


<p>ईस्टर्न कोलफील्ड्स लिमिटेड (कोल इंडिया लिमिटेड का एक अंग) महाप्रबंधक (पर्यावरण एवं वन) बराचक हाउस, पोस्ट सीतारामपुर - जिला (ब.प) परिचय बर्धमान -713359 सी.एन.आइ.: U10101WB1975GOI030295 वेबसाइट: www.easterncoal.nic.in टेलिफैक्स 2254510-0341 : ई-मेल: eclenv@gmail.com</p>		<p>Eastern Coalfields Limited (A Subsidiary of Coal India Ltd.) General Manager (Environment & Forest) Borachak House, Post - Sitarampur Dist. - Paschim Bardhaman (WB) - 713359 CIN: U10101WB1975GOI030295 Website: www.easterncoal.nic.in Telefax: 0341-2254510 E-mail: eclenv@gmail.com</p>
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(An ISO 9001, ISO14001 & OHSAS 18001 certified company)

संदर्भ संख्या: ECL/ENV/18/1C1 **दिनांक : 07.03.2018**

सेवा में,

Addl. Director (IA-Coal)
MoEF&CC,
Indira Paryavaran Bhawan,
Jorbagh Road,
New Delhi - 110016


Sub: EC amendment proposal of Cluster no. 4, Cluster no.9 & Cluster no. 10 of M/s ECL- reg.

Dear Sir,

EC amendment proposal of Cluster no. 4, Cluster no. 9 & Cluster no. 10 of ECL were deliberated in the 26th EAC (Coal-Thermal) Meeting held on 15-16 February 2018. EAC has insisted on revised mine wise table, compliance status of the conditions stipulated in the ECs and consent to operate for the project from the State Pollution Control Board, in line with the granted ECs. In this context, the additional details as desired are being submitted for kind perusal and consideration in Upcoming EAC meeting.

With Warm Regards,

भवदीय


07.03.18

महाप्रबंधक (पर्यावरण एवं वन)

Comparison chart of Revised proposal of Cluster-10 with existing EC dated 20.01.2015

Sl. No. (As per Lease hold)	Name of Mine	Type	Lease hold Area (Ha)	EC Capacity (MTY)		Life (Years)	Sl. No. (As per Lease hold)	Name of Mine	Revised Lease hold Area (Ha)	Proposed EC Capacity (MTY)	Revised Life (Years)
As per EC dated 20.01.2015						As per Revised Proposal					
1	North Searsole UG	UG	360	0.20	2.0	>25	1	North Searsole OCP	360	2.0	19
	North Searsole (East) OC Patch	OC		0.90		6					
	North Searsole (West) OC Patch	OC		0.90		7					
2	Kunustoria UG	UG	383	0.24		> 25	2	Kunustoria & Amrasota UG	383	0.15	> 25
	Amrasota UG	UG		0.15		> 25					
3	Belbaid UG	UG	384	0.48	0.48	> 25	3	Belbaid UG	384	0.12	> 25
	Belbaid OC Patch	OC		0.20		5					
4	Bansra UG	UG	611	0.735	0.735	> 25	4	Bansra UG & OC	611	0.735	> 25
	Bansra OC Patch	OC		0.15		1					
5	Parasea UG	UG	481	0.36	0.61	> 25	5	Parasea UG & OC Patch	481	0.55	> 25
	Parasea OC Patch	OC		0.25		3					
	Parasea 6 & 7 UG	UG		0.06		> 25					
6	Jambad OC	OC	323	0.80		> 25	6	Jambad UG & OC	323	1.00	> 25
	Jambad UG	UG		0.24		> 25					
7	Nabakajora UG	UG	703	0.30	0.80	> 25	7	Nabakajora UG & Nabakajora - Madhabpur UGP & Madhabpur OC	703	2.23	> 25
	Madhabpur UG	UG		0.50		15					
	Madhabpur OC Patch	OC									
8	Lachipur UG	UG	570	0.06		> 25	8	Lachipur UG	419	-	-
9	Central Kajora UG	UG	291	0.15		> 25	9	Central Kajora UG	291	0.12	> 25
10	Khas Kajora UG	UG	188	0.35		> 25	10	Khas Kajora UG	188	0.35	> 25
11	Moirra UG	UG	455	0.12		> 25	11	Moirra UG	455	0.06	2
12	Madhusudanpur UG	UG	338	0.24		> 25	12	Madhusudanpur UG	338	0.12	2
13	Madhujore UG	UG	463	0.12		> 25	13	Madhujore UG	463	-	-
14	Ghanshyam UG	UG	451	0.12		> 25	14	Ghanshyam UG	232	-	-
15	Parascole East & West	UG	348	0.39		> 25	15	Parascole East & West	348	0.26	> 25
Total			6349	7.70				5979	7.70		

CTO STATUS OF CLUSTER NO.10, M/S ECL

Sl. No. (As per Lease hold)	Name of Mine	Type	Lease hold Area (Ha)	EC Capacity (MTY)	Life (Years)	Sl. No. (As per Lease hold)	Name of Mine	Revised Lease hold Area (Ha)	Proposed EC Capacity (MTY)	Revised Life (Years)	CTO Status
As per EC dated 20.01.2015						As per Revised Proposal					
1	North Searsole UG	UG	360	0.2	>25	1	North Searsole OCP	360	2	19	Production suspended.
	North Searsole (East) OC Patch	OC		0.9	6						In process
	North Searsole (West) OC Patch	OC		0.9	7						In process
2	Kunustoria UG	UG	383	0.24	> 25	2	Kunustoria & Amrasota UG	383	0.15	> 25	In process
	Amrasota UG	UG		0.15	> 25						In process
3	Belbaid UG	UG	384	0.48	> 25	3	Belbaid UG	384	0.12	> 25	CTO Available
	Belbaid OC Patch	OC		0.2	5						Production suspended.
4	Bansra UG	UG	611	0.735	> 25	4	Bansra UG & OC	611	0.735	> 25	In process
	Bansra OC Patch	OC		0.15	1						In process
5	Parasea UG	UG	481	0.36	> 25	5	Parasea UG & OC Patch	481	0.55	> 25	In process
	Parasea OC Patch	OC		0.25	3						In process
	Parasea 6 & 7 UG	UG		0.06	> 25						Production suspended.
6	Jambad OC	OC	323	0.8	> 25	6	Jambad UG & OC	323	1	> 25	In process
	Jambad UG	UG		0.24	> 25						In process
7	Nabakajora UG	UG	703	0.3	> 25	7	Nabakajora UG & Nabakajora - Madhabpur UGP & Madhabpur OC	703	2.23	> 25	CTO Available
	Madhabpur UG	UG		0.5	15						In process
	Madhabpur OC Patch	OC									In process
8	Lachipur UG	UG	570	0.06	> 25	8	Lachipur UG	419	-	-	Production suspended.
9	Central Kajora UG	UG	291	0.15	> 25	9	Central Kajora UG	291	0.12	> 25	In process
10	Khas Kajora UG	UG	188	0.35	> 25	10	Khas Kajora UG	188	0.35	> 25	In process
11	Moira UG	UG	455	0.12	> 25	11	Moira UG	455	0.06	2	In process
12	Madhusudanpur UG	UG	338	0.24	> 25	12	Madhusudanpur UG	338	0.12	2	In process
13	Madhujore UG	UG	463	0.12	> 25	13	Madhujore UG	463	-	-	Production suspended
14	Ghanshyam UG	UG	451	0.12	> 25	14	Ghanshyam UG	232	-	-	Production suspended
15	Parascole East & West	UG	348	0.39	> 25	15	Parascole East & West	348	0.26	> 25	In process
Total			6349	7.7				5979	7.7		

HALF - YEARLY
ENVIRONMENT CLEARANCE COMPLIANCE REPORT
OF
CLUSTER NO. 10
(Group of Mines)
J-11015/180/2011-IA.II(M)
For
April'2017 to September'2017



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



EASTERN COALFIELDS LIMITED

(A subsidiary of Coal India Limited)

KAJORA AREA

Office of the Chief Manager (Mining), Agent – Madhusudanpur Group of Mines
P.O. Kajora Gram, Dist. Paschim Bardhaman, W.B. Pin. 713338.

Ref. no. MSP/Agent/E.C. Under Salary/17/324 Dated: 23.11.17

UNDERTAKING

Information provided in Half Yearly compliance report for the period April'17 to September'17 in respect of the following mines of Cluster 10 is true to the best of my knowledge.

Sl No.	Name of Mine	Name of Manager	Signature
1	Madhusudanpur 7 Pit / Incline Colliery	Sri. R. Kar	
2	Madhusudanpur 3/4 Pit Colliery	Sri. M. K. Singh	
3	Madhujore Colliery	Work Suspended	

Chief Manager (Mining)/ Agent

Madhusudanpur Group of Mines

Agent
Madhusudanpur Group of Mines
Kajora Area W.B. L



EASTERN COALFIELDS LIMITED

(A subsidiary of Coal India Limited)

KAJORA AREA

Office of the Chief Manager (Mining), Agent – Porascole Colliery
P.O. Kajora Gram, Dist. Paschim Bardhaman, W.B. Pin. 713338.

Ref. no. PSC/W/Agent / EC Undertaking / 17-18/485

Dated: 25/11/17

UNDERTAKING

Information provided in Half Yearly compliance report for the period April'17 to September'17 in respect of the following mines of Cluster 10 is true to the best of my knowledge.

Sl No.	Name of Mine	Name of Manager	Signature
1	Porascole East Colliery	Sri. K. R. P. Singh	
2	Porascole West Colliery	Sri. B. Karmakar	
3	Jambad Colliery	Sri. S. K. Saha	
4	Nabakajora Colliery	Sri. S. Dutta	

Chief Manager (Mining) / Agent

Porascole Group of Mines



EASTERN COALFIELDS LIMITED

(A subsidiary of Coal India Limited)

KAJORA AREA

Office of the Chief Manager (Mining), Agent – Jambad OCP and Madhabpur Group of mines

P.O. Kajora Gram, Dist. Paschim Bardhaman, W.B. Pin. 713338.

Ref. no.

KA/J.OCP/C-6/17/738


Dated:

24/11/17

UNDERTAKING

Information provided in Half Yearly compliance report for the period April'17 to September'17 in respect of the following mines of Cluster 10 is true to the best of my knowledge.

Sl No.	Name of Mine	Name of Manager	Signature
1	Jambad OCP	Sri. A. Karmakar	
2	Madhabpur Colliery (UG & OC)	Sri. S. Murari	


Chief Manager (Mining) Agent

Jambad OCP & Madhabpur Group of Mines



EASTERN COALFIELDS LIMITED

(A subsidiary of Coal India Limited)

KAJORA AREA

Office of the Chief Manager (Mining), Agent – Khas Kajora Group of Mines
P.O. Kajora Gram, Dist. Paschim Bardhaman, W.B. Pin. 713338.

Ref. no. KKC/Agent/17/3396



Dated: 25.11.17

UNDERTAKING

Information provided in Half Yearly compliance report for the period April'17 to September'17 in respect of the following mines of Cluster 10 is true to the best of my knowledge.

