

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

Ib Valley Coalfield



Mahanadi Coalfields Limited



cmpdi

A Mini Ratna Company

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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सर्वोपयोगी
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 CHEMICAL ANALYSIS

Test Report

AMBIENT AIR QUALITY DATA

Area :

Ib Valley

(Compliance Station)

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

Project :

Samleswari OCP

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source	Distance from DGS
05-Sep-25	West of the Mine	210	95	43	9.82	26.33	Distance From 'y' Curve Railway Siding	About 450m
05-Sep-25	South of the Mine	183	87	39	16.47	30.45	Mine Haul Roads	About 400m
05-Sep-25	East of the Mine	184	104	43	11.23	22.20	Coal Transportation Road	About 500m
19-Sep-25	West of the Mine	191	94	39	10.78	23.78	Distance From 'y' Curve Railway Siding	About 450m
19-Sep-25	South of the Mine	207	109	47	20.23	28.57	Mine Haul Roads	About 400m
19-Sep-25	East of the Mine	221	106	45	10.00	19.95	Coal Transportation Road	About 500m

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**Authorised Signatory
 CMPDI, R1-VII, LAB
 BHUBANESWAR**

[Signature]

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-Sep-25	Near South Coal Stock	208	95	42	13.94	37.64	Mining Activities, Coal Transportation	About 500m
05-Sep-25	Near Project Office	229	110	48	17.47	40.78	Domestic, OCP, Transportation	About 500m
19-Sep-25	Near South Coal Stock	197	97	42	11.09	18.82	Mining Activities, Coal Transportation	About 500m
19-Sep-25	Near Project Office	216	115	47	12.54	25.41	Domestic, OCP, Transportation	About 500m

for use

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BHUBANESWAR

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MoEF Standards Notification dated 23rd
September, 2006

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Test Report

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-Sep-25	Rampur Sub Area (Reported only)	136	44	20	11.62	26.59	Coal Stock And CT Road	About 1000m
01-Sep-25	Khokelmal (Reported Only)	137	49	22	15.73	21.82	Railway siding	About 1000m
02-Sep-25	Khokelmal (Reported Only)	125	44	20	13.89	29.89	Railway siding	About 1000m
02-Sep-25	Rampur Sub Area (Reported only)	123	37	18	11.30	33.00	Coal Stock And CT Road	About 1000m
03-Sep-25	Kudaloi Village	133	45	20	12.47	18.82		
04-Sep-25	Kudaloi Village	142	53	23	14.78	21.96		
08-Sep-25	Rampur Sub Area (Reported only)	135	51	22	10.55	16.55	Coal Stock And CT Road	About 1000m
08-Sep-25	Khokelmal (Reported Only)	144	56	26	12.37	41.22	Railway siding	About 1000m
09-Sep-25	Khokelmal (Reported Only)	159	65	30	11.32	35.55	Railway siding	About 1000m
09-Sep-25	Rampur Sub Area (Reported only)	121	36	17	20.05	22.52	Coal Stock And CT Road	About 1000m
10-Sep-25	Kudaloi Village	150	61	27	19.98	27.82		
11-Sep-25	Kudaloi Village	157	62	29	10.59	32.93		
15-Sep-25	Rampur Sub Area (Reported only)	159	67	29	17.32	32.10	Coal Stock And CT Road	About 1000m
15-Sep-25	Khokelmal (Reported Only)	121	41	18	19.56	32.98	Railway siding	About 1000m
16-Sep-25	Khokelmal (Reported Only)	151	65	29	13.89	29.89	Railway siding	About 1000m
16-Sep-25	Rampur Sub Area (Reported only)	140	48	25	13.92	33.96	Coal Stock And CT Road	About 1000m
17-Sep-25	Kudaloi Village	145	62	26	12.47	18.82		
18-Sep-25	Kudaloi Village	122	41	17	14.78	21.96		
22-Sep-25	Khokelmal (Reported Only)	117	48	21	12.37	41.22	Railway siding	About 1000m
22-Sep-25	Rampur Sub Area (Reported only)	134	43	21	17.20	33.40	Coal Stock And CT Road	About 1000m
23-Sep-25	Rampur Sub Area (Reported only)	119	37	15	18.82	26.99	Coal Stock And CT Road	About 1000m
23-Sep-25	Khokelmal (Reported Only)	139	55	24	11.32	35.55	Railway siding	About 1000m

*NAQS,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	SO ₂	NO _x	Dust Generating Source(DGS)	Distance from DGS
24-Sep-25	Kudaloi Village	109	35	14	16.98	27.82		
25-Sep-25	Kudaloi Village	125	43	18	11.69	21.51		

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BHUBANESWAR

NAIQS, 2009		100	60	60	80
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Test Report



AMBIENT AIR QUALITY DATA

Area : Ib Valley

(Reference Station)

Project :

Lajkura OCP

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
01-Sep-25	Khokelmal	137	49	22	15.73	21.82	Railway siding	About 1000m
01-Sep-25	Chuakani	143	61	25	18.91	22.25	Transportation	About 300m
02-Sep-25	Chuakani	135	53	24	18.12	26.17	Transportation	About 300m
02-Sep-25	Khokelmal	125	44	20	13.89	29.89	Railway siding	About 1000m
03-Sep-25	VIP Guest House IB Valley	142	47	22	14.06	22.74	Coal Stock Yard, Surface Bunker, Coal	About 800m
04-Sep-25	VIP Guest House IB Valley	134	65	28	12.82	17.51	Coal Stock Yard, Surface Bunker, Coal	About 800m
08-Sep-25	Chuakani	126	46	21	18.69	28.96	Transportation	About 300m
08-Sep-25	Khokelmal	144	56	26	12.37	41.22	Railway siding	About 1000m
09-Sep-25	Chuakani	120	41	17	13.98	27.58	Transportation	About 300m
09-Sep-25	Khokelmal	159	65	30	11.32	35.55	Railway siding	About 1000m
10-Sep-25	VIP Guest House IB Valley	156	49	25	13.76	24.29	Coal Stock Yard, Surface Bunker, Coal	About 800m
11-Sep-25	VIP Guest House IB Valley	135	38	20	12.29	35.36	Coal Stock Yard, Surface Bunker, Coal	About 800m
15-Sep-25	Khokelmal	121	41	18	19.56	32.98	Railway siding	About 1000m
15-Sep-25	Chuakani	142	58	26	20.83	37.61	Transportation	About 300m
16-Sep-25	Chuakani	105	32	14	10.33	20.51	Transportation	About 300m
16-Sep-25	Khokelmal	151	65	29	13.89	29.89	Railway siding	About 1000m
17-Sep-25	VIP Guest House IB Valley	138	47	22	8.98	27.55	Coal Stock Yard, Surface Bunker, Coal	About 800m
18-Sep-25	VIP Guest House IB Valley	127	44	18	17.63	21.19	Coal Stock Yard, Surface Bunker, Coal	About 800m
22-Sep-25	Chuakani	120	38	17	14.49	22.29	Transportation	About 300m
22-Sep-25	Khokelmal	117	48	21	12.37	41.22	Railway siding	About 1000m
23-Sep-25	Chuakani	135	51	23	15.06	23.55	Transportation	About 300m
23-Sep-25	Khokelmal	139	55	24	11.32	35.55	Railway siding	About 1000m

*NCLAQSR, 2009

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(Signature)

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
24-Sep-25	VIP Guest House IB Valley	148	40	26	13.93	29.36	Coal Stock Yard, Surface Bunker, Coal	About 800m
25-Sep-25	VIP Guest House IB Valley	125	49	20	18.80	22.66	Coal Stock Yard, Surface Bunker, Coal	About 800m

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BHUBANESWAR**

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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 ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	(ng/m^3)	(ng/m^3)	(mg/m^3)	(ng/m^3)	($\mu\text{g}/\text{m}^3$)
01-Sep-2025	<20.0	18.07	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
02-Sep-2025	<20.0	26.00	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
08-Sep-2025	<20.0	23.53	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
09-Sep-2025	<20.0	22.45	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
15-Sep-2025	<20.0	26.00	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
16-Sep-2025	<20.0	23.53	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	16.42	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	21.62	<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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CMPDI, RI-VII, LAB
BHUBANESWAR

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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 ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	(ng/m^3)	(ng/m^3)	(mg/m^3)	(ng/m^3)	($\mu\text{g}/\text{m}^3$)
01-Sep-2025	<20.0	14.23	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
02-Sep-2025	<20.0	14.78	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
08-Sep-2025	<20.0	15.87	<0.1	<1.0	<1.0	0.2	BQL(QL=0.7)	BQL
09-Sep-2025	<20.0	20.53	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
15-Sep-2025	<20.0	22.98	<0.1	<1.0	<1.0	0.2	BQL(QL=0.7)	BQL
16-Sep-2025	<20.0	13.42	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	24.63	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	16.97	<0.1	<1.0	<1.0	0.3	BQL(QL=0.7)	BQL
Standard	400 (24 hours)	180 (1 hour)	1.0 (24 hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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BHUBANESWAR

Signature



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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 ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(μg/m ³)	(μg/m ³)	(μg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(μg/m ³)
03-Sep-2025	<20.0	20.35	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
04-Sep-2025	<20.0	17.53	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
10-Sep-2025	<20.0	16.68	<0.1	<1.0	<1.0	0.2	BQL(QL=0.7)	BQL
11-Sep-2025	<20.0	17.82	<0.1	<1.0	<1.0	0.3	BQL(QL=0.7)	BQL
17-Sep-2025	<20.0	18.93	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
18-Sep-2025	<20.0	18.93	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
24-Sep-2025	<20.0	23.18	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
25-Sep-2025	<20.0	17.25	<0.1	<1.0	<1.0	0.2	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: IB Valley

Project	Lajkura OCP							
Monitoring Station	Khokelmal							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	(ng/m^3)	(ng/m^3)	(mg/m^3)	(ng/m^3)	($\mu\text{g}/\text{m}^3$)
01-Sep-2025	<20.0	14.23	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
02-Sep-2025	<20.0	14.78	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
08-Sep-2025	<20.0	15.87	<0.1	<1.0	<1.0	0.2	BQL(QL=0.7)	BQL
09-Sep-2025	<20.0	20.53	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
15-Sep-2025	<20.0	22.98	<0.1	<1.0	<1.0	0.2	BQL(QL=0.7)	BQL
16-Sep-2025	<20.0	13.42	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	24.63	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	16.97	<0.1	<1.0	<1.0	0.3	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	Chukani							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	(ng/m^3)	(ng/m^3)	(mg/m^3)	(ng/m^3)	($\mu\text{g}/\text{m}^3$)
01-Sep-2025	<20.0	23.82	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
02-Sep-2025	<20.0	16.42	<0.1	<1.0	<1.0	0.2	BQL(QL=0.7)	BQL
08-Sep-2025	<20.0	17.25	<0.1	<1.0	<1.0	0.2	BQL(QL=0.7)	BQL
09-Sep-2025	<20.0	21.35	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
15-Sep-2025	<20.0	26.55	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
16-Sep-2025	<20.0	23.82	<0.1	<1.0	<1.0	0.1	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	19.43	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	22.17	<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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BHUBANESWAR





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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
05-Sep-25	South of the Mine	54.8	44.7
05-Sep-25	Khokelmal (Reported Only)	49.5	42.8
05-Sep-25	Rampur Sub Area	52.4	39.3
05-Sep-25	East of the Mine	48.9	39.6
05-Sep-25	West of the Mine	50.6	41.3
05-Sep-25	Kudaloi Village	49.2	40.5
19-Sep-25	South of the Mine	54.6	42.4
19-Sep-25	Rampur Sub Area	52.2	41.5
19-Sep-25	West of the Mine	49.3	42.8
19-Sep-25	Khokelmal (Reported Only)	49.2	39.7
19-Sep-25	Kudaloi Village	50.9	40.3
19-Sep-25	East of the Mine	58.1	53.7

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


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BHUBANESWAR





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RI-VII, LAB
BHUANESWAR

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NOISE LEVEL MONITORING DATA

AREA :

Ib Valley

PROJECT :

Lajkura OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
05-Sep-25	Near Project Office	68.5	65.4
05-Sep-25	Near South Coal Stock	61.3	55.1
05-Sep-25	Khokelmal	49.5	42.8
05-Sep-25	Chuakani	52.9	40.4
05-Sep-25	VIP Guest House, IB Valley	50.4	41.2
19-Sep-25	Near Project Office	62.7	58.4
19-Sep-25	Near South Coal Stock	60.3	54.8
19-Sep-25	Chuakani	51.3	42.4
19-Sep-25	VIP Guest House, IB Valley	52.6	40.3
19-Sep-25	Khokelmal	49.2	39.7

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

Signature

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CMPDI, RI-VII, LAB
BHUBANESWAR

Signature



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EFFLUENT QUALITY DATA

Area :

Ib Valley

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

Project :

Samateswari OCP

Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	Remarks
13-Sep-25	Mine Sump Water	5.87	<4.0	23	16	-	-	-	
13-Sep-25	Outlet of ETP	6.23	<4.0	43	36	-	-	-	
13-Sep-25	Inlet of ETP	6.36	<4.0	52	48	-	-	-	
27-Sep-25	Outlet of ETP	6.54	<4.0	32	28	-	-	-	
27-Sep-25	Inlet of ETP	6.76	<4.0	63	40	-	-	-	

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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 :

Samaleswarl OCP

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


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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
13-Sep-25	Mine Samp Water	3.26	<4.0	30	28	-	-	-	
13-Sep-25	Outlet of ETP	6.30	<4.0	37	32	-	-	-	
13-Sep-25	Inlet of ETP	6.42	<4.0	49	44	-	-	-	
13-Sep-25	Lajkura Railway Siding	6.48	<4.0	37	108	-	-	-	
27-Sep-25	Lajkura Railway Siding	6.92	<4.0	60	96	-	-	-	
27-Sep-25	Inlet of ETP	6.66	<4.0	42	52	-	-	-	
27-Sep-25	Outlet of ETP	6.45	<4.0	33	36	-	-	-	

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MoEF Standard Notification dated 25th September, 2009
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 :

Lujkura OCP

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

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G.S.R. 126 5(E) Effluent discharge standards (applicable to all mode of disposal), Sewage Treatment Plants (STPs)	6.5-9.5	-	<100	-	30	-	<1000
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Effluent Quality (all Parameter): - Ib Valley Area

Project (OCP / UG)	Samleswari OCP	MoEF-Sch-VI Standards
NAME OF THE STATION	Mine Sump Water	
Date of Sampling	30-Aug-2025	
Odour	Unobjectionable	-
Colour(Hazen)	3	-
Temperature(°C)	28.9	Shall not exceed 5 °C above the receiving temperature
pH	6.95	5.5-9.0
Total Hardness (asCaCO ₃),mg/L	643.71	-
Total Dissolved Solids, mg/L	895	-
Nitrate Nitrogen(mg/L)(As N)	1.06	10
Ammonical Nitrogen , mg/l (As N)	4.09	50
Total Kjeldhal Nitrogen, mg/l (As N)	9.00	100
Sulphide (mg/L)	<0.1	2
BOD [3 days at 27°C] (mg/L)	3.1	30
Fluoride(mg/L)	0.49	2
Copper(mg/L)	<0.03	3
Manganese(mg/L)	1.00	2
Iron(mg/L)	<0.1	3
Zinc(mg/L)	0.34	5
Lead, mg/l	<0.005	0.1
Cadmium, mg/l	<0.001	2
Total Chromium(mg/L)	<0.01	2
Hexavalent Chromium(mg/L)	<0.05	0.1
Nickel(mg/L)	0.29	3
Arsenic, mg/l	<0.005	0.2
Selenium (mg/L)	<0.005	0.05
Dissolved Phosphate(mg/L)	<4.0	5
Phenolics (mg/L)	<0.001	1

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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		
Date of Sampling	13-Sep-2025	13-Sep-2025	Acceptable	Permissible
Colour(Hazen)	3	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	2	1	5
pH	6.60	7.72	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	71.43	63.03	200	600
Chloride(mg/L)	73.83	31.08	250	1000
Sulphate(mg/L)	35.67	55.76	200	400
Nitrate(mg/L)	24.32	12.78	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	156.88	117.66	200	600
Calcium(mg/L)	39.30	31.44	75	200
Fluoride(mg/L)	0.69	0.54	1	1.5
Total Dissolve Solid(mg/L)	305	188	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	0.07	<0.04	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4

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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	13-Sep-2025	13-Sep-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	15.36	6.58	-	-
Potassium(mg/L)	4.52	1.94	-	-
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 IB Valley Area

