetric	0.02
8	Ammonical Nitrogen	0.68	50	IS 3025 (Part 34): 1988, R: 2019	0.01
9	Total Kjeldahl Nitrogen	2.01	100	APHA 4500-N_{org} B. Macro-Kjeldahl	1.0
10	Free Ammonia	BDL	5.0	IS 3025 (Part 34): 1988, R: 2019	0.02
11	BOD	10.00	30	IS 3025 (Part 44): 1993, R: 2019	2.0
12	COD	20	250	APHA 5220C Closed Reflux	4.0
13	Arsenic	BDL	0.2	APHA 3112B AAS VGA	0.002
14	Lead	BDL	0.1	APHA 3113B AAS GTA	0.005
15	Hexavalent Chromium	BDL	0.1	APHA, 3500 – Cr^{6+} B. Colorimetric	0.01
16	Total Chromium	BDL	2.0	IS 3025 (Part 52): 2003, R: 2019	0.04
17	Copper	BDL	3.0	IS 3025 (Part 42): 1992, R: 2019	0.03
18	Zinc	0.03	5.0	IS 3025 (Part 49):1994, R: 2019	0.01
19	Selenium	BDL	0.05	APHA 3111B AAS Flame	0.002
20	Nickel	BDL	3.0	IS 3025 (Part 54): 2003, R: 2019	0.01
21	Fluoride	0.38	2.0	APHA, 4500 –F D. SPADNS	0.02
22	Dissolved Phosphate	1.62	5.0	APHA, 4500-P C. Vanadomolybdophosphoric Acid Colorimetric	0.30
23	Sulphide	0.009	2.0	APHA, 4500 - S^{2-} D. Methylene Blue	0.005
24	Phenolics	BDL	1.0	APHA, 5530 C. 4-Amino-Antipyrine-Chloroform Extraction	0.001
25	Manganese	BDL	2.0	IS 3025 (Part 59): 2006, R: 2017	0.02
26	Iron	BDL	3.0	IS 3025 (Part 53): 2003, R: 2019	0.06
27	Nitrate Nitrogen	5.38	10	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
28	Cadmium	BDL	2.0	APHA 3113B AAS GTA	0.0005
29	Total Dissolved Solids	549	Not Specified	IS 3025 (Part 16): 1984, R: 2017	25.0

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman, West Bengal.

Station name and Station Code: 12MW10- Jhanjra UG

MINE WATER QUALITY

Sl. No.	Parameters	Analytical Results	General Standards for Discharge of Effluent (Schedule VI)	Method of Detection	Detection Limit
	Date of Sampling	27-Mar-25			
1	Colour	5	Unobjectionable	IS 3025 (Part 4): 2021	1.0
2	Odour	Un-Objectionable	Unobjectionable	IS 3025 (Part 6): 1983, R: 2018	-
3	TSS	BDL	100	IS 3025 (Part 17):1984, R: 2017	10
4	pH	7.92	5.5-9.0	IS 3025 (Part 11): 1983, R: 2017	2.0
5	Temperature (^{0}C)	28.4	Shall not exceed 5 ^{0}C above the receiving water temperature	IS 3025 (Part 9): 1984, R: 2017	5.0
6	Oil & Grease	BDL	10	IS 3025 (Part 39): 1991, R: 2019	2.0
7	Total Residual Chlorine	BDL	1.0	APHA, 4500-Cl G. DPD Colorimetric	0.02
8	Ammonical Nitrogen	0.59	50	IS 3025 (Part 34): 1988, R: 2019	0.01
9	Total Kjeldahl Nitrogen	1.72	100	APHA 4500-N_{org} B. Macro-Kjeldahl	1.0
10	Free Ammonia	BDL	5.0	IS 3025 (Part 34): 1988, R: 2019	0.02
11	BOD	8.00	30	IS 3025 (Part 44): 1993, R: 2019	2.0
12	COD	28	250	APHA 5220C Closed Reflux	4.0
13	Arsenic	BDL	0.2	APHA 3112B AAS VGA	0.002
14	Lead	BDL	0.1	APHA 3113B AAS GTA	0.005
15	Hexavalent Chromium	BDL	0.1	APHA, 3500 – Cr^{6+} B. Colorimetric	0.01
16	Total Chromium	BDL	2.0	IS 3025 (Part 52): 2003, R: 2019	0.04
17	Copper	BDL	3.0	IS 3025 (Part 42): 1992, R: 2019	0.03
18	Zinc	0.04	5.0	IS 3025 (Part 49):1994, R: 2019	0.01
19	Selenium	BDL	0.05	APHA 3111B AAS Flame	0.002
20	Nickel	BDL	3.0	IS 3025 (Part 54): 2003, R: 2019	0.01
21	Fluoride	0.36	2.0	APHA, 4500 –F D. SPADNS	0.02
22	Dissolved Phosphate	1.59	5.0	APHA, 4500-P C. Vanadomolybdophosphoric Acid Colorimetric	0.30
23	Sulphide	0.010	2.0	APHA, 4500 - S^{2-} D. Methylene Blue	0.005
24	Phenolics	BDL	1.0	APHA, 5530 C. 4-Amino-Antipyrine-Chloroform Extraction	0.001
25	Manganese	BDL	2.0	IS 3025 (Part 59): 2006, R: 2017	0.02
26	Iron	BDL	3.0	IS 3025 (Part 53): 2003, R: 2019	0.06
27	Nitrate Nitrogen	5.17	10	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
28	Cadmium	BDL	2.0	APHA 3113B AAS GTA	0.0005
29	Total Dissolved Solids	548	Not Specified	IS 3025 (Part 16): 1984, R: 2017	25.0

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman, West Bengal.

Station name and Station Code: 12MW11- Tilaboni UG

MINE WATER QUALITY

Sl. No.	Parameters	Analytical Results	General Standards for Discharge of Effluent (Schedule VI)	Method of Detection	Detection Limit
	Date of Sampling	28-Mar-25			
1	Colour	5	Unobjectionable	IS 3025 (Part 4): 2021	1.0
2	Odour	Un-Objectionable	Unobjectionable	IS 3025 (Part 6): 1983, R: 2018	-
3	TSS	BDL	100	IS 3025 (Part 17):1984, R: 2017	10
4	pH	7.83	5.5-9.0	IS 3025 (Part 11): 1983, R: 2017	2.0
5	Temperature (^{0}C)	28.7	Shall not exceed 5 ^{0}C above the receiving water temperature	IS 3025 (Part 9): 1984, R: 2017	5.0
6	Oil & Grease	BDL	10	IS 3025 (Part 39): 1991, R: 2019	2.0
7	Total Residual Chlorine	BDL	1.0	APHA, 4500-Cl G. DPD Colorimetric	0.02
8	Ammonical Nitrogen	0.84	50	IS 3025 (Part 34): 1988, R: 2019	0.01
9	Total Kjeldahl Nitrogen	1.93	100	APHA 4500-N_{org} B. Macro-Kjeldahl	1.0
10	Free Ammonia	BDL	5.0	IS 3025 (Part 34): 1988, R: 2019	0.02
11	BOD	18.00	30	IS 3025 (Part 44): 1993, R: 2019	2.0
12	COD	16	250	APHA 5220C Closed Reflux	4.0
13	Arsenic	BDL	0.2	APHA 3112B AAS VGA	0.002
14	Lead	BDL	0.1	APHA 3113B AAS GTA	0.005
15	Hexavalent Chromium	BDL	0.1	APHA, 3500 – Cr^{6+} B. Colorimetric	0.01
16	Total Chromium	BDL	2.0	IS 3025 (Part 52): 2003, R: 2019	0.04
17	Copper	BDL	3.0	IS 3025 (Part 42): 1992, R: 2019	0.03
18	Zinc	0.03	5.0	IS 3025 (Part 49):1994, R: 2019	0.01
19	Selenium	BDL	0.05	APHA 3111B AAS Flame	0.002
20	Nickel	BDL	3.0	IS 3025 (Part 54): 2003, R: 2019	0.01
21	Fluoride	0.44	2.0	APHA, 4500 –F D. SPADNS	0.02
22	Dissolved Phosphate	1.09	5.0	APHA, 4500-P C. Vanadomolybdophosphoric Acid Colorimetric	0.30
23	Sulphide	0.012	2.0	APHA, 4500 - S^{2-} D. Methylene Blue	0.005
24	Phenolics	BDL	1.0	APHA, 5530 C. 4-Amino-Antipyrine-Chloroform Extraction	0.001
25	Manganese	BDL	2.0	IS 3025 (Part 59): 2006, R: 2017	0.02
26	Iron	BDL	3.0	IS 3025 (Part 53): 2003, R: 2019	0.06
27	Nitrate Nitrogen	3.26	10	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
28	Cadmium	BDL	2.0	APHA 3113B AAS GTA	0.0005
29	Total Dissolved Solids	407	Not Specified	IS 3025 (Part 16): 1984, R: 2017	25.0

*BDL -Below Detection Limit *All values are expressed in mg/l unless specified.*

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman, West Bengal.