Sl No.	Name of Mine	Name of Manager	Signature
1	Khas Kajora Colliery	Sri. S. Roy	
2	Central Kajora Colliery	Sri. S. Kumar	
3	Ghanyashyam Colliery	Work suspended	
4	Lachipur Colliery	Work suspended	

Ch. Manager (Mining) Agent
Khas Kajora Group of Mines
Khas Kajora Group of Mines



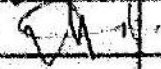
<p>ईस्टर्न कोयलफील्ड लिमिटेड (कोयल इंडिया का एक प्रभिन अंग) महा प्रशासनिक का कार्यालय, कुनस्तोरिया क्षेत्र पश्चिम बंगाल, पश्चिम बर्धमान, पश्चिम बंगाल-713302 ऑफिस सेक्रेटरीएट सी. आर. एन. - U10101WB107600030206 ई-मेल - gmknustoria@gmail.com</p>	 	<p>EASTERN COALFIELDS LIMITED (A subsidiary of Coal India Limited) Office of the General Manager, Kunustoria Area P.O. - Topasi, Dist - Paschim Bardhaman, West Bengal-713302 GM Secretariat CIN- U10101WB107600030206 e-mail - gmknustoria@gmail.com</p>
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Ref. No: ECL/PC/AGENT/EC/17-18/153

Date: 21/11/17

UNDERTAKING

Information provided in Half yearly EC compliance report for the period April to September, 2017 in respect of the following mines of Cluster no. 10 is true to the best of my knowledge:

SL NO.	MINE	NAME OF THE MANAGER	SIGNATURE OF THE MANAGER
1.	Belbaid UG	SURJIT SAMAL	
2.	Belbaid OC Patch	Mine Closed	-
3.	Parasen UG	GUL AHAMMED	
4.	Parasen OC Patch	GUL AHAMMED	
5.	Parasen 6&7 UG	Mine Closed	-


21/11/17
Agent/Project Proponent

(Parasen Group of Mines)
Agent
Parasen Group of Mines


<p>ईस्टर्न कोलफील्ड्स लिमिटेड (कोल इंडिया का एक अभिन्न अंग) महा प्रशासक का कार्यालय, कुनुस्तोरिया क्षेत्र पर्यालय- तोपसि, जिला- पश्चिम बर्धमान, पश्चिम बंगाल-713362 जीएम सेक्रेटारिएट सी. आर. एन.- U10101WB1975GO1030285 ई-मेल - gmkunustoria@gmail.com</p>	 	<p>EASTERN COALFIELDS LIMITED (A subsidiary of Coal India Limited) Office of the General Manager, Kunustoria Area P.O. - Toposi, Dist. - Paschim Bardhaman, West Bengal-713362 GM Secretariat GN- U10101WB1975GO1030285 e-mail - gmkunustoria@gmail.com</p>
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Ref. No: ECL/KNT/AGT/2017-18/6285

Date: 22/0/17

UNDERTAKING

Information provided in Half yearly EC compliance report for the period April to September, 2017 in respect of the following mines of Cluster no. 10 is true to the best of my knowledge:

SL NO.	MINE	NAME OF THE MANAGER	SIGNATURE OF THE MANAGER
1.	Kunustoria UG	Raj Kumar Pandopadhyay	
2.	Amrasota UG	—	—


22/0/17
Agent/ Project Proponent

(Kunustoria Group of Mines)

Agent
Kunustoria Colony, KNT Area
E.C.L.

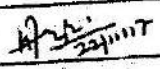
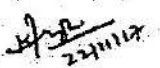
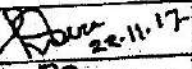
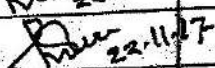
<p>ईस्टर्न कोलफील्ड्स लिमिटेड (कोल इंडिया का एक अभिन्न अंग) महा प्रबंधक का कार्यालय, कुनुस्तोरिया क्षेत्र पञ्जाब- लोन्गि, जिला- पश्चिम बर्धमान, पश्चिम बंगाल-713362 जीएम सेक्रेटारिएट सी. आइ. एन.- U10101WB1975GOI030295 ई-मेल - gmkunustoria@gmail.com</p>	 	<p>EASTERN COALFIELDS LIMITED (A subsidiary of Coal India Limited) Office of the General Manager, Kunustoria Area P.O. - Toposi, Dist. -Paschim Bardhman, West Bengal-713362 GM Secretariat CIN- U10101WB1975GOI030295 e-mail - gmkunustoria@gmail.com</p>
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Date: 23.11.17

Ref. No: ECL/BE/Agent/17-18/S-125

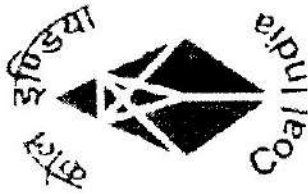
UNDERTAKING

Information provided in Half yearly EC compliance report for the period April to September, 2017 in respect of the following mines of Cluster no. 10 is true to the best of my knowledge:

SL NO.	MINE	NAME OF THE MANAGER	SIGNATURE OF THE MANAGER
1.	North Searsole UG	Mr. A. K. Singh.	
2.	North Searsole (East) OC Patch	Mr. A. K. Singh.	
3.	North Searsole (West) OC Patch		
4.	Bansra UG	Mr. N. K. Bora.	
5.	Bansra OC Patch	Mr. N. K. Bora.	

Agent/ Project Proponent

Agent
Bansra O.P.P. (Mines)



Eastern Coalfields Limited

Office of the Agent

MOIRA COLLIERY

P.O. Ukhra, Dist. Burdwan, W.B. - 713363

Ph. No. 0341-2665491/492/493/494, Fax No. 0341-2665366

UNDERTAKING

Information provided in Half yearly EC compliance report for the period April'17 to September'17 in respect of the following mines of Cluster no. 10..... is true to the best of my knowledge:

SL NO.	MINES	NAME OF THE MANAGER	SIGNATURE OF THE MANAGER
1	MOIRA U/G	R. K. Gupta	

(.....) MOIRA

Agent/Project Proponent
Mores/Group of Mines
(SIGNATURE WITH SEAL)

Name of Project: Cluster 10, ECL (Combination of 19 mines under ECL)

Clearance Letter No: J-11015/180/2011-IA-II(M) dated 20.01.2015

Period of Compliance Report: April'17 to September'17

No.	Conditions	Compliance		
i.	The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.	<u>Mine</u>	<u>Peak EC Capacity (MTPA)</u>	<u>Production (Apr-Sep, 2017)</u>
		North Searsole UG	0.2	0.0
		North Searsole (East) OC Patch	0.9	0.243230
		North Searsole (West) OC Patch	0.9	
		Kunustoria UG	0.24	0.056261
		Amrasota UG	0.9	0.0
		Belbaid UG	0.48	0.036187
		Belbaid OC Patch	0.20	0.0
		Bansra UG	0.735	0.081914
		Bansra OC Patch	0.15	0.123801
		Parasea UG	0.36	0.081390
		Parasea OC Patch	0.25	0.091689
		Parasea 6 &7 UG	0.06	0.0
		Jambad OC	0.80	0.114840
		Jambad UG	0.24	0.071421
		Naba Kajora UG	0.30	0.024590
		Madhabpur UG		0.028832
		Madhabpur OC Patch	0.50	0.00
		Lachipur UG	0.06	0.00
		Central Kajora UG	0.15	0.040873
		Khas Kajora UG	0.35	0.097051
Moira UG	0.12	0.010293		
Madhusudanpur UG	0.24	0.049952		
Madhujore UG	0.12	0.00		
Ghanashyam UG	0.12	0.00		
Parascole East & West	0.39	PSC (E) – 0.045320 PSC (W) – 0.035626		
Total	7.70	0.1082677		
ii.	The validity of the EC is for the life of the mine or as specified in the EIA Notification, 2006, whichever is earlier.	Agreed		

Name of Project: Cluster 10, ECL (Combination of 19 mines under ECL)

Clearance Letter No: J-11015/180/2011-IA-II(M) dated 20.01.2015

Period of Compliance Report: April'17 to September'17

iii.	There shall be no mine void and no external dumps at the end of mining	Agreed
iv.	Adequate measures shall be taken to mitigate subsidence as per DGMS stipulations.	Regular inspection is being done by the pit safety committee headed by Safety Officer on the surface over and around the working area for any sign of subsidence.
v.	The flyash that has been dumped during past operations shall be covered with one meter top soil. No further flyash dumping shall be done in mines in the cluster.	The Flyash which was done prior to EC has been covered with top soil.
vi.	Adequate rain water harvesting and other facilities should be created for ground water recharge.	Adequate rain water harvesting and other facilities should be created for ground water recharge.
vii.	Surface run off must pass through the settling tank before discharging into the water body.	Surface run off in Open Cast mines is collected in settling ponds or sumps and are discharged after providing suitable retention time.
viii.	All safety measures shall be taken as per CMR, 1957 & related Circulars.	All safety measures shall be taken as per CMR, 1957 & related Circulars.

Name of Project: Cluster 10, ECL (Combination of 19 mines under ECL)

Clearance Letter No: J-11015/180/2011-IA-II(M) dated 20.01.2015

Period of Compliance Report: April'17 to September'17

ix.	The production shall be within the same Mining Lease area.	The production is within the same Mining Lease area.
X.	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.	Coal is transported to railway sidings from the mines outlet by dedicated black-topped road especially constructed for the purpose. Coal transportation from mines to siding through belt conveyors is not feasible because, the capacity of the mines is less.
xi.	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.	<p>There are currently active 7 railways sidings under kajora area (Parasea, Belbaid, Bansra, Nabakajora- Madhabpur, Porascole (E), Khas Kajora and Madhusudanpur sidings) serving to the mines in Cluster 10. Coal is transported to railway sidings from the mines by dedicated black-topped road especially constructed for the purpose. Coal transportation from mine to siding through belt conveyors is not feasible because, the capacity of the mines are less.</p> <p>There are currently active 2 railways sidings (Bankola I & Bankola II) serving Bankola Area in Cluster 10. 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 capacity of the mine is low.</p> <p>There are currently active 3 railways sidings under kunustoria area (Parasea, Belbaid and Bansra sidings) serving to the mines in Cluster 10. Coal is transported to railway sidings from the mines by dedicated black-topped road especially constructed for the purpose. Coal transportation from mine to siding through belt conveyors is not feasible because, the capacity of the mines are less.</p>
xii.	Three tier green belts shall be raised around the railway sidings and along the road sides to prevent dust	<p>At railway siding, plantation has been done to check dust and noise pollution. Both sides of connecting roadway are well vegetated naturally. A 2.5 km plantation has been done along coal transportation road from C Pit to Bansra siding.</p> <p>The species planted are as follows-</p> <ul style="list-style-type: none">• <i>Tagar nana</i>• <i>Duranta goldiana</i>• <i>Ixora nana</i>

Name of Project: Cluster 10, ECL (Combination of 19 mines under ECL)