Project / OCP	Samleswari OCP			Indian Drinking Standards (IS-10500):2012	
	Inlet Water from IWSS, IB Valley Area	Outlet Water from IWSS, IB Valley Area	Well Water From Lajkura		
Date of Sampling	13-Sep-2025	13-Sep-2025	13-Sep-2025	Acceptable	Permissible
Colour(Hazen)	1	3	3	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	2	2	1	5
pH	7.74	6.42	6.78	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	33.61	25.21	105.05	200	600
Chloride(mg/L)	13.60	11.65	46.63	250	1000
Sulphate(mg/L)	28.52	20.76	98.6	200	400
Nitrate(mg/L)	<0.5	<0.5	36.18	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	47.06	39.22	164.72	200	600
Calcium(mg/L)	11.00	7.86	47.16	75	200
Fluoride(mg/L)	0.31	<0.3	0.78	1	1.5
Total Dissolve Solid(mg/L)	92	76	327	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)	0.35	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	<0.04	0.62	0.06	5	15
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	2.4

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Drinking Water Quality Data IB Valley Area

Project / OCP	Samleswari OCP			Indian Drinking Standards (IS-10500):2012	
	Inlet Water from IWSS, IB Valley Area	Outlet Water from IWSS, IB Valley Area	Well Water From Lajkura		
Date of Sampling	13-Sep-2025	13-Sep-2025	13-Sep-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	4.25	2.57	16.44		
Potassium(mg/L)	1.03	0.52	6.27		
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	13-Sep-2025	13-Sep-2025	Acceptable	Permissible
Colour(Hazen)	4	3	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	2	1	5
pH	5.29	6.65	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	46.22	134.46	200	600
Chloride(mg/L)	15.54	52.46	250	1000
Sulphate(mg/L)	26.56	79.39	200	400
Nitrate(mg/L)	<0.5	18.56	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	31.37	176.49	200	600
Calcium(mg/L)	7.86	47.16	75	200
Fluoride(mg/L)	0.42	0.84	1	1.5
Total Dissolve Solid(mg/L)	91	342	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	<0.04	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4


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Drinking Water Quality Data IB Valley Area

Project / OCP	Lajkura OCP		Indian Drinking Standards (IS-10500):2012	
	Madhuban Nagar Well Water	Adarsh Nagar Colony Well Water	Acceptable	Permissible
Monitoring Station				
Date of Sampling	13-Sep-2025	13-Sep-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	7.56	12.42		
Potassium(mg/L)	2.12	4.52		
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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Amal



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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	13-Sep-2025	13-Sep-2025	Acceptable	Permissible
Colour(Hazen)	1	4	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	3	1	5
pH	5.21	7.37	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	29.41	54.62	200	600
Chloride(mg/L)	15.54	31.08	250	1000
Sulphate(mg/L)	17.58	30.16	200	400
Nitrate(mg/L)	<0.5	<0.5	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	25.53	43.14	200	600
Calcium(mg/L)	6.28	9.43	75	200
Fluoride(mg/L)	0.33	0.37	1	1.5
Total Dissolve Solid(mg/L)	67	121	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)	0.10	<0.04	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4


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Drinking Water Quality Data IB Valley Area

Project / OCP	Lajkura OCP		Indian Drinking Standards (IS-10500):2012	
	Chhualiberna Village Well Water	VIP Guest House Tap Water	Acceptable	Permissible
Monitoring Station				
Date of Sampling	13-Sep-2025	13-Sep-2025		
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	6.45	8.25		
Potassium(mg/L)	0.65	3.66		
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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Surface Water Quality Data IB Valley Area

Project/OCP	Samaleswari OCP				IS:2296-1982 Tolerance for inland Surface water (Class C)
NAME OF STATIONS	Pandren Nallah near Global Washery	Pandren Nallah Before Confluence Point with Lilari Nallah, Downstream	Lajkura Pond Water	Discharge point of Mine Sump Water	
Date of sampling	30-Aug-25	30-Aug-25	30-Aug-25	30-Aug-25	
pH	6.88	6.89	7.43	6.54	6.5-8.5
Color (Hazen unit)	3	4	3	4	300
Dissolved Oxygen(mg/L)	6.5	6.8	6.2	6.9	4
BOD (3 days 27°C)(mg/L)	2.6	2.6	2.1	2.1	3
Chlorides(mg/L)	15.65	15.65	58.71	19.57	600
Sulphate(mg/L)	146.05	152.50	92.37	259.61	400
Nitrate(mg/L)	15.39	15.67	5.49	14.48	50
Fluoride(mg/L)	0.56	0.47	0.44	0.39	1.5
Total Hardness(mg/L)	250.66	254.64	163.13	437.13	-
Total dissolved solids (mg/L)	432	452	436	845	1500
TSS(mg/L)	45	49	47	56	-
Copper(mg/L)	<0.03	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.1	<0.1	<0.1	<0.1	50
Zinc(mg/L)	0.05	0.05	<0.04	0.29	15
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Cadmium(mg/L)	<0.001	<0.001	<0.001	<0.001	0.01
Arsenic(mg/L)	<0.005	<0.005	<0.005	<0.005	0.2
Selenium(mg/L)	<0.005	<0.005	<0.005	<0.005	0.05
Hexavalent Chromium (as Cr6) (mg/L)	<0.05	<0.05	<0.05	<0.05	0.05
Phenolics(mg/L)	<0.001	<0.001	<0.001	<0.001	0.005
Oil & Grease (mg/L)	<4.0	<4.0	<4.0	<4.0	0.1
MPN (Index/100 ml)	94	110	170	79	-

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Minil Patana

Surface Water Quality Data IB Valley Area

Project/OCP	Lajkura OCP		IS:2296-1982 Tolerance for inland Surface water (Class C)
NAME OF STATIONS	U/S of Baghmara Nala at Discharge Point	D/S of Baghmara Nala at Discharge Point	
Date of sampling	30-Aug-25	30-Aug-25	
pH	6.88	6.78	6.5-8.5
Color (Hazen unit)	1	1	300
Dissolved Oxygen(mg/L)	6.5	6.8	4
BOD (3 days 27°C)(mg/L)	2.5	2.6	3
Chlorides(mg/L)	<4.0	5.87	600
Sulphate(mg/L)	20.92	33.68	400
Nitrate(mg/L)	<0.5	<0.5	50
Fluoride(mg/L)	0.38	0.44	1.5
Total Hardness(mg/L)	31.83	43.76	-
Total dissolved solids (mg/L)	65	92	1500
TSS(mg/L)	24	30	-
Copper(mg/L)	<0.03	<0.03	1.5
Iron(mg/L)	0.5	0.6	50
Zinc(mg/L)	0.24	<0.04	15
Lead(mg/L)	<0.005	<0.005	0.1
Cadmium(mg/L)	<0.001	<0.001	0.01
Arsenic(mg/L)	<0.005	<0.005	0.2
Selenium(mg/L)	<0.005	<0.005	0.05
Hexavalent Chromium (as Cr6) (mg/L)	<0.05	<0.05	0.05
Phenolics(mg/L)	<0.001	<0.001	0.005
Oil & Grease (mg/L)	<4.0	<4.0	0.1
MPN (Index/100 ml)	84	94	-

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Samleswari OCP

Legend

Monitoring Station

Khokhelma

Rampur Sub Area

West of the Mine

South of the Mine

Kudalor Village

Google Earth



Lajkura OCP

Legend
Monitoring Station

Chuakani

VIP Guest House, IB Valley

Khokhmal

Near Project Office

Near South Coal Stock

Google Earth



**Environmental Monitoring Report
Of
LBL Area
For
September-2025
Ib Valley Coalfield**



Mahanadi Coalfields Limited



cmpdi

A Mini Ratna Company

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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 1997-2017

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
06-Sep-25	West of Lakhanpur Quarry Near Solada	226	106	48	16.96	25.33	Mining Activities	About 500m
06-Sep-25	Kirulbal Village	195	95	43	12.10	24.20	Mining Activities	About 500m
06-Sep-25	BOCM Workshop	195	95	41	13.15	23.90	Mining Activities	About 500m
06-Sep-25	Lilari Magazine House	176	84	37	10.75	24.47	Coal Transportation	About 500m
20-Sep-25	West of Lakhanpur Quarry Near Solada	199	105	43	12.75	21.77	Mining Activities	About 500m
20-Sep-25	Kirulbal Village	195	98	41	12.10	24.20	Mining Activities	About 500m
20-Sep-25	BOCM Workshop	202	104	44	12.17	37.81	Mining Activities	About 500m
20-Sep-25	Lilari Magazine House	135	119	48	12.99	33.16	Coal Transportation	About 500m

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Signature

MoEF Standards Notification dated 25th
 September, 2009

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Test Report



AMBIENT AIR QUALITY DATA

Area : **Lakhanpur**

(Reference Station)

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
01-Sep-25	Bartap Village North West of Mine	146	60	26	14.49	27.97	Domestic Anthropogenic Source	
01-Sep-25	Ardhapura Village South East of Mine	147	55	25	11.78	31.99		
01-Sep-25	Gumadera Village North of Mine	147	39	27	11.50	29.23	Domestic Source and Mining Activities	About 3km
01-Sep-25	Barihapali Village South West of Mine	122	46	19	19.31	24.23	Domestic Anthropogenic Source	
01-Sep-25	Lakhanpur Police Station West of Mine	148	39	27	12.45	22.09	Mining Activities	About 1.6km
01-Sep-25	Ramada Village South of Mine	143	54	23	17.05	22.22	Domestic Anthropogenic Source	
01-Sep-25	Kadam Rehab Centre East of Mine	122	43	20	15.16	16.46	Mining Activities	About 2km
02-Sep-25	Kadam Rehab Centre East of Mine	145	63	26	19.12	29.91	Mining Activities	About 2km
02-Sep-25	Lakhanpur Police Station West of Mine	153	62	28	13.44	39.28	Mining Activities	About 1.6km
02-Sep-25	Bartap Village North West of Mine	138	51	22	19.73	28.88	Domestic Anthropogenic Source	
02-Sep-25	Gumadera Village North of Mine	140	51	24	18.53	24.71	Domestic Source and Mining Activities	About 3km
02-Sep-25	Barihapali Village South West of Mine	136	53	22	11.12	25.45	Domestic Anthropogenic Source	
02-Sep-25	Ramada Village South of Mine	151	62	27	17.80	24.98	Domestic Anthropogenic Source	
02-Sep-25	Ardhapura Village South East of Mine	154	72	30	14.83	24.73		
08-Sep-25	Kadam Rehab Centre East of Mine	139	50	22	16.81	23.25	Mining Activities	About 2km
08-Sep-25	Lakhanpur Police Station West of Mine	144	54	25	11.00	33.88	Mining Activities	About 1.6km
08-Sep-25	Gumadera Village North of Mine	126	43	18	13.24	29.81	Domestic Source and Mining Activities	About 3km
08-Sep-25	Ramada Village South of Mine	145	57	25	10.79	18.37	Domestic Anthropogenic Source	
08-Sep-25	Bartap Village North West of Mine	155	68	28	17.22	23.88	Domestic Anthropogenic Source	
08-Sep-25	Barihapali Village South West of Mine	141	58	24	15.35	15.68	Domestic Anthropogenic Source	
08-Sep-25	Ardhapura Village South East of Mine	148	66	27	16.92	21.53		
09-Sep-25	Ramada Village South of Mine	135	47	20	15.31	21.48	Domestic Anthropogenic Source	

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Signature

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
09-Sep-25	Kadam Rehab Centre East of Mine	149	67	27	10.14	29.34	Mining Activities	About 2km
09-Sep-25	Bartap Village North West of Mine	131	48	20	18.73	27.41	Domestic Anthropogenic Source	
09-Sep-25	Barihupali Village South West of Mine	155	70	30	15.70	20.16	Domestic Anthropogenic Source	
09-Sep-25	Lakhanpur Police Station West of Mine	138	44	22	12.73	38.58	Mining Activities	About 1.6km
09-Sep-25	Ardhupara Village South East of Mine	137	54	22	12.26	23.44		
09-Sep-25	Gumadera Village North of Mine	131	55	23	11.32	29.63	Domestic Source and Mining Activities	About 3km
15-Sep-25	Bartap Village North West of Mine	127	42	19	11.73	31.45	Domestic Anthropogenic Source	
15-Sep-25	Ardhupara Village South East of Mine	126	41	20	9.57	36.84		
15-Sep-25	Gumadera Village North of Mine	136	52	23	17.75	29.88	Domestic Source and Mining Activities	About 3km
15-Sep-25	Barihupali Village South West of Mine	138	54	24	12.32	35.45	Domestic Anthropogenic Source	
15-Sep-25	Lakhanpur Police Station West of Mine	226	47	20	13.44	39.28	Mining Activities	About 1.6km
15-Sep-25	Ramada Village South of Mine	143	51	25	14.71	28.77	Domestic Anthropogenic Source	
15-Sep-25	Kadam Rehab Centre East of Mine	133	49	22	20.00	27.63	Mining Activities	About 2km
16-Sep-25	Kadam Rehab Centre East of Mine	141	57	25	16.41	18.62	Mining Activities	About 2km
16-Sep-25	Lakhanpur Police Station West of Mine	140	50	24	11.00	33.88	Mining Activities	About 1.6km
16-Sep-25	Bartap Village North West of Mine	137	53	24	15.44	20.85	Domestic Anthropogenic Source	
16-Sep-25	Gumadera Village North of Mine	143	53	26	13.63	30.83	Domestic Source and Mining Activities	About 3km
16-Sep-25	Barihupali Village South West of Mine	128	43	19	14.84	22.05	Domestic Anthropogenic Source	
16-Sep-25	Ramada Village South of Mine	139	48	23	15.41	21.90	Domestic Anthropogenic Source	
16-Sep-25	Ardhupara Village South East of Mine	130	44	21	18.65	17.83		
22-Sep-25	Kadam Rehab Centre East of Mine	162	74	30	14.58	36.20	Mining Activities	About 2km
22-Sep-25	Ramada Village South of Mine	132	44	20	21.88	36.20	Domestic Anthropogenic Source	
22-Sep-25	Lakhanpur Police Station West of Mine	125	40	17	12.73	38.58	Mining Activities	About 1.6km
22-Sep-25	Gumadera Village North of Mine	117	33	15	20.67	37.26	Domestic Source and Mining Activities	About 3km
22-Sep-25	Bartap Village North West of Mine	127	40	18	12.34	27.58	Domestic Anthropogenic Source	

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Project :

LBL OCP

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
22-Sep-25	Barihapali Village South West of Mine	139	55	24	17.49	28.81	Domestic Anthropogenic Source	
22-Sep-25	Ardhapara Village South East of Mine	132	48	22	17.94	30.85		
23-Sep-25	Ramada Village South of Mine	146	55	26	17.20	20.96	Domestic Anthropogenic Source	
23-Sep-25	Kadam Rehab Centre East of Mine	129	44	19	7.84	23.05	Mining Activities	About 2km
23-Sep-25	Bartap Village North West of Mine	144	55	26	15.28	19.36	Domestic Anthropogenic Source	
23-Sep-25	Barihapali Village South West of Mine	146	61	27	16.32	21.26	Domestic Anthropogenic Source	
23-Sep-25	Lakhanpur Police Station West of Mine	138	49	23	10.75	24.47	Mining Activities	About 1.6km
23-Sep-25	Ardhapara Village South East of Mine	148	63	28	12.77	25.44		
23-Sep-25	Gumadera Village North of Mine	129	46	20	21.08	22.65	Domestic Source and Mining Activities	About 3km


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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 ₃) ($\mu\text{g}/\text{m}^3$)	Ozone (O ₃) ($\mu\text{g}/\text{m}^3$)	Lead (Pb) ($\mu\text{g}/\text{m}^3$)	Arsenic (As) (ng/m^3)	Nickel (Ni) (ng/m^3)	CO (mg/m^3)	Benzo (a) Pyrene (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)
01-Sep-2025	<20.0	27.10	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
02-Sep-2025	<20.0	12.32	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
08-Sep-2025	<20.0	16.42	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
09-Sep-2025	<20.0	21.62	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
15-Sep-2025	<20.0	16.42	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
16-Sep-2025	<20.0	17.52	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	23.53	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	21.62	<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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भारत सरकार

AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area:Lakhanpur

Project	LBL OCP							
Monitoring Station	Lakhanpur Police Station West of Mine							
Date of sampling	Ammonia (NH ₃) ($\mu\text{g}/\text{m}^3$)	Ozone (O ₃) ($\mu\text{g}/\text{m}^3$)	Lead (Pb) ($\mu\text{g}/\text{m}^3$)	Arsenic (As) (ng/m^3)	Nickel (Ni) (ng/m^3)	CO (mg/m^3)	Benzo (a) Pyrene (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)
01-Sep-2025	<20.0	15.33	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
02-Sep-2025	<20.0	17.78	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
08-Sep-2025	<20.0	21.35	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
09-Sep-2025	<20.0	14.78	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
15-Sep-2025	<20.0	24.08	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
16-Sep-2025	<20.0	23.27	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	18.07	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
23-Sep-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: Lakhanpur

