JK Cement LTD.

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J.K. Cement Works, Mangrol
C/o. Kailash Nagar-312617, Nimbahera
Distt. Chittorgarh (Raj.) INDIA

CIN : L17229UP1994PLC017199
ISO 9001:2008, ISO 14001:2004 & OHSAS 18001 : 2007 CERTIFIED COMPANY

Our Ref. No.: MGR-PC-21/ 934

Date: 01.06.2017

To,

The Joint Director,
Indira Paryavaran Bhavan,
JOR Bagh Road,
Near JOR bagh Metro station
New Delhi

Sub: Environmental Clearance Compliance report for Expansion of Clinker and Cement production of M/s J.K. Cement Works, Mangrol at Village- Mangrol, District-Chittorgarh, Rajasthan.

Ref.: Environmental Clearance letter No. J-11011/1273/2007-IA (II) dated. 20.03.2009

Dear Sir,

We are enclosing herewith the compliance report of Environmental Clearance conditions for Expansion of Clinker (0.75 MMTPA to 2.90 MMTPA) and Cement (0.95 MMTPA to 3.45 MMTPA) production along with **Stack monitoring, Ambient air monitoring and Fugitive monitoring report from the month of October' 2016 to March' 2017 in hard copy as well as in CD as soft copy** for your kind reference and record. We trust you will find the same in order.

Thanking you,

Yours Faithfully
For J.K. Cement WORKS, MANGROL

S.K. Acharya
Astt. Vice President (E & I)

Encl: a/a

Copy to:

1.The Director,Ministry of Environment and Forests,_Regional office (Central Region), Kendriya Bhawan, 5th Floor, Sector 'H' , ALIGANJ, **LUCKNOW-** 226020 **(U.P.)**

2.The Chairman, Central Pollution Control Board ,Parivesh Bhawan, CBD-CUM office complex, East Arjun Nagar, Maharaja Surajmal Marg, Vishwas Nagar Extension, Viswas nagar Shahdara- Behind Karkarduma high court New Delhi 11032

3. Member Secretary,_ Rajasthan State Pollution Control Board, 4, Institutional Area, Jhalana Doongri, **JAIPUR -** 302004 (RAJASTHAN)

J.K. CEMENT WORKS, MANGROL (RAJ.) ***Dated 01.06.2017***

Compliance report of Environment Clearance for Mangrol Cement Plant
Reference Letter from MOEF, New Delhi - J-11011/1273/2007-1A (II) dated 20.03.2009
(for the period from October' 2016 to March' 2017)

A.) SPECIFIC CONDITIONS:

Sr.No	Condition	Status
(i)	The company shall install Electrostatic Precipitator (ESP) to raw mill, kiln and cooler, bag house to cement mill and bag filter to crusher to control particulate emissions within 50mg/Nm^3. The company shall provide air pollution monitoring arrangements with stacks and vents. Regular monitoring reports shall be submitted to the Rajasthan Pollution Control Board, CPCB and Ministry's Regional Office at Lucknow.	Bag house has been installed at raw mill, kiln, Coal mill & Cement mill. ESP at cooler and Bag filters at crusher to control particulate emission within the prescribed limits of RSPCB/CPCB. The unit had already installed online air pollution monitoring instruments to monitor various emissions parameters as per CPCB directives.
(ii)	Data on ambient air quality stack emission and fugitive emissions shall be regularly submitted online to Ministry's Regional Office at Lucknow, Rajasthan Pollution Control Board and Central Pollution Control Board as well as hard copy once in six months. Data on SPM, SO2 and NOx shall also be displayed prominently outside the premises at the appropriate place for the information of general public.	Ambient air quality, stack emissions level and fugitive emissions are being regularly monitored. Six monthly compliance report is being regularly submitted to statutory authorities. Data on SPM, SO_2 and NO_x are continuously displayed outside the premises of plant.
(iii)	Bag house/filters shall be provided to control the fugitive emissions generated during material transfer, packing loading and unloading. The project authorities shall store all the raw materials except limestone in the covered sheds to control fugitive emissions.	Bag house/ Bag filter have been installed to control fugitive emissions during material transport, loading/unloading. Also, raw material is being stored in the covered shed except for limestone.
(iv)	The locations of ambient air quality monitoring stations shall be set up as per statutory requirement in consultation with the Rajasthan Pollution Control Board (RPCB) and additional stations shall be installed, if required, in the downwind direction as well as where maximum ground level concentrations are anticipated.	Locations of AAQ monitoring stations have been installed as per RSPCB/CPCB guidelines. Weather monitoring stations and online ambient monitoring system has also been installed as per statutory requirement

(v)	The water requirement shall not exceed 1500KLD. The copy of the permission letter for drawl of River/dam water/ground water shall be submitted to the Ministry's Regional Office at Lucknow within 3 months from date of issue of this letter. The company shall prepare plan for conservation of water and reduction of consumption of fresh water from the ground water or Gambhiri Dam.	The permission for extraction of 2300 KLD water had already been obtained from CGWA and copy of the same has already been submitted to Regional Office, Lucknow vide our letter no. MGR/PC-05/09 dated 10th May, 2009. The company has already taken steps for conservation of water and reduction in fresh water consumption.
(vi)	The company shall develop rainwater harvesting structures to harvest the run off water for recharge of ground water.	The company had developed rainwater harvesting structures to capture runoff water for recharge of ground water.
(vii)	Green belt shall be developed at least in 33% of plant area to mitigate the effect of fugitive emissions all around the plant as per the guidelines of Central Pollution Control Board.	Green belt development has already been developed as per CPCB guidelines to mitigate the effect of fugitive emissions all around the plant.
(viii)	The project authorities shall transport the raw materials and cement in covered means to avoid fugitive emission during transport.	The transportation of raw materials and cement are being done in covered manner to control fugitive emissions.
(ix)	All the recommendations mentioned in the CREP guidelines for the cement plants shall be followed and complied.	Point noted and complied.
(x)	The company shall comply with all the commitment made during public hearing/public consultation held on 25th July, 2008 for the project.	Point noted and complied. The current status towards compliance of the commitment made during Public Hearing towards community and social welfare.
(xi)	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Since the plant is in operational phase at present, therefore this point is not applicable. However, all necessary facilities were provided at the time of construction.