Station name and Station Code: 12MW12- Shyamsundarpur UG

MINE WATER QUALITY

Sl. No.	Parameters	Analytical Results	General Standards for Discharge of Effluent (Schedule VI)	Method of Detection	Detection Limit
	Date of Sampling	28-Mar-25			
1	Colour	4	Unobjectionable	IS 3025 (Part 4): 2021	1.0
2	Odour	Un-Objectionable	Unobjectionable	IS 3025 (Part 6): 1983, R: 2018	-
3	TSS	BDL	100	IS 3025 (Part 17):1984, R: 2017	10
4	pH	7.64	5.5-9.0	IS 3025 (Part 11): 1983, R: 2017	2.0
5	Temperature (^{0}C)	28.6	Shall not exceed 5 ^{0}C above the receiving water temperature	IS 3025 (Part 9): 1984, R: 2017	5.0
6	Oil & Grease	BDL	10	IS 3025 (Part 39): 1991, R: 2019	2.0
7	Total Residual Chlorine	BDL	1.0	APHA, 4500-Cl G. DPD Colorimetric	0.02
8	Ammonical Nitrogen	0.79	50	IS 3025 (Part 34): 1988, R: 2019	0.01
9	Total Kjeldahl Nitrogen	2.12	100	APHA 4500-N_{org} B. Macro-Kjeldahl	1.0
10	Free Ammonia	BDL	5.0	IS 3025 (Part 34): 1988, R: 2019	0.02
11	BOD	22.00	30	IS 3025 (Part 44): 1993, R: 2019	2.0
12	COD	24	250	APHA 5220C Closed Reflux	4.0
13	Arsenic	BDL	0.2	APHA 3112B AAS VGA	0.002
14	Lead	BDL	0.1	APHA 3113B AAS GTA	0.005
15	Hexavalent Chromium	BDL	0.1	APHA, 3500 – Cr^{6+} B. Colorimetric	0.01
16	Total Chromium	BDL	2.0	IS 3025 (Part 52): 2003, R: 2019	0.04
17	Copper	BDL	3.0	IS 3025 (Part 42): 1992, R: 2019	0.03
18	Zinc	0.03	5.0	IS 3025 (Part 49):1994, R: 2019	0.01
19	Selenium	BDL	0.05	APHA 3111B AAS Flame	0.002
20	Nickel	BDL	3.0	IS 3025 (Part 54): 2003, R: 2019	0.01
21	Fluoride	0.40	2.0	APHA, 4500 –F D. SPADNS	0.02
22	Dissolved Phosphate	1.34	5.0	APHA, 4500-P C. Vanadomolybdophosphoric Acid Colorimetric	0.30
23	Sulphide	0.013	2.0	APHA, 4500 - S^{2-} D. Methylene Blue	0.005
24	Phenolics	BDL	1.0	APHA, 5530 C. 4-Amino-Antipyrine-Chloroform Extraction	0.001
25	Manganese	BDL	2.0	IS 3025 (Part 59): 2006, R: 2017	0.02
26	Iron	BDL	3.0	IS 3025 (Part 53): 2003, R: 2019	0.06
27	Nitrate Nitrogen	4.18	10	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
28	Cadmium	BDL	2.0	APHA 3113B AAS GTA	0.0005
29	Total Dissolved Solids	512	Not Specified	IS 3025 (Part 16): 1984, R: 2017	25.0

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman, West Bengal.

Station name and Station Code: 12MW13- Bankola UG

MINE WATER QUALITY

Sl. No.	Parameters	Analytical Results	General Standards for Discharge of Effluent (Schedule VI)	Method of Detection	Detection Limit
	Date of Sampling	26-Mar-25			
1	Colour	3	Unobjectionable	IS 3025 (Part 4): 2021	1.0
2	Odour	Un-Objectionable	Unobjectionable	IS 3025 (Part 6): 1983, R: 2018	-
3	TSS	BDL	100	IS 3025 (Part 17):1984, R: 2017	10
4	pH	7.63	5.5-9.0	IS 3025 (Part 11): 1983, R: 2017	2.0
5	Temperature (^{0}C)	28.5	Shall not exceed 5 ^{0}C above the receiving water temperature	IS 3025 (Part 9): 1984, R: 2017	5.0
6	Oil & Grease	BDL	10	IS 3025 (Part 39): 1991, R: 2019	2.0
7	Total Residual Chlorine	BDL	1.0	APHA, 4500-Cl G. DPD Colorimetric	0.02
8	Ammonical Nitrogen	0.88	50	IS 3025 (Part 34): 1988, R: 2019	0.01
9	Total Kjeldahl Nitrogen	1.82	100	APHA 4500-N_{org} B. Macro-Kjeldahl	1.0
10	Free Ammonia	BDL	5.0	IS 3025 (Part 34): 1988, R: 2019	0.02
11	BOD	20.00	30	IS 3025 (Part 44): 1993, R: 2019	2.0
12	COD	32	250	APHA 5220C Closed Reflux	4.0
13	Arsenic	BDL	0.2	APHA 3112B AAS VGA	0.002
14	Lead	BDL	0.1	APHA 3113B AAS GTA	0.005
15	Hexavalent Chromium	BDL	0.1	APHA, 3500 – Cr^{6+} B. Colorimetric	0.01
16	Total Chromium	BDL	2.0	IS 3025 (Part 52): 2003, R: 2019	0.04
17	Copper	BDL	3.0	IS 3025 (Part 42): 1992, R: 2019	0.03
18	Zinc	0.02	5.0	IS 3025 (Part 49):1994, R: 2019	0.01
19	Selenium	BDL	0.05	APHA 3111B AAS Flame	0.002
20	Nickel	BDL	3.0	IS 3025 (Part 54): 2003, R: 2019	0.01
21	Fluoride	0.52	2.0	APHA, 4500 –F D. SPADNS	0.02
22	Dissolved Phosphate	1.52	5.0	APHA, 4500-P C. Vanadomolybdophosphoric Acid Colorimetric	0.30
23	Sulphide	0.014	2.0	APHA, 4500 - S^{2-} D. Methylene Blue	0.005
24	Phenolics	BDL	1.0	APHA, 5530 C. 4-Amino-Antipyrine-Chloroform Extraction	0.001
25	Manganese	0.02	2.0	IS 3025 (Part 59): 2006, R: 2017	0.02
26	Iron	BDL	3.0	IS 3025 (Part 53): 2003, R: 2019	0.06
27	Nitrate Nitrogen	4.56	10	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
28	Cadmium	BDL	2.0	APHA 3113B AAS GTA	0.0005
29	Total Dissolved Solids	418	Not Specified	IS 3025 (Part 16): 1984, R: 2017	25.0

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman, West Bengal.

Station name and Station Code: 12MW14- Kottadih UG & OC

MINE WATER QUALITY

Sl. No.	Parameters	Analytical Results	General Standards for Discharge of Effluent (Schedule VI)	Method of Detection	Detection Limit
	Date of Sampling	26-Mar-25			
1	Colour	4	Unobjectionable	IS 3025 (Part 4): 2021	1.0
2	Odour	Un-Objectionable	Unobjectionable	IS 3025 (Part 6): 1983, R: 2018	-
3	TSS	BDL	100	IS 3025 (Part 17):1984, R: 2017	10
4	pH	7.59	5.5-9.0	IS 3025 (Part 11): 1983, R: 2017	2.0
5	Temperature (^{0}C)	28.6	Shall not exceed 5 ^{0}C above the receiving water temperature	IS 3025 (Part 9): 1984, R: 2017	5.0
6	Oil & Grease	BDL	10	IS 3025 (Part 39): 1991, R: 2019	2.0
7	Total Residual Chlorine	BDL	1.0	APHA, 4500-Cl G. DPD Colorimetric	0.02
8	Ammonical Nitrogen	0.58	50	IS 3025 (Part 34): 1988, R: 2019	0.01
9	Total Kjeldahl Nitrogen	1.72	100	APHA 4500-N_{org} B. Macro-Kjeldahl	1.0
10	Free Ammonia	BDL	5.0	IS 3025 (Part 34): 1988, R: 2019	0.02
11	BOD	16.00	30	IS 3025 (Part 44): 1993, R: 2019	2.0
12	COD	20	250	APHA 5220C Closed Reflux	4.0
13	Arsenic	BDL	0.2	APHA 3112B AAS VGA	0.002
14	Lead	BDL	0.1	APHA 3113B AAS GTA	0.005
15	Hexavalent Chromium	BDL	0.1	APHA, 3500 – Cr^{6+} B. Colorimetric	0.01
16	Total Chromium	BDL	2.0	IS 3025 (Part 52): 2003, R: 2019	0.04
17	Copper	BDL	3.0	IS 3025 (Part 42): 1992, R: 2019	0.03
18	Zinc	0.03	5.0	IS 3025 (Part 49):1994, R: 2019	0.01
19	Selenium	BDL	0.05	APHA 3111B AAS Flame	0.002
20	Nickel	BDL	3.0	IS 3025 (Part 54): 2003, R: 2019	0.01
21	Fluoride	0.54	2.0	APHA, 4500 –F D. SPADNS	0.02
22	Dissolved Phosphate	1.64	5.0	APHA, 4500-P C. Vanadomolybdophosphoric Acid Colorimetric	0.30
23	Sulphide	0.013	2.0	APHA, 4500 - S^{2-} D. Methylene Blue	0.005
24	Phenolics	BDL	1.0	APHA, 5530 C. 4-Amino-Antipyrine-Chloroform Extraction	0.001
25	Manganese	0.02	2.0	IS 3025 (Part 59): 2006, R: 2017	0.02
26	Iron	BDL	3.0	IS 3025 (Part 53): 2003, R: 2019	0.06
27	Nitrate Nitrogen	3.39	10	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
28	Cadmium	BDL	2.0	APHA 3113B AAS GTA	0.0005
29	Total Dissolved Solids	521	Not Specified	IS 3025 (Part 16): 1984, R: 2017	25.0

*BDL -Below Detection Limit *All values are expressed in mg/l unless specified.*

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman, West Bengal.

