



CIN : L26942OR1985PLC001657

# SHIVA CEMENT LIMITED

PLOT NO. YY-5,  
CIVIL TOWNSHIP  
788 AREA, ROURKELA  
ODISHA, INDIA. PIN - 769004.

SCL/6000-09/2020-21/03

04.01.2021

To  
The Member Secretary  
State Pollution Control Board, Odisha  
[Department of Forest & Environment, Govt. of Odisha]  
Paribesh Bhawan, A/11B, Nilakantha Nagar,  
Unit-VIII, Bhubaneswar-751 012

sub: Environment Monitoring Reports for the month of December-2020.

Dear Sir,

Please find attached herewith the Environment Monitoring Report for the month of December-2020.

Thanking you

Yours Faithfully

For Shiva Cement Limited

(Anil Mishra)  
Unit Head

Enc: As above.

Copy to  
The Regional Officer  
OSPCB, Rourkela

Phone : (Off) 0661 - 2664168

● Works Village, Telegana, P.O. - Biringatoli, Kultra, Dist - Sundargarh, Odisha - 770018

E-mail-id : corporate@shivacement.com

**ENVIRONMENTAL MONITORING REPORT  
FOR THE MONTH OF DECEMBER  
2020**

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At the request of:

**M/S. SHIVA CEMENT LIMITED**

Teleghana, P.O. - Kutra, Dist.- Sundardarh  
(Odisha)

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Conducted By:



**M/s. MITRA S.K. PRIVATE LIMITED**

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

<b>ANALYSIS REPORT OF FLUE GAS</b>		
<b>Name of the Industry</b>	: M/s. SHIVA CEMENT LIMITED	
<b>Address</b>	: Teleghana, Kutra, Dist. Sundargarh (Odisha)	
<b>Date &amp; time of sampling</b>	: 21/12/2020 AT 02.30 PM	
<b>A. General information about stack</b>		
1 Stack connected to	: Rotary Kiln	
2 Emission due to	: Burning of Clinker	
3 Material of construction of Stack	: MS	
4 Shape of Stack	: Circular	
5 Whether stack is provided with permanent platform & Ladder	: Yes	
6 Generation Capacity	: ---	
<b>B. Physical characteristics of stack</b>		
1 Height of the stack from ground level	: 45.0 m	
2 Diameter of the stack at sampling point	: 1.25 m	
3 Height of the sampling point from Ground Level	: 33 m	
4 Area of Stack	: 1.2277m <sup>2</sup>	
<b>C. Analysis/Characteristic of stack</b>		
1 Fuel used	Coal	2. Fuel consumption : 3MT/Hrs
<b>D. Results of sampling &amp; analysis of gaseous emission</b>		
	<b>Result</b>	<b>Method</b>
1 Temperature of emission (°C)	: 80	EPA Part 2
2 Barometric pressure (mm of Hg)	: 750	EPA Part 2
3 Velocity of gas (m/sec)	: 7.99	EPA Part 2
4 Quantity of gas flow (Nm <sup>3</sup> /hr.)	: 28225	EPA Part 2
5 Concentration of Carbonmonoxide(%)	: <0.2	USEPA 18 -25/09/1996
6 Concentration of Carbon dioxide(%)	: 8.2	IS 13270:1992,Ref:2009
7 Concentration of Sulphur dioxide (mg/Nm <sup>3</sup> )	: 39.4	GC
8 Concentration of Nitrogen dioxide (mg/Nm <sup>3</sup> )	: 21.5	EPA Part-7
9 Concentration of Particulate Matters (mg/Nm <sup>3</sup> )	: 23.6	EPA Part-5
<b>E. Pollution control device</b>		
Details of pollution control devices attached with the stack	: Bag Filter	

Checked by:-




For Mitra S. K. Private Limited

Authorised Signatory

# Mitra S. K. Private Limited

ALP, O. BARBIL Ward No.6  
Dist. Keonjhar, Odisha - 758035  
CIN: U51909WB1995PTC023037



T: +91 9437008615 9437008620 94370 15269  
E: barbil@mitrask.com  
W: www.mitrask.com