B.) GENERAL CONDITIONS:

Sr.No	Condition	Status
(i)	The project authorities shall strictly adhere to the stipulations of the SPCB/State Government or any statutory body.	Point noted and complied.
(ii)	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for	The unit is proposing expansion of existing clinker production from 2.9 MMTPA to 5.65 MMTPA and cement from

	clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	3.45 MMTPA to 7.05 MMTPA. Along with this, the unit is also proposing one additional CPP of 35 MW and WHRB of 10 MW. We got Environment clearance for the same vide letter no. F. No. J-11011/267/2013-IA II (I) on dated 8th September, 2016.
(iii)	At no time, the emissions shall exceed the prescribed limits. In the event of failure of any pollution control system adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.	Interlocking system between pollution control devices and operation section has been installed to comply the conditions.
(iv)	The gaseous emissions (SO2, NOx) and particulate matter along with RSPM levels from various process units shall conform to the standards prescribed by the concerned authorities from time to time.	The monitoring reports of gaseous emissions and particulate matter along with RSPM levels shows that the level of pollutants are within the prescribed limits.
(v)	The company shall undertake following Waste Minimization measures. ➢ Reuse of by-products from the process as raw materials or as raw material substitute in other processes. ➢Use of "Close pneumatic" system for transport of fine material. ➢All venting systems shall be connected with dust arresting equipments ➢Dust collect in pollution control equipment shall be reused.	By-products produced from the process are being reused in other processes as raw materials. The dust from venting systems is being collected in Bag house/Bag filter and the same is being reused in the process.
(vi)	Fugitive emissions in the work zone environment, product, and raw materials storage area shall be regularly monitored. The emissions shall conform to the limits imposed by the State Pollution Control Boards/ Central Pollution Control Board.	Fugitive emission in the work zone are being regularly monitored and maintained within prescribed limit of CPCB/RSPCB.
(vii)	The overall noise levels in an around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Noise levels in and around the plant area is being maintained within the standards by providing noise control equipment like acoustic hoods, silencers, enclosures
(viii)	Occupational health and safety measures shall be undertaken. Periodic monitorial for exposure to dust on the workers should be conducted and records maintained including health records of the workers. The company shall engage a doctor who is trained in occupational health.	All Occupational health and safety measures are being taken by the management. Health Record of the workers is being maintained. The company has dispensary and sufficient medical staff for the existing unit to monitor the health of the employees/ workers.

(ix)	The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment. The eco-development plan should be submitted to the SPCB within three months of receipt of this letter for approval.	The company has undertaken various measures for community welfare.
(x)	A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.	The company has a separate Environmental Management Cell to carry out the Environmental Management and Monitoring functions.
(xi)	The project authorities shall earmark adequate fund to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government.	As per the statutory requirement the company had allocated Rs 3039 lakhs towards Environmental Protection and monitoring with Rs 243 lakhs as recurring cost.
(xii)	The implementation of the project vis-à-vis environmental action plans shall be monitored by the concerned Regional Office of the Ministry/SPCB/CPCB. A six monthly compliance status report shall be submitted to monitoring agencies and shall be posted on the website of the Company.	Point noted. Six monthly compliance reports is being regularly submitting to monitored agencies and same was also posted on the website of the Company.
(xiii)	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry at http://envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the regional of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	We have already done the same.
(xiv)	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Point noted. Confirm and Complied.

J.K. Cement WORKS, MANGROL (RAJ) (Unit-1)
DATA SHEET FOR PARTICULATE MATTER EMISSION FROM POINT SOURCE
October' 2016 - March' 2017

DATE	NAME OF THE STACK / DUCT ATTECHED WITH UNIT AND MONTH	CROSS SECTIONAL AREA OF DUCT (M2)	STACK GASES TEMP. (^{0} K)	STACK GASES VELOCITY (M / Sec.)	FLOW OF GASES IN STACK (NM^3/Sec.)	DUST CONC. (Mg/NM^3)	MEAN DUST CONC. (Mg/NM^3)	EMISSION RATE (Ts/DAY)	REMARK
	October' 2016								
03.10.2016	KILN + RAW MILL -1 (B.H.)	5.23	391	15.52	61.86	10.30	**12.6**	0.055	
10.10.2016	KILN + RAW MILL -1 (B.H.)	5.23	393	15.94	63.21	16.10		0.088	
17.10.2016	KILN + RAW MILL -1 (B.H.)	5.23	389	15.33	61.42	11.30		0.060	
31.10.2016	KILN + RAW MILL -1 (B.H.)	Under Maintenance							
	November' 2016								
01.11.2016	KILN + RAW MILL -1 (B.H.)	Under Maintenance					**10.7**		
15.11.2016	KILN + RAW MILL -1 (B.H.)								
23.11.2016	KILN + RAW MILL -1 (B.H.)	5.23	391	16.04	63.94	11.70		0.065	
30.11.2016	KILN + RAW MILL -1 (B.H.)	5.23	392	15.39	61.19	9.60		0.051	
	December' 2016								
03.12.2016	KILN + RAW MILL -1 (B.H.)	5.23	399	15.87	61.99	11.90	**16.2**	0.064	We have converted ESP into Bag house
10.12.2016	KILN + RAW MILL -1 (B.H.)	5.23	397	15.39	60.42	18.90		0.099	
17.12.2016	KILN + RAW MILL -1 (B.H.)	5.23	401	15.07	58.57	23.20		0.117	
27.12.2016	KILN + RAW MILL -1 (B.H.)	5.23	398	15.61	61.13	10.80		0.057	
	January'2017								

02.01.2017	KILN + RAW MILL -1 (B.H.)	5.23	406	15.37	59.00	15.30		0.078	We have converted ESP into Bag house
08.01.2017	KILN + RAW MILL -1 (B.H.)	5.23	402	15.83	61.37	12.60	**13.8**	0.067	
16.01.2017	KILN + RAW MILL -1 (B.H.)	5.23	408	14.68	56.08	17.60		0.085	
24.01.2017	KILN + RAW MILL -1 (B.H.)	5.23	404	16.07	61.99	9.60		0.051	
	February'2017								
04.02.2017	KILN + RAW MILL -1 (B.H.)	5.23	405	15.04	57.88	17.60		0.088	We have converted ESP into Bag house
11.02.2017	KILN + RAW MILL -1 (B.H.)	5.23	403	15.51	59.98	16.50	**17.0**	0.086	
18.02.2017	KILN + RAW MILL -1 (B.H.)	5.23	406	14.90	57.20	18.80		0.093	
25.02.2017	KILN + RAW MILL -1 (B.H.)	5.23	402	15.59	60.44	15.20		0.079	
	March'2017								
02.03.2017	KILN + RAW MILL -1 (B.H.)	5.23	405	16.23	62.46	16.80		0.091	We have converted ESP into Bag house
09.03.2017	KILN + RAW MILL -1 (B.H.)	5.23	402	14.99	58.12	12.30	**15.6**	0.062	
16.03.2017	KILN + RAW MILL -1 (B.H.)	5.23	399	15.87	61.99	17.70		0.095	
31.03.2017	KILN + RAW MILL -1 (B.H.)	Kiln Under Maintenance							
	October' 2016								
03.10.2016	FOLAX COOLER (E.S.P)	7.07	395	8.86	47.26	27.30		0.111	
10.10.2016	FOLAX COOLER (E.S.P)	7.07	401	8.58	45.08	29.20		0.114	
17.10.2016	FOLAX COOLER (E.S.P)	7.07	398.00	7.57	40.07	25.60	**27.4**	0.089	
31.10.2016	FOLAX COOLER (E.S.P)	Kiln Under Maintenance							
	November' 2016								
01.11.2016	FOLAX COOLER (E.S.P)	Under Maintenance					25.45		
15.11.2016	FOLAX COOLER (E.S.P)								