Clearance Letter No: J-11015/180/2011-IA-II(M) dated 20.01.2015

Period of Compliance Report: April'17 to September'17

	and noise pollution.	<ul style="list-style-type: none">• <i>Hibiscus</i>• <i>Mosanda</i>• <i>Almunda</i>• <i>Phutus</i>• <i>Palm</i>• <i>Spathodia</i>• <i>Lagerstroema</i>• <i>Cassia delonix</i>• <i>Ashok</i>• <i>Polyalthia</i> <i>Callistemon</i>
xiii.	Stowing and depillaring shall be as per the recommendations of the DGMS.	Stowing and depillaring done as per the recommendations of the DGMS.
xiv.	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.	Work in progress and is being implemented by ADDA, Govt. of West Bengal.
xv.	Trees with deep rooted system should be planted so as to prevent soil erosion.	Deep rooted tree species planted are as follows- Neem, Seemul, Karanch, Shisham, Arjun, Babool & Sirish.
xvi.	Proponent should plant	Agreed

Name of Project: Cluster 10, ECL (Combination of 19 mines under ECL)

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	additional 10 Ha/year over the next 10 years at various locations in the cluster.	
xvii.	River/Nallah shall be desilted and restored back to functional state.	Garland drains and Catch drains and siltation sump of appropriate size has been constructed to arrest silt and sediment flows from soil, OB dump. The water so collected in the main sump within the mine is utilized for dust suppression in mine Area, roads and green belt development. Garland drains and catch drains are regularly desilted and maintained properly. No discharge is done in river/nallah.
xviii.	Wild life conservation plan be prepared and submitted to the MoEF & CC with the approval of the State Govt.	Wildlife Conservation plan of entire Raniganj Coalfield has been prepared and sent to Addl. PCCF (Wildlife), Govt. of West Bengal for approval.
xix.	Proponent shall use high resolution image of all clusters for evaluating land use, plantation etc.	Landuse maps are being monitored and regularly prepared by CMPDIL. Copy enclosed
xx.	Separate drainage pattern be provided.	Separate drainage pattern will be provided where required.
xxi.	Sand stowing must be used as recommended by CMPDIL.	Sand stowing is being done as recommended by CMPDIL.
xxii.	Action plan for prevention and mitigation of subsidence be prepared and implemented.	No underground mining is carried out below within 45m of the Major Roads, Railway line and nallah flowing through the cluster. Coal pillars is left intact vertically below and within the angle of draw of villages and other surface features. Depillaring is done with sand stowing in all mines except Madhusudanpur and Moira UG mines. The mining method adopted in consultation with DGMS and their approval.
xxiii.	The OC Patches	Noted and agreed.

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	to be operated will be completely filled-up after exhaustion of reserves and reclaimed with plantation.	
xxiv.	The OB shall be completely re-handled at the end of the mining	Noted and agreed.
xxv.	There shall be no OB dump after the mining	Noted and agreed.
xxvi.	After completion of mining activities, the subsided areas shall be graded and planted upon	Noted and agreed.
xxvii.	Coal Extraction shall also be optimized in areas where agricultural production is continuing. Some pillars shall be left below the agricultural land. No depillaring and coal extraction should be carried out below habitation, H.T. lines and beneath road,	Coal Extraction is being carried out as per DGMS permissions and guidelines .

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	water bodies	
xxviii.	The land excavated after mining must be brought back to original condition for agricultural / plantation purpose.	Noted and agreed.
xxix.	Water discharged from the mine should be as good as surface drinking water.	Mine discharge water is being treated in slow sand filter/ pressure filter along with chlorination and used for drinking water. Furthermore, Mine water is not acidic, as such there is no requirement of acid mine drainage treatment facility. Mine water quality analysis report is enclosed.
xxx.	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	Regular inspection is being done by the pit safety committee headed by Safety Officer on the surface over and around the working area for any sign of subsidence.

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	corrective measures shall be taken to avoid loss of life and material. Cracks shall be effectively plugged with ballast and clayey soil/suitable material.	
xxxi.	If subsidence is found exceeding the permitted limits, then the landowners shall be adequately compensated with mutual agreement of the landowners.	If found, Land owner shall be adequately compensated with mutual agreement of the landowners.
xxxii.	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.	The coal transportation road from Mines to Railway Siding are black topped and Water Sprinkling is being done on the approach road with Mobile Water tankers.
xxxiii.	The CSR cost should be Rs 5	CSR cost at the rate of 2% of the net profit has kept for the purpose. Copy enclosed.

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	per Tonne of Coal produced which should be adjusted as per the annual inflation.	
xxxiv.	The mining in the existing mines should be phased out after expiry of the current mining lease and after reclamation of the mined out 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.	Noted and Agreed .
xxxv.	Everybody in the core area should be provided with mask for protection against fugitive dust emissions.	In order to provide protection against fugitive dust emission, dust masks are being provided to people working in the core area.
xxxvi.	Dust mask to be provided to everyone working in the mining area.	Dust mask have been provided to everyone working in the mining area.
xxxvii .	The supervisory staff should be	Supervisory staff ensures compulsory wearing of the dust masks in the core area.

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	held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.													
xxxvii i.	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 mining 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.												
xxxix.	The mining area should be surrounded by green belt having thick closed thick canopy of the tree cover.	<table border="1"> <thead> <tr> <th>Year</th> <th>Name of Species</th> <th>Area in Ha</th> <th>No. of saplings</th> <th>Density</th> <th>Survival rate</th> </tr> </thead> <tbody> <tr> <td>2016-17</td> <td>Chatim Krishnachura Radhachura Sonajhuri Karanch Amla , Neem, Shimul, Shisham, Sirish, Arjun, Babool</td> <td>9</td> <td>22500</td> <td>2500/ha</td> <td>75%</td> </tr> </tbody> </table>	Year	Name of Species	Area in Ha	No. of saplings	Density	Survival rate	2016-17	Chatim Krishnachura Radhachura Sonajhuri Karanch Amla , Neem, Shimul, Shisham, Sirish, Arjun, Babool	9	22500	2500/ha	75%
		Year	Name of Species	Area in Ha	No. of saplings	Density	Survival rate							
2016-17	Chatim Krishnachura Radhachura Sonajhuri Karanch Amla , Neem, Shimul, Shisham, Sirish, Arjun, Babool	9	22500	2500/ha	75%									
XI	Besides carrying out regular periodic health check-up of their workers, 10% of the workers indentified from workforce engaged in the active mining	We are carrying out Periodical Medical Examination (PME) for all employees once in every 5 years (@ 20% employees/year). This PME is mandatory for all employees. Special cases diagnosed during such PMEs are monitored at shorter intervals as directed by the PME Board of Doctors. All serious diseases and impairments are reported to DGMS at regular intervals. copy enclosed												

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	operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, through an specialized agency/institution within the District/State and the results reported to this ministry and to DGMS.	
xli.	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.	No embankment has been constructed along the river boundary.
xlii.	There shall be no overflow of OB into the river and into the agricultural fields and massive	Agreed.

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	plantation of native species shall be taken up in the area between the river and the project.	
xliii.	Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flow from soil, OB and mineral dumps. The water so collected shall be regularly 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	Permanent masonry drains of size range 200 to 600 m, 0.90 m to 2 m and 0.6 m to 2 m depth and 1 in 30 gradients, depending on the catchment have been constructed for evacuation of rain water. The size of the drain is large enough to take care of heavy downpours. The drain is cleared of debris before start of the monsoon season as part of our annual monsoon preparation program.

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	the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material	
xliv.	Garland drains (size, gradient & length) around the safety areas such as mine shaft and low lying areas and sump capacity shall be resigned 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.	Permanent masonry drains of size range 200 to 600 m, 0.90 m to 2 m and 0.6 m to 2 m depth and 1 in 30 gradients, depending on the catchment have been constructed for evacuation of rain water. The size of the drain is large enough to take care of heavy downpours. The drain is cleared of debris before start of the monsoon season as part of our annual monsoon preparation program
xlv.	Dimensions of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off	Agreed.

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	and siltation shall be based on the rainfall data.	
xlvi.	Crushers at the CHP of adequate capacity for the expansion project shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc.	No crusher is installed at CHP.
xlvii.	Mine Discharge water outside the ML shall be monitored, particularly for TDS and treated to conform to prescribed levels before discharge into the natural environment.	Mine water discharge quality complies with prescribed standards. Regular monitoring is done by CMPDI. Reports are enclosed .
xlviii.	Drills shall be wet operated.	Sprinkling arrangement is present at all the coal faces and water is sprinkled before and after blasting in underground mines. In open cast mines, drills are operated with dust suppression facility.
xlix.	The project authorities shall undertake regular	As per requirement, Regular repairing and tarring of roads are being taken on priority basis. Both sides of approach roadway are well vegetated naturally. Plantation Done:

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	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.	Year	Name of Species	Area in Ha	No. of saplings	Density	Survival rate
		2016-17	Kamini, Rangan, Krishnachura, Jaba, Karabi, Bougenvelia, Pathodia, Jamun, Radhachura etc.	2.5 Km (Roadside)	-	-	75%
		2016-17	Chatim, Krishnachura, Radhachura, Karanch, Aamla etc.	9 Ha	22500	2500/Ha	75%
i.	Controlled blasting shall be practiced with use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.	Complied. Controlled blasting is being done as per DGMS permission and conditions.					
li.	A Progressive afforestation plan shall be implemented covering an area of 1289 ha at the end of mining, which includes reclaimed Top-soil dump (30	The mine is in cluster 10 and it is proposed to plant 10 Ha per year within cluster 10 at the density of 2500 plants/Ha.					

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	<p>Ha), Excavation area (805 Ha), External Waste Dump area (170 ha), Mine Infrastructure area (24.8 ha); Subsided (43.2 Ha) and Others land (196 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.</p>	
lii.	<p>The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner</p>	<p>Mine closure Plan has already been prepared for the purpose. Restoration and reclamation shall be done accordingly.</p>

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liii.	Compensatory Ecological & Restoration of waste land, other degraded lands and OB dumps in lieu of breaking open the land be carried out.	Mine closure Plan has already been prepared for the purpose. Compensatory ecological and restoration of wasteland shall be done accordingly.				
liv.	No groundwater shall be used for mining operations	No ground water is being used for mining operations.				
lv.	An estimated total 19.74 Mm ³ of OB will be generated during entire life of the mine. Out of which 1.92 Mm ³ of OB will be dumped in one external dump covering area 7.60 Ha of land and 17.82 Mm ³ in internal OB dumps covering an area of 557 Ha of land. The OB dump height is upto 60 m. The maximum slope of the dump shall not exceed 28 degrees. Monitoring and management of reclaimed dump sites shall continue till the	OB Dump at	Bottom RL	Top RL	Gradient	
		North Searsole OC	106	118	1 in 1.6	
		Parasea OC	88.38	109.74	1 in 6.5	
		Bansra OC	92.31	103.6	1 in 6.2	
		<u>Dumps of Madhabpur OC Patch</u>				
		Dump No.	Top R/L	Bottom R/L	Slope Angle	
		Dump No 1	93.59 92.06	82.80 84.20	26 °	
Dump No 2	94.50 95.05	81.65 90.63	28 °			
Dump No 3	95.68 97.98 89.75	84.40 78.05 79.88	27 °			
<u>Dumps of Jambad OCP</u>						
Dump No.	Top R/L	Bottom R/L	Slope Angle			
Dump No 1	114	110	25 °			
Dump No 2	150	114	27 °			
Dump No 3	138	107	26 °			
Dump No 4	124	108	25 °			
Dump No 5	120	106	27 °			

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	vegetation becomes self-sustaining and compliance status shall be submitted to MOEF&CC and its Regional Office on yearly basis.	
lvi.	Of the total quarry area 805 Ha, the backfilled quarry area of (805 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.	Agreed
lvii.	Regular monitoring of ground water level quality shall be carried out by establishing a network of existing wells and construction of new peizometer. The monitoring for quantity shall be done	Ground water level monitoring is done through a network of existing wells and construction of new piezometer is under process.

