

**ENVIRONMENTAL MONITORING REPORT
FOR THE MONTH OF MAY
2022**

At the request of:

M/s. KHATKURBAHAL LIMESTONE MINES

Khatkurbahal, P.o. – Kutra, Dist.- Sundargarh
(Odisha)

Conducted By:



M/s. MITRA S.K. PRIVATE LIMITED

At/Po – Barbil
Dist.- : Keonjhar. (Odisha)
Pin - 758035.

Mitra S. K. Private Limited



At/P.O. : BARBIL Ward No - 6
Dist : Keonjhar, Odisha - 758035
CIN : U51909WB1956PTC023037

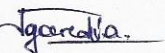
T : 06767-275209, 94370-75269
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Ref. No. BBL/ENV/3258

DATE: 09/06/2022

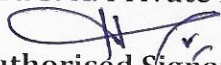
ANALYSIS REPORT OF AMBIENT AIR

Name of the Mines :		M/s. KHATKURBAHAL LIMESTONE MINES					
Address :		Khatkurbahal, Kutra, Dist. Sundargarh (Odisha)					
Sl. No.	Date of Monitoring	Location	Concentration of Pollutants				
			PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO ₂ ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)
1	18/19.05.2022	Office Site (South)	66.2	35.8	6.4	19.2	0.28
2	18/19.05.2022	Mining Site (South)	72.3	39.4	6.8	19.8	0.30
3	18/19.05.2022	Khaturbahal Village	54.8	29.5	6.2	18.4	0.26
4	19/20.05.2022	Jaurimunda Village	51.6	29.1	6.2	18.8	0.27
Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality			100	60	80	80	2
Sampling and Analysis done according to			IS: 5182 (Part-23) -1999	USEPA CFR-40, Part-50, Appendix-L	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182: Part.10-1999
Barometric pressure (mm of Hg): 751			Temperature °C: 29-42		Climatic condition: Clear & Sunny		

Checked by:- 



For Mitra S. K. Private Limited


Authorised Signatory

Mitra S. K. Private Limited



At/P.O. : BARBIL Ward No - 6
Dist. : Keonjhar, Odisha - 758035
CIN : U51909WB1956PTC023037

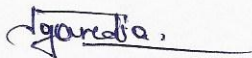
T : 06767-275209, 94370-75269
E : barbil@mitrask.co.in

Ref. No. BBL/ENV/3259

DATE: 09/06/2022

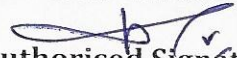
ANALYSIS REPORT OF FUGITIVE AIR

Name of the Mines:		M/s. KHATKURBAHAL LIMESTONE MINES	
Address:		Khatkurbahal, Kutra, Dist. Sundargarh (Odisha)	
Sl.No.	Date of Sampling	Location	Concentration of Pollutants:
			Particulate Matter $\mu\text{g}/\text{m}^3$
1	19.05.2022	Mines Pit	433.6
2	19.05.2022	Weigh Bridge	345.2
3	19.05.2022	Haul Road	497.4
Sampling & Analysis done According to			IS: 5182 (Part-23) IS: 5182 (Part-4) 1999 Rffm:
Barometric pressure (mm of Hg)			750
Temperature °C			29 - 42
Climatic condition			Clear & Sunny

Checked by:- 



For Mitra S. K. Private Limited


Authorised Signatory

Mitra S. K. Private Limited



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CIN : U51909WB1956PTC023037

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Ref No./BBL/ENV/3260

Date: 09/06/2022

CERTIFICATE OF NOISE MONITORING

Name of the Mines :		M/s. KHATKURBAHAL LIMESTONE MINES			
Address :		Khatkurbahal, Kutra, Dist. Sundargarh (Odisha)			
SL. NO.	Monitoring Location	Date & Time	Noise Level in dB (A)		
			Ld	Ln	Ldn
1.	Inside Lease Area	18/19.05.2022	53.8	31.6	39.2
2.	Mines Office Area	18/19.05.2022	51.4	31.2	36.5
3.	Khatkurbahal Village	18/19.05.2022	48.7	31.1	35.3