23.11.2016	FOLAX COOLER (E.S.P)	7.07	403.00	9.33	48.78	27.70		0.12	
30.11.2016	FOLAX COOLER (E.S.P)	7.07	399.00	8.67	45.78	23.20		0.09	
	December' 2016								
03.12.2016	FOLAX COOLER (E.S.P)	7.1	402.0	8.4	44.1	25.8	**23.7**	0.098	
10.12.2016	FOLAX COOLER (E.S.P)	7.1	400.0	9.0	47.5	28.3		0.116	
17.12.2016	FOLAX COOLER (E.S.P)	7.1	405.0	10.0	52.2	23.2		0.105	
27.12.2016	FOLAX COOLER (E.S.P)	7.1	399.0	8.3	43.8	17.3		0.065	
	January'2017								
02.01.2017	FOLAX COOLER (E.S.P)	7.07	429	6.97	34.23	21.30	**21.6**	0.063	
08.01.2017	FOLAX COOLER (E.S.P)	7.07	432	7.77	37.89	24.80		0.081	
16.01.2017	FOLAX COOLER (E.S.P)	7.07	417	8.40	42.44	26.10		0.096	
24.01.2017	FOLAX COOLER (E.S.P)	7.07	423	7.75	38.60	14.30		0.048	
	February'2017								
04.02.2017	FOLAX COOLER (E.S.P)	7.07	430	7.14	34.98	25.80	**26.4**	0.078	
11.02.2017	FOLAX COOLER (E.S.P)	7.07	431	7.49	36.61	28.00		0.089	
18.02.2017	FOLAX COOLER (E.S.P)	7.07	428	8.33	41.01	24.80		0.088	
25.02.2017	FOLAX COOLER (E.S.P)	7.07	425	8.04	39.86	27.00		0.093	
	March'2017								
02.03.2017	FOLAX COOLER (E.S.P)	7.07	421	7.19	35.98	46.60	**40.5**	0.145	
09.03.2017	FOLAX COOLER (E.S.P)	7.07	425	8.28	41.05	35.20		0.125	
16.03.2017	FOLAX COOLER (E.S.P)	7.07	428	8.12	39.97	39.70		0.137	
31.03.2017	FOLAX COOLER (E.S.P)	Kiln Under Maintenance							

	October' 2016								
03.10.2016	COAL MILL (B.F.)	0.45	333	26.85	10.81	21.10		0.020	
10.10.2016	COAL MILL (B.F.)	0.45	335	25.89	10.36	14.10	**17.4**	0.013	
17.10.2016	COAL MILL (B.F.)	0.45	332	26.34	10.64	16.90		0.016	
31.10.2016	COAL MILL (B.F.)	Mill under Maintenance							
	November' 2016								
01.11.2016	COAL MILL (B.F.)	Mill under Maintenance							
15.11.2016	COAL MILL (B.F.)						15.35		
23.11.2016	COAL MILL (B.F.)	0.45	334.00	26.41	10.60	13.00		0.01	
30.11.2016	COAL MILL (B.F.)	0.45	331.00	26.03	10.55	17.70		0.02	
	December' 2016								
03.12.2016	COAL MILL (B.F.)	0.45	333	26.37	10.62	15.90		0.015	
10.12.2016	COAL MILL (B.F.)	0.45	330	25.97	10.55	18.90	**16.6**	0.017	
17.12.2016	COAL MILL (B.F.)	0.45	328	25.57	10.45	19.30		0.017	
27.12.2016	COAL MILL (B.F.)	0.45	331	25.49	10.33	12.20		0.011	
	January'2017			**-**					
02.01.2017	COAL MILL (B.F.)	0.45	331	25.96	10.52	19.00		0.017	
08.01.2017	COAL MILL (B.F.)	0.45	334	26.66	10.70	12.50	**14.2**	0.012	
16.01.2017	COAL MILL (B.F.)	0.45	330	26.26	10.67	15.60		0.014	
24.01.2017	COAL MILL (B.F.)	0.45	335	26.86	10.75	9.70		0.009	
	February'2017								
04.02.2017	COAL MILL (B.F.)	0.45	332	25.45	10.28	18.80	**18.0**	0.017	

11.02.2017	COAL MILL (B.F.)	0.45	335	25.06	10.03	20.60		0.018	
18.02.2017	COAL MILL (B.F.)	0.45	331	25.16	10.19	15.40		0.014	
25.02.2017	COAL MILL (B.F.)	0.45	334	25.78	10.35	17.10		0.015	
	March'2017								
02.03.2017	COAL MILL (B.F.)	0.45	333	26.62	10.72	21.90	**19.2**	0.020	
09.03.2017	COAL MILL (B.F.)	0.45	336	26.88	10.73	16.60		0.015	
16.03.2017	COAL MILL (B.F.)	0.45	334	26.07	10.47	19.20		0.017	
31.03.2017	COAL MILL (B.F.)	Due to Kiln Stopped							
	October' 2016								
03.10.2016	CEMENT MILL No.-1 (B.F.)	Mill Under Maintenance							
10.10.2016	CEMENT MILL No.-1 (B.F.)								
17.10.2016	CEMENT MILL No.-1 (B.F.)								
31.10.2016	CEMENT MILL No.-1 (B.F.)								
	November' 2016								
01.11.2016	CEMENT MILL - 1 (B.F.)	Mill Under Maintenance							
08.11.2016	CEMENT MILL - 1 (B.F.)								
23.11.2016	CEMENT MILL - 1 (B.F.)								
30.11.2016	CEMENT MILL - 1 (B.F.)								
	December' 2016								
03.12.2016	CEMENT MILL No.-1 (B.F.)	Mill Under Maintenance							
10.12.2016	CEMENT MILL No.-1 (B.F.)								
17.12.2016	CEMENT MILL No.-1 (B.F.)								

31.12.2016	CEMENT MILL No.-1 (B.F.)								
	January'2017			**-**					
02.01.2017	CEMENT MILL - 1 (B.F.)	Under Major Shutdown							
08.01.2017	CEMENT MILL - 1 (B.F.)								
16.01.2017	CEMENT MILL - 1 (B.F.)								
31.01.2017	CEMENT MILL - 1 (B.F.)								
	February'2017			**-**					
04.02.2017	CEMENT MILL No.-1 (B.F.)	Under Major Shutdown							
11.02.2017	CEMENT MILL No.-1 (B.F.)								
18.02.2017	CEMENT MILL No.-1 (B.F.)								
28.02.2017	CEMENT MILL No.-1 (B.F.)								
	March'2017								
02.03.2017	CEMENT MILL - 1 (B.F.)	Under Major Shutdown							
09.03.2017	CEMENT MILL - 1 (B.F.)								
16.03.2017	CEMENT MILL - 1 (B.F.)								
31.03.2017	CEMENT MILL - 1 (B.F.)								
	October' 2016								
04.10.2016	CEMENT MILL - 2 (E.S.P)	0.50	369	10.25	4.14	35.00	**42.1**	0.013	
13.10.2016	CEMENT MILL - 2 (E.S.P)	0.50	372	9.89	3.96	48.80		0.017	
20.10.2016	CEMENT MILL - 2 (E.S.P)	0.50	375	10.11	4.02	39.90		0.014	
26.10.2016	CEMENT MILL - 2 (E.S.P)	0.50	368	9.49	3.84	44.80		0.015	
	November' 2016								