Project	LBL OCP							
Monitoring Station	Gumadera Village North of Mine							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzen e
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	(ng/m^3)	(ng/m^3)	(mg/m^3)	(ng/m^3)	($\mu\text{g}/\text{m}^3$)
01-Sep-2025	<20.0	12.87	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
02-Sep-2025	<20.0	15.87	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
08-Sep-2025	<20.0	22.17	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
09-Sep-2025	<20.0	16.70	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
15-Sep-2025	<20.0	21.62	<0.1	<1.0	<1.0	1.6	BQL(QL=0.7)	BQL
16-Sep-2025	<20.0	24.63	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	20.80	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	25.45	<0.1	<1.0	<1.0	0.9	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 ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	(ng/m^3)	(ng/m^3)	(mg/m^3)	(ng/m^3)	($\mu\text{g}/\text{m}^3$)
01-Sep-2025	<20.0	16.97	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
02-Sep-2025	<20.0	23.27	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
08-Sep-2025	<20.0	17.78	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
09-Sep-2025	<20.0	19.70	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
15-Sep-2025	<20.0	19.98	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
16-Sep-2025	<20.0	23.82	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	23.82	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	15.33	<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	Barihapali Village South West of Mine							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	(ng/m^3)	(ng/m^3)	(mg/m^3)	(ng/m^3)	($\mu\text{g}/\text{m}^3$)
01-Sep-2025	<20.0	12.87	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
02-Sep-2025	<20.0	12.87	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
08-Sep-2025	<20.0	20.25	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
09-Sep-2025	<20.0	23.27	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
15-Sep-2025	<20.0	16.97	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
16-Sep-2025	<20.0	13.68	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	20.80	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	22.17	<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	Bartap Village North West of Mine							
Date of sampling	Ammonia (NH ₃) ($\mu\text{g}/\text{m}^3$)	Ozone (O ₃) ($\mu\text{g}/\text{m}^3$)	Lead (Pb) ($\mu\text{g}/\text{m}^3$)	Arsenic (As) (ng/m^3)	Nickel (Ni) (ng/m^3)	CO (mg/m^3)	Benzo (a) Pyrene (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)
01-Sep-2025	<20.0	22.72	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
02-Sep-2025	<20.0	21.07	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
08-Sep-2025	<20.0	20.25	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
09-Sep-2025	<20.0	19.98	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
15-Sep-2025	<20.0	12.58	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
16-Sep-2025	<20.0	21.07	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	17.25	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	26.28	<0.1	<1.0	<1.0	1.1	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)

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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 ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	(ng/m^3)	(ng/m^3)	(mg/m^3)	(ng/m^3)	($\mu\text{g}/\text{m}^3$)
01-Sep-2025	<20.0	17.78	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
02-Sep-2025	<20.0	21.90	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
08-Sep-2025	<20.0	23.82	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
09-Sep-2025	<20.0	15.60	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
15-Sep-2025	<20.0	23.27	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
16-Sep-2025	<20.0	25.45	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	26.00	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	12.58	<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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 सीएम्पीडीआई निर्मल एन cmpdi नित्यं नोदम	AMBIENT AIR QUALITY DATA Area: Lakhanpur

Project	LBL OCP
Monitoring Station	Kirulbal Village
Date of sampling	Carbon Monoxide (CO)
	mg/m³
06-Sep-2025	1.1
20-Sep-2025	1.2
Standard	02(8 Hours)

Project	LBL OCP
Monitoring Station	Lilari Magazine House
Date of sampling	Carbon Monoxide (CO)
	mg/m³
06-Sep-2025	1.0
20-Sep-2025	0.9
Standard	02(8 Hours)

Project	LBL OCP
Monitoring Station	BOCM Workshop
Date of sampling	Carbon Monoxide (CO)
	mg/m³
06-Sep-2025	0.9
20-Sep-2025	0.8
Standard	02(8 Hours)

Project	LBL OCP
Monitoring Station	West of Lakhanpur Quarry Near Solada
Date of sampling	Carbon Monoxide (CO)
	mg/m³
06-Sep-2025	1.2
20-Sep-2025	1.3
Standard	02(8 Hours)


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TABLE--

NOISE LEVEL MONITORING DATA

AREA :

Lakhanpur

PROJECT :

LBL OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
06-Sep-25	BOCM Workshop	60.7	54.3
06-Sep-25	Ramada Village South of Mine	52.8	39.3
06-Sep-25	Kirulbal Village	50.6	42.2
06-Sep-25	Kadam Rehab Centre East of Mine	50.8	42.3
06-Sep-25	West of Lakhanpur Quarry Near Solada	49.2	40.6
06-Sep-25	Ardhapara Village South East of Mine	49.3	39.8
06-Sep-25	Near Lilari Magazine House	54.9	44.7
06-Sep-25	Barihapali Village South West of Mine	49.4	41.5
06-Sep-25	Gumadera Village North of Mine	50.1	40.7
06-Sep-25	Bartap Village North West of Mine	51.7	42.6
06-Sep-25	Lakhanpur Police Station West of Mine	52.6	42.8
20-Sep-25	BOCM Workshop	59.2	53.7
20-Sep-25	Ardhapara Village South East of Mine	50.9	41.7
20-Sep-25	Barihapali Village South West of Mine	49.4	40.8
20-Sep-25	Gumadera Village North of Mine	51.2	40.7
20-Sep-25	Kirulbal Village	50.6	39.7
20-Sep-25	Kadam Rehab Centre East of Mine	52.6	40.4
20-Sep-25	Bartap Village North West of Mine	52.2	42.6
20-Sep-25	Lakhanpur Police Station West of Mine	49.8	42.5
20-Sep-25	Ramada Village South of Mine	50.8	42.6
20-Sep-25	Near Lilari Magazine House	52.4	41.9
20-Sep-25	West of Lakhanpur Quarry Near Solada	50.3	41.1

MoEF Standard Notification dated 25th September, 2000

6.00 AM - 10.00 PM
Leq 75dB(A)
(Industrial)

10.00 PM - 6.00 AM
Leq 70dB(A)
(Industrial)

MoEF Standard Notification dated 25th September, 2000

6.00 AM - 10.00 PM
Leq 55dB(A)
(Residential)

10.00 PM - 6.00 AM
Leq 45dB(A)
(Residential)

MoEF Standard Notification dated 25th September, 2000

6.00 AM - 10.00 PM
Leq 65dB(A)
(Commercial)

10.00 PM - 6.00 AM
Leq 55dB(A)
(Commercial)

MoEF Standard Notification dated 25th September, 2000

6.00 AM - 10.00 PM
Leq 50dB(A)
(Silence Zone)

10.00 PM - 6.00 AM
Leq 40dB(A)
(Silence Zone)

[Signature]

Authorised Signatory
CMPDI, RI-VII, LAB
BHUBANESWAR

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सीएमपीडीआई
C.M.P.D.I.
CENTRAL POLLUTION CONTROL BOARD

TABLE--

EFFLUENT QUALITY DATA

Area :

Lakhanpur

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

Date of Sampling	Project : Sampling Station	pH	LBL OCP					DO	Remarks
			Oil & Grease	TSS	COD	BOD	TDS		
13-Sep-25	Mine Sump Water, Lilari	7.10	<4.0	17	24	-	-	-	
13-Sep-25	Inlet of ETP, Belpahar	6.83	<4.0	56	48	-	-	-	
13-Sep-25	Mine Sump Water, Lakhanpur	6.43	<4.0	27	28	-	-	-	
13-Sep-25	Mine Sump Water, Belpahar	6.54	<4.0	23	20	-	-	-	
13-Sep-25	Inlet of ETP, Lakhanpur	7.95	<4.0	49	72	-	-	-	
13-Sep-25	Outlet of ETP, Lakhanpur	6.65	<4.0	43	36	-	-	-	
13-Sep-25	Outlet of ETP, Belpahar	6.53	<4.0	33	32	-	-	-	
27-Sep-25	Outlet of ETP, Belpahar	6.76	<4.0	29	24	-	-	-	
27-Sep-25	Outlet of ETP, Lakhanpur	6.76	<4.0	27	28	-	-	-	
27-Sep-25	Inlet of ETP, Belpahar	6.93	<4.0	40	44	-	-	-	
27-Sep-25	Inlet of ETP, Lakhanpur	7.65	<4.0	42	32	-	-	-	

Jasvanti
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BHUBANESWAR

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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Jasvanti



सीवजमपीडी.आर
NO. 001
cmpdi
एन.ए.सी.ए.

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
13-Sep-25	STP Inlet	7.05	-	37	-	16	-	-	220
13-Sep-25	Clear Water Tank of Sewage Treatment Plant	6.85	-	23	-	6.8	-	-	94
27-Sep-25	STP Inlet	6.76	-	39	-	12	-	-	210
27-Sep-25	Clear Water Tank of Sewage Treatment Plant	6.98	-	27	-	6	-	-	110

Janwari

Authorised Signatory
CMPDI, RI-VII, LAR

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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Janwari



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Effluent Quality (all Parameter): - Lakhanpur Area

Project (OCP / UG)	LBL			MoEF-Sch-VI Standards
	Mine Sump Water (Lakhanpur)	Mine Sump Water (Belpahar)	Mine Sump Water (Lilari)	
NAME OF THE STATION				
Date of Sampling	30-Aug-2025	30-Aug-2025	30-Aug-2025	
Odour	Unobjectionable	Unobjectionable	Unobjectionable	
Colour(Hazen)	3	3	4	
Temperature(°C)	30.5	29.7	27.5	Shall not exceed 5 °C above the receiving temperature
pH	7.01	6.59	4.06	5.5-9.0
Total Hardness (asCaCO ₃),mg/L	556.29	747.02	1041.06	-
Total Dissolved Solids, mg/L	738	955	1280	-
Nitrate Nitrogen(mg/L)(As N)	0.79	0.90	0.69	10
Ammonical Nitrogen , mg/l (As N)	0.67	1.05	7.06	50
Total Kjeldhal Nitrogen, mg/l (As N)	3.00	4.50	13.50	100
Sulphide (mg/L)	<0.1	<0.1	<0.1	2
BOD [3 days at 27°C] (mg/L)	3.8	3.6	3.5	30
Fluoride(mg/L)	0.76	0.83	0.89	2
Copper(mg/L)	<0.03	<0.03	<0.03	3
Manganese(mg/L)	2.59	2.74	2.64	2
Iron(mg/L)	<0.1	<0.1	<0.1	3
Zinc(mg/L)	0.14	0.14	0.12	5
Lead, mg/l	<0.005	<0.005	<0.005	0.1
Cadmium, mg/l	<0.001	<0.001	<0.001	2
Total Chromium(mg/L)	<0.01	<0.01	<0.01	2
Hexavalent Chromium(mg/L)	<0.05	<0.05	<0.05	0.1
Nickel(mg/L)	0.13	0.12	0.14	3
Arsenic, mg/l	<0.005	<0.005	<0.005	0.2
Selenium (mg/L)	<0.005	<0.005	<0.005	0.05
Dissolved Phosphate(mg/L)	<4.0	<4.0	<4.0	5
Phenolics (mg/L)	<0.001	<0.001	<0.001	1

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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
Date of Sampling	13-Sep-2025	13-Sep-2025	13-Sep-2025	5	15
Colour(Hazen)	3	4	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	3	3	1	5
pH	7.38	7.12	7.34	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	78.83	92.44	75.63	200	600
Chloride(mg/L)	21.37	17.48	15.54	250	1000
Sulphate(mg/L)	65.76	55.8	33.56	200	400
Nitrate(mg/L)	<0.5	7.56	12.12	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	58.83	50.98	47.06	200	600
Calcium(mg/L)	20.43	15.72	12.57	75	200
Fluoride(mg/L)	0.48	0.56	0.63	1	1.5
Total Dissolve Solid(mg/L)	174	170	138	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)	<0.04	0.09	<0.04	5	15
Lead(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	<0.2	0.5	2.4


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जिला लक्ष्मणपुर
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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	13-Sep-2025	13-Sep-2025	13-Sep-2025		
Date of Sampling	13-Sep-2025	13-Sep-2025	13-Sep-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	11.39	10.6	11.75		
Potassium(mg/L)	3.68	3.47	2.19		
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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Surface Water Quality Data Lakhanpur Area

Project/OCP	LBL OCP				IS:2296-1982 Tolerance for inland Surface water (Class C)
	Putijhor Stream Near Tingismal Village (u/s of Lakhanpur OCP)	Putijhor Stream Near Darlipalil Village before Confluence to Lilari Nallah (d/s of Lakhanpur OCP)	Lilari Nallah Near Kudaloi Village (u/s of Lakhanpur OCP)	Lilari Nallah Near Lilari Bridge Village (d/s of Lakhanpur OCP)	
NAME OF STATIONS					
Date of Sampling	30-Aug-25	30-Aug-25	30-Aug-25	30-Aug-25	
pH	7.18	7.28	7.15	7.07	6.5-8.5
Color (Hazen unit)	1	1	1	1	300
Dissolved Oxygen(mg/L)	6.9	7.0	6.6	6.6	4
BOD (3 days 27°C(mg/L)	<2.0	2.2	<2.0	2.1	3
Chlorides(mg/L)	5.87	9.78	5.87	9.78	600
Sulphate(mg/L)	15.66	35.00	11.05	25.39	400
Nitrate(mg/L)	<0.50	1.08	0.70	0.82	50
Fluoride(mg/L)	0.37	<0.30	0.33	0.36	1.5
Total Hardness(mg/L)	31.83	51.72	27.85	43.76	-
Total dissolved solids (mg/L)	62	106	49	85	1500
TSS(mg/L)	24	39	28	32	-
Copper(mg/L)	<0.03	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	<0.1	0.27	0.30	0.24	50
Zinc(mg/L)	<0.04	<0.04	<0.04	<0.04	15
Lead(mg/L)	<0.005	<0.005	<0.005	<0.005	0.1
Cadmium(mg/L)	<0.001	<0.001	<0.001	<0.001	0.01
Arsenic(mg/L)	<0.005	<0.005	<0.005	<0.005	0.2
Selenium(mg/L)	<0.005	<0.005	<0.005	<0.005	0.05
Hexavalent Chromium (as Cr6) (mg/L)	<0.05	<0.05	<0.05	<0.05	0.05
Phenolics(mg/L)	<0.001	<0.001	<0.001	<0.001	0.005
Oil & Grease (mg/L)	<4.0	<4.0	<4.0	<4.0	0.1
MPN (Index/100 ml)	94	120	84	94	-

Jasanti
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Surface Water Quality Data Lakhanpur Area

Project/OCF	LBL OCP			IS:2296-1982 Tolerance for inland Surface water (Class C)
	Confluence point of Lilari Nallah with IB River	Jurabaga Pond	Adhapada Village	
NAME OF STATIONS				
Date of sampling	30-Aug-25	30-Aug-25	30-Aug-25	
pH	6.92	7.18	7.16	6.5-8.5
Color (Hazen unit)	2	1	1	300
Dissolved Oxygen(mg/L)	6.5	6.8	6.8	4
BOD (3 days 27°C(mg/L)	2.3	2.2	<2.0	3
Chlorides(mg/L)	7.83	9.78	11.74	600
Sulphate(mg/L)	30.79	26.58	10.53	400
Nitrate(mg/L)	0.52	2.97	<0.5	50
Fluoride(mg/L)	0.38	0.41	0.36	1.5
Total Hardness(mg/L)	35.80	71.61	15.91	-
Total dissolved solids (mg/L)	82	128	51	1500
TSS(mg/L)	31	39	22	-
Copper(mg/L)	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	0.64	<0.1	<0.1	50
Zinc(mg/L)	<0.04	0.15	<0.04	15
Lead(mg/L)	<0.005	<0.005	<0.005	0.1
Cadmium(mg/L)	<0.001	<0.001	<0.001	0.01
Arsenic(mg/L)	<0.005	<0.005	<0.005	0.2
Selenium(mg/L)	<0.005	<0.005	<0.005	0.05
Hexavalent Chromium (as Cr6) (mg/L)	<0.05	<0.05	<0.05	0.05
Phenolics(mg/L)	<0.001	<0.001	<0.001	0.005
Oil & Grease (mg/L)	<4.0	<4.0	<4.0	0.1
MPN (Index/100 ml)	63	84	70	-

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BHUBANESWAR

[Signature]

Integrated LBL OCP

Legend
Monitoring Station



**Environmental Monitoring Report
Of
Basundhara Area
For
September-2025
Ib Valley Coalfield**



Mahanadi Coalfields Limited



cmpdi

A Mini Ratna Company

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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संयुक्त प्रदूषण नियंत्रण बोर्ड
CPCB
CENTRAL POLLUTION CONTROL BOARD