Note : Day Time : 6.00 AM -10.00 PM, Night Time: 10.00PM- 6.00AM

AMBIENT AIR QUALITY STANDARDS IN RESPECT OF NOISE AS PER CPCB GUIDELINES

AREA CODE	CATEGORY OF AREA / ZONE	LIMITS IN dB (A)	
		DAY TIME	NIGHT TIME
A	INDUSTRIAL AREA	75	70
B	COMMERCIAL AREA	65	55
C	RESIDENTIAL AREA	55	45
D	SILENE ZONE	50	40

Checked by:- *J. Gardia*



For Mitra S. K. Private Limited

[Signature]
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 CIN : U51909WB1956PTC023037

T : 06767-275209, 94370-75269
 E : barbil@mitrask.co.in

Ref No./BBL/ENV/3261

Date: 09/06/2022

CERTIFICATE OF WORK ZONE NOISE MONITORING

Name of the Mines :		M/s. KHATKURBAHAL LIMESTONE MINES			
Address :		Khatkurbahal, Kutra, Dist. Sundargarh (Odisha)			
SL. NO.	Monitoring Location	Date & Time	Noise Level in dB (A)		
			Ld	Ln	Ldn
1.	Mines Pit	17/18.05.2022	59.7	31.9	44.5
2.	Weigh Bridge	17/18.05.2022	57.8	32.2	43.6
3.	Haul Road	17/18.05.2022	56.4	31.6	42.5

Note : Day Time : 6.00 AM -10.00 PM, Night Time: 10.00PM- 6.00AM

19.10.95 OCCUPATIONAL NOISE EXPOSURE AS PER OCCUPATIONAL SAFETY AND HELTH ADMINISTRATION

Duration per day, hours	Sound Level dB(A)
8	90
6	92
4	95
3	97
2	100
1 and 1/2	102
1	105
1/2	110
¼ or less	115

TABLE G-16 - PERMISSIBLE NOISE EXPOSURES (1)

Checked by:- Jgandia.



For Mitra S. K. Private Limited

[Signature]
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CIN : U51909WB1956PTC023037

T : 06767-275209, 94370-75269
E : info@mitras.com
Ref No: **BB/ENV/3262**

DATE: 09/06/2022

CERTIFICATE OF ANALYSIS

Name of the Mines :	M/s. KHATKURBAHAL LIMESTONE MINES		
Address :	Khatkurbahal, Kutra, Dist. Sundargarh (Odisha)		
Type of Sample: Ground Water	Date of sampling: 18/05/2022		
Sampling Location: (Buffer Zone)	Tube well Jaurimunda Village	Tube well Khatkurbahal Village	

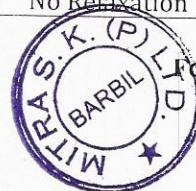
MICROBIOLOGICAL ANALYSIS OF WATER AS PER IS: 10500 – 2012

SI No.	Test Parameters	Norms as per IS:10500-2012	Results	Results
1	Total Coliform MPN/100ml	10 (MAX)	<2.0	<2.0
2	Faecal Coliforms MPN/10	Not Detected	Not Detected	Not Detected
3	E. Coli MPN/10	Not Detected	Not Detected	Not Detected