Station name and Station Code: 12MW15- Kumardihi A UG

MINE WATER QUALITY

Sl. No.	Parameters	Analytical Results	General Standards for Discharge of Effluent (Schedule VI)	Method of Detection	Detection Limit
	Date of Sampling	17-Mar-25			
1	Colour	4	Unobjectionable	IS 3025 (Part 4): 2021	1.0
2	Odour	Un-Objectionable	Unobjectionable	IS 3025 (Part 6): 1983, R: 2018	-
3	TSS	BDL	100	IS 3025 (Part 17):1984, R: 2017	10
4	pH	7.48	5.5-9.0	IS 3025 (Part 11): 1983, R: 2017	2.0
5	Temperature (^{0}C)	28.6	Shall not exceed 5 ^{0}C above the receiving water temperature	IS 3025 (Part 9): 1984, R: 2017	5.0
6	Oil & Grease	BDL	10	IS 3025 (Part 39): 1991, R: 2019	2.0
7	Total Residual Chlorine	BDL	1.0	APHA, 4500-Cl G. DPD Colorimetric	0.02
8	Ammonical Nitrogen	0.44	50	IS 3025 (Part 34): 1988, R: 2019	0.01
9	Total Kjeldahl Nitrogen	1.62	100	APHA 4500-N_{org} B. Macro-Kjeldahl	1.0
10	Free Ammonia	BDL	5.0	IS 3025 (Part 34): 1988, R: 2019	0.02
11	BOD	8.00	30	IS 3025 (Part 44): 1993, R: 2019	2.0
12	COD	28	250	APHA 5220C Closed Reflux	4.0
13	Arsenic	BDL	0.2	APHA 3112B AAS VGA	0.002
14	Lead	BDL	0.1	APHA 3113B AAS GTA	0.005
15	Hexavalent Chromium	BDL	0.1	APHA, 3500 – Cr^{6+} B. Colorimetric	0.01
16	Total Chromium	BDL	2.0	IS 3025 (Part 52): 2003, R: 2019	0.04
17	Copper	BDL	3.0	IS 3025 (Part 42): 1992, R: 2019	0.03
18	Zinc	0.03	5.0	IS 3025 (Part 49):1994, R: 2019	0.01
19	Selenium	BDL	0.05	APHA 3111B AAS Flame	0.002
20	Nickel	BDL	3.0	IS 3025 (Part 54): 2003, R: 2019	0.01
21	Fluoride	0.54	2.0	APHA, 4500 –F D. SPADNS	0.02
22	Dissolved Phosphate	1.23	5.0	APHA, 4500-P C. Vanadomolybdophosphoric Acid Colorimetric	0.30
23	Sulphide	0.008	2.0	APHA, 4500 - S^{2-} D. Methylene Blue	0.005
24	Phenolics	BDL	1.0	APHA, 5530 C. 4-Amino-Antipyrine-Chloroform Extraction	0.001
25	Manganese	BDL	2.0	IS 3025 (Part 59): 2006, R: 2017	0.02
26	Iron	BDL	3.0	IS 3025 (Part 53): 2003, R: 2019	0.06
27	Nitrate Nitrogen	3.29	10	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
28	Cadmium	BDL	2.0	APHA 3113B AAS GTA	0.0005
29	Total Dissolved Solids	617	Not Specified	IS 3025 (Part 16): 1984, R: 2017	25.0

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman, West Bengal.

Station name and Station Code: 12MW16- Madhaipur OC

MINE WATER QUALITY

Sl. No.	Parameters	Analytical Results	General Standards for Discharge of Effluent (Schedule VI)	Method of Detection	Detection Limit
	Date of Sampling	17-Mar-25			
1	Colour	4	Unobjectionable	IS 3025 (Part 4): 2021	1.0
2	Odour	Un-Objectionable	Unobjectionable	IS 3025 (Part 6): 1983, R: 2018	-
3	TSS	BDL	100	IS 3025 (Part 17):1984, R: 2017	10
4	pH	7.90	5.5-9.0	IS 3025 (Part 11): 1983, R: 2017	2.0
5	Temperature (^{0}C)	28.7	Shall not exceed 5 ^{0}C above the receiving water temperature	IS 3025 (Part 9): 1984, R: 2017	5.0
6	Oil & Grease	BDL	10	IS 3025 (Part 39): 1991, R: 2019	2.0
7	Total Residual Chlorine	BDL	1.0	APHA, 4500-Cl G. DPD Colorimetric	0.02
8	Ammonical Nitrogen	0.56	50	IS 3025 (Part 34): 1988, R: 2019	0.01
9	Total Kjeldahl Nitrogen	2.01	100	APHA 4500-N_{org} B. Macro-Kjeldahl	1.0
10	Free Ammonia	BDL	5.0	IS 3025 (Part 34): 1988, R: 2019	0.02
11	BOD	14.00	30	IS 3025 (Part 44): 1993, R: 2019	2.0
12	COD	16	250	APHA 5220C Closed Reflux	4.0
13	Arsenic	BDL	0.2	APHA 3112B AAS VGA	0.002
14	Lead	BDL	0.1	APHA 3113B AAS GTA	0.005
15	Hexavalent Chromium	BDL	0.1	APHA, 3500 – Cr^{6+} B. Colorimetric	0.01
16	Total Chromium	BDL	2.0	IS 3025 (Part 52): 2003, R: 2019	0.04
17	Copper	BDL	3.0	IS 3025 (Part 42): 1992, R: 2019	0.03
18	Zinc	0.03	5.0	IS 3025 (Part 49):1994, R: 2019	0.01
19	Selenium	BDL	0.05	APHA 3111B AAS Flame	0.002
20	Nickel	BDL	3.0	IS 3025 (Part 54): 2003, R: 2019	0.01
21	Fluoride	0.50	2.0	APHA, 4500 –F D. SPADNS	0.02
22	Dissolved Phosphate	1.28	5.0	APHA, 4500-P C. Vanadomolybdophosphoric Acid Colorimetric	0.30
23	Sulphide	0.009	2.0	APHA, 4500 - S^{2-} D. Methylene Blue	0.005
24	Phenolics	BDL	1.0	APHA, 5530 C. 4-Amino-Antipyrine-Chloroform Extraction	0.001
25	Manganese	BDL	2.0	IS 3025 (Part 59): 2006, R: 2017	0.02
26	Iron	BDL	3.0	IS 3025 (Part 53): 2003, R: 2019	0.06
27	Nitrate Nitrogen	4.16	10	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
28	Cadmium	BDL	2.0	APHA 3113B AAS GTA	0.0005
29	Total Dissolved Solids	541	Not Specified	IS 3025 (Part 16): 1984, R: 2017	25.0

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

DRINKING WATER QUALITY

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman.

Name of station & code: **12DW1- 0.66 MGD RGSF at Jhanjra officers' colony.**
12DW2- 5000 LPH RO plant at Jhanjra colony.

