



GLOBAL TECH ENVIRO EXPERTS PVT. LTD.

(FORMERLY GLOBAL EXPERTS)
An ISO-9001:2008 Certified Company

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STACK MONITORING RESULT

Name of Industry & Address	M/s SHIVA CEMENT LIMITED: Teleghana, Kutra, Sundargarh
Date of Monitoring	13-10-17
Date of Analysis	17-10-17
Reference No	Stk-05/10/17

Sl. No.	Parameters	(Result)					Protocols
		Cement Mill 1	Kiln	Coal Mill	Raw Material Mill	Cement Mill 2	
1	Particulate Matter (PM) in mg/Nm ³ .	25.8	24.6	26.2	26.2	26.4	IS:11255 (Pt 1)
2	Flue Gas Temperature (°C) T _s	35.8	48.8	45.6	46.5	42.3	IS:11255 (Pt 3)
3	Flue Gas Velocity (m/s)	4.6	4.5	4.6	4.8	4.8	IS:11255 (Pt 3)
4	Ambient Temperature °C (T _a)	30.1	30.2	30.2	30.1	30.2	-
5	Height of H ₂ O Column in mm	2.12	2.18	2.16	2.18	2.14	-
6	Carbon Monoxide (CO) in ppm	-	359	-	-	-	IS:13270/GC
7	Carbon Dioxide (CO ₂) in %	-	-	-	-	-	IS:13270/GC
8	Oxygen (O ₂) in %	-	13.4	-	-	-	Orsat Apparatus
9	Sulfur Dioxide (SO ₂) in ppm	-	70	-	-	-	IS:11255 (Pt 2)
10	Oxides of Nitrogen (NO _x) in ppm	-	102	-	-	-	IS:11255 (Pt 7)

Sampling Instrument : Stack Monitoring Kit VSS-I & Flue Gas Analyzer (Quintox)
Permissible Standard for PM: 30 mg/ Nm³.

For Global Tech Enviro Experts Pvt. Ltd.

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AMBIENT AIR QUALITY RESULTS

Name of Industry & Address	:	M/s SHIVA CEMENT LIMITED Teleghana, Kutra, Sundargarh
Date of Monitoring	:	13-10-17
Date of Analysis	:	17-10-17
Reference No.	:	Air-03/10/17

Pollutant	Concentration in Ambient Air			NAAQS 2009 In $\mu\text{g}/\text{m}^3$	Protocol	Instrument used and Method of Measurement
	Main Gate	Office Building	Kiln Site			
	1	2	3			
Particulate Matter (PM ₁₀)	62.3	60.4	64.8	100	IS : 5182(Pt 23)	Fine Particulate Sampler SLE/FPS 105 and Gravimetric
Particulate Matter (PM _{2.5})	26.4	24.2	24.3	60	EPA Guideline	Fine Particulate Sampler SLE/FPS 105 and Gravimetric
Sulfur Dioxide (SO ₂)	9.8	9.2	10.6	80	IS : 5182(Pt 2)	Spectropho- tometric Analysis (West- Gaeke Method)
Oxides of Nitrogen (NO _x)	15.6	15.2	16.3	80	IS : 5182(Pt 6)	Jacob & Hochheiser Modified(Na-Arsenite) Method
Carbon Monoxide(CO)	392	374	391	4000	NDIR	Non dispersive Infrared Spectrometry

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AMBIENT NOISE MONITORING RESULTS

Name of Industry & Address	:	M/s SHIVA CEMENT LIMITED Teleghana, Kutra, Sundargarh
Date of Monitoring	:	12-09-17
Reference No.	:	N-08 / 10/ 17

SL NO	Location	Noise Level in dB (A)		
		Ld	Ln	Ldn
1	Main Gate	61.2	54.1	59.8
2	Cement Mill	70.1	52.5	68.4
3	Cement Mill 1	71.2	60.1	69.6
4	Cement Mill 2	69.9	58.2	68.3
5	Coal Mill	70.2	58.1	68.6
6	Office Building	68.1	54.3	66.4
7	Raw Mill	70.6	58.2	69.0
8	Crusher	71.3	56.1	69.6
	CPCB Standard(Industrial)	75	70	
	Methodology	SLM 100 Envirotech	SLM 100 Envirotech	

Noise level in Day time – (6.00am – 10.00 pm)

Noise level in Night time – (10.00pm – 6.00 am)

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GROUND WATER LEVEL MONITORING REPORT

Name of Industry & Address	:	M/s SHIVA CEMENT LIMITED Teleghana, Kutra, Sundargarh
Date of Monitoring	:	14-10-17
Date of Analysis	:	17-10-17
Reference No.	:	GWL - 10/01/17

Ground water levels were measured from the existing wells on 11th Aug 2017 for the following given well and the data recorded are as under.

