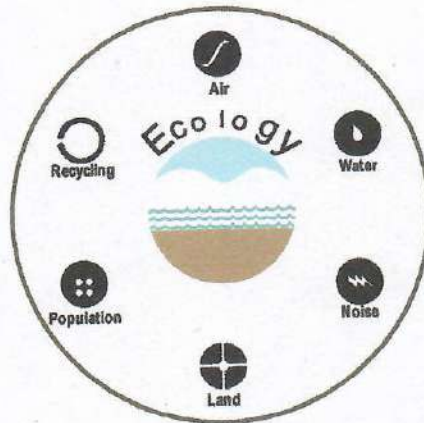


**Environmental Monitoring Report  
Of  
Ib Valley Area  
For  
July-2025**

**Ib Valley Coalfield**



**Mahanadi Coalfields Limited**



**सीएमपीडीआई**  
मिनी रत्न  
**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*

**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	Dust Generating Source	Distance from DGS
05-Jul-25	West of the Mine	192	87	38	13.41	31.77	Distance From 'y' Curve Railway Siding	About 450m
05-Jul-25	South of the Mine	202	83	40	16.35	23.94	Mine Haul Roads	About 400m
05-Jul-25	East of the Mine	192	97	44	17.69	21.97	Coal Transportation Road	About 500m
21-Jul-25	West of the Mine	196	85	40	14.25	24.24	Distance From 'y' Curve Railway Siding	About 450m
21-Jul-25	South of the Mine	197	91	43	14.90	26.39	Mine Haul Roads	About 400m
21-Jul-25	East of the Mine	224	96	47	15.53	21.96	Coal Transportation Road	About 500m

MoEF Standards Notification dated 25th  
September, 2000

500

250

120

120

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	Dust Generating Source	Distance from DGS
05-Jul-25	Near South Coal Stock	197	94	43	13.94	37.64	Mining Activities, Coal Transportation	About 500m
05-Jul-25	Near Project Office	181	85	38	17.47	40.78	Domestic, OCP, Transportation	About 500m
21-Jul-25	Near South Coal Stock	190	83	37	13.59	30.70	Mining Activities, Coal Transportation	About 500m
21-Jul-25	Near Project Office	176	84	40	11.60	26.72	Domestic, OCP, Transportation	About 500m

MoEF Standards Notification dated 25th September, 2000

500

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*Janani*

Authorised Signatory  
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SHUBANESWAR

**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
01-Jul-25	Kudaloi Village	114	44	21	12.47	18.82		
02-Jul-25	Kudaloi Village	138	46	25	14.78	21.96		
03-Jul-25	Rampur Sub Area (Reported only)	171	76	26	15.50	22.55	Coal Stock And CT Road	About 1000m
03-Jul-25	Khokelmal (Reported only)	148	60	26	14.95	30.38	Railway siding	About 1000m
04-Jul-25	Khokelmal (Reported only)	163	52	28	13.89	29.89	Railway siding	About 1000m
04-Jul-25	Rampur Sub Area (Reported only)	140	47	21	16.85	37.27	Coal Stock And CT Road	About 1000m
09-Jul-25	Kudaloi Village	135	55	23	16.98	27.82		
10-Jul-25	Kudaloi Village	110	33	16	10.59	32.93		
11-Jul-25	Khokelmal (Reported only)	137	44	25	12.37	41.22	Railway siding	About 1000m
11-Jul-25	Rampur Sub Area (Reported only)	125	39	17	15.50	21.84	Coal Stock And CT Road	About 1000m
12-Jul-25	Rampur Sub Area (Reported only)	138	45	23	11.85	25.27	Coal Stock And CT Road	About 1000m
12-Jul-25	Khokelmal (Reported only)	168	64	29	11.32	35.55	Railway siding	About 1000m
16-Jul-25	Kudaloi Village	130	44	23	12.45	22.09		
17-Jul-25	Kudaloi Village	136	52	25	13.44	39.28		
18-Jul-25	Khokelmal (Reported only)	165	55	29	14.78	21.96	Railway siding	About 1000m
18-Jul-25	Rampur Sub Area (Reported only)	125	41	17	15.27	22.05	Coal Stock And CT Road	About 1000m
19-Jul-25	Rampur Sub Area (Reported only)	145	50	25	16.56	32.32	Coal Stock And CT Road	About 1000m
19-Jul-25	Khokelmal (Reported only)	117	37	18	16.98	27.82	Railway siding	About 1000m
23-Jul-25	Kudaloi Village	119	39	21	11.00	33.88		
24-Jul-25	Kudaloi Village	105	33	17	12.73	38.58		
25-Jul-25	Khokelmal (Reported only)	132	44	21	10.59	32.93	Railway siding	About 1000m
25-Jul-25	Rampur Sub Area (Reported only)	128	44	20	20.09	37.35	Coal Stock And CT Road	About 1000m

\*NAAQS,2009

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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
26-Jul-25	Rampur Sub Area (Reported only)	142	48	23	13.07	25.13	Coal Stock And CT Road	About 1000m
26-Jul-25	Khokelmal (Reported only)	156	46	25	11.69	21.51	Railway siding	About 1000m
30-Jul-25	Kudaloi Village	153	50	26	10.75	24.47		
31-Jul-25	Kudaloi Village	164	59	28	12.99	33.16		

\*NAAQS,2009

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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
01-Jul-25	VIP Guest House IB Valley	112	43	19	13.23	23.35	Coal Stock Yard, Surface Bunker, Coal	About 800m
02-Jul-25	VIP Guest House IB Valley	136	56	27	14.67	28.25	Coal Stock Yard, Surface Bunker, Coal	About 800m
03-Jul-25	Khokelmal	148	60	26	14.95	30.38	Railway siding	About 1000m
03-Jul-25	Chuakani	145	57	29	16.40	35.31	Transportation	About 300m
04-Jul-25	Chuakani	128	50	24	14.77	24.02	Transportation	About 300m
04-Jul-25	Khokelmal	163	52	28	13.89	29.89	Railway siding	About 1000m
09-Jul-25	VIP Guest House IB Valley	123	48	25	16.04	22.76	Coal Stock Yard, Surface Bunker, Coal	About 800m
10-Jul-25	VIP Guest House IB Valley	147	66	31	14.33	28.42	Coal Stock Yard, Surface Bunker, Coal	About 800m
11-Jul-25	Chuakani	121	41	22	10.75	27.23	Transportation	About 300m
11-Jul-25	Khokelmal	137	44	25	12.37	41.22	Railway siding	About 1000m
12-Jul-25	Chuakani	115	35	19	13.26	34.22	Transportation	About 300m
12-Jul-25	Khokelmal	168	64	29	11.32	35.55	Railway siding	About 1000m
16-Jul-25	VIP Guest House IB Valley	168	67	29	15.73	23.15	Coal Stock Yard, Surface Bunker, Coal	About 800m
17-Jul-25	VIP Guest House IB Valley	113	43	17	14.07	24.85	Coal Stock Yard, Surface Bunker, Coal	About 800m
18-Jul-25	Chuakani	139	48	25	20.41	33.81	Transportation	About 300m
18-Jul-25	Khokelmal	165	55	29	14.78	21.96	Railway siding	About 1000m
19-Jul-25	Khokelmal	117	37	18	16.98	27.82	Railway siding	About 1000m
19-Jul-25	Chuakani	150	53	28	19.10	33.08	Transportation	About 300m
23-Jul-25	VIP Guest House IB Valley	149	51	25	15.45	19.52	Coal Stock Yard, Surface Bunker, Coal	About 800m
24-Jul-25	VIP Guest House IB Valley	104	34	15	14.07	22.89	Coal Stock Yard, Surface Bunker, Coal	About 800m
25-Jul-25	Chuakani	136	44	23	15.12	23.04	Transportation	About 300m
25-Jul-25	Khokelmal	132	44	21	10.59	32.93	Railway siding	About 1000m

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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
26-Jul-25	Chuakani	113	36	17	13.47	20.78	Transportation	About 300m
26-Jul-25	Khokelmal	156	46	25	11.69	21.51	Railway siding	About 1000m
30-Jul-25	VIP Guest House IB Valley	126	43	22	12.38	19.00	Coal Stock Yard, Surface Bunker, Coal	About 800m
31-Jul-25	VIP Guest House IB Valley	115	40	19	17.16	36.13	Coal Stock Yard, Surface Bunker, Coal	About 800m

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Mini Ratna

AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: IB Valley

Project	Samleswari OCP							
Monitoring Station	Kudaloi Village							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) 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> )
01-Jul-2025	<20.0	25.00	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
02-Jul-2025	<20.0	28.5	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
09-Jul-2025	<20.0	13.25	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
10-Jul-2025	<20.0	15.50	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
16-Jul-2025	<20.0	24.25	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
17-Jul-2025	<20.0	28.25	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
23-Jul-2025	<20.0	19.75	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
24-Jul-2025	<20.0	19.50	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
30-Jul-2025	<20.0	23.25	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
31-Jul-2025	<20.0	21.25	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: IB Valley

Project	Samleswari OCP							
Monitoring Station	Rampur Sub Area (Reported Only)							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
03-Jul-2025	<20.0	12.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
04-Jul-2025	<20.0	14.25	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
11-Jul-2025	<20.0	27.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
12-Jul-2025	<20.0	22.25	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
18-Jul-2025	<20.0	22.00	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
19-Jul-2025	<20.0	12.25	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
25-Jul-2025	<20.0	14.50	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
26-Jul-2025	<20.0	12.00	<0.1	<1.0	<1.0	0.8	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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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: IB Valley

Project	Samaleswari OCP							
Monitoring Station	Khokelmal (Reported Only)							
Date of sampling	Ammونيا (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzen e
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
03-Jul-2025	<20.0	16.75	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
04-Jul-2025	<20.0	14.50	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
11-Jul-2025	<20.0	15.75	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
12-Jul-2025	<20.0	11.50	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
18-Jul-2025	<20.0	25.25	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
19-Jul-2025	<20.0	20.25	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
25-Jul-2025	<20.0	19.75	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
26-Jul-2025	<20.0	18.25	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (1 hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: IB Valley

Project	Lajkura OCP							
Monitoring Station	VIP Guest House, IB Valley							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzen e
	(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> )
01-Jul-2025	<20.0	15.25	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
02-Jul-2025	<20.0	15.75	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
09-Jul-2025	<20.0	22.25	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
10-Jul-2025	<20.0	18.75	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
16-Jul-2025	<20.0	16.75	<0.1	<1.0	<1.0	0.3	BQL(QL=0.7)	BQL
17-Jul-2025	<20.0	20.25	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
23-Jul-2025	<20.0	14.75	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
24-Jul-2025	<20.0	13.25	<0.1	<1.0	<1.0	0.3	BQL(QL=0.7)	BQL
30-Jul-2025	<20.0	22.25	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
31-Jul-2025	<20.0	22.00	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 Annual	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: IB Valley

Project	Lajkura OCP							
Monitoring Station	Chukani							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) 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-Jul-2025	<20.0	21.75	<0.1	<1.0	<1.0	0.3	BQL(QL=0.7)	BQL
04-Jul-2025	<20.0	23.25	<0.1	<1.0	<1.0	0.3	BQL(QL=0.7)	BQL
11-Jul-2025	<20.0	14.75	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
12-Jul-2025	<20.0	18.75	<0.1	<1.0	<1.0	0.2	BQL(QL=0.7)	BQL
18-Jul-2025	<20.0	15.25	<0.1	<1.0	<1.0	0.2	BQL(QL=0.7)	BQL
19-Jul-2025	<20.0	23.75	<0.1	<1.0	<1.0	0.2	BQL(QL=0.7)	BQL
25-Jul-2025	<20.0	15.75	<0.1	<1.0	<1.0	0.3	BQL(QL=0.7)	BQL
26-Jul-2025	<20.0	22.25	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

*Katarwat*  
Authorised Signatory  
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*Janati*



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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: IB Valley

Project	Lajkura OCP							
Monitoring Station	Khokelmal							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
03-Jul-2025	<20.0	16.75	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
04-Jul-2025	<20.0	14.50	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
11-Jul-2025	<20.0	15.75	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
12-Jul-2025	<20.0	11.50	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
18-Jul-2025	<20.0	25.25	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
19-Jul-2025	<20.0	20.25	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
25-Jul-2025	<20.0	19.75	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
26-Jul-2025	<20.0	18.25	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (1 hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: IB Valley

Project	Samleswari OCP				
Monitoring Station	West of the Mine				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )
21-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	-

Project	Samleswai OCP				
Monitoring Station	South of the Mine				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )
21-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	-

Project	Samleswari OCP				
Monitoring Station	East of the Mine				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )
21-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	-


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 <b>सीएमपीडीआई</b> मिनी रत्न <b>cmpdi</b> Mini Ratna	<b>AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)</b>  <b>Area: IB Valley</b>
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<b>Project</b>	<b>Lajkura OCP</b>				
<b>Monitoring Station</b>	<b>Near Project Office</b>				
<b>Date of sampling</b>	Arsenic (As) (ng/m <sup>3</sup> )	Nickel (Ni) (ng/m <sup>3</sup> )	Mercury (Hg) (ng/m <sup>3</sup> )	Chromium (Cr) (µg/m <sup>3</sup> )	Cadmium (Cd) (µg/m <sup>3</sup> )
21-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
<b>Standard</b>	<b>6.0(Annual)</b>	<b>20(Annual)</b>	-	-	-

