

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

**Ib Valley Coalfield**



**Mahanadi Coalfields Limited**



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

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

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

Project :

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source	Distance from DGS
08-May-25	Karlikachar Village	189	81	38	10.67	21.87	External Coal Transportation Road	About 500m
08-May-25	KAN-1 Near Coal Sampling Lab	205	87	42	9.62	18.33	Railway Siding, Transportation	About 500m
08-May-25	Garjanbahal Village	205	85	41	14.79	27.18	External Coal Transportation Road	About 500m
22-May-25	Karlikachar Village	180	77	35	46.98	27.82	External Coal Transportation Road	About 500m
22-May-25	KAN-1 Near Coal Sampling Lab	205	84	47	21.96	14.7	Railway Siding, Transportation	About 500m
22-May-25	Garjanbahal Village	184	83	38	15.59	34.81	External Coal Transportation Road	About 500m

Project :

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source	Distance from DGS
08-May-25	Laikera Railway Siding	213	91	43	12.73	38.58		
08-May-25	Kulda PO Office	199	85	40	11.00	33.88		
22-May-25	Laikera Railway Siding	195	83	40	13.01	31.68		
22-May-25	Kulda PO Office	183	77	37	17.52	29.83		

Authorised Signatory  
 C.M.P.D.I. RI-VII, LAB  
 BHUBANESWAR

Ministry Standards Notification dated 25th  
 September, 2000

500	250	120	120
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# 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	SO <sub>2</sub>	NO <sub>x</sub>	Dust Generating Source(DGS)	Distance from DGS
05-May-25	West of working face, Bihaimunda	162	64	31	10.41	30.52	South-West of Working Face	About 500m
05-May-25	South-East of Working Face, Kutabaga Village	143	50	26	12.61	31.76	South-East of Working Face	About 1000m
06-May-25	South-East of Working Face, Kutabaga Village	159	59	29	15.62	31.58	South-East of Working Face	About 1000m
06-May-25	West of working face, Bihaimunda	139	54	28	10.32	19.72	South-West of Working Face	About 500m
12-May-25	West of working face, Bihaimunda	166	65	33	12.06	28.20	South-West of Working Face	About 500m
12-May-25	South-East of Working Face, Kutabaga Village	163	63	30	13.72	29.41	South-East of Working Face	About 1000m
13-May-25	South-East of Working Face, Kutabaga Village	173	67	35	13.65	22.63	South-East of Working Face	About 1000m
13-May-25	West of working face, Bihaimunda	138	53	26	12.33	18.46	South-West of Working Face	About 500m
19-May-25	West of working face, Bihaimunda	154	57	28	9.54	44.38	South-West of Working Face	About 500m
19-May-25	South-East of Working Face, Kutabaga Village	176	67	33	13.46	23.75	South-East of Working Face	About 1000m
20-May-25	South-East of Working Face, Kutabaga Village	120	45	23	12.09	26.52	South-East of Working Face	About 1000m
20-May-25	West of working face, Bihaimunda	132	52	25	12.39	45.01	South-West of Working Face	About 500m
26-May-25	South-East of Working Face, Kutabaga Village	114	42	21	17.12	30.79	South-East of Working Face	About 1000m
26-May-25	West of working face, Bihaimunda	165	63	30	15.47	29.99	South-West of Working Face	About 500m
27-May-25	West of working face, Bihaimunda	153	58	29	10.14	39.69	South-West of Working Face	About 500m
27-May-25	South-East of Working Face, Kutabaga Village	138	51	26	12.37	38.70	South-East of Working Face	About 1000m

  
 Authorised Signatory  
 Cmpdi, RI-VII, LAB  
 BHUBANESWAR



## 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
05-May-25	North of CHP, Teleimal	159	63	31	16.20	29.22	Domestic, OCP, Transportation	About 500m
05-May-25	Bilaimunda Village	163	63	30	13.77	21.51	Village Road	About 500m
05-May-25	South West of Working Face, Chakarpur	163	60	31	13.89	21.99	Village Road	About 500m
05-May-25	External CT Road, Barpali	165	71	33	15.44	19.51	Mining Activities, Coal Transportation	About 500m
06-May-25	South West of Working Face, Chakarpur	168	65	34	16.45	19.11	Village Road	About 500m
06-May-25	North of CHP, Teleimal	143	53	25	16.63	32.91	Domestic, OCP, Transportation	About 500m
06-May-25	External CT Road, Barpali	144	55	26	17.02	28.75	Mining Activities, Coal Transportation	About 500m
06-May-25	Bilaimunda Village	144	57	25	11.21	28.51	Village Road	About 500m
12-May-25	External CT Road, Barpali	132	49	23	16.00	23.58	Mining Activities, Coal Transportation	About 500m
12-May-25	South West of Working Face, Chakarpur	129	50	26	12.06	21.82	Village Road	About 500m
12-May-25	North of CHP, Teleimal	148	60	28	15.14	28.42	Domestic, OCP, Transportation	About 500m
12-May-25	Bilaimunda Village	133	52	24	16.02	17.84	Village Road	About 500m
13-May-25	South West of Working Face, Chakarpur	152	54	28	9.92	27.36	Village Road	About 500m
13-May-25	North of CHP, Teleimal	132	51	24	14.32	17.13	Domestic, OCP, Transportation	About 500m
13-May-25	Bilaimunda Village	158	61	29	18.12	21.66	Village Road	About 500m
13-May-25	External CT Road, Barpali	152	60	28	15.72	25.53	Mining Activities, Coal Transportation	About 500m
19-May-25	North of CHP, Teleimal	156	59	29	12.47	35.57	Domestic, OCP, Transportation	About 500m
19-May-25	South West of Working Face, Chakarpur	176	67	33	13.46	23.75	Village Road	About 500m
19-May-25	Bilaimunda Village	151	61	31	16.12	26.18	Village Road	About 500m
19-May-25	External CT Road, Barpali	153	57	28	8.99	32.27	Mining Activities, Coal Transportation	About 500m
20-May-25	South West of Working Face, Chakarpur	120	45	23	12.09	26.52	Village Road	About 500m
20-May-25	North of CHP, Teleimal	128	46	26	15.92	25.78	Domestic, OCP, Transportation	About 500m

\*N44Q5, 2009

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CMPDI, RI-VII, LAB  
BHUBANESWAR

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
20-May-25	External CT Road, Barpali	132	52	25	11.48	26.15	Mining Activities, Coal Transportation	About 500m
20-May-25	Bilaimunda Village	124	49	23	13.12	27.26	Village Road	About 500m
26-May-25	External CT Road, Barpali	175	72	33	15.83	25.70	Mining Activities, Coal Transportation	About 500m
26-May-25	North of CHP, Teleimal	132	51	25	11.03	26.36	Domestic, OCP, Transportation	About 500m
26-May-25	Bilaimunda Village	161	66	31	8.90	28.90	Village Road	About 500m
26-May-25	South West of Working Face, Chakarpur	114	42	21	17.12	20.79	Village Road	About 500m
27-May-25	South West of Working Face, Chakarpur	138	51	26	12.37	38.70	Village Road	About 500m
27-May-25	Bilaimunda Village	180	73	31	12.42	23.10	Village Road	About 500m
27-May-25	North of CHP, Teleimal	161	63	31	13.41	19.44	Domestic, OCP, Transportation	About 500m
27-May-25	External CT Road, Barpali	144	56	27	15.60	30.87	Mining Activities, Coal Transportation	About 500m

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Authorised Signatory  
C/No. 11, VII, LAB  
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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Basundhara

Project	Kulda OCP							
Monitoring Station	North of CHP, Teleimal							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
05-May-2025	<20.0	25.42	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
06-May-2025	<20.0	20.18	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
12-May-2025	<20.0	27.25	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
13-May-2025	<20.0	22.53	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
19-May-2025	<20.0	26.98	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
20-May-2025	<20.0	20.70	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
26-May-2025	<20.0	20.18	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
27-May-2025	<20.0	11.78	<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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Authorised Signatory  
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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Basundhara

Project	Kulda OCP							
Monitoring Station	South West of Working Face, Chakarpur							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(μg/m <sup>3</sup> )
05-May-2025	<20.0	15.20	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
06-May-2025	<20.0	20.43	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
12-May-2025	<20.0	20.18	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
13-May-2025	<20.0	27.52	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
19-May-2025	<20.0	26.20	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
20-May-2025	<20.0	16.50	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
26-May-2025	<20.0	23.05	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
27-May-2025	<20.0	19.38	<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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Authorised Signatory  
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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Basundhara

Project	Kulda OCP							
Monitoring Station	Bilaimunda Village							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(μg/m <sup>3</sup> )
05-May-2025	<20.0	16.77	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
06-May-2025	<20.0	24.10	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
12-May-2025	<20.0	12.83	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
13-May-2025	<20.0	21.48	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
19-May-2025	<20.0	25.68	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
20-May-2025	<20.0	23.32	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
26-May-2025	<20.0	26.73	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
27-May-2025	<20.0	19.65	<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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Authorised Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Basundhara

Project	Garjanbahal OCP							
Monitoring Station	South-East of Working Face, Kutabaga							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(μg/m <sup>3</sup> )
05-May-2025	<20.0	12.05	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
06-May-2025	<20.0	17.55	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
12-May-2025	<20.0	20.97	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
13-May-2025	<20.0	14.15	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
19-May-2025	<20.0	12.58	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
20-May-2025	<20.0	12.32	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
26-May-2025	<20.0	20.18	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
27-May-2025	<20.0	18.35	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
Standard	400(24hours)	180(hour)	1.0(24hours)	6.0(Annual)	20(Annual)	02 (8 hours)	01(annual)	05(annual)

  
Authorised Signatory  
CMPDI, RI-VII, LAB  
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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Basundhara

Project	Garjanbahal OCP							
Monitoring Station	Bihalmunda Village							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )
05-May-2025	<20.0	22.27	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
06-May-2025	<20.0	15.20	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
12-May-2025	<20.0	14.42	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
13-May-2025	<20.0	25.68	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
19-May-2025	<20.0	13.88	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
20-May-2025	<20.0	19.13	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
26-May-2025	<20.0	17.30	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
27-May-2025	<20.0	16.77	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
Standard	400(24 hours)	180(hour )	1.0(24 hours)	6.0(Annual)	20(Annual)	02 (8 hours)	01(annual)	05(annual)

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Authorised Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

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सीएमपीडीआई  
Central Pollution  
Control Board  
cmpdi  
Ministry of Environment  
& Forest

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**NOISE LEVEL MONITORING DATA**

AREA :

Basundhara

PROJECT :

Garjhanbahal OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
15-May-25	Garjhanbahal Village	62.5	57.3
15-May-25	Karlikachar Village	60.7	54.2
29-May-25	Garjhanbahal Village	60.7	56.7
29-May-25	Karlikachar Village	62.9	52.4

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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Authorised Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

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**NOISE LEVEL MONITORING DATA**

AREA :

Basundhara

PROJECT :