03.11.2016	CEMENT MILL - 2 (E.S.P)	0.50	373	9.30	3.72	50.10		0.016	
11.11.2016	CEMENT MILL - 2 (E.S.P)	0.50	370	10.09	4.06	44.60	**46.7**	0.016	
18.11.2016	CEMENT MILL - 2 (E.S.P)	0.50	369	9.68	3.91	56.90		0.019	
26.11.2016	CEMENT MILL - 2 (E.S.P)	0.50	371	10.28	4.13	35.00		0.012	
	December' 2016								
02.12.2016	CEMENT MILL - 2 (E.S.P)	0.50	375	10.05	3.99	51.90		0.018	
09.12.2016	CEMENT MILL - 2 (E.S.P)	0.50	372	10.18	4.08	46.40	**43.1**	0.016	
16.12.2016	CEMENT MILL - 2 (E.S.P)	0.50	378	9.55	3.76	34.70		0.011	
28.12.2016	CEMENT MILL - 2 (E.S.P)	0.50	373	9.85	3.93	39.40		0.013	
	January'2017			**-**					
03.01.2017	CEMENT MILL - 2 (E.S.P)	0.50	371	9.34	3.75	32.10		0.010	
09.01.2017	CEMENT MILL - 2 (E.S.P)	0.50	374	9.92	3.95	45.00	**36.6**	0.015	
20.01.2017	CEMENT MILL - 2 (E.S.P)	0.50	376	10.23	4.05	35.40		0.012	
27.01.2017	CEMENT MILL - 2 (E.S.P)	0.50	373	9.67	3.86	33.70		0.011	
	February'2017			**-**					
02.02.2017	CEMENT MILL - 2 (E.S.P)	0.50	372	9.60	3.85	43.40		0.014	
10.02.2017	CEMENT MILL - 2 (E.S.P)	0.50	370	9.69	3.90	45.00	**48.0**	0.015	
17.02.2017	CEMENT MILL - 2 (E.S.P)	0.50	374	10.03	4.00	49.40		0.017	
24.02.2017	CEMENT MILL - 2 (E.S.P)	0.50	375	10.22	4.06	54.30		0.019	
	March'2017			**-**					
04.03.2017	CEMENT MILL - 2 (E.S.P)	0.50	369	9.85	3.98	40.70		0.014	
11.03.2017	CEMENT MILL - 2 (E.S.P)	0.50	371	10.28	4.13	50.20	**45.0**	0.018	

18.03.2017	CEMENT MILL - 2 (E.S.P)	0.50	372	9.54	3.82	35.10		0.012	
25.03.2017	CEMENT MILL - 2 (E.S.P)	0.50	367	9.94	4.04	54.00		0.019	
	October' 2016								
03.10.2016	CRUSHER-1 (B.F.)	0.38	321	13.84	4.88	28.10	**28.3**	0.012	
13.10.2016	CRUSHER-1 (B.F.)	0.38	318	13.42	4.78	26.90		0.011	
21.10.2016	CRUSHER-1 (B.F.)	0.38	320	14.08	4.98	29.80		0.013	
31.10.2016	CRUSHER-1 (B.F.)	Under Maintenance							
	November' 2016								
01.11.2016	CRUSHER-1 (B.F.)	Under Maintenance					**24.4**		
08.11.2016	CRUSHER-1 (B.F.)								
15.11.2016	CRUSHER-1 (B.F.)								
24.11.2016	CRUSHER-1 (B.F.)	0.38	317.00	13.62	4.87	24.40		0.010	
	December' 2016								
03.12.2016	CRUSHER-1 (B.F.)	0.38	307	12.96	4.78	21.70	**26.2**	0.009	
10.12.2016	CRUSHER-1 (B.F.)	0.38	305	12.41	4.61	28.80		0.011	
17.12.2016	CRUSHER-1 (B.F.)	0.38	302	13.38	5.02	27.80		0.012	
29.12.2016	CRUSHER-1 (B.F.)	0.38	306	12.80	4.74	26.30		0.011	
	January'2017								
05.01.2017	CRUSHER-1 (B.F.)	0.38	302	12.54	4.70	19.90	**22.7**	0.008	
13.01.2017	CRUSHER-1 (B.F.)	0.38	304	13.43	5.00	24.20		0.010	
21.01.2017	CRUSHER-1 (B.F.)	0.38	305	12.17	4.52	26.00		0.010	
27.01.2017	CRUSHER-1 (B.F.)	0.38	301	12.65	4.76	20.70		0.009	

	February'2017								
02.02.2017	CRUSHER-1 (B.F.)	0.38	303	13.01	4.86	17.90	**20.0**	0.008	
10.02.2017	CRUSHER-1 (B.F.)	0.38	305	12.41	4.61	22.40		0.009	
17.02.2017	CRUSHER-1 (B.F.)	0.38	302	12.63	4.74	19.10		0.008	
24.02.2017	CRUSHER-1 (B.F.)	0.38	305	12.90	4.79	20.50		0.008	
	March'2017								
02.03.2017	CRUSHER-1 (B.F.)	0.38	310	13.60	4.97	24.10	**23.2**	0.010	
09.03.2017	CRUSHER-1 (B.F.)	0.38	308	12.98	4.77	22.30		0.009	
18.03.2017	CRUSHER-1 (B.F.)	Mill under Maintenance							
31.03.2017	CRUSHER-1 (B.F.)								

J.K. Cement WORKS, MANGROL (RAJ) (Unit-2)
DATA SHEET FOR PARTICULATE MATTER EMISSION FROM POINT SOURCE
October' 2016 - March ' 2017

DATE	NAME OF THE STACK / DUCT ATTECHED WITH UNIT AND MONTH	CROSS SECTIONAL AREA OF DUCT (M2)	STACK GASES TEMP. (^{0} K)	STACK GASES VELOCITY (M / Sec.)	FLOW OF GASES IN STACK (NM^3/Sec.)	DUST CONC. (Mg/NM^3)	MEAN DUST CONC. (Mg/NM^3)	EMISSION RATE (Ts/DAY)	REMARK
	October' 2016			-					
04.10.2016	KILN + RAW MILL (Bag House)	14.18	410	14.06	144.91	11.60	11.7	0.145	
11.10.2016	KILN + RAW MILL (Bag House)	14.18	409	13.06	134.93	15.60		0.182	
18.10.2016	KILN + RAW MILL (Bag House)	14.18	412	13.46	138.05	9.10		0.109	
26.10.2016	KILN + RAW MILL (Bag House)	14.18	411	13.27	136.43	10.40		0.123	
	November' 2016								
02.11.2016	KILN + RAW MILL (Bag House)	14.18	411	13.56	139.42	15.40	12.9	0.186	
09.11.2016	KILN + RAW MILL (Bag House)	Under Maintenance							
21.11.2016	KILN + RAW MILL (Bag House)	14.18	408	13.74	142.30	12.50		0.154	
28.11.2016	KILN + RAW MILL (Bag House)	14.18	413	13.48	137.92	10.90		0.130	
	December' 2016								
02.12.2016	KILN + RAW MILL (Bag House)	14.18	409	13.87	143.30	13.60	15.4	0.168	
13.12.2016	KILN + RAW MILL (Bag House)	14.18	412	13.46	138.05	15.60		0.186	
20.12.2016	KILN + RAW MILL (Bag House)	14.18	408	14.35	148.62	11.90		0.153	