<b>Project</b>	<b>Lajkura OCP</b>				
<b>Monitoring Station</b>	<b>Near South Coal Stock</b>				
<b>Date of sampling</b>	Arsenic (As) (ng/m <sup>3</sup> )	Nickel (Ni) (ng/m <sup>3</sup> )	Mercury (Hg) (ng/m <sup>3</sup> )	Chromium (Cr) (µg/m <sup>3</sup> )	Cadmium (Cd) (µg/m <sup>3</sup> )
21-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
<b>Standard</b>	<b>6.0(Annual)</b>	<b>20(Annual)</b>	-	-	-

  
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TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

Ib Valley

PROJECT :

Samleswari OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
08-Jul-25	South of the Mine	52.8	42.5
08-Jul-25	West of the Mine	50.4	41.6
08-Jul-25	East of the Mine	49.2	40.4
08-Jul-25	Kudaloi Village	50.7	41.9
08-Jul-25	Rampur Sub Area	49.6	42.8
08-Jul-25	Khokelmal (Reported Only)	52.5	39.6
28-Jul-25	South of the Mine	52.3	39.8
28-Jul-25	West of the Mine	50.6	41.3
28-Jul-25	East of the Mine	49.9	41.2
28-Jul-25	Kudaloi Village	52.3	40.7
28-Jul-25	Rampur Sub Area	50.6	39.5
28-Jul-25	Khokelmal (Reported Only)	49.6	42.2

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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MINI ROTONG

TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :


Ib Valley

PROJECT :

Lajkura OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
08-Jul-25	Near South Coal Stock	57.4	44.3
08-Jul-25	Near Project Office	58.9	54.6
08-Jul-25	VIP Guest House, IB Valley	49.7	40.4
08-Jul-25	Khokelmal	52.5	39.6
08-Jul-25	Chuakani	50.2	41.5
28-Jul-25	Near South Coal Stock	59.2	53.8
28-Jul-25	Near Project Office	62.5	58.6
28-Jul-25	VIP Guest House, IB Valley	49.6	39.2
28-Jul-25	Khokelmal	49.6	42.2
28-Jul-25	Chuakani	52.4	40.8

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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राज्यीय मजदूर

TABLE--

## 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-Jul-25	STP Outlet	-	-	-	-	-	-	-	Under maintenance
14-Jul-25	STP Inlet	-	-	-	-	-	-	-	Under maintenance
28-Jul-25	STP Inlet	-	-	-	-	-	-	-	Dry
28-Jul-25	STP Outlet	-	-	-	-	-	-	-	Dry

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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*Janmati*

**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	Oil & Grease	TSS	COD	BOD	TDS	DO	Remarks
14-Jul-25	Mine Sump Water	6.05	<4.0	21	8	-	-	-	
14-Jul-25	Inlet of ETP	6.49	<4.0	36	44	-	-	-	
14-Jul-25	Outlet of ETP	6.63	<4.0	30	40	-	-	-	
28-Jul-25	Outlet of ETP	6.52	<4.0	24	20	-	-	-	
28-Jul-25	Inlet of ETP	6.26	<4.0	26	16	-	-	-	

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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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	Oil & Grease	TSS	COD	BOD	TDS	DO	MPN/100mL
14-Jul-25	STP Outlet	7.67	-	27	-	4.5	-	-	94
14-Jul-25	STP Inlet	8.73	-	39	-	6.8	-	-	220
28-Jul-25	STP Outlet	6.83	-	26	-	4.0	-	-	110
28-Jul-25	STP Inlet	6.42	-	39	-	4.8	-	-	210

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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TABLE--

**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	Remarks
14-Jul-25	Mine Sump Water	4.05	<4.0	27	20	-	-	-	
14-Jul-25	Lajkura Railway Siding	6.92	<4.0	45	86	-	-	-	
14-Jul-25	Inlet of ETP	7.02	<4.0	33	40	-	-	-	
14-Jul-25	Outlet of ETP	6.85	<4.0	29	32	-	-	-	
28-Jul-25	Lajkura Railway Siding	6.72	<4.0	33	24	-	-	-	
28-Jul-25	Outlet of ETP	7.08	<4.0	28	20	-	-	-	
28-Jul-25	Inlet of ETP	6.76	<4.0	30	36	-	-	-	

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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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-Jul-25	Discharge of Hospital	6.46	<4.0	23	12	<2	-	-	

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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## 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-Jul-2025	14-Jul-2025	Acceptable	Permissible
Colour(Hazen)	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	3	1	5
pH	6.49	6.91	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	94.01	103.91	200	600
Chloride(mg/L)	21.5	23.5	250	1000
Sulphate(mg/L)	77.23	75.21	200	400
Nitrate(mg/L)	8.59	12.22	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	123.19	103.32	200	600
Calcium(mg/L)	28.62	25.44	75	200
Fluoride(mg/L)	0.54	0.51	1	1.5
Total Dissolve Solid(mg/L)	256	265	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	0.20	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	0.12	0.52	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.005	<0.005	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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## 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		
Monitoring Station					
Date of Sampling	14-Jul-2025	14-Jul-2025	14-Jul-2025	Acceptable	Permissible
Colour(Hazen)	2	1	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	2	2	1	5
pH	6.55	6.94	6.96	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	133.6	98.96	138.54	200	600
Chloride(mg/L)	21.5	19.6	15.7	250	1000
Sulphate(mg/L)	66.23	32.14	12.38	200	400
Nitrate(mg/L)	<0.5	0.88	19.65	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	178.83	87.43	83.45	200	600
Calcium(mg/L)	34.98	20.67	19.08	75	200
Fluoride(mg/L)	0.32	0.49	0.4	1	1.5
Total Dissolve Solid(mg/L)	267	172	212	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)	0.12	0.22	0.10	5	15
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.005	<0.005	<0.005	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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## Drinking Water Quality Data IB Valley Area

Project / OCP	Samaleswari OCP		Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	Well Water From Kudopali		
Date of Sampling	14-Jul-2025	14-Jul-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	8.83	15.1	—	—
Potassium(mg/L)	5.68	11.25	—	—
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	—	—

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-Jul-2025	14-Jul-2025	14-Jul-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	4.88	5.77	12.34	—	—
Potassium(mg/L)	1.95	2.03	14.14	—	—
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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## 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		
Monitoring Station				
Date of Sampling	14-Jul-2025	14-Jul-2025	Acceptable	Permissible
Colour(Hazen)	2	1	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	3	1	5
pH	4.99	6.51	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	4.95	188.02	200	600
Chloride(mg/L)	13.7	52.8	250	1000
Sulphate(mg/L)	6.88	46.65	200	400
Nitrate(mg/L)	14.23	18.78	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	23.84	198.7	200	600
Calcium(mg/L)	<4.0	38.16	75	200
Fluoride(mg/L)	0.55	0.59	1	1.5
Total Dissolve Solid(mg/L)	59	385	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)	0.30	0.55	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.005	<0.005	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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## 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-Jul-2025	14-Jul-2025	Acceptable	Permissible
Colour(Hazen)	3	3	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	1	5
pH	5.2	7.21	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	14.84	103.91	200	600
Chloride(mg/L)	7.8	13.7	250	1000
Sulphate(mg/L)	4.12	23.12	200	400
Nitrate(mg/L)	7.56	0.97	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	23.84	83.45	200	600
Calcium(mg/L)	<4.0	17.49	75	200
Fluoride(mg/L)	0.68	<0.3	1	1.5
Total Dissolve Solid(mg/L)	48	166	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.06	<0.04	0.1	0.3
Iron(mg/L)	<0.1	0.1	1	No relaxation
Zinc(mg/L)	0.29	0.09	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.005	<0.005	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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## 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		
Monitoring Station				
Date of Sampling	14-Jul-2025	14-Jul-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	5.08	25.79		
Potassium(mg/L)	1.36	10.51		
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	-	-

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-Jul-2025	14-Jul-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	4.65	5.54		
Potassium(mg/L)	1.01	8.86		
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	-	-

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Samleswari OCP

Legend  
Monitoring Station

Khokeimal

West of the Mine

South of the Mine

Rampur Sub Area

Kudaloi Village

Google Earth

2 km



Image © 2025 Google

Lajkura OCP

Legend  
Monitoring Station

Chuakani  
VIP Guest House, IB Valley

Khokeimal

Near Project Office

Near South Coal Stock

Google Earth



1 km

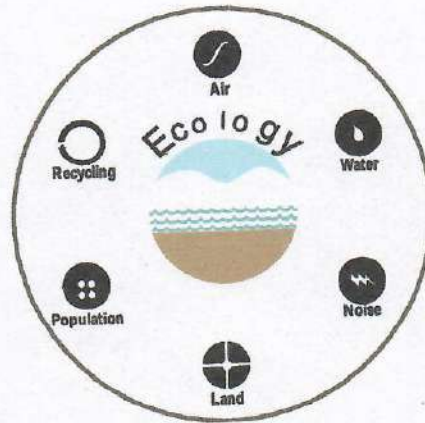


**Environmental Monitoring Report  
Of  
Lakhanpur Area  
For  
July-2025**

**Ib Valley Coalfield**



**Mahanadi Coalfields Limited**



**सीएमपीडीआई**  
मिनी रत्ना  
**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 : **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	Dust Generating Source	Distance from DGS
07-Jul-25	West of Lakhanpur Quarry Near Solada	215	96	44	17.10	33.56	Mining Activities	About 500m
07-Jul-25	Kirulbal Village	188	85	37	12.10	24.20	Mining Activities	About 500m
07-Jul-25	BOCM Workshop	188	81	40	13.72	29.94	Mining Activities	About 500m
07-Jul-25	Lilari Magazine House	211	108	45	10.75	24.47	Coal Transportation	About 500m
22-Jul-25	West of Lakhanpur Quarry Near Solada	207	91	43	18.48	29.87	Mining Activities	About 500m
22-Jul-25	Kirulbal Village	194	83	40	12.99	38.68	Mining Activities	About 500m
22-Jul-25	BOCM Workshop	198	88	43	16.68	34.02	Mining Activities	About 500m
22-Jul-25	Lilari Magazine House	195	87	41	14.55	29.77	Coal Transportation	About 500m

MoEF Standards Notification dated 25th September, 2000

500	250		120	120
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Authorised Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Janak*



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
03-Jul-25	Bartap Village North West of Mine	142	51	26	14.55	30.60	Domestic Anthropogenic Source	
03-Jul-25	Ardhapara Village South East of Mine	156	63	31	17.87	30.90		
03-Jul-25	Gumadera Village North of Mine	146	58	28	13.14	32.95	Domestic Source and Mining Activities	About 3km
03-Jul-25	Barihapali Village South West of Mine	126	45	22	11.62	25.03	Domestic Anthropogenic Source	
03-Jul-25	Lakhanpur Police Station West of Mine	137	51	26	12.45	22.09	Mining Activities	About 1.6km
03-Jul-25	Ramada Village South of Mine	123	53	24	18.12	36.88	Domestic Anthropogenic Source	
03-Jul-25	Kadam Rehab Centre East of Mine	156	61	29	12.71	27.24	Mining Activities	About 2km
04-Jul-25	Kadam Rehab Centre East of Mine	134	53	25	17.68	35.14	Mining Activities	About 2km
04-Jul-25	Lakhanpur Police Station West of Mine	129	45	20	13.44	39.28	Mining Activities	About 1.6km
04-Jul-25	Bartap Village North West of Mine	151	63	29	11.86	28.27	Domestic Anthropogenic Source	
04-Jul-25	Gumadera Village North of Mine	122	47	24	13.58	23.28	Domestic Source and Mining Activities	About 3km
04-Jul-25	Barihapali Village South West of Mine	129	49	25	12.75	33.66	Domestic Anthropogenic Source	
04-Jul-25	Ramada Village South of Mine	129	48	21	11.78	21.43	Domestic Anthropogenic Source	
04-Jul-25	Ardhapara Village South East of Mine	143	55	27	13.97	24.69		
11-Jul-25	Kadam Rehab Centre East of Mine	123	38	18	12.08	24.31	Mining Activities	About 2km
11-Jul-25	Lakhanpur Police Station West of Mine	137	50	24	11.00	33.88	Mining Activities	About 1.6km
11-Jul-25	Gumadera Village North of Mine	135	39	20	14.39	35.40	Domestic Source and Mining Activities	About 3km
11-Jul-25	Ramada Village South of Mine	161	65	28	13.24	24.08	Domestic Anthropogenic Source	
11-Jul-25	Bartap Village North West of Mine	128	44	21	15.80	21.75	Domestic Anthropogenic Source	
11-Jul-25	Barihapali Village South West of Mine	149	47	28	14.50	24.90	Domestic Anthropogenic Source	
11-Jul-25	Ardhapara Village South East of Mine	153	59	30	13.57	28.79		
12-Jul-25	Ramada Village South of Mine	125	41	20	16.84	25.65	Domestic Anthropogenic Source	

\*NAAQS,2009

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Project :