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	<p>four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment, Forests & Climate Change and to the Central Pollution Control Board quarterly within one month of monitoring.</p>	
lviii.	<p>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</p>	<p>Roof-top rainwater harvesting and ground water recharging initiatives have been taken up by the company at several places which face lowering of GWL during summer period. Since the mine is an underground mine, recharging of water at surface will further add to the quantum of water percolating into the underground workings. Also, no declining trend has been noticed in the mine leasehold. The mine discharge is being utilized to meet the domestic demands of the colonies thus reducing the strain on ground water resources.</p>

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	wells go dry due to dewatering of mine	
lix.	Sewage treatment plants shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.	No CHP is present in the mine. A small workshop which caters to repairing jobs of day to day nature like welding, machining etc. discharges negligible amount of water, for which construction of ETP is not feasible.
lx	Land outsee shall be compensated as per the norms laid out R&R policy of CIL or the national R&R policy or R&R Policy of the state government whichever is higher.	If required, Land oustees shall be compensated as per the norms laid out in R&R Policy of CIL
lxi.	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 the buffer zone, from the start of the project until end of	Land use pattern and plantation is being monitored by satellite surveillance based on satellite imagery.

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	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																
lxii.	A Detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forest & Climate Change within 6 months of grant of Environment Clearance.	Mine closure plan have been prepared for the mine as per the guidelines of MOC and the same has been placed before the board for approval.															
lxiii.	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 on over	<p>List of CSR activities are as follows –</p> <p><u>Kunustoria Area</u></p> <table border="1"> <tr> <td>2014-15</td> <td>Construction of boundary wall of Balanpur primary school at Balanpur village</td> <td>3,57,936.57</td> </tr> <tr> <td></td> <td>Making concrete pavement through burial ground from North Searsole Road junction to Katagoria village</td> <td>1,30,842.00</td> </tr> <tr> <td></td> <td>Construction of three rooms with verandah at Damsha playing ground</td> <td>4,12,974.00</td> </tr> <tr> <td></td> <td>CSR budget for skill development training programme</td> <td>10,25,795.00</td> </tr> <tr> <td></td> <td>Construction of toilets and providing drinking water at private committee</td> <td>8,18,208.45</td> </tr> </table>	2014-15	Construction of boundary wall of Balanpur primary school at Balanpur village	3,57,936.57		Making concrete pavement through burial ground from North Searsole Road junction to Katagoria village	1,30,842.00		Construction of three rooms with verandah at Damsha playing ground	4,12,974.00		CSR budget for skill development training programme	10,25,795.00		Construction of toilets and providing drinking water at private committee	8,18,208.45
2014-15	Construction of boundary wall of Balanpur primary school at Balanpur village	3,57,936.57															
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the balance life of the mine		managed schools under Kunustoria Area,ECL.	
		Construction of road to Mahabir Colliery from NSB road, Raniganj	32,38,190.00
		Construction of road from Toposi Rail Gate to Toposi village	32,07,249.00
		School Health check-up camp	20,000.00
		Celebration of World Aids Day on 1st Dec 2014	5000.00
		Cancer Awareness Programme	29,620.00
	2015-16	CSR budget for skill development training programme	5,76,320.00
		Construction of toilets and providing drinking water at private committee managed schools under Kunustoria Area,ECL.	10,90,987.74
		Medical CSR Camp	52,083.00
		Inter School Debate under Swachch Bharat Mission	31000.00
		Organisation of Village football tournament	33,250.00
	Kajora Area		
		Year	Activity
	2014-15	Medical Camps, Training camps etc.	2.40 Lakh
	2015-16	Medical Camps etc.	0.7 Lakh
(Ixiv) Corporate Environmental Responsibility:			
(a)	The Company shall have a well laid down Environmental Policy approved by the Board of Directors.	“Corporate Environmental Policy 2012” of Coal India Limited has already been formulated.	
(b)	The Environmental Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.	“Corporate Environmental Policy 2012” of Coal India Limited has prescribed standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/condition.	
(c)	The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental conditions shall be furnished.	The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions has been furnished in “Corporate Environmental Policy 2012” of Coal India Limited.	

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(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.	It is already in place.

General Conditions :

SI No.	Conditions	Compliance
i.	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment, Forest & Climate Change	Change in mining technology and scope of working, if any, shall be made with prior approval of the Ministry of Environment, Forests & Climate Change.
ii.	No change in the calendar plan of production of quantum of mineral cost shall be made.	There shall be no change in the calendar plan of production for quantum of mineral coal.
iii.	Four ambient air quality monitoring stations shall be established in the core 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. AAQ reports are enclosed (ANNEXURE-III)	Air quality monitoring is carried out by CMPDIL on fortnightly basis and all desired parameters are well within the prescribed limits.
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. (ANNEXURE-III)	Air quality monitoring is carried out by CMPDI on fortnightly basis and data on ambient air quality shall be regularly submitted to the Ministry including its concerned Regional Officer and to the State Pollution Control Board and the Central Pollution Control Board once in six months. AAQ reports are enclosed

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v.	Adequate measures shall be taken for control of noise levels below 85dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.	Noise level monitoring is carried out by CMPDIL on fortnightly basis. Noise level has always been below 85 dBA. Noise data are enclosed
vi.	Industrial Wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19 th May 1993 and 31 st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.	Mine discharge water samples are tested in laboratory at CMPDI on fortnightly basis. Mine water quality conforms to the standards prescribed under GSR 422(E) dated 19 th May 1993 and 31 st December 1993.
vii.	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the minerals shall be covered with tarpaulins and optimally loaded.	Vehicular emissions are kept under control and regularly monitored. Coal transportation from the mine to railway siding is being done by tarpaulin covered trucks.
viii.	Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analyzed through a laboratory recognized under EPA rules, 1986	Monitoring of environmental parameters is carried out on regular basis by CMPDI. Laboratory at CMPDIL, Asansol is having all necessary facilities.
ix.	Personnel working under dusty area shall wear protective respiratory devices and they shall also be provided with adequate training and information and information safety and health aspects.	All protective devices have been provided to workmen and are replaced periodically. Adequate training to all personnel has also been provided. New recruits are trained at the VTC before their deployment. PMEs are carried out on all employees once in 5 years.
x.	Occupational health surveillance program of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained thereof. The quality of Environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the company while outsourcing.	We are carrying out Periodical Medical Examination (PME) for all employees once in every 5 years (@ 20% employees/year). This PME is mandatory for all employees. Special cases diagnosed during such PMEs are monitored at shorter intervals as directed by the PME Board of Doctors. All serious diseases and impairments are reported to DGMS at regular intervals.
xi.	A separate environmental management	A separate environmental management cell

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	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	with qualified personnel has been established for all the Areas under Cluster 10. The cell reports to the respective Area GM and GM, Environment and Forest; ECL.		
xii.	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its Regional Office.	F/Y	Name of Work	Amount
		2016-17	Installation of Dust Suppression System at Coal Crusher Unit at North Searsole OCP	730885.22
			Oil and Grease Trap for Winding Engine Discharge at Pit Top at Belbaid Colliery	64102.76
			Making percolation well for Rain Water harvesting at Area Office	523508.36
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 .	Complied.		
xiv.	A copy of the environmental clearance letter shall be marked to concern Panchayat/ZilaParishad, Municipal Corporation or Urban local body and local NGO, if any, from whom any suggestions/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on Company's website.	A copy of the environmental clearance letter for cluster 10 has been marked to concerned Panchayat/ ZilaParishad, Municipal Corporation or Urban local body.		
xv.	The EC letter is uploaded on the company's website.	The EC letter is uploaded on the company's website.		
xvi.	The clearance letter shall be uploaded on the Company's website. The compliance	The monitoring data of environmental quality parameter (air, water and noise) and critical		

Name of Project: Cluster 10, ECL (Combination of 19 mines under ECL)

Clearance Letter No: J-11015/180/2011-IA-II(M) dated 20.01.2015

Period of Compliance Report: April'17 to September'17

	<p>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 PM₁₀, PM_{2.5}, SO₂ and NO_x(ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on Company's website.</p>	<p>pollutant such as PM₁₀, PM_{2.5}, SO₂ and NO_x (ambient) and critical sectoral parameters are being displayed on Company's website.</p>
xvii.	<p>The Project Proponent shall submit six monthly compliance reports on statue 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.</p>	<p>Agreed and noted. The six monthly EC compliance report is also uploaded on the company's website. The link is given below: www.easterncoal.gov.in</p>
xviii.	<p>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.</p>	<p>Agreed.</p>
xix.	<p>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.</p>	<p>Agreed.</p>

Land use pattern of Cluster-10

Type of Land use	Core Zone		Buffer Zone	
	Area (sq. km)	% of Total	Area (sq. km)	% of Total
Dense forest	0.00	0.00	2.20	0.32
Open forest	0.00	0.00	7.30	1.05
Total Forest Land	0.00	0.00	9.50	1.37
Scrubs	4.71	6.81	67.09	9.65
Social Forestry	3.20	4.63	25.45	3.66
Plantation on OB	0.32	0.46	0.23	0.03
Plantation on backfill	0.00	0.00	1.96	0.28
Total Plantation Area	3.52	5.09	27.64	3.98
Crop Land	24.00	34.72	172.70	24.85
Fallow Land	24.10	34.86	256.40	36.89
Total agriculture Land	48.10	69.58	429.10	61.74
Waste Land	4.90	7.09	39.50	5.68
Sand body	0.00	0.00	28.45	4.09
Total waste land	4.90	7.09	67.95	9.78
Advance Quarry area	0.00	0.00	0.80	0.12
Coal quarry	0.15	0.22	4.05	0.58
Barren OB dump	2.90	4.19	8.00	1.15
Back fill	0.40	0.58	5.10	0.73
Coal dump	0.03	0.04	0.13	0.02
Water filled Qry	0.05	0.07	1.35	0.19
Total mining Area	3.53	5.11	19.43	2.80
Urban settlements	0.45	0.65	27.10	3.90
Rural settlements	2.50	3.62	19.30	2.78
Industrial settlements	0.37	0.54	14.03	2.02
Total settlement Area	3.32	4.80	60.43	8.69
River/ponds	1.05	1.52	13.90	2.00
Total Area	69.13	100.00	695.04	100.00

**TABLE NO.- 10 A
AMBIENT AIR QUALITY REPORT**

Cluster No.	Station No.	Station Name	Month	Fortnight	Date of Sampling	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	Remarks
10	10A1	In Kunustoria village	September	First	05-Sep-17	73.1	27.7	<10.0	17.2	-
	10A2	Near Jambad OCP	September	First	05-Sep-17	70.8	29.4	<10.0	12.5	-
	10A3	In Khas Kajora village	September	First	11-Sep-17	71.5	30.3	<10.0	11.7	-
	10A4	In Lachipur village	September	First	07-Sep-17	70.6	30.1	<10.0	18.3	-
	10A8	Near Toposi RS	September	First	07-Sep-17	71.7	31.7	<10.0	17.4	-
	10A9	In Pure Jambad village	September	First	07-Sep-17	75.9	30.5	<10.0	11.2	-
	10A10	In Khandra village	September	First	08-Sep-17	77.6	30.1	<10.0	12.8	-