27.12.2016	KILN + RAW MILL (Bag House)	14.18	410	13.72	141.40	20.50		0.250	
	January'17								
03.01.2017	KILN + RAW MILL (Bag House)	14.18	410	13.66	140.79	13.40	16.6	0.163	
09.01.2017	KILN + RAW MILL (Bag House)	14.18	413	14.05	143.75	18.00		0.224	
16.01.2017	KILN + RAW MILL (Bag House)	14.18	411	14.62	150.31	15.60		0.203	
24.01.2017	KILN + RAW MILL (Bag House)	14.18	415	13.92	141.74	19.20		0.235	
	February'17								
03.02.2017	KILN + RAW MILL (Bag House)	14.18	409	13.70	141.54	13.40	14.4	0.164	
10.02.2017	KILN + RAW MILL (Bag House)	14.18	412	13.64	139.90	11.90		0.144	
17.02.2017	KILN + RAW MILL (Bag House)	14.18	410	14.11	145.42	15.50		0.195	
24.02.2017	KILN + RAW MILL (Bag House)	14.18	413	14.50	148.36	16.80		0.215	
	March'17								
06.03.2017	KILN + RAW MILL (Bag House)	14.18	412	13.29	136.31	10.70	13.2	0.126	
15.03.2017	KILN + RAW MILL (Bag House)	14.18	418	14.86	150.22	16.50		0.214	
22.03.2017	KILN + RAW MILL (Bag House)	14.18	420	14.06	141.46	13.20		0.161	
29.03.2017	KILN + RAW MILL (Bag House)	14.18	415	13.69	139.40	12.20		0.147	
	October' 2016								
04.10.2016	FOLAX COOLER (E.S.P)	8.8	402	10.2	66.7	20.1	21.5	0.116	
11.10.2016	FOLAX COOLER (E.S.P)	8.8	399	10.6	69.5	17.6		0.106	
18.10.2016	FOLAX COOLER (E.S.P)	8.8	400	10.0	65.8	22.8		0.130	
26.10.2016	FOLAX COOLER (E.S.P)	8.8	397	10.3	68.2	25.4		0.150	
	November' 2016								

02.11.2016	FOLAX COOLER (E.S.P)	8.80	405	10.56	68.38	17.00	19.8	0.100	
09.11.2016	FOLAX COOLER (E.S.P)	Under Maintenance							
21.11.2016	FOLAX COOLER (E.S.P)	8.80	398	9.70	63.91	22.70		0.125	
28.11.2016	FOLAX COOLER (E.S.P)	8.80	402	10.23	66.73	19.60		0.113	
	December' 2016								
02.12.2016	FOLAX COOLER (E.S.P)	8.80	403	9.86	64.16	16.10	20.7	0.089	
13.12.2016	FOLAX COOLER (E.S.P)	8.80	406	10.51	67.89	18.50		0.109	
20.12.2016	FOLAX COOLER (E.S.P)	8.80	401	10.75	70.30	26.60		0.162	
27.12.2016	FOLAX COOLER (E.S.P)	8.80	403	9.76	63.51	21.40		0.117	
	January'17								
03.01.2017	FOLAX COOLER (E.S.P)	8.80	399	8.91	58.56	16.00	23.4	0.081	
09.01.2017	FOLAX COOLER (E.S.P)	8.80	402	10.07	65.69	21.00		0.119	
16.01.2017	FOLAX COOLER (E.S.P)	8.80	405	8.73	56.53	27.00		0.132	
24.01.2017	FOLAX COOLER (E.S.P)	8.80	401	9.40	61.47	29.50		0.157	
	February'17								
03.02.2017	FOLAX COOLER (E.S.P)	8.80	403	9.46	61.56	20.50	18.7	0.109	
10.02.2017	FOLAX COOLER (E.S.P)	8.80	401	9.82	64.22	19.20		0.107	
17.02.2017	FOLAX COOLER (E.S.P)	8.80	402	9.32	60.80	18.70		0.098	
24.02.2017	FOLAX COOLER (E.S.P)	8.80	400	8.95	58.68	16.40		0.083	
	March'17								
06.03.2017	FOLAX COOLER (E.S.P)	8.80	406	8.45	54.58	23.10	21.7	0.109	
15.03.2017	FOLAX COOLER (E.S.P)	8.80	400	9.13	59.86	20.50		0.106	

22.03.2017	FOLAX COOLER (E.S.P)	8.80	402	10.07	65.69	17.7		0.100	
29.03.2017	FOLAX COOLER (E.S.P)	8.80	401	9.65	63.11	25.6		0.140	
	October' 2016								
04.10.2016	COAL MILL (B.F.)	2.00	333	14.10	25.24	14.60	13.6	0.032	
11.10.2016	COAL MILL (B.F.)	2.00	332	14.69	26.37	18.20		0.041	
18.10.2016	COAL MILL (B.F.)	2.00	337	14.59	25.80	9.80		0.022	
26.10.2016	COAL MILL (B.F.)	2.00	334	14.25	25.43	11.80		0.026	
	November' 2016								
02.11.2016	COAL MILL (B.F.)	2.00	336	14.87	26.38	13.90	14.2	0.032	
09.11.2016	COAL MILL (B.F.)	Under Maintenance							
21.11.2016	COAL MILL (B.F.)	2.00	333	14.10	25.24	18.50		0.040	
28.11.2016	COAL MILL (B.F.)	2.00	335	14.45	25.71	10.20		0.023	
	December' 2016								
02.12.2016	COAL MILL (B.F.)	2.00	339	14.18	24.93	13.60	17.6	0.029	
13.12.2016	COAL MILL (B.F.)	2.00	342	14.69	25.60	19.40		0.043	
20.12.2016	COAL MILL (B.F.)	2.00	340	13.88	24.33	24.80		0.052	
27.12.2016	COAL MILL (B.F.)	2.00	337	14.36	25.40	12.40		0.027	
	January'17								
03.01.2017	COAL MILL (B.F.)	2.00	337	13.58	24.02	11.90	15.6	0.025	
09.01.2017	COAL MILL (B.F.)	2.00	340	12.95	22.70	17.00		0.033	
16.01.2017	COAL MILL (B.F.)	2.00	335	13.96	24.84	20.40		0.044	
24.01.2017	COAL MILL (B.F.)	2.00	338	14.43	25.44	13.20		0.029	

	February'17								
03.02.2017	COAL MILL (B.F.)	2.00	338	13.55	23.89	16.70	19.3	0.034	
10.02.2017	COAL MILL (B.F.)	2.00	339	13.23	23.26	20.20		0.041	
17.02.2017	COAL MILL (B.F.)	2.00	340	13.49	23.65	22.30		0.046	
24.02.2017	COAL MILL (B.F.)	2.00	337	14.18	25.08	18.10		0.039	
	March'17								
06.03.2017	COAL MILL (B.F.)	2.00	335	14.19	25.25	15.2	18.6	0.033	
15.03.2017	COAL MILL (B.F.)	2.00	339	13.62	23.95	19.10		0.040	
22.03.2017	COAL MILL (B.F.)	2.00	332	13.29	23.86	22.70		0.047	
29.03.2017	COAL MILL (B.F.)	2.00	341	14.45	25.26	17.40		0.038	
	October' 2016								
5.10.2016	CEMENT MILL - 3 (Bag filter)	6.60	364	12.60	68.08	25.70	20.8	0.151	
13.10.2016	CEMENT MILL - 3 (Bag filter)	6.60	372	11.81	62.44	15.10		0.081	
20.10.2016	CEMENT MILL - 3 (Bag filter)	6.60	375	12.10	63.46	22.60		0.124	
29.10.2016	CEMENT MILL - 3 (Bag filter)	6.60	368	12.27	65.58	19.60		0.111	
	November' 2016								
04.11.2016	CEMENT MILL - 3 (Bag filter)	6.60	373	12.92	68.13	23.60	22.6	0.139	
11.11.2016	CEMENT MILL - 3 (Bag filter)	6.60	369	12.18	64.92	18.50		0.104	
17.11.2016	CEMENT MILL - 3 (Bag filter)	6.60	370	12.42	66.02	20.90		0.119	
26.11.2016	CEMENT MILL - 3 (Bag filter)	6.60	372	11.87	62.76	27.20		0.147	
	December' 2016								
03.12.2016	CEMENT MILL - 3 (Bag filter)	6.60	370	12.02	63.89	22.60	21.6	0.125	

