

No.JKCW/ENV/2022/ ECE/1<sup>st</sup> Half(PLANT)/89/18

Date- 21-11-2022

To

The Scientist-F,

Ministry of Environment &amp; Forest,

Govt. of India, Indira Paryavaran Bhavan,

Aliganj, New Delhi- 110 003

**Sub: Half Yearly Environmental Clearance Compliance report for the period Apl-2022 to Sept-2022 (1<sup>st</sup> Half) for expansion of Cement Grinding Unit (2.5 MTPA to 3.5 MTPA) of JK Cement Works, Village-Muddapur, Taluka-Mudhol, District-Bagalkot (Karnataka)**

Ref: **MoEF Letter No. F.No. J-11011/263/2009-IA II (I) dated 26-06-2010**

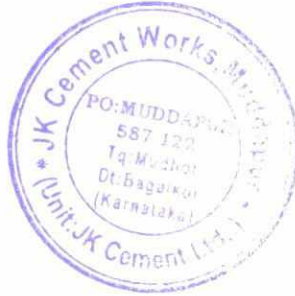
Dear Sir,

With reference to your above cited environmental clearance letters for expansion of Cement Grinding Unit (2.5 MTPA to 3.5 MTPA) of JK Cement Works, Village - Muddapur, Taluka- Mudhol, District - Bagalkot (Karnataka), we are sending here with point wise EC compliance report for the period from **Apr-2022 to Sept-2022 (1<sup>st</sup> Half)** for your kind information and record please, along with **Annexure-1 to 8**.

Thanking you

Yours faithfully

For J.K. Cement Works

  
Umashankar Choudhary  
(Unit Head)

Enclosures as above:

- |                                                   |                                                      |
|---------------------------------------------------|------------------------------------------------------|
| 1. EC Compliance Report <b>Annexure-1</b>         | 5. Fugitive emission Monitoring - <b>Annexure -5</b> |
| 2. AAQ Monitoring <b>Annexure -2</b>              | 6. Water Quality Monitoring - <b>Annexure 6</b>      |
| 3. Stack Emission Monitoring - <b>Annexure -3</b> | 7. Environmental expenditures <b>Annexure-7</b>      |
| 4. Noise Level Monitoring- <b>Annexure -4</b>     | 8. CSR Report <b>Annexure-8</b>                      |

## Corporate Office

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CC:

- 1- The Addl. Principal Chief Conservator of Forest (C), Ministry of Environment & Forest, Regional Office (South Zone), Koramangala, Bangalore
- 2- Chairman, Central Pollution Control Board, Parivesh Bhavan, East Arjun Nagar, New Delhi
- 3- Scientist 'D' & Incharge, Central Pollution Control Board, Nisarga Bhavan, Bengaluru
- 4- Member Secretary, Karnataka Pollution Control Board, Church Street, Bangalore
- 5- The Environmental officer, Karnataka State Pollution Control Board, Bagalkot – 587102.



**Subject:** Expansion of Cement Grinding Unit (2.50 MTPA to 3.5 MTPA) at Village Muddapur, Taluka Mudhol, District Bagalkot, Karnataka by M/s J.K. Cement Works, (Unit JK Cement Ltd)

