

**Environmental Monitoring Report  
For  
November -2025**

**Project: Samleswari OCP  
Area: Ib Valley  
Coalfield: Ib Valley**



**Mahanadi Coalfields Limited**



**Central Mine Planning & Design Institute Ltd.**  
(A Subsidiary of Coal India Ltd.)

**Regional Institute-VII, Samantpuri, P.O : RRL, Bhubaneswar-751013 (Odisha)**  
[Assistance from Environment Division, CMPDI(HQs), Ranchi ]

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सिंहगढीडी.ओ.एस  
 1993-2010  
 cmpdi  
 AMBIENT AIR QUALITY DATA

Test Report

**AMBIENT AIR QUALITY DATA**

Area :

Ib Valley

(Compliance Station)

Project :

Samleswari OCP

(conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	CO ( $\text{mg}/\text{m}^3$ )	Dust Generating Source	Distance from DGS
07-Nov-25	West of the Mine	276	159	64	9.68	18.87	-	Distance From 'y' Curve Railway Siding	About 450m
07-Nov-25	South of the Mine	251	137	59	15.26	30.95	-	Mine Haul Roads	About 400m
07-Nov-25	East of the Mine	281	153	69	12.63	33.48	-	Coal Transportation Road	About 500m
22-Nov-25	West of the Mine	271	148	66	15.23	37.06	-	Distance From 'y' Curve Railway Siding	About 450m
22-Nov-25	South of the Mine	311	165	78	11.54	29.44	-	Mine Haul Roads	About 400m
22-Nov-25	East of the Mine	314	165	76	10.88	16.77	-	Coal Transportation Road	About 500m

*[Signature]*  
 Authorised Signatory  
 CMPDI, RI-VII, LAB  
 BHUBANESWAR

*[Signature]*

MoEF Standards Notification dated 25th September, 2009	500	250		120	120	02/8 Hours
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AMBIENT AIR QUALITY DATA

Area :

Ib Valley

(Reference Station)

Project :

Samleswari OCP

(conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
03-Nov-25	Kudaloi Village	210	88	40	12.47	18.82	Mining Activities	About 1000m
04-Nov-25	Kudaloi Village	191	80	32	14.78	21.96	Mining Activities	About 1000m
05-Nov-25	Rampur Sub Area (Reported only)	193	87	40	12.76	24.31	Coal Stock And CT Road	About 1000m
05-Nov-25	Khokelmal (Reported Only)	168	67	32	16.97	27.35	Railway siding	About 1000m
06-Nov-25	Khokelmal (Reported Only)	195	82	39	13.89	29.89	Railway siding	About 1000m
06-Nov-25	Rampur Sub Area (Reported only)	173	81	37	16.11	22.07	Coal Stock And CT Road	About 1000m
10-Nov-25	Kudaloi Village	179	77	31	16.98	27.82	Mining Activities	About 1000m
11-Nov-25	Kudaloi Village	186	83	36	10.59	32.93	Mining Activities	About 1000m
12-Nov-25	Khokelmal (Reported Only)	179	75	38	12.37	41.22	Railway siding	About 1000m
12-Nov-25	Rampur Sub Area (Reported only)	203	95	46	13.69	29.34	Coal Stock And CT Road	About 1000m
13-Nov-25	Rampur Sub Area (Reported only)	188	84	39	11.39	29.55	Coal Stock And CT Road	About 1000m
13-Nov-25	Khokelmal (Reported Only)	168	70	32	11.32	35.55	Railway siding	About 1000m
17-Nov-25	Kudaloi Village	210	75	38	12.45	22.09	Mining Activities	About 1000m
18-Nov-25	Kudaloi Village	203	70	34	13.44	39.28	Mining Activities	About 1000m
19-Nov-25	Khokelmal (Reported Only)	219	84	48	14.78	21.96	Railway siding	About 1000m
19-Nov-25	Rampur Sub Area (Reported only)	191	83	40	9.79	35.72	Coal Stock And CT Road	About 1000m
20-Nov-25	Rampur Sub Area (Reported only)	185	74	33	13.50	28.25	Coal Stock And CT Road	About 1000m
20-Nov-25	Khokelmal (Reported Only)	189	67	34	16.98	27.82	Railway siding	About 1000m
24-Nov-25	Kudaloi Village	189	66	33	11.00	33.88	Mining Activities	About 1000m
25-Nov-25	Kudaloi Village	216	78	40	12.73	38.58	Mining Activities	About 1000m
26-Nov-25	Khokelmal (Reported Only)	206	80	42	10.59	32.93	Railway siding	About 1000m
26-Nov-25	Rampur Sub Area (Reported only)	197	80	39	16.07	36.76	Coal Stock And CT Road	About 1000m

\*NAAQS, 2009

100 60 80 80

*Signature*

**Project :**

**Samleswari OCP**

(conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
27-Nov-25	Rampur Sub Area (Reported only)	233	86	45	17.26	18.26	Coal Stock And CT Road	About 1000m
27-Nov-25	Khokelmal (Reported Only)	193	76	38	11.69	21.51	Railway siding	About 1000m
28-Nov-25	Kudaloi Village	231	89	49	10.75	24.47	Mining Activities	About 1000m
29-Nov-25	Kudaloi Village	243	93	52	12.99	33.16	Mining Activities	About 1000m

  
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CMPDI, RI-VII, LAB  
BHUBANESWAR



\*NAAQS, 2009

	100	60	80	80
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**AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)**

Area :

Ib Valley

Project :

Samleswari OCP

Date of Sampling	Monitoring Station	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo(a)Pyrene	Benzene
		(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )
03-Nov-25	Kudaloi Village	<20.0	14.47	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
04-Nov-25	Kudaloi Village	<20.0	23.60	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
05-Nov-25	Rampur Sub Area (Reported only)	<20.0	26.12	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
05-Nov-25	Khokelmal (Reported Only)	<20.0	16.68	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
06-Nov-25	Khokelmal (Reported Only)	<20.0	22.33	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
06-Nov-25	Rampur Sub Area (Reported only)	<20.0	13.53	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
10-Nov-25	Kudaloi Village	<20.0	25.17	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
11-Nov-25	Kudaloi Village	<20.0	13.53	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
12-Nov-25	Khokelmal (Reported Only)	<20.0	26.75	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
12-Nov-25	Rampur Sub Area (Reported only)	<20.0	24.55	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
13-Nov-25	Rampur Sub Area (Reported only)	<20.0	27.37	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
13-Nov-25	Khokelmal (Reported Only)	<20.0	27.07	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
17-Nov-25	Kudaloi Village	<20.0	13.53	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
18-Nov-25	Kudaloi Village	<20.0	28.32	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
19-Nov-25	Khokelmal (Reported Only)	<20.0	22.02	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
19-Nov-25	Rampur Sub Area (Reported only)	<20.0	23.6	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
20-Nov-25	Khokelmal (Reported Only)	<20.0	14.47	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
20-Nov-25	Rampur Sub Area (Reported only)	<20.0	22.33	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
24-Nov-25	Kudaloi Village	<20.0	15.10	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
25-Nov-25	Kudaloi Village	<20.0	15.42	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
26-Nov-25	Khokelmal (Reported Only)	<20.0	23.92	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
26-Nov-25	Rampur Sub Area (Reported only)	<20.0	17.62	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
27-Nov-25	Khokelmal (Reported Only)	<20.0	13.53	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
27-Nov-25	Rampur Sub Area (Reported only)	<20.0	22.65	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL

Standard	400(24 hours)	180(hours)	1.0(24 hours)	6.0(Annual)	20(Annual)	0.2(hours)	01(annual)	05(annual)
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**Project :**

**Samleswari OCP**

Date of Sampling	Monitoring Station	Ammonia(NH <sub>3</sub> )	Ozone(O <sub>3</sub> )	Lead(Pb)	Arsenic(As)	Nickel(Ni)	CO	Benzo(a)Pyrene	Benzene
		(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )
28-Nov-25	Kudaloi Village	<20.0	22.02	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
29-Nov-25	Kudaloi Village	<20.0	26.43	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL

  
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<b>Standard</b>	400(24hours)	180(hour)	1.0(24hours)	6.0(Annual)	20(Annual)	02(hours)	01(annual)	05(annual)
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CMPDI  
भारत सरकार

TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

Ib Valley

PROJECT :

Samleswari OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
10-Nov-25	South of the Mine	60.8	59.4
10-Nov-25	East of the Mine	58.2	53.7
10-Nov-25	Rampur Sub Area	52.9	39.3
10-Nov-25	West of the Mine	50.6	41.3
10-Nov-25	Kudaloi Village	49.1	40.5
10-Nov-25	Khokelmal (Reported Only)	51.6	40.8
28-Nov-25	South of the Mine	62.4	56.9
28-Nov-25	East of the Mine	58.7	53.4
28-Nov-25	Rampur Sub Area	52.9	39.6
28-Nov-25	Khokelmal (Reported Only)	49.3	40.7
28-Nov-25	West of the Mine	50.8	41.3
28-Nov-25	Kudaloi Village	51.6	40.5

MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 75dB(A) (Industrial)	10.00 PM -6.00 AM Leq 70dB(A) (Industrial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 55dB(A) (Residential)	10.00 PM -6.00 AM Leq 45dB(A) (Residential)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 65dB(A) (Commercial)	10.00 PM -6.00 AM Leq 55dB(A) (Commercial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 50dB(A) (Silence Zone)	10.00 PM -6.00 AM Leq 40dB(A) (Silence Zone)

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*Signature*



**EFFLUENT QUALITY DATA**

Area :

Ib Valley

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Samaleswari OCP

Date of Sampling	Sampling Station	pH	Samaleswari OCP					DO	Remarks
			Oil & Grease	TSS	COD	BOD	TDS		
14-Nov-25	Mine Sump Water	5.76	<4.0	33	28	-	-	-	
14-Nov-25	Inlet of ETP	6.73	4.4	71	92	-	-	-	
14-Nov-25	Outlet of ETP	6.79	<4.0	52	48	-	-	-	
27-Nov-25	Outlet of ETP	6.78	<4.0	57	52	-	-	-	
27-Nov-25	Inlet of ETP	6.65	4.4	65	84	-	-	-	

*T. H. Das*  
**Authorized Signatory**  
 CMPDI, RI-VII, LAB  
 BHUBANESWAR

*J. S. Patra*

MoEF Standard Notification dated 25th September, 2000 and MoEF Schedule VI, General standard for discharge of Environmental Pollutants Part A: Effluents	5.5-9.0	10	100	250	30
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cmpdi  
नवी दिल्ली

TABLE--

## EFFLUENT QUALITY DATA

Area :

IB Valley

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Samaleswari OCP

Date of Sampling	Sampling Station	pH	Samaleswari OCP						
			Oil & Grease	TSS	COD	BOD	TDS	DO	MPN/100mL
11-Nov-25	STP Inlet	7.06	-	39	-	2.4	-	-	280
11-Nov-25	STP Outlet	7.10	-	27	-	<2.0	-	-	240
27-Nov-25	STP Outlet	7.27	-	27	-	<2.0	-	-	210
27-Nov-25	STP Inlet	6.78	-	43	-	3.0	-	-	350

*J. T. Tavak*  
**Authorized Signatory**  
CMPDI, BI-VII, LAB  
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*Jasrat*

G.S.R. 126 5(E) Effluent discharge standards (applicable to all mode of disposal), Sewage Treatment Plants (STPs)

6.5-9.5	-	<100	-	30	-	<1000
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रिपी एन  
cmpdi  
Kendriya

## Drinking Water Quality Data IB Valley Area

Project / OCP	Samaleswari OCP		Indian Drinking Standards (IS-10500):2012	
	Well Water From Kudopali	Tap Water From Samaleswari OCP Colony		
Monitoring Station				
Date of Sampling	14-Nov-2025	14-Nov-2025	Acceptable	Permissible
Colour(Hazen)	2	1	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	2	1	5
pH	6.51	6.68	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	50.42	120.06	200	600
Chloride(mg/L)	56.35	25.26	250	1000
Sulphate(mg/L)	54.6	12.86	200	400
Nitrate(mg/L)	18.80	4.92	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	157.25	104.83	200	600
Calcium(mg/L)	50.09	24.24	75	200
Fluoride(mg/L)	0.73	0.54	1	1.5
Total Dissolve Solid(mg/L)	284	202	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	0.07	0.12	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4

*Lattam*  
Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Jaswant*



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मेरी जल  
cmpdi  
Mini Ratna

## Drinking Water Quality Data IB Valley Area

Project / OCP	Samaleswari OCP		Indian Drinking Standards (IS-10500):2012	
	Well Water From Kudopali	Tap Water From Samaleswari OCP Colony		
Monitoring Station			Acceptable	Permissible
Date of Sampling	14-Nov-2025	14-Nov-2025		
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	20.80	14.12		
Potassium(mg/L)	11.60	6.68		
Phenolics(mg/L)	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	Not Detected	-	-

*Pattanaik*  
Authorised Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Jasmati*



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मिनी लैब  
cmpdi  
निरा रचना

## Drinking Water Quality Data IB Valley Area

Project / OCP	Samleswari OCP			Indian Drinking Standards (IS-10500):2012	
	Inlet Water from IWSS, IB Valley Area	Outlet Water from IWSS, IB Valley Area	Well Water From Lajkura		
Date of Sampling	14-Nov-2025	14-Nov-2025	14-Nov-2025	Acceptable	Permissible
Colour(Hazen)	1	1	3	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	2	1	5
pH	7.66	7.65	6.59	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	71.43	75.64	42.02	200	600
Chloride(mg/L)	9.71	9.71	56.35	250	1000
Sulphate(mg/L)	32.84	34.8	56.8	200	400
Nitrate(mg/L)	3.48	3.86	22.80	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	84.67	88.70	153.21	200	600
Calcium(mg/L)	21.01	21.01	45.25	75	200
Fluoride(mg/L)	0.48	0.45	0.76	1	1.5
Total Dissolve Solid(mg/L)	152	158	274	500	2000
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	<0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	0.05	0.09	0.07	5	15
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	2.4

*Signature*  
Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Signature*



सीएमपीडीआई  
विनी सन  
cmpdi  
MHI Ratna

## Drinking Water Quality Data IB Valley Area

Project / OCP	Samleswari OCP			Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	Inlet Water from IWSS, IB Valley Area	Outlet Water from IWSS, IB Valley Area		
Date of Sampling	14-Nov-2025	14-Nov-2025	14-Nov-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	8.77	8.74	22.12		
Potassium(mg/L)	1.96	2.08	12.80		
Phenolics(mg/L)	<0.001	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	Not Detected	Not Detected	-	-

  
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BHUBANESWAR



Samleswarl OCP

**Legend**  
Mining Station

Kookeimel

West of the Mine

South of the Mine

Raimpur Sub Area

Kuodator Village

Google Earth

2 km



**Environmental Monitoring Report  
For  
November -2025**

**Project: Lajkura OCP  
Area: Ib Valley  
Coalfield: Ib Valley**



**Mahanadi Coalfields Limited**



**Central Mine Planning & Design Institute Ltd.**  
(A Subsidiary of Coal India Ltd.)

**Regional Institute-VII, Samantpuri, P.O : RRL, Bhubaneswar-751013 (Odisha)**  
[Assistance from Environment Division, CMPDI(HQs), Ranchi ]

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 2003 एन  
**cmpdi**  
 Bhubaneswar

Test Report

**AMBIENT AIR QUALITY DATA**

Area : **Ib Valley**

(Compliance Station)

Project : **Lajkura OCP**

(conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	CO ( $\text{mg}/\text{m}^3$ )	Dust Generating Source	Distance from DGS
07-Nov-25	Near South Coal Stock	278	163	71	13.94	37.64	-	Mining Activities, Coal Transportation	About 500m
07-Nov-25	Near Project Office	234	139	60	17.47	40.78	-	Domestic, OCP, Transportation	About 500m
22-Nov-25	Near South Coal Stock	317	183	76	9.36	36.42	-	Mining Activities, Coal Transportation	About 500m
22-Nov-25	Near Project Office	307	169	74	10.08	25.73	-	Domestic, OCP, Transportation	About 500m

*Authorised Signatory*  
**Authorised Signatory**  
 CMPDI, RI-VII, LAB  
 BHUBANESWAR

*Signature*

MoEF Standards Notification dated 25th September, 2000	500	250		120	120	02(8 Hours)
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CMPDI  
Bhubaneswar

Test Report

**AMBIENT AIR QUALITY DATA**

Area :

Ib Valley

(Reference Station)

Project :

Lajkura OCP

(conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
03-Nov-25	VIP Guest House IB Valley	173	68	31	11.43	30.65	Coal Stock Yard, Surface Bunker, Coal	About 800m
04-Nov-25	VIP Guest House IB Valley	185	81	36	13.50	32.66	Coal Stock Yard, Surface Bunker, Coal	About 800m
05-Nov-25	Khokelmal	168	67	32	16.97	27.35	Railway siding	About 1000m
05-Nov-25	Chuakani	170	75	34	11.38	27.19	Transportation	About 300m
06-Nov-25	Chuakani	160	68	32	12.67	35.11	Transportation	About 300m
06-Nov-25	Khokelmal	195	82	39	13.89	29.89	Railway siding	About 1000m
10-Nov-25	VIP Guest House IB Valley	216	92	43	9.69	18.14	Coal Stock Yard, Surface Bunker, Coal	About 800m
11-Nov-25	VIP Guest House IB Valley	197	85	37	12.84	22.10	Coal Stock Yard, Surface Bunker, Coal	About 800m
12-Nov-25	Chuakani	196	86	39	11.53	23.38	Transportation	About 300m
12-Nov-25	Khokelmal	179	75	38	12.37	41.22	Railway siding	About 1000m
13-Nov-25	Chuakani	210	89	42	10.01	30.07	Transportation	About 300m
13-Nov-25	Khokelmal	168	70	32	11.32	35.55	Railway siding	About 1000m
17-Nov-25	VIP Guest House IB Valley	169	65	33	14.61	39.78	Coal Stock Yard, Surface Bunker, Coal	About 800m
18-Nov-25	VIP Guest House IB Valley	207	86	46	15.25	31.82	Coal Stock Yard, Surface Bunker, Coal	About 800m
19-Nov-25	Chuakani	192	82	39	15.64	38.24	Transportation	About 300m
19-Nov-25	Khokelmal	219	84	48	14.78	21.96	Railway siding	About 1000m
20-Nov-25	Khokelmal	189	67	34	16.98	27.82	Railway siding	About 1000m
20-Nov-25	Chuakani	214	90	46	13.18	20.95	Transportation	About 300m
24-Nov-25	VIP Guest House IB Valley	191	77	39	12.04	26.56	Coal Stock Yard, Surface Bunker, Coal	About 800m
25-Nov-25	VIP Guest House IB Valley	183	73	35	9.14	31.87	Coal Stock Yard, Surface Bunker, Coal	About 800m
26-Nov-25	Chuakani	188	76	35	10.88	34.24	Transportation	About 300m
26-Nov-25	Khokelmal	206	80	42	10.59	32.93	Railway siding	About 1000m