Ref.No.BBL/ENV/2301

Date: 02.01.2021

<b>ANALYSIS REPORT OF FLUE GAS</b>	
<b>Name of the industry</b>	: M/s. SHIVA CEMENT LIMITED
<b>Address</b>	: Teleghana, Kutra, Dist. Sundargarh (Odisha)
<b>Date &amp; time of sampling</b>	: 21/12/2020 AT 03.55 PM
<b>A. General information about stack</b>	
1 Stack connected to	: Raw Mill Bag Filter
2 Emission due to	: Raw Mix Grinding
3 Material of construction of Stack	: MS
4 Shape of Stack	: Circular
5 Stack is provided with permanent platform & Ladder	: Yes
6 Generation Capacity	: ---
<b>B. Physical characteristics of stack</b>	
1 Height of the stack from ground level	: 45.0 m
2 Diameter of the stack at sampling point	: 1.05 m
3 Height of the sampling point from Ground Level	: 34 m
4 Area of Stack	: 0662 m <sup>2</sup>
<b>C. Analysis/Characteristic of stack</b>	
1 Fuel used : Kiln Hot Gas	2. Fuel consumption : ---
<b>D. Results of sampling &amp; analysis of gaseous emission</b>	
	<b>Result</b> <b>Method</b>
1 Temperature of emission (°C)	: 65      EPA Part 2
2 Barometric pressure (mm of Hg)	: 750      EPA Part 2
3 Velocity of gas (m/sec)	: 5.91      EPA Part 2
4 Quantity of gas flow (Nm <sup>3</sup> /hr.)	: 15462      EPA Part 2
5 Concentration of Carbonmonoxide(%)	: <0.2      USEPA 18 -25/09/1996
6 Concentration of Carbon dioxide(%)	: 2.2      IS 13270:1992,Ref:2009
7 Concentration of Sulphur dioxide (mg/Nm <sup>3</sup> )	: 17.3      GC
8 Concentration of Nitrogen dioxide (mg/Nm <sup>3</sup> )	: 9.8      EPA Part-7
9 Concentration of Particulate Matters (mg/Nm <sup>3</sup> )	: 24.2      EPA Part-5
<b>E. Pollution control device</b>	
Details of pollution control devices attached with the stack	: Bag Filter

Checked by:-



For Mitra S. K. Private Limited

Authorised Signatory

H. O.: Shradhi Centre (5th Floor), 74B, Acharya Jagadish Chandra Bose Road, Kolkata - 700 016, West Bengal, India  
T: 91 33 22172249 / 4014 3000 / 2265 0006 / 2265 0007 F: 91 33 2265 0008 E: info@mitrask.com W: www.mitrask.com

# Mitra S. K. Private Limited

ANP.O. BARBIL, Ward No-6  
Dist. Keonjhar, Odisha - 758035  
G.M. US1909VABT855PTC023037



T: +91 9437009815, 9437009820, 94370075209  
E: barbil@mitrask.com  
W: www.mitrask.com

Ref.No.BBL/ENV/2302

Date: 02.01.2021

<b>ANALYSIS REPORT OF FLUE GAS</b>		
<b>Name of the industry</b>	: M/s. SHIVA CEMENT LIMITED	
<b>Address</b>	: Teleghana, Kutra, Dist. Sundargarh (Odisha)	
<b>Date &amp; time of sampling</b>	: 22/12/2020 AT 03.30PM	
<b>A. General information about stack</b>		
1 Stack connected to	: Coal Mill Bag Filter	
2 Emission due to	: Coal Grinding	
3 Material of construction of Stack	: MS	
4 Shape of Stack	: Circular	
5 Whether stack is provided with permanent platform & Ladder	: Yes	
6 Generation Capacity	: ---	
<b>B. Physical characteristics of stack</b>		
1 Height of the stack from ground level	: 31.0 m	
2 Diameter of the stack at sampling point	: 0.68 m	
3 Height of the sampling point from Ground Level	: 24 m	
4 Area of Stack	: 0.3633 m <sup>2</sup>	
<b>C. Analysis/Characteristic of stack</b>		
1 Fuel used	Kiln Hot Gas	
2. Fuel consumption	: ---	
<b>D. Results of sampling &amp; analysis of gaseous emission</b>		
	<b>Result</b>	<b>Method</b>
1 Temperature of emission (°C)	: 45	EPA Part 2
2 Barometric pressure (mm of Hg)	: 750	EPA Part 2
3 Velocity of gas (m/sec)	: 9.52	EPA Part 2
4 Quantity of gas flow (Nm <sup>3</sup> /hr.)	: 8287.0	EPA Part 2
8 Concentration of Particulate Matters (mg/Nm <sup>3</sup> )	: 28.6	EPA Part-5
<b>E. Pollution control device</b>		
Details of pollution control devices attached with the stack	: Bag Filter	