Sl. No.	Parameters / Sample code / Sampling Date	Analytical Results 12DW1	Analytical Results 12DW2	Indian Standard Drinking Water (IS-10500 :2012) Acceptable Limit	Indian Standard Drinking Water (IS-10500 :2012) Permissible Limit	Method of detection	Detection Limit
	Sampling Date	26-Mar-25	26-Mar-25				
1	Colour, Hazen	4	4	5.0	15.0	IS 3025 (Part 4): 2021	1.0
2	Odour	Unobjectionable	Unobjectionable	Unobjectionable		IS 3025 (Part 6): 1983, R: 2018	-
3	Taste	Agreeable	Agreeable	Agreeable		IS 3025 (Part 7): 1984	-
4	Turbidity, NTU	BDL	BDL	1	5	IS 3025 (Part 10): 1984; R: 2017	1.0 NTU
5	pH	8.02	7.68	6.5-8.5	No relaxation	IS 3025 (Part 11): 1983, R: 2017	2.0
6	Total Hardness	270.91	159.36	300	600	IS 3025 Part 21: 2009, R: 2019	4.0
7	Iron	BDL	BDL	0.3	No relaxation	IS 3025 (Part 53): 2003, R: 2019	0.06
8	Chlorides	33.40	43.88	250	1000	IS 3025 Part 32-1988, R: 2019	2.0
9	Residual Free Chlorine	0.04	0.04	0.2	1	APHA, 4500-Cl G. DPD Colorimetric	0.02
10	Dissolved Solids	438	275	500	2000	IS 3025 (Part 16): 1984, R: 2017	25.0
11	Calcium	52.70	36.73	75	200	IS 3025 Part 40 : 1991, R: 2019	1.60
12	Copper	BDL	BDL	0.05	1.5	APHA 3111B AAS Flame	0.03
13	Manganese	BDL	BDL	0.1	0.3	APHA 3111B AAS Flame	0.02
14	Sulphate	90.34	74.49	200	400	APHA, 4500-SO_4^{2-} E. Turbidimetric	2.0
15	Nitrate	6.18	4.40	45	No relaxation	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
16	Fluoride	0.44	0.46	1	1.5	APHA, 4500 –F D. SPADNS	0.02
17	Selenium	BDL	BDL	0.01	No relaxation	APHA 3111B AAS Flame	0.002
18	Arsenic	BDL	BDL	0.01	0.05	APHA 3112B AAS VGA	0.002
19	Lead	BDL	BDL	0.01	No relaxation	APHA 3113B AAS GTA	0.005
20	Zinc	0.03	0.02	5	15	APHA 3111B AAS Flame	0.01
21	Hexavalent Chromium	BDL	BDL	0.05	0.05	APHA 3500B Colorimetric	0.01
22	Boron	BDL	BDL	0.5	1	APHA, 4500 B Curcumine	0.20
23	Coliforms (MPN)	NIL	NIL	Not Specified		APHA, 9221 B. Standard Total Coliform Fermentation	1.0
24	Phenolics	BDL	BDL	0.001	0.002	IS 3025 (Part 43): 2022	0.001
25	Alkalinity	172.20	171.70	200	600	IS 3025 Part 23: 1986, R: 2019	4.0
26	Cadmium	BDL	BDL	0.003	No relaxation	APHA 3113B AAS GTA	0.0005

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

DRINKING WATER QUALITY

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman.

Name of station & code: **12DW3- RO plant at Khottadih colony**
12DW4- Rapid sand filter near officer's colony

Sl. No.	Parameters / Sample code / Sampling Date	Analytical Results 12DW3	Analytical Results 12DW4	Indian Standard Drinking Water (IS-10500 :2012) Acceptable Limit	Indian Standard Drinking Water (IS-10500 :2012) Permissible Limit	Method of detection	Detection Limit
1	Colour, Hazen	3	4	5.0	15.0	IS 3025 (Part 4): 2021	1.0
2	Odour	Unobjectionable	Unobjectionable	Unobjectionable		IS 3025 (Part 6): 1983, R: 2018	-
3	Taste	Agreeable	Agreeable	Agreeable		IS 3025 (Part 7): 1984	-
4	Turbidity, NTU	BDL	BDL	1	5	IS 3025 (Part 10): 1984; R: 2017	1.0 NTU
5	pH	7.52	7.49	6.5-8.5	No relaxation	IS 3025 (Part 11): 1983, R: 2017	2.0
6	Total Hardness	366.53	243.02	300	600	IS 3025 Part 21: 2009, R: 2019	4.0
7	Iron	BDL	BDL	0.3	No relaxation	IS 3025 (Part 53): 2003, R: 2019	0.06
8	Chlorides	54.10	26.30	250	1000	IS 3025 Part 32-1988, R: 2019	2.0
9	Residual Free Chlorine	0.04	0.06	0.2	1	APHA, 4500-Cl G. DPD Colorimetric	0.02
10	Dissolved Solids	549	423	500	2000	IS 3025 (Part 16): 1984, R: 2017	25.0
11	Calcium	62.28	49.51	75	200	IS 3025 Part 40 : 1991, R: 2019	1.60
12	Copper	BDL	BDL	0.05	1.5	APHA 3111B AAS Flame	0.03
13	Manganese	BDL	BDL	0.1	0.3	APHA 3111B AAS Flame	0.02
14	Sulphate	72.96	170.24	200	400	APHA, 4500-SO_4^{2-} E. Turbidimetric	2.0
15	Nitrate	3.18	4.28	45	No relaxation	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
16	Fluoride	0.52	0.48	1	1.5	APHA, 4500 –F D. SPADNS	0.02
17	Selenium	BDL	BDL	0.01	No relaxation	APHA 3111B AAS Flame	0.002
18	Arsenic	BDL	BDL	0.01	0.05	APHA 3112B AAS VGA	0.002
19	Lead	BDL	BDL	0.01	No relaxation	APHA 3113B AAS GTA	0.005
20	Zinc	0.02	0.03	5	15	APHA 3111B AAS Flame	0.01
21	Hexavalent Chromium	BDL	BDL	0.05	0.05	APHA 3500B Colorimetric	0.01
22	Boron	BDL	BDL	0.5	1	APHA, 4500 B Curcumine	0.20
23	Coliforms (MPN)	NIL	NIL	Not Specified		APHA, 9221 B. Standard Total Coliform Fermentation	1.0
24	Phenolics	BDL	BDL	0.001	0.002	IS 3025 (Part 43): 2022	0.001
25	Alkalinity	210.40	152.90	200	600	IS 3025 Part 23: 1986, R: 2019	4.0
26	Cadmium	BDL	BDL	0.003	No relaxation	APHA 3113B AAS GTA	0.0005

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

DRINKING WATER QUALITY

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman.

Name of station & code: **12DW5- Rapid sand pressure filter near Dalurband Railway siding**
12DW6- Haripur colony filtration plant

Sl. No.	Parameters / Sample code / Sampling Date	Analytical Results 12DW5	Analytical Results 12DW6	Indian Standard Drinking Water (IS-10500 :2012) Acceptable Limit	Indian Standard Drinking Water (IS-10500 :2012) Permissible Limit	Method of detection	Detection Limit
	Sampling Date	26-Mar-25	26-Mar-25				
1	Colour, Hazen	3	4	5.0	15.0	IS 3025 (Part 4): 2021	1.0
2	Odour	Unobjectionable	Unobjectionable	Unobjectionable		IS 3025 (Part 6): 1983, R: 2018	-
3	Taste	Agreeable	Agreeable	Agreeable		IS 3025 (Part 7): 1984	-
4	Turbidity, NTU	BDL	BDL	1	5	IS 3025 (Part 10): 1984; R: 2017	1.0 NTU
5	pH	7.65	7.29	6.5-8.5	No relaxation	IS 3025 (Part 11): 1983, R: 2017	2.0
6	Total Hardness	258.96	215.14	300	600	IS 3025 Part 21: 2009, R: 2019	4.0
7	Iron	BDL	BDL	0.3	No relaxation	IS 3025 (Part 53): 2003, R: 2019	0.06
8	Chlorides	33.70	21.20	250	1000	IS 3025 Part 32-1988, R: 2019	2.0
9	Residual Free Chlorine	0.05	0.08	0.2	1	APHA, 4500-Cl G. DPD Colorimetric	0.02
10	Dissolved Solids	521	436	500	2000	IS 3025 (Part 16): 1984, R: 2017	25.0
11	Calcium	54.30	36.73	75	200	IS 3025 Part 40 : 1991, R: 2019	1.60
12	Copper	BDL	BDL	0.05	1.5	APHA 3111B AAS Flame	0.03
13	Manganese	BDL	BDL	0.1	0.3	APHA 3111B AAS Flame	0.02
14	Sulphate	174.16	100.32	200	400	APHA, 4500-SO_4^{2-} E. Turbidimetric	2.0
15	Nitrate	6.73	8.84	45	No relaxation	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
16	Fluoride	0.42	0.48	1	1.5	APHA, 4500 –F D. SPADNS	0.02
17	Selenium	BDL	BDL	0.01	No relaxation	APHA 3111B AAS Flame	0.002
18	Arsenic	BDL	BDL	0.01	0.05	APHA 3112B AAS VGA	0.002
19	Lead	BDL	BDL	0.01	No relaxation	APHA 3113B AAS GTA	0.005
20	Zinc	0.03	0.02	5	15	APHA 3111B AAS Flame	0.01
21	Hexavalent Chromium	BDL	BDL	0.05	0.05	APHA 3500B Colorimetric	0.01
22	Boron	BDL	BDL	0.5	1	APHA, 4500 B Curcumine	0.20
23	Coliforms (MPN)	NIL	NIL	Not Specified		APHA, 9221 B. Standard Total Coliform Fermentation	1.0
24	Phenolics	BDL	BDL	0.001	0.002	IS 3025 (Part 43): 2022	0.001
25	Alkalinity	94.70	102.30	200	600	IS 3025 Part 23: 1986, R: 2019	4.0
26	Cadmium	BDL	BDL	0.003	No relaxation	APHA 3113B AAS GTA	0.0005

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

DRINKING WATER QUALITY

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman.