\*NAQS, 2009

100 60 80 80

Authorised Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Janak*

Project :

Lajkura OCP

(conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
27-Nov-25	Chuakani	203	78	37	13.71	36.55	Transportation	About 300m
27-Nov-25	Khokelmal	193	76	38	11.69	21.51	Railway siding	About 1000m
28-Nov-25	VIP Guest House IB Valley	211	79	42	10.10	29.97	Coal Stock Yard, Surface Bunker, Coal	About 800m
29-Nov-25	VIP Guest House IB Valley	203	75	40	13.92	32.65	Coal Stock Yard, Surface Bunker, Coal	About 800m

*K. Pattanayak*  
Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Jasmit*

^N.L.Q.S.2009

100	60	80	80
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**AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)**

Area :

Ib Valley

Project :

Lajkura OCP

Date of Sampling	Monitoring Station	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo(a)Pyrene	Benzene
		(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )
03-Nov-25	VIP Guest House IB Valley	<20.0	21.40	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
04-Nov-25	VIP Guest House IB Valley	<20.0	26.43	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
05-Nov-25	Khokelmal	<20.0	16.68	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
05-Nov-25	Chuakani	<20.0	15.42	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
06-Nov-25	Chuakani	<20.0	15.42	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
06-Nov-25	Khokelmal	<20.0	22.33	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
10-Nov-25	VIP Guest House IB Valley	<20.0	25.48	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
11-Nov-25	VIP Guest House IB Valley	<20.0	28.32	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
12-Nov-25	Chuakani	<20.0	20.13	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
12-Nov-25	Khokelmal	<20.0	26.75	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
13-Nov-25	Chuakani	<20.0	20.43	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
13-Nov-25	Khokelmal	<20.0	27.07	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
17-Nov-25	VIP Guest House IB Valley	<20.0	21.08	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
18-Nov-25	VIP Guest House IB Valley	<20.0	23.60	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
19-Nov-25	Chuakani	<20.0	13.53	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
19-Nov-25	Khokelmal	<20.0	22.02	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
20-Nov-25	Khokelmal	<20.0	14.47	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
20-Nov-25	Chuakani	<20.0	15.42	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
24-Nov-25	VIP Guest House IB Valley	<20.0	27.07	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
25-Nov-25	VIP Guest House IB Valley	<20.0	16.05	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
26-Nov-25	Chuakani	<20.0	20.77	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
26-Nov-25	Khokelmal	<20.0	23.92	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
27-Nov-25	Chuakani	<20.0	16.05	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
27-Nov-25	Khokelmal	<20.0	13.53	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL

Standard

400(24hrs)	180(hour)	1.0(24hours)	6.0(Annual)	20(Annual)	04(1hours)	01(annual)	05(annual)
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Authorised Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*[Signature]*

**Project :**

**Lajkura OCP**

Date of Sampling	Monitoring Station	Ammonia(NH <sub>3</sub> )	Ozone(O <sub>3</sub> )	Lead(Pb)	Arsenic(As)	Nickel(Ni)	CO	Benzo(a)Pyrene	Benzene
		(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )
28-Nov-25	VIP Guest House IB Valley	<20.0	16.05	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
29-Nov-25	VIP Guest House IB Valley	<20.0	16.37	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL

*Tattawak*  
Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Jamuna*

Standard	400(24hours)	180(hour)	1.0(24hours)	6.0(Annual)	20(Annual)	04(Thoures)	01(annual)	05(annual)
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संयुक्त प्रदूषण नियंत्रण बोर्ड  
CMPDI  
भुवनेश्वर

TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

Ib Valley

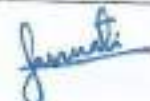
PROJECT :

Lajkura OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
10-Nov-25	Near Project Office	62.4	56.3
10-Nov-25	Near South Coal Stock	60.8	54.6
10-Nov-25	VIP Guest House, IB Valley	49.2	41.4
10-Nov-25	Chuakani	52.8	42.3
10-Nov-25	Khokelmal	51.6	40.8
28-Nov-25	Near Project Office	62.4	58.3
28-Nov-25	Near South Coal Stock	60.8	59.6
28-Nov-25	Chuakani	52.4	42.6
28-Nov-25	Khokelmal	49.3	40.7
28-Nov-25	VIP Guest House, IB Valley	50.1	42.3

MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 75dB(A) (Industrial)	10.00 PM -6.00 AM Leq 70dB(A) (Industrial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 55dB(A) (Residential)	10.00 PM -6.00 AM Leq 45dB(A) (Residential)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 65dB(A) (Commercial)	10.00 PM -6.00 AM Leq 55dB(A) (Commercial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 50dB(A) (Silence Zone)	10.00 PM -6.00 AM Leq 40dB(A) (Silence Zone)

  
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BHUBANESWAR





**EFFLUENT QUALITY DATA**

Area :

IB Valley

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Lajkura OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	MPN/100mL
14-Nov-25	Outlet of MDTP	4.36	<4.0	42	36	-	-	-	
14-Nov-25	Inlet of MDTP	3.37	4.2	79	96	-	-	-	
14-Nov-25	Lajkura Railway Siding	3.26	5.2	83	108	-	-	-	
14-Nov-25	Mine Sump Water	3.24	<4.0	27	24	-	-	-	
14-Nov-25	Outlet of ETP	6.75	<4.0	49	48	-	-	-	
14-Nov-25	Inlet of ETP	6.59	4.8	87	120	-	-	-	
27-Nov-25	Lajkura Railway Siding	6.78	4.8	68	92	-	-	-	
27-Nov-25	Inlet of ETP	3.28	4.2	58	64	-	-	-	
27-Nov-25	Outlet of ETP	6.72	<4.0	47	40	-	-	-	

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BHUBANESWAR

Janak

G.S.R. 126 5(E) Effluent discharge standards (applicable to all mode of disposal), Sewage Treatment Plants (STPs)

6.5-9.5	-	<100	-	30	-	<1000
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**EFFLUENT QUALITY DATA**

Area :

IB Valley

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Lajkura OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	MPN/100mL
14-Nov-25	STP Outlet	-	-	-	-	-	-	-	Under maintenance
14-Nov-25	STP Inlet	-	-	-	-	-	-	-	Under maintenance
27-Nov-25	STP Inlet	-	-	-	-	-	-	-	Under maintenance
27-Nov-25	STP Outlet	-	-	-	-	-	-	-	Under maintenance

*T. T. T. T.*  
**Authorized Signatory**  
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**BHUBANESWAR**

*Jaswant*

G.S.R. 126 5(E) Effluent discharge standards (applicable to all mode of disposal), Sewage Treatment Plants (STPs)	6.5-9.5	-	<100	-	30	-	<1000
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सीएमपीडीआई  
मिनी रजल  
cmpdi  
Mini Ratna

## Drinking Water Quality Data IB Valley Area

Project / OCP	Lajkura OCP		Indian Drinking Standards (IS-10500):2012	
	Madhuban Nagar Well Water	Adarsh Nagar Colony Well Water	Acceptable	Permissible
Monitoring Station				
Date of Sampling	14-Nov-2025	14-Nov-2025		
Colour(Hazen)	2	3	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	3	1	5
pH	5.19	6.57	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	8.40	138.66	200	600
Chloride(mg/L)	13.60	48.57	250	1000
Sulphate(mg/L)	8.23	38.46	200	400
Nitrate(mg/L)	9.03	3.14	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	32.25	153.21	200	600
Calcium(mg/L)	6.46	42.01	75	200
Fluoride(mg/L)	0.48	0.72	1	1.5
Total Dissolve Solid(mg/L)	64	302	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganesc(mg/L)	0.07	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	0.12	0.05	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4

*Jatavish*  
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BHUBANESWAR

*Jatavish*



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निरीक्षण  
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Bhubaneswar

## Drinking Water Quality Data IB Valley Area

Project / OCP	Lajkura OCP		Indian Drinking Standards (IS-10500):2012	
	Madhuban Nagar Well Water	Adarsh Nagar Colony Well Water	Acceptable	Permissible
Monitoring Station				
Date of Sampling	14-Nov-2025	14-Nov-2025		
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	4.48	24.80		
Potassium(mg/L)	0.29	12.11		
Phenolics(mg/L)	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	Not Detected	-	-

*T. T. T. T.*  
Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*J. S. S.*



सीएमपीडीआई  
रिपी लैब  
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Mini Metro

## Drinking Water Quality Data IB Valley Area

Project / OCP	Lajkura OCP		Indian Drinking Standards (IS-10500):2012	
	Chhualiberna Village Well Water	VIP Guest House Tap Water		
Monitoring Station				
Date of Sampling	14-Nov-2025	14-Nov-2025	Acceptable	Permissible
Colour(Hazen)	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	2	1	5
pH	5.21	7.46	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	8.40	67.23	200	600
Chloride(mg/L)	15.54	15.54	250	1000
Sulphate(mg/L)	7.44	28.84	200	400
Nitrate(mg/L)	9.22	5.40	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	36.29	84.67	200	600
Calcium(mg/L)	8.08	19.39	75	200
Fluoride(mg/L)	0.54	0.48	1	1.5
Total Dissolve Solid(mg/L)	70	154	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	0.1	1	No relaxation
Zinc(mg/L)	0.11	0.06	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4

*Handwritten signature*  
Authorised Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

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सीएमपीडीआई  
रिसेच लैब  
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Mini Ratna

## Drinking Water Quality Data IB Valley Area

Project / OCP	Lajkura OCP		Indian Drinking Standards (IS-10500):2012	
	Chhualiberna Village Well Water	VIP Guest House Tap Water	Acceptable	Permissible
Monitoring Station				
Date of Sampling	14-Nov-2025	14-Nov-2025		
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	5.20	10.15		
Potassium(mg/L)	1.34	3.00		
Phenolics(mg/L)	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	Not Detected	-	-

  
Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR



**Environmental Monitoring Report  
For  
November -2025**

**Project: Central Hospital  
Area: Ib Valley  
Coalfield: Ib Valley**



**Mahanadi Coalfields Limited**



**Central Mine Planning & Design Institute Ltd.**  
(A Subsidiary of Coal India Ltd.)

**Regional Institute-VII, Samantpuri, P.O : RRL, Bhubaneswar-751013 (Odisha)**  
[Assistance from Environment Division, CMPDI(HQs), Ranchi ]

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 १९८६  
**cmpdi**  
 CONSULTANTS

TABLE-

**EFFLUENT QUALITY DATA**

Area :

IB Valley

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Central Hospital

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	Remarks
14-Nov-25	Discharge of Hospital	7.56	<4.0	43	32	2.9	-	-	

*K. S. Saha*  
**Authorized Signatory**  
 CMPDI, RI-VII, LAB  
 BHUBANESWAR

*Jaswant*

MoEF Standard Notification dated 25th September, 2000  
 and MoEF Schedule VI, General standard for discharge  
 of Environmental Pollutants Part A: Effluents

5.5-9.0	10	100	250	30
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Lajkura OCP

Legend  
Monitoring Station

Chualkam

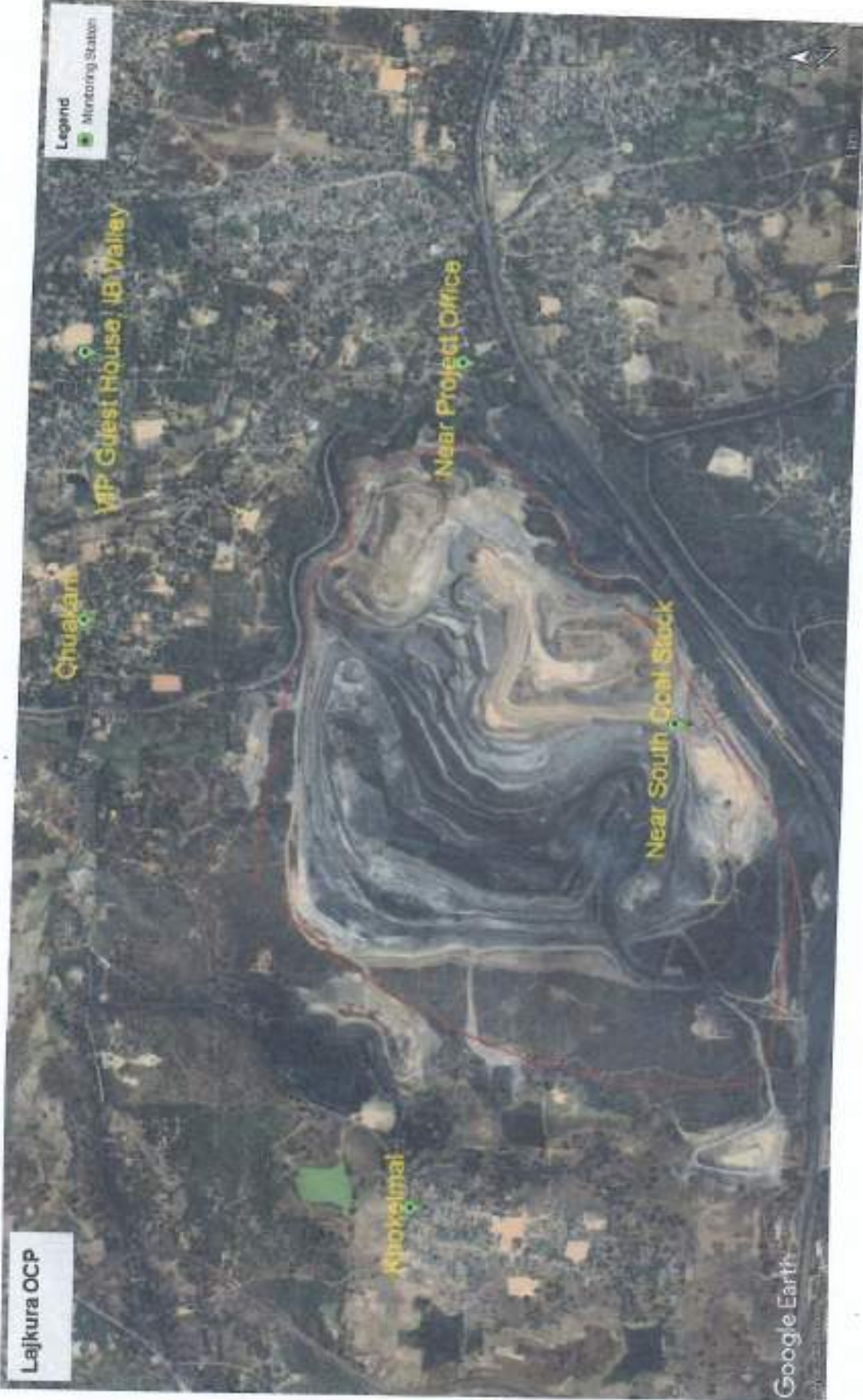
VIP Guest House / B Valley

Khokhalmal

Near Project Office

Near South Coal Stock

Google Earth



**Environmental Monitoring Report  
For  
November -2025**

**Project: Integrated LBL OCP  
Area: Lakhanpur  
Coalfield: Ib Valley**



**Mahanadi Coalfields Limited**



**सीएमपीडीआई**  
मिनी रात्रा  
**cmpdi**  
Mini Ratna

**Central Mine Planning & Design Institute Ltd.**  
(A Subsidiary of Coal India Ltd.)

**Regional Institute-VII, Samantpuri, P.O : RRL, Bhubaneswar-751013 (Odisha)**  
[Assistance from Environment Division, CMPDI(HQs), Ranchi ]

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**AMBIENT AIR QUALITY DATA**Area : **Lakhanpur****(Compliance Station)**

Project :

**LBL OCP****(conc. in  $\mu\text{g}/\text{cu.m.}$ )**

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	CO ( $\text{mg}/\text{m}^3$ )	Dust Generating Source	Distance from DGS
01-Nov-25	West of Lakhanpur Quarry Near Solada	289	170	77	15.52	36.72	1.1	Mining Activities	About 500m
01-Nov-25	Kirulbal Village	253	141	60	12.10	24.20	1.0	Mining Activities	About 500m
01-Nov-25	BOCM Workshop	270	137	64	17.62	27.89	1.0	Mining Activities	About 500m
01-Nov-25	Lilari Magazine House	275	158	69	10.75	24.47	0.9	Coal Transportation	About 500m
21-Nov-25	West of Lakhanpur Quarry Near Solada	296	161	73	11.12	27.06	1.0	Mining Activities	About 500m
21-Nov-25	Kirulbal Village	283	152	65	12.99	38.68	0.9	Mining Activities	About 500m
21-Nov-25	BOCM Workshop	310	183	72	19.15	32.65	0.9	Mining Activities	About 500m
21-Nov-25	Lilari Magazine House	246	154	61	16.24	29.86	1.0	Coal Transportation	About 500m