National Ambient Air Quality Standards (NAAQS):

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

Pollutant	PM ₁₀	PM _{2.5}	SO ₂	NO _x
Concentration (µg/m ³)	100.0	60.0	80.0	80.0

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager,
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed, Dated 26.09.17. Job No. 110310

**TABLE NO.- 10 B
AMBIENT AIR QUALITY REPORT**

Cluster No.	Station No.	Station Name	Month	Fortnight	Date of Sampling	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	Remarks
10	10A11	Medhujore village near Railway siding	September	First	06-Sep-17	75.9	30.7	<10.0	13.5	-
	10A12	Parascole village Railway siding near Mukundpur	September	First	08-Sep-17	76.2	29.5	<10.0	15.6	-
	10A13	Bansra village near Railway siding West	September	First	08-Sep-17	76.0	30.8	<10.0	18.4	-
	10A14	Parala village near Railway siding	September	First	11-Sep-17	73.8	30.7	<10.0	11.8	-

National Ambient Air Quality Standards (NAAQS):

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

Pollutant	PM ₁₀	PM _{2.5}	SO ₂	NO _x
Concentration (µg/m ³)	100.0	60.0	80.0	80.0

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager, JSA/SA.....
 Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed..... Dated 28.09.17. Job No. 110310

**TABLE NO-10 C
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10				Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW1	10MW2	10MW3	10MW4			
	Station Name	Amrasota UG	Belbaid UG	Belbaid OC Patch	Bansra UG			
	Month	September	September	September	September			
	Fortnight	First	First	First	First			
	Date of Sampling	05-Sep-17	05-Sep-17	05-Sep-17	05-Sep-17			
1	pH	7.24	7.76	7.48	7.35	5.5-9.0	pH meter	0.01
2	TSS	24	26	30	20	100.0	Spectrophotometric	5.0
3	TDS	756	666	718	650	Not Specified	TDS meter	1.0
4	Oil & Grease	<2.0	<2.0	<2.0	<2.0	10.0	Partition Gravimetric	2.0
5	COD	32	20	28	52	250.0	Closed Reflux	4.0

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

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager, JSA.....
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed..... Dated 26.09.17. Job No. 110310

**TABLE NO-10 D
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10			Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW5	10MW6	10MW7			
	Station Name	Parasea UG	Jambad OC	Jambad UG			
	Month	September	September	September			
	Fortnight	First	First	First			
	Date of Sampling	07-Sep-17	07-Sep-17	07-Sep-17			
1	pH	7.62	7.59	7.53	5.5-9.0	pH meter	0.01
2	TSS	28	30	21	100.0	Spectrophotometric	5.0
3	TDS	780	628	782	Not Specified	TDS meter	1.0
4	Oil & Grease	<2.0	<2.0	<2.0	10.0	Partition Gravimetric	2.0
5	COD	12	28	16	250.0	Closed Reflux	4.0

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

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager, JSA/SA.....
 Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed..... Dated 26.09.17. Job No. 110310

**TABLE NO-10 E
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10			Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW8	10MW9	10MW10			
	Station Name	Nabakajora UG	Madhabpur UG	Madhabpur OC Patch			
	Month	September	September	September			
	Fortnight	First	First	First			
	Date of Sampling	07-Sep-17	05-Sep-17	05-Sep-17			
1	pH	7.60	8.05	7.58	5.5-9.0	pH meter	0.01
2	TSS	25	18	27	100.0	Spectrophotometric	5.0
3	TDS	748	680	620	Not Specified	TDS meter	1.0
4	Oil & Grease	<2.0	<2.0	<2.0	10.0	Partition Gravimetric	2.0
5	COD	36	32	52	250.0	Closed Reflux	4.0

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

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager.....
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed..... Dated 26.09.17. Job No. 110310

**TABLE NO-10 F
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10			Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW11	10MW12	10MW13			
	Station Name	Lachipur UG	Central Kajora UG	Khas Kajora UG			
	Month	September	September	September			
	Fortnight	First	First	First			
	Date of Sampling	05-Sep-17	07-Sep-17	07-Sep-17			
1	pH	7.63	7.51	8.17	5.5-9.0	pH meter	0.01
2	TSS	29	23	20	100.0	Spectrophotometric	5.0
3	TDS	690	724	733	Not Specified	TDS meter	1.0
4	Oil & Grease	<2.0	<2.0	<2.0	10.0	Partition Gravimetric	2.0
5	COD	40	12	28	250.0	Closed Reflux	4.0


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

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager, ...
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed... Dated 28.09.17, Job No. 110310

**TABLE NO-10 G
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10			Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW14	10MW15	10MW16			
	Station Name	Madhusudanpur UG	Parascole East	Parascole West			
	Month	September	September	September			
	Fortnight	First	First	First			
	Date of Sampling	07-Sep-17	05-Sep-17	05-Sep-17			
1	pH	7.38	7.55	7.64	5.5-9.0	pH meter	0.01
2	TSS	24	20	23	100.0	Spectrophotometric	5.0
3	TDS	693	765	775	Not Specified	TDS meter	1.0
4	Oil & Grease	<2.0	<2.0	<2.0	10.0	Partition Gravimetric	2.0
5	COD	36	40	12	250.0	Closed Reflux	4.0

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

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Assst. Manager, JSA/SA
 Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed:  Dated 26.09.17. Job No. 1103/0

**TABLE NO-10 H
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10			Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW17	10MW18	10MW19			
	Station Name	North Searsole UG	Molra UG	Madhujore UG			
	Month	September	September	September			
	Fortnight	First	First	First			
	Date of Sampling	05-Sep-17	06-Sep-17	06-Sep-17			
1	pH	7.52	7.07	8.10	5.5-9.0	pH meter	0.01
2	TSS	25	29	27	100.0	Spectrophotometric	5.0
3	TDS	815	771	739	Not Specified	TDS meter	1.0
4	Oil & Grease	<2.0	<2.0	<2.0	10.0	Partition Gravimetric	2.0
5	COD	28	40	16	250.0	Closed Reflux	4.0

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

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager.....
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed..... Dated 26.09.17. Job No. 110310

**TABLE NO.- 10 |
WORK-PLACE NOISE LEVEL REPORT**

Cluster No.	Station No.	Station Name	Month	Fortnight	Date of Sampling	Noise Level in Day Time (dB(A))
10	10N1	Pit-top Amrasola UG	September	First	14-Sep-17	62.9
	10N2	Pit-top Belbaid UG	September	First	01-Sep-17	61.3
	10N3	Pit-top Banera UG	September	First	13-Sep-17	69.3
	10N4	Pit-top Parasea UG	September	First	14-Sep-17	70.7
	10N5	Pit-top Jambad OC	September	First	02-Sep-17	62.5
	10N6	Pit-top Jambad UG	September	First	12-Sep-17	65.4
	10N7	Pit-top Nabakajora UG	September	First	04-Sep-17	61.2
	10N8	Pit-top Madhabpur UG	September	First	15-Sep-17	66.6

Environmental standards:

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

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

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager, JSA/SA
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed..... Dated 26.09.17. Job No. 110310

**TABLE NO.- 10 J
WORK-PLACE NOISE LEVEL REPORT**

Cluster No.	Station No.	Station Name	Month	Fortnight	Date of Sampling	Noise Level in Day Time (dB(A))
10	10N9	Pit-top Lachipur UG	September	First	01-Sep-17	67.1
	10N10	Pit-top Central Kajora UG	September	First	08-Sep-17	62.0
	10N11	Pit-top Khas Kajora UG	September	First	05-Sep-17	70.6
	10N12	Pit-top Madhusudanpur UG	September	First	02-Sep-17	59.1
	10N13	Pit-top Parasole East & West UG	September	First	13-Sep-17	65.3
	10N14	Pit-top North Searsole UG	September	First	01-Sep-17	64.5
	10N15	Pit-top Moira UG	September	First	13-Sep-17	62.0
	10N16	Pit-top Madhujora UG	September	First	09-Sep-17	68.1

Environmental standards:

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

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

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager, ...
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed, ... Dated 26.09.17. Job No. 110310

**TABLE NO.- 10 K
AMBIENT AIR METAL ANALYSIS REPORT**

Cluster No.	Station No.	Station Name	Month	Fortnight	Date of Sampling	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Mercury (Hg)	Nickel (Ni)	Lead (Pb)
Method of Detection						Atomic Absorption Spectrophotometric (AAS)					
Detection Limit						0.005	0.001	0.01	0.001	0.10	0.005
10	10A1	In Kunustoria village	September	First	05-Sep-17	<0.005	<0.001	<0.01	<0.001	<0.10	<0.005
	10A2	Near Jambad OCP	September	First	05-Sep-17	<0.005	<0.001	<0.01	<0.001	<0.10	<0.005
	10A3	In Khas Kajora village	September	First	11-Sep-17	<0.005	<0.001	<0.01	<0.001	<0.10	<0.005
	10A4	In Lachipur village	September	First	07-Sep-17	<0.005	<0.001	<0.01	<0.001	<0.10	<0.005
	10A8	Near Toposi Railway siding	September	First	07-Sep-17	<0.005	<0.001	<0.01	<0.001	<0.10	<0.005
	10A9	In Pure Jambad village	September	First	07-Sep-17	<0.005	<0.001	<0.01	<0.001	<0.10	<0.005
	10A10	In Khandra village	September	First	08-Sep-17	<0.005	<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 (As)	Cadmium (Cd)	Chromium (Cr)	Mercury (Hg)	Nickel (Ni)	Lead (Pb)
Limit (µg/m ³)	0.005	Not specified	Not specified	Not specified	0.02	0.5

Prepared from environment monitoring data submitted by JSA/GA by Neeraj Kumar, Asstt. Manager,
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed..... Dated 26.09.17. Job No. 110310



**TABLE NO.- 10 L
 AMBIENT AIR METAL ANALYSIS REPORT**

Cluster No.	Station No.	Station Name	Month	Fortnight	Date of Sampling	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Mercury (Hg)	Nickel (Ni)	Lead (Pb)
Method of Detection						Atomic Absorption Spectrophotometric (AAS)					
Detection Limit						0.005	0.001	0.01	0.001	0.10	0.005
10	10A11	Madhujore village near Railway siding	September	First	06-Sep-17	<0.005	<0.001	<0.01	<0.001	<0.10	<0.005
	10A12	Parascole village Railway siding near Mukundpur	September	First	06-Sep-17	<0.005	<0.001	<0.01	<0.001	<0.10	<0.005
	10A13	Bansara village near Railway siding West	September	First	08-Sep-17	<0.005	<0.001	<0.01	<0.001	<0.10	<0.005
	10A14	Parasia village near Railway siding	September	First	11-Sep-17	<0.005	<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 (As)	Cadmium (Cd)	Chromium (Cr)	Mercury (Hg)	Nickel (Ni)	Lead (Pb)
Limit (µg/m ³)	0.006	Not specified	Not specified	Not specified	0.02	0.5