10.12.2016	CEMENT MILL - 3 (Bag filter)	6.60	372	12.79	67.62	15.50		0.091	
17.12.2016	CEMENT MILL - 3 (Bag filter)	6.60	369	11.76	62.68	26.60		0.144	
24.12.2016	CEMENT MILL - 3 (Bag filter)	6.60	374	12.37	65.05	21.50		0.121	
	January'17								
05.01.2017	CEMENT MILL - 3 (Bag filter)	6.60	371	13.16	69.77	17.80	24.3	0.107	
12.01.2017	CEMENT MILL - 3 (Bag filter)	6.60	373	12.41	65.44	23.80		0.135	
21.01.2017	CEMENT MILL - 3 (Bag filter)	6.60	375	12.45	65.30	28.60		0.161	
31.01.2017	CEMENT MILL - 3 (Bag filter)	6.60	374	11.78	61.95	26.90		0.144	
	February'17								
04.02.2017	CEMENT MILL - 3 (Bag filter)	6.6	372	12.79	67.62	21.6	22.0	0.126	
10.02.2017	CEMENT MILL - 3 (Bag filter)	6.6	374	13.2	69.47	19.6		0.118	
18.02.2017	CEMENT MILL - 3 (Bag filter)	6.6	376	12.75	66.69	24		0.138	
25.02.2017	CEMENT MILL - 3 (Bag filter)	6.6	375	12.27	64.35	22.8		0.127	
	March'17								
07.03.2017	CEMENT MILL - 3 (Bag filter)	6.60	374	12.66	66.58	27.10	23.4	0.156	
16.03.2017	CEMENT MILL - 3 (Bag filter)	6.60	370	12.08	64.21	20.00		0.111	
23.03.2017	CEMENT MILL - 3 (Bag filter)	6.60	372	13.34	70.53	22.90		0.140	
30.03.2017	CEMENT MILL - 3 (Bag filter)	6.60	376	12.41	64.91	23.50		0.132	
	October' 2016								
04.10.2016	CRUSHER-2 (B.F.)	1.23	318.00	11.19	12.86	24.40	25.6	0.027	
11.10.2016	CRUSHER-2 (B.F.)	1.23	314.00	11.60	13.50	22.20		0.026	
18.10.2016	CRUSHER-2 (B.F.)	1.23	316.00	10.37	11.99	26.90		0.028	

25.10.2016	CRUSHER-2 (B.F.)	1.23	315.00	10.81	12.54	28.80		0.031	
	November' 2016								
02.11.2016	CRUSHER-2 (B.F.)	1.23	315	11.77	12.86	29.20	27.3	0.034	
08.11.2016	CRUSHER-2 (B.F.)	1.23	313.00	11.16	12.51	27.30		0.031	
15.11.2016	CRUSHER-2 (B.F.)	Under Maintenance							
29.11.2016	CRUSHER-2 (B.F.)	1.23	312	10.82	12.60	25.30		0.028	
	December' 2016								
02.12.2016	CRUSHER-2 (B.F.)	1.23	308	10.96	13.00	21.6		0.024	
13.12.2016	CRUSHER-2 (B.F.)	1.23	311	10.69	12.56	18.9	**20.2**	0.021	
20.12.2016	CRUSHER-2 (B.F.)	1.23	307	10.84	12.90	22.8		0.025	
27.12.2016	CRUSHER-2 (B.F.)	1.23	309	10.49	12.40	17.5		0.019	
	January'17								
03.01.2017	CRUSHER-2 (B.F.)	1.23	302	10.31	12.47	14.80		0.016	
10.01.2017	CRUSHER-2 (B.F.)	1.23	304	10.17	12.22	20.4	18.8	0.022	
16.01.2017	CRUSHER-2 (B.F.)	1.23	305	10.69	12.81	17.6		0.019	
27.01.2017	CRUSHER-2 (B.F.)	1.23	301	10.84	13.16	22.5		0.026	
	February'17								
02.02.2017	CRUSHER-2 (B.F.)	1.23	305	10.58	12.67	17.60		0.019	
09.02.2017	CRUSHER-2 (B.F.)	1.23	303	10.82	13.05	16.7	16.0	0.019	
16.02.2017	CRUSHER-2 (B.F.)	1.23	304	10.51	12.63	15.9		0.017	
23.02.2017	CRUSHER-2 (B.F.)	1.23	302	10.91	13.2	13.8		0.016	
	March'17								

07.03.2017	CRUSHER-2 (B.F.)	1.23	310	11.05	13.02	23.4		0.026	
16.03.2017	CRUSHER-2 (B.F.)	1.23	309	10.43	12.33	18.2	22.2	0.019	
23.03.2017	CRUSHER-2 (B.F.)	1.23	312	10.25	12	21.3		0.022	
30.03.2017	CRUSHER-2 (B.F.)	1.23	314	10.96	12.75	25.9		0.029	
	October' 2016								
01.10.2016	PACKER-1 (B.F.)	0.785	322	12.46	9.05	24.7		0.019	
08.10.2016	PACKER-1 (B.F.)	0.785	320	12.62	9.23	29.4	27.4	0.023	
15.10.2016	PACKER-1 (B.F.)	0.785	319	11.53	8.46	27.3		0.020	
22.10.2016	PACKER-1 (B.F.)	0.785	323	12.02	8.71	28.1		0.021	
	November' 2016								
05.11.2016	PACKER-1 (B.F.)	0.785	317	12.65	9.34	24.6		0.020	
12.11.2016	PACKER-1 (B.F.)	0.785	315	12.37	9.19	15.9	20.6	0.013	
18.11.2016	PACKER-1 (B.F.)	0.785	319	11.85	8.69	19		0.014	
25.11.2016	PACKER-1 (B.F.)	0.785	320	12.22	8.93	22.9		0.018	
	December' 2016								
03.12.2016	PACKER-1 (B.F.)	0.785	315	11.67	8.67	22.5		0.017	
10.12.2016	PACKER-1 (B.F.)	0.785	312	12.46	9.34	17.8	18.6	0.014	
17.12.2016	PACKER-1 (B.F.)	0.785	311	11.07	8.33	15.2		0.011	
27.12.2016	PACKER-1 (B.F.)	0.785	310	12.22	9.22	18.8		0.015	
	January'17								
03.01.2017	PACKER-1 (B.F.)	0.785	310	12.03	9.08	25.1	21.2	0.020	
10.01.2017	PACKER-1 (B.F.)	0.785	308	11.69	8.88	18.4		0.014	