**Reference:** MoEF Letter No. F.No. J-11011/263/2009-IA II (I) dated 21-06-2010

**EC Compliance Report for the period April, 2022 to Sept, 2022**

**A. SPECIFIC CONDITIONS:**

**Annexure-1**

S.NO	CONDITION	REPLY
i)	All other necessary statutory clearances from the concerned departments including No Objection Certificate from the Karnataka State Pollution Control Board (KSPCB) shall be obtained prior to commencement of construction and / or operation.	Complied, we obtained statutory clearances from the Karnataka State Pollution Control Board (KSPCB) prior to commencement of construction i.e, CTE and CTO during operation. Consent To Operate from Karnataka Pollution Control Board is being renewed once in every Five years. Latest Consent to Operate granted by KSPCB vide Order No. AW-326481 dated 30-08-2021 which is valid till 30-06-2026.
ii)	Compliance to all the specific and general conditions stipulated for the existing plant by the Central/State Govt. shall be ensured and regular reports submitted to the Ministry and its regional Office at Bangalore.	Complying. All the specific and general conditions stipulated by the Central/State Govt for the existing plant are complying and six monthly compliance reports are being submitted to the Ministry and its Regional office at Bangalore, CPCB & KSPCB boards also.
iii)	Adequate pollution control measures viz. bag filters shall be provided to control emissions from various sources within 50 mg/Nm <sup>3</sup> . At no time, particulate emissions from the grinding unit shall exceed 50 mg/Nm <sup>3</sup> . Interlocking facility shall be provided in the pollution control equipments so that in the event of the pollution control equipment not working, the respective unit (s) is shut down automatically.	Complied, Adequate pollution control measures viz. bag filters have been provided to control emissions from various sources not exceeding 30 mg/Nm <sup>3</sup> and interlocking facility has been facilitated in the pollution control equipment.
iv)	Cement grinding shall be carried out in closed circuit and shall have highly efficient reverse pulse jet type bag filters.	Complied, Cement grinding is being carried out in closed circuit and pulse jet bag filter has been installed.
v)	Ambient air quality monitoring stations (AAQMS) shall be set up as per statutory requirement in consultation with the Karnataka Pollution Control Board (KSPCB). Ambient air quality including ambient noise levels shall not exceed the standards stipulated under EPA or by the State authorities. Monitoring of ambient air quality shall be carried out regularly in consultation with KSPCB and must not	Complied, Ambient air quality monitoring stations (AAQMS) have been set up in consultation with the Karnataka Pollution Control Board (KSPCB). Ambient air quality including ambient noise levels is not exceeding the standards stipulated under EPA or by the State authorities. Ambient air quality is being carried out regularly in consultation with KSPCB and results are not exceeding the NAAQM standards, 2009.



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	exceed the standards stipulated under EPA or by the State Authorities. Monitoring reports for ambient air, stack and fugitive emissions shall be submitted to the Ministry's regional Office at Bangalore, Central Pollution Control Board (CPCB) and KSPCB half-yearly. The instrument used for ambient air quality monitoring shall be calibrated time to time.	Ambient air, stack and fugitive emission monitoring reports are being submitted to Ministry's regional Office at Bangalore, Central Pollution Control Board (CPCB) and KSPCB half-yearly. The Instruments, used for ambient air quality/stack/noise/ fugitive monitoring are calibrated regularly from time to time.
vi)	The company shall install adequate dust collection and extraction system to control fugitive dust emissions at loading/unloading points and all the transfer points. Dust extraction system with bag filters at raw material handling areas shall be provided, collected in bag filters and recycled back to the process. Storage of raw material shall be in closed roof sheds. Water sprinkling arrangement shall be made in the raw material stock yard and cement bag loading areas.	Complied, we have installed adequate dust collection and extraction system to control fugitive dust emissions at loading/unloading points and all the transfer points. The dust, collected in bag filters is recycled back to the process. Raw material is being stored in closed roof sheds. water sprinkling in raw material stock yard and cement bag loading areas through water tankers. Dust sweeping machines also being used for paved roads.
vii)	Secondary fugitive emissions shall be controlled and shall be within the prescribed limits and regularly monitored. Guidelines / Code of Practice issued by the CPCB in this regard shall be followed. Transportation of raw materials shall be covered means.	Complying, Secondary fugitive emissions have been monitored periodically and controlled and well within the prescribed norms. CPCB guidelines have been adopted for code of practice to control fugitive emission. Raw materials are being transported through covered means.
viii)	Total ground water requirement shall not exceed 200 m <sup>3</sup> /day. No waste water shall be generated from the cement grinding unit.	Complying, Abstraction of ground water is not exceeding the permitted quantity. No waste water is being generated from the cement grinding unit.
ix)	All the solid waste viz. fly ash and dust etc. should be properly recycled and reutilized in the process itself.	Complying, All the solid wastes viz. fly ash and dust etc. are being properly recycled and re-utilized in the process itself. 100% fly ash, generated in Captive power plant, is used in the cement plant for manufacturing of cement.
x)	As proposed, green belt shall be developed in at least 34.5 ha of land area to land area to mitigate the impact of fugitive emissions in and around the expansion project as per the CPCB guidelines in consultation with the local DFO.	Complying, out of 104.55 ha, 48.12 Ha have been covered under green cover which is more than 33% area. additional plantation has been taken up to mitigate and reduce the impact of fugitive emissions. We are continuously developing the green belt in and