LBL OCP

(conc. in µg/cu.m.)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
12-Jul-25	Kadam Rehab Centre East of Mine	140	45	23	14.66	28.23	Mining Activities	About 2km
12-Jul-25	Bartap Village North West of Mine	154	52	25	13.67	34.95	Domestic Anthropogenic Source	
12-Jul-25	Barihapali Village South West of Mine	134	43	23	19.27	30.15	Domestic Anthropogenic Source	
12-Jul-25	Lakhanpur Police Station West of Mine	113	41	19	12.73	38.58	Mining Activities	About 1.6km
12-Jul-25	Ardhapara Village South East of Mine	133	50	24	11.64	23.99		
12-Jul-25	Gumadera Village North of Mine	142	55	26	13.23	22.64	Domestic Source and Mining Activities	About 3km
18-Jul-25	Bartap Village North West of Mine	130	47	22	14.42	25.35	Domestic Anthropogenic Source	
18-Jul-25	Ardhapara Village South East of Mine	136	49	24	16.47	28.53		
18-Jul-25	Gumadera Village North of Mine	168	51	28	16.12	30.72	Domestic Source and Mining Activities	About 3km
18-Jul-25	Barihapali Village South West of Mine	131	47	24	14.40	33.25	Domestic Anthropogenic Source	
18-Jul-25	Lakhanpur Police Station West of Mine	154	55	29	13.94	37.64	Mining Activities	About 1.6km
18-Jul-25	Ramada Village South of Mine	154	49	25	16.31	29.65	Domestic Anthropogenic Source	
18-Jul-25	Kadam Rehab Centre East of Mine	162	56	27	13.86	34.10	Mining Activities	About 2km
19-Jul-25	Kadam Rehab Centre East of Mine	174	64	30	18.45	29.65	Mining Activities	About 2km
19-Jul-25	Lakhanpur Police Station West of Mine	136	45	24	11.09	18.82	Mining Activities	About 1.6km
19-Jul-25	Bartap Village North West of Mine	162	58	27	18.91	28.91	Domestic Anthropogenic Source	
19-Jul-25	Gumadera Village North of Mine	137	40	24	20.91	28.93	Domestic Source and Mining Activities	About 3km
19-Jul-25	Barihapali Village South West of Mine	173	66	30	12.30	31.44	Domestic Anthropogenic Source	
19-Jul-25	Ardhapara Village South East of Mine	163	57	28	14.49	25.00		
19-Jul-25	Ramada Village South of Mine	162	63	29	18.08	35.29	Domestic Anthropogenic Source	
25-Jul-25	Kadam Rehab Centre East of Mine	137	55	24	16.38	20.68	Mining Activities	About 2km
25-Jul-25	Ramada Village South of Mine	175	70	32	17.36	30.19	Domestic Anthropogenic Source	
25-Jul-25	Lakhanpur Police Station West of Mine	143	60	27	14.40	17.46	Mining Activities	About 1.6km
25-Jul-25	Gumadera Village North of Mine	143	47	26	13.13	19.10	Domestic Source and Mining Activities	About 3km
25-Jul-25	Bartap Village North West of Mine	133	44	24	10.12	31.13	Domestic Anthropogenic Source	

\*NAAQS, 2009

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Jasmati

**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
25-Jul-25	Barihapali Village South West of Mine	132	50	23	14.60	18.87	Domestic Anthropogenic Source	
25-Jul-25	Ardhapara Village South East of Mine	130	46	21	17.17	30.40		
26-Jul-25	Ramada Village South of Mine	150	55	26	11.95	31.86	Domestic Anthropogenic Source	
26-Jul-25	Kadam Rehab Centre East of Mine	125	45	20	12.30	20.96	Mining Activities	About 2km
26-Jul-25	Bartap Village North West of Mine	171	65	29	12.36	29.98	Domestic Anthropogenic Source	
26-Jul-25	Barihapali Village South West of Mine	145	54	25	18.11	31.37	Domestic Anthropogenic Source	
26-Jul-25	Lakhanpur Police Station West of Mine	116	47	22	16.69	34.79	Mining Activities	About 1.6km
26-Jul-25	Ardhapara Village South East of Mine	142	52	25	17.29	23.76		
26-Jul-25	Gumadera Village North of Mine	116	36	20	14.78	30.80	Domestic Source and Mining Activities	About 3km

\*NAAQS, 2009

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*Tattarajit*  
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*Jenuti*



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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lakhanpur

Project	LBL OCP							
Monitoring Station	Kadam Rehab Centre East of Mine							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) 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-Jul-2025	<20.0	17.00	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
04-Jul-2025	<20.0	23.50	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
11-Jul-2025	<20.0	13.00	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
12-Jul-2025	<20.0	26.75	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
18-Jul-2025	<20.0	18.25	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
19-Jul-2025	<20.0	28.25	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
25-Jul-2025	<20.0	26.75	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
26-Jul-2025	<20.0	19.50	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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*Jatna*



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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lakhanpur

Project	LBL OCP							
Monitoring Station	Lakhanpur Police Station West of Mine							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) 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-Jul-2025	<20.0	28.00	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
04-Jul-2025	<20.0	18.50	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
11-Jul-2025	<20.0	28.75	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
12-Jul-2025	<20.0	15.75	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
18-Jul-2025	<20.0	14.25	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
19-Jul-2025	<20.0	28.75	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
25-Jul-2025	<20.0	26.50	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
26-Jul-2025	<20.0	23.75	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual I)	20 (Annual )	02 (8 hours)	01(annual)	05(annual)

*K. Pattanayak*  
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*Jasmati*



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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lakhanpur

Project	LBL OCP							
Monitoring Station	Gumadera Village North of Mine							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzen e
	(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-Jul-2025	<20.0	25.50	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
04-Jul-2025	<20.0	23.25	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
11-Jul-2025	<20.0	26.75	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
12-Jul-2025	<20.0	27.50	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
18-Jul-2025	<20.0	16.00	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
19-Jul-2025	<20.0	13.25	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
25-Jul-2025	<20.0	21.50	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
26-Jul-2025	<20.0	19.25	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lakhanpur

Project	LBL OCP							
Monitoring Station	Ramada Village South of Mine							
Date of sampling	Ammonia (NH <sub>3</sub> ) ( $\mu\text{g}/\text{m}^3$ )	Ozone (O <sub>3</sub> ) ( $\mu\text{g}/\text{m}^3$ )	Lead (Pb) ( $\mu\text{g}/\text{m}^3$ )	Arsenic (As) ( $\text{ng}/\text{m}^3$ )	Nickel (Ni) ( $\text{ng}/\text{m}^3$ )	CO ( $\text{mg}/\text{m}^3$ )	Benzo (a) Pyrene ( $\text{ng}/\text{m}^3$ )	Benzene ( $\mu\text{g}/\text{m}^3$ )
03-Jul-2025	<20.0	11.50	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
04-Jul-2025	<20.0	16.00	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
11-Jul-2025	<20.0	20.50	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
12-Jul-2025	<20.0	26.75	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
18-Jul-2025	<20.0	15.75	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
19-Jul-2025/	<20.0	14.25	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
25-Jul-2025	<20.0	20.00	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
26-Jul-2025	<20.0	23.75	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hour s)	6.0 (Annual )	20 Annual )	02 (8 hours)	01(annual)	05(annual l)

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*Janaki*



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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lakhanpur

Project	LBL OCP							
Monitoring Station	Barihapali Village South West of Mine							
Date of sampling	Ammonia (NH <sub>3</sub> ) (µg/m <sup>3</sup> )	Ozone (O <sub>3</sub> ) (µg/m <sup>3</sup> )	Lead (Pb) (µg/m <sup>3</sup> )	Arsenic (As) (ng/m <sup>3</sup> )	Nickel (Ni) (ng/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	Benzo (α) Pyrene (ng/m <sup>3</sup> )	Benzene (µg/m <sup>3</sup> )
03-Jul-2025	<20.0	26.25	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
04-Jul-2025	<20.0	16.75	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
11-Jul-2025	<20.0	28.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
12-Jul-2025	<20.0	11.75	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
18-Jul-2025	<20.0	19.25	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
19-Jul-2025	<20.0	28.00	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
25-Jul-2025	<20.0	24.75	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
26-Jul-2025	<20.0	19.25	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual )	20 (Annual )	02 (8 hours)	01(annual)	05(annual)

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

*January*



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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lakhanpur

Project	LBL OCP							
Monitoring Station	Bartap Village North West of Mine							
Date of sampling	Ammonia (NH <sub>3</sub> ) ( $\mu\text{g}/\text{m}^3$ )	Ozone (O <sub>3</sub> ) ( $\mu\text{g}/\text{m}^3$ )	Lead (Pb) ( $\mu\text{g}/\text{m}^3$ )	Arsenic (As) ( $\text{ng}/\text{m}^3$ )	Nickel (Ni) ( $\text{ng}/\text{m}^3$ )	CO ( $\text{mg}/\text{m}^3$ )	Benzo (a) Pyrene ( $\text{ng}/\text{m}^3$ )	Benzene ( $\mu\text{g}/\text{m}^3$ )
03-Jul-2025	<20.0	24.75	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
04-Jul-2025	<20.0	22.50	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
11-Jul-2025	<20.0	28.50	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
12-Jul-2025	<20.0	14.00	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
18-Jul-2025	<20.0	25.25	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
19-Jul-2025	<20.0	23.00	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
25-Jul-2025	<20.0	16.25	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
26-Jul-2025	<20.0	25.25	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hour s)	6.0 (Annual)	20 Annual)	02 (8 hours)	01(annual)	05(ann ual)

*Jatana*  
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*Jatana*



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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lakhanpur

Project	LBL OCP							
Monitoring Station	Ardhapara Village South East of Mine							
Date of sampling	Ammonia (NH <sub>3</sub> ) ( $\mu\text{g}/\text{m}^3$ )	Ozone (O <sub>3</sub> ) ( $\mu\text{g}/\text{m}^3$ )	Lead (Pb) ( $\mu\text{g}/\text{m}^3$ )	Arsenic (As) ( $\text{ng}/\text{m}^3$ )	Nickel (Ni) ( $\text{ng}/\text{m}^3$ )	CO ( $\text{mg}/\text{m}^3$ )	Benzo (a) Pyrene ( $\text{ng}/\text{m}^3$ )	Benzene ( $\mu\text{g}/\text{m}^3$ )
03-Jul-2025	<20.0	13.75	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
04-Jul-2025	<20.0	12.00	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
11-Jul-2025	<20.0	12.50	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
12-Jul-2025	<20.0	16.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
18-Jul-2025	<20.0	20.00	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
19-Jul-2025	<20.0	13.56	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
25-Jul-2025	<20.0	28.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
26-Jul-2025	<20.0	12.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hour s)	6.0 (Annual)	20 Annual)	02 (8 hours)	01(annual)	05(ann ual)

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

*Jamali*

 <b>सीएमपीडीआई</b> मिनी रत्न <b>cmpdi</b> Mini Ratna	<b>AMBIENT AIR QUALITY DATA</b>
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<b>Project</b>	<b>LBL OCP</b>
<b>Monitoring Station</b>	<b>Kirulbal Village</b>
<b>Date of sampling</b>	<b>Carbon Monoxide (CO)</b>
	<b>mg/m<sup>3</sup></b>
07-Jul-2025	1.2
22-Jul-2025	1.1
<b>Standard</b>	<b>02(8 Hours)</b>

<b>Project</b>	<b>LBL OCP</b>
<b>Monitoring Station</b>	<b>Lilari Magazine House</b>
<b>Date of sampling</b>	<b>Carbon Monoxide (CO)</b>
	<b>mg/m<sup>3</sup></b>
07-Jul-2025	0.9
22-Jul-2025	1.0
<b>Standard</b>	<b>02(8 Hours)</b>

<b>Project</b>	<b>LBL OCP</b>
<b>Monitoring Station</b>	<b>BOCM Workshop</b>
<b>Date of sampling</b>	<b>Carbon Monoxide (CO)</b>
	<b>mg/m<sup>3</sup></b>
07-Jul-2025	0.9
22-Jul-2025	1.0
<b>Standard</b>	<b>02(8 Hours)</b>

<b>Project</b>	<b>LBL OCP</b>
<b>Monitoring Station</b>	<b>West of Lakhapur Quarry Near Solada</b>
<b>Date of sampling</b>	<b>Carbon Monoxide (CO)</b>
	<b>mg/m<sup>3</sup></b>
07-Jul-2025	1.2
22-Jul-2025	1.0
<b>Standard</b>	<b>02(8 Hours)</b>

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

*Jamati*



सीएमपीडीआई  
मिनी रत्न  
cmpdi  
Mini Ratna

AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lakhanpur

Project	Integrated LBL OCP				
Monitoring Station	Kirulbal Village				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )
21-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	-

Project	Integrated LBL OCP				
Monitoring Station	Lilari Magazine House				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )
21-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	-

Project	Integrated LBL OCP				
Monitoring Station	BOCM Workshop				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )
21-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	-

*Signature*  
Authorised Signatory  
CMPDI, RI-VII, C-3  
BHUBANESWAR

*Signature*



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मिनी रत्न  
cmpdi  
Mini Ratna

AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lakhanpur

Project	Integrated LBL OCP				
Monitoring Station	West of Lakhanpur Quarry Near Solada				
Date of sampling	Arsenic (As) (ng/m <sup>3</sup> )	Nickel (Ni) (ng/m <sup>3</sup> )	Mercury (Hg) (ng/m <sup>3</sup> )	Chromium (Cr) (µg/m <sup>3</sup> )	Cadmium (Cd) (µg/m <sup>3</sup> )
21-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	-

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

*Jaswanti*



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विशेष एनए  
cmpdi  
Mines & Metals

TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

Lakhanpur

PROJECT :

LBL OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
09-Jul-25	BOCM Workshop	52.4	39.8
09-Jul-25	Bartap Village North West of Mine	49.6	40.4
09-Jul-25	Ardhapara Village South East of Mine	52.8	42.6
09-Jul-25	Kirulbal Village	49.7	42.9
09-Jul-25	Barihapali Village South West of Mine	50.3	39.8
09-Jul-25	Ramada Village South of Mine	51.7	42.4
09-Jul-25	Lakhanpur Police Station West of Mine	50.6	42.2
09-Jul-25	Gumadera Village North of Mine	49.9	40.7
09-Jul-25	Near Lilari Magazine House	51.8	40.3
09-Jul-25	Kadam Rehab Centre East of Mine	51.4	40.5
09-Jul-25	West of Lakhanpur Quarry Near Solada	49.1	41.7
29-Jul-25	BOCM Workshop	52.1	42.6
29-Jul-25	Bartap Village North West of Mine	49.8	40.5
29-Jul-25	Ardhapara Village South East of Mine	51.6	42.8
29-Jul-25	Kirulbal Village	50.2	42.6
29-Jul-25	Barihapali Village South West of Mine	50.6	42.3
29-Jul-25	Ramada Village South of Mine	52.3	40.9
29-Jul-25	Lakhanpur Police Station West of Mine	51.4	42.6
29-Jul-25	Gumadera Village North of Mine	49.5	41.3
29-Jul-25	Near Lilari Magazine House	49.7	39.4
29-Jul-25	West of Lakhanpur Quarry Near Solada	51.4	40.8
29-Jul-25	Kadam Rehab Centre East of Mine	49.7	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)

Authorized Signatory  
CMPDI, RI-VII, LAB  
RUBANESWAR

*Janaki*

**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	LBL OCP					Remarks
				TSS	COD	BOD	TDS	DO	
14-Jul-25	Inlet of ETP, Belpahar	7.03	<4.0	38	40	-	-	-	
14-Jul-25	Mine Sump Water, Belpahar	6.57	<4.0	21	16	-	-	-	
14-Jul-25	Mine Sump Water, Lakhanpur	6.11	<4.0	17	12	-	-	-	
14-Jul-25	Outlet of ETP, Lakhanpur	6.62	<4.0	36	28	-	-	-	
14-Jul-25	Mine Sump Water, Lilari	6.01	<4.0	25	20	-	-	-	
14-Jul-25	Outlet of ETP, Belpahar	6.60	<4.0	34	36	-	-	-	
14-Jul-25	Inlet of ETP, Lakhanpur	6.94	<4.0	39	32	-	-	-	
29-Jul-25	Outlet of ETP, Belpahar	8.86	<4.0	24	12	-	-	-	
29-Jul-25	Inlet of ETP, Lakhanpur	7.09	<4.0	36	28	-	-	-	
29-Jul-25	Inlet of ETP, Belpahar	6.74	<4.0	32	16	-	-	-	
29-Jul-25	Outlet of ETP, Lakhanpur	6.28	<4.0	24	20	-	-	-	

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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Authorised Signatory  
cmpdi, RI-VII, LAB  
LAKHANPUR

Janani



सीएमपीडीआई  
विश्वीय  
cmpdi  
भारत सरकार

TABLE--

## 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-Jul-25	Clear Water Tank of Sewage Treatment Plant	7.05	-	30	-	5.4	-	-	84
14-Jul-25	STP Inlet	6.58	-	38	-	8.6	-	-	140
29-Jul-25	Clear Water Tank of Sewage Treatment Plant	7.26	-	26	-	6.7	-	-	94
29-Jul-25	STP Inlet	6.79	-	34	-	10.8	-	-	220

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

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

*Jatavastu*



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मिनी रत्ना  
cmpdi  
Mini Ratna

## Drinking Water Quality Data Lakhanpur Area

Project / OCP	Integrated LBL OCP			Indian Drinking Standards (IS-10500):2012		
	Monitoring Station	LKP Project Office	IWSS Inlet-BIT	IWSS Outlet-BIT	Acceptable	Permissible
Date of Sampling	14-Jul-2025	14-Jul-2025	14-Jul-2025		5	15
Colour(Hazen)	2	2	2		5	15
Odour	Agreeable	Agreeable	Agreeable		Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable		Agreeable	Agreeable
Turbidity(NTU)	2	1	2		1	5
pH	7.52	7.80	7.50		6.5-8.5	No relaxation
Total Alkalinity(mg/L)	108.86	84.12	113.8		200	600
Chloride(mg/L)	11.7	17.6	7.8		250	1000
Sulphate(mg/L)	23.52	18.56	18.45		200	400
Nitrate(mg/L)	<0.5	<0.5	<0.5		45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	79.48	75.51	71.53		200	600
Calcium(mg/L)	17.49	15.90	12.72		75	200
Fluoride(mg/L)	0.59	<0.3	<0.3		1	1.5
Total Dissolve Solid(mg/L)	164	144	149		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)	0.06	0.08	0.21		5	15
Lead(mg/L)	<0.005	<0.005	<0.005		0.01	No relaxation
Cadmium(mg/L)	<0.005	<0.005	<0.005		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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RUBANESWAR

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मिनी रत्ना  
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Mini Ratna

## 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
Monitoring Station	14-Jul-2025	14-Jul-2025	14-Jul-2025	Acceptable	Permissible
Date of Sampling	14-Jul-2025	14-Jul-2025	14-Jul-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	10.55	8.43	10.05	—	—
Potassium(mg/L)	4.37	2.67	3.48	—	—
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	—	—

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

*Jasmati*

**Integrated LBL OCP**

Bartap Village North West of Mine

Gumadera Village North of Mine

Lakhanpur Police Station West of Mine

West of Lakhanpur Quarry Near Solada

Lilari Magazine House

BOCM Workshop

Kirulbal Village

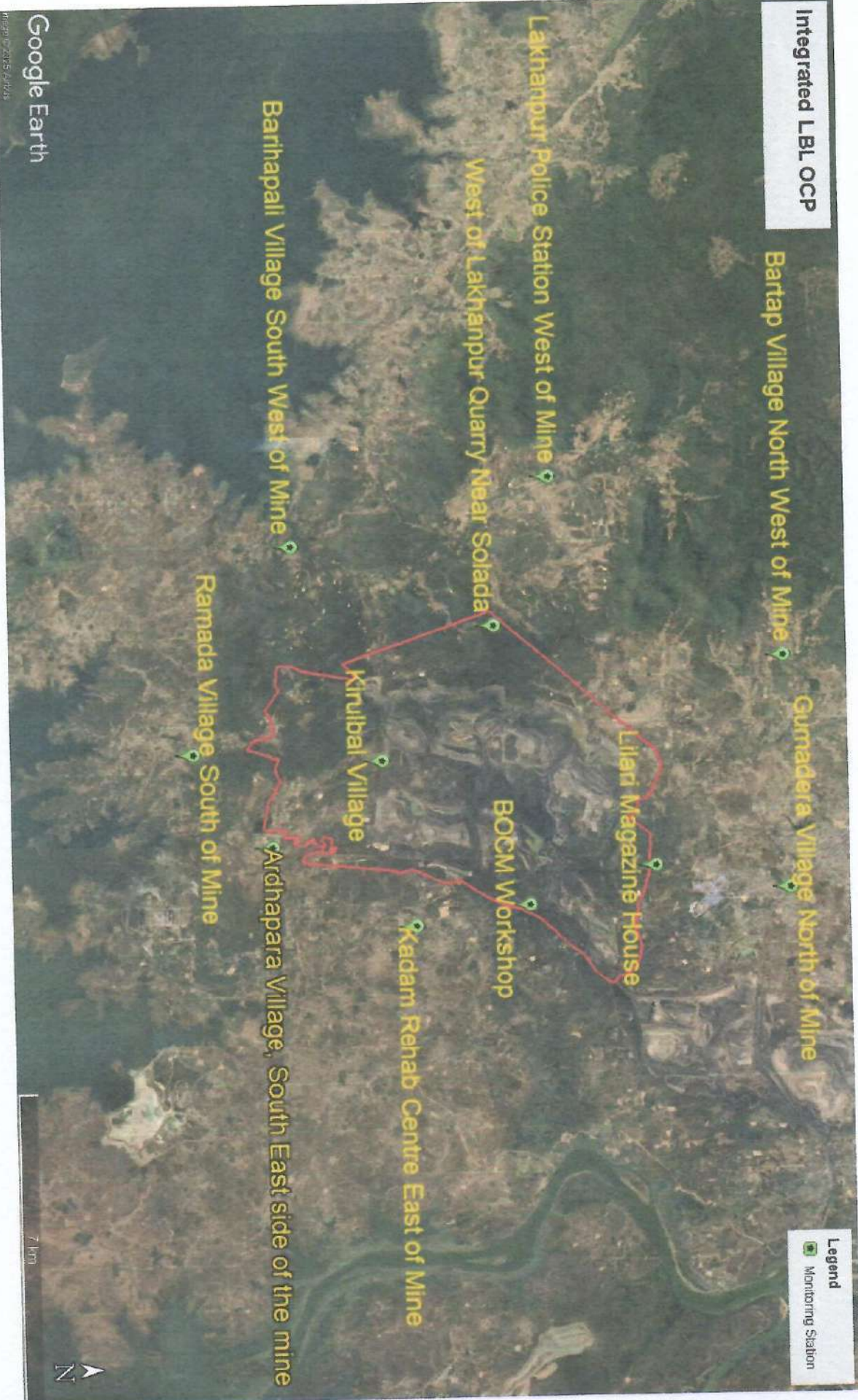
Kadam Rehab Centre East of Mine

Barhapali Village South West of Mine

Ramada Village South of Mine

Ardhapara Village, South East side of the mine

**Legend**  
Monitoring Station

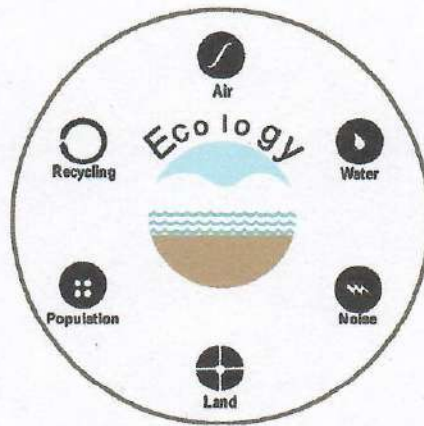


**Environmental Monitoring Report  
Of  
Basundhara Area  
For  
July-2025**

**Ib Valley Coalfield**



**Mahanadi Coalfields Limited**



**सीएमपीडीआई**  
मिनी रत्न  
**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*

**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	Dust Generating Source	Distance from DGS
08-Jul-25	Laikera Railway Siding	178	79	36	12.99	38.68		
08-Jul-25	Kulda PO Office	188	83	39	11.69	21.51		
28-Jul-25	Laikera Railway Siding	179	75	38	12.54	25.41		
28-Jul-25	Kulda PO Office	196	89	43	17.47	40.78		

MoEF Standards Notification dated 25th  
September, 2000

500

250

120

120



सीएमपीडीआई  
विशेषज्ञ  
CMPDI  
मुंबई रोडिंग

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	Dust Generating Source	Distance from DGS
08-Jul-25	Karlikachar Village	175	77	38	13.17	29.59	External Coal Transportation Road	About 500m
08-Jul-25	KAN-1 Near Coal Sampling Lab	198	87	45	16.31	36.25	Railway Siding, Transportation	About 500m
08-Jul-25	Garjanbahal Village	189	85	42	10.49	27.25	External Coal Transportation Road	About 500m
28-Jul-25	Karlikachar Village	183	80	41	14.90	19.64	External Coal Transportation Road	About 500m
28-Jul-25	KAN-1 Near Coal Sampling Lab	195	87	43	12.42	29.44	Railway Siding, Transportation	About 500m
28-Jul-25	Garjanbahal Village	213	90	44	17.08	28.39	External Coal Transportation Road	About 500m

MoEF Standards Notification dated 25th  
September, 2000

500 250 120 120

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CMPDI, RI-VII, LAB  
BHUBANESWAR