17.01.2017	PACKER-1 (B.F.)	0.785	312	11.3	8.47	16.5		0.012	
24.01.2017	PACKER-1 (B.F.)	0.785	309	12.3	9.31	24.8		0.020	
	February'17								
03.02.2017	PACKER-1 (B.F.)	0.785	309	11.71	8.87	21.3	19.3	0.016	
10.02.2017	PACKER-1 (B.F.)	0.785	310	11.93	9	18.5		0.014	
17.02.2017	PACKER-1 (B.F.)	0.785	311	11.18	8.41	19.7		0.014	
24.02.2017	PACKER-1 (B.F.)	0.785	308	11.79	8.95	17.7		0.014	
	March'17								
03.03.2017	PACKER-1 (B.F.)	0.785	315	11.62	8.63	15.1	17.2	0.011	
14.03.2017	PACKER-1 (B.F.)	0.785	317	11.28	8.32	22.3		0.016	
22.03.2017	PACKER-1 (B.F.)	0.785	314	12.3	9.16	18.1		0.014	
29.03.2017	PACKER-1 (B.F.)	0.785	318	11.98	8.81	13.4		0.010	
	October' 2016								
01.10.2016	PACKER-2 (B.F.)	0.785	323	11.76	8.52	23	26.1	0.017	
08.10.2016	PACKER-2 (B.F.)	0.785	318	12.67	9.32	28.9		0.023	
15.10.2016	PACKER-2 (B.F.)	0.785	320	12.32	9.01	27.2		0.021	
22.10.2016	PACKER-2 (B.F.)	0.785	321	11.94	8.7	25.1		0.019	
	November' 2016								
05.11.2016	PACKER-2 (B.F.)	0.785	314	12.25	9.13	19.2	23.7	0.015	
12.11.2016	PACKER-2 (B.F.)	0.785	316	12.87	9.53	27.4		0.023	
18.11.2016	PACKER-2 (B.F.)	0.785	317	12.16	8.97	22.5		0.017	
25.11.2016	PACKER-2 (B.F.)	0.785	313	11.89	8.9	25.6		0.020	

	December' 2016								
05.12.2016	PACKER-2 (B.F.)	0.785	313	11.94	8.92	16.5	16.2	0.013	
13.12.2016	PACKER-2 (B.F.)	0.785	311	12.24	9.21	20.9		0.017	
20.12.2016	PACKER-2 (B.F.)	0.785	315	11.25	8.35	12.4		0.009	
27.12.2016	PACKER-2 (B.F.)	0.785	314	12.11	9.02	14.9		0.012	
	January'17								
03.01.2017	PACKER-2 (B.F.)	0.785	311	11.23	8.45	20.5	22.4	0.015	
10.01.2017	PACKER-2 (B.F.)	0.785	313	11.89	8.89	24.7		0.019	
17.01.2017	PACKER-2 (B.F.)	0.785	309	12.2	9.24	18.8		0.015	
24.01.2017	PACKER-2 (B.F.)	0.785	310	11.68	8.81	25.5		0.019	
	February'17								
03.02.2017	PACKER-2 (B.F.)	0.785	309	12.11	9.17	19	20.4	0.015	
10.02.2017	PACKER-2 (B.F.)	0.785	311	11.7	8.8	20.7		0.016	
17.02.2017	PACKER-2 (B.F.)	0.785	310	12.08	9.12	19.9		0.016	
24.02.2017	PACKER-2 (B.F.)	0.785	312	11.67	8.75	22		0.017	
	March'17								
03.03.2017	PACKER-2 (B.F.)	0.785	316	11.64	8.62	25.5	24.4	0.019	
14.03.2017	PACKER-2 (B.F.)	0.785	312	11.25	8.43	29.7		0.022	
22.03.2017	PACKER-2 (B.F.)	0.785	315	12.18	9.05	20		0.016	
29.03.2017	PACKER-2 (B.F.)	0.785	317	12.56	9.27	22.4		0.018	
	October' 2016								
01.10.2016	PACKER-3 (B.F.)	0.785	318	11.83	8.7	26.1	21.8	0.020	

08.10.2016	PACKER-3 (B.F.)	0.785	317	12.31	9.08	23.4		0.018	
15.10.2016	PACKER-3 (B.F.)	0.785	320	12.12	8.86	16.7		0.013	
22.10.2016	PACKER-3 (B.F.)	0.785	319	12	8.8	21.1		0.016	
	November' 2016								
05.11.2016	PACKER-3(B.F.)	0.785	315	12.18	9.05	28.7	26	0.022	
12.11.2016	PACKER-3(B.F.)	0.785	312	11.87	8.9	25.3		0.019	
18.11.2016	PACKER-3(B.F.)	0.785	317	12.31	9.1	27.4		0.022	
25.11.2016	PACKER-3(B.F.)	0.785	314	11.65	8.68	23.4		0.018	
	December' 2016								
03.12.2016	PACKER-3(B.F.)	0.785	312	11.72	8.79	24.3	23	0.018	
10.12.2016	PACKER-3(B.F.)	0.785	311	12.24	9.21	19.8		0.016	
17.12.2016	PACKER-3(B.F.)	0.785	314	12.25	9.13	25.8		0.020	
27.12.2016	PACKER-3(B.F.)	0.785	310	11.58	8.74	22.0		0.017	
	January'17								
05.01.2017	PACKER-3 (B.F.)	0.785	311	11.23	8.45	17.1	21.5	0.012	
12.01.2017	PACKER-3 (B.F.)	0.785	309	12.3	9.31	23.5		0.019	
19.01.2017	PACKER-3 (B.F.)	0.785	310	11.68	8.81	29.3		0.022	
28.01.2017	PACKER-3 (B.F.)	0.785	308	11.33	8.61	15.9		0.012	
	February'17								
03.02.2017	PACKER-3(B.F.)	0.785	310	11.47	8.66	20.3	24.0	0.015	
10.02.2017	PACKER-3(B.F.)	0.785	311	12.2	9.18	26.4		0.021	
17.02.2017	PACKER-3(B.F.)	0.785	309	11.81	8.94	23.8		0.018	

24.02.2017	PACKER-3(B.F.)	0.785	310	12.08	9.12	25.6		0.020	
	March'17								
03.03.2017	PACKER-3(B.F.)	0.785	315	12.13	9.01	29.8	26.8	0.023	
14.03.2017	PACKER-3(B.F.)	0.785	318	11.19	8.23	26.1		0.019	
22.03.2017	PACKER-3(B.F.)	0.785	316	11.94	8.84	23.9		0.018	
29.03.2017	PACKER-3(B.F.)	0.785	317	11.01	8.12	27.5		0.019	
	October' 2016								
01.10.2016	PACKER-4 (B.F.)	0.785	321	12.44	9.07	22.2	23.6	0.017	
08.10.2016	PACKER-4 (B.F.)	0.785	318	12.18	8.96	27.3		0.021	
15.10.2016	PACKER-4 (B.F.)	0.785	316	12.63	9.35	19.7		0.016	
22.10.2016	PACKER-4 (B.F.)	0.785	319	12	8.8	25.1		0.019	
	November' 2016								
05.11.2016	PACKER-4(B.F.)	0.785	317	12.75	9.41	18.0	21.5	0.015	
12.11.2016	PACKER-4(B.F.)	0.785	313	12.38	9.25	22.6		0.018	
18.11.2016	PACKER-4(B.F.)	0.785	315	11.98	8.9	26.1		0.020	
25.11.2016	PACKER-4(B.F.)	0.785	314	12.16	9.06	19.4		0.015	
	December' 2016								
03.12.2016	PACKER-4(B.F.)	0.785	316	11.94	8.84	20.7	19.6	0.016	
10.12.2016	PACKER-4(B.F.)	0.785	313	12.57	9.39	15.7		0.013	
17.12.2016	PACKER-4(B.F.)	0.785	310	11.27	8.5	23.4		0.017	
27.12.2016	PACKER-4(B.F.)	0.785	312	12.02	9.01	18.4		0.014	
	January'17								