Name of station & code: **12DW7- Filter plant at S. B. project glass house**
12DW8 - Filter plant at S. B. area office canteen

Sl. No.	Parameters / Sample code / Sampling Date	Analytical Results 12DW7	Analytical Results 12DW8	Indian Standard Drinking Water (IS-10500 :2012) Acceptable Limit	Indian Standard Drinking Water (IS-10500 :2012) Permissible Limit	Method of detection	Detection Limit
	Sampling Date	26-Mar-25	26-Mar-25				
1	Colour, Hazen	5	4	5.0	15.0	IS 3025 (Part 4): 2021	1.0
2	Odour	Unobjectionable	Unobjectionable	Unobjectionable		IS 3025 (Part 6): 1983, R: 2018	-
3	Taste	Agreeable	Agreeable	Agreeable		IS 3025 (Part 7): 1984	-
4	Turbidity, NTU	BDL	BDL	1	5	IS 3025 (Part 10): 1984; R: 2017	1.0 NTU
5	pH	7.48	7.53	6.5-8.5	No relaxation	IS 3025 (Part 11): 1983, R: 2017	2.0
6	Total Hardness	366.53	410.35	300	600	IS 3025 Part 21: 2009, R: 2019	4.0
7	Iron	BDL	BDL	0.3	No relaxation	IS 3025 (Part 53): 2003, R: 2019	0.06
8	Chlorides	30.30	33.70	250	1000	IS 3025 Part 32-1988, R: 2019	2.0
9	Residual Free Chlorine	0.07	0.06	0.2	1	APHA, 4500-Cl G. DPD Colorimetric	0.02
10	Dissolved Solids	544	563	500	2000	IS 3025 (Part 16): 1984, R: 2017	25.0
11	Calcium	65.48	73.46	75	200	IS 3025 Part 40 : 1991, R: 2019	1.60
12	Copper	BDL	BDL	0.05	1.5	APHA 3111B AAS Flame	0.03
13	Manganese	BDL	BDL	0.1	0.3	APHA 3111B AAS Flame	0.02
14	Sulphate	40.26	66.46	200	400	APHA, 4500-SO_4^{2-} E. Turbidimetric	2.0
15	Nitrate	7.84	5.22	45	No relaxation	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
16	Fluoride	0.50	0.40	1	1.5	APHA, 4500 –F D. SPADNS	0.02
17	Selenium	BDL	BDL	0.01	No relaxation	APHA 3111B AAS Flame	0.002
18	Arsenic	BDL	BDL	0.01	0.05	APHA 3112B AAS VGA	0.002
19	Lead	BDL	BDL	0.01	No relaxation	APHA 3113B AAS GTA	0.005
20	Zinc	0.02	0.03	5	15	APHA 3111B AAS Flame	0.01
21	Hexavalent Chromium	BDL	BDL	0.05	0.05	APHA 3500B Colorimetric	0.01
22	Boron	BDL	BDL	0.5	1	APHA, 4500 B Curcumine	0.20
23	Coliforms (MPN)	NIL	NIL	Not Specified		APHA, 9221 B. Standard Total Coliform Fermentation	1.0
24	Phenolics	BDL	BDL	0.001	0.002	IS 3025 (Part 43): 2022	0.001
25	Alkalinity	116.10	124.10	200	600	IS 3025 Part 23: 1986, R: 2019	4.0
26	Cadmium	BDL	BDL	0.003	No relaxation	APHA 3113B AAS GTA	0.0005

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

DRINKING WATER QUALITY

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman.

Name of station & code: **12DW9- Pressure filter at Sankarpur Colliery**
12DW10-Pressure filter at Sarpi Colliery

Sl. No.	Parameters / Sample code / Sampling Date	Analytical Results 12DW9	Analytical Results 12DW10	Indian Standard Drinking Water (IS-10500 :2012) Acceptable Limit	Indian Standard Drinking Water (IS-10500 :2012) Permissible Limit	Method of detection	Detection Limit
	Sampling Date	26-Mar-25	26-Mar-25				
1	Colour, Hazen	4	3	5.0	15.0	IS 3025 (Part 4): 2021	1.0
2	Odour	Unobjectionable	Unobjectionable	Unobjectionable		IS 3025 (Part 6): 1983, R: 2018	-
3	Taste	Agreeable	Agreeable	Agreeable		IS 3025 (Part 7): 1984	-
4	Turbidity, NTU	BDL	BDL	1	5	IS 3025 (Part 10): 1984; R: 2017	1.0 NTU
5	pH	7.70	8.12	6.5-8.5	No relaxation	IS 3025 (Part 11): 1983, R: 2017	2.0
6	Total Hardness	135.46	322.70	300	600	IS 3025 Part 21: 2009, R: 2019	4.0
7	Iron	BDL	BDL	0.3	No relaxation	IS 3025 (Part 53): 2003, R: 2019	0.06
8	Chlorides	20.83	28.70	250	1000	IS 3025 Part 32-1988, R: 2019	2.0
9	Residual Free Chlorine	0.07	0.08	0.2	1	APHA, 4500-Cl G. DPD Colorimetric	0.02
10	Dissolved Solids	352	633	500	2000	IS 3025 (Part 16): 1984, R: 2017	25.0
11	Calcium	35.13	54.30	75	200	IS 3025 Part 40: 1991, R: 2019	1.60
12	Copper	BDL	BDL	0.05	1.5	APHA 3111B AAS Flame	0.03
13	Manganese	BDL	BDL	0.1	0.3	APHA 3111B AAS Flame	0.02
14	Sulphate	40.47	80.22	200	400	APHA, 4500-SO_4^{2-} E. Turbidimetric	2.0
15	Nitrate	4.54	4.28	45	No relaxation	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
16	Fluoride	0.52	0.50	1	1.5	APHA, 4500 –F D. SPADNS	0.02
17	Selenium	BDL	BDL	0.01	No relaxation	APHA 3111B AAS Flame	0.002
18	Arsenic	BDL	BDL	0.01	0.05	APHA 3112B AAS VGA	0.002
19	Lead	BDL	BDL	0.01	No relaxation	APHA 3113B AAS GTA	0.005
20	Zinc	0.03	0.02	5	15	APHA 3111B AAS Flame	0.01
21	Hexavalent Chromium	BDL	BDL	0.05	0.05	APHA 3500B Colorimetric	0.01
22	Boron	BDL	BDL	0.5	1	APHA, 4500 B Curcumine	0.20
23	Coliforms (MPN)	NIL	NIL	Not Specified		APHA, 9221 B. Standard Total Coliform Fermentation	1.0
24	Phenolics	BDL	BDL	0.001	0.002	IS 3025 (Part 43): 2022	0.001
25	Alkalinity	111.80	154.30	200	600	IS 3025 Part 23: 1986, R: 2019	4.0
26	Cadmium	BDL	BDL	0.003	No relaxation	APHA 3113B AAS GTA	0.0005

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

DRINKING WATER QUALITY

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman

Name of station & code: **12DW11- Pressure filter at Shyamsundarpur ESP**

12DW12- Pressure filter at Nakrakonda Kumardih B

Sl. No.	Parameters / Sample code / Sampling Date	Analytical Results 12DW11	Analytical Results 12DW12	Indian Standard Drinking Water (IS-10500 :2012) Acceptable Limit	Indian Standard Drinking Water (IS-10500 :2012) Permissible Limit	Method of detection	Detection Limit
	Sampling Date	21-Mar-25	21-Mar-25				
1	Colour, Hazen	4	4	5.0	15.0	IS 3025 (Part 4): 2021	1.0
2	Odour	Unobjectionable	Unobjectionable	Unobjectionable		IS 3025 (Part 6): 1983, R: 2018	-
3	Taste	Agreeable	Agreeable	Agreeable		IS 3025 (Part 7): 1984	-
4	Turbidity, NTU	BDL	BDL	1	5	IS 3025 (Part 10): 1984; R: 2017	1.0 NTU
5	pH	7.19	7.23	6.5-8.5	No relaxation	IS 3025 (Part 11): 1983, R: 2017	2.0
6	Total Hardness	163.34	270.91	300	600	IS 3025 Part 21: 2009, R: 2019	4.0
7	Iron	BDL	BDL	0.3	No relaxation	IS 3025 (Part 53): 2003, R: 2019	0.06
8	Chlorides	30.40	33.70	250	1000	IS 3025 Part 32-1988, R: 2019	2.0
9	Residual Free Chlorine	0.08	0.07	0.2	1	APHA, 4500-Cl G. DPD Colorimetric	0.02
10	Dissolved Solids	263	430	500	2000	IS 3025 (Part 16): 1984, R: 2017	25.0
11	Calcium	22.36	31.94	75	200	IS 3025 Part 40 : 1991, R: 2019	1.60
12	Copper	BDL	BDL	0.05	1.5	APHA 3111B AAS Flame	0.03
13	Manganese	BDL	BDL	0.1	0.3	APHA 3111B AAS Flame	0.02
14	Sulphate	118.46	82.39	200	400	APHA, 4500-SO_4^{2-} E. Turbidimetric	2.0
15	Nitrate	3.54	4.42	45	No relaxation	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
16	Fluoride	0.50	0.52	1	1.5	APHA, 4500 –F D. SPADNS	0.02
17	Selenium	BDL	BDL	0.01	No relaxation	APHA 3111B AAS Flame	0.002
18	Arsenic	BDL	BDL	0.01	0.05	APHA 3112B AAS VGA	0.002
19	Lead	BDL	BDL	0.01	No relaxation	APHA 3113B AAS GTA	0.005
20	Zinc	0.03	0.02	5	15	APHA 3111B AAS Flame	0.01
21	Hexavalent Chromium	BDL	BDL	0.05	0.05	APHA 3500B Colorimetric	0.01
22	Boron	BDL	BDL	0.5	1	APHA, 4500 B Curcumine	0.20
23	Coliforms (MPN)	NIL	NIL	Not Specified		APHA, 9221 B. Standard Total Coliform Fermentation	1.0
24	Phenolics	BDL	BDL	0.001	0.002	IS 3025 (Part 43): 2022	0.001
25	Alkalinity	111.80	124.70	200	600	IS 3025 Part 23: 1986, R: 2019	4.0
26	Cadmium	BDL	BDL	0.003	No relaxation	APHA 3113B AAS GTA	0.0005