**Authorised Signatory**  
**CMPDI, RI-VII, LAB**  
**BHUBANESWAR**

MoEF Standards Notification dated 25th  
 September, 2000

500	250	120	120	92(8 Hours)
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**AMBIENT AIR QUALITY DATA**

Area : **Lakhanpur**

(Reference Station)

Project :

**LBL OCP**

(conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
05-Nov-25	Bartap Village North West of Mine	210	93	47	18.95	20.18	Domestic Anthropogenic Source	About 2km
05-Nov-25	Ardhapara Village South East of Mine	205	90	47	13.75	27.01	Transportation	About 1000m
05-Nov-25	Gumadera Village North of Mine	214	83	45	15.37	21.09	Domestic Source and Mining Activities	About 3km
05-Nov-25	Barihapali Village South West of Mine	170	75	31	14.87	21.01	Domestic Anthropogenic Source	About 1.6km
05-Nov-25	Lakhanpur Police Station West of Mine	184	85	43	12.45	22.09	Mining Activities	About 1.6km
05-Nov-25	Ramada Village South of Mine	208	79	37	12.72	19.97	Domestic Anthropogenic Source	About 2Km
05-Nov-25	Kadam Rehab Centre East of Mine	215	84	45	12.05	33.11	Mining Activities	About 2km
06-Nov-25	Kadam Rehab Centre East of Mine	179	75	40	17.87	38.89	Mining Activities	About 2km
06-Nov-25	Lakhanpur Police Station West of Mine	223	95	49	13.44	39.28	Mining Activities	About 1.6km
06-Nov-25	Bartap Village North West of Mine	192	85	42	11.00	33.46	Domestic Anthropogenic Source	About 2km
06-Nov-25	Gumadera Village North of Mine	184	77	35	18.08	19.21	Domestic Source and Mining Activities	About 3km
06-Nov-25	Barihapali Village South West of Mine	188	83	37	12.41	25.16	Domestic Anthropogenic Source	About 1.6km
06-Nov-25	Ramada Village South of Mine	194	74	35	16.89	30.17	Domestic Anthropogenic Source	About 2Km
06-Nov-25	Ardhapara Village South East of Mine	195	83	40	17.16	37.29	Transportation	About 1000m
12-Nov-25	Kadam Rehab Centre East of Mine	195	82	41	15.29	31.89	Mining Activities	About 2km
12-Nov-25	Lakhanpur Police Station West of Mine	186	91	45	11.00	33.88	Mining Activities	About 1.6km
12-Nov-25	Gumadera Village North of Mine	173	72	30	11.91	33.22	Domestic Source and Mining Activities	About 3km
12-Nov-25	Ramada Village South of Mine	181	70	33	9.49	18.36	Domestic Anthropogenic Source	About 2Km
12-Nov-25	Bartap Village North West of Mine	205	90	46	11.19	20.41	Domestic Anthropogenic Source	About 2km
12-Nov-25	Barihapali Village South West of Mine	198	87	40	13.49	37.94	Domestic Anthropogenic Source	About 1.6km
12-Nov-25	Ardhapara Village South East of Mine	180	78	33	12.73	24.97	Transportation	About 1000m
13-Nov-25	Ramada Village South of Mine	212	88	46	15.67	18.54	Domestic Anthropogenic Source	About 2Km

\*NAAQS,2009

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Project :

LBL OCP

(conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
13-Nov-25	Kadam Rehab Centre East of Mine	168	66	35	13.21	35.14	Mining Activities	About 2km
13-Nov-25	Bartap Village North West of Mine	188	83	38	15.07	21.83	Domestic Anthropogenic Source	About 2km
13-Nov-25	Barihapali Village South West of Mine	175	77	33	15.69	18.42	Domestic Anthropogenic Source	About 1.6km
13-Nov-25	Lakhanpur Police Station West of Mine	188	87	39	12.73	38.58	Mining Activities	About 1.6km
13-Nov-25	Ardhapara Village South East of Mine	190	84	38	14.71	20.13	Transportation	About 1000m
13-Nov-25	Gumadera Village North of Mine	191	80	42	10.49	20.30	Domestic Source and Mining Activities	About 3km
19-Nov-25	Bartap Village North West of Mine	220	92	44	10.50	30.75	Domestic Anthropogenic Source	About 2km
19-Nov-25	Ardhapara Village South East of Mine	185	78	32	14.89	34.73	Transportation	About 1000m
19-Nov-25	Gumadera Village North of Mine	207	83	44	10.84	27.06	Domestic Source and Mining Activities	About 3km
19-Nov-25	Barihapali Village South West of Mine	195	84	37	10.19	34.45	Domestic Anthropogenic Source	About 1.6km
19-Nov-25	Ramada Village South of Mine	189	77	39	13.45	36.08	Domestic Anthropogenic Source	About 2Km
19-Nov-25	Lakhanpur Police Station West of Mine	246	97	53	13.94	37.64	Mining Activities	About 1.6km
19-Nov-25	Kadam Rehab Centre East of Mine	210	76	41	16.83	35.72	Mining Activities	About 2km
20-Nov-25	Kadam Rehab Centre East of Mine	219	83	44	12.63	30.02	Mining Activities	About 2km
20-Nov-25	Lakhanpur Police Station West of Mine	214	79	38	11.09	18.82	Mining Activities	About 1.6km
20-Nov-25	Barihapali Village South West of Mine	212	87	43	14.42	34.36	Domestic Anthropogenic Source	About 1.6km
20-Nov-25	Gumadera Village North of Mine	224	89	46	11.12	36.09	Domestic Source and Mining Activities	About 3km
20-Nov-25	Ramada Village South of Mine	183	75	36	18.38	37.26	Domestic Anthropogenic Source	About 2Km
20-Nov-25	Ardhapara Village South East of Mine	210	83	41	13.05	25.59	Transportation	About 1000m
20-Nov-25	Bartap Village North West of Mine	223	96	45	17.77	29.33	Domestic Anthropogenic Source	About 2km
26-Nov-25	Lakhanpur Police Station West of Mine	223	83	40	13.70	15.35	Mining Activities	About 1.6km
26-Nov-25	Kadam Rehab Centre East of Mine	228	87	49	16.96	36.91	Mining Activities	About 2km
26-Nov-25	Ramada Village South of Mine	219	88	50	11.76	38.84	Domestic Anthropogenic Source	About 2Km
26-Nov-25	Gumadera Village North of Mine	194	70	33	16.01	14.34	Domestic Source and Mining Activities	About 3km
26-Nov-25	Bartap Village North West of Mine	228	93	54	19.16	32.66	Domestic Anthropogenic Source	About 2km

\*N.A.Q.S.2009

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Authorised Signatory,  
CMPDI, RI-VII, LAB.,  
BHUBANESWAR

**Project :****LBL OCP****(conc. in  $\mu\text{g}/\text{cu.m.}$ )**

<i>Date of Sampling</i>	<i>Monitoring Station</i>	<i>SPM</i>	<i>PM10</i>	<i>PM2.5</i>	<i>SO2</i>	<i>NOx</i>	<i>Dust Generating Source(DGS)</i>	<i>Distance from DGS</i>
26-Nov-25	Barihapali Village South West of Mine	215	91	47	16.54	37.08	Domestic Anthropogenic Source	About 1.6km
26-Nov-25	Ardhapara Village South East of Mine	198	86	39	12.17	34.23	Transportation	About 1000m
27-Nov-25	Ramada Village South of Mine	226	94	54	15.25	33.19	Domestic Anthropogenic Source	About 2Km
27-Nov-25	Kadam Rehab Centre East of Mine	216	79	42	16.75	23.40	Mining Activities	About 2km
27-Nov-25	Bartap Village North West of Mine	182	76	35	16.45	36.86	Domestic Anthropogenic Source	About 2km
27-Nov-25	Barihapali Village South West of Mine	205	84	39	16.42	27.47	Domestic Anthropogenic Source	About 1.6km
27-Nov-25	Lakhanpur Police Station West of Mine	198	76	37	13.89	37.29	Mining Activities	About 1.6km
27-Nov-25	Ardhapara Village South East of Mine	218	96	45	15.16	20.50	Transportation	About 1000m
27-Nov-25	Gumadera Village North of Mine	205	82	40	16.76	23.86	Domestic Source and Mining Activities	About 3km

**Authorised Signatory**  
 CMPDI, RI-VII, LAB  
 BHUBANESWAR

\*N.L.QS.2009

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**AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)**

Area :

Lakhanpur

Project :

LBL OCP

Date of Sampling	Monitoring Station	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo(a)Pyrene	Benzene
		(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )
05-Nov-25	Bartap Village North West of Mine	<20.0	22.02	<0.1	<1.0	<1.0	1.6	BQL(QL=0.7)	BQL
05-Nov-25	Lakhanpur Police Station West of Mine	<20.0	26.75	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
05-Nov-25	Kadam Rehab Centre East of Mine	<20.0	22.97	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
05-Nov-25	Ardhapara Village South East of Mine	<20.0	27.68	<0.1	<1.0	<1.0	1.7	BQL(QL=0.7)	BQL
05-Nov-25	Barihapali Village South West of Mine	<20.0	22.33	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
05-Nov-25	Ramada Village South of Mine	<20.0	22.65	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
05-Nov-25	Gumadera Village North of Mine	<20.0	22.97	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
06-Nov-25	Kadam Rehab Centre East of Mine	<20.0	14.17	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
06-Nov-25	Bartap Village North West of Mine	<20.0	24.23	<0.1	<1.0	<1.0	1.6	BQL(QL=0.7)	BQL
06-Nov-25	Ramada Village South of Mine	<20.0	19.50	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
06-Nov-25	Gumadera Village North of Mine	<20.0	23.60	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
06-Nov-25	Lakhanpur Police Station West of Mine	<20.0	13.85	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
06-Nov-25	Barihapali Village South West of Mine	<20.0	16.05	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
06-Nov-25	Ardhapara Village South East of Mine	<20.0	17.62	<0.1	<1.0	<1.0	1.6	BQL(QL=0.7)	BQL
12-Nov-25	Lakhanpur Police Station West of Mine	<20.0	22.33	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
12-Nov-25	Kadam Rehab Centre East of Mine	<20.0	25.80	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
12-Nov-25	Gumadera Village North of Mine	<20.0	17.30	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
12-Nov-25	Ramada Village South of Mine	<20.0	14.17	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
12-Nov-25	Ardhapara Village South East of Mine	<20.0	16.98	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
12-Nov-25	Barihapali Village South West of Mine	<20.0	22.02	<0.1	<1.0	<1.0	1.7	BQL(QL=0.7)	BQL
12-Nov-25	Bartap Village North West of Mine	<20.0	22.33	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
13-Nov-25	Kadam Rehab Centre East of Mine	<20.0	14.47	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
13-Nov-25	Bartap Village North West of Mine	<20.0	16.68	<0.1	<1.0	<1.0	1.6	BQL(QL=0.7)	BQL

Standard	400(24 hours)	180(hours)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)
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Project :

LBL OCP

Date of Sampling	Monitoring Station	Ammonia(NH <sub>3</sub> )	Ozone(O <sub>3</sub> )	Lead(Pb)	Arsenic(As)	Nickel(Ni)	CO	Benzo(a)Pyrene	Benzene
		(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )
13-Nov-25	Lakhanpur Police Station West of Mine	<20.0	15.42	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
13-Nov-25	Gumadera Village North of Mine	<20.0	27.07	<0.1	<1.0	<1.0	1.7	BQL(QL=0.7)	BQL
13-Nov-25	Barihapali Village South West of Mine	<20.0	22.65	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
13-Nov-25	Ardhapara Village South East of Mine	<20.0	20.45	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
13-Nov-25	Ramada Village South of Mine	<20.0	17.62	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
19-Nov-25	Lakhanpur Police Station West of Mine	<20.0	27.07	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
19-Nov-25	Ramada Village South of Mine	<20.0	24.23	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
19-Nov-25	Ardhapara Village South East of Mine	<20.0	16.05	<0.1	<1.0	<1.0	1.7	BQL(QL=0.7)	BQL
19-Nov-25	Bartap Village North West of Mine	<20.0	13.53	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
19-Nov-25	Kadam Rehab Centre East of Mine	<20.0	16.05	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
19-Nov-25	Barihapali Village South West of Mine	<20.0	24.23	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
19-Nov-25	Gumadera Village North of Mine	<20.0	20.13	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
20-Nov-25	Bartap Village North West of Mine	<20.0	22.97	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
20-Nov-25	Gumadera Village North of Mine	<20.0	14.47	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
20-Nov-25	Lakhanpur Police Station West of Mine	<20.0	16.05	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
20-Nov-25	Kadam Rehab Centre East of Mine	<20.0	21.08	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
20-Nov-25	Barihapali Village South West of Mine	<20.0	22.97	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
20-Nov-25	Ramada Village South of Mine	<20.0	18.88	<0.1	<1.0	<1.0	1.6	BQL(QL=0.7)	BQL
20-Nov-25	Ardhapara Village South East of Mine	<20.0	17.93	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
26-Nov-25	Ardhapara Village South East of Mine	<20.0	15.73	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
26-Nov-25	Barihapali Village South West of Mine	<20.0	24.55	<0.1	<1.0	<1.0	1.6	BQL(QL=0.7)	BQL
26-Nov-25	Bartap Village North West of Mine	<20.0	21.72	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
26-Nov-25	Gumadera Village North of Mine	<20.0	24.23	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
26-Nov-25	Kadam Rehab Centre East of Mine	<20.0	26.12	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
26-Nov-25	Lakhanpur Police Station West of Mine	<20.0	16.05	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
26-Nov-25	Ramada Village South of Mine	<20.0	24.23	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
27-Nov-25	Barihapali Village South West of Mine	<20.0	19.20	<0.1	<1.0	<1.0	1.6	BQL(QL=0.7)	BQL
<b>Standard</b>		400(24 hours)	180(hours)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)

**Project :****LBL OCP**

Date of Sampling	Monitoring Station	Ammonia(NH3)	Ozone(O3)	Lead(Pb)	Arsenic(As)	Nickel(Ni)	CO	Benzo(a)Pyrene	Benzene
		(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )
27-Nov-25	Bartup Village North West of Mine	<20.0	14.17	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
27-Nov-25	Gumadera Village North of Mine	<20.0	15.10	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
27-Nov-25	Kadam Rehab Centre East of Mine	<20.0	24.85	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
27-Nov-25	Lakhanpur Police Station West of Mine	<20.0	24.55	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
27-Nov-25	Ardhapara Village South East of Mine	<20.0	14.17	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
27-Nov-25	Ramada Village South of Mine	<20.0	17.93	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL

Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(8 hours)	01(annual)	05(annual)
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**Authorised Signatory**  
**CMPDI, RI-VII, LAB**  
**BHUBANESWAR**



सीएमपीडी  
RI-VII  
LAB  
DHIRANESWAR

**TABLE--**  
**NOISE LEVEL MONITORING DATA**

AREA :

Lakhanpur

PROJECT :

LBL OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
12-Nov-25	BOCM Workshop	50.9	41.3
12-Nov-25	Kadam Rehab Centre East of Mine	49.6	40.3
12-Nov-25	West of Lakhanpur Quarry Near Solada	52.3	39.7
12-Nov-25	Gumadera Village North of Mine	52.1	40.3
12-Nov-25	Kirulbal Village	49.7	40.6
12-Nov-25	Bartap Village North West of Mine	52.4	42.2
12-Nov-25	Ardhapara Village South East of Mine	49.7	39.6
12-Nov-25	Lakhanpur Police Station West of Mine	50.4	41.7
12-Nov-25	Ramada Village South of Mine	49.6	42.8
12-Nov-25	Barihapali Village South West of Mine	50.9	40.5
12-Nov-25	Near Lilari Magazine House	51.2	42.8
27-Nov-25	Bartap Village North West of Mine	50.6	42.2
27-Nov-25	Kadam Rehab Centre East of Mine	50.6	42.1
27-Nov-25	Ardhapara Village South East of Mine	49.5	39.4
27-Nov-25	Kirulbal Village	50.7	41.4
27-Nov-25	Lakhanpur Police Station West of Mine	52.7	39.8

MoEF Standard Notification dated 25th September, 2000	6.00 AM - 10.00 PM Leq 75dB(A) (Industrial)	10.00 PM - 6.00 AM Leq 70dB(A) (Industrial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM - 10.00 PM Leq 55dB(A) (Residential)	10.00 PM - 6.00 AM Leq 45dB(A) (Residential)
MoEF Standard Notification dated 25th September, 2000	6.00 AM - 10.00 PM Leq 65dB(A) (Commercial)	10.00 PM - 6.00 AM Leq 55dB(A) (Commercial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM - 10.00 PM Leq 50dB(A) (Silence Zone)	10.00 PM - 6.00 AM Leq 40dB(A) (Silence Zone)

Authorised Signatory  
CMPDI, RI-VII, LAB  
DHIRANESWAR



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भारत सरकार  
cmpdi  
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TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

Lakhanpur

27-Nov-25	BOCM Workshop	59.2	53.6
27-Nov-25	Barihapali Village South West of Mine	52.8	41.4
27-Nov-25	Near Lilari Magazine House	52.4	40.9
27-Nov-25	Gumadera Village North of Mine	50.4	42.7
27-Nov-25	West of Lakhanpur Quarry Near Solada	52.4	41.5
27-Nov-25	Ramada Village South of Mine	49.1	40.6