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
12-Sep-25	Karlikachar Village	180	90	37	15.13	29.94	External Coal Transportation Road	About 500m
12-Sep-25	KAN-1 Near Coal Sampling Lab	198	101	41	12.69	32.80	Railway Siding, Transportation	About 500m
12-Sep-25	Garjanbahal Village	210	106	44	14.77	30.18	External Coal Transportation Road	About 500m
26-Sep-25	Karlikachar Village	196	99	42	16.94	30.57	External Coal Transportation Road	About 500m
26-Sep-25	KAN-1 Near Coal Sampling Lab	224	107	45	9.59	35.45	Railway Siding, Transportation	About 500m
26-Sep-25	Garjanbahal Village	192	95	40	12.56	22.87	External Coal Transportation Road	About 500m

Signature
Authorised Signatory
CMPDI, RI-VII, LAB
BHUBANESWAR

Signature

MoEF Standards Notification dated 25th
September, 2000

500 250 120 120

Test Report

AMBIENT AIR QUALITY DATA



Area : Basundhara

(Compliance Station)

Project :

Kulda OCP

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source	Distance from DGS
12-Sep-25	Laikera Railway Siding	196	90	42	12.99	38.68		
12-Sep-25	Kulda PO Office	221	95	46	11.69	21.51		
26-Sep-25	Laikera Railway Siding	231	118	47	12.45	22.09		
26-Sep-25	Kulda PO Office	214	105	44	12.99	38.68		

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 CMPDI, RI-VII, LAB
 BHUBANESWAR

[Signature]

MoEF Standards Notification dated 25th
 September, 2000

500	250		120	120
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Test Report



संस्थापित ३१/८/८५
 With an
cmpdi
 since 1985

AMBIENT AIR QUALITY DATA

Area :

Basundhara

(Reference Station)

Project :

Garjanbahal OCP

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
03-Sep-25	West of working face, Bihaimunda	146	58	24	11.30	22.24	South-West of Working Face	About 500m
03-Sep-25	South-East of Working Face, Kutabaga Village	143	52	23	11.76	18.61	South-East of Working Face	About 1000m
04-Sep-25	South-East of Working Face, Kutabaga Village	126	40	19	14.72	32.10	South-East of Working Face	About 1000m
04-Sep-25	West of working face, Bihaimunda	155	66	28	13.33	20.76	South-West of Working Face	About 500m
10-Sep-25	West of working face, Bihaimunda	149	59	25	12.70	28.99	South-West of Working Face	About 500m
10-Sep-25	South-East of Working Face, Kutabaga Village	110	36	17	15.21	23.01	South-East of Working Face	About 1000m
11-Sep-25	South-East of Working Face, Kutabaga Village	145	50	24	13.72	21.45	South-East of Working Face	About 1000m
11-Sep-25	West of working face, Bihaimunda	137	45	21	13.65	35.54	South-West of Working Face	About 500m
17-Sep-25	West of working face, Bihaimunda	134	45	20	22.45	30.73	South-West of Working Face	About 500m
17-Sep-25	South-East of Working Face, Kutabaga Village	147	55	26	17.18	26.88	South-East of Working Face	About 1000m
18-Sep-25	South-East of Working Face, Kutabaga Village	118	37	16	17.88	25.90	South-East of Working Face	About 1000m
18-Sep-25	West of working face, Bihaimunda	141	51	23	18.83	28.18	South-West of Working Face	About 500m
24-Sep-25	South-East of Working Face, Kutabaga Village	143	52	25	8.20	19.29	South-East of Working Face	About 1000m
24-Sep-25	West of working face, Bihaimunda	163	76	31	16.29	28.75	South-West of Working Face	About 500m
25-Sep-25	West of working face, Bihaimunda	148	58	27	12.17	21.49	South-West of Working Face	About 500m
25-Sep-25	South-East of Working Face, Kutabaga Village	132	40	19	12.82	19.61	South-East of Working Face	About 1000m

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 Authorized Signatory
 CMPDI, RI-VII, LAB
 BHUBANESWAR

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7/14/05,2009		100	60	80	80
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 ଓଡ଼ିଶା ପରିଷଦ

Test Report

AMBIENT AIR QUALITY DATA

Area :

Basundhara

(Reference Station)

Project :

Kulda OCP

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
03-Sep-25	North of CHP, Telemal	149	56	27	11.09	18.82	Domestic, OCP, Transportation	About 500m
03-Sep-25	Bilaimunda Village	115	36	17	16.74	29.55	Village Road	About 500m
03-Sep-25	South West of Working Face, Chakarpur	131	43	20	18.88	34.11	Village Road	About 500m
03-Sep-25	External CT Road, Barpali	113	42	17	14.66	23.46	127	About 500m
04-Sep-25	South West of Working Face, Chakarpur	147	53	25	19.30	21.95	Village Road	About 500m
04-Sep-25	North of CHP, Telemal	134	39	20	19.51	29.84	Domestic, OCP, Transportation	About 500m
04-Sep-25	External CT Road, Barpali	135	48	22	13.10	22.40	127	About 500m
04-Sep-25	Bilaimunda Village	133	50	21	17.70	37.14	Village Road	About 500m
10-Sep-25	External CT Road, Barpali	161	67	30	15.49	20.33	127	About 500m
10-Sep-25	South West of Working Face, Chakarpur	138	46	22	16.72	22.14	Village Road	About 500m
10-Sep-25	North of CHP, Telemal	152	63	28	18.50	37.81	Domestic, OCP, Transportation	About 500m
10-Sep-25	Bilaimunda Village	139	56	23	10.12	20.61	Village Road	About 500m
11-Sep-25	South West of Working Face, Chakarpur	122	38	18	21.29	30.22	Village Road	About 500m
11-Sep-25	North of CHP, Telemal	143	49	24	16.71	33.58	Domestic, OCP, Transportation	About 500m
11-Sep-25	Bilaimunda Village	156	74	31	12.55	20.77	Village Road	About 500m
11-Sep-25	External CT Road, Barpali	124	45	19	17.83	24.56	127	About 500m
17-Sep-25	North of CHP, Telemal	120	41	17	12.55	19.38	Domestic, OCP, Transportation	About 500m
17-Sep-25	South West of Working Face, Chakarpur	143	53	24	13.15	25.95	Village Road	About 500m
17-Sep-25	Bilaimunda Village	155	67	30	15.33	27.05	Village Road	About 500m
17-Sep-25	External CT Road, Barpali	122	35	16	9.80	26.30	127	About 500m
18-Sep-25	South West of Working Face, Chakarpur	135	45	21	16.81	25.66	Village Road	About 500m
18-Sep-25	North of CHP, Telemal	153	64	28	15.99	20.99	Domestic, OCP, Transportation	About 500m

*N/AQS.2009

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 BHUBANESWAR

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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
18-Sep-25	External CT Road, Burpali	131	47	21	15.43	32.25	127	About 500m
18-Sep-25	Bilaimunda Village	124	37	17	16.43	27.39	Village Road	About 500m
24-Sep-25	External CT Road, Barpali	136	52	24	21.45	36.26	127	About 500m
24-Sep-25	North of CHP, Teleimal	112	37	16	17.42	33.18	Domestic, OCP, Transportation	About 500m
24-Sep-25	Bilaimunda Village	134	50	23	22.26	31.27	Village Road	About 500m
24-Sep-25	South West of Working Face, Chakarpur	162	71	29	13.63	21.65	Village Road	About 500m
25-Sep-25	South West of Working Face, Chakarpur	170	78	30	15.95	27.35	Village Road	About 500m
25-Sep-25	Bilaimunda Village	140	53	25	11.27	26.78	Village Road	About 500m
25-Sep-25	North of CHP, Teleimal	133	47	21	14.02	18.92	Domestic, OCP, Transportation	About 500m
25-Sep-25	External CT Road, Barpali	128	45	20	17.34	19.05	127	About 500m

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

Area: Basundhara

Project	Garjanbahal OCP							
Monitoring Station	Bihaimunda Village							
Date of sampling	Ammonia (NH ₃) ($\mu\text{g}/\text{m}^3$)	Ozone (O ₃) ($\mu\text{g}/\text{m}^3$)	Lead (Pb) ($\mu\text{g}/\text{m}^3$)	Arsenic (As) (ng/m^3)	Nickel (Ni) (ng/m^3)	CO (mg/m^3)	Benzo (a) Pyrene (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)
03-Sep-2025	<20.0	18.62	<0.1	<1.0	<1.0	1.7	BQL(QL=0.7)	BQL
04-Sep-2025	<20.0	19.70	<0.1	<1.0	<1.0	1.6	BQL(QL=0.7)	BQL
10-Sep-2025	<20.0	17.52	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
11-Sep-2025	<20.0	15.60	<0.1	<1.0	<1.0	1.7	BQL(QL=0.7)	BQL
17-Sep-2025	<20.0	17.25	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
18-Sep-2025	<20.0	17.25	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
24-Sep-2025	<20.0	25.18	<0.1	<1.0	<1.0	1.6	BQL(QL=0.7)	BQL
25-Sep-2025	<20.0	18.88	<0.1	<1.0	<1.0	1.8	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: Basundhara

Project	Garjanbahal OCP							
Monitoring Station	South-East of Working Face, Kutabaga							
Date of sampling	Ammonia (NH ₃) ($\mu\text{g}/\text{m}^3$)	Ozone (O ₃) ($\mu\text{g}/\text{m}^3$)	Lead (Pb) ($\mu\text{g}/\text{m}^3$)	Arsenic (As) (ng/m^3)	Nickel (Ni) (ng/m^3)	CO (mg/m^3)	Benzo (a) Pyrene (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)
03-Sep-2025	<20.0	12.87	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
04-Sep-2025	<20.0	26.28	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
10-Sep-2025	<20.0	24.37	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
11-Sep-2025	<20.0	20.53	<0.1	<1.0	<1.0	1.7	BQL(QL=0.7)	BQL
17-Sep-2025	<20.0	19.98	<0.1	<1.0	<1.0	1.6	BQL(QL=0.7)	BQL
18-Sep-2025	<20.0	18.88	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
24-Sep-2025	<20.0	22.17	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
25-Sep-2025	<20.0	22.98	<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		Bilaimunda Village						
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(μg/m ³)	(μg/m ³)	(μg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(μg/m ³)
03-Sep-2025	<20.0	21.62	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
04-Sep-2025	<20.0	23.27	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
10-Sep-2025	<20.0	26.00	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
11-Sep-2025	<20.0	21.35	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
17-Sep-2025	<20.0	26.28	<0.1	<1.0	<1.0	0.3	BQL(QL=0.7)	BQL
18-Sep-2025	<20.0	19.17	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
24-Sep-2025	<20.0	19.17	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
25-Sep-2025	<20.0	16.97	<0.1	<1.0	<1.0	0.9	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)

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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 ₃) ($\mu\text{g}/\text{m}^3$)	Ozone (O ₃) ($\mu\text{g}/\text{m}^3$)	Lead (Pb) ($\mu\text{g}/\text{m}^3$)	Arsenic (As) (ng/m^3)	Nickel (Ni) (ng/m^3)	CO (mg/m^3)	Benzo (a) Pyrene (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)
03-Sep-2025	<20.0	25.45	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
04-Sep-2025	<20.0	13.13	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
10-Sep-2025	<20.0	21.62	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
11-Sep-2025	<20.0	12.32	<0.1	<1.0	<1.0	0.3	BQL(QL=0.7)	BQL
17-Sep-2025	<20.0	22.17	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
18-Sep-2025	<20.0	17.52	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
24-Sep-2025	<20.0	26.82	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
25-Sep-2025	<20.0	21.90	<0.1	<1.0	<1.0	0.9	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	North of CHP, Teleimal							
Date of sampling	Ammonia (NH ₃) ($\mu\text{g}/\text{m}^3$)	Ozone (O ₃) ($\mu\text{g}/\text{m}^3$)	Lead (Pb) ($\mu\text{g}/\text{m}^3$)	Arsenic (As) (ng/m^3)	Nickel (Ni) (ng/m^3)	CO (mg/m^3)	Benzo (a) Pyrene (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)
03-Sep-2025	<20.0	16.97	<0.1	<1.0	<1.0	0.3	BQL(QL=0.7)	BQL
04-Sep-2025	<20.0	17.78	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
10-Sep-2025	<20.0	25.18	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
11-Sep-2025	<20.0	12.32	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
17-Sep-2025	<20.0	18.33	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
18-Sep-2025	<20.0	24.90	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
24-Sep-2025	<20.0	13.42	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
25-Sep-2025	<20.0	16.15	<0.1	<1.0	<1.0	0.3	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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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Basundhara

Project	Kulda OCP							
Monitoring Station	External CT Road, Barpali							
Date of sampling	Ammonia (NH ₃) ($\mu\text{g}/\text{m}^3$)	Ozone (O ₃) ($\mu\text{g}/\text{m}^3$)	Lead (Pb) ($\mu\text{g}/\text{m}^3$)	Arsenic (As) (ng/m^3)	Nickel (Ni) (ng/m^3)	CO (mg/m^3)	Benzo (a) Pyrene (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)
03-Sep-2025	<20.0	23.18	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
04-Sep-2025	<20.0	11.87	<0.1	<1.0	<1.0	0.3	BQL(QL=0.7)	BQL
10-Sep-2025	<20.0	12.15	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
11-Sep-2025	<20.0	17.53	<0.1	<1.0	<1.0	0.3	BQL(QL=0.7)	BQL
17-Sep-2025	<20.0	16.4	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
18-Sep-2025	<20.0	19.78	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
24-Sep-2025	<20.0	15.55	<0.1	<1.0	<1.0	0.12	BQL(QL=0.7)	BQL
25-Sep-2025	<20.0	11.3	<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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TABLE--

NOISE LEVEL MONITORING DATA

AREA :

Basundhura

PROJECT :

Garjanbahal OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
04-Sep-25	Karlikachar Village	49.3	42.4
04-Sep-25	Garjhanbahal Village	52.8	40.6
18-Sep-25	Garjhanbahal Village	54.4	44.2
18-Sep-25	Karlikachar Village	51.7	40.4

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)

Sanjay
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Sanjay



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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
04-Sep-25	Kulda PO Office	64.2	56.8
04-Sep-25	South West of Working Face Chakarpur	52.8	40.7
04-Sep-25	Laikera Railway Siding	50.9	42.3
18-Sep-25	Kulda PO Office	59.2	52.7
18-Sep-25	South West of Working Face Chakarpur	49.3	42.5
18-Sep-25	Laikera Railway Siding	51.4	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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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
12-Sep-25	Outlet of Settling Tank (Kanika Siding)	6.68	<4.0	37	40	-	-	-	
12-Sep-25	Inlet of Settling Tank (Kanika Siding)	6.72	<4.0	68	120	-	-	-	
12-Sep-25	Mine Sump Water	7.31	<4.0	22	16	-	-	-	
26-Sep-25	Inlet of Settling Tank (Kanika Siding)	6.96	<4.0	49	84	-	-	-	
26-Sep-25	Mine Sump Water	7.25	<4.0	19	24	-	-	-	
26-Sep-25	Outlet of Settling Tank (Kanika Siding)	6.56	<4.0	33	36	-	-	-	

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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 :

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
12-Sep-25	Final Outlet Of ETP	7.61	<4.0	31	24	-	-	-	
12-Sep-25	Inlet of ETP	7.42	<4.0	53	64	-	-	-	
12-Sep-25	Mine Sump Water Near Kulda Nursery	7.65	<4.0	26	32	-	-	-	
26-Sep-25	Final Outlet Of ETP	7.79	<4.0	27	20	-	-	-	
27-Sep-25	Inlet of ETP	7.36	<4.0	33	28	-	-	-	

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

5.5-9.0	10	100	250	30
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Effluent Quality (All Parameter): - Basundhara Area

Project (OCP / UG)	Garjhanbahal OCP			MoEF-Sch-VI Standards
	Outlet of Settling tank (Kanika Siding)	Inlet of Settling tank (Kanika Siding)	Mine Sump Water	
NAME OF THE STATION				
Date of Sampling	30-Aug-2025	30-Aug-2025	30-Aug-2025	
Odour	Unobjectionable	Unobjectionable	Unobjectionable	
Colour(Hazen)	1	1	2	
Temperature(°C)	29.9	30.7	30.2	Shall not exceed 5 °C above the receiving temperature
pH	6.99	7.49	7.82	5.5-9.0
Total Hardness (asCaCO ₃),mg/L	39.73	35.76	258.27	-
Total Dissolved Solids, mg/L	76	85	396	-
Nitrate Nitrogen(mg/L)(As N)	0.24	0.21	0.78	10
Ammonical Nitrogen , mg/l (As N)	0.53	0.46	0.63	50
Total Kjeldhal Nitrogen, mg/l (As N)	3.00	4.50	4.50	100
Sulphide (mg/L)	<0.1	<0.1	<0.1	2
BOD [3 days at 27°C] (mg/L)	<2.0	<2.0	3.3	30
Fluoride(mg/L)	<0.30	<0.30	<0.30	2
Copper(mg/L)	<0.03	<0.03	<0.03	3
Manganese(mg/L)	0.06	0.09	<0.04	2
Iron(mg/L)	<0.1	<0.1	<0.1	3
Zinc(mg/L)	<0.04	<0.04	<0.04	5
Lead, mg/l	<0.005	<0.005	<0.005	0.1
Cadmium, mg/l	<0.001	<0.001	<0.001	2
Total Chromium(mg/L)	<0.01	<0.01	<0.01	2
Hexavalent Chromium(mg/L)	<0.05	<0.05	<0.05	0.1
Nickel(mg/L)	<0.02	<0.02	<0.02	3
Arsenic, mg/l	<0.005	<0.005	<0.005	0.2
Selenium (mg/L)	<0.005	<0.005	<0.005	0.05
Dissolved Phosphate(mg/L)	<4.0	<4.0	<4.0	5
Phenolics (mg/L)	<0.001	<0.001	<0.001	1