Kulda OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
15-May-25	Kulda PO Office	64.2	56.4
15-May-25	Laikera Railway Siding	66.7	56.9
15-May-25	South West of Working Face Chakarpur	62.4	56.8
29-May-25	Laikera Railway Siding	61.9	58.9
29-May-25	Kulda PO Office	62.6	54.7
29-May-25	South West of Working Face Chakarpur	60.4	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)

*Shubaneswar*  
Authorised Signatory  
CMPDI, RI-VII, LAB  
SHUBANESWAR

*Shubaneswar*

**EFFLUENT QUALITY DATA**


Area :

Basundhara

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

Project :		Garjanbahal OCP							Remarks
Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	
15-May-25	Inlet of Settling Tank (Kamika Siding)	7.03	<4.0	86	98	-	-	-	
15-May-25	Outlet of Settling Tank (Kamika Siding)	6.82	<4.0	74	88	-	-	-	
15-May-25	Mine Sump Water	7.98	<4.0	29	24	-	-	-	
29-May-25	Mine Sump Water	8.47	<4.0	33	20	-	-	-	
29-May-25	Inlet of Settling Tank (Kamika Siding)	7.58	<4.0	68	64	-	-	-	
29-May-25	Outlet of Settling Tank (Kamika Siding)	7.64	<4.0	63	60	-	-	-	
Project :		Kulda OCP							Remarks
Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	
15-May-25	Final Outlet Of ETP	7.96	<4.0	26	20	-	-	-	
15-May-25	Mine Sump Water Near Kulda Nursery	8.21	<4.0	48	36	-	-	-	
15-May-25	Inlet of ETP	7.36	<4.0	34	32	-	-	-	
29-May-25	Final Outlet Of ETP	7.93	<4.0	23	16	-	-	-	
29-May-25	Inlet of ETP	7.94	<4.0	31	28	-	-	-	

Mot.F. Standard Notification dated 25th September, 2000 and MoEF Schedule VI, General standard for discharge of Environmental Pollutants Part A: Effluents	5.5-9.0	10	100	250	30
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## Drinking Water Quality Data Basundhara Area

Project / OCP	Garjanbahal OCP		Indian Drinking Standards (IS-10500):2012	
	Well at Garjanbahal Village	South West of Coalface, Bihai munda		
Monitoring Station				
Date of Sampling	15-May-2025	15-May-2025	Acceptable	Permissible
Colour(Hazen)	3	4	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	3	1	5
pH	7.95	7.38	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	160	168	200	600
Chloride(mg/L)	12	18	250	1000
Sulphate(mg/L)	26.8	20.28	200	400
Nitrate(mg/L)	<0.5	<0.5	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	148	160	200	600
Calcium(mg/L)	41.6	25.6	75	200
Fluoride(mg/L)	0.82	1.02	1	1.5
Total Dissolve Solid(mg/L)	230	210	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	0.12	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.003	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4

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## Drinking Water Quality Data Basundhara Area

Project / OCP	Kulda OCP		Indian Drinking Standards (IS-10500):2012	
	Well at Sahaspur	Well at Teleimal		
Date of Sampling	15-May-2025	15-May-2025	Acceptable	Permissible
Colour(Hazen)	2	4	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	4	1	5
pH	7.36	7.5	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	112	184	200	600
Chloride(mg/L)	84	42	250	1000
Sulphate(mg/L)	24.93	59.99	200	400
Nitrate(mg/L)	2.23	36.32	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	220	280	200	600
Calcium(mg/L)	52.8	76.8	75	200
Fluoride(mg/L)	0.83	0.97	1	1.5
Total Dissolve Solid(mg/L)	320	400	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	0.06	<0.04	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

*J. Jaiswal*  
Authorised Signatory  
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*A. K. S.*



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Bhubaneswar

## Drinking Water Quality Data Basundhara Area

Project / OCP	Kulda OCP		Indian Drinking Standards (IS-10500):2012	
	Well at Sahaspur	Well at Teleimal		
Monitoring Station				
Date of Sampling	15-May-2025	15-May-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	19.05	14.56		
Potassium(mg/L)	6.84	15.20		
Phenolics(mg/L)	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	Not Detected	-	-

Project / OCP	Garjanbahal OCP		Indian Drinking Standards (IS-10500):2012	
	Well at Garjanbahal Village	South West of Coalface, Bihaimunda		
Monitoring Station				
Date of Sampling	15-May-2025	15-May-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	7.12	13.73		
Potassium(mg/L)	6.38	6.91		
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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**Environmental Monitoring Report  
Of  
Ib Valley Area  
For  
May-2025**

**Ib Valley Coalfield**



**Mahanadi Coalfields Limited**



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

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

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Test Report

AMBIENT AIR QUALITY DATA

Area :

Ib Valley

(Compliance Station)

Project :

Lajkura OCP

(conc. in µg/cu.m.)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source	Distance from DGS
07-May-25	Near South Coal Stock	223	89	42	14.53	19.86	Mining Activities, Coal Transportation	About 500m
07-May-25	Near Project Office	200	80	38	16.64	29.36	Domestic, OCP, Transportation	About 500m
21-May-25	Near South Coal Stock	203	84	39	11.22	28.32	Mining Activities, Coal Transportation	About 500m
21-May-25	Near Project Office	178	66	37	11.35	20.90	Domestic, OCP, Transportation	About 500m

Project :

Samleswari OCP

(conc. in µg/cu.m.)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source	Distance from DGS
07-May-25	West of the Mine	216	87	43	12.24	31.25	Distance From 'y' Curve Railway Siding	About 450m
07-May-25	South of the Mine	188	73	38	10.16	28.71	Mine Haul Roads	About 400m
07-May-25	East of the Mine	186	81	38	15.67	24.81	Coal Transportation Road	About 500m
21-May-25	West of the Mine	196	83	40	10.65	46.81	Distance From 'y' Curve Railway Siding	About 450m
21-May-25	South of the Mine	178	76	35	11.47	23.43	Mine Haul Roads	About 400m
21-May-25	East of the Mine	183	79	36	12.73	31.30	Coal Transportation Road	About 500m

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MoEF Standards Notification dated 25th  
September, 2000

600 250 120 120

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
02-May-25	Khokelmal (Reported only)	155	66	31	12.10	24.20	Railway siding	About 1000m
03-May-25	Khokelmal (Reported only)	162	69	33	12.47	18.82	Railway siding	About 1000m
05-May-25	Kudaloi Village	152	59	28	11.69	21.51		
06-May-25	Kudaloi Village	161	65	30	12.99	38.68		
09-May-25	Khokelmal (Reported only)	153	64	30	14.78	21.96	Railway siding	About 1000m
10-May-25	Khokelmal (Reported only)	157	59	29	16.98	27.82	Railway siding	About 1000m
12-May-25	Kudaloi Village	140	53	25	12.45	22.09		
13-May-25	Kudaloi Village	153	62	29	13.44	39.28		
16-May-25	Khokelmal (Reported only)	134	55	25	13.44	39.28	Railway siding	About 1000m
17-May-25	Khokelmal (Reported only)	162	66	30	11.00	33.88	Railway siding	About 1000m
19-May-25	Kudaloi Village	132	49	25	13.94	37.64		
20-May-25	Kudaloi Village	157	63	30	11.09	18.82		
23-May-25	Khokelmal (Reported only)	174	72	33	12.73	38.88	Railway siding	About 1000m
24-May-25	Khokelmal (Reported only)	152	57	28	10.75	24.47	Railway siding	About 1000m
26-May-25	Kudaloi Village	149	58	27	15.61	30.89		
27-May-25	Kudaloi Village	126	49	24	12.45	33.89		
30-May-25	Khokelmal (Reported only)	144	53	27	12.99	33.16	Railway siding	About 1000m
31-May-25	Khokelmal (Reported only)	156	60	29	17.47	40.78	Railway siding	About 1000m

*N-44/IS, 2009		100	80	80	80
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**AMBIENT AIR QUALITY DATA**

**Area :** **Ib Valley** **(Reference Station)**

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
02-May-25	Khokelmal	155	66	31	12.10	24.20	Railway siding	About 1000m
02-May-25	Chuakani	144	56	26	15.16	22.50	Transportation	About 300m
03-May-25	Chuakani	162	63	29	10.86	33.36	Transportation	About 300m
03-May-25	Khokelmal	162	69	33	12.47	18.82	Railway siding	About 1000m
05-May-25	VIP Guest House IB Valley	156	62	30	11.41	20.17	Coal Stock Yard, Surface Bunker, Coal	About 800m
06-May-25	VIP Guest House IB Valley	132	53	25	15.26	21.01	Coal Stock Yard, Surface Bunker, Coal	About 800m
09-May-25	Chuakani	191	74	35	15.16	25.14	Transportation	About 300m
09-May-25	Khokelmal	153	64	30	14.78	21.96	Railway siding	About 1000m
10-May-25	Chuakani	179	69	33	10.31	22.67	Transportation	About 300m
10-May-25	Khokelmal	157	59	29	16.98	27.82	Railway siding	About 1000m
12-May-25	VIP Guest House IB Valley	154	60	31	10.17	31.94	Coal Stock Yard, Surface Bunker, Coal	About 800m
13-May-25	VIP Guest House IB Valley	164	65	32	14.31	26.90	Coal Stock Yard, Surface Bunker, Coal	About 800m
16-May-25	Chuakani	144	55	27	10.79	32.44	Transportation	About 300m
16-May-25	Khokelmal	134	55	25	13.44	39.28	Railway siding	About 1000m
17-May-25	Chuakani	157	63	30	11.04	30.89	Transportation	About 300m
17-May-25	Khokelmal	162	66	30	11.00	33.88	Railway siding	About 1000m
19-May-25	VIP Guest House IB Valley	125	42	21	12.17	31.15	Coal Stock Yard, Surface Bunker, Coal	About 800m
20-May-25	VIP Guest House IB Valley	135	51	26	10.21	29.27	Coal Stock Yard, Surface Bunker, Coal	About 800m
23-May-25	Khokelmal	174	72	33	12.73	38.88	Railway siding	About 1000m
23-May-25	Chuakani	119	46	21	15.41	29.81	Transportation	About 300m
24-May-25	Chuakani	164	67	31	16.98	20.16	Transportation	About 300m
24-May-25	Khokelmal	152	57	28	10.75	24.47	Railway siding	About 1000m

NO <sub>2</sub> (24 hr)		100	80	80	80
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Project :

Lajkura OCP

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
26-May-25	VIP Guest House IB Valley	167	62	31	16.03	33.15	Coal Stock Yard, Surface Bunker, Coal	About 800m
27-May-25	VIP Guest House IB Valley	142	51	26	14.06	25.30	Coal Stock Yard, Surface Bunker, Coal	About 800m
30-May-25	Chuakani	151	55	28	11.78	19.98	Transportation	About 300m
30-May-25	Khokelmal	144	53	27	12.99	33.16	Railway siding	About 1000m
31-May-25	Chuakani	132	51	25	11.92	20.73	Transportation	About 300m
31-May-25	Khokelmal	156	60	29	17.47	40.78	Railway siding	About 1000m