SL NO	LOCATION (Village)	MP to GL(m)	TDBMP(m)	WLBGL(M)	GLAMSL(m)	WLAMSL(m)
1	Plant	0.46	13.21	4.66	281.02	276.36

MP : **Measuring Point**
GL : **Ground Level**
GLAMSL : **Ground Level Above Mean Sea Level**
TDBMP : **Total Depth Below Measuring Point**
WLBGL : **Water Level Below Ground Level**
WLAMSL : **Water Level Above Mean Sea Level**

The Ground water Level Chart is given as Annexure -I

For Global Tech Enviro Experts Pvt. Ltd.

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**GROUND WATER MONITORING REPORT (PLANT SITE)**

Name of Industry & Address	:	M/s SHIVA CEMENT LIMITED Teleghana, Kutra, Sundargarh
Date of Monitoring	:	14-10-17
Date of Analysis	:	17-10-17
Reference No.	:	N-35 /10/17

Sl. No.	Parameters	Unit	Desirable Limits as per IS:10500 (Max)	Permissible	Result	Protocol
1.	pH	-	6.5 – 8.5	No Relax	7.6	IS3025:PART11:1983
2.	Colour	Hazen	5	25	2.2	IS3025:PART04:1983
3.	Odour	Un Objectionable	UO	Un objectionable	UO	IS3025:PART05:1983
4.	Taste		Agreeable	-	Agreeable	IS3025:PART 7&8::1984
5.	Turbidity	NTU	5	10	2.2	IS3025:PART10:1984
6.	Total Dissolved Solid	mg/l	500	2000	71	IS3025:PART16:1984
7.	Alkalinity (as CaCO ₃)	mg/l	200	600	49	IS3025:PART23:1986
8.	Total Hardness as CaCO ₃	mg/l	300	1000	110	IS3025:PART21:1983
9.	Iron as Fe	mg/l	0.03	1.0	0.001	IS3025:PART53:2003
10.	Chloride as Cl	mg/l	250	1000	34.6	IS3025:PART32:1988
11.	Residual Chlorine	mg/l	0.2	-	ND	IS3025:PART26:1986
12.	Calcium as Ca	mg/l	75	200	33.8	IS3025:PART40:1991
13.	Magnesium as Mg	mg/l	30	100	11.2	IS3025:PART46:1994
14.	Copper as Cu	mg/l	0.05	1.5	ND	IS3025:PART42:1992
15.	Manganese as Mn	mg/l	0.1	0.3	<0.001	IS3025:PART35:1964
16.	Sulphate as SO ₄	mg/l	200	400	4.4	IS3025:PART24:1986
17.	Nitrate as NO ₃ -N	mg/l	45	No Relax	3.3	IS3025:PART34:1988
18.	Fluoride as F	mg/l	1	1.5	0.002	IS3025:PART23:1964
19.	Phenolic Compound C ₆ H ₅ OH	mg/l	0.001	0.002	ND	IS3025:PART54:1964



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20.	Mercury as Hg	mg/l	0.001	No Relax	<0.001	IS3025:PART48:1994
21.	Cadmium as Cd	mg/l	0.01	No Relax	0.002	IS3025:PART41:1992
22.	Selenium as Se	mg/l	0.01	No Relax	ND	IS3025:PART56:2003
23.	Arsenic as As	mg/l	0.01	No Relax	ND	IS3025:PART37:1988
24.	Cyanide as CN	mg/l	0.05	No Relax	ND	IS3025:PART27:1986
25.	Lead as Pb	mg/l	0.05	No Relax	0.002	IS3025:PART47:1994
26.	Zinc as Zn	mg/l	5	15	0.001	IS3025:PART49:1991
27.	Anionic Detergent as MBAS	mg/l	0.2	1	ND	Annex K of IS 13428:2005
28.	Chromium as Cr ⁶⁺	mg/l	0.05	No Relax	<0.001	IS3025:PART52:2003
29.	Mineral Oil	mg/l	0.01	0.03	ND	IS3025:PART39:2003
30.	Polynuclear Aromatic hydrocarbon	mg/l	-	-	ND	APHA 6440
31.	Aluminium as Al	mg/l	0.03	0.2	0.001	IS3025:PART55:2003
32.	Boron as B	mg/l	1	5	0.001	Annex H of IS13428: 2005
33.	Total Coliforms	MPN/100ml	-	10/100ml	Absent	IS 1622:1981(Reaff 2003)
34.	E.Coli	MPN/100ml	-	Abs/ 100 ml	Absent	IS 1622:1981(Reaff 2003)
35.	Faecal Coliforms	MPN/100ml	-	Abs/ 100 ml	Absent	IS 1622:1981(Reaff 2003)

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