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Effluent Quality (All Parameter): - Basundhara Area

Project (OCP / UG)	Kulda OCP			MoEF-Sch-VI Standards
	Inlet of ETP	Final Outlet of ETP	Mine Sump Water near Kulda Nursery	
NAME OF THE STATION				
Date of Sampling	30-Aug-2025	30-Aug-2025	30-Aug-2025	
Odour	Unobjectionable	Unobjectionable	Unobjectionable	
Colour(Hazen)	3	1	2	
Temperature(°C)	28.7	30.4	29.7	Shall not exceed 5 °C above the receiving temperature
pH	7.58	7.84	8.06	5.5-9.0
Total Hardness (asCaCO ₃),mg/L	333.77	11.92	250.33	-
Total Dissolved Solids, mg/L	543	106	404	-
Nitrate Nitrogen(mg/L)(As N)	0.57	0.69	0.38	10
Ammonical Nitrogen , mg/l (As N)	0.65	0.55	0.49	50
Total Kjeldhal Nitrogen, mg/l (As N)	4.50	3.00	3.00	100
Sulphide (mg/L)	<0.1	<0.1	<0.1	2
BOD [3 days at 27°C] (mg/L)	2.9	2.2	3.1	30
Fluoride(mg/L)	1.32	1.35	1.40	2
Copper(mg/L)	<0.03	<0.03	<0.03	3
Manganese(mg/L)	0.21	0.11	0.04	2
Iron(mg/L)	<0.1	<0.1	<0.1	3
Zinc(mg/L)	<0.04	0.04	0.17	5
Lead, mg/l	<0.005	<0.005	<0.005	0.1
Cadmium, mg/l	<0.001	<0.001	<0.001	2
Total Chromium(mg/L)	<0.01	<0.01	<0.01	2
Hexavalent Chromium(mg/L)	<0.05	<0.05	<0.05	0.1
Nickel(mg/L)	<0.02	<0.02	<0.02	3
Arsenic, mg/l	<0.005	<0.005	<0.005	0.2
Selenium (mg/L)	<0.005	<0.005	<0.005	0.05
Dissolved Phosphate(mg/L)	<4.0	<4.0	<4.0	5
Phenolics (mg/L)	<0.001	<0.001	<0.001	1


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Surface Water Quality Data Basundhara Area

Project/OCP	Garjanbahal			IS:2296-1982 Tolerance for Inland Surface Water (Class C)
	Basundhara River near Bandhpali Village as d/s water	Basundhara River near Bankibahal bridge as u/s of Duduka (Reported)	Basundhara River near Barpali Village as d/s water (Reported Only)	
NAME OF STATIONS				
Date of sampling	30-Aug-25	30-Aug-25	30-Aug-25	
pH	7.17	7.09	7.05	6.5-8.5
Color (Hazen unit)	1	1	2	300
Dissolved Oxygen(mg/L)	6.8	6.6	6.9	4
BOD (3 days 27°C)(mg/L)	2.2	2.1	2.2	3
Chlorides(mg/L)	5.87	7.83	5.87	600
Sulphate(mg/L)	18.42	18.42	24.34	400
Nitrate(mg/L)	<0.5	<0.5	<0.5	50
Fluoride(mg/L)	0.33	0.38	0.44	1.5
Total Hardness(mg/L)	19.89	23.87	39.78	-
Total dissolved solids (mg/L)	88	67	106	1500
TSS (mg/L)	26	22	26	-
Copper(mg/L)	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	0.24	0.29	0.29	50
Zinc(mg/L)	<0.04	<0.04	<0.04	15
Lead(mg/L)	<0.005	<0.005	<0.005	0.1
Cadmium(mg/L)	<0.001	<0.001	<0.001	0.01
Arsenic(mg/L)	<0.005	<0.005	<0.005	0.2
Selenium(mg/L)	<0.005	<0.005	<0.005	0.05
Hexavalent Chromium (as Cr6) (mg/L)	<0.05	<0.05	<0.05	0.05
Phenolics(mg/L)	<0.001	<0.001	<0.001	0.005
Oil & Grease (mg/L)	<4.0	<4.0	<4.0	0.1
MPN (Index/100 ml)	33	39	41	-


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Surface Water Quality Data Basundhara Area

Project/OCP	Kuida OCP		IS:2296-1982 Tolerance for inland Surface water (Class C)
	Basundhara River near Bankibahal bridge as u/s water	Basundhara River near Barpali Village as d/s water	
NAME OF STATIONS			
Date of sampling	30-Aug-25	30-Aug-25	
pH	7.09	7.05	6.5-8.5
Color (Hazen unit)	1	2	300
Dissolved Oxygen(mg/L)	6.6	6.9	4
BOD (3 days 27°C)(mg/L)	2.1	2.2	3
Chlorides(mg/L)	7.83	5.87	600
Sulphate(mg/L)	18.42	24.34	400
Nitrate(mg/L)	<0.5	<0.5	50
Fluoride(mg/L)	0.38	0.44	1.5
Total Hardness(mg/L)	23.87	39.78	-
Total dissolved solids (mg/L)	67	106	1500
TSS (mg/L)	22	26	-
Copper(mg/L)	<0.03	<0.03	1.5
Iron(mg/L)	0.29	0.29	50
Zinc(mg/L)	<0.04	<0.04	15
Lead(mg/L)	<0.005	<0.005	0.1
Cadmium(mg/L)	<0.001	<0.001	0.01
Arsenic(mg/L)	<0.005	<0.005	0.2
Selenium(mg/L)	<0.005	<0.005	0.05
Hexavalent Chromium (as Cr6) (mg/L)	<0.05	<0.05	0.05
Phenolics(mg/L)	<0.001	<0.001	0.005
Oil & Grease (mg/L)	<4.0	<4.0	0.1
MPN (Index/100 ml)	39	41	-


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Surface Water Quality Data Basundhara Area

Project/OCP	Kulda OCP			IS:2296-1982 Tolerance for inland Surface water (Class C)
	Chattanjhor nallah near Tumulia Village as u/s water	Chattanjhor nallah near Siarmal Village as d/s water	Kund Pond Water	
NAME OF STATIONS				
Date of sampling	30-Aug-25	30-Aug-25	30-Aug-25	
pH	7.02	7.03	6.64	6.5-8.5
Color (Hazen unit)	1	2	2	300
Dissolved Oxygen(mg/L)	6.9	6.8	6.7	4
BOD (3 days 27°C)(mg/L)	2.3	2.3	<2.0	3
Chlorides(mg/L)	5.87	9.78	5.87	600
Sulphate(mg/L)	17.63	25.26	12.63	400
Nitrate(mg/L)	<0.5	<0.5	<0.5	50
Fluoride(mg/L)	0.41	0.49	<0.30	1.5
Total Hardness(mg/L)	19.89	35.80	15.91	-
Total dissolved solids (mg/L)	53	81	96	1500
TSS(mg/L)	24	30	28	-
Copper(mg/L)	<0.03	<0.03	<0.03	1.5
Iron(mg/L)	1.02	1.07	0.66	50
Zinc(mg/L)	<0.04	<0.04	<0.04	15
Lead(mg/L)	<0.005	<0.005	<0.005	0.1
Cadmium(mg/L)	<0.001	<0.001	<0.001	0.01
Arsenic(mg/L)	<0.005	<0.005	<0.005	0.2
Selenium(mg/L)	<0.005	<0.005	<0.005	0.05
Hexavalent Chromium (as Cr6) (mg/L)	<0.05	<0.05	<0.05	0.05
Phenolics(mg/L)	<0.001	<0.001	<0.001	0.005
Oil & Grease (mg/L)	<4.0	<4.0	<4.0	0.1
MPN (Index/100 ml)	47	40	84	-


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Kulda OCP

Legend

● Air Monitoring Locations

North of CHP, Teleimal

External CT Road, Barpali

PO Office, Kulda OCP

Bilaimunde Village

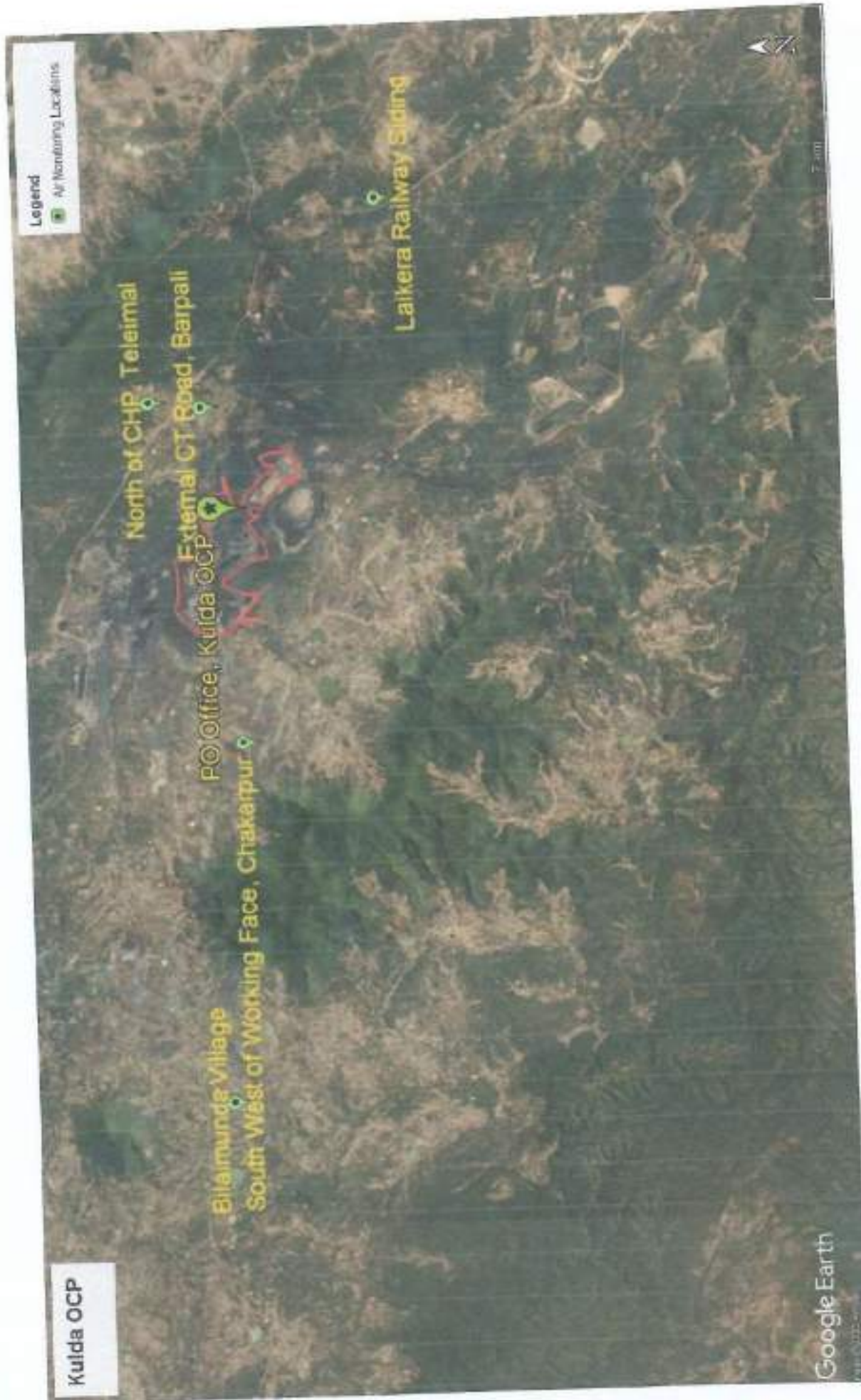
South West of Working Face, Chakarapur

Laikera Railway Siding

Google Earth

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Garjanbahal OCP

Legend
Monitoring Station

KAN-1 Near Coal Sampling Lab

Garjanbahal

Karikachar

Bihaimunda Village

South East of Working Face, Kutabega

Google Earth



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

Ib Valley Coalfield



Mahanadi Coalfields Limited



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Mini Rancho

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

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

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Test Report



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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
12-Sep-25	North of the Sardega Railway Siding, Kulapada	175	88	37	18.40	30.78	Mining Activities, OCP, Coal Transportation	About 500m
12-Sep-25	Body Workshop Basundhara	223	105	48	20.17	27.51		
26-Sep-25	North of the Sardega Railway Siding, Kulapada	195	89	38	18.50	36.46	Mining Activities, OCP, Coal Transportation	About 500m
26-Sep-25	Body Workshop Basundhara	218	110	48	12.99	22.93		

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MoEF Standards Notification dated 23rd
 September, 2009

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1986-1987

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	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
03-Sep-25	Khamarpara Village (Reported Only)	152	64	29	12.40	25.54		
04-Sep-25	Khamarpara Village (Reported Only)	123	37	18	12.62	20.69		
10-Sep-25	Khamarpara Village (Reported Only)	149	60	27	12.57	31.37		
11-Sep-25	Khamarpara Village (Reported Only)	141	52	23	14.53	18.03		
17-Sep-25	Khamarpara Village (Reported Only)	121	39	17	16.72	21.32		
18-Sep-25	Khamarpara Village (Reported Only)	144	54	25	17.12	35.12		
24-Sep-25	Khamarpara Village (Reported Only)	137	47	23	16.22	22.19		
25-Sep-25	Khamarpara Village (Reported Only)	110	40	17	11.69	25.22		

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Project :

Basundhara (w) OCP

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
18-Sep-25	Ratansara Village	154	69	30	17.28	20.80	Transportation	About 100m
18-Sep-25	Khamarpara Village	144	54	25	17.12	35.12		
24-Sep-25	Ratansara Village	136	52	22	11.24	29.09	Transportation	About 100m
24-Sep-25	Sarangjharua Village	137	46	22	19.98	25.30	Domestic	About 500m
24-Sep-25	Khamarpara Village	137	47	23	16.22	22.19		
24-Sep-25	West of Coal Stock, Near Golf Course	117	41	19	16.47	29.08	Mining Activities, OCP, Transportation	About 500m
25-Sep-25	West of Coal Stock, Near Golf Course	149	59	26	18.23	32.98	Mining Activities, OCP, Transportation	About 500m
25-Sep-25	Khamarpara Village	110	40	17	11.69	25.22		
25-Sep-25	Sarangjharua Village	148	61	28	17.25	25.60	Domestic	About 500m
25-Sep-25	Ratansara Village	142	50	24	18.34	36.42	Transportation	About 100m


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7/11/25, 2009		100	80	80	80
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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 ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	(ng/m^3)	(ng/m^3)	(mg/m^3)	(ng/m^3)	($\mu\text{g}/\text{m}^3$)
03-Sep-2025	<20.0	12.43	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
04-Sep-2025	<20.0	15.83	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
10-Sep-2025	<20.0	23.18	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
11-Sep-2025	<20.0	23.47	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
17-Sep-2025	<20.0	16.68	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
18-Sep-2025	<20.0	20.35	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
24-Sep-2025	<20.0	24.32	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
25-Sep-2025	<20.0	19.5	<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: Mahalaxmi

Project	Basundhara (W) OCP							
Monitoring Station	Sarangijharis Village							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	(ng/m^3)	(ng/m^3)	(mg/m^3)	(ng/m^3)	($\mu\text{g}/\text{m}^3$)
03-Sep-2025	<20.0	17.78	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
04-Sep-2025	<20.0	21.35	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
10-Sep-2025	<20.0	15.60	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
11-Sep-2025	<20.0	13.42	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
17-Sep-2025	<20.0	19.98	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
18-Sep-2025	<20.0	14.78	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
24-Sep-2025	<20.0	13.68	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
25-Sep-2025	<20.0	19.17	<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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संरक्षण
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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 ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	(ng/m^3)	(ng/m^3)	(mg/m^3)	(ng/m^3)	($\mu\text{g}/\text{m}^3$)
03-Sep-2025	<20.0	25.73	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
04-Sep-2025	<20.0	21.07	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
10-Sep-2025	<20.0	24.90	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
11-Sep-2025	<20.0	24.63	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
17-Sep-2025	<20.0	25.18	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
18-Sep-2025	<20.0	20.80	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
24-Sep-2025	<20.0	18.88	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
25-Sep-2025	<20.0	14.50	<0.1	<1.0	<1.0	0.9	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	Khamarpara Village							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	(ng/m^3)	(ng/m^3)	(mg/m^3)	(ng/m^3)	($\mu\text{g}/\text{m}^3$)
03-Sep-2025	<20.0	13.68	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
04-Sep-2025	<20.0	15.33	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
10-Sep-2025	<20.0	14.23	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
11-Sep-2025	<20.0	16.70	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
17-Sep-2025	<20.0	26.55	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
18-Sep-2025	<20.0	26.82	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
24-Sep-2025	<20.0	14.50	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
25-Sep-2025	<20.0	24.08	<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