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

DRINKING WATER QUALITY

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman

Name of station & code: **12DW13- RO plant at Shyamsundarpur-Sarpi**
12DW14- Pressure filter at Bankola Area

Sl. No.	Parameters	Analytical Results		Indian Standard Drinking Water (IS-10500 :2012)		Method of detection	Detection Limit
	Sample code	12DW13	12DW14				
	Sampling Date	21-Mar-25	26-Mar-25	Acceptable Limit	Permissible Limit		
1	Colour, Hazen	3	4	5.0	15.0	IS 3025 (Part 4): 2021	1.0
2	Odour	Unobjectionable	Unobjectionable	Unobjectionable		IS 3025 (Part 6): 1983, R: 2018	-
3	Taste	Agreeable	Agreeable	Agreeable		IS 3025 (Part 7): 1984	-
4	Turbidity, NTU	BDL	BDL	1	5	IS 3025 (Part 10): 1984; R: 2017	1.0 NTU
5	pH	7.54	7.86	6.5-8.5	No relaxation	IS 3025 (Part 11): 1983, R: 2017	2.0
6	Total Hardness	83.66	254.98	300	600	IS 3025 Part 21: 2009, R: 2019	4.0
7	Iron	BDL	BDL	0.3	No relaxation	IS 3025 (Part 53): 2003, R: 2019	0.06
8	Chlorides	16.50	60.62	250	1000	IS 3025 Part 32-1988, R: 2019	2.0
9	Residual Free Chlorine	0.07	0.08	0.2	1	APHA, 4500-Cl G. DPD Colorimetric	0.02
10	Dissolved Solids	281	602	500	2000	IS 3025 (Part 16): 1984, R: 2017	25.0
11	Calcium	12.78	39.92	75	200	IS 3025 Part 40 : 1991, R: 2019	1.60
12	Copper	BDL	BDL	0.05	1.5	APHA 3111B AAS Flame	0.03
13	Manganese	BDL	BDL	0.1	0.3	APHA 3111B AAS Flame	0.02
14	Sulphate	40.26	52.42	200	400	APHA, 4500-SO_4^{2-} E. Turbidimetric	2.0
15	Nitrate	5.72	6.21	45	No relaxation	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
16	Fluoride	0.50	0.46	1	1.5	APHA, 4500 –F D. SPADNS	0.02
17	Selenium	BDL	BDL	0.01	No relaxation	APHA 3111B AAS Flame	0.002
18	Arsenic	BDL	BDL	0.01	0.05	APHA 3112B AAS VGA	0.002
19	Lead	BDL	BDL	0.01	No relaxation	APHA 3113B AAS GTA	0.005
20	Zinc	0.02	0.03	5	15	APHA 3111B AAS Flame	0.01
21	Hexavalent Chromium	BDL	BDL	0.05	0.05	APHA 3500B Colorimetric	0.01
22	Boron	BDL	BDL	0.5	1	APHA, 4500 B Curcumine	0.20
23	Coliforms (MPN)	NIL	NIL	Not Specified		APHA, 9221 B. Standard Total Coliform Fermentation	1.0
24	Phenolics	BDL	BDL	0.001	0.002	IS 3025 (Part 43): 2022	0.001
25	Alkalinity	97.70	296.70	200	600	IS 3025 Part 23: 1986, R: 2019	4.0
26	Cadmium	BDL	BDL	0.003	No relaxation	APHA 3113B AAS GTA	0.0005

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

DRINKING WATER QUALITY

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman.

Name of station & code: **12DW15- RO plant at Kumardih 'A' Colliery**
12DW16- Pressure filter at Tilaboni

Sl. No.	Parameters / Sample code / Sampling Date	Analytical Results 12DW15	Analytical Results 12DW16	Indian Standard Drinking Water (IS-10500 :2012) Acceptable Limit	Indian Standard Drinking Water (IS-10500 :2012) Permissible Limit	Method of detection	Detection Limit
1	Colour, Hazen	4	5	5.0	15.0	IS 3025 (Part 4): 2021	1.0
2	Odour	Unobjectionable	Unobjectionable	Unobjectionable		IS 3025 (Part 6): 1983, R: 2018	-
3	Taste	Agreeable	Agreeable	Agreeable		IS 3025 (Part 7): 1984	-
4	Turbidity, NTU	BDL	BDL	1	5	IS 3025 (Part 10): 1984; R: 2017	1.0 NTU
5	pH	8.52	8.02	6.5-8.5	No relaxation	IS 3025 (Part 11): 1983, R: 2017	2.0
6	Total Hardness	75.70	235.06	300	600	IS 3025 Part 21: 2009, R: 2019	4.0
7	Iron	BDL	BDL	0.3	No relaxation	IS 3025 (Part 53): 2003, R: 2019	0.06
8	Chlorides	24.50	41.40	250	1000	IS 3025 Part 32-1988, R: 2019	2.0
9	Residual Free Chlorine	0.06	0.06	0.2	1	APHA, 4500-Cl G. DPD Colorimetric	0.02
10	Dissolved Solids	255	364	500	2000	IS 3025 (Part 16): 1984, R: 2017	25.0
11	Calcium	17.57	47.91	75	200	IS 3025 Part 40 : 1991, R: 2019	1.60
12	Copper	BDL	BDL	0.05	1.5	APHA 3111B AAS Flame	0.03
13	Manganese	BDL	BDL	0.1	0.3	APHA 3111B AAS Flame	0.02
14	Sulphate	35.56	69.36	200	400	APHA, 4500-SO_4^{2-} E. Turbidimetric	2.0
15	Nitrate	3.54	6.48	45	No relaxation	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
16	Fluoride	0.50	0.54	1	1.5	APHA, 4500 –F D. SPADNS	0.02
17	Selenium	BDL	BDL	0.01	No relaxation	APHA 3111B AAS Flame	0.002
18	Arsenic	BDL	BDL	0.01	0.05	APHA 3112B AAS VGA	0.002
19	Lead	BDL	BDL	0.01	No relaxation	APHA 3113B AAS GTA	0.005
20	Zinc	0.03	0.04	5	15	APHA 3111B AAS Flame	0.01
21	Hexavalent Chromium	BDL	BDL	0.05	0.05	APHA 3500B Colorimetric	0.01
22	Boron	BDL	BDL	0.5	1	APHA, 4500 B Curcumine	0.20
23	Coliforms (MPN)	NIL	NIL	Not Specified		APHA, 9221 B. Standard Total Coliform Fermentation	1.0
24	Phenolics	BDL	BDL	0.001	0.002	IS 3025 (Part 43): 2022	0.001
25	Alkalinity	88.40	164.30	200	600	IS 3025 Part 23: 1986, R: 2019	4.0
26	Cadmium	BDL	BDL	0.003	No relaxation	APHA 3113B AAS GTA	0.0005

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

DRINKING WATER QUALITY

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman.