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager, JSA/SA
 Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed..... Dated 28.08.17. Job No. 110310

**TABLE NO.- 10 A
AMBIENT AIR QUALITY REPORT**

Cluster No.	Station No.	Station Name	Month	Fortnight	Date of Sampling	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	Remarks
10	10A1	In Kunustoria village	September	Second	21-Sep-17	73.8	29.7	<10.0	16.6	-
	10A2	Near Jambad OCP	September	Second	19-Sep-17	71.2	30.3	<10.0	16.5	-
	10A3	In Khas Kajora village	September	Second	20-Sep-17	71.8	31.4	<10.0	12.1	-
	10A4	In Lachipur village	September	Second	19-Sep-17	70.9	31.1	<10.0	16.8	-
	10A8	Near Topoi RS	September	Second	19-Sep-17	71.4	31.9	<10.0	17.7	-
	10A9	In Pure Jambad village	September	Second	22-Sep-17	75.2	31.6	<10.0	14.3	-
	10A10	In Khandra village	September	Second	22-Sep-17	77.0	29.9	<10.0	15.4	-

National Ambient Air Quality Standards (NAAQS):

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

Pollutant	PM ₁₀	PM _{2.5}	SO ₂	NO _x
Concentration (µg/m ³)	100.0	60.0	80.0	80.0

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager.
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed..... Dated 16.10.17. Job No. 110310


**TABLE NO.- 10 B
AMBIENT AIR QUALITY REPORT**

Cluster No.	Station No.	Station Name	Month	Fortnight	Date of Sampling	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO _x (µg/m ³)	Remarks
10	10A11	Madhujore village near Railway siding	September	Second	21-Sep-17	75.2	31.4	<10.0	11.4	-
	10A12	Parascole village Railway siding near Mukundpur	September	Second	23-Sep-17	76.1	30.7	<10.0	13.6	-
	10A13	Bansra village near Railway siding West	September	Second	24-Sep-17	75.8	31.4	<10.0	16.5	-
	10A14	Parsla village near Railway siding	September	Second	24-Sep-17	72.9	31.5	<10.0	12.3	-

National Ambient Air Quality Standards (NAAQS):

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

Pollutant	PM ₁₀	PM _{2.5}	SO ₂	NO _x
Concentration (µg/m ³)	100.0	60.0	80.0	80.0

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Assst. Manager,
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed.  Dated 18.10.17, Job No. 110310

**TABLE NO.- 10 ✓
WORK-PLACE NOISE LEVEL REPORT**

Cluster No.	Station No.	Station Name	Month	Fortnight	Date of Sampling	Noise Level in Day Time (dB(A))
10	10N1	Pit-top Amrasota UG	September	Second	20-Sep-17	82.2
	10N2	Pit-top Belbaid UG	September	Second	23-Sep-17	58.5
	10N3	Pit-top Bansra UG	September	Second	18-Sep-17	64.6
	10N4	Pit-top Parasea UG	September	Second	25-Sep-17	70.4
	10N5	Pit-top Jambad OC	September	Second	21-Sep-17	68.7
	10N6	Pit-top Jambad UG	September	Second	26-Sep-17	64.3
	10N7	Pit-top Nabakajora UG	September	Second	19-Sep-17	63.4
	10N8	Pit-top Madhabpur UG	September	Second	23-Sep-17	65.1

Environmental standards:

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

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

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager,
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed.....Dated 16.10.17. Job No. 110310

**TABLE NO.- 10
WORK-PLACE NOISE LEVEL REPORT**

Cluster No.	Station No.	Station Name	Month	Fortnight	Date of Sampling	Noise Level in Day Time {dB(A)}
10	10N9	Pit-top Lachipur UG	September	Second	22-Sep-17	67.0
	10N10	Pit-top Central Kajora UG	September	Second	16-Sep-17	64.5
	10N11	Pit-top Khas Kajora UG	September	Second	25-Sep-17	68.2
	10N12	Pit-top Madhusudanpur UG	September	Second	19-Sep-17	61.5
	10N13	Pit-top Parasole East & West UG	September	Second	28-Sep-17	69.6
	10N14	Pit-top North Searsole UG	September	Second	18-Sep-17	70.7
	10N15	Pit-top Moira UG	September	Second	28-Sep-17	62.8
	10N16	Pit-top Madhujore UG	September	Second	23-Sep-17	68.1

Environmental standards:

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

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


Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager, 15/9/17
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**TABLE NO-10C
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW1			
	Station Name	Amrasota UG			
	Month	September			
	Fortnight	Second			
	Date of Sampling	23-Sep-17			
1	Colour	4	Unobjectionable	Physical	10 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	12	100.0	Spectrophotometric	5.0
4	pH	7.36	5.5-9.0	pH meter	0.01
5	Temperature (°C)	25.6	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.46	50.0	Spectrophotometric	0.01
9	Total Kjeldahi Nitrogen	1.24	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	10	30.0	Bioassy & Titrimetric	2.0
12	COD	16	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.03	0.1	Spectrophotometric	0.01
16	Total Chromium	0.06	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.03	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.03	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.30	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	1.36	5.0	Spectrophotometric	0.30
23	Sulphide	0.006	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.30	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.14	3.0	Atomic Absorption Spectrophotometric	0.06
27	Nitrate Nitrogen	3.8	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	768	Not Specified	TDS Meter	1.0

Note: All parameters are in mg/l unless specified otherwise.

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager.....
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**TABLE NO-10D
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW2			
	Station Name	Belbaid UG			
	Month	September			
	Fortnight	Second			
	Date of Sampling	23-Sep-17			
1	Colour	4	Unobjectionable	Physical	1.0 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	20	100.0	Spectrophotometric	5.0
4	pH	7.81	5.5-9.0	pH meter	0.01
5	Temperature (°C)	26.5	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.69	50.0	Spectrophotometric	0.01
9	Total Kjeldahi Nitrogen	1.62	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	14	30.0	Bioassy & Titrimetric	2.0
12	COD	24	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.03	0.1	Spectrophotometric	0.01
16	Total Chromium	0.06	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.03	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.02	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.32	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	1.00	5.0	Spectrophotometric	0.30
23	Sulphide	0.009	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.28	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.14	3.0	Atomic Absorption Spectrophotometric	0.06
27	Nitrate Nitrogen	3.6	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	686	Not Specified	TDS Meter	1.0

Note: All parameters are in mg/l unless specified otherwise.

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager,
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**TABLE NO-10E
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW3			
	Station Name	Belbaid OC Patch			
	Month	September			
	Fortnight	Second			
	Date of Sampling	23-Sep-17			
1	Colour	3	Unobjectionable	Physical	1.0 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	10	100.0	Spectrophotometric	5.0
4	pH	7.56	5.5-9.0	pH meter	0.01
5	Temperature (°C)	25.1	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.82	50.0	Spectrophotometric	0.01
9	Total Kjeldahi Nitrogen	1.59	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	10	30.0	Bioassy & Titrimetric	2.0
12	COD	16	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.03	0.1	Spectrophotometric	0.01
16	Total Chromium	0.06	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.03	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.04	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.40	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	1.38	5.0	Spectrophotometric	0.30
23	Sulphide	0.008	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.24	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.16	3.0	Atomic Absorption Spectrophotometric	0.06
27	Nitrate Nitrogen	3.7	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	700	Not Specified	TDS Meter	1.0

Note: All parameters are in mg/l unless specified otherwise.

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**TABLE NO-10F
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW4			
	Station Name	Bansra UG			
	Month	September			
	Fortnight	Second			
	Date of Sampling	23-Sep-17			
1	Colour	4	Unobjectionable	Physical	1.0 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	18	100.0	Spectrophotometric	5.0
4	pH	7.48	5.5-9.0	pH meter	0.01
5	Temperature (°C)	24.3	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.52	50.0	Spectrophotometric	0.01
9	Total Kjeldahl Nitrogen	1.52	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	8	30.0	Bioassy & Titrimetric	2.0
12	COD	44	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.03	0.1	Spectrophotometric	0.01
16	Total Chromium	0.06	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.03	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.03	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.30	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	1.45	5.0	Spectrophotometric	0.30
23	Sulphide	0.010	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.32	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.14	3.0	Atomic Absorption Spectrophotometric	0.06
27	Nitrate Nitrogen	2.4	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	667	Not Specified	TDS Meter	1.0

Note: All parameters are in mg/l unless specified otherwise.

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager,
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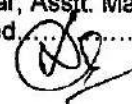


**TABLE NO-10G
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW5			
	Station Name	Parasea UG			
	Month	September			
	Fortnight	Second			
	Date of Sampling	23-Sep-17			
1	Colour	3	Unobjectionable	Physical	10 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	12	100.0	Spectrophotometric	5.0
4	pH	7.75	5.5-9.0	pH meter	0.01
5	Temperature (°C)	25.8	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.64	50.0	Spectrophotometric	0.01
9	Total Kjeldahi Nitrogen	1.32	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	8	30.0	Bioassy & Titrimetric	2.0
12	COD	16	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.03	0.1	Spectrophotometric	0.01
16	Total Chromium	0.06	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.04	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.03	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.27	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	0.99	5.0	Spectrophotometric	0.30
23	Sulphide	0.007	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.34	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.16	3.0	Atomic Absorption Spectrophotometric	0.06
27	Nitrate Nitrogen	2.9	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	799	Not Specified	TDS Meter	1.0

Note: All parameters are in mg/l unless specified otherwise.

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Assst. Manager,
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**TABLE NO-10H
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW6			
	Station Name	Jambad OC			
	Month	September			
	Fortnight	Second			
	Date of Sampling	16-Sep-17			
1	Colour	4	Unobjectionable	Physical	1.0 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	26	100.0	Spectrophotometric	5.0
4	pH	7.68	5.5-9.0	pH meter	0.01
5	Temperature (°C)	25.2	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.46	50.0	Spectrophotometric	0.01
9	Total Kjeldahi Nitrogen	1.24	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	6	30.0	Bioassy & Titrimetric	2.0
12	COD	32	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.04	0.1	Spectrophotometric	0.01
16	Total Chromium	0.06	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.03	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.02	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.37	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	0.89	5.0	Spectrophotometric	0.30
23	Sulphide	0.008	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.28	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.14	3.0	Atomic Absorption Spectrophotometric	0.06
27	Nitrate Nitrogen	3.3	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	612	Not Specified	TDS Meter	1.0

Note: All parameters are in mg/l unless specified otherwise.



**TABLE NO-101
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW7			
	Station Name	Jambad UG			
	Month	September			
	Fortnight	Second			
	Date of Sampling	16-Sep-17			
1	Colour	3	Unobjectionable	Physical	10 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	16	100.0	Spectrophotometric	5.0
4	pH	7.65	5.5-9.0	pH meter	0.01
5	Temperature (°C)	25.6	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.32	50.0	Spectrophotometric	0.01
9	Total Kjeldahi Nitrogen	1.39	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	10	30.0	Bioassy & Titrimetric	2.0
12	COD	20	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.02	0.1	Spectrophotometric	0.01
16	Total Chromium	0.06	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.04	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.02	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.25	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	1.37	5.0	Spectrophotometric	0.30
23	Sulphide	0.006	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.28	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.16	3.0	Atomic Absorption Spectrophotometric	0.06
27	Nitrate Nitrogen	3.5	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	775	Not Specified	TDS Meter	1.0

Note: All parameters are in mg/l unless specified otherwise.