\*N-4(Q), 2009

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Mini Lab

AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: IB Valley

Project	Samaleswari OCP							
Monitoring Station	Khokelmal (Reported Only)							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzen e
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
02-May-2025	<20.0	14.42	<0.1	<1.0	<1.0	0.81	BQL(QL=0.7)	BQL
03-May-2025	<20.0	16.77	<0.1	<1.0	<1.0	0.86	BQL(QL=0.7)	BQL
09-May-2025	<20.0	12.05	<0.1	<1.0	<1.0	0.91	BQL(QL=0.7)	BQL
10-May-2025	<20.0	22.02	<0.1	<1.0	<1.0	0.92	BQL(QL=0.7)	BQL
16-May-2025	<20.0	12.32	<0.1	<1.0	<1.0	1.02	BQL(QL=0.7)	BQL
17-May-2025	<20.0	21.48	<0.1	<1.0	<1.0	1.00	BQL(QL=0.7)	BQL
23-May-2025	<20.0	14.67	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
24-May-2025	<20.0	14.42	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
30-May-2025	<20.0	18.60	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
31-May-2025	<20.0	20.70	<0.1	<1.0	<1.0	0.9	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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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: IB Valley

Project	Lajkura OCP							
Monitoring Station	Khokelmal							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
02-May-2025	<20.0	14.42	<0.1	<1.0	<1.0	0.81	BQL(QL=0.7)	BQL
03-May-2025	<20.0	16.77	<0.1	<1.0	<1.0	0.86	BQL(QL=0.7)	BQL
09-May-2025	<20.0	12.05	<0.1	<1.0	<1.0	0.91	BQL(QL=0.7)	BQL
10-May-2025	<20.0	22.02	<0.1	<1.0	<1.0	0.92	BQL(QL=0.7)	BQL
16-May-2025	<20.0	12.32	<0.1	<1.0	<1.0	1.02	BQL(QL=0.7)	BQL
17-May-2025	<20.0	21.48	<0.1	<1.0	<1.0	1.00	BQL(QL=0.7)	BQL
23-May-2025	<20.0	14.67	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
24-May-2025	<20.0	14.42	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
30-May-2025	<20.0	18.60	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
31-May-2025	<20.0	20.70	<0.1	<1.0	<1.0	0.9	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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Mini lab

AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: IB Valley

Project	Sameswari OCP							
Monitoring Station	Rampur Sub Area (Reported Only)							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
02-May-2025	<20.0	19.13	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
03-May-2025	<20.0	25.15	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
09-May-2025	<20.0	12.32	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
10-May-2025	<20.0	11.53	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
16-May-2025	<20.0	15.98	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
17-May-2025	<20.0	14.93	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
23-May-2025	<20.0	11.00	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
24-May-2025	<20.0	15.98	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
30-May-2025	<20.0	20.97	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
31-May-2025	<20.0	27.52	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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cmpdi  
Miri Ratna

AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: IB Valley

Project	Lajkura OCP							
Monitoring Station	Chukani							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )
02-May-2025	<20.0	22.02	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
03-May-2025	<20.0	21.75	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
09-May-2025	<20.0	14.67	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
10-May-2025	<20.0	19.13	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
16-May-2025	<20.0	19.92	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
17-May-2025	<20.0	14.93	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
23-May-2025	<20.0	15.72	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
24-May-2025	<20.0	17.30	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
30-May-2025	<20.0	25.93	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
31-May-2025	<20.0	22.80	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: IB Valley

Project	Lajkura OCP							
Monitoring Station	VIP Guest House, IB Valley							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzen e
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
05-May-2025	<20.0	22.80	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
06-May-2025	<20.0	19.13	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
12-May-2025	<20.0	17.30	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
13-May-2025	<20.0	21.48	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
19-May-2025	<20.0	20.70	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
20-May-2025	<20.0	18.60	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
26-May-2025	<20.0	22.02	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
27-May-2025	<20.0	21.48	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 Annual	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

*Katwala*  
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भारत सरकार

TABLE--

NOISE LEVEL MONITORING DATA

AREA :

Ib Valley

PROJECT :

Lajkura OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
13-May-25	Near Project Office	66.9	56.7
13-May-25	Near South Coal Stock	66.3	56.6
13-May-25	VIP Guest House, IB Valley	49.51	37.42
13-May-25	Khokelmal	48.9	38.6
13-May-25	Chuakani	46.8	36.8
27-May-25	Near Project Office	62.6	54.2
27-May-25	Near South Coal Stock	64.3	55.3
27-May-25	VIP Guest House, IB Valley	49.9	38.3
27-May-25	Khokelmal	45.3	39.8
27-May-25	Chuakani	45.6	38.3

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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Multi Analytical

TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

Ib Valley

PROJECT :

Samleswari OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
13-May-25	South of the Mine	62.3	60.4
13-May-25	West of the Mine	60.7	56.6
13-May-25	East of the Mine	58.9	54.6
13-May-25	Kudaloi Village	50.2	40.2
13-May-25	Khokelmal (Reported Only)	48.9	38.6
13-May-25	Rampur Sub Area	49.9	39.3
27-May-25	South of the Mine	60.8	56.7
27-May-25	West of the Mine	62.4	52.4
27-May-25	East of the Mine	64.2	51.4
27-May-25	Kudaloi Village	48.6	40.6
27-May-25	Rampur Sub Area	43.9	39.4
27-May-25	Khokelmal (Reported Only)	45.3	39.8

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

*T. Jaisankar*  
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(All dimensions are in mg/l unless otherwise stated except pH)

Project :		Central Hospital							Remarks
Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	
13-May-25	Discharge of Hospital	7.84	<4.0	26	16	<2	-	-	
Project :		Lajkura OCP							Remarks
Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	
13-May-25	Outlet of MDTP	4.15	<4.0	14	8	-	-	-	
13-May-25	Inlet of MDTP	4.16	<4.0	20	12	-	-	-	
13-May-25	Outlet of ITP	7.42	<4.0	26	20	-	-	-	
13-May-25	Inlet of ETP	7.52	<4.0	40	29	-	-	-	
13-May-25	Lajkura Railway Siding	7.86	<4.0	27	16	-	-	-	
13-May-25	Mine Sump Water	3.71	<4.0	16	12	-	-	-	
27-May-25	Outlet of ITP	7.48	<4.0	32	28	-	-	-	
27-May-25	Lajkura Railway Siding	7.87	<4.0	82	192	-	-	-	
27-May-25	Inlet of ETP	7.16	<4.0	64	72	-	-	-	
Project :		Samateswari OCP							Remarks
Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	
13-May-25	Mine Sump Water	6.98	<4.0	35	28	-	-	-	
27-May-25	Outlet of ETP	7.58	<4.0	23	12	-	-	-	
27-May-25	Inlet of ETP	7.46	<4.0	26	16	-	-	-	

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

Area :

IB Valley

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

Project :		Lajkura OCP							
Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	MPN/100ml
13-May-25	STP Inlet	6.60	-	14	-	<2.0	-	-	68
13-May-25	STP Outlet	7.45	-	12	-	<2	-	-	38
27-May-25	STP Outlet	7.70	-	17	-	<2	-	-	78
27-May-25	STP Inlet	7.65	-	20	-	<2.0	-	-	93
Project :		Samaleswari DCP							
Date of Sampling	Sampling Station	pH	Oil & Grease	TSS	COD	BOD	TDS	DO	MPN/100ml
13-May-25	STP Outlet	7.03	-	34	-	<2	-	-	56
13-May-25	STP Inlet	6.89	-	54	-	2	-	-	81
27-May-25	STP Outlet	-	-	-	-	-	-	-	Under maintenance
27-May-25	STP Inlet	-	-	-	-	-	-	-	Under maintenance

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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## 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	Acceptable	Permissible
Date of Sampling	13-May-2025	13-May-2025	Acceptable	Permissible
Colour(Hazen)	2	1	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	3	1	1	5
pH	7.19	7.28	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	100	104	200	600
Chloride(mg/L)	38	48.00	250	1000
Sulphate(mg/L)	76.32	89.62	200	400
Nitrate(mg/L)	7.56	12.32	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	104	108	200	600
Calcium(mg/L)	25.6	27.2	75	200
Fluoride(mg/L)	0.47	0.59	1	1.5
Total Dissolve Solid(mg/L)	293	320	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	<0.04	<0.04	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	Samleswari OCP			Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	Inlet Water from IWSS, IB Valley Area	Outlet Water from IWSS, IB Valley Area		
Date of Sampling	13-May-2025	13-May-2025	13-May-2025	Acceptable	Permissible
Colour(Hazen)	3	1	1	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	1	1	1	5
pH	7.64	7.71	7.53	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	64	80	140	200	600
Chloride(mg/L)	4	4	14	250	1000
Sulphate(mg/L)	6.48	7.89	32.76	200	400
Nitrate(mg/L)	<0.5	<0.5	22.45	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	48	48	84	200	600
Calcium(mg/L)	14.4	12.8	14	75	200
Fluoride(mg/L)	0.36	0.32	0.56	1	1.5
Total Dissolve Solid(mg/L)	87	100	210	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	<0.04	<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)	<0.005	<0.2	<0.2	0.5	2.4

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## Drinking Water Quality Data IB Valley Area

Project / OCP	Lajkura OCP		Indian Drinking Standards (IS-10500):2012	
	Madhuban Nagar Well Water	Adarsh Nagar Colony Well Water		
Monitoring Station				
Date of Sampling	13-May-2025	13-May-2025	Acceptable	Permissible
Colour(Hazen)	1	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	3	1	5
pH	6.62	6.99	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	4	148	200	600
Chloride(mg/L)	8	42	250	1000
Sulphate(mg/L)	4.56	26.28	200	400
Nitrate(mg/L)	9.26	14.53	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	20	120	200	600
Calcium(mg/L)	8	42	75	200
Fluoride(mg/L)	0.69	0.64	1	1.5
Total Dissolve Solid(mg/L)	50	270	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.06	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	0.10	<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

*T. Prasad*  
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*T. Prasad*



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## Drinking Water Quality Data IB Valley Area

Project / OCP	Lajkura OCP		Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	Chhualiberna Village Well Water		
Date of Sampling	13-May-2025	13-May-2025	Acceptable	Permissible
Colour(Hazen)	1	1	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	2	1	5
pH	5.92	7.43	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	8	84	200	600
Chloride(mg/L)	12	12	250	1000
Sulphate(mg/L)	<2	21,20	200	400
Nitrate(mg/L)	7.45	<0.5	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	16	80	200	600
Calcium(mg/L)	12	19.2	75	200
Fluoride(mg/L)	0.82	<0.3	1	1.5
Total Dissolve Solid(mg/L)	69	140	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	0.06	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	0.35	0.24	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

*T. Jaiswal*  
Authorised Signatory  
CMPDI, RI-VII, LAB  
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*John*



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## Drinking Water Quality Data IB Valley Area