*Janat*

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
01-Jul-25	North of CHP, Teleimal	173	68	30	11.09	18.82	Domestic, OCP, Transportation	About 500m
01-Jul-25	Bilaimunda Village	145	47	28	11.28	30.42	Village Road	About 500m
01-Jul-25	External CT Road, Barpali	135	43	24	17.09	31.08	Mining Activities, Coal Transportation	About 500m
01-Jul-25	South West of Working Face, Chakarpur	146	62	29	12.65	22.26	Village Road	About 500m
02-Jul-25	Bilaimunda Village	118	40	24	12.29	38.06	Village Road	About 500m
02-Jul-25	South West of Working Face, Chakarpur	152	49	22	15.01	38.87	Village Road	About 500m
02-Jul-25	External CT Road, Barpali	145	53	27	13.35	28.19	Mining Activities, Coal Transportation	About 500m
02-Jul-25	North of CHP, Teleimal	138	48	25	11.67	30.42	Domestic, OCP, Transportation	About 500m
09-Jul-25	Bilaimunda Village	136	44	25	12.55	36.21	Village Road	About 500m
09-Jul-25	South West of Working Face, Chakarpur	147	51	25	11.14	35.26	Village Road	About 500m
09-Jul-25	North of CHP, Teleimal	125	42	23	17.23	22.38	Domestic, OCP, Transportation	About 500m
09-Jul-25	External CT Road, Barpali	130	40	23	13.92	21.59	Mining Activities, Coal Transportation	About 500m
10-Jul-25	South West of Working Face, Chakarpur	125	43	20	13.32	29.21	Village Road	About 500m
10-Jul-25	North of CHP, Teleimal	127	39	21	15.75	25.37	Domestic, OCP, Transportation	About 500m
10-Jul-25	External CT Road, Barpali	124	36	20	12.75	23.93	Mining Activities, Coal Transportation	About 500m
10-Jul-25	Bilaimunda Village	120	37	22	15.52	22.73	Village Road	About 500m
16-Jul-25	External CT Road, Barpali	118	40	21	14.56	21.72	Mining Activities, Coal Transportation	About 500m
16-Jul-25	North of CHP, Teleimal	115	43	18	11.15	31.10	Domestic, OCP, Transportation	About 500m
16-Jul-25	Bilaimunda Village	151	48	26	12.64	27.73	Village Road	About 500m
16-Jul-25	South West of Working Face, Chakarpur	164	59	28	14.47	24.28	Village Road	About 500m
17-Jul-25	External CT Road, Barpali	127	51	25	16.23	25.63	Mining Activities, Coal Transportation	About 500m
17-Jul-25	North of CHP, Teleimal	149	53	24	14.45	29.93	Domestic, OCP, Transportation	About 500m

\*NAAQS, 2009

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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
17-Jul-25	Bilaimunda Village	163	55	28	13.45	33.09	Village Road	About 500m
17-Jul-25	South West of Working Face, Chakarpur	130	54	23	19.32	29.28	Village Road	About 500m
23-Jul-25	Bilaimunda Village	131	40	22	15.50	26.53	Village Road	About 500m
23-Jul-25	North of CHP, Teleimal	159	62	28	16.66	24.99	Domestic, OCP, Transportation	About 500m
23-Jul-25	South West of Working Face, Chakarpur	124	37	16	12.41	27.87	Village Road	About 500m
23-Jul-25	External CT Road, Barpali	163	59	28	13.01	35.47	Mining Activities, Coal Transportation	About 500m
24-Jul-25	Bilaimunda Village	146	59	27	11.30	20.55	Village Road	About 500m
24-Jul-25	External CT Road, Barpali	137	49	24	13.36	36.84	Mining Activities, Coal Transportation	About 500m
24-Jul-25	North of CHP, Teleimal	136	41	23	15.44	33.02	Domestic, OCP, Transportation	About 500m
24-Jul-25	South West of Working Face, Chakarpur	153	55	24	12.68	25.22	Village Road	About 500m
30-Jul-25	External CT Road, Barpali	111	36	19	17.96	34.14	Mining Activities, Coal Transportation	About 500m
30-Jul-25	North of CHP, Teleimal	149	51	26	16.19	34.59	Domestic, OCP, Transportation	About 500m
30-Jul-25	South West of Working Face, Chakarpur	166	60	28	18.02	30.47	Village Road	About 500m
30-Jul-25	Bilaimunda Village	159	68	30	12.66	33.33	Village Road	About 500m
31-Jul-25	South West of Working Face, Chakarpur	145	48	22	18.55	25.66	Village Road	About 500m
31-Jul-25	Bilaimunda Village	141	56	25	11.53	27.72	Village Road	About 500m
31-Jul-25	External CT Road, Barpali	140	55	23	14.52	29.51	Mining Activities, Coal Transportation	About 500m
31-Jul-25	North of CHP, Teleimal	127	46	21	10.18	24.47	Domestic, OCP, Transportation	About 500m

\*NAAQS, 2009

100 60 80 80

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
01-Jul-25	West of working face, Bihaimunda	136	48	22	12.74	28.96	South-West of Working Face	About 500m
01-Jul-25	South-East of Wokring Face, Kutabaga Village	151	59	27	12.01	26.07	South-East of Working Face	About 1000m
02-Jul-25	South-East of Wokring Face, Kutabaga Village	116	46	21	11.60	29.69	South-East of Working Face	About 1000m
02-Jul-25	West of working face, Bihaimunda	140	56	25	15.91	25.40	South-West of Working Face	About 500m
09-Jul-25	South-East of Wokring Face, Kutabaga Village	147	59	28	18.31	24.97	South-East of Working Face	About 1000m
09-Jul-25	West of working face, Bihaimunda	135	44	18	16.42	24.63	South-West of Working Face	About 500m
10-Jul-25	South-East of Wokring Face, Kutabaga Village	121	52	24	11.78	24.48	South-East of Working Face	About 1000m
10-Jul-25	West of working face, Bihaimunda	137	49	24	11.98	23.33	South-West of Working Face	About 500m
16-Jul-25	South-East of Wokring Face, Kutabaga Village	126	43	19	17.02	21.32	South-East of Working Face	About 1000m
16-Jul-25	West of working face, Bihaimunda	144	55	25	17.67	25.24	South-West of Working Face	About 500m
17-Jul-25	South-East of Wokring Face, Kutabaga Village	165	65	29	13.14	26.89	South-East of Working Face	About 1000m
17-Jul-25	West of working face, Bihaimunda	131	47	22	20.54	25.73	South-West of Working Face	About 500m
23-Jul-25	West of working face, Bihaimunda	109	53	17	17.31	24.56	South-West of Working Face	About 500m
23-Jul-25	South-East of Wokring Face, Kutabaga Village	154	54	26	20.02	21.03	South-East of Working Face	About 1000m
24-Jul-25	South-East of Wokring Face, Kutabaga Village	124	43	18	17.37	32.35	South-East of Working Face	About 1000m
24-Jul-25	West of working face, Bihaimunda	153	61	28	10.97	30.59	South-West of Working Face	About 500m
30-Jul-25	South-East of Wokring Face, Kutabaga Village	131	49	20	15.20	27.65	South-East of Working Face	About 1000m
30-Jul-25	West of working face, Bihaimunda	130	48	21	10.29	18.70	South-West of Working Face	About 500m
31-Jul-25	West of working face, Bihaimunda	149	56	27	11.76	21.86	South-West of Working Face	About 500m
31-Jul-25	South-East of Wokring Face, Kutabaga Village	149	55	23	13.01	25.95	South-East of Working Face	About 1000m

\*NAAQS,2009

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Basundhara

Project	Kulda OCP							
Monitoring Station	North of CHP, Teleimal							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
01-Jul-2025	<20.0	23.25	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
02-Jul-2025	<20.0	14.50	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
09-Jul-2025	<20.0	16.75	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
10-Jul-2025	<20.0	24.50	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
16-Jul-2025	<20.0	24.50	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
17-Jul-2025	<20.0	14.50	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
23-Jul-2025	<20.0	22.75	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
24-Jul-2025	<20.0	15.75	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
30-Jul-2025	<20.0	18.25	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
31-Jul-2025	<20.0	22.00	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
Standard	400 24hours)	180 (hour)	1.0 (24hours )	6.0 (Annual )	20 (Annual )	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Basundhara

Project	Kulda OCP							
Monitoring Station	Bilaimunda Village							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) 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> )
01-Jul-2025	<20.0	12.75	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
02-Jul-2025	<20.0	26.25	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
09-Jul-2025	<20.0	23.50	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
10-Jul-2025	<20.0	28.25	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
16-Jul-2025	<20.0	16.25	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
17-Jul-2025	<20.0	28.00	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
23-Jul-2025	<20.0	26.25	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
24-Jul-2025	<20.0	26.25	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
30-Jul-2025	<20.0	13.00	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
31-Jul-2025	<20.0	22.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20(Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Basundhara

Project	Kulda OCP							
Monitoring Station	External CT Road, Barpali							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) 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> )
01-Jul-2025	<20.0	19.00	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
02-Jul-2025	<20.0	22.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
09-Jul-2025	<20.0	23.75	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
10-Jul-2025	<20.0	16.00	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
16-Jul-2025	<20.0	21.50	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
17-Jul-2025	<20.0	19.25	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
23-Jul-2025	<20.0	23.75	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
24-Jul-2025	<20.0	20.75	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
30-Jul-2025	<20.0	19.50	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
31-Jul-2025	<20.0	28.25	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20(Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Basundhara

Project	Kulda OCP							
Monitoring Station	South West of Working Face, Chakarpur							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) 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> )
01-Jul-2025	<20.0	17.50	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
02-Jul-2025	<20.0	20.50	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
09-Jul-2025	<20.0	19.00	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
10-Jul-2025	<20.0	22.50	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
16-Jul-2025	<20.0	20.50	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
17-Jul-2025	<20.0	23.75	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
23-Jul-2025	<20.0	24.25	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
24-Jul-2025	<20.0	24.75	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
30-Jul-2025	<20.0	14.75	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
31-Jul-2025	<20.0	13.25	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Basundhara

Project	Garjanbahal OCP							
Monitoring Station	Bihaimunda Village							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) 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> )
01-Jul-2025	<20.0	11.75	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
02-Jul-2025	<20.0	18.25	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
09-Jul-2025	<20.0	17.25	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
10-Jul-2025	<20.0	28.25	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
16-Jul-2025	<20.0	12.50	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
17-Jul-2025	<20.0	20.75	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
23-Jul-2025	<20.0	21.00	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
24-Jul-2025	<20.0	28.00	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
30-Jul-2025	<20.0	28.50	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
31-Jul-2025	<20.0	18.00	<0.1	<1.0	<1.0	1.3	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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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Basundhara

Project	Garjanbahal OCP							
Monitoring Station	South-East of Working Face, Kutabaga							
Date of sampling	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> )
01-Jul-2025	<20.0	17.50	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
02-Jul-2025	<20.0	20.50	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
09-Jul-2025	<20.0	19.00	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
10-Jul-2025	<20.0	22.50	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
16-Jul-2025	<20.0	26.00	<0.1	<1.0	<1.0	1.8	BQL(QL=0.7)	BQL
17-Jul-2025	<20.0	17.25	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
23-Jul-2025	<20.0	19.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
24-Jul-2025	<20.0	17.00	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
30-Jul-2025	<20.0	23.50	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
31-Jul-2025	<20.0	26.00	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
Standard	400(24hours)	180(hour)	1.0(24hours)	6.0(Annual)	20(Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Basundhara

Project	Kulda OCP				
Monitoring Station	Kulda PO Office				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )
22-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	-

Project	Kulda OCP				
Monitoring Station	Laikera Railway Siding				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )
22-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	-

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Basundhara

Project	Garjanbahal OCP				
Monitoring Station	Garjanbahal				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )
22-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	-

Project	Garjanbahal OCP				
Monitoring Station	Karlakachar				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )
22-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	-

Project	Garjanbahal OCP				
Monitoring Station	KAN-1 Near Coal Sampling Lab				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )
22-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	-

  
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TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

Basundhara

PROJECT :

Kulda OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
10-Jul-25	Laikera Railway Siding	52.6	42.8
10-Jul-25	Kulda PO Office	51.2	40.6
10-Jul-25	South West of Working Face Chakarpur	49.4	40.3
30-Jul-25	Laikera Railway Siding	50.6	41.4
30-Jul-25	Kulda PO Office	63.4	58.9
30-Jul-25	South West of Working Face Chakarpur	51.6	39.3

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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MONITORING

TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

Busundhara

PROJECT :

Garjanbahal OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
10-Jul-25	Garjanbahal Village	52.6	39.2
10-Jul-25	Karlikachar Village	50.8	40.5
30-Jul-25	Garjanbahal Village	51.2	40.8
30-Jul-25	Karlikachar Village	49.4	42.6

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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TABLE--

## 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	Oil & Grease	TSS	COD	BOD	TDS	DO	Remarks
15-Jul-25	Mine Sump Water Near Kulda Nursery	6.91	<4.0	26	20	-	-	-	
15-Jul-25	Inlet of ETP	6.60	<4.0	35	40	-	-	-	
15-Jul-25	Final Outlet Of ETP	6.73	<4.0	27	36	-	-	-	
28-Jul-25	Final Outlet Of ETP	6.55	<4.0	23	28	-	-	-	
28-Jul-25	Inlet of ETP	6.34	<4.0	29	32	-	-	-	

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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*Prasanti*



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संवेदनशील  
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मानव संसाधन