For Mitra S. K. Private Limited

Authorised Signatory

Checked by:-

H. O. : Shrachi Centre (5th Floor), 74B, Acharya Jagadish Chandra Bose Road, Kolkata - 700 016, West Bengal, India

T: 91 33 22172249 / 4014 3000 / 2265 0006 / 2265 0007 F: 91 33 2265 0008 E: info@mitrask.com W: www.mitrask.com

# Mitra S. K. Private Limited

A/P O: BARBIL, Ward No-6  
 Dist: Keonjhar, Odisha - 758035  
 CIN: U51909WB1995PTC003307



T: +91 94370 08815, 94370 09620, 94370 15209  
 E: info@mitrask.com  
 W: www.mitrask.com

Ref.No.BBL/ENV/2303

Date: 02.01.2021

<b>ANALYSIS REPORT OF FLUE GAS</b>		
<b>Name of the industry</b>	: M/s. SHIVA CEMENT LIMITED	
<b>Address</b>	: Teleghana, Kutra, Dist. Sundargarh (Odisha)	
<b>Date &amp; time of sampling</b>	: 22/12/2020 AT 12.20 PM	
<b>A. General information about stack</b>		
1 Stack connected to	: Cement Mill Bag Filter	
2 Emission due to	: Grinding Process	
3 Material of construction of Stack	: MS	
4 Shape of Stack	: Circular	
5 Whether stack is provided with permanent platform & Ladder	: Yes	
6 Generation Capacity	: ---	
<b>B. Physical characteristics of stack</b>		
1 Height of the stack from ground level	: 33.0 m	
2 Diameter of the stack at sampling point	: 1.0 m	
3 Height of the sampling point from Ground Level	: 25m	
4 Area of Stack	: 0.7857 m <sup>2</sup>	
<b>C. Analysis/Characteristic of stack</b>		
1 Fuel used	: ---	
2. Fuel consumption	: ---	
<b>D. Results of sampling &amp; analysis of gaseous emission</b>		
	<b>Result</b>	<b>Method</b>
1 Temperature of emission (°C)	: 39	EPA Part 2
2 Barometric pressure (mm of Hg)	: 750	EPA Part 2
3 Velocity of gas (m/sec)	: 4.90	EPA Part 2
4 Quantity of gas flow (Nm <sup>3</sup> /hr.)	: 12640	EPA Part 2
8 Concentration of Particulate Matters (mg/Nm <sup>3</sup> )	: 25.2	EPA Part-5
<b>E. Pollution control device</b>		
Details of pollution control devices attached with the stack	: Bag Filter	

Checked by:-



For Mitra S. K. Private Limited

Authorised Signatory

H. O.: Shachi Centre (5th Floor), 74B, Acharya Jagadish Chandra Bose Road, Kolkata - 700 016, West Bengal, India  
 T: 91 33 22172249 / 4014 3006 / 2265 0006 / 2265 0007 F: 91 33 2265 0006 E: info@mitrask.com W: www.mitrask.com

A/P. O. BARBIL Ward No-6  
Dist. Keonjhar, Odisha - 758035  
CIN. U51909WB1966FTC023037

T : +91 94370 09815, 94370 09820, 94370 75269  
E : barbil@mitrask.co.in  
W : www.mitrask.com

Ref. No. BBL/ENV/2304

DATE: 02/01/2021

## CERTIFICATE OF ANALYSIS


Name of the industry	: M/s. SHIVA CEMENT LIMITED
Address	: Teleghana, Kutra, Dist. Sundargarh (Odisha)
Sampling Location	: Bore well Water Plant Site
Date of sampling	: 22/12/2020

### MICROBIOLOGICAL ANALYSIS OF WATER AS PER IS: 10500 – 1991

Sl No.	Test Parameters	Norms as per IS:10500-1991	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 – 1991