CHEMICAL ANALYSIS OF WATER AS PER IS: 10500 – 2012

SI No.	Test Parameters	UOM	Norms as per IS: 10500-2012		Results	Results
			Desirable Limit	Permissible Limit		
1	Colour	Hazen	5	15	<5.0	<5.0
2	Odour	---	Agreeable	Agreeable	Agreeable	Agreeable
3	pH at 26°C	---	6.5-8.5	No Relaxation	6.97	7.50
4	Turbidity	NTU	1	5	15.0	19.0
5	Total Dissolved Solids (as TDS)	mg/l	500	2000	202.0	370.0
6	Aluminium (as Al)	mg/l	0.03	0.2	<0.01	<0.01
7	Anionic Detergents (as MBAS)	mg/l	0.2	1.0	<0.02	<0.02
8	Boron (as B)	mg/l	0.5	1.0	<0.5	<0.5
9	Calcium (as Ca)	mg/l	75	200	36.0	82.0
10	Chloride (as Cl)	mg/l	250	1000	16.0	24.0
11	Copper (as Cu)	mg/l	0.05	1.5	<0.02	<0.02
12	Fluoride (as F)	mg/l	1.0	1.5	0.42	0.80
13	Free Residual Chlorine	mg/l	0.2	1.0	<0.1	<0.1
14	Iron (as Fe)	mg/l	0.3	No Relaxation	1.1	1.6
15	Magnesium (as Mg)	mg/l	30	100	10.0	12.0
16	Manganese (as Mn)	mg/l	0.1	0.3	<0.02	<0.02
17	Nitrate (as NO3)	mg/l	45	No Relaxation	5.4	3.2
18	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	<0.001	<0.001
19	Selenium (as Se)	mg/l	0.01	No Relaxation	<0.005	<0.005
20	Sulphate (as SO ₄)	mg/l	200	400	2.0	15.0
21	Alkalinity (as CaCO ₃)	mg/l	200	600	149.0	282.0
22	Total Hardness (as CaCO ₃)	mg/l	300	600	132.0	256.0
23	Cadmium (as Cd)	mg/l	0.003	No Relaxation	<0.001	<0.001
24	Cyanide (as CN)	mg/l	0.05	No Relaxation	<0.01	<0.02
25	Lead (as Pb)	mg/l	0.01	No Relaxation	<0.005	<0.005
26	Mercury (as Hg)	mg/l	0.001	No Relaxation	<0.001	<0.001
27	Arsenic(as As)	mg/l	0.01	0.05	<0.005	<0.005
28	Zinc (as Zn)	mg/l	5.0	15.0	<0.02	<0.02
29	Hexavalent Chromium (as Cr+6)	mg/l	0.05	No Relaxation	<0.01	<0.01
30	Pesticide	mg/l	---	---	<0.0005	<0.000
31	Polly nuclear Aromatic hydrocarbon	mg/l	0.0001	No Relaxation	<0.005	<0.005

Checked by: *[Signature]*



For Mitra S.K. Private Limited

[Signature]
Authorised Signatory

Mitra S. K. Private Limited

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Ref. No. BBL/ENV/3263

DATE: 09/06/2022

CERTIFICATE OF ANALYSIS

Name of the Mines :	M/s. KHATKURBAHAL LIMESTONE MINES
Address :	Khatkurbahal, Kutra, Dist. Sundargarh (Odisha)
Sampling Location :	Bore well Water near Mines Office
Type of Sample :	Ground Water
Date of sampling :	18/05/2022

MICROBIOLOGICAL ANALYSIS OF WATER AS PER IS: 10500 – 2012

Sl No.	Test Parameters	Norms as per IS:10500-2012	Results
1	Total Coliform MPN/100ml	10 (MAX)	<2.0
2	Faecal Coliforms MPN/10	Not Detected	Not Detected
3	E. Coli MPN/10	Not Detected	Not Detected