TABLE--

## 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
15-Jul-25	Outlet of Settling Tank (Kanika Siding)	7.07	<4.0	26	12	-	-	-	
15-Jul-25	Mine Sump Water	6.90	<4.0	20	8	-	-	-	
15-Jul-25	Inlet of Settling Tank (Kanika Siding)	6.72	<4.0	56	96	-	-	-	
30-Jul-25	Outlet of Settling Tank (Kanika Siding)	7.01	<4.0	22	20	-	-	-	
30-Jul-25	Mine Sump Water	6.86	<4.0	28	16	-	-	-	
30-Jul-25	Inlet of Settling Tank (Kanika Siding)	7.92	<4.0	48	64	-	-	-	

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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*Janaki*

Kulda OCP

Legend

 Air Monitoring Locations

North of CHP, Teleimal

PO Office, Kulda OCP

Bilaimunda Village

South West of Working Face, Chakarapur

Laikera Railway Siding

Google Earth

Image © 2025 Google

7 km



Garjanbahal OCP

Legend

Monitoring Station



Google Earth

Image © 2015 Google

South-East of Working Face, Kutabaga

Bihaimunda Village

Karikachar

Garjanbahal

KAN-1 Near Coat Sampling Lab

2 km

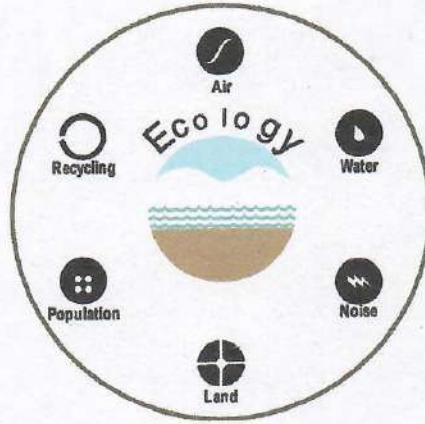


**Environmental Monitoring Report  
Of  
Mahalaxmi Area  
For  
July-2025**

**Ib Valley Coalfield**



**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 : 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	Dust Generating Source	Distance from DGS
08-Jul-25	North of the Sardega Railway Siding, Kulapada	184	85	39	14.33	23.69	Mining Activities, OCP, Coal	About 500m
08-Jul-25	Body Workshop Basundhara	206	92	45	12.95	21.97		
28-Jul-25	North of the Sardega Railway Siding, Kulapada	218	103	44	17.31	33.06	Mining Activities, OCP, Coal	About 500m
28-Jul-25	Body Workshop Basundhara	189	83	41	11.90	27.04		

MoEF Standards Notification dated 25th September, 2000

500 250 120 120

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*Janani*

**AMBIENT AIR QUALITY DATA**

Area :

**Mahalaxmi**

(Reference Station)

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
01-Jul-25	Sarangijharia Village	168	61	29	11.30	26.22	Domestic	About 500m
01-Jul-25	Khamarpara Village	138	53	25	17.59	26.04		
01-Jul-25	Ratansara Village	130	43	26	15.47	23.99	Transportation	About 100m
01-Jul-25	West of Coal Stock, Near Golf Course	154	63	29	15.33	37.71	Mining Activities, OCP, Transportation	About 500m
02-Jul-25	Khamarpara Village	122	41	18	11.53	29.75		
02-Jul-25	West of Coal Stock, Near Golf Course	138	37	21	13.90	24.53	Mining Activities, OCP, Transportation	About 500m
02-Jul-25	Ratansara Village	166	53	31	15.59	26.92	Transportation	About 100m
02-Jul-25	Sarangijharia Village	132	46	24	12.86	26.92	Domestic	About 500m
09-Jul-25	Khamarpara Village	126	46	22	13.05	26.44		
09-Jul-25	West of Coal Stock, Near Golf Course	130	52	24	10.18	26.06	Mining Activities, OCP, Transportation	About 500m
09-Jul-25	Sarangijharia Village	128	51	22	11.49	21.64	Domestic	About 500m
09-Jul-25	Ratansara Village	136	54	24	15.12	21.54	Transportation	About 100m
10-Jul-25	West of Coal Stock, Near Golf Course	151	53	26	12.30	33.96	Mining Activities, OCP, Transportation	About 500m
10-Jul-25	Sarangijharia Village	123	37	18	14.17	24.29	Domestic	About 500m
10-Jul-25	Ratansara Village	118	44	20	17.16	31.99	Transportation	About 100m
10-Jul-25	Khamarpara Village	129	49	24	15.89	33.12		
16-Jul-25	Ratansara Village	154	60	29	13.20	27.30	Transportation	About 100m
16-Jul-25	Sarangijharia Village	114	42	19	15.68	38.58	Domestic	About 500m
16-Jul-25	Khamarpara Village	144	53	26	20.19	37.52		
16-Jul-25	West of Coal Stock, Near Golf Course	145	48	27	12.28	25.41	Mining Activities, OCP, Transportation	About 500m
17-Jul-25	Ratansara Village	141	48	25	10.41	20.27	Transportation	About 100m
17-Jul-25	Sarangijharia Village	135	46	24	14.71	26.74	Domestic	About 500m

\*NAAQS,2009

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
17-Jul-25	Khamarpara Village	157	63	29	13.89	29.89		
17-Jul-25	West of Coal Stock, Near Golf Course	174	65	31	19.01	24.04	Mining Activities, OCP, Transportation	About 500m
23-Jul-25	Khamarpara Village	121	45	18	12.37	41.22		
23-Jul-25	Sarangijharia Village	130	40	21	17.08	26.82	Domestic	About 500m
23-Jul-25	West of Coal Stock, Near Golf Course	153	58	24	11.16	21.69	Mining Activities, OCP, Transportation	About 500m
23-Jul-25	Ratansara Village	125	42	20	13.16	29.92	Transportation	About 100m
24-Jul-25	Khamarpara Village	127	50	22	11.32	35.55		
24-Jul-25	Ratansara Village	153	57	28	16.92	22.31	Transportation	About 100m
24-Jul-25	Sarangijharia Village	139	49	26	16.33	29.02	Domestic	About 500m
24-Jul-25	West of Coal Stock, Near Golf Course	168	56	29	16.91	26.55	Mining Activities, OCP, Transportation	About 500m
30-Jul-25	Ratansara Village	144	51	23	18.86	25.72	Transportation	About 100m
30-Jul-25	Sarangijharia Village	136	43	22	20.11	21.13	Domestic	About 500m
30-Jul-25	West of Coal Stock, Near Golf Course	136	47	23	17.26	30.56	Mining Activities, OCP, Transportation	About 500m
30-Jul-25	Khamarpara Village	137	56	24	12.10	24.20		
31-Jul-25	West of Coal Stock, Near Golf Course	116	51	21	15.40	31.33	Mining Activities, OCP, Transportation	About 500m
31-Jul-25	Khamarpara Village	112	42	16	12.47	18.82		
31-Jul-25	Ratansara Village	173	66	30	10.08	29.19	Transportation	About 100m
31-Jul-25	Sarangijharia Village	129	38	20	20.86	32.88	Domestic	About 500m

\*NAAQS,2009

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Test Report

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	SO <sub>2</sub>	NO <sub>x</sub>	Dust Generating Source(DGS)	Distance from DGS
01-Jul-25	Khamarpara Village (Reported Only)	138	53	25	17.59	26.04		
02-Jul-25	Khamarpara Village (Reported Only)	122	41	18	11.53	29.75		
09-Jul-25	Khamarpara Village (Reported Only)	126	46	22	13.05	26.44		
10-Jul-25	Khamarpara Village (Reported Only)	129	49	24	15.89	33.12		
16-Jul-25	Khamarpara Village (Reported Only)	144	53	26	20.19	37.52		
17-Jul-25	Khamarpara Village (Reported Only)	157	63	29	13.89	29.89		
23-Jul-25	Khamarpara Village (Reported Only)	121	45	18	12.37	41.22		
24-Jul-25	Khamarpara Village (Reported Only)	127	50	22	11.32	35.55		
30-Jul-25	Khamarpara Village (Reported Only)	137	56	24	12.10	24.20		
31-Jul-25	Khamarpara Village (Reported Only)	112	42	16	12.47	18.82		

\*NAAQS,2009

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Mahalaxmi

Project	Basundhara (W) OCP							
Monitoring Station	Sarangijharia Village							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) 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> )
01-Jul-2025	<20.0	18.00	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
02-Jul-2025	<20.0	24.25	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
09-Jul-2025	<20.0	17.25	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
10-Jul-2025	<20.0	25.00	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
16-Jul-2025	<20.0	28.00	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
17-Jul-2025	<20.0	20.75	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
23-Jul-2025	<20.0	19.50	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
24-Jul-2025	<20.0	16.50	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
30-Jul-2025	<20.0	26.75	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
31-Jul-2025	<20.0	11.50	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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Jarwal



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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Mahalaxmi

Project	Basundhara (W) OCP							
Monitoring Station	Khamarpara Village							
Date of sampling	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> )
01-Jul-2025	<20.0	21.25	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
02-Jul-2025	<20.0	26.25	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
09-Jul-2025	<20.0	20.25	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
10-Jul-2025	<20.0	23.75	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
16-Jul-2025	<20.0	21.25	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
17-Jul-2025	<20.0	19.25	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
23-Jul-2025	<20.0	28.00	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
24-Jul-2025	<20.0	28.50	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
30-Jul-2025	<20.0	22.00	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
31-Jul-2025	<20.0	27.75	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Mahalaxmi

Project	Basundhara (W) OCP							
Monitoring Station	Ratansara Village							
Date of sampling	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> )
01-Jul-2025	<20.0	24.25	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
02-Jul-2025	<20.0	24.75	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
09-Jul-2025	<20.0	18.75	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
10-Jul-2025	<20.0	25.00	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
16-Jul-2025	<20.0	14.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
17-Jul-2025	<20.0	28.75	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
23-Jul-2025	<20.0	11.25	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
24-Jul-2025	<20.0	28.25	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
30-Jul-2025	<20.0	18.25	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
31-Jul-2025	<20.0	26.75	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours )	6.0 (Annual)	20 (Annual )	02 (8 hours)	01(annual)	05(annual )

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Mini Ratna

AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Mahalaxmi

Project	Basundhara (W) OCP							
Monitoring Station	West of Coal Stock, Near Golf Course							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) 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> )
01-Jul-2025	<20.0	25.00	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
02-Jul-2025	<20.0	21.25	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
09-Jul-2025	<20.0	19.25	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
10-Jul-2025	<20.0	27.75	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
16-Jul-2025	<20.0	26.25	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
17-Jul-2025	<20.0	16.50	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
23-Jul-2025	<20.0	19.50	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
24-Jul-2025	<20.0	18.00	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
30-Jul-2025	<20.0	19.25	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
31-Jul-2025	<20.0	19.50	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Mahalaxmi

Project	Basundhara (E) OCP							
Monitoring Station	Khamarpara Village (Reported)							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) 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> )
01-Jul-2025	<20.0	21.25	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
02-Jul-2025	<20.0	26.25	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
09-Jul-2025	<20.0	20.25	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
10-Jul-2025	<20.0	23.75	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
16-Jul-2025	<20.0	21.25	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
17-Jul-2025	<20.0	19.25	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
23-Jul-2025	<20.0	28.00	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
24-Jul-2025	<20.0	28.50	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
30-Jul-2025	<20.0	22.00	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
31-Jul-2025	<20.0	27.75	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

Authorised Signatory  
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BHUBANESWAR

*Signature*

 <b>सीएमपीडीआई</b> मिनी रत्न <b>cmpdi</b> Mini Ratna	<b>AMBIENT AIR QUALITY DATA</b>
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<b>Project</b>	<b>Basundhara(W)OCP</b>
<b>Monitoring Station</b>	<b>North of the Sardega Railway Siding, Kulapada</b>
<b>Date of sampling</b>	<b>Carbon Monoxide (CO)</b>
	<b>mg/m3</b>
08-Jul-2025	1.1
29-Jul-2025	0.9
<b>Standard</b>	<b>02(8Hours)</b>

<b>Project</b>	<b>Basundhara(W)OCP</b>
<b>Monitoring Station</b>	<b>Body WorkshpBasundhara</b>
<b>Date of sampling</b>	<b>Carbon Monoxide (CO)</b>
	<b>mg/m3</b>
08-Jul-2025	1.2
29-Jul-2025	1.1
<b>Standard</b>	<b>02(8Hours)</b>

  
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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Mahalaxmi

Project	Basundhara (W) OCP				
Monitoring Station	North of the Sardega Railway Siding				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )
21-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	-

Project	Basundhara (W) OCP				
Monitoring Station	Body Workshop Basunshara				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )
21-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(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
10-Jul-25	South-West of Working Face -Gopalpur Village,Near CMPDIL Camp	49.2	39.4
10-Jul-25	West of Coal Stock , Near Golf Course	50.7	41.5
10-Jul-25	North of the Sardega Railway Siding ,Kulapada	49.4	40.9
10-Jul-25	Sarangijharia Community Centre	50.6	42.3
10-Jul-25	Ratansara Village	52.4	40.7
30-Jul-25	South-West of Working Face -Gopalpur Village,Near CMPDIL Camp	52.7	41.4
30-Jul-25	West of Coal Stock , Near Golf Course	51.8	42.4
30-Jul-25	North of the Sardega Railway Siding ,Kulapada	49.3	40.7
30-Jul-25	Sarangijharia Community Centre	49.5	40.8
30-Jul-25	Ratansara Village	52.3	41.6