<i>MoEF Standard Notification dated 25th September, 2000</i>	<i>6.00 AM -10.00 PM Leq 75dB(A) (Industrial)</i>	<i>10.00 PM -6.00 AM Leq 70dB(A) (Industrial)</i>
<i>MoEF Standard Notification dated 25th September, 2000</i>	<i>6.00 AM -10.00 PM Leq 55dB(A) (Residential)</i>	<i>10.00 PM -6.00 AM Leq 45dB(A) (Residential)</i>
<i>MoEF Standard Notification dated 25th September, 2000</i>	<i>6.00 AM -10.00 PM Leq 65dB(A) (Commercial)</i>	<i>10.00 PM -6.00 AM Leq 55dB(A) (Commercial)</i>
<i>MoEF Standard Notification dated 25th September, 2000</i>	<i>6.00 AM -10.00 PM Leq 50dB(A) (Silence Zone)</i>	<i>10.00 PM -6.00 AM Leq 40dB(A) (Silence Zone)</i>

**EFFLUENT QUALITY DATA**

Area :

Lakhanpur

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

LBL OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	Remarks
14-Nov-25	Outlet of Secondary Sedimentation Tank, Lakhanpur	6.87	<4.0	37	40	-	-	-	
14-Nov-25	Outlet of ETP, Lakhanpur	6.93	<4.0	36	32	-	-	-	
14-Nov-25	Inlet of ETP, Lakhanpur	6.64	4.6	57	68	-	-	-	
14-Nov-25	Mine Sump Water, Belpahar	6.27	<4.0	23	20	-	-	-	
14-Nov-25	Mine Sump Water, Lakhanpur	6.06	<4.0	31	36	-	-	-	
14-Nov-25	Inlet of ETP, Belpahar	6.66	4.2	49	68	-	-	-	
14-Nov-25	Outlet of ETP, Belpahar	6.92	<4.0	35	36	-	-	-	
14-Nov-25	Inlet of Secondary Sedimentation Tank, Lakhanpur	6.58	4.8	83	116	-	-	-	
14-Nov-25	ECO Tank, Belpahar	8.01	4.0	33	28	-	-	-	
14-Nov-25	Inlet of MDTP, Belpahar	6.56	5.0	81	96	-	-	-	
14-Nov-25	Clear Water Tank of MDTP, Belpahar	6.53	<4.0	38	40	-	-	-	
14-Nov-25	Mine Sump Water, Lilari	6.23	<4.0	21	16	-	-	-	
27-Nov-25	Inlet of ETP, Belpahar	7.08	<4.0	41	52	-	-	-	
27-Nov-25	Inlet of ETP, Lakhanpur	7.12	4.2	39	48	-	-	-	
27-Nov-25	Outlet of ETP, Lakhanpur	7.20	<4.0	27	24	-	-	-	
27-Nov-25	Outlet of ETP, Belpahar	7.17	<4.0	26	24	-	-	-	

**Authorised Signatory**  
**CMPDI, RI-VII, LAB**  
**BHUDANESWAR**

MoEF Standard Notification dated 25th September, 2000 and MoEF Schedule VI, General standard for discharge of Environmental Pollutants Part A: Effluents	5.5-9.0	10	100	250	30
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**EFFLUENT QUALITY DATA**

Area :

Lakhanpur

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

LBL OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	MPN/100mL
14-Nov-25	Clear Water Tank of Sewage Treatment Plant	7.16	-	31	-	<2.0	-	-	120
14-Nov-25	STP Inlet	7.11	-	43	-	2.8	-	-	240
27-Nov-25	Clear Water Tank of Sewage Treatment Plant	7.63	-	29	-	<2.0	-	-	210
27-Nov-25	STP Inlet	7.41	-	37	-	2.3	-	-	280

**Authorised Signatory**  
CMPDI, RI-VII, LAB  
BHUBANESWAR

G.S.R. 126 5(E) Effluent discharge standards (applicable to all mode of disposal), Sewage Treatment Plants (STPs)	6.5-9.5	-	<100	-	30	-	<1000
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सीएमपीडीआई  
मिनी रूफ  
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## Drinking Water Quality Data Lakhanpur Area

Project / OCP Monitoring Station	Integrated LBL OCP			Indian Drinking Standards (IS-10500):2012	
	LKP Project Office	IWSS Inlet-BIT	IWSS Outlet-BIT	Acceptable	Permissible
Date of Sampling	14-Nov-2025	14-Nov-2025	14-Nov-2025	5	15
Colour(Hazen)	2	1	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	2	2	1	5
pH	7.43	7.12	7.49	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	63.03	58.83	54.63	200	600
Chloride(mg/L)	11.66	9.71	11.66	250	1000
Sulphate(mg/L)	22.88	20.42	24.8	200	400
Nitrate(mg/L)	5.64	4.16	3.76	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	79.61	68.54	72.57	200	600
Calcium(mg/L)	21.01	19.39	22.62	75	200
Fluoride(mg/L)	0.68	0.62	0.50	1	1.5
Total Dissolve Solid(mg/L)	134	120	128	500	2000
Copper(mg/L)	<0.03	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	<0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	0.07	0.25	<0.04	5	15
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	2.4



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**cmpdi**  
मिनी लॉन्ग

## Drinking Water Quality Data Lakhanpur Area

Project / OCP	Integrated LBL OCP			Indian Drinking Standards (IS-10500):2012	
	LKP Project Office	IWSS Inlet-BIT	IWSS Outlet-BIT	Acceptable	Permissible
Date of Sampling	14-Nov-2025	14-Nov-2025	14-Nov-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	6.10	6.18	6.05		
Potassium(mg/L)	1.98	2.00	2.91		
Phenolics(mg/L)	<0.001	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	Not Detected	Not Detected	-	-

Integrated LBL OCP

Legend  
Monitoring Station



**Environmental Monitoring Report  
For  
November -2025**

**Project: Basundhara(W) OCP  
Area: Mahalaxmi Area  
Coalfield: Ib Valley**



**Mahanadi Coalfields Limited**



**सीएमपीडीआई**  
मिनी प्लान  
**cmpdi**  
Mini Ratna

**Central Mine Planning & Design Institute Ltd.**  
(A Subsidiary of Coal India Ltd.)

**Regional Institute-VII, Samantpuri, P.O : RRL, Bhubaneswar-751013 (Odisha)**  
[Assistance from Environment Division, CMPDI(HQs), Ranchi ]

*The test report shall not be reproduced in part or full without written approval of the competent authority*

Test Report



**AMBIENT AIR QUALITY DATA**

Area : **Mahalaxmi** (Compliance Station)

Project : **Basundhara (w) OCP** (conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	CO ( $\text{mg}/\text{m}^3$ )	Dust Generating Source	Distance from DGS
01-Nov-25	North of the Sardega Railway Siding, Kulapada	229	128	56	12.17	15.70	1.0	Mining Activities, OCP, Coal Transportation	About 500m
01-Nov-25	Body Workshop Basundhara	265	118	58	10.99	28.07	0.9	Mining Activities	About 100m
21-Nov-25	North of the Sardega Railway Siding, Kulapada	259	148	64	14.59	26.69	0.9	Mining Activities, OCP, Coal Transportation	About 500m
21-Nov-25	Body Workshop Basundhara	271	152	64	12.67	16.83	0.8	Mining Activities	About 100m

*Tohounik*  
**Authorized Signatory**  
 CMPDI, RI-VII, LAB  
 BHUBANESWAR

*Jenab*

MoEF Standards Notification dated 25th September, 2000	500	250		120	120	02/8 (Hours)
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**Project :****Basundhara (w) OCP****(conc. in  $\mu\text{g}/\text{cu.m.}$ )**

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
18-Nov-25	West of Coal Stock, Near Golf Course	223	83	46	19.61	16.92	Mining Activities, OCP, Transportation	About 500m
18-Nov-25	Khamarpara Village	215	80	43	13.89	29.89	Mining Activities, Coal Transportation	About 500m
23-Nov-25	Ratansara Village	216	84	43	11.21	17.56	Transportation	About 100m
24-Nov-25	Khamarpara Village	196	75	40	12.37	41.22	Mining Activities, Coal Transportation	About 500m
24-Nov-25	Sarangijharia Village	219	80	44	15.67	40.59	Domestic	About 500m
24-Nov-25	West of Coal Stock, Near Golf Course	236	89	48	19.38	34.06	Mining Activities, OCP, Transportation	About 500m
24-Nov-25	Ratansara Village	206	71	35	19.16	16.77	Transportation	About 100m
25-Nov-25	Khamarpara Village	185	69	36	11.32	35.55	Mining Activities, Coal Transportation	About 500m
25-Nov-25	Sarangijharia Village	187	71	34	12.29	18.12	Domestic	About 500m
25-Nov-25	West of Coal Stock, Near Golf Course	248	94	51	13.70	15.44	Mining Activities, OCP, Transportation	About 500m
28-Nov-25	Sarangijharia Village	196	78	37	14.38	20.33	Domestic	About 500m
28-Nov-25	West of Coal Stock, Near Golf Course	141	86	47	17.13	33.22	Mining Activities, OCP, Transportation	About 500m
28-Nov-25	Khamarpara Village	214	81	42	12.10	24.20	Mining Activities, Coal Transportation	About 500m
29-Nov-25	West of Coal Stock, Near Golf Course	209	79	41	13.63	22.91	Mining Activities, OCP, Transportation	About 500m
29-Nov-25	Khamarpara Village	237	96	52	12.47	18.82	Mining Activities, Coal Transportation	About 500m
29-Nov-25	Ratansara Village	218	83	46	12.29	34.73	Transportation	About 100m
29-Nov-25	Sarangijharia Village	217	67	48	10.42	18.87	Domestic	About 500m
30-Nov-25	Ratansara Village	219	85	45	15.61	34.53	Transportation	About 100m

\*N44QS.2009

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CMPDI, RI-VII, LAB  
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Test Report



**AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)**

Area :

Mahalaxmi

Project :

Basundhara (w) OCP

Date of Sampling	Monitoring Station	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo(a)Pyrene	Benzene
		(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )
03-Nov-25	Sarangijharin Village	<20.0	23.28	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
03-Nov-25	Khamarpara Village	<20.0	28.32	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
04-Nov-25	Ratansara Village	<20.0	22.02	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
03-Nov-25	West of Coal Stock, Near Golf Course	<20.0	21.08	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
04-Nov-25	Khamarpara Village	<20.0	23.60	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
04-Nov-25	West of Coal Stock, Near Golf Course	<20.0	21.72	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
05-Nov-25	Ratansara Village	<20.0	17.93	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
04-Nov-25	Sarangijharin Village	<20.0	16.98	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
10-Nov-25	Khamarpara Village	<20.0	25.80	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
10-Nov-25	West of Coal Stock, Near Golf Course	<20.0	23.60	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
10-Nov-25	Sarangijharin Village	<20.0	19.50	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
09-Nov-25	Ratansara Village	<20.0	17.30	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
11-Nov-25	West of Coal Stock, Near Golf Course	<20.0	25.80	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
11-Nov-25	Sarangijharin Village	<20.0	24.55	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
10-Nov-25	Ratansara Village	<20.0	25.17	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
11-Nov-25	Khamarpara Village	<20.0	20.45	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
17-Nov-25	Khamarpara Village	<20.0	18.57	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
17-Nov-25	West of Coal Stock, Near Golf Course	<20.0	17.62	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
17-Nov-25	Sarangijharin Village	<20.0	17.3	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
17-Nov-25	Ratansara Village	<20.0	23.6	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
18-Nov-25	Khamarpara Village	<20.0	17.62	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
18-Nov-25	West of Coal Stock, Near Golf Course	<20.0	23.92	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
18-Nov-25	Sarangijharin Village	<20.0	18.57	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
18-Nov-25	Ratansara Village	<20.0	18.25	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL

Standard	400(24 hours)	180(hours)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(3 hours)	01(annual)	05(annual)
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Authorised Signatory  
CMPDI, RI-VII, LAB  
BANGALORE

*Signature*

**Project :****Basundhara (w) OCP**

Date of Sampling	Monitoring Station	Ammonia(NH3)	Ozone(O3)	Lead(Pb)	Arsenic(As)	Nickel(Ni)	CO	Benzo(a)Pyrene	Benzene
		(µg/m3)	(µg/m3)	(µg/m3)	(ng/m3)	(ng/m3)	(mg/m3)	(ng/m3)	(µg/m3)
24-Nov-25	Khamarpara Village	<20.0	13.85	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
24-Nov-25	West of Coal Stock, Near Golf Course	<20.0	20.77	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
24-Nov-25	Sarangijharia Village	<20.0	23.92	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
23-Nov-25	Ratansara Village	<20.0	21.72	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
25-Nov-25	Khamarpara Village	<20.0	27.68	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
25-Nov-25	West of Coal Stock, Near Golf Course	<20.0	22.02	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
25-Nov-25	Sarangijharia Village	<20.0	14.78	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
24-Nov-25	Ratansara Village	<20.0	18.88	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
28-Nov-25	Khamarpara Village	<20.0	22.02	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
28-Nov-25	West of Coal Stock, Near Golf Course	<20.0	14.78	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
28-Nov-25	Sarangijharia Village	<20.0	27.68	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
29-Nov-25	Ratansara Village	<20.0	22.65	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
29-Nov-25	Khamarpara Village	<20.0	19.50	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
29-Nov-25	West of Coal Stock, Near Golf Course	<20.0	27.68	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
29-Nov-25	Sarangijharia Village	<20.0	15.73	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
30-Nov-25	Ratansara Village	<20.0	18.88	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL

*Kapoor*  
 Authorizing Signatory  
 CMPDI, RI-VII, LAB  
 BHUBANESWAR

*Jamali*

Standard	400(24 hours)	180(hours)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(hours)	01(annual)	05(annual)
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TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

Mahalaxmi

PROJECT :

Basundhara (W) OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
11-Nov-25	West of Coal Stock , Near Golf Course	51.6	40.3
11-Nov-25	Sarangijharia Community Centre	49.8	40.9
11-Nov-25	South-West of Working Face -Gopalpur Village,Near CMPDIL Camp	59.2	52.7
11-Nov-25	Ratansara Village	52.4	39.6
11-Nov-25	North of the Sardega Railway Siding ,Kulapada	60.4	52.7
29-Nov-25	North of the Sardega Railway Siding ,Kulapada	54.3	44.9
29-Nov-25	South-West of Working Face -Gopalpur Village,Near CMPDIL Camp	52.1	39.8
29-Nov-25	Ratansara Village	52.6	40.6
29-Nov-25	West of Coal Stock , Near Golf Course	50.9	42.3
29-Nov-25	Sarangijharia Community Centre	49.3	42.9

MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 75dB(A) (Industrial)	10.00 PM -6.00 AM Leq 70dB(A) (Industrial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 55dB(A) (Residential)	10.00 PM -6.00 AM Leq 45dB(A) (Residential)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 65dB(A) (Commercial)	10.00 PM -6.00 AM Leq 55dB(A) (Commercial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 50dB(A) (Silence Zone)	10.00 PM -6.00 AM Leq 40dB(A) (Silence Zone)

*Tattanaik*  
Authorized Signatory  
CMPDI, RI-VII, LAE  
BRUNANESWAR

*Janeat*



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TABLE-

**EFFLUENT QUALITY DATA**

Area :

Mahalaxmi

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Basundhara (W) OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	Remarks
11-Nov-25	Sardega Railway Siding Sedimentation Pond	6.83	4.8	69	84	-	-	-	
11-Nov-25	Inlet of Excavation Workshop, B(W) OCP	-	-	-	-	-	-	-	Dry
11-Nov-25	Outlet of Excavation Workshop, B(W) OCP	-	-	-	-	-	-	-	Dry
11-Nov-25	Basundhara (W) OCP Mine Sump	7.03	<4.0	18	16	-	-	-	
25-Nov-25	Inlet to ETP at Excavation Workshop, B(W)OCP	-	-	-	-	-	-	-	Dry
25-Nov-25	Outlet of ETP at Excavation Workshop, B(W)OCP	-	-	-	-	-	-	-	Dry

*T. Bhowmik*  
 Authorized Signatory  
 CMPDI, RI-VII, LAE  
 BHUBANESWAR

*Jaswant*

MoEF Standard Notification dated 25th September, 2000 and MoEF Schedule VI, General standard for discharge of Environmental Pollutants Part A: Effluents	5.5-9.0	10	100	250	30
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सीएमपीडीआई  
मिनी लॅब  
cmpdi  
Mini Lab

## Drinking Water Quality Data Mahalaxmi Area

Project / OCP	Basundhara (W)	Indian Drinking Standards (IS-10500):2012	
Monitoring Station	Water Treatment Plant Clear Water Reservoir	Acceptable	Permissible
Date of Sampling	11-Nov-2025	Acceptable	Permissible
Colour(Hazen)	3	5	15
Odour	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	5
pH	6.93	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	29.41	200	600
Chloride(mg/L)	15.54	250	1000
Sulphate(mg/L)	58.6	200	400
Nitrate(mg/L)	12.80	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	108.86	200	600
Calcium(mg/L)	24.24	75	200
Fluoride(mg/L)	0.74	1	1.5
Total Dissolve Solid(mg/L)	178	500	2000
Copper(mg/L)	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	0.1	0.3
Iron(mg/L)	<0.1	1	No relaxation
Zinc(mg/L)	0.21	5	15
Lead(mg/L)	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	0.5	2.4

*Techwarik*  
Authorised Signatory  
CMPDI, RI-VII, LAB  
BRI, MAHARASHTRA  
SWAR

*Jamali*



सीएमपीडीआई  
रिसेच लैब  
cmpdi  
Mini Institute

## Drinking Water Quality Data Mahalaxmi Area

Project / OCP	Basundhara (W)	Indian Drinking Standards (IS-10500):2012	
Monitoring Station	Water Treatment Plant Clear Water Reservoir	Acceptable	Permissible
Date of Sampling	11-Nov-2025		
Selenium(mg/L)	<0.005	0.01	No relaxation
Sodium(mg/L)	9.06		
Potassium(mg/L)	3.18		
Phenolics(mg/L)	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	-	-