Project / OCP	Samaleswari OCP		Indian Drinking Standards (IS-10500):2012	
Monitoring Station	Well Water From Kudopali	Tap Water From Samaleswari OCP Colony		
Date of Sampling	13-May-2025	13-May-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	26.18	25.90	-	-
Potassium(mg/L)	16.52	17.44	-	-
Phenolics(mg/L)	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	Not Detected	-	-

Project / OCP	Samleswari OCP			Indian Drinking Standards (IS-10500):2012	
Monitoring Station	Inlet Water from IWSS, IB Valley Area	Outlet Water from IWSS, IB Valley Area	Well Water From Lajkura		
Date of Sampling	13-May-2025	13-May-2025	13-May-2025	Acceptable	Permissible
Selenium(mg/L)	<0.2	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	9.56	9.82	14.02	-	-
Potassium(mg/L)	1.76	1.24	8.29	-	-
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-May-2025	13-May-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	1.30	27.27		
Potassium(mg/L)	0.41	8.31		
Phenolics(mg/L)	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	Not Detected	-	-

Project / OCP	Lajkura OCP		Indian Drinking Standards (IS-10500):2012	
	Chhualibera Village Well Water	VIP Guest House Tap Water		
Monitoring Station				
Date of Sampling	13-May-2025	13-May-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	6.77	9.42		
Potassium(mg/L)	1.08	6.41		
Phenolics(mg/L)	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	Not Detected	-	-

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Test Report

**AMBIENT AIR QUALITY DATA**

Area :

Lakhanpur

(Compliance Station)

Project :

LBL OCP

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source	Distance from DGS
07-May-25	West of Lakhanpur Quarry Near Solada	203	81	39	10.02	28.21	Mining Activities	About 500m
07-May-25	Kirulbal Village	166	67	31	10.59	32.93	Mining Activities	About 500m
07-May-25	BOCM Workshop	184	93	40	13.31	22.22	Mining Activities	About 500m
07-May-25	Lilari Magazine House	215	95	46	13.94	37.64	Coal Transportation	About 500m
21-May-25	West of Lakhanpur Quarry Near Solada	188	79	37	13.60	31.58	Mining Activities	About 500m
21-May-25	Kirulbal Village	189	73	35	12.54	25.41	Mining Activities	About 500m
21-May-25	BOCM Workshop	189	83	38	11.96	20.08	Mining Activities	About 500m
21-May-25	Lilari Magazine House	209	89	43	16.45	32.55	Coal Transportation	About 500m

MoEF Standards Notification dated 25th  
September, 2000

500

250

120

120

  
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## Test Report



## AMBIENT AIR QUALITY DATA

Area :

Lakhanpur

(Reference Station)

Project :

LBL OCP

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
02-May-25	Ramada Village South of Mine	164	65	32	14.91	28.85	Domestic Anthropogenic Source	
02-May-25	Ardhapara Village South East of Mine	142	56	25	14.78	20.55		
02-May-25	Barihapali Village South West of Mine	174	77	33	14.57	20.02	Domestic Anthropogenic Source	
02-May-25	Gumadera Village North of Mine	144	58	27	11.06	24.70	Domestic Source and Mining Activities	About 3km
02-May-25	Lakhanpur Police Station West of Mine	133	53	25	10.75	10.75	Mining Activities	About 1.6km
02-May-25	Bartap Village North West of Mine	139	54	25	12.04	25.86	Domestic Anthropogenic Source	
02-May-25	Kadam Rehab Centre East of Mine	145	59	28	13.85	25.40	Mining Activities	About 2km
03-May-25	Kadam Rehab Centre East of Mine	165	71	33	15.14	18.73	Mining Activities	About 2km
03-May-25	Lakhanpur Police Station West of Mine	164	66	31	12.99	33.16	Mining Activities	About 1.6km
03-May-25	Gumadera Village North of Mine	163	64	30	17.27	33.36	Domestic Source and Mining Activities	About 3km
03-May-25	Bartap Village North West of Mine	158	63	27	17.09	28.90	Domestic Anthropogenic Source	
03-May-25	Ramada Village South of Mine	156	59	29	12.91	27.67	Domestic Anthropogenic Source	
03-May-25	Barihapali Village South West of Mine	160	62	29	14.77	26.38	Domestic Anthropogenic Source	
03-May-25	Ardhapara Village South East of Mine	163	63	30	10.10	28.54		
09-May-25	Barihapali Village South West of Mine	147	57	27	14.34	24.64	Domestic Anthropogenic Source	
09-May-25	Ramada Village South of Mine	145	55	27	12.83	29.13	Domestic Anthropogenic Source	
09-May-25	Gumadera Village North of Mine	135	51	24	18.03	22.02	Domestic Source and Mining Activities	About 3km
09-May-25	Lakhanpur Police Station West of Mine	138	55	26	17.47	40.78	Mining Activities	About 1.6km
09-May-25	Ardhapara Village South East of Mine	135	52	25	12.70	25.79		
09-May-25	Kadam Rehab Centre East of Mine	155	65	30	12.04	18.77	Mining Activities	About 2km
09-May-25	Bartap Village North West of Mine	174	74	33	12.94	19.02	Domestic Anthropogenic Source	
10-May-25	Lakhanpur Police Station West of Mine	169	67	33	12.54	25.41	Mining Activities	About 1.6km

\*N44QS,2009

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Project :

LBL OCP

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
10-May-25	Ramada Village South of Mine	161	63	32	12.30	20.42	Domestic Anthropogenic Source	
10-May-25	Kadam Rehab Centre East of Mine	141	61	29	14.61	30.23	Mining Activities	About 2km
10-May-25	Gumadera Village North of Mine	154	66	31	13.65	19.59	Domestic Source and Mining Activities	About 3km
10-May-25	Bartap Village North West of Mine	170	68	32	12.21	35.45	Domestic Anthropogenic Source	
10-May-25	Barihapali Village South West of Mine	146	57	26	11.92	24.31	Domestic Anthropogenic Source	
10-May-25	Ardhapara Village South East of Mine	168	71	30	9.21	32.95		
16-May-25	Gumadera Village North of Mine	156	60	29	10.21	24.12	Domestic Source and Mining Activities	About 3km
16-May-25	Barihapali Village South West of Mine	186	75	34	8.54	29.91	Domestic Anthropogenic Source	
16-May-25	Lakhanpur Police Station West of Mine	167	64	31	15.51	34.45	Mining Activities	About 1.6km
16-May-25	Bartap Village North West of Mine	167	68	31	12.21	33.83	Domestic Anthropogenic Source	
16-May-25	Ramada Village South of Mine	162	61	30	15.51	28.46	Domestic Anthropogenic Source	
16-May-25	Ardhapara Village South East of Mine	171	69	32	13.72	35.15		
16-May-25	Kadam Rehab Centre East of Mine	162	66	30	14.05	27.80	Mining Activities	About 2km
17-May-25	Ardhapara Village South East of Mine	156	63	29	12.71	23.71		
17-May-25	Kadam Rehab Centre East of Mine	133	51	24	13.89	29.89	Mining Activities	About 2km
17-May-25	Lakhanpur Police Station West of Mine	138	53	26	12.38	26.14	Mining Activities	About 1.6km
17-May-25	Ramada Village South of Mine	144	55	27	15.17	33.10	Domestic Anthropogenic Source	
17-May-25	Bartap Village North West of Mine	126	51	24	13.34	32.34	Domestic Anthropogenic Source	
17-May-25	Barihapali Village South West of Mine	161	66	31	10.26	36.11	Domestic Anthropogenic Source	
17-May-25	Gumadera Village North of Mine	138	56	26	13.37	33.80	Domestic Source and Mining Activities	About 3km
23-May-25	Bartap Village North West of Mine	180	72	33	14.06	38.95	Domestic Anthropogenic Source	
23-May-25	Kadam Rehab Centre East of Mine	117	45	22	12.37	41.22	Mining Activities	About 2km
23-May-25	Ardhapara Village South East of Mine	138	56	26	13.13	23.54		
23-May-25	Barihapali Village South West of Mine	158	67	32	16.95	26.68	Domestic Anthropogenic Source	
23-May-25	Lakhanpur Police Station West of Mine	157	60	29	12.47	20.79	Mining Activities	About 1.6km

\*N/AQS, 2009

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Project :

LBL OCP

(conc. in µg/cu.m.)

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
23-May-25	Ramada Village South of Mine	116	40	22	12.71	35.05	Domestic Anthropogenic Source	
23-May-25	Gumadera Village North of Mine	151	54	28	12.79	25.32	Domestic Source and Mining Activities	About 3km
24-May-25	Lakhanpur Police Station West of Mine	130	49	24	8.46	18.08	Mining Activities	About 1.6km
24-May-25	Kadam Rehab Centre East of Mine	132	54	25	11.32	35.55	Mining Activities	About 2km
24-May-25	Bartap Village North West of Mine	165	65	31	12.92	28.03	Domestic Anthropogenic Source	
24-May-25	Gumadera Village North of Mine	132	47	24	8.63	23.24	Domestic Source and Mining Activities	About 3km
24-May-25	Barihapali Village South West of Mine	116	47	22	15.10	18.59	Domestic Anthropogenic Source	
24-May-25	Ramada Village South of Mine	171	67	32	11.95	32.05	Domestic Anthropogenic Source	
24-May-25	Ardhapara Village South East of Mine	134	52	26	14.10	19.26		
30-May-25	Ramada Village South of Mine	167	64	31	12.09	21.82	Domestic Anthropogenic Source	
30-May-25	Lakhanpur Police Station West of Mine	119	45	22	11.87	27.64	Mining Activities	About 1.6km
30-May-25	Kadam Rehab Centre East of Mine	151	61	28	12.10	24.20	Mining Activities	About 2km
30-May-25	Gumadera Village North of Mine	175	70	34	11.02	39.59	Domestic Source and Mining Activities	About 3km
30-May-25	Bartap Village North West of Mine	132	54	25	14.76	27.85	Domestic Anthropogenic Source	
30-May-25	Barihapali Village South West of Mine	162	66	30	18.24	25.43	Domestic Anthropogenic Source	
30-May-25	Ardhapara Village South East of Mine	120	49	23	15.54	30.75		
31-May-25	Kadam Rehab Centre East of Mine	127	47	23	12.47	18.82	Mining Activities	About 2km
31-May-25	Ardhapara Village South East of Mine	144	60	27	10.02	29.08		
31-May-25	Bartap Village North West of Mine	120	49	23	9.00	24.41	Domestic Anthropogenic Source	
31-May-25	Lakhanpur Police Station West of Mine	138	53	26	11.50	31.39	Mining Activities	About 1.6km
31-May-25	Barihapali Village South West of Mine	175	71	32	13.57	33.93	Domestic Anthropogenic Source	
31-May-25	Ramada Village South of Mine	160	58	29	14.80	30.60	Domestic Anthropogenic Source	
31-May-25	Gumadera Village North of Mine	151	61	28	8.24	24.12	Domestic Source and Mining Activities	About 3km