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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TABLE--

NOISE LEVEL MONITORING DATA

AREA :

Mahalaxmi

PROJECT :

Basundhara (E) OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
10-Jul-25	Quary Sump of Basundhara East OCP/ Near CHP of Basundhara East OCP	49.7	42.4
30-Jul-25	Quary Sump of Basundhara East OCP/ Near CHP of Basundhara East OCP	51.7	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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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
15-Jul-25	Basundhara (W) OCP Mine Sump	7.23	<4.0	23	12	-	-	-	
15-Jul-25	Sardega Railway Siding Sedimentation Pond	7.60	<4.0	17	24	-	-	-	
15-Jul-25	Inlet to ETP at Excavation Workshop, B(W)OCP	-	-	-	-	-	-	-	Dry
15-Jul-25	Outlet of ETP at Excavation Workshop, B(W)OCP	-	-	-	-	-	-	-	Dry
28-Jul-25	Inlet to ETP at Excavation Workshop, B(W)OCP	-	-	-	-	-	-	-	Dry
28-Jul-25	Outlet of ETP at Excavation Workshop, B(W)OCP	-	-	-	-	-	-	-	Dry

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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## 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	15-Jul-2025	Acceptable	Permissible
Colour(Hazen)	3	5	15
Odour	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	1	5
pH	7.59	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	89.06	200	600
Chloride(mg/L)	50.9	250	1000
Sulphate(mg/L)	87.21	200	400
Nitrate(mg/L)	<0.5	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	214.6	200	600
Calcium(mg/L)	41.34	75	200
Fluoride(mg/L)	<0.3	1	1.5
Total Dissolve Solid(mg/L)	324	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)	0.11	5	15
Lead(mg/L)	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.005	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

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## 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	15-Jul-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	0.01	No relaxation
Sodium(mg/L)	8.65	—	—
Potassium(mg/L)	5.89	—	—
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	—	—

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## 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	15-Jul-2025	Acceptable	Permissible
Colour(Hazen)	3	5	15
Odour	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	1	5
pH	8.46	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	89.06	200	600
Chloride(mg/L)	60.7	250	1000
Sulphate(mg/L)	95.21	200	400
Nitrate(mg/L)	<0.5	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	226.52	200	600
Calcium(mg/L)	46.11	75	200
Fluoride(mg/L)	<0.3	1	1.5
Total Dissolve Solid(mg/L)	337	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)	<0.005	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

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## 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	15-Jul-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	0.01	No relaxation
Sodium(mg/L)	8.6	—	—
Potassium(mg/L)	6.22	—	—
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	—	—

  
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Basundhara (W) OCP

Sarangjiharharia Village

Legend  
Air Monitoring Locations

North of the Sardega Railway Siding, Kulapada

Khamarpara, East Side of Sardega Railway Siding

West of Coal Stock, Near Golf Course

Ratansara Village

Google Earth

Image © 2020 Air2011

3 km

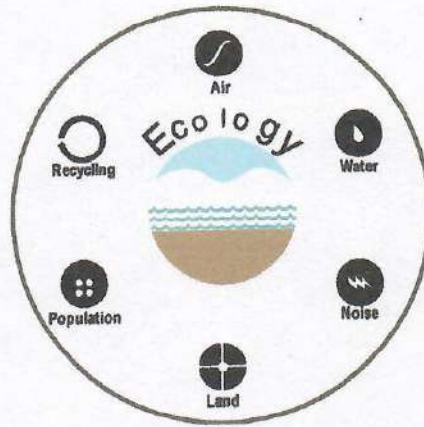


**Environmental Monitoring Report  
Of  
Orient Area  
For  
July-2025**

**Ib Valley Coalfield**



**Mahanadi Coalfields Limited**



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**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	Dust Generating Source	Distance from DGS
14-Jul-25	Orient Mine No. 1 & 2	191	82	40	13.17	25.59	Coal Stock Yard, Surface Bunker, Coal	About 250m
29-Jul-25	Orient Mine No. 1 & 2	206	110	45	11.92	28.44	Coal Stock Yard, Surface Bunker, Coal	About 250m

MoEF Standards Notification dated 25th September, 2000

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**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	SO <sub>2</sub>	NO <sub>x</sub>	Dust Generating Source	Distance from DGS
14-Jul-25	Orient Mine No. 3	213	91	45	13.07	30.05	Coal Stockyard, Surface Bunker, Coal	About 200m
29-Jul-25	Orient Mine No. 3	188	93	42	12.03	30.35	Coal Stockyard, Surface Bunker, Coal	About 200m

MoEF Standards Notification dated 25th  
September, 2000

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**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>	Dust Generating Source	Distance from DGS
14-Jul-25	Orient Mine No. 4	205	86	42	13.89	24.59	Coal Transportation Road	About 300m
29-Jul-25	Orient Mine No. 4	176	86	40	13.22	20.03	Coal Transportation Road	About 300m

MoEF Standards Notification dated 25th  
September, 2000

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AMBIENT AIR QUALITY DATA

Area :

Orient

(Compliance Station)

Project :

HBMine

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source	Distance from DGS
14-Jul-25	HBI Mine	195	95	43	15.25	22.98	Coal Stockyard, Surface Bunker, Coal Transport	About 100m
14-Jul-25	Bundia Colony Pump House	187	88	39	14.34	33.12	Coal Stockyard, Surface Bunker, Coal Transport	About 150m
29-Jul-25	HBI Mine	221	93	46	13.26	26.61	Coal Stockyard, Surface Bunker, Coal Transport	About 100m
29-Jul-25	Bundia Colony Pump House	174	79	36	18.76	29.67	Coal Stockyard, Surface Bunker, Coal Transport	About 150m

MoEF Standards Notification dated 25th  
September, 2000

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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	Dust Generating Source	Distance from DGS
14-Jul-25	Near Rampur Colliery Check Post	190	89	41	12.54	25.41		
14-Jul-25	Near CHP HRC	190	92	40	12.99	33.16		
29-Jul-25	Near Rampur Colliery Check Post	223	106	45	10.75	29.33		
29-Jul-25	Near CHP HRC	209	110	44	17.00	19.81		

MoEF Standards Notification dated 25th September, 2000

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**AMBIENT AIR QUALITY DATA**

Area :

**Orient**

(Reference 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	Dust Generating Source(DGS)	Distance from DGS
03-Jul-25	Orient GM Office	139	52	24	13.35	24.90	Domestic and other Anthropogenic Activities	
04-Jul-25	Orient GM Office	144	59	26	14.24	22.94	Domestic and other Anthropogenic Activities	
11-Jul-25	Orient GM Office	125	47	20	11.21	24.16	Domestic and other Anthropogenic Activities	
12-Jul-25	Orient GM Office	134	40	22	13.07	33.28	Domestic and other Anthropogenic Activities	
18-Jul-25	Orient GM Office	144	55	27	18.21	29.07	Domestic and other Anthropogenic Activities	
19-Jul-25	Orient GM Office	135	47	22	17.52	18.83	Domestic and other Anthropogenic Activities	
25-Jul-25	Orient GM Office	128	44	20	16.61	37.36	Domestic and other Anthropogenic Activities	
26-Jul-25	Orient GM Office	141	53	26	15.07	25.95	Domestic and other Anthropogenic Activities	

\*NAAQS,2009

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**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
03-Jul-25	Rampur Sub Area	171	76	26	15.50	22.55	Coal Stock And CT Road	About 1000m
03-Jul-25	Rampur Officers Guest House	173	67	30	10.90	23.35	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
04-Jul-25	Rampur Officers Guest House	141	56	25	15.42	32.99	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
04-Jul-25	Rampur Sub Area	140	47	21	16.85	37.27	Coal Stock And CT Road	About 1000m
11-Jul-25	Rampur Sub Area	125	39	17	15.50	21.84	Coal Stock And CT Road	About 1000m
11-Jul-25	Rampur Officers Guest House	144	52	21	15.95	24.06	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
12-Jul-25	Rampur Officers Guest House	139	43	18	13.55	28.75	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
12-Jul-25	Rampur Sub Area	138	45	23	11.85	25.27	Coal Stock And CT Road	About 1000m
18-Jul-25	Rampur Sub Area	125	41	17	15.27	22.05	Coal Stock And CT Road	About 1000m
18-Jul-25	Rampur Officers Guest House	138	57	24	14.86	30.10	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
19-Jul-25	Rampur Officers Guest House	126	47	20	18.25	29.50	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
19-Jul-25	Rampur Sub Area	145	50	25	16.56	32.32	Coal Stock And CT Road	About 1000m
25-Jul-25	Rampur Officers Guest House	150	61	26	10.33	20.87	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
25-Jul-25	Rampur Sub Area	128	44	20	20.09	37.35	Coal Stock And CT Road	About 1000m
26-Jul-25	Rampur Sub Area	142	48	23	13.07	25.13	Coal Stock And CT Road	About 1000m
26-Jul-25	Rampur Officers Guest House	137	54	22	12.41	19.14	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m

\*NAAQS,2009

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Test Report

AMBIENT AIR QUALITY DATA

Area :

Orient

(Reference Station)

Project :

HRC

(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-Jul-25	Khokelmal (Reported only)	148	60	26	14.95	30.38	Railway siding	About 1000m
03-Jul-25	Rampur Sub Area (Reported only)	171	76	26	15.50	22.55	Coal Stock And CT Road	About 1000m
03-Jul-25	Rampur Officers Guest House (Reported only)	173	67	30	10.90	23.35	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
04-Jul-25	Rampur Officers Guest House (Reported only)	141	56	25	15.42	32.99	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
04-Jul-25	Khokelmal (Reported only)	163	52	28	13.89	29.89	Railway siding	About 1000m
04-Jul-25	Rampur Sub Area (Reported only)	140	47	21	16.85	37.27	Coal Stock And CT Road	About 1000m
11-Jul-25	Rampur Sub Area (Reported only)	125	39	17	15.50	21.84	Coal Stock And CT Road	About 1000m
11-Jul-25	Rampur Officers Guest House (Reported only)	144	52	21	15.95	24.06	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
11-Jul-25	Khokelmal (Reported only)	137	44	25	12.37	41.22	Railway siding	About 1000m
12-Jul-25	Rampur Officers Guest House (Reported only)	139	43	18	13.55	28.75	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
12-Jul-25	Khokelmal (Reported only)	168	64	29	11.32	35.55	Railway siding	About 1000m
12-Jul-25	Rampur Sub Area (Reported only)	138	45	23	11.85	25.27	Coal Stock And CT Road	About 1000m
18-Jul-25	Rampur Officers Guest House (Reported only)	138	57	24	14.86	30.10	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
18-Jul-25	Rampur Sub Area (Reported only)	125	41	17	15.27	22.05	Coal Stock And CT Road	About 1000m
18-Jul-25	Khokelmal (Reported only)	165	55	29	14.78	21.96	Railway siding	About 1000m
19-Jul-25	Khokelmal (Reported only)	117	37	18	16.98	27.82	Railway siding	About 1000m
19-Jul-25	Rampur Officers Guest House (Reported only)	126	47	20	18.25	29.50	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
19-Jul-25	Rampur Sub Area (Reported only)	145	50	25	16.56	32.32	Coal Stock And CT Road	About 1000m
25-Jul-25	Khokelmal (Reported only)	132	44	21	10.59	32.93	Railway siding	About 1000m
25-Jul-25	Rampur Officers Guest House (Reported only)	150	61	26	10.33	20.87	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
25-Jul-25	Rampur Sub Area (Reported only)	128	44	20	20.09	37.35	Coal Stock And CT Road	About 1000m
26-Jul-25	Rampur Sub Area (Reported only)	142	48	23	13.07	25.13	Coal Stock And CT Road	About 1000m

\*NAAQS,2009

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**Project :**

**HRC**

**(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-Jul-25	Khokelmal (Reported only)	156	46	25	11.69	21.51	Railway siding	About 1000m
26-Jul-25	Rampur Officers Guest House (Reported only)	137	54	22	12.41	19.14	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m

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

Area: Orient

Project	Orient Mine No.2							
Monitoring Station	Orient GM Office							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzen e
	(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-Jul-2025	<20.0	19.25	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
04-Jul-2025	<20.0	26.50	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
11-Jul-2025	<20.0	20.00	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
12-Jul-2025	<20.0	24.25	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
18-Jul-2025	<20.0	21.75	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
19-Jul-2025	<20.0	17.75	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
25-Jul-2025	<20.0	26.75	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
26-Jul-2025	<20.0	28.25	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 Annual	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Orient

Project	Orient Mine No.2							
Monitoring Station	VIP Guest House, IB Valley (Reported Only)							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzen e
	(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> )
01-Jul-2025	<20.0	15.25	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
02-Jul-2025	<20.0	15.75	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
09-Jul-2025	<20.0	22.25	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
10-Jul-2025	<20.0	18.75	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
16-Jul-2025	<20.0	16.75	<0.1	<1.0	<1.0	0.3	BQL(QL=0.7)	BQL
17-Jul-2025	<20.0	20.25	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
23-Jul-2025	<20.0	14.75	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
24-Jul-2025	<20.0	13.25	<0.1	<1.0	<1.0	0.3	BQL(QL=0.7)	BQL
30-Jul-2025	<20.0	22.25	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
31-Jul-2025	<20.0	22.00	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Orient