Sl. No.	Test Parameters	UOM	Norms as per IS: 10500-1991		Results
			Desirable Limit	Permissible Limit	
1	Colour	Hazen	5	25	<1.0
2	Odour	—	Unobjectionable	—	Unobjectionable
3	pH at 26°C	—	6.5-8.5	No Relaxation	6.54
4	Turbidity	NTU	5	10	<1.0
5	Total Dissolved Solids (as TDS)	mg/l	500	2000	56.0
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	1.0	5.0	<0.5
9	Calcium (as Ca)	mg/l	75	200	7.2
10	Chloride (as Cl)	mg/l	250	1000	15.8
11	Copper (as Cu)	mg/l	0.05	1.5	<0.02
12	Fluoride (as F)	mg/l	1.0	1.5	<0.1
13	Free Residual Chlorine	mg/l	0.2(Min)	—	<0.1
14	Iron (as Fe)	mg/l	0.3	1.0	<0.05
15	Magnesium (as Mg)	mg/l	30	100	2.42
16	Manganese (as Mn)	mg/l	0.1	0.3	<0.02
17	Nitrate (as NO <sub>3</sub> )	mg/l	45	100	3.0
18	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> 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 <sub>4</sub> )	mg/l	200	400	4.2
21	Alkalinity (as CaCO <sub>3</sub> )	mg/l	200	600	21.6
22	Total Hardness (as CaCO <sub>3</sub> )	mg/l	300	600	28.3
23	Cadmium (as Cd)	mg/l	0.01	No Relaxation	<0.001
24	Cyanide (as CN)	mg/l	0.05	No Relaxation	<0.01
25	Lead (as Pb)	mg/l	0.05	No Relaxation	<0.005
26	Mercury (as Hg)	mg/l	0.001	No Relaxation	<0.001
27	Arsenic (as As)	mg/l	0.05	No Relaxation	<0.01
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	—	—	<0.0001
31	Polly nuclear Aromatic hydrocarbon	mg/l	—	—	<0.005

Checked by: 



For Mitra S.K. Private Limited  
  
Authorized Signatory

AMP O - BARBIL Ward No-8  
Dist: Keonjhar, Odisha - 758035  
GIN: U51909WB1056PTC023037

T : +91 94370 09815, 94370 09820, 94370 75268  
E : barbil@mitrask.co.in  
W : www.mitrask.com

Ref. No. BBI/ENV/2299

DATE: 02/01/2021

**CERTIFICATE OF NOISE MONITORING**

Name of the Mines : M/s. SHIVA CEMENT LIMITED

Address : Teleghana, Kutra, Dist. Sundargarh (Odisha)

SL. NO.	Monitoring Location	Date Monitoring	Noise Level in dB (A)		
			Ld	Ln	Ldn
1.	Crusher	21/22.12.2020	69.3	57.2	62.6
2.	Raw Mill	21/22.12.2020	67.7	54.8	58.5
3.	Coal mill	21/22.12.2020	66.6	54.3	58.2
4.	Cement Mill	21/22.12.2020	67.8	58.7	62.4
5.	Main Gate	21/22.12.2020	57.6	45.6	50.3
6.	Colony	21/22.12.2020	51.5	38.2	42.9

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: 



For Mitra S. K. Private Limited

  
Authorised Signatory



# Mitra S. K. Private Limited

AtP.O. BARBIL Ward No-6  
Dist.: Keonjhar, Odisha - 758035  
CIN: U51909WB1956PTC023037

T : +91 94370 09815, 94370 09820, 94370 75269  
E : barbil@mitrask.co.in  
W : www.mitrask.com



Ref. No.BBI/ENV/2305

Date: 02/01/2021

## GROUND WATER LEVEL MONITORING

Name of the industry:-	M/s. SHIVA CEMENT LIMITED	
Address:	Teleghana, Kutra, Dist. Sundargarh (Odisha)	
Date of Monitoring	Location	Water Level below (in meters)
22.12.2020	Bore well at Plant Site	9.1

Checked by:- 



For Mitra S. K. Private Limited

  
Authorised Signatory

Ref. No. BBL/ENV/2298

DATE: 02/01/2021

**ANALYSIS REPORT OF AMBIENT AIR**

Name of the Mines : M/s. SHIVA CEMENT LIMITED

Address : Teleghana, Kutra, Dist. Sundargarh (Odisha)

Sl. No.	Date of Monitoring	Location	Concentration of Pollutants				
			PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>2</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )
1	21/22.12.2020	Main Gate	62.7	34.6	7.0	21.8	0.34
2	21/22.12.2020	Office Building	71.3	39.8	6.8	20.6	0.30
3	21/22.12.2020	Kiln Area.	76.5	42.2	7.5	23.2	0.36
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):750			Temperature °C: 12-29		Climatic condition: Clear & Sunny		

Checked by:




For Mitra S. K. Private Limited

Authorised Signatory