\*N/A/QS,2010

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lakhanpur

Project	LBL OCP							
Monitoring Station	Kadam Rehab Centre East of Mine							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
02-May-2025	<20.0	14.15	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
03-May-2025	<20.0	27.25	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
09-May-2025	<20.0	14.42	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
10-May-2025	<20.0	15.20	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
16-May-2025	<20.0	19.92	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
17-May-2025	<20.0	11.00	<0.1	<1.0	<1.0	1.5	BQL(QL=0.7)	BQL
23-May-2025	<20.0	22.80	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
24-May-2025	<20.0	15.98	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
30-May-2025	<20.0	11.27	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
31-May-2025	<20.0	20.97	<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: Lakhanpur

Project	LBL OCP							
Monitoring Station	Lakhanpur Police Station West of Mine							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
02-May-2025	<20.0	18.87	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
03-May-2025	<20.0	19.92	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
09-May-2025	<20.0	24.37	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
10-May-2025	<20.0	20.43	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
16-May-2025	<20.0	19.92	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
17-May-2025	<20.0	24.37	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
23-May-2025	<20.0	25.93	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
24-May-2025	<20.0	14.93	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
30-May-2025	<20.0	25.68	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
31-May-2025	<20.0	26.98	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lakhanpur

Project	LBL OCP							
Monitoring Station	Gumadera Village North of Mine							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzen e
	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )
02-May-2025	<20.0	24.63	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
03-May-2025	<20.0	23.32	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
09-May-2025	<20.0	23.32	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
10-May-2025	<20.0	12.32	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
16-May-2025	<20.0	24.90	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
17-May-2025	<20.0	13.63	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
23-May-2025	<20.0	18.35	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
24-May-2025	<20.0	11.27	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
30-May-2025	<20.0	23.05	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
31-May-2025	<20.0	15.47	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Lakhanpur

Project	LBL OCP							
Monitoring Station	Ramada Village South of Mine							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(µg/m <sup>3</sup> )
02-May-2025	<20.0	23.05	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
03-May-2025	<20.0	11.53	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
09-May-2025	<20.0	14.93	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
10-May-2025	<20.0	11.78	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
16-May-2025	<20.0	11.27	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
17-May-2025	<20.0	19.38	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
23-May-2025	<20.0	14.42	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
24-May-2025	<20.0	23.58	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
30-May-2025	<20.0	18.87	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
31-May-2025	<20.0	23.32	<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	Barihapali Village South West of Mine							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
02-May-2025	<20.0	18.35	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
03-May-2025	<20.0	23.32	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
09-May-2025	<20.0	14.93	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
10-May-2025	<20.0	22.53	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
16-May-2025	<20.0	12.05	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
17-May-2025	<20.0	26.47	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
23-May-2025	<20.0	13.63	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
24-May-2025	<20.0	14.67	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
30-May-2025	<20.0	25.68	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
31-May-2025	<20.0	25.42	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
Standard	400 (24 hours)	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 <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
02-May-2025	<20.0	26.73	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
03-May-2025	<20.0	23.58	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
09-May-2025	<20.0	24.10	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
10-May-2025	<20.0	22.27	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
16-May-2025	<20.0	11.53	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
17-May-2025	<20.0	18.87	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
23-May-2025	<20.0	20.43	<0.1	<1.0	<1.0	0.9	BQL(QL=0.7)	BQL
24-May-2025	<20.0	14.67	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
30-May-2025	<20.0	15.98	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
31-May-2025	<20.0	26.20	<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)

*K. Pattnaik*  
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 <b>सीएमपीडीआई</b> रिपी एम <b>cmpdi</b> Mini Rama	<b>AMBIENT AIR QUALITY DATA</b> Area: <i>Lakhanpur</i>
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<b>Project</b>	<b>LBL OCP</b>
<b>Monitoring Station</b>	<b>Kirulbal Village</b>
<b>Date of sampling</b>	<b>Carbon Monoxide (CO)</b>
	<b>mg/m<sup>3</sup></b>
07-May-2025	1.4
21-May-2025	1.3
<b>Standard</b>	<b>02(8 Hours)</b>

<b>Project</b>	<b>LBL OCP</b>
<b>Monitoring Station</b>	<b>Lilari Magazine House</b>
<b>Date of sampling</b>	<b>Carbon Monoxide (CO)</b>
	<b>mg/m<sup>3</sup></b>
07-May-2025	1.6
21-May-2025	1.8
<b>Standard</b>	<b>02(8 Hours)</b>

<b>Project</b>	<b>LBL OCP</b>
<b>Monitoring Station</b>	<b>BOCM Workshop</b>
<b>Date of sampling</b>	<b>Carbon Monoxide (CO)</b>
	<b>mg/m<sup>3</sup></b>
07-May-2025	1.8
21-May-2025	1.5
<b>Standard</b>	<b>02(8 Hours)</b>

<b>Project</b>	<b>LBL OCP</b>
<b>Monitoring Station</b>	<b>West of Lakhanpur Quarry Near Solada</b>
<b>Date of sampling</b>	<b>Carbon Monoxide (CO)</b>
	<b>mg/m<sup>3</sup></b>
07-May-2025	1.7
21-May-2025	1.6
<b>Standard</b>	<b>02(8 Hours)</b>

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 Authorised Signatory  
 CMPDI, RI-VII, LAB  
 BHUBANESWAR



सीएमपीडी  
CMPDI  
Central Pollution Control Board

TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

Lakhanpur

PROJECT :

LBL OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
14-May-25	BOCM Workshop	62.7	58.9
14-May-25	Bartap Village North West of Mine	58.2	48.7
14-May-25	Kirulbal Village	48.6	40.6
14-May-25	Barihapali Village South West of Mine	47.9	40.4
14-May-25	Lakhanpur Police Station West of Mine	48.7	41.8
14-May-25	Ramada Village South of Mine	49.9	40.8
14-May-25	Ardhapara Village South East of Mine	50.6	41.6
14-May-25	Kadam Rehab Centre East of Mine	46.3	41.6
14-May-25	West of Lakhanpur Quarry Near Solada	60.8	55.4
14-May-25	Gumadera Village North of Mine	47.8	38.6
14-May-25	Near Lilari Magazine House	60.4	56.5
28-May-25	BOCM Workshop	61.3	53.4
28-May-25	Gumadera Village North of Mine	48.9	40.7
28-May-25	Barihapali Village South West of Mine	48.6	38.6
28-May-25	Kirulbal Village	45.6	38.3
28-May-25	Lakhanpur Police Station West of Mine	49.3	38.9
28-May-25	Ramada Village South of Mine	49.2	40.4
28-May-25	Bartap Village North West of Mine	47.9	39.2
28-May-25	Near Lilari Magazine House	65.8	55.2
28-May-25	West of Lakhanpur Quarry Near Solada	60.8	56.7
28-May-25	Kadam Rehab Centre East of Mine	50.6	41.9

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

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**EFFLUENT QUALITY DATA**

Area :

Lakhanpur

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

Date of Sampling	Sampling Station	pH	L.B.L. O.C.P.						MPN/100ml
			Oil & Grease	TSS	COD	BOD	TDS	DO	
14-May-25	Clear Water Tank of Sewage Treatment Plant	7.09	-	18	-	<2	-	-	38
14-May-25	STP Inlet	6.69	-	39	-	<2	-	-	70
28-May-25	STP Inlet	7.60	-	27	-	<2	-	-	61
28-May-25	Clear Water Tank of Sewage Treatment Plant	7.78	-	22	-	<2	-	-	49

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

*[Signature]*



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	Remarks
14-May-25	Mine Sump Water, Lakhanpur	6.73	<4.0	26	20	-	-	-	
14-May-25	Outlet of Secondary Sedimentation Tank, Lakhanpur	7.43	<4.0	32	20	-	-	-	
14-May-25	Inlet of MDTP, Belpahar	7.59	<4.0	42	32	-	-	-	
14-May-25	ECO Tank, Belpahar	7.60	<4.0	47	36	-	-	-	
14-May-25	Intlet of Secondary Sedimentation Tank, Lakhanpur	7.32	<4.0	38	24	-	-	-	
14-May-25	Inlet of ETP, Lakhanpur	6.15	<4.0	68	48	-	-	-	
14-May-25	Outlet of ETP, Lakhanpur	5.63	<4.0	62	44	-	-	-	
14-May-25	Inlet of ETP, Belpahar	7.32	<4.0	37	32	-	-	-	
14-May-25	Mine Sump Water, Lilari	5.58	<4.0	34	24	-	-	-	
14-May-25	Outlet of ETP, Belpahar	7.03	<4.0	34	28	-	-	-	
14-May-25	Mine Sump Water, Belpahar	6.42	<4.0	18	16	-	-	-	
28-May-25	Inlet of ETP, Belpahar	7.82	<4.0	33	28	-	-	-	
28-May-25	Inlet of ETP, Lakhanpur	6.78	<4.0	37	28	-	-	-	
28-May-25	Outlet of ETP, Lakhanpur	5.6	<4.0	32	24	-	-	-	
28-May-25	Outlet of ETP, Belpahar	7.63	<4.0	30	24	-	-	-	

MoEF Standard Notification dated 25th September, 2000 and MoEF Schedule VI, General standard for discharge of Environmental Pollutants Part A: Effluents	5.5-9.0	10	100	250	30
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*Katruwal*  
 Authorized Signatory  
 CMPDI, Pt-VII, LAB  
 GRUBANESWAR

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सीएमपीडी आई  
CMPDI  
सर्वोत्तम

## Drinking Water Quality Data Lakhanpur Area

Project / OCP Monitoring Station	Integrated LBL OCP			Indian Drinking Standards (IS-10500):2012	
	LKP Project Office	IWSS Outlet	IWSS Inlet	Acceptable	Permissible
Date of Sampling	14-May-2025	14-May-2025	14-May-2025	Acceptable	Permissible
Colour(Hazen)	2	1	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	2	1	1	5
pH	7.77	7.85	7.83	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	84	84	88	200	600
Chloride(mg/L)	10	8	10	250	1000
Sulphate(mg/L)	12.36	15.10	16.28	200	400
Nitrate(mg/L)	<0.5	<0.5	<0.5	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	84	80	80	200	600
Calcium(mg/L)	24	22.4	20.8	75	200
Fluoride(mg/L)	0.65	<0.3	<0.3	1	1.5
Total Dissolve Solid(mg/L)	135	130	144	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)	1.17	0.07	<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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HUBANESWAR

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लिमिटेड  
cmpdi  
Water Quality

## Drinking Water Quality Data Lakhanpur Area

Project / OCP	Integrated LBL OCP			Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	LKP Project Office	IWSS Outlet	IWSS Inlet	Acceptable
Date of Sampling	14-May-2025	14-May-2025	14-May-2025		
Selenium(mg/L)	<0.005	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	9.92	8.16	8.11	-	-
Potassium(mg/L)	1.61	1.84	1.59	-	-
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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CMPDI, RI-VII, LAB  
BHUBANESWAR