CHEMICAL ANALYSIS OF WATER AS PER IS: 10500 – 2012

Sl. No.	Test Parameters	UOM	Norms as per IS: 10500-2012		Results
			Desirable Limit	Permissible Limit	
1	Colour	Hazen	5	15	<5.0
2	Odour	---	Agreeable	---	Agreeable
3	pH at 25°C	---	6.5-8.5	No Relaxation	7.80
4	Turbidity	NTU	1	5	<1.0
5	Total Dissolved Solids (as TDS)	mg/l	500	2000	492.0
6	Aluminium (as Al)	mg/l	0.03	0.2	<0.01
7	Anionic Detergents (as MBAS)	mg/l	0.2	1.0	<0.02
8	Boron (as B)	mg/l	0.5	1.0	<0.5
9	Calcium (as Ca)	mg/l	75	200	76.0
10	Chloride (as Cl)	mg/l	250	1000	70.0
11	Copper (as Cu)	mg/l	0.05	1.5	<0.02
12	Fluoride (as F)	mg/l	1.0	1.5	0.44
13	Free Residual Chlorine	mg/l	0.2	1.0	<0.1
14	Iron (as Fe)	mg/l	0.3	No Relaxation	0.08
15	Magnesium (as Mg)	mg/l	30	100	27.0
16	Manganese (as Mn)	mg/l	0.1	0.3	<0.02
17	Nitrate (as NO3)	mg/l	45	No Relaxation	27.0
18	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	0.001	0.002	<0.001
19	Selenium (as Se)	mg/l	0.01	No Relaxation	<0.005
20	Sulphate (as SO ₄)	mg/l	200	400	10.0
21	Alkalinity (as CaCO ₃)	mg/l	200	600	355.0
22	Total Hardness (as CaCO ₃)	mg/l	200	600	303.0
23	Cadmium (as Cd)	mg/l	0.003	No Relaxation	<0.001
24	Cyanide (as CN)	mg/l	0.05	No Relaxation	<0.02
25	Lead (as Pb)	mg/l	0.01	No Relaxation	<0.005
26	Mercury (as Hg)	mg/l	0.001	No Relaxation	<0.001
27	Arsenic (as As)	mg/l	0.01	0.05	<0.005
28	Zinc (as Zn)	mg/l	5.0	15.0	<0.02
29	Hexavalent Chromium (as Cr+6)	mg/l	0.05	No Relaxation	<0.01
30	Pesticide	mg/l	---	---	<0.0005
31	Polly nuclear Aromatic hydrocarbon	mg/l	0.0001	No Relaxation	<0.0001

Checked by : *gandia*



For Mitra S.K. Private Limited

[Signature]
Authorised Signatory

Mitra S. K. Private Limited



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CIN : U51909WB1956PTC023037

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Ref. No.BBL/ENV/3264

Date: 09/06/2022

GROUND WATER LEVEL MONITORING

Name of the Mines :	M/s. KHATKURBAHAL LIMESTONE MINES	
Address :	Khatkurbahal, Kutra, Dist. Sundargarh (Odisha)	
Date of Monitoring	Location	Water Level below (in meters)
17.05.2022	Well at Khatkurbahal Village	8.80
17.05.2022	Near Mines Office Bore well	8.10
17.05.2022	Well at Jaurimunda Village	3.55

Checked by:-

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For Mitra S. K. Private Limited

[Signature]

Authorised Signatory

Mitra S. K. Private Limited

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Dist. : Keonjhar, Odisha - 758035
CIN : U51909WB1956PTC023037