Area: Mahalaxmi

Project	Basundhara(W)OCP
Monitoring Station	North of the Sardega Railway Siding, Kulapada
Date of sampling	Carbon Monoxide (CO)
	mg/m ³
12-Sep-2025	1.1
26-Sep-2025	1.0
Standard	02(8Hours)

Project	Basundhara(W)OCP
Monitoring Station	Body WorkshpBasundhara
Date of sampling	Carbon Monoxide (CO)
	mg/m ³
12-Sep-2025	1.3
26-Sep-2025	1.2
Standard	02(8Hours)

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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 ₃) (µg/m ³)	Ozone (O ₃) (µg/m ³)	Lead (Pb) (µg/m ³)	Arsenic (As) (ng/m ³)	Nickel (Ni) (ng/m ³)	CO (mg/m ³)	Benzo (a) Pyrene (ng/m ³)	Benzene (µg/m ³)
01-Sep-2025	<20.0	14.23	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
02-Sep-2025	<20.0	14.78	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
08-Sep-2025	<20.0	15.87	<0.1	<1.0	<1.0	0.2	BQL(QL=0.7)	BQL
09-Sep-2025	<20.0	20.53	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
15-Sep-2025	<20.0	22.98	<0.1	<1.0	<1.0	0.2	BQL(QL=0.7)	BQL
16-Sep-2025	<20.0	13.42	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	24.63	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	16.97	<0.1	<1.0	<1.0	0.3	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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TABLE-

NOISE LEVEL MONITORING DATA

AREA :

Mahulaxmi

PROJECT :

Basundhara (W) OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
04-Sep-25	South-West of Working Face -Gopalpur Village,Near CMPDIL Camp	52.6	41.8
04-Sep-25	North of the Sardega Railway Siding ,Kulapada	58.9	54.6
04-Sep-25	West of Coal Stock , Near Golf Course	53.1	46.8
04-Sep-25	Sarangijharia Community Centre	49.4	40.2
04-Sep-25	Ratansara Village	52.8	42.7
18-Sep-25	North of the Sardega Railway Siding ,Kulapada	59.3	53.6
18-Sep-25	West of Coal Stock , Near Golf Course	49.7	41.3
18-Sep-25	Ratansara Village	60.4	56.8
18-Sep-25	South-West of Working Face -Gopalpur Village,Near CMPDIL Camp	52.6	40.9
18-Sep-25	Sarangijharia Community Centre	49.1	41.3

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)

Sanjali
Authorised Signatory
CMPDI, RI-VII, LAB
BHUBANESWAR

Sanjali



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भुवनेश्वर

TABLE--

NOISE LEVEL MONITORING DATA

AREA:

Mahalaxmi

PROJECT:

Basundhara (E) OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
04-Sep-25	Quary Sump of Basundhara East OCP/ Near CHP of Basundhara East OCP	52.2	40.4
18-Sep-25	Quary Sump of Basundhara East OCP/ Near CHP of Basundhara East OCP	52.6	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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CENTRAL POLLUTION CONTROL BOARD

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
12-Sep-25	Inlet of Excavation Workshop, B(W) OCP	-	-	-	-	-	-	-	Dry
12-Sep-25	Outlet of Excavation Workshop, B(W) OCP	-	-	-	-	-	-	-	Dry
12-Sep-25	Sardaga Railway Siding Sedimentation Pond	6.73	<4.0	27	20	-	-	-	
12-Sep-25	Basundhara (W) OCP Mine Sump	7.41	<4.0	21	8	-	-	-	
27-Sep-25	Outlet of ETP at Excavation Workshop, B(W)OCP	-	-	-	-	-	-	-	Dry
27-Sep-25	Inlet to ETP at Excavation Workshop, B(W)OCP	-	-	-	-	-	-	-	Dry

Janaki

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BHUBANESWAR

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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As per



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Effluent Quality (All Parameter): - Mahalaxmi Area

Project (OCP / UG)	Basundhara OCP		MoEF-Sch-VI Standards
	Basundhara (W) OCP Mine Sump	Sardega Railway Siding Sedementation Pond	
NAME OF THE STATION			
Date of Sampling	30-Aug-2025	30-Aug-2025	
Odour	Unobjectionable	Unobjectionable	-
Colour(Hazen)	2	3	-
Temperature(°C)	30.5	29.8	Shall not exceed 5 °C above the receiving temperature
pH	7.51	7.06	5.5-9.0
Total Hardness (asCaCO ₃),mg/L	258.27	305.96	-
Total Dissolved Solids, mg/L	385	513	-
Nitrate Nitrogen(mg/L)(As N)	0.46	0.90	10
Ammonical Nitrogen , mg/l (As N)	0.94	0.80	50
Total Kjeldhal Nitrogen, mg/l (As N)	3.00	4.50	100
Sulphide (mg/L)	<0.1	<0.1	2
BOD [3 days at 27°C] (mg/L)	3.3	3.7	30
Fluoride(mg/L)	<0.30	0.66	2
Copper(mg/L)	<0.03	<0.03	3
Manganese(mg/L)	<0.04	<0.04	2
Iron(mg/L)	<0.1	<0.1	3
Zinc(mg/L)	<0.04	0.09	5
Lead, mg/l	<0.005	<0.005	0.1
Cadmium, mg/l	<0.001	<0.001	2
Total Chromium(mg/L)	<0.01	<0.01	2
Hexavalent Chromium(mg/L)	<0.05	<0.05	0.1
Nickel(mg/L)	<0.02	<0.02	3
Arsenic, mg/l	<0.005	<0.005	0.2
Selenium (mg/L)	<0.005	<0.005	0.05
Dissolved Phosphate(mg/L)	<4.0	<4.0	5
Phenolics (mg/L)	<0.001	<0.001	1


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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	13-Sep-2025	Acceptable	Permissible
Colour(Hazen)	4	5	15
Odour	Agrecable	Agreeable	Agrecable
Taste	Agreeable	Agreeable	Agrecable
Turbidity(NTU)	3	1	5
pH	6.95	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	134.46	200	600
Chloride(mg/L)	23.31	250	1000
Sulphate(mg/L)	55.76	200	400
Nitrate(mg/L)	18.16	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	74.51	200	600
Calcium(mg/L)	22.00	75	200
Fluoride(mg/L)	0.51	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)	0.25	5	15
Lead(mg/L)	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	0.5	2.4

Jumate

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S. S. S.



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Drinking Water Quality Data Mahalaxmi Area

Project / OCP	Basundhara (W) Water Treatment Plant Clear Water Reservoir	Indian Drinking Standards (IS-10500):2012	
		Acceptable	Permissible
Monitoring Station			
Date of Sampling	13-Sep-2025		
Selenium(mg/L)	<0.005	0.01	No relaxation
Sodium(mg/L)	14.95		
Potassium(mg/L)	5.62		
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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Janvati



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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	13-Sep-2025	5	15
Colour(Hazen)	3	5	15
Odour	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	1	5
pH	6.92	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	88.24	200	600
Chloride(mg/L)	31.08	250	1000
Sulphate(mg/L)	48.68	200	400
Nitrate(mg/L)	29.26	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	66.67	200	600
Calcium(mg/L)	20.43	75	200
Fluoride(mg/L)	0.48	1	1.5
Total Dissolve Solid(mg/L)	207	500	2000
Copper(mg/L)	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	0.1	0.3
Iron(mg/L)	<0.1	1	No relaxation
Zinc(mg/L)	<0.04	5	15
Lead(mg/L)	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	0.5	2.4

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Drinking Water Quality Data Mahalaxmi Area

Project / OCP	Basundhara (E)	Indian Drinking Standards (IS-10500):2012	
	Basundhar East Sump Quarry OCP	Acceptable	Permissible
Monitoring Station	13-Sep-2025		
Date of Sampling			
Selenium(mg/L)	<0.005	0.01	No relaxation
Sodium(mg/L)	15.28		
Potassium(mg/L)	4.55		
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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Surface Water Quality Data Mahalaxmi Area

Project/OCP	Basundhara (W)		IS:2296-1982 Tolerance for inland Surface water (Class C)
	Basundhara River u/s point near Tiklipara	Basundhara River d/s point near Tiklipara	
NAME OF STATIONS			
Date of sampling	30-Aug-25	30-Aug-25	
pH	7.12	7.22	6.5-8.5
Color (Hazen unit)	1	2	300
Dissolved Oxygen(mg/L)	6.7	7.0	4
BOD (3 days 27°C(mg/L)	<2.0	2.2	3
Chlorides(mg/L)	5.87	5.87	600
Sulphate(mg/L)	17.50	25.79	400
Nitrate(mg/L)	<0.5	50.5	50
Fluoride(mg/L)	0.39	0.44	1.5
Total Hardness(mg/L)	19.89	23.87	-
Total dissolved solids (mg/L)	52	61	1500
TSS(mg/L)	24	34	-
Copper(mg/L)	<0.03	<0.03	1.5
Iron(mg/L)	<0.1	<0.1	50
Zinc(mg/L)	<0.04	<0.04	15
Lead(mg/L)	<0.005	<0.005	0.1
Cadmium(mg/L)	<0.001	<0.001	0.01
Arsenic(mg/L)	<0.005	<0.005	0.2
Selenium(mg/L)	<0.005	<0.005	0.05
Hexavalent Chromium (as Cr6) (mg/L)	<0.05	<0.05	0.05
Phenolics(mg/L)	<0.001	<0.001	0.005
Oil & Grease (mg/L)	<4.0	<4.0	0.1
MPN (Index/100 ml)	43	58	-


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Surface Water Quality Data Mahalaxmi Area

Project/OCP	Basundhara (W)		IS:2296-1982 Tolerance for inland Surface water (Class C)
	Chaturdhara River u/s	Chaturdhara River d/s	
NAME OF STATIONS			
Date of sampling	30-Aug-25	30-Aug-25	
pH	7.15	7.19	6.5-8.5
Color (Hazen unit)	1	1	300
Dissolved Oxygen(mg/L)	6.8	6.7	4
BOD (3 days 27°C)(mg/L)	2.1	<2.0	3
Chlorides(mg/L)	5.87	<4.0	600
Sulphate(mg/L)	19.34	31.05	400
Nitrate(mg/L)	<0.5	<0.5	50
Fluoride(mg/L)	<0.30	0.33	1.5
Total Hardness(mg/L)	19.89	31.83	-
Total dissolved solids (mg/L)	54	79	1500
TSS(mg/L)	21	26	-
Copper(mg/L)	<0.03	<0.03	1.5
Iron(mg/L)	<0.1	<0.1	50
Zinc(mg/L)	<0.04	<0.04	15
Lead(mg/L)	<0.005	<0.005	0.1
Cadmium(mg/L)	<0.001	<0.001	0.01
Arsenic(mg/L)	<0.005	<0.005	0.2
Selenium(mg/L)	<0.005	<0.005	0.05
Hexavalent Chromium (as Cr6) (mg/L)	<0.05	<0.05	0.05
Phenolics(mg/L)	<0.001	<0.001	0.005
Oil & Grease (mg/L)	<4.0	<4.0	0.1
MPN (Index/100 ml)	41	48	-

Jasmat
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A. J. Singh



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Surface Water Quality Data Mahalaxmi Area

Project/OCF	Basundhara (E)	IS:2296-1982 Tolerance for inland Surface water (Class C)
NAME OF STATIONS	Basundhara River w/s point near Tiklipara	
Date of sampling	30-Aug-25	
pH	7.11	6.5-8.5
Color (Hazen unit)	1	300
Dissolved Oxygen(mg/L)	6.6	4
BOD (3 days 27°C)(mg/L)	<2.0	3
Chlorides(mg/L)	5.87	600
Sulphate(mg/L)	18.55	400
Nitrate(mg/L)	0.65	50
Fluoride(mg/L)	0.34	1.5
Total Hardness(mg/L)	31.83	-
Total dissolved solids (mg/L)	68	1500
TSS(mg/L)	27	-
Copper(mg/L)	<0.03	1.5
Iron(mg/L)	0.21	50
Zinc(mg/L)	<0.04	15
Lead(mg/L)	<0.005	0.1
Cadmium(mg/L)	<0.001	0.01
Arsenic(mg/L)	<0.005	0.2
Selenium(mg/L)	<0.005	0.05
Hexavalent Chromium (as Cr6) (mg/L)	<0.05	0.05
Phenolics(mg/L)	<0.001	0.005
Oil & Grease (mg/L)	<4.0	0.1
MPN (Index/100 ml)	63	-

Jasmati

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BHUBANESWAR

Basundhara

Basundhara (W) OCP

Sarangijharia Village

Legend
Air Monitoring Locations

North of the Sardega Railway Siding, Kumbpada

okhamarpara, East Side of Sardega Railway Siding

West of Coal Stock, Near Golf Course

Ratansara Village

Google Earth

3 km



**Environmental Monitoring Report
Of
Orient Area
For
September-2025
Ib Valley Coalfield**



Mahanadi Coalfields Limited



cmpdi

A Mini Ratna Company

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
13-Sep-25	Orient Mine No. 1 & 2	196	87	40	10.98	26.30	Coal Stock Yard, Surface Bunker, Coal	About 250m
27-Sep-25	Orient Mine No. 1 & 2	219	115	48	10.03	24.94	Coal Stock Yard, Surface Bunker, Coal	About 250m

Prasanna
Authorised Signatory
CMPDI, RI-VII, LAB
BHUBANESWAR

W.M.

MoEF Standard Notification dated 23rd
September, 2009

500 250 120 120



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Test Report

AMBIENT AIR QUALITY DATA

Area :

Orient

(Compliance Station)

Project :

Orient Mine No. 3

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source	Distance from DGS
13-Sep-25	Orient Mine No. 3	218	97	44	16.08	30.68	Coal Stockyard, Surface Bunker, Coal	About 200m
27-Sep-25	Orient Mine No. 3	206	107	45	12.55	29.76	Coal Stockyard, Surface Bunker, Coal	About 200m

Janak

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 BHUGANESWAR

Janak

MoEF Standards Notification dated 25th September, 2009	500	250		120	120
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संयुक्त राज्य
भारत
c.m.p.d.i.
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Test Report

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	SO2	NOx	Dust Generating Source	Distance from DGS
13-Sep-25	Orient Mine No. 4	206	92	41	10.54	16.54	Coal Transportation Road	About 300m
27-Sep-25	Orient Mine No. 4	195	98	41	8.95	28.32	Coal Transportation Road	About 300m

Janvati
Authorized Signatory
C.M.P.D.I., N-VII, LAG
BHUBANESWAR

MoEF Standards Notification dated 25th
September, 2009

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Test Report

AMBIENT AIR QUALITY DATA

Area : **Orient** (Compliance Station)

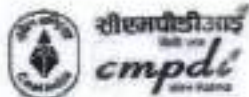
Project : **HBI Mine** (conc. in µg/cu.m.)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source	Distance from DGS
13-Sep-25	HBI Mine	206	102	45	14.77	21.26	Coal Stockyard, Surface Bunker, Coal Transport	About 100m
13-Sep-25	Bundia Colony Pump House	182	89	39	17.77	33.79	Coal Stockyard, Surface Bunker, Coal Transport	About 150m
27-Sep-25	HBI Mine	230	117	49	15.06	24.31	Coal Stockyard, Surface Bunker, Coal Transport	About 100m
27-Sep-25	Bundia Colony Pump House	194	97	41	13.16	18.87	Coal Stockyard, Surface Bunker, Coal Transport	About 150m

Jaswanti
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B.S. Das

MUF Standards Notification dated 23rd September, 2000	500	250		120	120
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Test Report

AMBIENT AIR QUALITY DATA

Area :

Orient

(Compliance Station)

Project :

HRC

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source	Distance from DGS
13-Sep-25	Near Rampur Colliery Check Post	195	88	40	12.54	25.41		
13-Sep-25	Near CHP HRC	205	96	44	12.99	33.16		
27-Sep-25	Near Rampur Colliery Check Post	210	105	44	13.94	37.64		
27-Sep-25	Near CHP HRC	190	93	39	17.47	40.78		