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

**Ib Valley Coalfield**



**Mahanadi Coalfields Limited**



**सीएमपीडीआई**  
मिनी रत्ना  
**cmpdi**  
Mini Ratna

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

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

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



सीमावर्ती लैब  
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Test Report

**AMBIENT AIR QUALITY DATA**

Area :

Mahalaxmi

(Compliance Station)

Project :

Basundhara (w) OCP

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source	Distance from DGS
07-May-25	North of the Sardega Railway Siding, Kulapada	178	79	37	12.87	30.10	Mining Activities, OCP, Coal Transportation	About 500m
07-May-25	Body Workshop Basundhara	181	85	38	11.12	23.43		
21-May-25	North of the Sardega Railway Siding, Kulapada	181	78	35	14.85	36.65	Mining Activities, OCP, Coal Transportation	About 500m
21-May-25	Body Workshop Basundhara	189	77	35	12.57	20.18		

MoEF Standards Notification dated 25th September, 2009

500      250           120      120

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CMPDI, RI-VII, LAB  
BHUBANESWAR

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## Test Report



## AMBIENT AIR QUALITY DATA

Area :

Mahalaxmi

(Reference Station)

Project :

Basundhara (w) OCP

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO <sub>2</sub>	NO <sub>x</sub>	Dust Generating Source(DGS)	Distance from DGS
05-May-25	Sarangijharia Village	139	54	28	16.87	34.19	Domestic	About 500m
05-May-25	Khamarpara Village	188	86	41	19.09	30.39		
05-May-25	West of Coal Stock, Near Golf Course	130	48	23	15.82	29.07	Mining Activities, OCP, Transportation	About 500m
05-May-25	Ratansara Village	156	60	29	12.26	14.89	Transportation	About 100m
06-May-25	West of Coal Stock, Near Golf Course	159	64	30	17.66	27.79	Mining Activities, OCP, Transportation	About 500m
06-May-25	Sarangijharia Village	154	60	31	12.46	30.05	Domestic	About 500m
06-May-25	Ratansara Village	163	63	33	15.35	24.93	Transportation	About 100m
06-May-25	Khamarpara Village	142	61	29	13.89	29.89		
12-May-25	Ratansara Village	128	46	24	17.74	28.53	Transportation	About 100m
12-May-25	West of Coal Stock, Near Golf Course	143	55	27	14.78	16.62	Mining Activities, OCP, Transportation	About 500m
12-May-25	Sarangijharia Village	134	48	25	16.33	30.29	Domestic	About 500m
12-May-25	Khamarpara Village	129	55	26	12.37	11.22		
13-May-25	West of Coal Stock, Near Golf Course	127	51	24	11.56	23.58	Mining Activities, OCP, Transportation	About 500m
13-May-25	Sarangijharia Village	153	56	29	16.55	31.39	Domestic	About 500m
13-May-25	Khamarpara Village	139	60	28	11.32	35.55		
13-May-25	Ratansara Village	134	53	26	17.22	31.11	Transportation	About 100m
19-May-25	Sarangijharia Village	117	42	21	10.79	28.17	Domestic	About 500m
19-May-25	West of Coal Stock, Near Golf Course	177	67	33	9.90	31.28	Mining Activities, OCP, Transportation	About 500m
19-May-25	Khamarpara Village	116	46	21	10.59	12.93		
19-May-25	Ratansara Village	138	51	26	15.61	35.78	Transportation	About 100m
20-May-25	West of Coal Stock, Near Golf Course	138	51	26	16.12	33.80	Mining Activities, OCP, Transportation	About 500m
20-May-25	Sarangijharia Village	154	57	29	12.92	27.13	Domestic	About 500m

\*N.A.Q.S, 2009

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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
20-May-25	Ratansara Village	164	64	32	15.61	30.90	Transportation	About 100m
20-May-25	Khamarpara Village	132	51	25	11.69	21.51		
26-May-25	Ratansara Village	116	43	22	8.63	24.30	Transportation	About 100m
26-May-25	Sarangjharin Village	127	47	24	11.47	31.64	Domestic	About 500m
26-May-25	Khamarpara Village	154	56	28	12.99	38.68		
26-May-25	West of Coal Stock, Near Golf Course	160	59	29	12.68	40.02	Mining Activities, OCP, Transportation	About 500m
27-May-25	West of Coal Stock, Near Golf Course	120	45	23	11.19	26.98	Mining Activities, OCP, Transportation	About 500m
27-May-25	Khamarpara Village	129	12	48	22.09	126		
27-May-25	Sarangjharin Village	115	42	21	14.49	29.42	Domestic	About 500m
27-May-25	Ratansara Village	140	55	27	15.37	31.86	Transportation	About 100m

N.L.Q.S., 2009

100 60 80 60

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

*T. Jaiswal*



सीएमपीडीआई  
मिनी लैब  
cmpdi  
Mini Lab

AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Mahalaxmi

Project	Basundhara (W) OCP							
Monitoring Station	Sarangijharia Community Centre							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzene
	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(μg/m <sup>3</sup> )
05-May-2025	<20.0	18.35	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
06-May-2025	<20.0	12.58	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
12-May-2025	<20.0	26.47	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
13-May-2025	<20.0	16.25	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
19-May-2025	<20.0	15.47	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
20-May-2025	<20.0	21.75	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
26-May-2025	<20.0	14.93	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
27-May-2025	<20.0	18.08	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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

*[Handwritten Signature]*



सीएमपीडीआई  
रिपोरिंग  
cmpdi  
भुवनेश्वर


AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Mahalaxmi

Project	Basundhara (W) OCP							
Monitoring Station	Ratansara Village							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
05-May-2025	<20.0	11.53	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
06-May-2025	<20.0	21.22	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
12-May-2025	<20.0	19.92	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
13-May-2025	<20.0	15.98	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
19-May-2025	<20.0	17.82	<0.1	<1.0	<1.0	1.4	BQL(QL=0.7)	BQL
20-May-2025	<20.0	21.22	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
26-May-2025	<20.0	15.20	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
27-May-2025	<20.0	13.37	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

  
Authorised Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR



 <b>सीएमपीडीआई</b> मिसे रेल <b>cmpdi</b> Mini Rail COAL INDIA	<b>AMBIENT AIR QUALITY DATA</b> Area: Mahalaxmi
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<b>Project</b>	<b>Basundhara OCP</b>
<b>Monitoring Station</b>	<b>North of the Sardega Railway Siding, Kulapada</b>
<b>Date of sampling</b>	<b>Carbon Monoxide (CO)</b>
	mg/m <sup>3</sup>
07-May-2025	1.6
21-May-2025	1.5
<b>Standard</b>	<b>02(8Hours)</b>

<b>Project</b>	<b>BasundharaOCP</b>
<b>Monitoring Station</b>	<b>Body Workshp Basundhara</b>
<b>Date of sampling</b>	<b>Carbon Monoxide (CO)</b>
	mg/m <sup>3</sup>
07-May-2025	1.6
21-May-2025	1.8
<b>Standard</b>	<b>02(8Hours)</b>

*Attansit*

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

*Attansit*



सीएनपीडी  
CMPDI  
राज्य स्तर पर

TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

Mahalaxmi

PROJECT :

Basundhara (W) OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
15-May-25	Quary Sump of Basundhara East OCP/ Near CHP of Basundhara East OCP	60.3	55.7
15-May-25	South-West of Working Face -Gopalpur Village,Near CMPDIL Camp	64.6	56.9
15-May-25	North of the Sardega Railway Siding ,Kulapada	63.4	56.7
15-May-25	West of Coal Stock , Near Golf Course	60.7	52.8
15-May-25	Sarangijharia Community Centre	50.4	41.6
15-May-25	Ratansara Village	50.6	41.2
29-May-25	South-West of Working Face -Gopalpur Village,Near CMPDIL Camp	61.7	52.3
29-May-25	North of the Sardega Railway Siding ,Kulapada	60.7	55.2
29-May-25	West of Coal Stock , Near Golf Course	62.2	52.4
29-May-25	Quary Sump of Basundhara East OCP/ Near CHP of Basundhara East OCP	61.2	56.3
29-May-25	Ratansara Village	50.8	41.6
29-May-25	Sarangijharia Community Centre	50.8	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)

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BHUBANESWAR

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TABLE--

## EFFLUENT QUALITY DATA

Area :

Muhaxmi

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

Date of Sampling	Project : Sampling Station	pH	Basundhara (W) OCP						Remarks
			Oil & Grease	TSS	COD	BOD	TDS	DO	
15-May-25	Sardega Railway Siding Sedimentation Pond	7.21	<4.0	36	24	-	-	-	
15-May-25	Basundhara (W) OCP Mine Sump	7.69	<4.0	34	8	-	-	-	

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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*J. K. Mishra*  
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## Drinking Water Quality Data Mahalaxmi Area

Project / OCP	Basundhara (W)		Indian Drinking Standards (IS-10500):2012	
	Water Treatment Plant Clear Water reservoir	Basundhar East Sump Quarry OCP		
Monitoring Station				
Date of Sampling	15-May-2025	15-May-2025	Acceptable	Permissible
Colour(Hazen)	3	3	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	4	1	5
pH	7.44	7.44	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	44	60	200	600
Chloride(mg/L)	12	10	250	1000
Sulphate(mg/L)	64.10	80.72	200	400
Nitrate(mg/L)	<0.5	<0.5	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	224	216	200	600
Calcium(mg/L)	44.00	44.8	75	200
Fluoride(mg/L)	<0.3	<0.3	1	1.5
Total Dissolve Solid(mg/L)	270	265	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	0.05	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	0.05	0.10	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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Mahalaxmi

## Drinking Water Quality Data Mahalaxmi Area

Project / OCP	Basundhara (W)		Indian Drinking Standards (IS-10500):2012	
	Water Treatment Plant Clear Water reservoir	Basundhar East Sump Quarry OCP		
Monitoring Station				
Date of Sampling	15-May-2025	15-May-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	8.34	8.01	-	-
Potassium(mg/L)	5.74	5.88	-	-
Phenolies(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*  
Authorised Signatory  
CMPDI, RI-VII, LAB  
BHUBANESWAR

*Signature*

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

**IB Valley Coalfield**



**Mahanadi Coalfields Limited**



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

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

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ସି.ଏମ୍.ପି.ଡି.  
c.m.p.d.i.  
Mini Ramna

## Drinking Water Quality Data MCL (HQ)

Project / OCP	MCL (HQ)		Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	DAV School (Anand vihar)	Corporate Office (Jagrithi Vihar)	
Date of Sampling	12-May-2025	12-May-2025	Acceptable	Permissible
Colour(Hazen)	2	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	3	1	5
pH	8.11	7.76	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	136	84	200	600
Chloride(mg/L)	16	18	250	1000
Sulphate(mg/L)	8.46	13.47	200	400
Nitrate(mg/L)	<0.5	<0.5	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	84	80	200	600
Calcium(mg/L)	24	22.4	75	200
Fluoride(mg/L)	0.84	<0.3	1	1.5
Total Dissolve Solid(mg/L)	152	142	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	<0.04	<0.04	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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Water Solutions