T : 06767-275209, 94370-75269

E : barbil@mitras.com.in
REP NO: BBE/ENV/3265

Date:09/06/2022

CERTIFICATE OF ANALYSIS

Name of the Mines :		M/s. KHATKURBAHAL LIMESTONE MINES			
Address:		Khatkurbahal, Kutra, Dist. Sundargarh (Odisha)			
Type of Sample : Surface Water		Date of sampling : 18/05/2022			
Sampling Location:					
Sl. No.	Test Parameters	Unite	Max. Tolerance Limit as per IS: 2490 and CPCB	Jharia Nalla Result	Nakti Jor Nalla Result
1	Colour	Hazen	5	<1.0	<1.0
2	Odour	---	Unobjectionable	Unobjectionable	Unobjectionable
3	pH at 26°C	---	5.5-9.0	7.63	6.87
4	Copper (as Cu)	mg/l	3.0	<0.02	<0.02
5	Fluoride (as F)	mg/l	2.0	0.83	0.55
6	Free Residual Chlorine	mg/l	1.0	<0.1	<0.1
7	Iron (as Fe)	mg/l	3.0	0.98	0.61
8	Manganese (as Mn)	mg/l	2.0	<0.02	<0.02
9	Nitrate (as NO ₃)	mg/l	10.0	<0.5	<0.5
10	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	1.0	<0.001	<0.001
11	Selenium (as Se)	mg/l	0.05	<0.005	<0.005
12	Cadmium (as Cd)	mg/l	2.0	<0.001	<0.001
13	Cyanide (as CN)	mg/l	0.2	<0.01	<0.01
14	Lead (as Pb)	mg/l	0.1	<0.005	<0.005
15	Mercury (as Hg)	mg/l	0.01	<0.001	<0.001
16	Nickel (as Ni)	mg/l	3.0	<0.02	<0.02
17	Arsenic(as As)	mg/l	0.2	<0.005	<0.005
18	Total Chromium (as Cr)	mg/l	2.0	<0.01	<0.01
19	Zinc (as Zn)	mg/l	5.0	<0.02	<0.02
20	Hexavalent Chromium (as Cr+6)	mg/l	0.1	<0.01	<0.01
21	Vanadium as V	mg/l	0.2	<0.2	<0.2
22	Total Suspended Solid (as TSS)	mg/l	100	14.0	13.0
23	Temperature	°C	---	25.0	25.0
24	Dissolved Oxygen	mg/l	---	6.1	6.2
25	Biochemical Oxygen Demand (as BOD)	mg/l	30	<2.0	<2.0
26	Chemical Oxygen Demand (COD)	mg/l	250	8.0	<4.0
27	Oil and Grease	mg/l	10	<5.0	<5.0
28	Ammoniacal Nitrogen (as N)	mg/l	50	<0.1	<0.1
29	Total Kjeldahl Nitrogen	mg/l	100	<0.3	<0.3
30	Sulphide (as S)	mg/l	2.0	<0.1	<0.1
31	Free Ammonia	mg/l	5.0	<0.1	<0.1
32	Particle size of suspended solids	---	850 µm IS Sieve	Pass	Pass
33	Dissolved Phosphate (as P)	mg/l	5	<0.05	<0.05
34	Bio-assay	---	90% survival in 100% effluent	90% survival in 100% effluent	90% survival in 100% effluent

Checked by:- *[Signature]*



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[Signature]
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Ref. No. BBL/ENV/3266

Date: 09/06/2022

CERTIFICATE OF ANALYSIS

Name of the Mines :		M/s. KHATKURBAHAL LIMESTONE MINES		
Address:		Khatkurbahal, Kutra, Dist. Sundargarh (Odisha)		
Type of Sample :		Surface Water		
Date of sampling :		18/05/2022		
Location of Sampling:		Mine runoff water		
Sl. No.	Test Parameters	Unite	Limit as per CPCB Inland Surface water	Data Recorded from Current Analysis
1	pH value at 25°C	---	5.5-9.0	6.98
2	Total Suspended Solid (as TSS)	mg/l	50/100	10.0
3	Total Dissolved Solid (as TDS)	mg/l	---	280.0
4	Biochemical Oxygen Demand as (BOD)	mg/l	30	3.1
5	Chemical Oxygen Demand (COD)	mg/l	250	12.0
6	Oil and Grease	mg/l	10	<5.0
7	Iron (as Fe)	mg/l	3.0	0.17
8	Dissolved Oxygen	mg/l	---	6.1

Limit as per MOEF Notification, New Delhi, the 4th October 2010, Effluent Standard TSS in mg/l, 50 (Non rainy Day), 100 (Rainy Day).

Checked by:-



For Mitra S. K. Private Limited

Authorized Signatory