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager, JSA/SA.....
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed..... Dated 16.10.17. Jot. No. 110310



**TABLE NO-10J
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW8			
	Station Name	Nabakajora UG			
	Month	September			
	Fortnight	Second			
Date of Sampling	16-Sep-17				
1	Colour	3	Unobjectionable	Physical	1.0 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	20	100.0	Spectrophotometric	5.0
4	pH	7.56	5.5-9.0	pH meter	0.01
5	Temperature (°C)	26.1	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.42	50.0	Spectrophotometric	0.01
9	Total Kjeldahi Nitrogen	1.52	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	8	30.0	Bioassy & Titrimetric	2.0
12	COD	28	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.03	0.1	Spectrophotometric	0.01
16	Total Chromium	0.07	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.04	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.03	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.27	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	1.25	5.0	Spectrophotometric	0.30
23	Sulphide	0.008	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.24	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.18	3.0	Atomic Absorption Spectrophotometric	0.06
27	Nitrate Nitrogen	2.4	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	732	Not Specified	TDS Meter	1.0


Note: All parameters are in mg/l unless specified otherwise.

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager,
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed Dated 16.10.17. Job No. 110310

**TABLE NO-10K
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW9			
	Station Name	Madhabpur UG			
	Month	September			
	Fortnight	Second			
	Date of Sampling	16-Sep-17			
1	Colour	4	Unobjectionable	Physical	1.0 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	19	100.0	Spectrophotometric	5.0
4	pH	8.19	5.5-9.0	pH meter	0.01
5	Temperature (°C)	24.7	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.71	50.0	Spectrophotometric	0.01
9	Total Kjeldahl Nitrogen	1.32	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	14	30.0	Bioassy & Titrimetric	2.0
12	COD	24	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.04	0.1	Spectrophotometric	0.01
16	Total Chromium	0.07	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.03	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.02	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.35	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	1.67	5.0	Spectrophotometric	0.30
23	Sulphide	0.006	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.28	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.14	3.0	Atomic Absorption Spectrophotometric	0.06
27	Nitrate Nitrogen	3.0	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	698	Not Specified	TDS Meter	1.0


Note: All parameters are in mg/l unless specified otherwise.

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager, JSA/SA
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**TABLE NO-10L
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW10			
	Station Name	Madhabpur OC Patch			
	Month	September			
	Fortnight	Second			
	Date of Sampling	16-Sep-17			
1	Colour	4	Unobjectionable	Physical	1.0 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	20	100.0	Spectrophotometric	5.0
4	pH	7.61	5.5-9.0	pH meter	0.01
5	Temperature (°C)	25.6	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.52	50.0	Spectrophotometric	0.01
9	Total Kjeldahi Nitrogen	1.46	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	10	30.0	Bioassy & Titrimetric	2.0
12	COD	56	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.04	0.1	Spectrophotometric	0.01
16	Total Chromium	0.07	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.03	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.03	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.33	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	1.09	5.0	Spectrophotometric	0.30
23	Sulphide	0.007	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.28	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.16	3.0	Atomic Absorption Spectrophotometric	0.06
27	Nitrate Nitrogen	2.9	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	635	Not Specified	TDS Meter	1.0

Note: All parameters are in mg/l unless specified otherwise.

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager, JSA/SA
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**TABLE NO-10M
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW11			
	Station Name	Lachipur UG			
	Month	September			
	Fortnight	Second			
	Date of Sampling	16-Sep-17			
1	Colour	3	Unobjectionable	Physical	1.0 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	30	100.0	Spectrophotometric	5.0
4	pH	7.79	5.5-9.0	pH meter	0.01
5	Temperature (°C)	25.1	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.64	50.0	Spectrophotometric	0.01
9	Total Kjeldahi Nitrogen	1.32	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	12	30.0	Bioassy & Titrimetric	2.0
12	COD	48	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.03	0.1	Spectrophotometric	0.01
16	Total Chromium	0.05	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.04	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.03	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.40	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	0.96	5.0	Spectrophotometric	0.30
23	Sulphide	0.006	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.30	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.18	3.0	Atomic Absorption Spectrophotometric	0.06
27	Nitrate Nitrogen	3.7	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	715	Not Specified	TDS Meter	1.0

Note: All parameters are in mg/l unless specified otherwise.

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**TABLE NO-10N
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW12			
	Station Name	Central Kajora UG			
	Month	September			
	Fortnight	Second			
	Date of Sampling	16-Sep-17			
1	Colour	4	Unobjectionable	Physical	1.0 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	18	100.0	Spectrophotometric	5.0
4	pH	7.66	5.5-9.0	pH meter	0.01
5	Temperature (°C)	24.3	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.42	50.0	Spectrophotometric	0.01
9	Total Kjeldahl Nitrogen	1.24	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	16	30.0	Bioassy & Titrimetric	2.0
12	COD	24	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.02	0.1	Spectrophotometric	0.01
16	Total Chromium	0.06	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.03	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.04	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.35	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	1.20	5.0	Spectrophotometric	0.30
23	Sulphide	0.008	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.40	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.14	3.0	Atomic Absorption Spectrophotometric	0.06
27	Nitrate Nitrogen	2.8	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	744	Not Specified	TDS Meter	1.0

Note: All parameters are in mg/l unless specified otherwise.

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**TABLE NO-100
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW13			
	Station Name	Khas Kajora UG			
	Month	September			
	Fortnight	Second			
	Date of Sampling	24-Sep-17			
1	Colour	4	Unobjectionable	Physical	1.0 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	26	100.0	Spectrophotometric	5.0
4	pH	8.09	5.5-9.0	pH meter	0.01
5	Temperature (°C)	24.8	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.52	50.0	Spectrophotometric	0.01
9	Total Kjeldahi Nitrogen	1.32	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	8	30.0	Bloassy & Titrimetric	2.0
12	COD	36	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.04	0.1	Spectrophotometric	0.01
16	Total Chromium	0.08	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.03	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.02	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.25	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	1.40	5.0	Spectrophotometric	0.30
23	Sulphide	0.006	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.36	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.18	3.0	Atomic Absorption Spectrophotometric	0.06
27	Nitrate Nitrogen	4.0	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	716	Not Specified	TDS Meter	1.0

Note: All parameters are in mg/l unless specified otherwise.

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**TABLE NO-10P
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW14			
	Station Name	Madhusudanpur UG			
	Month	September			
	Fortnight	Second			
	Date of Sampling	24-Sep-17			
1	Colour	3	Unobjectionable	Physical	1.0 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	30	100.0	Spectrophotometric	5.0
4	pH	7.46	5.5-9.0	pH meter	0.01
5	Temperature (°C)	26.9	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.56	50.0	Spectrophotometric	0.01
9	Total Kjeldahi Nitrogen	1.49	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	6	30.0	Bioassy & Titrimetric	2.0
12	COD	48	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.03	0.1	Spectrophotometric	0.01
16	Total Chromium	0.07	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.04	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.04	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.30	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	1.15	5.0	Spectrophotometric	0.30
23	Sulphide	0.009	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.34	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.14	3.0	Atomic Absorption Spectrophotometric	0.06
27	Nitrate Nitrogen	4.0	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	703	Not Specified	TDS Meter	1.0

Note: All parameters are in mg/l unless specified otherwise.

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**TABLE NO-10Q
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW15			
	Station Name	Parascole East			
	Month	September			
	Fortnight	Second			
	Date of Sampling	24-Sep-17			
1	Colour	3	Unobjectionable	Physical	1.0 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	12	100.0	Spectrophotometric	5.0
4	pH	7.80	5.5-9.0	pH meter	0.01
5	Temperature (°C)	25.2	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.64	50.0	Spectrophotometric	0.01
9	Total Kjeldahi Nitrogen	1.64	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	14	30.0	Bioassy & Titrimetric	2.0
12	COD	20	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.04	0.1	Spectrophotometric	0.01
16	Total Chromium	0.08	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.04	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.04	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.37	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	1.10	5.0	Spectrophotometric	0.30
23	Sulphide	0.007	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.28	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.12	3.0	Atomic Absorption Spectrophotometric	0.05
27	Nitrate Nitrogen	3.6	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	783	Not Specified	TDS Meter	1.0

Note: All parameters are in mg/l unless specified otherwise.

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager,
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**TABLE NO-10R
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW16			
	Station Name	Parascole West			
	Month	September			
	Fortnight	Second			
Date of Sampling	24-Sep-17				
1	Colour	3	Unobjectionable	Physical	1.0 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	17	100.0	Spectrophotometric	5.0
4	pH	7.74	5.5-9.0	pH meter	0.01
5	Temperature (°C)	25.6	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.52	50.0	Spectrophotometric	0.01
9	Total Kjeldahl Nitrogen	1.38	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	14	30.0	Bioassy & Titrimetric	2.0
12	COD	24	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.03	0.1	Spectrophotometric	0.01
16	Total Chromium	0.06	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.04	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.03	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.30	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	1.49	5.0	Spectrophotometric	0.30
23	Sulphide	0.006	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.32	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.20	3.0	Atomic Absorption Spectrophotometric	0.06
27	Nitrate Nitrogen	3.6	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	792	Not Specified	TDS Meter	1.0

Note: All parameters are in mg/l unless specified otherwise.

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager, JSA/SA
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed..... Dated 16.10.17. Job No. 110310

**TABLE NO-10S
MINE WATER QUALITY REPORT**

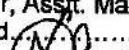
Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW17			
	Station Name	North Searsole UG			
	Month	September			
	Fortnight	Second			
Date of Sampling	16-Sep-17				
1	Colour	4	Unobjectionable	Physical	10 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	30	100.0	Spectrophotometric	5.0
4	pH	7.69	5.5-9.0	pH meter	0.01
5	Temperature (°C)	25.1	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.46	50.0	Spectrophotometric	0.01
9	Total Kjeldahi Nitrogen	1.24	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	12	30.0	Bioassy & Titrimetric	2.0
12	COD	36	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.02	0.1	Spectrophotometric	0.01
16	Total Chromium	0.06	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.03	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.04	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.35	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	0.94	5.0	Spectrophotometric	0.30
23	Sulphide	0.008	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.28	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.22	3.0	Atomic Absorption Spectrophotometric	0.06
27	Nitrate Nitrogen	4.2	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	800	Not Specified	TDS Meter	1.0

Note: All parameters are in mg/l unless specified otherwise.

**TABLE NO-10T
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW18			
	Station Name	Moira UG			
	Month	September			
	Fortnight	Second			
	Date of Sampling	16-Sep-17			
1	Colour	4	Unobjectionable	Physical	1.0 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	32	100.0	Spectrophotometric	5.0
4	pH	7.71	5.5-9.0	pH meter	0.01
5	Temperature (°C)	26.8	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.42	50.0	Spectrophotometric	0.01
9	Total Kjeldahi Nitrogen	1.26	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	6	30.0	Bioassy & Titrimetric	2.0
12	COD	48	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.03	0.1	Spectrophotometric	0.01
16	Total Chromium	0.07	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.03	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.03	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.31	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	1.12	5.0	Spectrophotometric	0.30
23	Sulphide	0.009	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.30	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.16	3.0	Atomic Absorption Spectrophotometric	0.06
27	Nitrate Nitrogen	2.9	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	747	Not Specified	TDS Meter	1.0

Note: All parameters are in mg/l unless specified otherwise.