  
Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR



Besundhara (W) OCP

Barangijharia Village

Legend  
Air Monitoring Locations

North of the Sardaga Railway Siding, Kufapada

West of Coal Stock, Near Golf Course

Khamarpāra, East Side of Sardaga Railway Siding

Relansara Village

Google Earth

3.401



**Environmental Monitoring Report  
For  
November -2025**

**Project: Basundhara(E) OCP  
Area: Mahalaxmi Area  
Coalfield: Ib Valley**



**Mahanadi Coalfields Limited**



**Central Mine Planning & Design Institute Ltd.**  
(A Subsidiary of Coal India Ltd.)

**Regional Institute-VII, Samantpuri, P.O : RRL, Bhubaneswar-751013 (Odisha)**  
[Assistance from Environment Division, CMPDI(HQs), Ranchi ]

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AMBIENT AIR QUALITY DATA

Area :

Mahalaxmi

(Reference Station)

Project :

Basundhara (E) OCP

(conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
03-Nov-25	Khamarpara Village (Reported Only)	175	73	38	14.86	25.10	Mining Activities, Coal Transportation	About 500m
04-Nov-25	Khamarpara Village (Reported Only)	218	92	44	8.90	33.08	Mining Activities, Coal Transportation	About 500m
10-Nov-25	Khamarpara Village (Reported Only)	208	87	42	10.75	28.73	Mining Activities, Coal Transportation	About 500m
11-Nov-25	Khamarpara Village (Reported Only)	170	71	34	10.36	21.01	Mining Activities, Coal Transportation	About 500m
17-Nov-25	Khamarpara Village (Reported Only)	235	86	49	16.75	24.16	Mining Activities, Coal Transportation	About 500m
18-Nov-25	Khamarpara Village (Reported Only)	215	80	43	13.89	29.89	Mining Activities, Coal Transportation	About 500m
24-Nov-25	Khamarpara Village (Reported Only)	196	75	40	12.37	41.22	Mining Activities, Coal Transportation	About 500m
25-Nov-25	Khamarpara Village (Reported Only)	185	69	36	11.32	35.55	Mining Activities, Coal Transportation	About 500m
28-Nov-25	Khamarpara Village (Reported Only)	214	81	42	12.10	24.20	Mining Activities, Coal Transportation	About 500m
29-Nov-25	Khamarpara Village (Reported Only)	237	96	52	12.47	18.82	Mining Activities, Coal Transportation	About 500m

  
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CMPDI, RI-VII, LAJ  
INDIANESWAR



\*N.L.Q.S.2009

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सिंहमधीडी.आई.  
CMPDI  
भुवनेश्वर

Test Report

**AMBIENT AIR QUALITY DATA(NAAQS PARAMETER)**

Area :

Mahalaxmi

Project :

Basundhara (E) OCP

Date of Sampling	Monitoring Station	Ammonia(NH <sub>3</sub> )	Ozone(O <sub>3</sub> )	Lead(Pb)	Arsenic(As)	Nickel(Ni)	CO	Benzo(a)Pyrene	Benzene
		(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )
03-Nov-25	Khamarpara Village (Reported Only)	<20.0	28.32	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
04-Nov-25	Khamarpara Village (Reported Only)	<20.0	23.60	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
10-Nov-25	Khamarpara Village (Reported Only)	<20.0	25.80	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
11-Nov-25	Khamarpara Village (Reported Only)	<20.0	20.45	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
17-Nov-25	Khamarpara Village (Reported Only)	<20.0	18.57	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
18-Nov-25	Khamarpara Village (Reported Only)	<20.0	17.62	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
24-Nov-25	Khamarpara Village (Reported Only)	<20.0	13.85	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
25-Nov-25	Khamarpara Village (Reported Only)	<20.0	27.68	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
28-Nov-25	Khamarpara Village (Reported Only)	<20.0	22.02	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
29-Nov-25	Khamarpara Village (Reported Only)	<20.0	19.50	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL

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CMPDI, RI-VII, LAB  
BHUBANESWAR

January

Standard	400(24hours)	180(hour)	1.0(24hours)	6.0(Annual)	20(Annual)	0.2(hours)	01(annual)	05(annual)
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सीएमपीडीआई  
RI-VII LAB  
cmpdi  
Bhubaneswar

TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

Mahalaxmi

PROJECT :

Basundhara (E) OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
11-Nov-25	Quary Sump of Basundhara East OCP/ Near CHP of Basundhara East OCP	50.7	42.8
29-Nov-25	Quary Sump of Basundhara East OCP/ Near CHP of Basundhara East OCP	54.1	44.8

MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 75dB(A) (Industrial)	10.00 PM -6.00 AM Leq 70dB(A) (Industrial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 55dB(A) (Residential)	10.00 PM -6.00 AM Leq 45dB(A) (Residential)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 65dB(A) (Commercial)	10.00 PM -6.00 AM Leq 55dB(A) (Commercial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 50dB(A) (Silence Zone)	10.00 PM -6.00 AM Leq 40dB(A) (Silence Zone)

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*Janati*



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मिनी लैब  
**cmpdi**  
Mini Lab

## Drinking Water Quality Data Mahalaxmi Area

Project / OCP	Basundhara (E)	Indian Drinking Standards (IS-10500):2012	
Monitoring Station	Basundhar East Sump Quarry OCP	Acceptable	Permissible
Date of Sampling	11-Nov-2025	Acceptable	Permissible
Colour(Hazen)	2	5	15
Odour	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	1	5
pH	6.90	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	33.62	200	600
Chloride(mg/L)	11.66	250	1000
Sulphate(mg/L)	62.4	200	400
Nitrate(mg/L)	10.98	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	118.89	200	600
Calcium(mg/L)	27.47	75	200
Fluoride(mg/L)	0.68	1	1.5
Total Dissolve Solid(mg/L)	170	500	2000
Copper(mg/L)	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	0.1	0.3
Iron(mg/L)	<0.1	1	No relaxation
Zinc(mg/L)	<0.04	5	15
Lead(mg/L)	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	0.5	2.4

*Dr. J. J. J.*  
Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*J. J. J.*



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मिनी एल  
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Mini Lab

## Drinking Water Quality Data Mahalaxmi Area

Project / OCP	Basundhara (E)	Indian Drinking Standards (IS-10500):2012	
Monitoring Station	Basundhar East Sump Quarry OCP	Acceptable	Permissible
Date of Sampling	11-Nov-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	0.01	No relaxation
Sodium(mg/L)	7.35	-	-
Potassium(mg/L)	1.58	-	-
Phenolics(mg/L)	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	-	-

*Haffanish*  
Authorized Signatory  
CMPDI, RI-VII, LAB  
SHUBANESWAR

*Jaswant*

**Environmental Monitoring Report  
For  
November -2025**

**Project: Kulda OCP  
Area: Basundhara  
Coalfield: Ib Valley**



**Mahanadi Coalfields Limited**



**Central Mine Planning & Design Institute Ltd.**  
(A Subsidiary of Coal India Ltd.)

**Regional Institute-VII, Samantpuri, P.O : RRL, Bhubaneswar-751013 (Odisha)**  
[Assistance from Environment Division, CMPDI(HQs), Ranchi ]

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Test Report



AMBIENT AIR QUALITY DATA

Area : **Basundhara** (Compliance Station)

Project : **Kulda OCP** (conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	CO ( $\text{mg}/\text{m}^3$ )	Dust Generating Source	Distance from DGS
07-Nov-25	Laikera Railway Siding	293	168	76	12.99	38.68	-	Coal Transportation	About 100m
07-Nov-25	Kulda PO Office	286	155	68	11.69	21.51	-	Mining Activities, Coal Transportation	About 100m
22-Nov-25	Laikera Railway Siding	297	171	79	12.54	25.41	-	Coal Transportation	About 100m
22-Nov-25	Kulda PO Office	273	156	68	17.47	40.78	-	Mining Activities, Coal Transportation	About 100m

*K. Pattnaik*  
 Authorised Signatory  
 CMPDI, Ri-VII, LAB  
 BHUBANESWAR

*Janaki*

MuEF Standards Notification dated 25th September, 2000	500	250		120	120	876 (Hours)
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**AMBIENT AIR QUALITY DATA**

Area :

**Basundhara**

(Reference Station)

Project :

**Kulda OCP**

(conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
03-Nov-25	North of CHP, Teleimal	175	75	33	11.09	18.82	Domestic, OCP, Transportation	About 500m
03-Nov-25	Bilaimunda Village	160	69	32	15.76	36.05	Village Road	About 500m
03-Nov-25	External CT Road, Barpali	190	84	46	14.55	37.80	Mining Activities, Coal Transportation	About 500m
03-Nov-25	South West of Working Face, Chakarpur	188	86	37	13.32	17.73	Village Road	About 500m
04-Nov-25	Bilaimunda Village	192	85	40	10.37	25.69	Village Road	About 500m
04-Nov-25	South West of Working Face, Chakarpur	172	82	30	9.63	26.61	Village Road	About 500m
04-Nov-25	External CT Road, Barpali	170	75	37	15.80	32.04	Mining Activities, Coal Transportation	About 500m
04-Nov-25	North of CHP, Teleimal	218	86	41	14.77	24.44	Domestic, OCP, Transportation	About 500m
10-Nov-25	Bilaimunda Village	170	75	37	12.63	32.66	Village Road	About 500m
10-Nov-25	South West of Working Face, Chakarpur	218	87	41	8.83	28.65	Village Road	About 500m
10-Nov-25	North of CHP, Teleimal	189	80	35	11.09	29.41	Domestic, OCP, Transportation	About 500m
10-Nov-25	External CT Road, Barpali	185	81	45	11.95	16.65	Mining Activities, Coal Transportation	About 500m
11-Nov-25	South West of Working Face, Chakarpur	175	78	34	10.32	27.03	Village Road	About 500m
11-Nov-25	North of CHP, Teleimal	205	82	39	10.63	23.79	Domestic, OCP, Transportation	About 500m
11-Nov-25	External CT Road, Barpali	175	77	41	13.35	27.06	Mining Activities, Coal Transportation	About 500m
11-Nov-25	Bilaimunda Village	162	71	33	14.52	31.71	Village Road	About 500m
17-Nov-25	External CT Road, Barpali	175	84	38	10.05	23.40	Mining Activities, Coal Transportation	About 500m
17-Nov-25	North of CHP, Teleimal	238	93	51	10.92	34.81	Domestic, OCP, Transportation	About 500m
17-Nov-25	Bilaimunda Village	225	95	50	18.91	25.85	Village Road	About 500m
17-Nov-25	South West of Working Face, Chakarpur	181	76	43	15.55	20.50	Village Road	About 500m
18-Nov-25	External CT Road, Barpali	191	77	33	19.40	37.65	Mining Activities, Coal Transportation	About 500m
18-Nov-25	North of CHP, Teleimal	244	98	53	17.68	25.35	Domestic, OCP, Transportation	About 500m

\*N44QS.2009

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*Sanjay*  
Authorised Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Janak*

**Project :****Kulda OCP****(conc. in µg/cu.m.)**

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
18-Nov-25	Bilaimunda Village	178	78	34	14.52	25.67	Village Road	About 500m
18-Nov-25	South West of Working Face, Chakarpur	196	83	44	19.12	38.77	Village Road	About 500m
24-Nov-25	Bilaimunda Village	208	85	44	13.57	18.34	Village Road	About 500m
24-Nov-25	North of CHP, Teleimal	217	82	44	11.17	25.67	Domestic, OCP, Transportation	About 500m
24-Nov-25	South West of Working Face, Chakarpur	189	74	42	12.19	42.37	Village Road	About 500m
24-Nov-25	External CT Road, Barpali	217	88	46	13.03	19.63	Mining Activities, Coal Transportation	About 500m
25-Nov-25	Bilaimunda Village	202	80	38	14.89	20.38	Village Road	About 500m
25-Nov-25	External CT Road, Barpali	226	93	51	10.73	40.17	Mining Activities, Coal Transportation	About 500m
25-Nov-25	North of CHP, Teleimal	232	91	50	12.63	40.61	Domestic, OCP, Transportation	About 500m
25-Nov-25	South West of Working Face, Chakarpur	179	67	36	13.50	27.37	Village Road	About 500m
28-Nov-25	External CT Road, Barpali	213	85	48	15.12	22.37	Mining Activities, Coal Transportation	About 500m
28-Nov-25	North of CHP, Teleimal	220	80	42	18.54	35.93	Domestic, OCP, Transportation	About 500m
28-Nov-25	South West of Working Face, Chakarpur	177	63	34	14.30	19.06	Village Road	About 500m
28-Nov-25	Bilaimunda Village	217	95	44	15.39	25.30	Village Road	About 500m
29-Nov-25	South West of Working Face, Chakarpur	202	84	39	17.42	33.55	Village Road	About 500m
29-Nov-25	Bilaimunda Village	221	97	49	14.06	18.21	Village Road	About 500m
29-Nov-25	External CT Road, Barpali	196	80	41	9.31	22.65	Mining Activities, Coal Transportation	About 500m
29-Nov-25	North of CHP, Teleimal	229	85	47	15.62	32.42	Domestic, OCP, Transportation	About 500m

*T. Hanu*  
**Authorized Signatory**  
**CMPDI, RI-VII, LAB**  
**BHUBANESWAR**

*J. S. S. S.*

\*NAAQS, 2009

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सिंहमण्डल  
C.M.P.D.I.  
BHUANESWAR

Test Report

**AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)**

Area :

Basundhara

Project :

Kulda OCP

Date of Sampling	Monitoring Station	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo(a)Pyrene	Benzene
		(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )
03-Nov-25	North of CHP, Teleimal	<20.0	22.97	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
03-Nov-25	South West of Working Face, Chakarpur	<20.0	26.12	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
03-Nov-25	External CT Road, Barpali	<20.0	26.12	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
03-Nov-25	Bilaimunda Village	<20.0	23.92	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
03-Nov-25	South West of Working Face, Chakarpur	<20.0	19.82	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
04-Nov-25	Bilaimunda Village	<20.0	18.57	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
04-Nov-25	South West of Working Face, Chakarpur	<20.0	22.02	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
04-Nov-25	External CT Road, Barpali	<20.0	23.92	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
04-Nov-25	North of CHP, Teleimal	<20.0	14.17	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
10-Nov-25	Bilaimunda Village	<20.0	18.57	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
10-Nov-25	South West of Working Face, Chakarpur	<20.0	19.82	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
10-Nov-25	North of CHP, Teleimal	<20.0	24.23	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
10-Nov-25	External CT Road, Barpali	<20.0	18.25	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
11-Nov-25	South West of Working Face, Chakarpur	<20.0	14.17	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
11-Nov-25	North of CHP, Teleimal	<20.0	17.62	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
11-Nov-25	External CT Road, Barpali	<20.0	25.48	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
11-Nov-25	Bilaimunda Village	<20.0	24.85	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
17-Nov-25	External CT Road, Barpali	<20.0	17.93	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
17-Nov-25	North of CHP, Teleimal	<20.0	28.00	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
17-Nov-25	Bilaimunda Village	<20.0	22.02	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
18-Nov-25	External CT Road, Barpali	<20.0	21.08	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
18-Nov-25	North of CHP, Teleimal	<20.0	25.80	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
18-Nov-25	Bilaimunda Village	<20.0	26.43	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
18-Nov-25	South West of Working Face, Chakarpur	<20.0	17.93	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL

Standard	400(24 hours)	180(1 hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	0.2(1 hour)	01(annual)	05(annual)
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Authorised Signatory  
C.M.P.D.I. RI-VII, LAB  
BHUBANESWAR

*Janaki*

**Project :****Kulda OCP**

Date of Sampling	Monitoring Station	Ammonia(NH3)	Ozone(O3)	Lead(Pb)	Arsenic(As)	Nickel(Ni)	CO	Benzo(a)Pyrene	Benzene
		(µg/m3)	(µg/m3)	(µg/m3)	(ng/m3)	(ng/m3)	(mg/m3)	(ng/m3)	(µg/m3)
24-Nov-25	Bilaimunda Village	<20.0	23.28	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
24-Nov-25	North of CHP, Teleimal	<20.0	16.98	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
24-Nov-25	South West of Working Face, Chakarpur	<20.0	23.92	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
24-Nov-25	External CT Road, Barpali	<20.0	27.37	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
25-Nov-25	Bilaimunda Village	<20.0	21.08	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
25-Nov-25	External CT Road, Barpali	<20.0	26.43	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
25-Nov-25	North of CHP, Teleimal	<20.0	15.10	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
25-Nov-25	South West of Working Face, Chakarpur	<20.0	25.80	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
28-Nov-25	External CT Road, Barpali	<20.0	13.85	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
28-Nov-25	North of CHP, Teleimal	<20.0	20.13	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
28-Nov-25	South West of Working Face, Chakarpur	<20.0	25.17	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
28-Nov-25	Bilaimunda Village	<20.0	13.85	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
29-Nov-25	South West of Working Face, Chakarpur	<20.0	16.05	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
29-Nov-25	Bilaimunda Village	<20.0	24.85	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
29-Nov-25	External CT Road, Barpali	<20.0	27.07	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
29-Nov-25	North of CHP, Teleimal	<20.0	16.98	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL

*Staffanvik*  
**Authorised Signatory,**  
 CMPOI, RI-VII, LAB  
 BHUBANESWAR

*Janaki*

Standard	400(24 hours)	180(hours)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(Hours)	01(annual)	05(annual)
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राष्ट्रीय पर्यावरण  
 संवेक्षण  
 मंडल  
 cmpdi  
 भारतीय पर्यावरण संरक्षण मंत्रालय

TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

Basundhara

PROJECT :