Project	HBI Mine							
Monitoring Station	Rampur Sub Area							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) 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-Jul-2025	<20.0	12.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
04-Jul-2025	<20.0	14.25	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
11-Jul-2025	<20.0	27.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
12-Jul-2025	<20.0	22.25	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
18-Jul-2025	<20.0	22.00	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
19-Jul-2025	<20.0	12.25	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
25-Jul-2025	<20.0	14.50	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
26-Jul-2025	<20.0	12.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Orient

Project	HBI Mine							
Monitoring Station	Rampur Officers Guest House							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
03-Jul-2025	<20.0	13.00	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
04-Jul-2025	<20.0	18.00	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
11-Jul-2025	<20.0	22.00	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
12-Jul-2025	<20.0	27.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
18-Jul-2025	<20.0	19.75	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
19-Jul-2025	<20.0	16.50	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
25-Jul-2025	<20.0	13.50	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
26-Jul-2025	<20.0	19.50	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Orient

Project	HRC Mine							
Monitoring Station	Rampur Sub Area (Reported only)							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) 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-Jul-2025	<20.0	12.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
04-Jul-2025	<20.0	14.25	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
11-Jul-2025	<20.0	27.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
12-Jul-2025	<20.0	22.25	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
18-Jul-2025	<20.0	22.00	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
19-Jul-2025	<20.0	12.25	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
25-Jul-2025	<20.0	14.50	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
26-Jul-2025	<20.0	12.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Orient

Project	HRC							
Monitoring Station	Rampur Officers Guest House (Reported Only)							
Date of sampling	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-Jul-2025	<20.0	13.00	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
04-Jul-2025	<20.0	18.00	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
11-Jul-2025	<20.0	22.00	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
12-Jul-2025	<20.0	27.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
18-Jul-2025	<20.0	19.75	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
19-Jul-2025	<20.0	16.50	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
25-Jul-2025	<20.0	13.50	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
26-Jul-2025	<20.0	19.50	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Orient

Project	HRC							
Monitoring Station	Khokelmal (Reported Only)							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzen e
	(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-Jul-2025	<20.0	16.75	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
04-Jul-2025	<20.0	14.50	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
11-Jul-2025	<20.0	15.75	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
12-Jul-2025	<20.0	11.50	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
18-Jul-2025	<20.0	25.25	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
19-Jul-2025	<20.0	20.25	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
25-Jul-2025	<20.0	19.75	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
26-Jul-2025	<20.0	18.25	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (1 hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Orient

<b>Project</b>	<b>Orient Mine No. 1 &amp; 2</b>				
<b>Monitoring Station</b>	<b>Orient Mine No. 1 &amp; 2</b>				
<b>Date of sampling</b>	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )
22-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
<b>Standard</b>	<b>6.0(Annual)</b>	<b>20(Annual)</b>	-	-	-

  
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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Orient

Project	Orient Mine No. 3				
Monitoring Station	Orient Mine No. 3				
Date of sampling	Arsenic (As) (ng/m <sup>3</sup> )	Nickel (Ni) (ng/m <sup>3</sup> )	Mercury (Hg) (ng/m <sup>3</sup> )	Chromium (Cr) (µg/m <sup>3</sup> )	Cadmium (Cd) (µg/m <sup>3</sup> )
22-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	-

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Orient

<b>Project</b>	<b>Orient Mine No. 4</b>				
<b>Monitoring Station</b>	<b>Orient Mine No. 4</b>				
<b>Date of sampling</b>	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )
22-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
<b>Standard</b>	<b>6.0(Annual)</b>	<b>20(Annual)</b>	-	-	-

  
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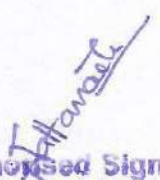


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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Orient

Project	HBM				
Monitoring Station	HBI Mine				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ug/m <sup>3</sup> )	(ug/m <sup>3</sup> )
22-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	-

  
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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Orient

Project	HBM				
Monitoring Station	Bundia Colony Pump House				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )
22-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	-

  
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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Orient

Project	HRC				
Monitoring Station	Near CHP HRC				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )
22-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	-

Project	HRC				
Monitoring Station	Near Rampur Colliery Check Post				
Date of sampling	Arsenic (As)	Nickel (Ni)	Mercury (Hg)	Chromium (Cr)	Cadmium (Cd)
	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )
22-May-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0(Annual)	20(Annual)	-	-	-

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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
08-Jul-25	VIP Guest House, IB Valley (Reported Only)	49.7	40.4
11-Jul-25	Orient Mine No. 1 & 2	49.5	41.8
28-Jul-25	VIP Guest House, IB Valley (Reported Only)	49.6	39.2
31-Jul-25	Orient Mine No. 1 & 2	52.6	42.5

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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MINI DESIGN

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
11-Jul-25	Orient Mine No.3	51.6	42.4
31-Jul-25	Orient Mine No.3	59.2	53.5

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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Mini Rating

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
11-Jul-25	Orient Mine No.4	49.8	40.6
31-Jul-25	Orient Mine No.4	52.6	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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*Jasmati*



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TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

Orient

PROJECT :

HBI Mine

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
08-Jul-25	Rampur Sub Area (Reported)	49.6	42.8
11-Jul-25	HBI Mine	52.4	42.7
11-Jul-25	Bundia Colony Pump House	50.7	40.9
11-Jul-25	Rampur Officer's Guest House	49.2	42.7
28-Jul-25	Rampur Sub Area (Reported)	50.6	39.5
31-Jul-25	HBI Mine	58.9	52.4
31-Jul-25	Bundia Colony Pump House	50.3	41.7
31-Jul-25	Rampur Officer's Guest House	49.7	42.4

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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TABLE--

NOISE LEVEL MONITORING DATA

AREA :

Orient

PROJECT :

HRC

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
11-Jul-25	Near CHP HRC	50.8	41.6
11-Jul-25	Near Rampur Colliery Check Post	52.6	40.9
31-Jul-25	Near CHP HRC	52.7	40.4
31-Jul-25	Near Rampur Colliery Check Post	49.5	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)

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MINI RATING

TABLE--

## 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
15-Jul-25	Mine Sump of Mine No. 2	7.25	<4.0	14	12	-	-	-	

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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 MINI ROAD

TABLE--

**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
15-Jul-25	Mine Sump of Mine No. 3	7.15	<4.0	23	20	-	-	-	
31-Jul-25	Mine Sump of Mine No. 3	7.10	<4.0	34	28	-	-	-	

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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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
15-Jul-25	Mine Sump of Mine No. 4	6.91	<4.0	15	24	-	-	-	

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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TABLE--

## 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
15-Jul-25	Mine Sump of HBM	7.15	<4.0	27	32	-	-	-	

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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## Drinking Water Quality Data Orient Area

Project / OCP	Orient Mine No. 1 & 2		Indian Drinking Standards (IS-10500):2012	
	Budhijaam Colony	Mine no 1 & 2 Filter Plant	Acceptable	Permissible
Monitoring Station				
Date of Sampling	14-Jul-2025	14-Jul-2025		
Colour(Hazen)	2	1	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	2	1	5
pH	6.62	7.53	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	89.06	138.54	200	600
Chloride(mg/L)	15.7	21.5	250	1000
Sulphate(mg/L)	17.12	26.54	200	400
Nitrate(mg/L)	1.22	1.42	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	83.45	87.43	200	600
Calcium(mg/L)	23.85	20.67	75	200
Fluoride(mg/L)	0.59	0.46	1	1.5
Total Dissolve Solid(mg/L)	148	226	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)	0.97	0.07	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.005	<0.005	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

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

*J. Patra*



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## Drinking Water Quality Data Orient Area

Project / OCP	Orient Mine No. 1 & 2		Indian Drinking Standards (IS-10500):2012	
	Budhijaam Colony	Mine no 1 & 2 Filter Plant	Acceptable	Permissible
Monitoring Station				
Date of Sampling	14-Jul-2025	14-Jul-2025		
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	4.59	17.28	-	-
Potassium(mg/L)	1.9	11.41	-	-
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	-	-

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## 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	14-Jul-2025	Acceptable	Permissible
Colour(Hazen)	2	5	15
Odour	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	1	5
pH	6.53	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	173.18	200	600
Chloride(mg/L)	13.7	250	1000
Sulphate(mg/L)	20.41	200	400
Nitrate(mg/L)	<0.5	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	99.35	200	600
Calcium(mg/L)	22.26	75	200
Fluoride(mg/L)	<0.3	1	1.5
Total Dissolve Solid(mg/L)	227	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)	0.70	5	15
Lead(mg/L)	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.005	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

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## 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	14-Jul-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	0.01	No relaxation
Sodium(mg/L)	7.95	—	—
Potassium(mg/L)	10.57	—	—
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	—	—

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## Drinking Water Quality Data Orient Area

Project / OCP	HBMMine		Indian Drinking Standards (IS-10500):2012	
	Rampur Colony	HBI Water Filter Plant	Acceptable	Permissible
Monitoring Station				
Date of Sampling	14-Jul-2025	14-Jul-2025		
Colour(Hazen)	1	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	2	1	5
pH	6.89	6.95	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	148.44	69.27	200	600
Chloride(mg/L)	15.7	11.7	250	1000
Sulphate(mg/L)	38.84	45.39	200	400
Nitrate(mg/L)	1.22	<0.5	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	99.35	59.61	200	600
Calcium(mg/L)	25.44	14.31	75	200
Fluoride(mg/L)	0.61	0.49	1	1.5
Total Dissolve Solid(mg/L)	234	168	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)	0.19	0.05	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.005	<0.005	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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## Drinking Water Quality Data Orient Area

Project / OCP	HBMMine		Indian Drinking Standards (IS-10500):2012	
	Rampur Colony	HBI Water Filter Plant	Acceptable	Permissible
Monitoring Station				
Date of Sampling	14-Jul-2025	14-Jul-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	17.96	18.55	—	—
Potassium(mg/L)	8.51	8.46	—	—
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	—	—

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**Orient UG Mines**

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

**Legend**

-  Air Monitoring Locations

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 CHP HRC

Rampur Sub Area Rampur Officers Guest House

Bundia Colony Pump House

HBI Mine

Google Earth

maps.google.com



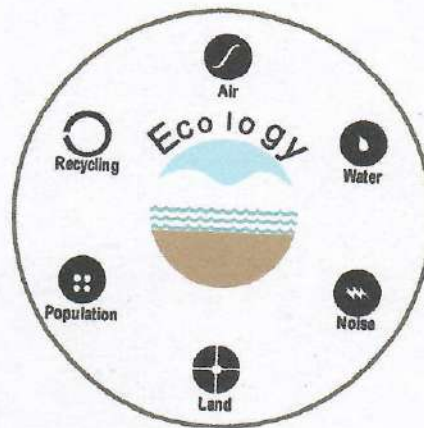
3 km

**Environmental Monitoring Report  
Of  
MCL HQ  
For  
July-2025**

**IB Valley Coalfield**



**Mahanadi Coalfields Limited**



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**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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# 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)	Acceptable
Date of Sampling	15-Jul-2025	15-Jul-2025		
Colour(Hazen)	3	3	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	2	1	5
pH	7.65	7.86	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	143.49	89.06	200	600
Chloride(mg/L)	15.7	11.7	250	1000
Sulphate(mg/L)	6.45	16.31	200	400
Nitrate(mg/L)	<0.5	<0.5	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	91.4	71.53	200	600
Calcium(mg/L)	20.67	19.08	75	200
Fluoride(mg/L)	0.79	<0.3	1	1.5
Total Dissolve Solid(mg/L)	174	132	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)	0.84	0.84	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.005	<0.005	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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*Janaki*



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Mini Ratna

# 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-Jul-2025	15-Jul-2025	Acceptable	Permissible
Colour(Hazen)	1	1	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	1	5
pH	7.34	7.63	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	98.96	89.06	200	600
Chloride(mg/L)	9.8	19.6	250	1000
Sulphate(mg/L)	17.45	19.54	200	400
Nitrate(mg/L)	<0.5	<0.5	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	71.53	83.45	200	600
Calcium(mg/L)	20.67	14.31	75	200
Fluoride(mg/L)	<0.3	0.54	1	1.5
Total Dissolve Solid(mg/L)	141	146	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)	0.08	0.07	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.005	<0.005	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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*Janati*



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## Drinking Water Quality Data MCL (HQ)

Project / OCP	MCL (HQ)		Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	DAV School (Anand vihar)	Corporate Office (Jagriti Vihar)	
Date of Sampling	15-Jul-2025	15-Jul-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	6.52	5.89		
Potassium(mg/L)	2.56	2.38		
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	-	-

Project / OCP	MCL(HQ)		Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	Inlet to Water Treatment Plant (Anand Vihar)	Outlet to Water Treatment Plant (Anand Vihar)	
Date of Sampling	15-Jul-2025	15-Jul-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	5.19	6.52		
Potassium(mg/L)	2.21	2.85		
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	-	-

Authorised Signatory  
CMPRI, RI-VII, LAB  
BHUSANESWAR

*Jasvanti*