Name of station & code: **12DW17- Pressure filter at Moira Colliery**
12DW18- Pressure filter at Khandra Colliery

Sl. No.	Parameters / Sample code / Sampling Date	Analytical Results 12DW17	Analytical Results 12DW18	Indian Standard Drinking Water (IS-10500 :2012) Acceptable Limit	Indian Standard Drinking Water (IS-10500 :2012) Permissible Limit	Method of detection	Detection Limit
	Sampling Date	21-Mar-25	21-Mar-25				
1	Colour, Hazen	3	5	5.0	15.0	IS 3025 (Part 4): 2021	1.0
2	Odour	Unobjectionable	Unobjectionable	Unobjectionable		IS 3025 (Part 6): 1983, R: 2018	-
3	Taste	Agreeable	Agreeable	Agreeable		IS 3025 (Part 7): 1984	-
4	Turbidity, NTU	BDL	BDL	1	5	IS 3025 (Part 10): 1984; R: 2017	1.0 NTU
5	pH	8.11	7.84	6.5-8.5	No relaxation	IS 3025 (Part 11): 1983, R: 2017	2.0
6	Total Hardness	207.17	366.53	300	600	IS 3025 Part 21: 2009, R: 2019	4.0
7	Iron	BDL	BDL	0.3	No relaxation	IS 3025 (Part 53): 2003, R: 2019	0.06
8	Chlorides	43.50	21.10	250	1000	IS 3025 Part 32-1988, R: 2019	2.0
9	Residual Free Chlorine	0.07	0.07	0.2	1	APHA, 4500-Cl G. DPD Colorimetric	0.02
10	Dissolved Solids	453	586	500	2000	IS 3025 (Part 16): 1984, R: 2017	25.0
11	Calcium	35.13	67.07	75	200	IS 3025 Part 40 : 1991, R: 2019	1.60
12	Copper	BDL	BDL	0.05	1.5	APHA 3111B AAS Flame	0.03
13	Manganese	BDL	BDL	0.1	0.3	APHA 3111B AAS Flame	0.02
14	Sulphate	17.02	250.12	200	400	APHA, 4500-SO_4^{2-} E. Turbidimetric	2.0
15	Nitrate	10.50	7.28	45	No relaxation	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
16	Fluoride	0.44	0.46	1	1.5	APHA, 4500 –F D. SPADNS	0.02
17	Selenium	BDL	BDL	0.01	No relaxation	APHA 3111B AAS Flame	0.002
18	Arsenic	BDL	BDL	0.01	0.05	APHA 3112B AAS VGA	0.002
19	Lead	BDL	BDL	0.01	No relaxation	APHA 3113B AAS GTA	0.005
20	Zinc	0.04	0.03	5	15	APHA 3111B AAS Flame	0.01
21	Hexavalent Chromium	BDL	BDL	0.05	0.05	APHA 3500B Colorimetric	0.01
22	Boron	BDL	BDL	0.5	1	APHA, 4500 B Curcumine	0.20
23	Coliforms (MPN)	NIL	NIL	Not Specified		APHA, 9221 B. Standard Total Coliform Fermentation	1.0
24	Phenolics	BDL	BDL	0.001	0.002	IS 3025 (Part 43): 2022	0.001
25	Alkalinity	171.80	88.10	200	600	IS 3025 Part 23: 1986, R: 2019	4.0
26	Cadmium	BDL	BDL	0.003	No relaxation	APHA 3113B AAS GTA	0.0005

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

DRINKING WATER QUALITY

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman.

Name of station & code: **12DW19- RO plant at Bankola**
12DW20- RO plant at Sankarpur Colliery

Sl. No.	Parameters	Analytical Results		Indian Standard Drinking Water (IS-10500 :2012)		Method of detection	Detection Limit
	Sample code	12DW19	12DW20				
	Sampling Date	21-Mar-25	26-Mar-25	Acceptable Limit	Permissible Limit		
1	Colour, Hazen	4	4	5.0	15.0	IS 3025 (Part 4): 2021	1.0
2	Odour	Unobjectionable	Unobjectionable	Unobjectionable		IS 3025 (Part 6): 1983, R: 2018	-
3	Taste	Agreeable	Agreeable	Agreeable		IS 3025 (Part 7): 1984	-
4	Turbidity, NTU	BDL	BDL	1	5	IS 3025 (Part 10): 1984; R: 2017	1.0 NTU
5	pH	7.69	7.84	6.5-8.5	No relaxation	IS 3025 (Part 11): 1983, R: 2017	2.0
6	Total Hardness	139.44	83.66	300	600	IS 3025 Part 21: 2009, R: 2019	4.0
7	Iron	BDL	BDL	0.3	No relaxation	IS 3025 (Part 53): 2003, R: 2019	0.06
8	Chlorides	37.05	9.47	250	1000	IS 3025 Part 32-1988, R: 2019	2.0
9	Residual Free Chlorine	0.08	0.06	0.2	1	APHA, 4500-Cl G. DPD Colorimetric	0.02
10	Dissolved Solids	260	235	500	2000	IS 3025 (Part 16): 1984, R: 2017	25.0
11	Calcium	23.95	30.34	75	200	IS 3025 Part 40 : 1991, R: 2019	1.60
12	Copper	BDL	BDL	0.05	1.5	APHA 3111B AAS Flame	0.03
13	Manganese	BDL	BDL	0.1	0.3	APHA 3111B AAS Flame	0.02
14	Sulphate	34.46	36.08	200	400	APHA, 4500-SO_4^{2-} E. Turbidimetric	2.0
15	Nitrate	4.25	4.24	45	No relaxation	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
16	Fluoride	0.46	0.48	1	1.5	APHA, 4500 –F D. SPADNS	0.02
17	Selenium	BDL	BDL	0.01	No relaxation	APHA 3111B AAS Flame	0.002
18	Arsenic	BDL	BDL	0.01	0.05	APHA 3112B AAS VGA	0.002
19	Lead	BDL	BDL	0.01	No relaxation	APHA 3113B AAS GTA	0.005
20	Zinc	0.02	0.03	5	15	APHA 3111B AAS Flame	0.01
21	Hexavalent Chromium	BDL	BDL	0.05	0.05	APHA 3500B Colorimetric	0.01
22	Boron	BDL	BDL	0.5	1	APHA, 4500 B Curcumine	0.20
23	Coliforms (MPN)	NIL	NIL	Not Specified		APHA, 9221 B. Standard Total Coliform Fermentation	1.0
24	Phenolics	BDL	BDL	0.001	0.002	IS 3025 (Part 43): 2022	0.001
25	Alkalinity	104.30	98.90	200	600	IS 3025 Part 23: 1986, R: 2019	4.0
26	Cadmium	BDL	BDL	0.003	No relaxation	APHA 3113B AAS GTA	0.0005

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

DRINKING WATER QUALITY

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman.

Name of station & code: **12DW21- RO plant at Khandra UG**
12DW22- Pressure Filter at Kumardih 'A' Colliery

Sl. No.	Parameters / Sample code / Sampling Date	Analytical Results 12DW21 (26-Mar-25)	Analytical Results 12DW22 (21-Mar-25)	Indian Standard Drinking Water (IS-10500 :2012) Acceptable Limit	Indian Standard Drinking Water (IS-10500 :2012) Permissible Limit	Method of detection	Detection Limit
1	Colour, Hazen	3	4	5.0	15.0	IS 3025 (Part 4): 2021	1.0
2	Odour	Unobjectionable	Unobjectionable	Unobjectionable		IS 3025 (Part 6): 1983, R: 2018	-
3	Taste	Agreeable	Agreeable	Agreeable		IS 3025 (Part 7): 1984	-
4	Turbidity, NTU	BDL	BDL	1	5	IS 3025 (Part 10): 1984; R: 2017	1.0 NTU
5	pH	7.69	7.98	6.5-8.5	No relaxation	IS 3025 (Part 11): 1983, R: 2017	2.0
6	Total Hardness	87.65	183.26	300	600	IS 3025 Part 21: 2009, R: 2019	4.0
7	Iron	BDL	BDL	0.3	No relaxation	IS 3025 (Part 53): 2003, R: 2019	0.06
8	Chlorides	14.10	31.77	250	1000	IS 3025 Part 32-1988, R: 2019	2.0
9	Residual Free Chlorine	0.05	0.03	0.2	1	APHA, 4500-Cl G. DPD Colorimetric	0.02
10	Dissolved Solids	247	242	500	2000	IS 3025 (Part 16): 1984, R: 2017	25.0
11	Calcium	15.97	30.34	75	200	IS 3025 Part 40 : 1991, R: 2019	1.60
12	Copper	BDL	BDL	0.05	1.5	APHA 3111B AAS Flame	0.03
13	Manganese	BDL	BDL	0.1	0.3	APHA 3111B AAS Flame	0.02
14	Sulphate	35.49	49.36	200	400	APHA, 4500-SO_4^{2-} E. Turbidimetric	2.0
15	Nitrate	3.29	2.39	45	No relaxation	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
16	Fluoride	0.50	0.52	1	1.5	APHA, 4500 –F D. SPADNS	0.02
17	Selenium	BDL	BDL	0.01	No relaxation	APHA 3111B AAS Flame	0.002
18	Arsenic	BDL	BDL	0.01	0.05	APHA 3112B AAS VGA	0.002
19	Lead	BDL	BDL	0.01	No relaxation	APHA 3113B AAS GTA	0.005
20	Zinc	0.03	0.03	5	15	APHA 3111B AAS Flame	0.01
21	Hexavalent Chromium	BDL	BDL	0.05	0.05	APHA 3500B Colorimetric	0.01
22	Boron	BDL	BDL	0.5	1	APHA, 4500 B Curcumine	0.20
23	Coliforms (MPN)	NIL	NIL	Not Specified		APHA, 9221 B. Standard Total Coliform Fermentation	1.0
24	Phenolics	BDL	BDL	0.001	0.002	IS 3025 (Part 43): 2022	0.001
25	Alkalinity	88.10	88.80	200	600	IS 3025 Part 23: 1986, R: 2019	4.0
26	Cadmium	BDL	BDL	0.003	No relaxation	APHA 3113B AAS GTA	0.0005

*BDL -Below Detection Limit *All values are expressed in mg/l unless specified.*

DRINKING WATER QUALITY

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman.