Kulda OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
11-Nov-25	Kulda PO Office	59.2	53.4
11-Nov-25	Laikera Railway Siding	51.9	40.6
11-Nov-25	South West of Working Face Chakarpur	49.6	42.3
29-Nov-25	Kulda PO Office	62.4	58.6
29-Nov-25	Laikera Railway Siding	50.8	40.4
29-Nov-25	South West of Working Face Chakarpur	52.3	42.9

MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 75dB(A) (Industrial)	10.00 PM -6.00 AM Leq 70dB(A) (Industrial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 55dB(A) (Residential)	10.00 PM -6.00 AM Leq 45dB(A) (Residential)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 65dB(A) (Commercial)	10.00 PM -6.00 AM Leq 55dB(A) (Commercial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 50dB(A) (Silence Zone)	10.00 PM -6.00 AM Leq 40dB(A) (Silence Zone)

*Jitendra*  
 Authorized Signatory  
 CMPDI, RI-VII, LAB  
 BHUBANESWAR

*Janaki*

**EFFLUENT QUALITY DATA**

Area :

Basundhara

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Kulda OCP

Date of Sampling	Sampling Station	pH	Kulda OCP					TDS	DO	Remarks
			Oil & Grease	TSS	COD	BOD				
11-Nov-25	Final Outlet Of ETP	7.89	<4.0	51	64	-				
11-Nov-25	Inlet of ETP	7.83	5.4	89	120	-				
11-Nov-25	Mine Sump Water Near Kulda Nursery	7.78	<4.0	29	28	-				
25-Nov-25	Inlet of ETP	7.89	4.6	47	88	-				
27-Nov-25	Final Outlet Of ETP	8.01	<4.0	26	28	-				

Authorised Signatory  
CMPDI, RI-XII, LAB  
BHUBANESWAR

*Jaswant*

MoEF Standard Notification dated 25th September, 2000  
and MoEF Schedule VI, General standard for discharge  
of Environmental Pollutants Part A: Effluents

5.5-9.0	10	100	250	30
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cmpdi  
भारत

## Drinking Water Quality Data Basundhara Area

Project / OCP	Kulda OCP		Indian Drinking Standards (IS-10500):2012	
	Well at Sahaspur	Well at Teleimal		
Monitoring Station				
Date of Sampling	11-Nov-2025	11-Nov-2025	Acceptable	Permissible
Colour(Hazen)	3	3	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	2	1	5
pH	6.60	6.86	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	105.05	172.28	200	600
Chloride(mg/L)	56.35	40.84	250	1000
Sulphate(mg/L)	44.2	76.56	200	400
Nitrate(mg/L)	19.80	22.60	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	193.53	254.01	200	600
Calcium(mg/L)	46.86	77.57	75	200
Fluoride(mg/L)	0.84	0.82	1	1.5
Total Dissolve Solid(mg/L)	310	404	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	0.12	0.08	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4

  
Authorised Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR





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निरीक्षण  
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Mini Ratna

## Drinking Water Quality Data Basundhara Area

Project / OCP	Kulda OCP		Indian Drinking Standards (IS-10500):2012	
	Well at Sahaspur	Well at Teleimal		
Date of Sampling	11-Nov-2025	11-Nov-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	16.90	16.40	-	-
Potassium(mg/L)	7.60	7.64	-	-
Phenolics(mg/L)	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	Not Detected	-	-

*H. H. H. H.*  
Authorised Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Jasmati*

Kulda OCP

Legend  
Air Monitoring Locations

North of CHP, Tejeimal

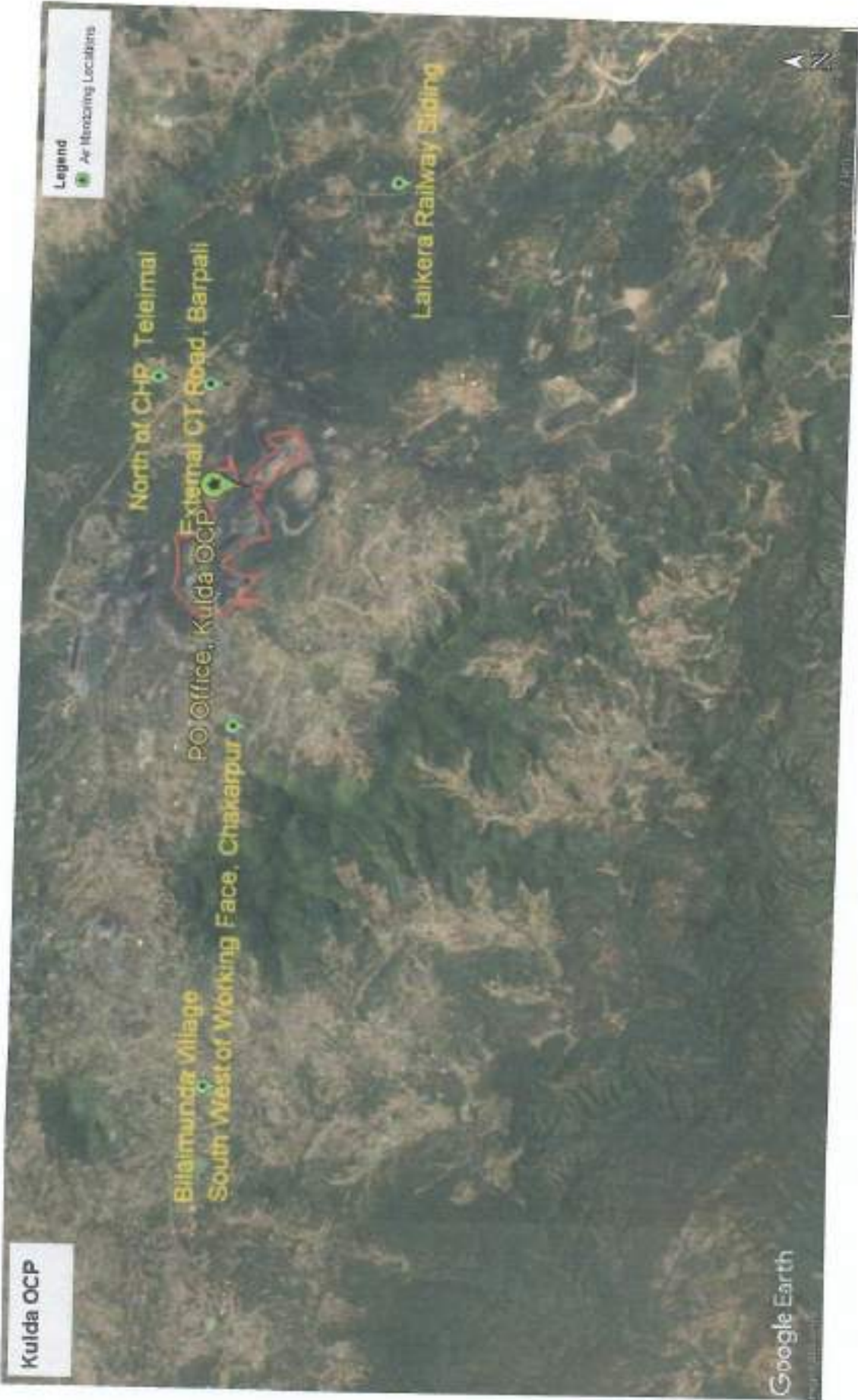
Bilaimunda Village

PO Office, Kulda OCP

South West of Working Face, Chakarpur

Laikera Railway Siding

Google Earth



**Environmental Monitoring Report  
For  
November -2025**

**Project: Garjanbahal OCP  
Area: Basundhara  
Coalfield: Ib Valley**



**Mahanadi Coalfields Limited**



**Central Mine Planning & Design Institute Ltd.**  
(A Subsidiary of Coal India Ltd.)

**Regional Institute-VII, Samantpuri, P.O : RRL, Bhubaneswar-751013 (Odisha)**  
[Assistance from Environment Division, CMPDI(HQs), Ranchi ]

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Test Report



AMBIENT AIR QUALITY DATA

Area : Basundhara

(Compliance Station)

Project : Garjanbahal OCP

(conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	CO ( $\mu\text{g}/\text{m}^3$ )	Dust Generating Source	Distance from DGS
07-Nov-25	Karlikachar Village	267	144	62	9.51	18.40	-	External Coal Transportation Road	About 500m
07-Nov-25	KAN-1 Near Coal Sampling Lab	280	153	68	11.81	23.94	-	Railway Siding, Transportation	About 500m
07-Nov-25	Garjanbahal Village	288	162	73	13.82	29.00	-	External Coal Transportation Road	About 500m
22-Nov-25	Karlikachar Village	146	159	67	15.03	28.79	-	External Coal Transportation Road	About 500m
22-Nov-25	KAN-1 Near Coal Sampling Lab	289	164	74	15.67	30.02	-	Railway Siding, Transportation	About 500m
22-Nov-25	Garjanbahal Village	291	169	76	12.66	14.34	-	External Coal Transportation Road	About 500m

Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUGANESWAR

*J. J. Jaisankar*

*Jaisankar*

MoEF Standards Notification dated 25th September, 2009	500	250		120	120	02/8 (Hours)
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Test Report

AMBIENT AIR QUALITY DATA

Area : **Basundhara** (Reference Station)

Project : **Garjanbahal OCP** (conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
03-Nov-25	West of working face, Bihaimunda	221	97	44	17.60	35.68	South-West of Working Face	About 500m
03-Nov-25	South-East of Working Face, Kutabaga Village	196	83	38	16.00	22.45	South-East of Working Face	About 1000m
04-Nov-25	South-East of Working Face, Kutabaga Village	178	65	33	8.55	29.17	South-East of Working Face	About 1000m
04-Nov-25	West of working face, Bihaimunda	194	83	38	11.67	27.75	South-West of Working Face	About 500m
10-Nov-25	West of working face, Bihaimunda	208	91	43	10.05	34.54	South-West of Working Face	About 500m
11-Nov-25	South-East of Working Face, Kutabaga Village	182	73	33	9.73	25.42	South-East of Working Face	About 1000m
11-Nov-25	West of working face, Bihaimunda	173	79	36	16.16	36.04	South-West of Working Face	About 500m
12-Nov-25	South-East of Working Face, Kutabaga Village	192	85	46	10.32	23.43	South-East of Working Face	About 1000m
17-Nov-25	West of working face, Bihaimunda	189	73	33	15.94	14.28	South-West of Working Face	About 500m
17-Nov-25	South-East of Working Face, Kutabaga Village	220	81	43	10.82	27.05	South-East of Working Face	About 1000m
18-Nov-25	South-East of Working Face, Kutabaga Village	211	78	40	13.93	36.19	South-East of Working Face	About 1000m
18-Nov-25	West of working face, Bihaimunda	237	84	46	17.99	15.86	South-West of Working Face	About 500m
22-Nov-25	South-East of Working Face, Kutabaga Village	209	80	41	16.56	16.38	South-East of Working Face	About 1000m
23-Nov-25	South-East of Working Face, Kutabaga Village	216	84	45	13.26	35.63	South-East of Working Face	About 1000m
24-Nov-25	West of working face, Bihaimunda	202	78	36	17.13	27.18	South-West of Working Face	About 500m
25-Nov-25	West of working face, Bihaimunda	193	74	34	12.51	37.27	South-West of Working Face	About 500m
28-Nov-25	South-East of Working Face, Kutabaga Village	216	76	41	10.75	24.06	South-East of Working Face	About 1000m
28-Nov-25	West of working face, Bihaimunda	209	83	38	14.37	15.82	South-West of Working Face	About 500m
29-Nov-25	South-East of Working Face, Kutabaga Village	177	71	38	14.59	35.51	South-East of Working Face	About 1000m
29-Nov-25	West of working face, Bihaimunda	226	87	45	11.12	16.54	South-West of Working Face	About 500m

*N14QS,2009		100	60	80	80
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Test Report



AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area :

Basundhara

Project :

Garjanbahal OCP

Date of Sampling	Monitoring Station	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo(a)Pyrene	Benzene
		(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )
03-Nov-25	West of working face, Bihaimunda	<20.0	23.92	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
03-Nov-25	South-East of Working Face, Kutabaga Village	<20.0	17.62	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
04-Nov-25	South-East of Working Face, Kutabaga Village	<20.0	20.77	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
04-Nov-25	West of working face, Bihaimunda	<20.0	16.68	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
11-Nov-25	South-East of Working Face, Kutabaga Village	<20.0	23.92	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
10-Nov-25	West of working face, Bihaimunda	<20.0	28.32	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
12-Nov-25	South-East of Working Face, Kutabaga Village	<20.0	25.80	<0.1	<1.0	<1.0	1.6	BQL(QL=0.7)	BQL
11-Nov-25	West of working face, Bihaimunda	<20.0	16.37	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
17-Nov-25	South-East of Working Face, Kutabaga Village	<20.0	26.75	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
17-Nov-25	West of working face, Bihaimunda	<20.0	15.1	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
18-Nov-25	South-East of Working Face, Kutabaga Village	<20.0	15.10	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
18-Nov-25	West of working face, Bihaimunda	<20.0	22.65	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
22-Nov-25	South-East of Working Face, Kutabaga Village	<20.0	14.78	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
24-Nov-25	West of working face, Bihaimunda	<20.0	22.02	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
23-Nov-25	South-East of Working Face, Kutabaga Village	<20.0	25.17	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
25-Nov-25	West of working face, Bihaimunda	<20.0	22.33	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
28-Nov-25	South-East of Working Face, Kutabaga Village	<20.0	24.23	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
28-Nov-25	West of working face, Bihaimunda	<20.0	25.17	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
29-Nov-25	South-East of Working Face, Kutabaga Village	<20.0	15.73	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
29-Nov-25	West of working face, Bihaimunda	<20.0	22.65	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL



सीएनपीडीआई  
CMPDI  
भुवनेश्वर

TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

Basundhara

PROJECT :

Garjanbahal OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
11-Nov-25	Karlikachar Village	52.8	40.6
11-Nov-25	Garjhanbahal Village	50.1	42.5
29-Nov-25	Karlikachar Village	50.6	40.7
29-Nov-25	Garjhanbahal Village	52.8	42.9

MoEF Standard Notification dated 25th September, 2000	6.00 AM - 10.00 PM Leq 75dB(A) (Industrial)	10.00 PM - 6.00 AM Leq 70dB(A) (Industrial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM - 10.00 PM Leq 55dB(A) (Residential)	10.00 PM - 6.00 AM Leq 45dB(A) (Residential)
MoEF Standard Notification dated 25th September, 2000	6.00 AM - 10.00 PM Leq 65dB(A) (Commercial)	10.00 PM - 6.00 AM Leq 55dB(A) (Commercial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM - 10.00 PM Leq 50dB(A) (Silence Zone)	10.00 PM - 6.00 AM Leq 40dB(A) (Silence Zone)

*Signature*  
Authorised Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Signature*

**EFFLUENT QUALITY DATA**

Area :

Basundhara

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Garjanbahal OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	Remarks
11-Nov-25	Outlet of Settling Tank (Kanika Siding)	6.94	<4.0	57	68	-	-	-	
11-Nov-25	Inlet of Settling Tank (Kanika Siding)	6.93	5.8	94	132	-	-	-	
11-Nov-25	Mine Sump Water	7.71	<4.0	33	32	-	-	-	
25-Nov-25	Outlet of Settling Tank (Kanika Siding)	6.98	4.4	59	80	-	-	-	
25-Nov-25	Inlet of Settling Tank (Kanika Siding)	6.88	5.8	93	136	-	-	-	
25-Nov-25	Mine Sump Water	7.75	<4.0	25	20	-	-	-	

Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Janaki*

MoEF Standard Notification dated 25th September, 2000 and MoEF Schedule VI, General standard for discharge of Environmental Pollutants Part A: Effluents	5.5-9.0	10	100	250	30
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सीएमपीडीआई  
मिनी लैब  
**cmpdi**  
Mini Lab

## Drinking Water Quality Data Basundhara Area

Project / OCP	Garjanbahal OCP		Indian Drinking Standards (IS-10500):2012	
	Well at Garjanbahal Village	South West of Coalface, Bihaimunda		
Monitoring Station				
Date of Sampling	11-Nov-2025	11-Nov-2025	Acceptable	Permissible
Colour(Hazen)	2	3	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	2	1	5
pH	7.12	6.65	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	88.24	155.47	200	600
Chloride(mg/L)	19.43	13.60	250	1000
Sulphate(mg/L)	22.46	21.82	200	400
Nitrate(mg/L)	10.80	8.68	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	112.89	133.06	200	600
Calcium(mg/L)	30.70	21.01	75	200
Fluoride(mg/L)	0.54	0.78	1	1.5
Total Dissolve Solid(mg/L)	176	218	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.14	0.43	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	0.06	2.39	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4



सीएमपीडीआई  
मिनी प्लान  
cmpdi  
Mini Plan

## Drinking Water Quality Data Basundhara Area

Project / OCP	Garjanbahal OCP		Indian Drinking Standards (IS-10500):2012	
	Well at Garjanbahal Village	South West of Coalface, Bihaimunda	Acceptable	Permissible
Monitoring Station				
Date of Sampling	11-Nov-2025	11-Nov-2025		
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	15.60	6.79		
Potassium(mg/L)	0.06	1.88		
Phenolics(mg/L)	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	Not Detected	-	-

*T. Jaisankar*  
Authorized Signatory  
CMPDI, RI-VII, LAE  
BHUBANESWAR

*Jaisankar*

Garjanbahal OCP

Legend

Monitoring Station

KAN-1 Near Coal Sampling Lab

Karikachar

Garjanbahal

Bihaimunda Village

South-East of Working Face - Kutabaga

Google Earth



**Environmental Monitoring Report  
For  
November -2025**

**Project: Orient Mine no. 1&2  
Area: Orient  
Coalfield: Ib Valley**



**MCL**

**Mahanadi Coalfields Limited**



**सीएमपीडीआई**  
मिनी रात्रो  
**cmpdi**  
Mini Ratna

**Central Mine Planning & Design Institute Ltd.**  
(A Subsidiary of Coal India Ltd.)

**Regional Institute-VII, Samantpuri, P.O : RRL, Bhubaneswar-751013 (Odisha)**  
[Assistance from Environment Division, CMPDI(HQs), Ranchi ]