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MoEF Standards Notification dated 15th
September, 2009

500 250 120 120

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
01-Sep-25	Orient GM Office	153	64	29	12.05	28.86	Domestic and other Anthropogenic Activities	
02-Sep-25	Orient GM Office	143	50	24	12.26	24.92	Domestic and other Anthropogenic Activities	
08-Sep-25	Orient GM Office	150	61	27	15.92	28.86	Domestic and other Anthropogenic Activities	
09-Sep-25	Orient GM Office	123	42	19	16.52	27.63	Domestic and other Anthropogenic Activities	
15-Sep-25	Orient GM Office	151	58	27	14.92	28.41	Domestic and other Anthropogenic Activities	
16-Sep-25	Orient GM Office	125	44	20	21.06	23.43	Domestic and other Anthropogenic Activities	
22-Sep-25	Orient GM Office	118	37	15	8.51	17.75	Domestic and other Anthropogenic Activities	
23-Sep-25	Orient GM Office	146	53	24	13.91	35.28	Domestic and other Anthropogenic Activities	

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BHUBANESWAR





Test Report

AMBIENT AIR QUALITY DATA

Area : Orient (Reference Station)

Project : Hirakand Bundia Mine (HBM) (conc. in µg/cu.m.)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
01-Sep-25	Rampur Sub Area	136	44	20	11.62	26.59	Coal Stock And CT Road	About 1000m
01-Sep-25	Rampur Officers Guest House	116	41	18	14.86	18.95	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
02-Sep-25	Rampur Officers Guest House	152	63	27	18.74	30.83	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
02-Sep-25	Rampur Sub Area	123	37	18	11.30	33.00	Coal Stock And CT Road	About 1000m
08-Sep-25	Rampur Sub Area	135	51	22	10.55	16.55	Coal Stock And CT Road	About 1000m
08-Sep-25	Rampur Officers Guest House	112	39	17	14.51	31.83	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
09-Sep-25	Rampur Officers Guest House	147	53	26	15.12	30.73	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
09-Sep-25	Rampur Sub Area	121	36	17	20.05	22.52	Coal Stock And CT Road	About 1000m
15-Sep-25	Rampur Sub Area	159	67	29	17.32	32.10	Coal Stock And CT Road	About 1000m
15-Sep-25	Rampur Officers Guest House	123	43	18	11.53	27.62	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
16-Sep-25	Rampur Officers Guest House	105	33	14	12.78	27.39	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
16-Sep-25	Rampur Sub Area	140	48	25	13.92	33.96	Coal Stock And CT Road	About 1000m
22-Sep-25	Rampur Officers Guest House	135	51	22	22.92	25.90	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
22-Sep-25	Rampur Sub Area	134	43	21	17.20	33.40	Coal Stock And CT Road	About 1000m
23-Sep-25	Rampur Sub Area	119	37	15	18.82	26.99	Coal Stock And CT Road	About 1000m
23-Sep-25	Rampur Officers Guest House	145	58	27	19.36	23.26	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m

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*W.A.Q.S. 2009		100	60	60	80
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AMBIENT AIR QUALITY DATA

Area : **Orient** (Reference Station)

Project : **HRC** (conc. in µg/cu.m.)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
01-Sep-25	Rampur Sub Area (Reported only)	136	44	20	11.62	26.59	Coal Stock And CT Road	About 1000m
01-Sep-25	Rampur Officers Guest House (Reported only)	116	41	18	14.86	18.95	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
02-Sep-25	Rampur Officers Guest House (Reported only)	152	63	27	18.74	30.83	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
02-Sep-25	Rampur Sub Area (Reported only)	123	37	18	11.30	33.00	Coal Stock And CT Road	About 1000m
08-Sep-25	Rampur Sub Area (Reported only)	135	51	22	10.55	16.55	Coal Stock And CT Road	About 1000m
08-Sep-25	Rampur Officers Guest House (Reported only)	112	39	17	14.51	31.83	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
09-Sep-25	Rampur Officers Guest House (Reported only)	147	53	26	15.12	30.73	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
09-Sep-25	Rampur Sub Area (Reported only)	121	36	17	20.05	22.52	Coal Stock And CT Road	About 1000m
15-Sep-25	Rampur Sub Area (Reported only)	159	67	29	17.32	32.10	Coal Stock And CT Road	About 1000m
15-Sep-25	Rampur Officers Guest House (Reported only)	123	43	18	11.53	27.62	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
16-Sep-25	Rampur Officers Guest House (Reported only)	105	33	14	12.78	27.39	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
16-Sep-25	Rampur Sub Area (Reported only)	140	48	25	13.92	33.96	Coal Stock And CT Road	About 1000m
22-Sep-25	Rampur Officers Guest House (Reported only)	135	51	22	22.92	25.90	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
22-Sep-25	Rampur Sub Area (Reported only)	134	43	21	17.20	33.40	Coal Stock And CT Road	About 1000m
23-Sep-25	Rampur Sub Area (Reported only)	119	37	15	18.82	26.99	Coal Stock And CT Road	About 1000m
23-Sep-25	Rampur Officers Guest House (Reported only)	145	58	27	19.36	23.26	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m

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*N44QS,2009		100	60	60	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 ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzen e
	(µg/m ³)	(µg/m ³)	(µg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(µg/m ³)
01-Sep-2025	<20.0	21.90	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
02-Sep-2025	<20.0	26.28	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
08-Sep-2025	<20.0	20.25	<0.1	<1.0	<1.0	1.0	1.4BQL(QL=0.7)	BQL
09-Sep-2025	<20.0	24.37	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
15-Sep-2025	<20.0	12.58	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
16-Sep-2025	<20.0	22.72	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	18.62	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	13.68	<0.1	<1.0	<1.0	0.9	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 ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzen e
	(µg/m ³)	(µg/m ³)	(µg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(µg/m ³)
03-Sep-2025	<20.0	20.35	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
04-Sep-2025	<20.0	17.53	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
10-Sep-2025	<20.0	16.68	<0.1	<1.0	<1.0	0.2	BQL(QL=0.7)	BQL
11-Sep-2025	<20.0	17.82	<0.1	<1.0	<1.0	0.3	BQL(QL=0.7)	BQL
17-Sep-2025	<20.0	18.93	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
18-Sep-2025	<20.0	18.93	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
24-Sep-2025	<20.0	23.18	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
25-Sep-2025	<20.0	17.25	<0.1	<1.0	<1.0	0.2	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	HBI Mine							
Monitoring Station	Rampur Officers Guest House							
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	(ng/m^3)	(ng/m^3)	(mg/m^3)	(ng/m^3)	($\mu\text{g}/\text{m}^3$)
01-Sep-2025	<20.0	15.60	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
02-Sep-2025	<20.0	19.17	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
08-Sep-2025	<20.0	19.70	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
09-Sep-2025	<20.0	23.27	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
15-Sep-2025	<20.0	26.55	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
16-Sep-2025	<20.0	19.43	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	17.78	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	13.97	<0.1	<1.0	<1.0	1.5	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 ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	(µg/m ³)	(µg/m ³)	(µg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(µg/m ³)
01-Sep-2025	<20.0	18.07	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
02-Sep-2025	<20.0	26.00	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
08-Sep-2025	<20.0	23.53	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
09-Sep-2025	<20.0	22.45	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
15-Sep-2025	<20.0	26.00	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
16-Sep-2025	<20.0	23.53	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	16.42	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	21.62	<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: Orient

Project	HRC							
Monitoring Station	Rampur Officers Guest House (Reported Only)							
Date of sampling	Ammonia (NH ₃) ($\mu\text{g}/\text{m}^3$)	Ozone (O ₃) ($\mu\text{g}/\text{m}^3$)	Lead (Pb) ($\mu\text{g}/\text{m}^3$)	Arsenic (As) (ng/m^3)	Nickel (Ni) (ng/m^3)	CO (mg/m^3)	Benzo (a) Pyrene (ng/m^3)	Benzene ($\mu\text{g}/\text{m}^3$)
01-Sep-2025	<20.0	15.60	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
02-Sep-2025	<20.0	19.17	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
08-Sep-2025	<20.0	19.70	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
09-Sep-2025	<20.0	23.27	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
15-Sep-2025	<20.0	26.55	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
16-Sep-2025	<20.0	19.43	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	17.78	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	13.97	<0.1	<1.0	<1.0	1.5	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 ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(µg/m ³)	(µg/m ³)	(µg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(µg/m ³)
01-Sep-2025	<20.0	18.07	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
02-Sep-2025	<20.0	26.00	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
08-Sep-2025	<20.0	23.53	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
09-Sep-2025	<20.0	22.45	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
15-Sep-2025	<20.0	26.00	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
16-Sep-2025	<20.0	23.53	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	16.42	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	21.62	<0.1	<1.0	<1.0	1.1	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: Orient

Project		HRC						
Monitoring Station		Khokelmal (Reported Only)						
Date of sampling	Ammonia (NH ₃)	Ozone (O ₃)	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	(µg/m ³)	(µg/m ³)	(µg/m ³)	(ng/m ³)	(ng/m ³)	(mg/m ³)	(ng/m ³)	(µg/m ³)
01-Sep-2025	<20.0	14.23	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
02-Sep-2025	<20.0	14.78	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
08-Sep-2025	<20.0	15.87	<0.1	<1.0	<1.0	0.2	BQL(QL=0.7)	BQL
09-Sep-2025	<20.0	20.53	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
15-Sep-2025	<20.0	22.98	<0.1	<1.0	<1.0	0.2	BQL(QL=0.7)	BQL
16-Sep-2025	<20.0	13.42	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
22-Sep-2025	<20.0	24.63	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
23-Sep-2025	<20.0	16.97	<0.1	<1.0	<1.0	0.3	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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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
05-Sep-25	Orient Mine No. 1 & 2	52.2	42.0
05-Sep-25	VIP Guest House, IB Valley (Reported Only)	49.4	41.2
19-Sep-25	Orient Mine No. 1 & 2	52.6	39.7
19-Sep-25	VIP Guest House, IB Valley (Reported Only)	52.6	40.3

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--

NOISE LEVEL MONITORING DATA

AREA :

Orient

PROJECT :

Orient Mine No.3

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
05-Sep-25	Orient Mine No.3	54.9	44.6
19-Sep-25	Orient Mine No.3	50.9	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-

NOISE LEVEL MONITORING DATA

AREA :

Orient

PROJECT :

Orient Mine No.4

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
05-Sep-25	Orient Mine No.4	48.6	42.5
19-Sep-25	Orient Mine No.4	49.2	40.4

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 :

HBI Mine

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
05-Sep-25	Bundia Colony Pump House	52.7	39.3
05-Sep-25	Rampur Sub Area (Reported)	52.4	39.3
05-Sep-25	HBI Mine	51.2	40.4
05-Sep-25	Rampur Officer's Guest House	50.9	40.0
19-Sep-25	Bundia Colony Pump House	50.1	42.6
19-Sep-25	Rampur Sub Area (Reported)	52.2	41.5
19-Sep-25	HBI Mine	53.8	43.7
19-Sep-25	Rampur Officer's Guest House	52.9	40.7

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
05-Sep-25	Near CHP HRC	48.6	41.7
05-Sep-25	Near Rampur Colliery Check Post	51.4	40.1
19-Sep-25	Near Rampur Colliery Check Post	51.7	39.3
19-Sep-25	Near CHP HRC	49.2	40.6

MoEF Standard Notification dated 25th September, 2000	6.00 AM -10.00 PM Leq 75dB(A) (Industrial)	10.00 PM -5.00 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 -5.00 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 -5.00 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 -5.00 AM Leq 40dB(A) (Silence Zone)


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BHUBANESWAR





संयुक्त राज्य
 भारत में
cmpdi
 2010-2020

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
13-Sep-25	Mine Sump of Mine No. 2	7.53	<4.0	14	20	-	-	-	

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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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Signature



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CMPDI
1985-1986

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
13-Sep-25	Mine Sump of Mine No. 3	6.82	<4.0	26	16	-	-	-	
27-Sep-25	Mine Sump of Mine No. 3	6.76	<4.0	37	28	-	-	-	

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Sanmati

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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2001-04

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
13-Sep-25	Mine Sump of Mine No. 4	6.85	<4.0	14	8	-	-	-	

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

5.5-9.0	10	100	250	30
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EFFLUENT QUALITY DATA

Area :

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
13-Sep-25	Mine Sump of HBM	6.77	<4.0	16	12	-	-	-	

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

Effluent Quality (all Parameter): - Orient Area

Project (OCP / UG)	Orient Mine No.2	MoEF-Sch-VI Standards
NAME OF THE STATION	Mine Sump. of Mine No.2	
Date of Sampling	30-Aug-2025	
Odour	Unobjectionable	-
Colour(Hazen)	2	-
Temperature(°C)	28.7	Shall not exceed 5 °C above the receiving temperature
pH	7.88	5.5-9.0
Total Hardness (asCaCO ₃),mg/L	111.25	-
Total Dissolved Solids, mg/L	292	-
Nitrate Nitrogen(mg/L)(As N)	0.45	10
Ammonical Nitrogen , mg/l (As N)	1.05	50
Total Kjeldhal Nitrogen, mg/l (As N)	4.50	100
Sulphide (mg/L)	<0.1	2
BOD [3 days at 27°C] (mg/L)	2.7	30
Fluoride(mg/L)	0.38	2
Copper(mg/L)	<0.03	3
Manganese(mg/L)	<0.04	2
Iron(mg/L)	<0.1	3
Zinc(mg/L)	0.23	5
Lead, mg/l	<0.005	0.1
Cadmium, mg/l	<0.001	2
Total Chromium(mg/L)	<0.01	2
Hexavalent Chromium(mg/L)	<0.05	0.1
Nickel(mg/L)	<0.02	3
Arsenic, mg/l	<0.005	0.2
Selenium (mg/L)	<0.005	0.05
Dissolved Phosphate(mg/L)	<4.0	5
Phenolics (mg/L)	<0.001	1


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Effluent Quality (all Parameter): - Orient Area

Project (OCP / UG)	Orient Mine No.3	MoEF-Sch-VI Standards
NAME OF THE STATION	Mine Sump. of Mine No.3	
Date of Sampling	30-Aug-2025	
Odour	Unobjectionable	-
Colour(Hazen)	1	-
Temperature(°C)	30.4	Shall not exceed 5 °C above the receiving temperature
pH	7.26	5.5-9.0
Total Hardness (asCaCO ₃),mg/L	99.33	-
Total Dissolved Solids, mg/L	242	-
Nitrate Nitrogen(mg/L)(As N)	0.54	10
Ammonical Nitrogen , mg/l (As N)	0.78	50
Total Kjeldhal Nitrogen, mg/l (As N)	3.00	100
Sulphide (mg/L)	<0.1	2
BOD [3 days at 27°C] (mg/L)	2.9	30
Fluoride(mg/L)	0.40	2
Copper(mg/L)	<0.03	3
Manganese(mg/L)	<0.04	2
Iron(mg/L) ,	<0.1	3
Zinc(mg/L)	0.09	5
Lead, mg/l	<0.005	0.1
Cadmium, mg/l	<0.001	2
Total Chromium(mg/L)	<0.01	2
Hexavalent Chromium(mg/L)	<0.05	0.1
Nickel(mg/L)	<0.02	3
Arsenic, mg/l	<0.005	0.2
Selenium (mg/L)	<0.005	0.05
Dissolved Phosphate(mg/L)	<4.0	5
Phenolics (mg/L)	<0.001	1


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Effluent Quality (all Parameter): - Orient Area

Project (OCP / UG)	Orient Mine No.4	MoEF-Sch-VI Standards
NAME OF THE STATION	Mine Sump. of Mine No.4	
Date of Sampling	30-Aug-2025	
Odour	Unobjectionable	-
Colour(Hazen)	2	-
Temperature(°C)	28.7	Shall not exceed 5 °C above the receiving temperature
pH	7.56	5.5-9.0
Total Hardness (asCaCO ₃),mg/L	71.52	-
Total Dissolved Solids, mg/L	207	-
Nitrate Nitrogen(mg/L)(As N)	0.50	10
Ammonical Nitrogen , mg/l (As N)	0.87	50
Total Kjeldhal Nitrogen, mg/l (As N)	4.50	100
Sulphide (mg/L)	<0.1	2
BOD [3 days at 27°C] (mg/L)	2.8	30
Fluoride(mg/L.)	0.41	2
Copper(mg/L)	<0.03	3
Manganese(mg/L)	<0.04	2
Iron(mg/L)	<0.1	3
Zinc(mg/L)	<0.04	5
Lead, mg/l	<0.005	0.1
Cadmium, mg/l	<0.001	2
Total Chromium(mg/L)	<0.01	2
Hexavalent Chromium(mg/L)	<0.05	0.1
Nickel(mg/L)	<0.02	3
Arsenic, mg/l	<0.005	0.2
Selenium (mg/L)	<0.005	0.05
Dissolved Phosphate(mg/L)	<4.0	5
Phenolics (mg/L)	<0.001	1