## 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)		
Date of Sampling	12-May-2025	12-May-2025	Acceptable	Permissible
Colour(Hazen)	2	1	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	2	1	5
pH	7.29	7.89	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	88	92	200	600
Chloride(mg/L)	22	24	250	1000
Sulphate(mg/L)	16.96	17.48	200	400
Nitrate(mg/L)	<0.5	<0.5	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	96	100	200	600
Calcium(mg/L)	24	28.8	75	200
Fluoride(mg/L)	<0.3	0.56	1	1.5
Total Dissolve Solid(mg/l <sub>v</sub> )	154	160	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)	0.05	0.04	5	15
Lead(mg/L)	<0.005	<0.005	0.01	No relaxation
Cadmium(mg/L)	<0.001	<0.001	0.005	No relaxation
Total Chromium (mg/L)	<0.01	<0.01	0.05	No relaxation
Arsenic(mg/L)	<0.005	<0.005	0.01	No relaxation
Boron(mg/L)	<0.2	<0.2	0.5	2.4

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BHUBANESWAR



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## Drinking Water Quality Data MCL (HQ)

Project / OCP	MCL (HQ)		Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	DAV School (Anand vihar)	Corporate Office (Jagriti Vihar)	
Date of Sampling	12-May-2025	12-May-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	6.89	6.88	-	-
Potassium(mg/L)	2.09	1.98	-	-
Phenolics(mg/L)	<0.001	<0.001	0.001	0.002
Residual Free Chlorine(mg/L)	<0.2	<0.2	0.2	1
MPN (Index/100 ml)	Not Detected	Not Detected	-	-

Project / OCP	MCL(HQ)		Indian Drinking Standards (IS-10500):2012	
	Monitoring Station	Inlet to Water Treatment Plant (Anand Vihar)	Outlet to Water Treatment Plant (Anand Vihar)	
Date of Sampling	12-May-2025	12-May-2025	Acceptable	Permissible
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	6.82	6.43	-	-
Potassium(mg/L)	1.72	1.98	-	-
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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CMPDI, RI-VII, LAB  
BHUBANESWAR

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

**Ib Valley Coalfield**



**Mahanadi Coalfields Limited**



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

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

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CMPDI

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
08-May-25	Orient Mine No. 1 & 2	200	78	40	9.62	24.28	Coal Stock Yard, Surface Bunker, Coal	About 250m
22-May-25	Orient Mine No. 1 & 2	193	81	38	15.54	35.61	Coal Stock Yard, Surface Bunker, Coal	About 250m

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

MoEF Standards Notification dated 25th 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
08-May-25	Orient Mine No. 3	210	86	42	11.94	37.49	Coal Stockyard, Surface Bunker, Coal	About 200m
22-May-25	Orient Mine No. 3	204	80	39	14.73	26.38	Coal Stockyard, Surface Bunker, Coal	About 200m

MoEF Standards Notification dated 25th  
 September, 2000

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Authorised Signatory  
 CMPDI, RI-VII, LAB  
 BHUBANESWAR

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CMPDI  
भारत सरकार

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
08-May-25	Orient Mine No. 4	196	79	37	16.79	30.28	Coal Transportation Road	About 300m
22-May-25	Orient Mine No. 4	183	77	36	16.82	38.83	Coal Transportation Road	About 300m

MoEF Standards Notification dated 25th  
September, 2009

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भारत सरकार

Test Report

**AMBIENT AIR QUALITY DATA**

Area :

**Orient**

(Compliance Station)

Project :

**HBI Mine**

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source	Distance from DGS
08-May-25	HBI Mine	194	83	39	12.17	22.48	Coal Stockyard, Surface Bunker, Coal Transport	About 100m
08-May-25	Bundia Colony Pump House	196	96	43	10.73	33.49	Coal Stockyard, Surface Bunker, Coal Transport	About 150m
22-May-25	HBI Mine	188	81	37	10.33	25.57	Coal Stockyard, Surface Bunker, Coal Transport	About 100m
22-May-25	Bundia Colony Pump House	204	88	40	11.07	34.33	Coal Stockyard, Surface Bunker, Coal Transport	About 150m

MoEF Standards Notification dated 25th  
September, 2000

500	250		120	120
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AMBIENT AIR QUALITY DATA

Area :

Orient

(Compliance Station)

Project :

HRC

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source	Distance from DGS
08-May-25	Near Rampur Colliery Check Post	214	86	40	16.56	24.19		
08-May-25	Near CHP HRC	206	87	41	11.09	18.82		
22-May-25	Near Rampur Colliery Check Post	191	81	38	15.81	21.91		
22-May-25	Near CHP HRC	184	79	38	11.83	31.43		

MoEF Standards Notification dated 25th September, 2009

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AMBIENT AIR QUALITY DATA

Area : **Orient** (Reference Station)

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
02-May-25	Orient GM Office	138	55	26	12.05	28.76	Domestic and other Anthropogenic Activities	
03-May-25	Orient GM Office	151	60	29	12.55	31.61	Domestic and other Anthropogenic Activities	
09-May-25	Orient GM Office	166	66	32	9.69	17.20	Domestic and other Anthropogenic Activities	
10-May-25	Orient GM Office	133	53	25	14.48	32.33	Domestic and other Anthropogenic Activities	
16-May-25	Orient GM Office	171	66	32	13.87	18.75	Domestic and other Anthropogenic Activities	
17-May-25	Orient GM Office	138	53	26	12.38	28.48	Domestic and other Anthropogenic Activities	
23-May-25	Orient GM Office	148	58	28	17.75	32.01	Domestic and other Anthropogenic Activities	
24-May-25	Orient GM Office	133	51	25	15.02	21.90	Domestic and other Anthropogenic Activities	
30-May-25	Orient GM Office	154	60	29	12.90	33.50	Domestic and other Anthropogenic Activities	
31-May-25	Orient GM Office	144	57	27	12.75	28.03	Domestic and other Anthropogenic Activities	

**N.E.Q.S. 2009		100	60	80	80
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AMBIENT AIR QUALITY DATA

Area :

Orient

(Reference Station)

Project :

Hirakand Bundla Mine (HBM)

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
02-May-25	Rampur Sub Area	160	57	29	12.53	29.44	Coal Stock And CT Road	About 1000m
02-May-25	Rampur Officers Guest House	142	53	25	9.76	20.69	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
03-May-25	Rampur Officers Guest House	165	67	33	14.99	19.08	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
03-May-25	Rampur Sub Area	133	49	23	14.70	27.06	Coal Stock And CT Road	About 1000m
09-May-25	Rampur Officers Guest House	145	55	26	10.79	20.70	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
09-May-25	Rampur Sub Area	143	57	27	14.63	12.76	Coal Stock And CT Road	About 1000m
10-May-25	Rampur Officers Guest House	135	51	24	16.06	34.96	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
10-May-25	Rampur Sub Area	168	67	32	18.39	34.87	Coal Stock And CT Road	About 1000m
16-May-25	Rampur Officers Guest House	172	67	33	11.50	20.68	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
16-May-25	Rampur Sub Area	141	55	27	13.21	24.36	Coal Stock And CT Road	About 1000m
17-May-25	Rampur Officers Guest House	153	55	28	10.88	28.20	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
17-May-25	Rampur Sub Area	134	48	25	14.25	28.63	Coal Stock And CT Road	About 1000m
23-May-25	Rampur Sub Area	130	44	23	16.25	30.14	Coal Stock And CT Road	About 1000m
23-May-25	Rampur Officers Guest House	131	45	24	11.98	33.19	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
24-May-25	Rampur Officers Guest House	118	42	21	13.26	30.60	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
24-May-25	Rampur Sub Area	153	58	30	13.63	33.11	Coal Stock And CT Road	About 1000m
30-May-25	Rampur Officers Guest House	125	45	23	12.06	27.97	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
30-May-25	Rampur Sub Area	132	47	24	18.26	28.45	Coal Stock And CT Road	About 1000m
31-May-25	Rampur Sub Area	148	57	29	17.32	23.45	Coal Stock And CT Road	About 1000m
31-May-25	Rampur Officers Guest House	162	61	30	14.81	33.17	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m

IS 14405:2009		100	60	80	80
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AMBIENT AIR QUALITY DATA

Area : **Orient** (Reference Station)

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

Date of Sampling	Monitoring Station	SPM	PM10	PM2.5	SO2	NOx	Dust Generating Source(DGS)	Distance from DGS
02-May-25	Rampur Officers Guest House (Reported only)	142	53	25	9.76	20.69	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
02-May-25	Rampur Sub Area (Reported only)	160	57	29	12.53	29.44	Coal Stock And CT Road	About 1000m
03-May-25	Rampur Officers Guest House (Reported only)	165	67	33	14.99	19.08	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
03-May-25	Rampur Sub Area (Reported only)	133	49	23	14.70	27.06	Coal Stock And CT Road	About 1000m
09-May-25	Rampur Officers Guest House (Reported only)	145	55	26	10.79	20.70	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
09-May-25	Rampur Sub Area (Reported only)	143	57	27	14.63	12.76	Coal Stock And CT Road	About 1000m
10-May-25	Rampur Sub Area (Reported only)	168	67	32	18.39	34.87	Coal Stock And CT Road	About 1000m
10-May-25	Rampur Officers Guest House (Reported only)	135	51	24	16.06	34.96	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
16-May-25	Rampur Officers Guest House (Reported only)	172	67	33	11.50	20.68	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
16-May-25	Rampur Sub Area (Reported only)	141	55	27	13.21	24.36	Coal Stock And CT Road	About 1000m
17-May-25	Rampur Officers Guest House (Reported only)	153	55	28	10.88	28.20	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
17-May-25	Rampur Sub Area (Reported only)	134	48	25	14.25	28.63	Coal Stock And CT Road	About 1000m
23-May-25	Rampur Sub Area (Reported only)	130	44	23	16.25	30.14	Coal Stock And CT Road	About 1000m
23-May-25	Rampur Officers Guest House (Reported only)	131	45	24	11.98	33.19	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
24-May-25	Rampur Officers Guest House (Reported only)	118	42	21	13.26	30.60	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
24-May-25	Rampur Sub Area (Reported only)	153	58	30	13.63	33.11	Coal Stock And CT Road	About 1000m
30-May-25	Rampur Officers Guest House (Reported only)	125	45	23	12.06	27.97	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m
30-May-25	Rampur Sub Area (Reported only)	132	47	24	18.26	28.45	Coal Stock And CT Road	About 1000m
31-May-25	Rampur Sub Area (Reported only)	148	57	29	17.32	23.45	Coal Stock And CT Road	About 1000m
31-May-25	Rampur Officers Guest House (Reported only)	162	61	30	14.81	33.17	Coal Stockyard, Surface Bunker, Coal Transport	About 1000m

*A.1 (15.2009)		100	80	80	80
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cmpdi  
Mini Ratna

AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Orient

Project	HBI Mine							
Monitoring Station	Rampur Officers Guest House							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
02-May-2025	<20.0	19.65	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
03-May-2025	<20.0	12.58	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
09-May-2025	<20.0	15.72	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
10-May-2025	<20.0	14.93	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
16-May-2025	<20.0	25.68	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
17-May-2025	<20.0	15.98	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
23-May-2025	<20.0	11.00	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
24-May-2025	<20.0	20.97	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
30-May-2025	<20.0	16.25	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
31-May-2025	<20.0	27.52	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

  
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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Orient

Project	HBI Mine							
Monitoring Station	Rampur Sub Area							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
02-May-2025	<20.0	19.13	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
03-May-2025	<20.0	25.15	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
09-May-2025	<20.0	12.32	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
10-May-2025	<20.0	11.53	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
16-May-2025	<20.0	15.98	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
17-May-2025	<20.0	14.93	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
23-May-2025	<20.0	11.00	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
24-May-2025	<20.0	15.98	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
30-May-2025	<20.0	20.97	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
31-May-2025	<20.0	27.52	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Orient

Project	Orient Mine No.2							
Monitoring Station	VIP Guest House, IB Valley (Reported Only)							
Date of sampling	Ammon in (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzen e
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
05-May-2025	<20.0	22.80	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
06-May-2025	<20.0	19.13	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
12-May-2025	<20.0	17.30	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
13-May-2025	<20.0	21.48	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
19-May-2025	<20.0	20.70	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
20-May-2025	<20.0	18.60	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
26-May-2025	<20.0	22.02	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
27-May-2025	<20.0	21.48	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 Annual	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Orient

Project	HRC							
Monitoring Station	Rampur Sub Area (Reported Only)							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (a) Pyrene	Benzene
	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\text{mg}/\text{m}^3$ )	( $\text{ng}/\text{m}^3$ )	( $\mu\text{g}/\text{m}^3$ )
02-May-2025	<20.0	19.13	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
03-May-2025	<20.0	25.15	<0.1	<1.0	<1.0	0.8	BQL(QL=0.7)	BQL
09-May-2025	<20.0	12.32	<0.1	<1.0	<1.0	0.4	BQL(QL=0.7)	BQL
10-May-2025	<20.0	11.53	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
16-May-2025	<20.0	15.98	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
17-May-2025	<20.0	14.93	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
23-May-2025	<20.0	11.00	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
24-May-2025	<20.0	15.98	<0.1	<1.0	<1.0	0.5	BQL(QL=0.7)	BQL
30-May-2025	<20.0	20.97	<0.1	<1.0	<1.0	0.6	BQL(QL=0.7)	BQL
31-May-2025	<20.0	27.52	<0.1	<1.0	<1.0	0.7	BQL(QL=0.7)	BQL
Standard	400 (24hours)	180 (hour)	1.0 (24hours)	6.0 (Annual)	20 (Annual)	02 (8 hours)	01(annual)	05(annual)

*F. J. Jaiswal*  
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AMBIENT AIR QUALITY DATA (NAAQS PARAMETER)

Area: Orient

Project	HRC							
Monitoring Station	Rampur Officers Guest House (Reported Only)							
Date of sampling	Ammonia (NH <sub>3</sub> )	Ozone (O <sub>3</sub> )	Lead (Pb)	Arsenic (As)	Nickel (Ni)	CO	Benzo (α) Pyrene	Benzen e
	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(μg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(mg/m <sup>3</sup> )	(ng/m <sup>3</sup> )	(μg/m <sup>3</sup> )
02-May-2025	<20.0	19.65	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
03-May-2025	<20.0	12.58	<0.1	<1.0	<1.0	1.1	BQL(QL=0.7)	BQL
09-May-2025	<20.0	15.72	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
10-May-2025	<20.0	14.93	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
16-May-2025	<20.0	25.68	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
17-May-2025	<20.0	15.98	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
23-May-2025	<20.0	11.00	<0.1	<1.0	<1.0	1.0	BQL(QL=0.7)	BQL
24-May-2025	<20.0	20.97	<0.1	<1.0	<1.0	1.2	BQL(QL=0.7)	BQL
30-May-2025	<20.0	16.25	<0.1	<1.0	<1.0	1.3	BQL(QL=0.7)	BQL
31-May-2025	<20.0	27.52	<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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**NOISE LEVEL MONITORING DATA**

AREA :

*Orient*

PROJECT :

*HBI Mine*

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
13-May-25	HBI Mine	65.6	60.8
13-May-25	Bundia Colony Pump House	58.3	51.6
13-May-25	Rampur Sub Area (Reported)	49.9	39.3
13-May-25	Rampur Officer's Guest House	50.1	40.7
27-May-25	HBI Mine	58.8	49.6
27-May-25	Bundia Colony Pump House	55.4	48.2
27-May-25	Rampur Officer's Guest House	47.9	39.4
27-May-25	Rampur Sub Area (Reported)	43.9	39.4

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

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TABLE--

**NOISE LEVEL MONITORING DATA**

AREA :

Orient

PROJECT :

HRC

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
13-May-25	Near CHP HRC	60.7	54.4
13-May-25	Near Rampur Colliery Check Post	58.4	52.3
27-May-25	Near CHP HRC	62.6	54.2
27-May-25	Near Rampur Colliery Check Post	59.3	52.8

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--**

**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
13-May-25	Orient Mine No. 1 & 2	60.8	54.2
13-May-25	VIP Guest House, IB Valley (Reported Only)	49.51	37.42
27-May-25	Orient Mine No. 1 & 2	61.9	57.6
27-May-25	VIP Guest House, IB Valley (Reported Only)	49.9	38.3

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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**NOISE LEVEL MONITORING DATA**

AREA :

Orient

PROJECT :

Orient Mine No.3

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
13-May-25	Orient Mine No.3	59.8	53.6
27-May-25	Orient Mine No.3	60.4	53.8

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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**NOISE LEVEL MONITORING DATA**

AREA :

Orient

PROJECT :

Orient Mine No.4

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
13-May-25	Orient Mine No.4	50.4	39.9
27-May-25	Orient Mine No.4	49.9	38.6

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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**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-May-25	Mine Sump of Mine No. 2	8.00	<4.0	34	28	-	-	-	
27-May-25	Mine Sump of Mine No. 2	7.85	<4.0	36	22	-	-	-	

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

5.5-9.0	10	100	250	30
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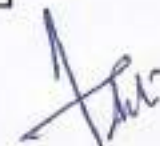


TABLE--  
**EFFLUENT QUALITY DATA**

Area :

Orient

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

Date of Sampling	Sampling Station	pH	Orient Mine No. 3						Remarks
			Oil & Grease	TSS	COD	BOD	TDS	DO	
13-May-25	Mine Sump of Mine No. 3	7.16	<4.0	22	16	-	-	-	
27-May-25	Mine Sump of Mine No. 3	7.99	<4.0	24	12	-	-	-	

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

5.5-9.0	10	100	250	30
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**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-May-25	Mine Sump of Mine No. 4	7.39	<4.0	20	12	-	-	-	
27-May-25	Mine Sump of Mine No. 4	7.31	<4.0	28	16	-	-	-	

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

5.5-9.0	10	100	250	30
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**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
12-May-25	Mine Sump of HBM	8.06	<4.0	26	20	-	-	-	
27-May-25	Mine Sump of HBM	7.81	<4.0	22	20	-	-	-	

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

5.5-9.0	10	100	250	30
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## 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
Date of Sampling	14-May-2025	14-May-2025		
Colour(Hazen)	1	2	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	3	1	5
pH	7.71	7.40	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	76	128	200	600
Chloride(mg/L)	14	26	250	1000
Sulphate(mg/L)	16.20	12.32	200	400
Nitrate(mg/L)	<0.5	<0.5	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	92	96	200	600
Calcium(mg/L)	33.6	17.6	75	200
Fluoride(mg/L)	0.44	0.31	1	1.5
Total Dissolve Solid(mg/L)	147	200	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	0.12	<0.04	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 Orient Area

Project / OCP	Orient Mine No. 3	Indian Drinking Standards (IS-10500):2012	
Monitoring Station	Mine no 3 Filter Plant		
Date of Sampling	14-May-2025	Acceptable	Permissible
Colour(Hazen)	2	5	15
Odour	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	1	1	5
pH	7.49	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	124	200	600
Chloride(mg/L)	12	250	1000
Sulphate(mg/L)	23.45	200	400
Nitrate(mg/L)	<0.5	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	88	200	600
Calcium(mg/L)	16	75	200
Fluoride(mg/L)	<0.3	1	1.5
Total Dissolve Solid(mg/L)	160	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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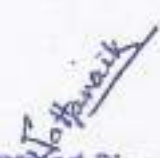




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## Drinking Water Quality Data Orient Area

Project / OCP	HBI Mine		Indian Drinking Standards (IS-10500):2012	
	Rampur Colony	HBI Water Filter Plant	Acceptable	Permissible
Date of Sampling	13-May-2025	13-May-2025	Acceptable	Permissible
Colour(Hazen)	2	3	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	3	1	5
pH	7.73	7.76	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	144	152	200	600
Chloride(mg/L)	18	6	250	1000
Sulphate(mg/L)	3.26	6.72	200	400
Nitrate(mg/L)	<0.5	<0.5	45	No relaxation
Total Hardness (Ca CO <sub>3</sub> )(mg/L)	96	92	200	600
Calcium(mg/L)	20.8	19.2	75	200
Fluoride(mg/L)	0.45	0.54	1	1.5
Total Dissolve Solid(mg/L)	182	192	500	2000
Copper(mg/L)	<0.03	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	<0.04	0.1	0.3
Iron(mg/L)	<0.1	<0.1	1	No relaxation
Zinc(mg/L)	<0.04	2.33	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 Quality

## Drinking Water Quality Data Orient Area

Project / OCP	Orient Mine No. 1 & 2		Indian Drinking Standards (IS-10500):2012	
	Budhijaam Colony	Mine no 1 & 2 Filter Plant	Acceptable	Permissible
Monitoring Station				
Date of Sampling	14-May-2025	14-May-2025		
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	8.57	15.66		
Potassium(mg/L)	7.42	9.36		
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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*A. Dutta*



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## Drinking Water Quality Data Orient Area

Project / OCP	Orient Mine No. 3	Indian Drinking Standards (IS-10500):2012	
Monitoring Station	Mine no 3 Filter Plant	Acceptable	Permissible
Date of Sampling	14-May-2025		
Selenium(mg/L)	<0.005	0.01	No relaxation
Sodium(mg/L)	7.09	-	-
Potassium(mg/L)	8.77	-	-
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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MINE WATER

## Drinking Water Quality Data Orient Area

Project / OCP	HBI Mine		Indian Drinking Standards (IS-10500):2012	
	Rampur Colony	HBI Water Filter Plant	Acceptable	Permissible
Monitoring Station				
Date of Sampling	13-May-2025	13-May-2025		
Selenium(mg/L)	<0.005	<0.005	0.01	No relaxation
Sodium(mg/L)	11.25	13.13		
Potassium(mg/L)	8.16	9.35		
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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