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Test Report



**AMBIENT AIR QUALITY DATA**

Area : **Orient** (Compliance Station)

Project : **Orient Mine No. 1 & 2** (conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	CO ( $\text{mg}/\text{m}^3$ )	Dust Generating Source	Distance from DGS
08-Nov-25	Orient Mine No. 1 & 2	268	166	73	12.05	28.02		Coal Stock Yard, Surface Bunker, Coal	About 250m
21-Nov-25	Orient Mine No. 1 & 2	283	154	69	16.25	36.96	-	Coal Stock Yard, Surface Bunker, Coal	About 250m

*Jatavalk*  
 Authorised Signatory  
 CMPDI, RI-VII, LAB  
 BHUBANESWAR

*Javali*

MoEF Standards Notification dated 25th September, 2000	500	250		120	120	9208 Hours
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सीएमपीडी आई  
 CMPDI  
 AIR QUALITY

**Test Report**

**AMBIENT AIR QUALITY DATA**

**Area :**

**Orient**

**(Reference Station)**

**Project :**

**Orient Mine No.1 & 2**

**(conc. in µg/cu.m.)**

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
05-Nov-25	Orient GM Office	197	87	40	13.44	33.40	Domestic and other Anthropogenic Activities	About 1000m
06-Nov-25	Orient GM Office	187	81	35	13.18	17.57	Domestic and other Anthropogenic Activities	About 1000m
12-Nov-25	Orient GM Office	207	84	38	10.26	35.54	Domestic and other Anthropogenic Activities	About 1000m
13-Nov-25	Orient GM Office	203	93	46	15.06	32.19	Domestic and other Anthropogenic Activities	About 1000m
19-Nov-25	Orient GM Office	235	85	46	19.18	32.13	Domestic and other Anthropogenic Activities	About 1000m
20-Nov-25	Orient GM Office	241	91	49	13.03	21.89	Domestic and other Anthropogenic Activities	About 1000m
26-Nov-25	Orient GM Office	253	96	51	12.66	33.22	Domestic and other Anthropogenic Activities	About 1000m
27-Nov-25	Orient GM Office	224	80	45	11.34	33.05	Domestic and other Anthropogenic Activities	About 1000m

*Y. Choudhary*  
 Authorised Signatory  
 CMPDI, RI-VII, LAB  
 BHUBANESWAR

*J. S. Jena*

\*NAAQS, 2009

100	80	80	80
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Test Report



AMBIENT AIR QUALITY DATA(NAAQS PARAMETER)

Area :

Orient

Project :

Orient Mine No.1 & 2

Date of Sampling	Monitoring Station	Ammonia(NH3)	Ozone(O3)	Lead(Pb)	Arsenic(As)	Nickel(Ni)	CO	Benzo(a)Pyrene	Benzene
		( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
05-Nov-25	Orient GM Office	<20.0	26.75	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
06-Nov-25	Orient GM Office	<20.0	22.97	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
12-Nov-25	Orient GM Office	<20.0	18.57	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
13-Nov-25	Orient GM Office	<20.0	21.08	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
19-Nov-25	Orient GM Office	<20.0	14.78	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
20-Nov-25	Orient GM Office	<20.0	16.98	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
26-Nov-25	Orient GM Office	<20.0	27.68	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
27-Nov-25	Orient GM Office	<20.0	18.57	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL

*Sattarick*  
 Authorized Signatory  
 CMPDI, RI-VII, LAB  
 BHUBANESWAR

*Jasrat*

Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	0.2(8 hours)	01(annual)	05(annual)
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राष्ट्रीय पर्यावरण  
अनुसंधान संस्थान  
cmpdi  
भारत सरकार

TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

*Orient*

PROJECT :

*Orient Mine No. 1 & 2*

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
10-Nov-25	VIP Guest House, IB Valley (Reported Only)	49.2	41.4
10-Nov-25	Orient Mine No. 1 & 2	49.4	39.7
28-Nov-25	Orient Mine No. 1 & 2	49.3	39.3
28-Nov-25	VIP Guest House, IB Valley (Reported Only)	50.1	42.3

<i>MoEF Standard Notification dated 25th September, 2000</i>	<i>6.00 AM -10.00 PM Leq 75dB(A) (Industrial)</i>	<i>10.00 PM -6.00 AM Leq 70dB(A) (Industrial)</i>
<i>MoEF Standard Notification dated 25th September, 2000</i>	<i>6.00 AM -10.00 PM Leq 55dB(A) (Residential)</i>	<i>10.00 PM -6.00 AM Leq 45dB(A) (Residential)</i>
<i>MoEF Standard Notification dated 25th September, 2000</i>	<i>6.00 AM -10.00 PM Leq 65dB(A) (Commercial)</i>	<i>10.00 PM -6.00 AM Leq 55dB(A) (Commercial)</i>
<i>MoEF Standard Notification dated 25th September, 2000</i>	<i>6.00 AM -10.00 PM Leq 50dB(A) (Silence Zone)</i>	<i>10.00 PM -6.00 AM Leq 40dB(A) (Silence Zone)</i>

*[Signature]*  
Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*[Signature]*

**EFFLUENT QUALITY DATA**

Area :

Orient

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Orient Mine No. 1 & 2

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	Remarks
14-Nov-25	Mine Sump of Mine No. 2	7.30	<4.0	43	40	-	-	-	

*Prof. Anik*  
Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Jamali*

MoEF Standard Notification dated 25th September, 2000 and MoEF Schedule VI, General standard for discharge of Environmental Pollutants Part A: Effluents	5.5-9.0	10	100	250	30
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सीएमपीडीआई  
मिनि रत्न  
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Mini Ratna

## Drinking Water Quality Data Orient Area

Project / OCP	Orient Mine No. 1 & 2		Indian Drinking Standards (IS-10500):2012	
	Budhjaam Colony	Mine no 1 & 2 Filter Plant	Acceptable	Permissible
Monitoring Station	15-Nov-2025	15-Nov-2025	5	15
Date of Sampling	2	3	5	15
Colour(Hazen)	2	3	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	1	1	5
pH	7.53	7.02	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	71.43	130.26	200	600
Chloride(mg/L)	11.66	13.60	250	1000
Sulphate(mg/L)	26.86	31.76	200	400
Nitrate(mg/L)	9.76	6.48	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	96.77	116.93	200	600
Calcium(mg/L)	21.01	24.24	75	200
Fluoride(mg/L)	0.55	0.67	1	1.5
Total Dissolve Solid(mg/L)	154	212	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	<0.04	0.07	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4

  
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BHUBANESWAR





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## Drinking Water Quality Data Orient Area

Project / OCP	Orient Mine No. 1 & 2		Indian Drinking Standards (IS-10500):2012	
	Budhjaam Colony	Mine no 1 & 2 Filter Plant	Acceptable	Permissible
Monitoring Station				
Date of Sampling	15-Nov-2025	15-Nov-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	7.48	5.14		
Potassium(mg/L)	0.01	4.28		
Phenolics(mg/L)	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	Not Detected	-	-

*Tataaik*  
Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Janaik*

**Environmental Monitoring Report  
For  
November -2025**

**Project: Orient Mine no. 3  
Area: Orient  
Coalfield: Ib Valley**



**Mahanadi Coalfields Limited**



**Central Mine Planning & Design Institute Ltd.**  
(A Subsidiary of Coal India Ltd.)

**Regional Institute-VII, Samantpuri, P.O : RRL, Bhubaneswar-751013 (Odisha)**  
[Assistance from Environment Division, CMPDI(HQs), Ranchi ]

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Test Report



AMBIENT AIR QUALITY DATA

Area :

Orient

(Compliance Station)

Project :

Orient Mine No. 3

(conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	CO ( $\text{mg}/\text{m}^3$ )	Dust Generating Source	Distance from DGS
08-Nov-25	Orient Mine No. 3	249	154	67	11.72	34.84	-	Coal Stockyard, Surface Bunker, Coal	About 200m
21-Nov-25	Orient Mine No. 3	276	149	66	15.26	21.14	-	Coal Stockyard, Surface Bunker, Coal	About 200m

*Jatanaik*  
 Authorised Signatory  
 CMPDI, RI-VII, LAB  
 BHUBANESWAR

*Janaik*

MoEF Standards Notification dated 25th  
 September, 2000

500	250		120	120	12/8 Hours
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सर्वोपयोगी  
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TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

Orient

PROJECT :

Orient Mine No.3

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
10-Nov-25	Orient Mine No.3	52.9	41.3
28-Nov-25	Orient Mine No.3	52.1	40.6

MoEF Standard Notification dated 25th September, 2009	6.00 AM -10.00 PM Leq 75dB(A) (Industrial)	10.00 PM -6.00 AM Leq 70dB(A) (Industrial)
MoEF Standard Notification dated 25th September, 2009	6.00 AM -10.00 PM Leq 55dB(A) (Residential)	10.00 PM -6.00 AM Leq 45dB(A) (Residential)
MoEF Standard Notification dated 25th September, 2009	6.00 AM -10.00 PM Leq 65dB(A) (Commercial)	10.00 PM -6.00 AM Leq 55dB(A) (Commercial)
MoEF Standard Notification dated 25th September, 2009	6.00 AM -10.00 PM Leq 50dB(A) (Silence Zone)	10.00 PM -6.00 AM Leq 40dB(A) (Silence Zone)

*K. T. T. T.*  
Authorised Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*J. S. S.*

TABLE-



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cmpdi  
भारत सरकार

## EFFLUENT QUALITY DATA

Area :

Orient

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Orient Mine No. 3

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	Remarks
14-Nov-25	Mine Sump of Mine No. 3	7.10	<4.0	37	44	-	-	-	
27-Nov-25	Mine Sump of Mine No. 3	7.05	<4.0	29	28	-	-	-	

*T. Jaisankar*  
**Authorised Signatory**  
**CMPDI, RI-VII, LAB**  
**BHUBANESWAR**

*Jaisankar*

MoEF Standard Notification dated 25th September, 2000  
and MoEF Schedule VI, General standard for discharge  
of Environmental Pollutants Part A: Effluents

5.5-9.0	10	100	250	30
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cmpdi  
Mini Robot

## Drinking Water Quality Data Orient Area

Project / OCP Monitoring Station	Orient Mine No. 3 Mine no 3 Filter Plant	Indian Drinking Standards (IS-10500):2012	
		Acceptable	Permissible
Date of Sampling	15-Nov-2025		
Colour(Hazen)	2	5	15
Odour	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	5
pH	6.71	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	63.03	200	600
Chloride(mg/L)	19.43	250	1000
Sulphate(mg/L)	41.8	200	400
Nitrate(mg/L)	4.44	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	104.83	200	600
Calcium(mg/L)	21.01	75	200
Fluoride(mg/L)	0.40	1	1.5
Total Dissolve Solid(mg/L)	176	500	2000
Copper(mg/L)	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	0.1	0.3
Iron(mg/L)	<0.1	1	No relaxation
Zinc(mg/L)	0.51	5	15
Lead(mg/L)	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	0.5	2.4

*I. H. Jaisankar*  
Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Jaisankar*



सीएमपीडीआई  
मिनी रान  
cmpdi  
Mini Ratna

## Drinking Water Quality Data Orient Area

Project / OCP	Orient Mine No. 3	Indian Drinking Standards (IS-10500):2012	
Monitoring Station	Mine no 3 Filter Plant	Acceptable	Permissible
Date of Sampling	15-Nov-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	0.01	No relaxation
Sodium(mg/L)	12.84	—	—
Potassium(mg/L)	3.68	—	—
Phenolics(mg/L)	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	—	—

*Jattarai*  
Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

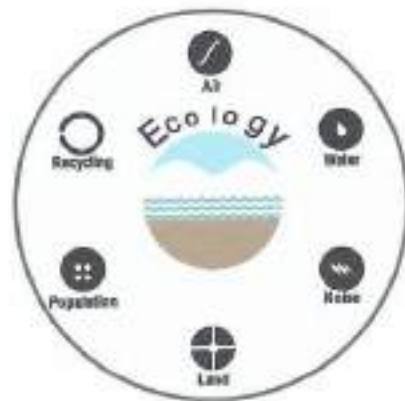
*Jattarai*

**Environmental Monitoring Report  
For  
November -2025**

**Project: Orient Mine no. 4  
Area: Orient  
Coalfield: Ib Valley**



**Mahanadi Coalfields Limited**



**Central Mine Planning & Design Institute Ltd.**  
(A Subsidiary of Coal India Ltd.)

**Regional Institute-VII, Samantpuri, P.O : RRL, Bhubaneswar-751013 (Odisha)**  
[Assistance from Environment Division, CMPDI(HQs), Ranchi ]

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Test Report



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 १९८६ ई।पू.  
**cmpdi**  
 BUREAU OF AIR QUALITY

**AMBIENT AIR QUALITY DATA**

Area :

**Orient**

**(Compliance Station)**

Project :

**Orient Mine No. 4**

**(conc. in  $\mu\text{g}/\text{cu.m.}$ )**

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO <sub>2</sub>	NO <sub>x</sub>	CO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	Dust Generating Source	Distance from DGS
08-Nov-25	Orient Mine No. 4	234	143	63	18.26	37.02	-	Coal Transportation Road	About 300m
21-Nov-25	Orient Mine No. 4	316	168	74	17.41	23.82	-	Coal Transportation Road	About 300m

*J. H. Saini*  
**Authorised Signatory**  
**CMPDI, RI-VII, LAB**  
**BHUBANESWAR**

*J. H. Saini*

MoEF Standards Notification dated 25th  
 September, 2009

500	250		120	120	02(6 Hours)
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cmpdi  
BHUANESWAR

TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

Orient

PROJECT :

Orient Mine No.4

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
10-Nov-25	Orient Mine No.4	49.7	42.4
28-Nov-25	Orient Mine No.4	49.6	42.8

MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 75dB(A) (Industrial)	10.00 PM -6.00 AM Leq 70dB(A) (Industrial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 55dB(A) (Residential)	10.00 PM -6.00 AM Leq 45dB(A) (Residential)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 65dB(A) (Commercial)	10.00 PM -6.00 AM Leq 55dB(A) (Commercial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 50dB(A) (Silence Zone)	10.00 PM -6.00 AM Leq 40dB(A) (Silence Zone)

  
Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR





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 १९८०  
**cmpdi**  
 Bhubaneswar

TABLE-

**EFFLUENT QUALITY DATA**

Area :

Orient

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

Orient Mine No. 4

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	Remarks
14-Nov-25	Mine Sump of Mine No. 4	6.73	<4.0	45	52	-	-	-	

*Jatthanayk*  
**Authorised Signatory**  
**CMPDI, RI-VII, LAB**  
**BHUBANESWAR**

*Jaswant*

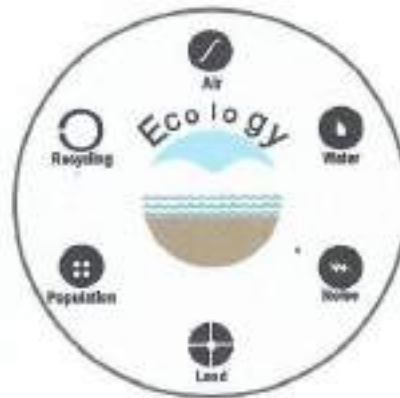
MoEF Standard Notification dated 25th September, 2000 and MoEF Schedule VI, General standard for discharge of Environmental Pollutants Part A: Effluents	5.5-9.0	10	100	250	30
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**Environmental Monitoring Report  
For  
November -2025**

**Project: Hirakhand Bundia Mine  
Area: Orient  
Coalfield: Ib Valley**



**Mahanadi Coalfields Limited**



**Central Mine Planning & Design Institute Ltd.**  
(A Subsidiary of Coal India Ltd.)

**Regional Institute-VII, Samantpuri, P.O : RRL, Bhubaneswar-751013 (Odisha)**  
[Assistance from Environment Division, CMPDI(HQs), Ranchi ]

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AMBIENT AIR QUALITY DATA

Area :

Orient

(Compliance Station)

Project :

HBI Mine

(conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO <sub>2</sub>	NO <sub>x</sub>	CO (mg/m <sup>3</sup> )	Dust Generating Source	Distance from DGS
08-Nov-25	HBI Mine	274	152	65	16.17	25.50	-	Coal Stockyard, Surface Bunker, Coal Transport	About 100m
08-Nov-25	Bundia Colony Pump House	279	145	67	11.34	34.10	-	Coal Stockyard, Surface Bunker, Coal Transport	About 150m
21-Nov-25	HBI Mine	283	159	75	15.55	25.23	-	Coal Stockyard, Surface Bunker, Coal Transport	About 100m
21-Nov-25	Bundia Colony Pump House	292	165	70	11.57	35.56	-	Coal Stockyard, Surface Bunker, Coal Transport	About 150m

Authorised Signatory  
CMPDI, RI-VII, LAG  
BHUBANESWAR

*Jasmati*

MoEF Standards Notification dated 25th September, 2000	500	250		120	120	02/N Hours
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Test Report



AMBIENT AIR QUALITY DATA

Area : Orient

(Reference Station)

Project :

Hirakand Bundia Mine (HBM)

(conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
05-Nov-25	Rampur Sub Area	193	87	40	12.76	24.31	Coal Stock And CT Road	About 1000m
05-Nov-25	Rampur Officers Guest House	204	85	39	9.39	34.10	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
06-Nov-25	Rampur Officers Guest House	173	67	35	10.18	27.78	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
06-Nov-25	Rampur Sub Area	173	81	37	16.11	22.07	Coal Stock And CT Road	About 1000m
12-Nov-25	Rampur Sub Area	203	95	46	13.69	29.34	Coal Stock And CT Road	About 1000m
12-Nov-25	Rampur Officers Guest House	197	86	42	9.61	18.75	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
13-Nov-25	Rampur Officers Guest House	216	91	45	9.40	19.89	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
13-Nov-25	Rampur Sub Area	188	84	39	11.39	29.55	Coal Stock And CT Road	About 1000m
19-Nov-25	Rampur Sub Area	191	83	40	9.79	35.72	Coal Stock And CT Road	About 1000m
19-Nov-25	Rampur Officers Guest House	194	84	45	17.84	23.82	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
20-Nov-25	Rampur Officers Guest House	205	87	47	19.50	42.36	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
20-Nov-25	Rampur Sub Area	185	74	33	13.50	28.25	Coal Stock And CT Road	About 1000m
26-Nov-25	Rampur Officers Guest House	190	78	43	16.98	40.61	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
26-Nov-25	Rampur Sub Area	197	80	39	16.07	36.76	Coal Stock And CT Road	About 1000m
27-Nov-25	Rampur Sub Area	233	86	45	17.26	18.26	Coal Stock And CT Road	About 1000m
27-Nov-25	Rampur Officers Guest House	197	84	46	17.25	22.49	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m

Authorised Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

Jamal

\*NA4QS.2009

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## Test Report


**AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)**

Area :

Orient

Project :

Hirakand Bundia Mine (HBM)

Date of Sampling	Monitoring Station	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo(a)Pyrene	Benzene
		(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )
05-Nov-25	Rampur Sub Area	<20.0	26.12	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
05-Nov-25	Rampur Officers Guest House	<20.0	17.30	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
06-Nov-25	Rampur Officers Guest House	<20.0	22.02	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
06-Nov-25	Rampur Sub Area	<20.0	13.53	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
12-Nov-25	Rampur Sub Area	<20.0	24.55	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
12-Nov-25	Rampur Officers Guest House	<20.0	24.23	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
13-Nov-25	Rampur Officers Guest House	<20.0	16.37	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
13-Nov-25	Rampur Sub Area	<20.0	27.37	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
19-Nov-25	Rampur Officers Guest House	<20.0	20.77	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
19-Nov-25	Rampur Sub Area	<20.0	23.6	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
20-Nov-25	Rampur Officers Guest House	<20.0	19.5	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
20-Nov-25	Rampur Sub Area	<20.0	22.33	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
26-Nov-25	Rampur Officers Guest House	<20.0	19.5	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
26-Nov-25	Rampur Sub Area	<20.0	17.62	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
27-Nov-25	Rampur Officers Guest House	<20.0	21.08	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
27-Nov-25	Rampur Sub Area	<20.0	22.65	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL

  
 Authorised Signatory  
 CMPDI, RI-VII, LAB  
 BHUBANESWAR

  
 J. J. Jaisankar

Standard	400(24 hours)	180(hours)	1.0(24 hours)	6.0(Annual)	20(Annual)	02(1hour)	01(annual)	05(annual)
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सीएनपीडीआई  
CMPDI  
भारत सरकार

TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

*Orient*

PROJECT :

*HBI Mine*

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
10-Nov-25	HBI Mine	60.1	54.6
10-Nov-25	Bundia Colony Pump House	51.2	42.8
10-Nov-25	Rampur Sub Area (Reported)	52.9	39.3
10-Nov-25	Rampur Officer's Guest House	49.6	40.2
28-Nov-25	HBI Mine	60.8	59.3
28-Nov-25	Rampur Sub Area (Reported)	52.9	39.6
28-Nov-25	Bundia Colony Pump House	52.4	41.3
28-Nov-25	Rampur Officer's Guest House	49.5	40.8

<i>MoEF Standard Notification dated 25th September, 2000</i>	<i>6.00 AM -10.00 PM Leq 75dB(A) (Industrial)</i>	<i>10.00 PM -6.00 AM Leq 70dB(A) (Industrial)</i>
<i>MoEF Standard Notification dated 25th September, 2000</i>	<i>6.00 AM -10.00 PM Leq 55dB(A) (Residential)</i>	<i>10.00 PM -6.00 AM Leq 45dB(A) (Residential)</i>
<i>MoEF Standard Notification dated 25th September, 2000</i>	<i>6.00 AM -10.00 PM Leq 65dB(A) (Commercial)</i>	<i>10.00 PM -6.00 AM Leq 55dB(A) (Commercial)</i>
<i>MoEF Standard Notification dated 25th September, 2000</i>	<i>6.00 AM -10.00 PM Leq 50dB(A) (Silence Zone)</i>	<i>10.00 PM -6.00 AM Leq 40dB(A) (Silence Zone)</i>

*T. S. ...*  
Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Janak*

## EFFLUENT QUALITY DATA

Area :

Orient

(All dimensions are in mg/l unless otherwise stated except pH)

Project :

HBI Mine

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	Remarks
14-Nov-25	Mine Sump of HBM	7.03	<4.0	40	36	-	-	-	

*Jettanai*  
 Authorised Signatory  
 CMPDI, RI-VII, LAB  
 BHUBANESWAR

*Jannat*

MoEF Standard Notification dated 25th September, 2000  
 and MoEF Schedule VI, General standard for discharge  
 of Environmental Pollutants Part A: Effluents

5.5-9.0	10	100	250	30
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cmpdi  
Mini Kotna

## Drinking Water Quality Data Orient Area

Project / OCP	HBI Mine		Indian Drinking Standards (IS-10500):2012	
	Rampur Colony	HBI Water Filter Plant	Acceptable	Permissible
Monitoring Station	15-Nov-2025	15-Nov-2025		
Date of Sampling	15-Nov-2025	15-Nov-2025	Acceptable	Permissible
Colour(Hazen)	1	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	2	1	5
pH	7.24	6.61	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	117.65	126.06	200	600
Chloride(mg/L)	33.03	29.14	250	1000
Sulphate(mg/L)	26.28	18.14	200	400
Nitrate(mg/L)	4.28	6.76	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	108.86	112.89	200	600
Calcium(mg/L)	22.62	25.9	75	200
Fluoride(mg/L)	0.47	0.61	1	1.5
Total Dissolve Solid(mg/L)	218	222	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	0.06	0.05	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4

*Kotnawish*  
Authorised Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Jaswant*



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मिनि एन  
cmpdi  
Mini Rohra

## Drinking Water Quality Data Orient Area

Project / OCP	HBI Mine		Indian Drinking Standards (IS-10500):2012	
	Rampur Colony	HBI Water Filter Plant	Acceptable	Permissible
Monitoring Station				
Date of Sampling	15-Nov-2025	15-Nov-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	9.40	17.66		
Potassium(mg/L)	8.42	8.12		
Phenolics(mg/L)	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	Not Detected	-	-

*Hotavak*  
Authorised Signatory  
CMPDI, RI-VII, LAB  
BHUGANESWAR

*Janmat*

**Environmental Monitoring Report  
For  
November -2025**

**Project: Himgir Rampur Colliery  
Area: Orient  
Coalfield: Ib Valley**



**Mahanadi Coalfields Limited**



**सीएमपीडीआई**  
मिनी इन्स्टीट्यूट  
**cmpdi**  
Mini Institute

**Central Mine Planning & Design Institute Ltd.**  
(A Subsidiary of Coal India Ltd.)

**Regional Institute-VII, Samantpuri, P.O : RRL, Bhubaneswar-761013 (Odisha)**  
[Assistance from Environment Division, CMPDI(HQs), Ranchi ]

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Test Report



AMBIENT AIR QUALITY DATA

Area :

Orient

(Compliance Station)

Project :

HRC

(conc. in  $\mu\text{g}/\text{cu.m.}$ )

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	CO ( $\mu\text{g}/\text{m}^3$ )	Dust Generating Source	Distance from DGS
08-Nov-25	Near Rampur Colliery Check Post	285	168	74	12.54	25.41	-	Mining allied activities	About 500m
08-Nov-25	Near CHP HRC	248	147	66	12.99	33.16	-	Mining allied activities	About 500m
22-Nov-25	Near Rampur Colliery Check Post	278	144	62	15.19	28.30	-	Mining allied activities	About 500m
22-Nov-25	Near CHP HRC	281	159	71	11.23	16.69	-	Mining allied activities	About 500m

*T. Jaisankar*  
 Authorized Signatory  
 CMPDI, RI-VII, LAB  
 BHUBANESWAR

*Jaisankar*

MoEF Standards Notification dated 25th  
 September, 2000

500	250		120	120	02(8 Hours)
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Test Report



AMBIENT AIR QUALITY DATA

Area : Orient (Reference Station)

Project : HRC (conc. in µg/cu.m.)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
05-Nov-25	Rampur Sub Area (Reported only)	193	87	40	12.76	24.31	Coal Stock And CT Road	About 1000m
05-Nov-25	Rampur Officers Guest House (Reported only)	204	85	39	9.39	34.10	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
06-Nov-25	Rampur Officers Guest House (Reported only)	173	67	35	10.18	27.78	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
06-Nov-25	Rampur Sub Area (Reported only)	173	81	37	16.11	22.07	Coal Stock And CT Road	About 1000m
12-Nov-25	Rampur Sub Area (Reported only)	203	95	46	13.69	29.34	Coal Stock And CT Road	About 1000m
12-Nov-25	Rampur Officers Guest House (Reported only)	197	86	42	9.61	18.75	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
13-Nov-25	Rampur Officers Guest House (Reported only)	216	91	45	9.40	19.89	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
13-Nov-25	Rampur Sub Area (Reported only)	188	84	39	11.39	29.55	Coal Stock And CT Road	About 1000m
19-Nov-25	Rampur Sub Area (Reported only)	191	83	40	9.79	35.72	Coal Stock And CT Road	About 1000m
19-Nov-25	Rampur Officers Guest House (Reported only)	194	84	45	17.84	23.82	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
20-Nov-25	Rampur Officers Guest House (Reported only)	205	87	47	19.50	42.36	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
20-Nov-25	Rampur Sub Area (Reported only)	185	74	33	13.50	28.25	Coal Stock And CT Road	About 1000m
26-Nov-25	Rampur Officers Guest House (Reported only)	190	78	43	16.98	40.61	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
26-Nov-25	Rampur Sub Area (Reported only)	197	80	39	16.07	36.76	Coal Stock And CT Road	About 1000m
27-Nov-25	Rampur Sub Area (Reported only)	233	86	45	17.26	18.26	Coal Stock And CT Road	About 1000m
27-Nov-25	Rampur Officers Guest House (Reported only)	197	84	46	17.25	22.49	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m

*T. H. Houshik*  
 Authorized Signatory  
 CMPDI, RI-VII, LAB  
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*Janaki*

*NAAQS, 2009	100	60	80	80
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**AMBIENT AIR QUALITY DATA(NAAQS PARAMETER)**

Area :

**Orient**

Project :

**HRC**

Date of Sampling	Monitoring Station	Ammonia(NH3)	Ozone(O3)	Lead(Pb)	Arsenic(As)	Nickel(Ni)	CO	Benzo(a)Pyrene	Benzene
		(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )
05-Nov-25	Rampur Sub Area (Reported only)	<20.0	26.12	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
05-Nov-25	Rampur Officers Guest House (Reported only)	<20.0	17.30	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
06-Nov-25	Rampur Officers Guest House (Reported only)	<20.0	22.02	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
06-Nov-25	Rampur Sub Area (Reported only)	<20.0	13.53	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
12-Nov-25	Rampur Sub Area (Reported only)	<20.0	24.55	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
12-Nov-25	Rampur Officers Guest House (Reported only)	<20.0	24.23	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
13-Nov-25	Rampur Officers Guest House (Reported only)	<20.0	16.37	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
13-Nov-25	Rampur Sub Area (Reported only)	<20.0	27.37	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
19-Nov-25	Rampur Officers Guest House (Reported only)	<20.0	20.77	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
19-Nov-25	Rampur Sub Area (Reported only)	<20.0	23.6	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
20-Nov-25	Rampur Officers Guest House (Reported only)	<20.0	19.5	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
20-Nov-25	Rampur Sub Area (Reported only)	<20.0	22.33	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
26-Nov-25	Rampur Officers Guest House (Reported only)	<20.0	19.5	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
26-Nov-25	Rampur Sub Area (Reported only)	<20.0	17.62	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
27-Nov-25	Rampur Officers Guest House (Reported only)	<20.0	21.08	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
27-Nov-25	Rampur Sub Area (Reported only)	<20.0	22.65	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL

*T. J. Jaisankar*  
**Authorised Signatory**  
**CMPDI, RI-VII, LAB**  
**BHUBANESWAR**

*Janus*

Standard	400(24 hours)	180(hour)	1.0(24 hours)	6.0(Annual)	20(Annual)	0.5(8 hours)	01(annual)	05(annual)
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CMPDI  
RIPRA

TABLE-

NOISE LEVEL MONITORING DATA

AREA :

Orient

PROJECT :

HRC

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
10-Nov-25	Near CHP HRC	50.9	41.3
10-Nov-25	Near Rampur Colliery Check Post	49.6	42.8
28-Nov-25	Near CHP HRC	52.8	42.3
28-Nov-25	Near Rampur Colliery Check Post	49.1	40.9

MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 75dB(A) (Industrial)	10.00 PM -6.00 AM Leq 70dB(A) (Industrial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 55dB(A) (Residential)	10.00 PM -6.00 AM Leq 45dB(A) (Residential)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 65dB(A) (Commercial)	10.00 PM -6.00 AM Leq 55dB(A) (Commercial)
MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 50dB(A) (Silence Zone)	10.00 PM -6.00 AM Leq 40dB(A) (Silence Zone)

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RIPRA

*Janak*

**Orient UG Mines**

- Orient Mine No. 1 & 2
- Orient Mine No. 3
- Orient Mine No. 4
- HBI Mine
- HRC UG Mine

Orient Mine No. 4

Orient GM Office

Orient Mine No. 3

VIP Guest House, IB Valley

Orient Mine No. 1 & 2

Near Rampur Colliery Check Post  
Near GMP HRC

Rampur Sub Area Rampur Officers Guest House

Bundla Colony Pump House

HBI Mine

**Legend**  
Air Monitoring Locations



**Environmental Monitoring Report  
For  
November-2025**

**Area: MCL HQ**

**Coalfield: Ib Valley**



**Mahanadi Coalfields Limited**



**Central Mine Planning & Design Institute Ltd.**  
(A Subsidiary of Coal India Ltd.)

**Regional Institute-VII, Samantpuri, P.O : RRL, Bhubaneswar-751013 (Odisha)**  
[Assistance from Environment Division, CMPDI(HQs), Ranchi ]

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मिनी रॉब  
cmpdi  
Mini Ratna

## Drinking Water Quality Data MCL (HQ)

Project / OCP Monitoring Station	MCL (HQ)		Indian Drinking Standards (IS-10500):2012	
	DAV School (Anand vihar)	Corporate Office (Jagriti Vihar)	Acceptable	Permissible
Date of Sampling	15-Nov-2025	15-Nov-2025	Acceptable	Permissible
Colour(Hazen)	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	2	1	5
pH	7.66	7.78	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	92.44	84.04	200	600
Chloride(mg/L)	13.60	11.66	250	1000
Sulphate(mg/L)	20.46	19.48	200	400
Nitrate(mg/L)	2.24	5.64	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	96.77	88.70	200	600
Calcium(mg/L)	24.24	25.85	75	200
Fluoride(mg/L)	0.66	0.44	1	1.5
Total Dissolve Solid(mg/L)	154	148	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	<0.04	0.40	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4

  
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मिनी लैब  
**cmpdi**  
Mini Lab

## Drinking Water Quality Data MCL (HQ)

Project / OCP	MCL (HQ)		Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	DAV School (Anand vihar)	Corporate Office (Jagrati Vihar)	
Date of Sampling	15-Nov-2025	15-Nov-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	16.44	5.84		
Potassium(mg/L)	0.01	0.01		
Phenolics(mg/L)	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	Not Detected	-	-

*T. Jaisankar*  
Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Jaisankar*



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मिनि राल  
cmpdi  
Mini Ralno

## Drinking Water Quality Data MCL (HQ)

Project / OCP	MCL(HQ)		Indian Drinking Standards (IS-10500):2012	
	Inlet to Water Treatment Plant (Anand Vihar)	Outlet to Water Treatment Plant (Anand Vihar)		
Monitoring Station				
Date of Sampling	15-Nov-2025	15-Nov-2025	Acceptable	Permissible
Colour(Hazen)	1	1	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	2	1	5
pH	7.50	7.73	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	79.84	79.84	200	600
Chloride(mg/L)	13.60	23.32	250	1000
Sulphate(mg/L)	18.14	10.71	200	400
Nitrate(mg/L)	7.12	<0.5	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	88.70	84.67	200	600
Calcium(mg/L)	25.85	27.47	75	200
Fluoride(mg/L)	0.72	0.52	1	1.5
Total Dissolve Solid(mg/L)	144	140	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	<0.04	0.06	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4

*Jaffar*  
Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Jameel*



सीएमपीडीआई  
गिनी क्लब  
cmpdi  
Mini Rating

## Drinking Water Quality Data MCL (HQ)

Project / OCP	MCL(HQ)		Indian Drinking Standards (IS-10500):2012	
	Inlet to Water Treatment Plant (Anand Vihar)	Outlet to Water Treatment Plant (Anand Vihar)		
Monitoring Station			Acceptable	Permissible
Date of Sampling	15-Nov-2025	15-Nov-2025	0.01	No relaxation
Selenium(mg/L)	<0.005	<0.005		
Sodium(mg/L)	6.34	6.90		
Potassium(mg/L)	0.13	0.07		
Phenolics(mg/L)	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	Not Detected	-	-

*J. Jaiswal*  
Authorized Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Jaiswal*