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Mini Ratna

Effluent Quality (all Parameter): - Orient Area

Project (OCP / UG)	HBI Mine	MoEF-Sch-VI Standards
NAME OF THE STATION	Mine Sump. of HBM	
Date of Sampling	30-Aug-2025	
Odour	Unobjectionable	-
Colour(Hazen)	2	-
Temperature(°C)	29.1	Shall not exceed 5 °C above the receiving temperature
pH	8.22	5.5-9.0
Total Hardness (asCaCO ₃),mg/L	99.33	-
Total Dissolved Solids, mg/L	267	-
Nitrate Nitrogen(mg/L)(As N)	0.45	10
Ammonical Nitrogen , mg/l (As N)	0.83	50
Total Kjeldhal Nitrogen, mg/l (As N)	3.00	100
Sulphide (mg/L)	<0.1	2
BOD [3 days at 27°C] (mg/L)	2.6	30
Fluoride(mg/L)	0.43	2
Copper(mg/L)	<0.03	3
Manganese(mg/L)	<0.04	2
Iron(mg/L)	<0.1	3
Zinc(mg/L)	0.04	5
Lead, mg/l	<0.005	0.1
Cadmium, mg/l	<0.001	2
Total Chromium(mg/L)	<0.01	2
Hexavalent Chromium(mg/L)	<0.05	0.1
Nickel(mg/L)	<0.02	3
Arsenic, mg/l	<0.005	0.2
Selenium (mg/L)	<0.005	0.05
Dissolved Phosphate(mg/L)	<4.0	5
Phenolics (mg/L)	<0.001	1


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Mini Bazar

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		
Date of Sampling	13-Sep-2025	13-Sep-2025	Acceptable	Permissible
Colour(Hazen)	2	1	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	2	1	5
pH	6.07	7.54	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	109.25	126.06	200	600
Chloride(mg/L)	21.37	42.74	250	1000
Sulphate(mg/L)	52.76	77.19	200	400
Nitrate(mg/L)	12.56	24.16	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	86.28	129.42	200	600
Calcium(mg/L)	23.58	26.72	75	200
Fluoride(mg/L)	0.77	0.65	1	1.5
Total Dissolve Solid(mg/L)	193	283	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)	0.23	0.79	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4

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Water Testing

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	13-Sep-2025	13-Sep-2025		
Date of Sampling	13-Sep-2025	13-Sep-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	7.56	16.28		
Potassium(mg/L)	1.37	3.56		
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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Mini Rana

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	13-Sep-2025	Acceptable	Permissible
Colour (Hazen)	3	5	15
Odour	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable
Turbidity (NTU)	2	1	5
pH	7.17	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	92.44	200	600
Chloride(mg/L)	27.20	250	1000
Sulphate(mg/L)	44.8	200	400
Nitrate(mg/L)	17.86	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	98.05	200	600
Calcium(mg/L)	22.00	75	200
Fluoride(mg/L)	0.45	1	1.5
Total Dissolve Solid(mg/L)	191	500	2000
Copper(mg/L)	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	0.1	0.3
Iron(mg/L)	<0.1	1	No relaxation
Zinc(mg/L)	0.04	5	15
Lead(mg/L)	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	0.5	2.4


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INDIA





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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	13-Sep-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	0.01	No relaxation
Sodium(mg/L)	8.56		
Potassium(mg/L)	3.29		
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	HBI Mine		Indian Drinking Standards (IS-10500):2012	
	Rampur Colony	HBI Water Filter Plant		
Monitoring Station				
Date of Sampling	13-Sep-2025	13-Sep-2025	Acceptable	Permissible
Colour (Hazen)	2	4	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity (NTU)	4	3	1	5
pH	7.27	7.29	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	117.65	84.04	200	600
Chloride(mg/L)	23.30	23.31	250	1000
Sulphate(mg/L)	96.56	72.56	200	400
Nitrate(mg/L)	20.56	18.56	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	121.58	117.66	200	600
Calcium(mg/L)	34.58	31.4	75	200
Fluoride(mg/L)	0.78	0.68	1	1.5
Total Dissolve Solid(mg/L)	276	221	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	0.07	<0.04	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4

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विश्व रत्न
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Mini Ratna

Drinking Water Quality Data Orient Area

Project / OCP	HBI Mine		Indian Drinking Standards (IS-10500):2012	
	Rampur Colony	HBI Water Filter Plant	Acceptable	Permissible
Monitoring Station	13-Sep-2025	13-Sep-2025		
Date of Sampling	13-Sep-2025	13-Sep-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	12.88	10.17		
Potassium(mg/L)	7.48	4.53		
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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Surface Water Quality Data Orient Area

Project/OCP	Orient Mine No. 1 & 2		IS:2296-1982 Tolerance for inland Surface water (Class C)
	U/S of Baghmaru Nala at Discharge Point	D/S of Baghmaru Nala at Discharge Point	
NAME OF STATIONS			
Date of sampling	30-Aug-25	30-Aug-25	
pH	7.00	6.86	6.5-8.5
Color (Hazen unit)	2	2	300
Dissolved Oxygen(mg/L)	7.1	7.1	4
BOD (3 days 27°C)(mg/L)	2.2	2.2	3
Chlorides(mg/L)	7.83	9.78	600
Sulphate(mg/L)	17.37	23.03	400
Nitrate(mg/L)	<0.5	<0.5	50
Fluoride(mg/L)	0.39	0.48	1.5
Total Hardness(mg/L)	19.89	39.78	-
Total dissolved solids (mg/L)	79	102	1500
TSS(mg/L)	29	34	-
Copper(mg/L)	<0.03	<0.03	1.5
Iron(mg/L)	0.68	0.59	50
Zinc(mg/L)	<0.04	<0.04	15
Lead(mg/L)	<0.005	<0.005	0.1
Cadmium(mg/L)	<0.001	<0.001	0.01
Arsenic(mg/L)	<0.005	<0.005	0.2
Selenium(mg/L)	<0.005	<0.005	0.05
Hexavalent Chromium (as Cr6) (mg/L)	<0.05	<0.05	0.05
Phenolics(mg/L)	<0.001	<0.001	0.005
Oil & Grease (mg/L)	<4.0	<4.0	0.1
MPN (Index/100 ml)	27	40	-


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Mini Lab

Surface Water Quality Data Orient Area

Project/OCP	Orient Mine No. 3	IS:2296-1982 Tolerance for inland Surface water (Class C)
NAME OF STATIONS	Pond Water at Budhijam Village	
Date of sampling	30-Aug-25	
pH	7.03	6.5-8.5
Color (Hazen unit)	1	300
Dissolved Oxygen(mg/L)	6.9	4
BOD (3 days 27°C)(mg/L)	2.1	3
Chlorides(mg/L)	13.70	600
Sulphate(mg/L)	11.05	400
Nitrate(mg/L)	<0.5	50
Fluoride(mg/L)	<0.3	1.5
Total Hardness(mg/L)	19.89	-
Total dissolved solids (mg/L)	89	1500
TSS(mg/L)	26	-
Copper(mg/L)	<0.03	1.5
Iron(mg/L)	<0.1	50
Zinc(mg/L)	<0.04	15
Lead(mg/L)	<0.005	0.1
Cadmium(mg/L)	<0.001	0.01
Arsenic(mg/L)	<0.005	0.2
Selenium(mg/L)	<0.005	0.05
Hexavalent Chromium (as Cr6) (mg/L)	<0.05	0.05
Phenolics(mg/L)	<0.001	0.005
Oil & Grease (mg/L)	<4.0	0.1
MPN (Index/100 ml)	58	-


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मिने वॉटर
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MINI BRAND

Surface Water Quality Data Orient Area

Project/OCF	Orient Mine No. 4		IS:2296-1982 Tolerance for inland Surface water (Class C)
	IB River Near Charbhathi Village as u/s Water for IB Valley Coalfield	IB River Bridge of NH200 at Gondghora Village as u/s of Orient Area	
NAME OF STATIONS			
Date of sampling	30-Aug-25	30-Aug-25	
pH	7.64	7.82	6.5-8.5
Color (Hazen unit)	1	2	300
Dissolved Oxygen(mg/L)	1.2	7.0	4
BOD (3 days 27°C)(mg/L)	2.1	<2.0	3
Chlorides(mg/L)	9.78	9.78	600
Sulphate(mg/L)	10.39	12.24	400
Nitrate(mg/L)	<0.5	<0.5	50
Fluoride(mg/L)	<0.30	<0.3	1.5
Total Hardness(mg/L)	35.80	55.70	-
Total dissolved solids (mg/L)	93	106	1500
TSS(mg/L)	29	30	-
Copper(mg/L)	<0.03	<0.03	1.5
Iron(mg/L)	0.11	<0.1	50
Zinc(mg/L)	<0.04	<0.04	15
Lead(mg/L)	<0.005	<0.005	0.1
Cadmium(mg/L)	<0.001	<0.001	0.01
Arsenic(mg/L)	<0.005	<0.005	0.2
Selenium(mg/L)	<0.005	<0.005	0.05
Hexavalent Chromium (as Cr6) (mg/L)	<0.05	<0.05	0.05
Phenolics(mg/L)	<0.001	<0.001	0.005
Oil & Grease (mg/L)	<4.0	<4.0	0.1
MPN (Index/100 ml)	94	110	-

Janaki
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Sanj



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Surface Water Quality Data Orient Area

Project/OCP	HBI	IS:2296-1982 Tolerance for inland Surface water (Class C)
NAME OF STATIONS	IB River near Kutabaga Village at Bridge Point	
Date of sampling	30-Aug-25	
pH	7.66	6.5-8.5
Color (Hazen unit)	1	300
Dissolved Oxygen(mg/L)	6.8	4
BOD (3 days 27°c)(mg/L)	<2.0	3
Chlorides(mg/L)	9.78	600
Sulphate(mg/L)	19.74	400
Nitrate(mg/L)	<0.5	50
Fluoride(mg/L)	0.36	1.5
Total Hardness(mg/L)	43.76	-
Total dissolved solids (mg/L)	110	1500
TSS(mg/L)	27	-
Copper(mg/L)	<0.03	1.5
Iron(mg/L)	<0.1	50
Zinc(mg/L)	<0.04	15
Lead(mg/L)	<0.005	0.1
Cadmium(mg/L)	<0.001	0.01
Arsenic(mg/L)	<0.005	0.2
Selenium(mg/L)	<0.005	0.05
Hexavalent Chromium (as Cr6) (mg/L)	<0.05	0.05
Phenolics(mg/L)	<0.001	0.005
Oil & Grease (mg/L)	<4.0	0.1
MPN (Index/100 ml)	120	-


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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

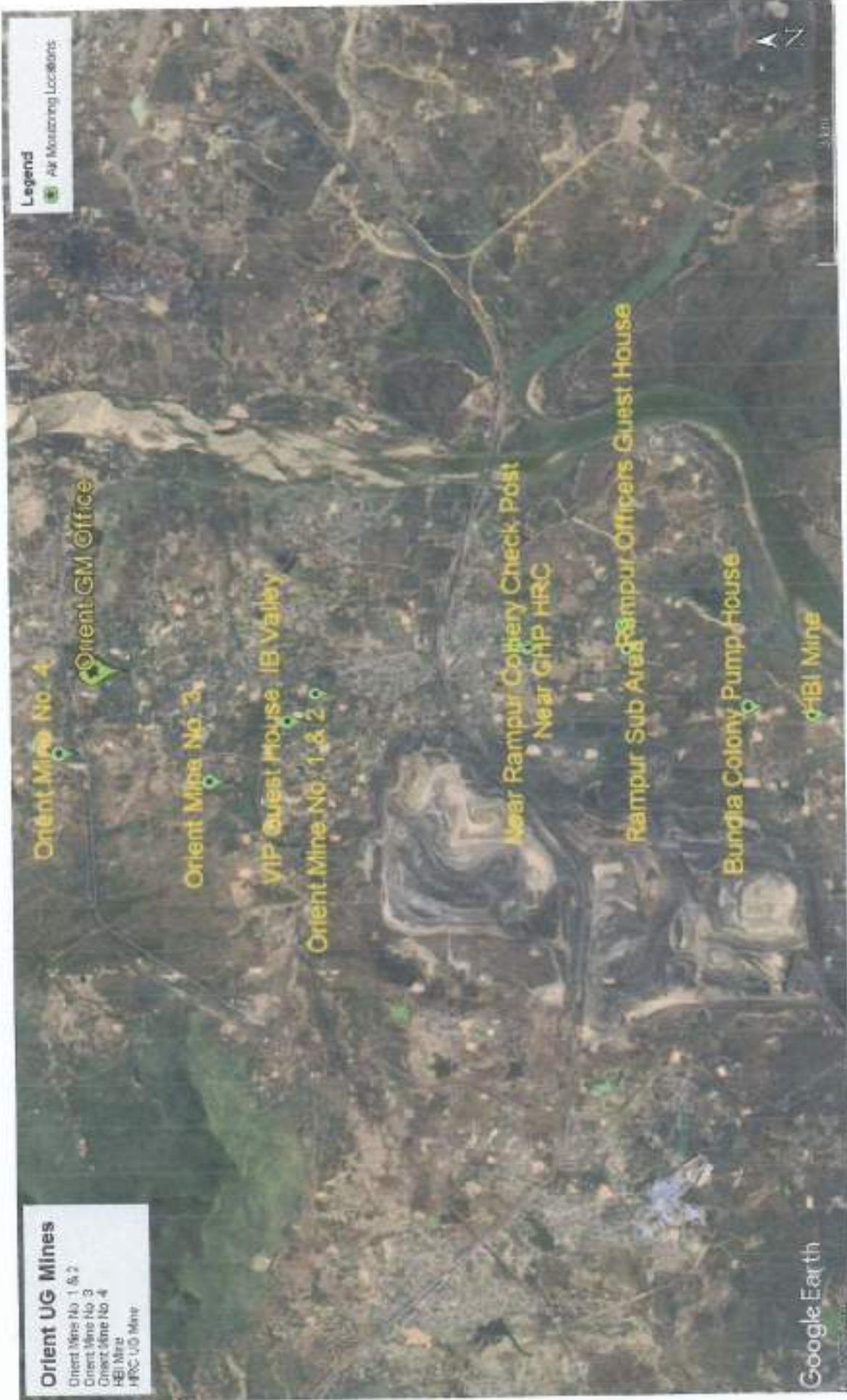
Orient Mine No. 1 & 2

Near Rampur Colliery Check Post
Near GHP HRC

Rampur Sub Area Rampur Officers Guest House

Bundia Colony Pump House

HBI Mine



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

IB Valley Coalfield



Mahanadi Coalfields Limited



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A Mini Ratna Company

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	13-Sep-2025	13-Sep-2025	5	15
Colour (Hazen)	3	4	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity (NTU)	2	3	1	5
pH	7.63	7.70	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	58.82	58.82	200	600
Chloride(mg/L)	19.43	13.60	250	1000
Sulphate(mg/L)	33.56	46.16	200	400
Nitrate(mg/L)	9.56	14.48	45	No relaxation
Total Hardness (Ca CO ₃)(mg/L)	54.90	58.83	200	600
Calcium(mg/L)	15.72	14.14	75	200
Fluoride(mg/L)	0.43	0.47	1	1.5
Total Dissolve Solid(mg/L)	129	144	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	0.07	0.04	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4


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Drinking Water Quality Data MCL (HQ)

Project / OCP	MCL (HQ)		Indian Drinking Standards (IS-10500):2012	
	DAV School (Anand vihar)	Corporate Office (Jagriti Vihar)	Acceptable	Permissible
Monitoring Station	13-Sep-2025	13-Sep-2025		
Date of Sampling	13-Sep-2025	13-Sep-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	8.46	9.87		
Potassium(mg/L)	2.94	4.37		
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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Water Quality

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)	Acceptable	Permissible
Monitoring Station				
Date of Sampling	13-Sep-2025	13-Sep-2025	5	15
Colour (Hazen)	4	3	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity (NTU)	2	4	1	5
pH	7.57	7.53	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	79.83	84.04	200	600
Chloride(mg/L)	25.25	27.20	250	1000
Sulphate(mg/L)	28.16	37.58	200	400
Nitrate(mg/L)	10.09	15.56	45	No relaxation
Total Hardness (Ca CO ₃) (mg/L)	54.90	66.67	200	600
Calcium(mg/L)	17.29	18.86	75	200
Fluoride(mg/L)	0.69	0.55	1	1.5
Total Dissolve Solid(mg/L)	142	170	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)	0.22	<0.1	1	No relaxation
Zinc(mg/L)	0.04	0.2	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4

Jasvanti
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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	13-Sep-2025	13-Sep-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	7.18	9.62		
Potassium(mg/L)	2.43	5.48		
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	-	-

Signature

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