05.01.2017	PACKER-4 (B.F.)	0.785	312	12.07	9.05	22.8	24.1	0.018	
12.01.2017	PACKER-4 (B.F.)	0.785	314	11.23	8.37	19.3		0.014	
19.01.2017	PACKER-4 (B.F.)	0.785	310	11.68	8.81	28.9		0.022	
28.01.2017	PACKER-4 (B.F.)	0.785	311	11.02	8.29	25.2		0.018	
	February'17								
03.02.2017	PACKER-4(B.F.)	0.785	313	11.63	8.69	18.3	18.0	0.014	
10.02.2017	PACKER-4(B.F.)	0.785	312	11.35	8.51	16.4		0.012	
17.02.2017	PACKER-4(B.F.)	0.785	311	11.95	8.99	17.9		0.014	
24.02.2017	PACKER-4(B.F.)	0.785	314	11.23	8.37	19.3		0.014	
	March'17								
03.03.2017	PACKER-4(B.F.)	0.785	317	12.7	9.37	20.6	20.4	0.017	
14.03.2017	PACKER-4(B.F.)	0.785	315	12.13	9.01	25.5		0.020	
22.03.2017	PACKER-4(B.F.)	0.785	319	12	8.8	16.7		0.013	
29.03.2017	PACKER-4(B.F.)	0.785	318	11.52	8.47	18.9		0.014	

J.K. Cement WORKS, MANGROL (RAJ)

AMBIENT AIR QUALITY AVERAGE RESULTS (SPM) COMMON FOR UNIT-1 & UNIT-2

(ALL VALUES IN MICROGRAMS / CUBIC METER)

(October' 2016 - March ' 2017)

S.No. & Month	LOCATION / PERAMETER	NEAR TIME OFFICE	NEAR THERMAL POWER PLANT	NEAR RAW MATERIAL GATE	NEAR PACKING PLANT GATE	Remarks
October' 2016						
1	SPM	316.0	339.5	315.3	294.0	
2	SO2	12.2	13.7	10.9	9.7	
3	NOX	25.2	27.9	22.6	19.9	
4	CO	601.1	572.5	629.8	558.2	
November' 2016						
1	SPM	324.0	349.8	322.5	310.5	
2	SO2	10.4	13.7	12.0	8.3	
3	NOX	22.2	28.4	24.6	17.3	
4	CO	415.1	586.8	529.6	601.1	
December' 2016						
1	SPM	346.5	365.0	329.8	307.5	
2	SO2	11.2	14.3	12.4	9.1	
3	NOX	22.8	26.2	25.5	18.4	

4	CO	601.1	701.3	706.1	553.4	
January' 2017						
1	SPM	338.0	387.8	355.8	369.5	
2	SO2	11.0	17.1	14.1	14.4	
3	NOX	20.9	31.7	26.1	26.7	
4	CO	687.0	625.0	672.7	629.8	
February' 2017						
1	SPM	324.2	358.3	348.8	350.0	
2	SO2	9.8	13.7	11.7	12.5	
3	NOX	18.5	28.7	27.0	26.8	
4	CO	658.4	620.2	630	687.0	
March' 2017						
1	SPM	341.0	383.5	360.8	330.0	
2	SO2	11.8	15.2	13.8	10.3	
3	NOX	21.6	27.9	25.3	19.6	
4	CO	596	777.6	720.4	639.3	
Six monthly Average						
1	SPM	331.6	364.0	338.8	326.9	
2	SO2	11.1	14.6	12.5	10.7	
3	NOX	21.9	28.5	25.2	21.5	
4	CO	593.2	647.2	648.0	611.5	

J.K. Cement Works, Mangrol (Unit-1)
Fugitive Emission Monitoring Report
(October' 2016 - March ' 2017)

S.No.	Month/Year	SPM (µg/m3)			
		NEAR COAL YARD-1	NEAR LIMESTONE CRUSHING SITE-1	NEAR STACKER RECLAIMER-1	NEAR GYPSUM YARD-1
1	Oct-16	1395.8	2133.7	2390.7	2186.6
2	Nov-16	1407.1	2954.2	2301.7	2354.3
3	Dec-16	1520.8	2286.6	2185.8	2024.8
4	Jan-17	1439.7	2186.6	2482.6	1929.6
5	Feb-17	1557.4	2618.1	2141.9	2107.0
6	Mar-17	1777.8	2853.6	2647.1	2230.2

J.K. Cement Works, Mangrol (Unit-2)
Fugitive Emission Monitoring Report
(October' 2016 - March ' 2017)

S.No.	Month/Year	SPM (µg/m3)			
		NEAR COAL YARD-2	NEAR LIMESTONE CRUSHING SITE-2	NEAR STACKER RECLAIMER-2	NEAR GYPSUM YARD-2
1	Oct-16	1256.8	1582.6	1407.1	1697.9
2	Nov-16	1327.3	1649.3	1566.8	1861.6
3	Dec-16	1075.8	1876.7	1430.6	1575.2
4	Jan-17	1343.8	1734.4	1588.1	1645.8
5	Feb-17	1527.8	1579.9	1411.8	1512.6
6	Mar-17	1659.7	1832.0	1809.0	2069.6

J.K. *Cement* WORKS, Mangrol (RAJ)

Treated Domestic Effluent Analysis Report

October'16 to March'17

S.No.	PARAMETER	Standards	October-16	November-16	December-16	January-17	February-17	March-17
1	pH	Between 5.5 to 9.0	7.9	7.82	7.85	7.6	7.8	7.84
2	Chlorides as Cl	Not to exceed 1000 mg/l	76	68	95.29	96.15	97.3	98
3	Total Suspended solids	Not to exceed 100 mg/l	12	13.8	23.4	20.2	22.2	18.6
4	Biological Oxygen Demand (3 days at 27 Degree C)	Not to exceed 30 mg/l	21	18.6	19.8	17.6	18.2	19.4
5	Chemical Oxygen Demand	Not to exceed 250 mg/l	91.6	77.4	90.3	86.5	90.4	88.3
6	Oil & Grease	Not to exceed 10 mg/l	<1.4	<1.4	8.6	8.8	9.4	6.6
7	Ammonical Nitrogen (as N)	Not to exceed 50 mg/l	1.24	0.98	1.44	1.12	1.26	1.12
8	Sulphide (as S)	Not to exceed 2.0 mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
9	Total Residual Chlorine	Not to exceed 1.0 mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1