Name of station & code: **12DW23- Filter Plant at S.B. project CHP**

Sl. No.	Parameters	Analytical Results	Indian Standard Drinking Water (IS-10500 :2012)		Method of detection	Detection Limit
	Sample code	12DW23				
	Sampling Date	21-Mar-25	Acceptable Limit	Permissible Limit		
1	Colour, Hazen	4	5.0	15.0	IS 3025 (Part 4): 2021	1.0
2	Odour	Unobjectionable	Unobjectionable		IS 3025 (Part 6): 1983, R: 2018	-
3	Taste	Agreeable	Agreeable		IS 3025 (Part 7): 1984	-
4	Turbidity, NTU	BDL	1	5	IS 3025 (Part 10): 1984; R: 2017	1.0 NTU
5	pH	8.02	6.5-8.5	No relaxation	IS 3025 (Part 11): 1983, R: 2017	2.0
6	Total Hardness	203.18	300	600	IS 3025 Part 21: 2009, R: 2019	4.0
7	Iron	BDL	0.3	No relaxation	IS 3025 (Part 53): 2003, R: 2019	0.06
8	Chlorides	36.19	250	1000	IS 3025 Part 32-1988, R: 2019	2.0
9	Residual Free Chlorine	0.02	0.2	1	APHA, 4500-Cl G. DPD Colorimetric	0.02
10	Dissolved Solids	218	500	2000	IS 3025 (Part 16): 1984, R: 2017	25.0
11	Calcium	37.18	75	200	IS 3025 Part 40 : 1991, R: 2019	1.60
12	Copper	BDL	0.05	1.5	APHA 3111B AAS Flame	0.03
13	Manganese	BDL	0.1	0.3	APHA 3111B AAS Flame	0.02
14	Sulphate	46.52	200	400	APHA, 4500-SO_4^{2-} E. Turbidimetric	2.0
15	Nitrate	4.48	45	No relaxation	APHA, 4500-NO_3^- B. UV-Spectrophotometric Screening	0.5
16	Fluoride	0.44	1	1.5	APHA, 4500 –F D. SPADNS	0.02
17	Selenium	BDL	0.01	No relaxation	APHA 3111B AAS Flame	0.002
18	Arsenic	BDL	0.01	0.05	APHA 3112B AAS VGA	0.002
19	Lead	BDL	0.01	No relaxation	APHA 3113B AAS GTA	0.005
20	Zinc	0.02	5	15	APHA 3111B AAS Flame	0.01
21	Hexavalent Chromium	BDL	0.05	0.05	APHA 3500B Colorimetric	0.01
22	Boron	BDL	0.5	1	APHA, 4500 B Curcumine	0.20
23	Coliforms (MPN)	NIL	Not Specified		APHA, 9221 B. Standard Total Coliform Fermentation	1.0
24	Phenolics	BDL	0.001	0.002	IS 3025 (Part 43): 2022	0.001
25	Alkalinity	96.20	200	600	IS 3025 Part 23: 1986, R: 2019	4.0
26	Cadmium	BDL	0.003	No relaxation	APHA 3113B AAS GTA	0.0005

*BDL -Below Detection Limit. *All values are expressed in mg/l unless specified.*

NOISE LEVEL MONITORING

4.1 Location of sampling sites and their rationale:

i) **Pandaveswar UG (12N1)**: Noise level meter placed at Pandaveswar UG pit - top to assess the noise level at workplace.

ii) **Dalurband OCP/UG (12N2)**: Noise level meter placed at mine site to assess the noise level at workplace.

iii) **Manderboni UG (12N3)**: Noise level meter placed at Manderboni UG pit - top to assess the noise level at workplace.

iv) **South Samla UG (12N4)**: Noise level meter placed at South Samla UG pit - top to assess the noise level at workplace.

v) **Madhaipur UG (12N5)**: Noise level meter placed at Madhaipur UG pit - top to assess the noise level at workplace.

vi) **Sonepur Bazari OC (12N6)**: Noise level meter placed at mine site to assess the noise level at workplace.

vii) **Kumardihi B UG (12N7)**: Noise level meter placed at Kumardihi B UG pit - top to assess the noise level at workplace.

viii) **Khotadih OCP (12N8)**: Noise level meter placed at mine site to assess the noise level at workplace.

ix) **Nakrakonda UG (12N9)**: Noise level meter placed at Nakrakonda UG pit - top to assess the noise level at workplace.

x) **Jhanjra 1 & 2 Incline (12N10)**: Noise level meter placed at Jhanjra 1 & 2 Incline pit - top to assess the noise level at workplace.

xi) **Tilaboni UG (12N11)**: Noise level meter placed at Tilaboni UG pit - top to assess the noise level at workplace.

xii) **Shyamsundarpur UG (12N12)**: Noise level meter placed at Shyamsundarpur UG pit - top to assess the noise level at workplace.

xiii) **Bankola UG (12N13)**: Noise level meter placed at Bankola UG pit - top to assess the noise level at workplace.

xiv) **Khottadih UG (& OC) (12N14)**: Noise level meter placed at Khottadih UG pit - top to assess the noise level at workplace.

xv) **Kumardihi A UG (12N15)**: Noise level meter placed at Kumardihi A UG pit - top to assess the noise level at workplace.

xvi) **Jhanjra MIC Incline (12N16)**: Noise level meter placed at Jhanjra MIC pit - top to assess the noise level at workplace.

xvii) **Jhanjra 3 & 4 Incline (12N17)**: Noise level meter placed at Jhanjra 3 & 4 Incline pit - top to assess the noise level at workplace.

xviii) **Madhaipur OCP (12N18)**: Noise level meter placed at mine site to assess the noise level at workplace.

4.2 Methodology of sampling and analysis: Noise level monitoring is being carried out on monthly basis at designated monitoring stations. The noise level is observed at the monitoring stations during day and night time. Noise level measurements are taken in form of 'Leq' using Integrated Data Logging Sound Level Meter. Noise levels are measured in decibels, 'A' weighted average, i.e. dB(A).

4.3 Results & Interpretations: The observed values of noise level measurements are compared with Noise Pollution (Regulation and Control) Rules, 2000. The observed values of noise level are as shown in table below:

NOISE LEVEL REPORT

Name of the Customer: Eastern Coalfield Limited, Borachak House, P.O.-Sitarampur, Distt.-Paschim Bardhaman, West Bengal.

Station Code	Station Name	Date of sampling	Sampling duration (hrs.)	Day – time Noise Level dB(A) Leq	Night – time Noise Level dB(A) Leq	Day – Night Noise Level dB(A) Leq
12N1	Pandaveswar UG Pit Top	25-Mar-25	11.28 to 10.28	51.24	71.49	66.98
12N2	Dalurband UG Pit Top	25-Mar-25	11.28 to 10.34	44.71	55.77	51.78
12N3	Manderboni UG Pit Top	24-Mar-25	11.54 to 10.28	62.34	67.42	64.83
12N4	South Samla UG Pit Top	24-Mar-25	12.42 to 10.37	53.24	64.60	60.73
12N5	Madhaipur UG Pit Top	25-Mar-25	12.38 to 11.34	57.24	69.66	65.52
12N6	Sonepur Bazari OC	25-Mar-25	12.15 to 10.46	48.34	67.58	63.28
12N7	Kumardihi B UG Pit Top	25-Mar-25	11.49 to 10.46	52.34	62.63	58.74
12N8	Khottadih OCP	26-Mar-25	11.49 to 10.34	49.34	58.57	54.86
12N9	Nakrakonda UG Pit Top	26-Mar-25	11.38 to 10.49	52.34	64.66	60.53
12N10	Jhanjra 1&2 Incline Pit Top	26-Mar-25	12.08 to 10.35	61.24	66.99	64.25
12N11	Tilaboni UG Pit Top	27-Mar-25	12.49 to 11.06	57.34	70.56	66.34
12N12	Shyamsundarpur UG Pit Top	27-Mar-25	11.51 to 10.46	54.28	67.63	63.41
12N13	Bankola UG Pit Top	27-Mar-25	11.18 to 10.26	51.24	60.74	56.99
12N14	Khottadih UG & OC	28-Mar-25	12.34 to 10.38	49.34	62.43	58.39
12N15	Kumardihi A UG Pit Top	28-Mar-25	12.38 to 11.22	58.34	62.29	60.14
12N16	Jhanjra MIC Incline Pit Top	26-Mar-25	11.48 to 10.38	61.24	66.09	63.58
12N17	Jhanjra 3 & 4 Incline Pit Top	26-Mar-25	13.28 to 10.34	56.34	66.63	63.05
12N18	Madhaipur OCP	27-Mar-25	11.52 to 10.47	48.34	65.59	61.16

Noise Pollution (Regulation and Control) Rules published in Gazette of India, vide S. O. 123 (E) dated 14.02.2000 under Environment Protection Act, 1986.

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
Silence Zone	50.0	40.0