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager, JSA/SA...
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed  Dated 16.10.17. Job No. 110310

**TABLE NO-10U
MINE WATER QUALITY REPORT**

Sl. No.	Cluster No.	10	Effluent Water (MOEF Schedule-VI Standard)	Method of Detection	Detection Limit
	Station No.	10MW19			
	Station Name	Madhujore UG			
	Month	September			
	Fortnight	Second			
	Date of Sampling	16-Sep-17			
1	Colour	3	Unobjectionable	Physical	1.0 Hazen
2	Odour	Unobjectionable	Unobjectionable	Physical	-
3	TSS	26	100.0	Spectrophotometric	5.0
4	pH	8.14	5.5-9.0	pH meter	0.01
5	Temperature (°C)	25.7	Shall not exceed 5°C above the receiving water temp	Thermometric	0.1
6	Oil & Grease	<2.0	10.0	Partition Gravimetric	2.0
7	Total Residual Chlorine	<0.02	1.0	Spectrophotometric	0.02
8	Ammonical Nitrogen	0.39	50.0	Spectrophotometric	0.01
9	Total Kjeldahi Nitrogen	1.34	100.0	Spectrophotometric	1.0
10	Free Ammonia	<0.4	5.0	Spectrophotometric	0.4
11	BOD	8	30.0	Bioassy & Titrimetric	2.0
12	COD	28	250.0	Closed Reflux	4.0
13	Arsenic	<0.005	0.2	Atomic Absorption Spectrophotometric	0.005
14	Lead	<0.005	0.1	Atomic Absorption Spectrophotometric	0.005
15	Hexavalent Chromium	0.04	0.1	Spectrophotometric	0.01
16	Total Chromium	0.07	2.0	Atomic Absorption Spectrophotometric	0.06
17	Copper	0.03	3.0	Atomic Absorption Spectrophotometric	0.03
18	Zinc	0.84	5.0	Atomic Absorption Spectrophotometric	0.01
19	Selenium	<0.005	0.05	Atomic Absorption Spectrophotometric	0.005
20	Nickel	<0.10	3.0	Atomic Absorption Spectrophotometric	0.10
21	Fluoride	0.37	2.0	Spectrophotometric	0.02
22	Dissolved Phosphate	1.15	5.0	Spectrophotometric	0.30
23	Sulphide	0.007	2.0	Spectrophotometric	0.005
24	Phenolics	<0.001	1.0	Spectrophotometric	0.001
25	Manganese	0.30	2.0	Atomic Absorption Spectrophotometric	0.02
26	Iron	0.15	3.0	Atomic Absorption Spectrophotometric	0.06
27	Nitrate Nitrogen	2.6	10.0	Spectrophotometric	0.3
28	Cadmium	<0.001	2.0	Atomic Absorption Spectrophotometric	0.001
29	Total Dissolved Solids	721	Not Specified	TDS Meter	1.0

Note: All parameters are in mg/l unless specified otherwise.

Prepared from environment monitoring data submitted by JSA/SA by Neeraj Kumar, Asstt. Manager,
Report released by Shri Indranil De, Manager (Env), CMPDI, RI-1, Asansol, Signed Dated 16.10.17. Job No. 110310



Expd under CSR from April 2017 to September 2017				
Sl No	Name of the Work	Amount spent	Place of Execution	Work Order no
1	Swabhimaan-Women Empowerment	96800	Bankola Area	BA/PD/CSR/95 dated 18/22.05.17

M. Mondal
Asst Mgr (CD)
 Asst. Manager (CD)
 BANKOLA AREA
 Eastern Coalfields Limited



EASTERN COALFIELDS LIMITED
(A subsidiary of Coal India Limited)

KAJORA AREA

PME achieved for (+ 42 yrs.) from JANUARY to OCTOBER-2017

Colliery	Total Man Power (2017)	Man Power +45 Yrs (on Roll)	Target Yearly (2017)	Target Monthly (2017)	Jan -17 Achieved	Feb -17 Achieved	March -17 Achieved	April -17 Achieved	May -17 Achieved	June -17 Achieved	July -17 Achieved
Madhujore	51	47	16	02	--	--	--	--	--	--	--
Madhusudpur	521	413	137	11	19	03	04	--	24	19	16
Naba Kajora	573	433	144	12	05	06	11	06	10	06	06
Madhubpur	489	414	138	12	03	--	02	25	14	11	04
Porascole	1452	981	327	27	09	32	15	21	26	31	23
Jambad (UG)	857	501	167	14	16	25	16	21	13	20	20
Khas Kajora	1394	841	280	23	34	24	25	16	16	24	16
Cent. Karora	523	370	123	10	02	11	19	13	09	10	14
Jambad (OCP)	430	318	106	09	14	04	03	18	16	12	24
Area Office	785	202	83	07	--	--	--	--	--	--	--
Total Area	6575	4520	1521	127	102	105	95	120	128	133	123

Total Comt. Workers achieved

Month	+ 45 Yrs	-45 Yrs	Total
Jan'17	01	03	04
Feb'17	03	04	07
Mar'17	01	14	15
Apr'17	06	27	33
May'17	15	07	22
June'17	03	03	06
July'17	00	00	00
Aug'17	00	00	00
Sep'17	00	06	06
Oct'17	00	00	00
Total			93



PROGRESSIVE MULTIFORMS UNIT, P.O. 280/8004

Encl: PME/IME statement.



EASTERN COALFIELDS LIMITED
(A Subsidiary of Coal India Limited)

KAJORA AREA

IME achieved for (+ 45 yrs) from JANUARY to OCTOBER - 2017

<u>Colliery</u>	Total Man Power (2017)	Man Power +45 yrs (on Roll)	Target Yearly (2017)	Target Monthly (2017)	Aug-17 Achieved	Sep-17 Achieved	Oct-17 Achieved	Total Jan to Oct (2017)
Madhujora	51	47	16	02	00	00	00	00
Madhusudipur	521	413	137	11	35	06	07	98
Naba Kajora	573	433	144	12	04	01	09	60
Madhubpur	489	414	138	12	15	06	04	69
Porascole	1452	981	327	27	37	16	07	180
Jambad (UG)	857	501	167	14	25	06	04	141
Khas Kajora	1394	841	280	23	37	17	13	183
Cent. Karora	523	370	123	10	13	10	04	92
Jambad (OCP)	430	318	106	09	25	12	00	100
Area Office	285	202	83	07	00	00	00	00
Total Area	6575	4520	1521	127	191	74	43	928

IME achieved for Oct'17 : 07Nos.

Total IME achieved January to Oct'17 : 62 Nos.

6/11/17
29/10

PME U/GI, Kajora Area



EASTERN COALFIELDS LIMITED
(A subsidiary of Coal India Limited)

KAJORA AREA

PME achieved for (- 45 yrs.) from JANUARY to OCTOBER - 2017

Colliery	Total Man Power (2017)	-45 yrs (on Roll)	Target Yearly	Target Monthly	Jan - 17 Achieved	Feb - 17 Achieved	March - 17 Achieved	April - 17 Achieved	May - 17 Achieved	June - 17 Achieved	July - 17 Achieved
Madhujore	51	04	--	--	--	--	--	--	--	--	--
Madhusudpur	521	108	22	02	02	--	--	--	03	--	05
Naba Kajora	573	140	28	02	02	04	02	02	05	01	02
Madhubpur	489	75	15	01	03	12	03	03	01	02	01
Porascole	1452	471	94	08	08	06	07	07	07	12	19
Jambad (UG)	857	356	71	06	08	08	06	06	13	07	10
Khas Kajora	1394	553	110	09	05	07	02	02	01	08	08
Cent. Kanra	523	153	31	03	02	05	02	02	06	07	04
Jambad (OCP)	430	112	22	02	--	--	--	06	01	--	05
Area Office	285	83	17	02	--	--	--	--	--	--	--
Total Area	6575	2055	410	35	30	42	31	28	37	37	54





EASTERN COALFIELDS LIMITED
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KAJORA AREA

PMIE achieved for (- 45 yrs) from JANUARY to OCTOBER - 2017

Colliery	Total Man Power (2017)	-45 yrs (on Roll)	Target Yearly	Target Monthly	Aug-17 Achieved	Sep-17 Achieved	Oct-17 Achieved	Total Jan to Oct (2017)
Machujore	51	04	--	--	00	00	00	00
Machusudpur	521	108	22	02	03	00	00	10
Naba Kajora	573	140	28	02	00	01	03	23
Machubpur	489	75	15	01	05	00	01	25
Porascole	1452	471	94	08	21	11	02	66
Jambad (UG)	857	356	71	06	10	03	01	65
Khas Kajora	1394	553	110	09	06	06	02	39
Cent. Karora	523	153	31	03	10	04	01	29
Jambad (OCP)	430	112	22	02	14	01	00	12
Area Office	285	83	17	02	00	00	00	00
Total Area	6575	2055	410	35	69	26	10	269

PME IN 2017

Sl No	Name of Colliery	Man Power	Target /Month	Jul-17												Total #
				Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Aug-17	Sep-17	Oct-17				
1	Bankola Colliery	1343	268	38	29	32	24	28	17	3	35	35	0	241		
2	S.S.Pur Colliery	1199	240	25	20	25	26	21	31	23	34	27	28	260		
3	Khandra Colliery	811	162	8	23	9	6	11	16	10	14	8	10	115		
4	Kumardih A Colliery	726	145	1	13	8	0	30	20	12	46	20	6	156		
5	Kumardih B Colliery	525	105	3	2	0	10	20	9	2	20	0	13	79		
6	Motra Colliery	335	67	5	4	5	0	8	3	0	9	2	0	36		
7	Tilaboni Colliery	906	181	19	9	9	9	14	13	26	19	13	2	133		
8	Sankarpur Colliery	873	175	18	20	15	14	5	10	11	15	13	3	124		
9	Nakratonda Colliery	330	66	4	4	4	7	7	6	4	6	2	5	49		
10	GM Office & Hospital	264	53	0	0	0	0	0	0	0	0	0	0	0		
	Ukhra RW									1						
	Total	7312	1462	121	124	107	96	144	125	92	198	120	67	1194		
1	Pathology			121	124	107	96	144	125	92	198	120	67	1194		
2	Xray			121	124	107	96	144	125	92	198	120	67	1194		
3	ECG			15	15	15	17	21	22	13	19	15	12	164		
4	Spirometry			2	5	5	4	3	4	3	4	2	1	33		
5	Audiometry			5	5	5	3	5	4	3	2	2	2	36		
A.	Contractual Worker			0	0	0	0	9	13	0	2	4	19	47		
B.	Female Worker			5	1	1	4	7	2	5	3	2	0	30		
C.	Above 45yrs			92	89	84	68	95	84	65	152	82	44	855		
D.	Below 45yrs			29	35	23	28	49	41	27	46	38	23	339		

Sankaraj Das

15/11/17

Area Medical Officer, Bankola Area, E.C.L.