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**EC Compliance Report for the period April, 2022 to Sept, 2022**

		surrounding the area as per the CPCB guidelines and in consultation with the local DFO.
xi)	Proper housekeeping and adequate occupational health programs shall be taken up.	Complying, Proper housekeeping and adequate occupational health programs are being taken up time to time.
xii)	All the recommendations made in the charter on Corporate Responsibility for Environment Protection (CREP) for the cement plants shall be implemented.	Complying, Recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the cement plants are being implemented.
xiii)	Rainwater harvesting measures shall be adopted. The company must also harvest the rainwater from the roof tops and storm water drains to recharge the ground water and use the same water for the various activities of the project to conserve fresh water.	Complied, Rainwater harvesting measures in cement plant and residential colony have been adopted. We are harvesting the rainwater from the roof tops and storm water drains to recharge the ground water.
xiv)	At least 5% of the total cost of the project should be earmarked towards the corporate social responsibility and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bangalore. Implementation of such program should be ensured accordingly in a time bound manner.	Complying, item-wise details along with time bound action plan has been prepared and submitted to the Ministry's Regional Office at Bangalore.
xv)	The company shall provide housing for 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, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Complied, All facilities had been provided to labor during project time.
<b>B. GENERAL CONDITION:</b>		
i)	The project authorities must strictly adhere to the stipulations made by the Karnataka State Pollution Control Board and the State Government.	Noted.
ii)	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	Noted.
iii)	The gaseous emissions from various process	Noted.



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	units shall conform to the load/mass based standards notified by this Ministry on 19th may, 1993 and standard prescribed from time to time. The State Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location.	
iv)	At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM <sub>10</sub> , SO <sub>2</sub> and NO <sub>x</sub> are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its regional Office at Bangalore and the SPCB/CPCB once in six Months.	Complied, we have established five (AAQMS) monitoring stations and monitored data of ambient air quality and stack emission are being regularly submitted to the Ministry including its regional Office at Bangalore and the SPCB/CPCB once in six Months. Six monthly report of Ambient Air Quality, Stack emission and Fugitive emissions has been enclosed <b>as Annexure- 2, 3, 5</b>
v)	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	Complying, No waste water is generated from cement plant and the waste water, generated in captive power plant is collected in neutrilsation pit and treated properly and the treated waste water is being used for process itself.
vi)	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).	Complying, the noise levels in and around plant are well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels are also within the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (night time) <b>as per Annexure- 4</b>
Vii)	Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factory Act.	Complying, Occupational health surveillance of the workers is being done on a regular basis and records are being maintained as per the Factory Act.
viii)	The company shall develop surface water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	Complied.
ix)	The Project proponent shall also comply with all the environmental protection measures and safeguards recommended in	Complying, Environmental protection measures and safeguards recommended in the EIA/EMP report are being followed.

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	the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programme, educational programs, drinking water supply and health care etc.	socio-economic development activities along with expenditure in the surrounding villages for community development Programmes, educational programs, drinking water supply and health care for the period April-2022 to September-2022 is enclosed as <b>Annexure-8</b> .
X)	As proposed, Rs. 431 lakhs and Rs. 117.95 lakhs shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the regional Office of the Ministry at Bangalore. The funds so provided shall not be diverted for any other purpose.	Complied. expenditure incurred on environmental pollution control measures taken up on environment management plan and the details of expenditure are enclosed as <b>Annexure-7</b> .
xi)	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/representations, if any were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.	Complied, a copy of clearance letter had been sent to concerned local bodies. No suggestions & representation were received, the same also displayed on the web site of the company.
xii)	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the regional Office of the MoEF at Bangalore, The respective Zonal Office of CPCB and the CECB. The criteria pollutant levels namely; PM <sub>10</sub> , SO <sub>2</sub> , NO <sub>x</sub> (ambient for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Complying, Environment clearance conditions status and results of monitored data are being updated & uploaded on company website periodically. The same report is being sent to the regional Office of the MoEF at Bangalore and the respective Zonal Office of CPCB. The pollutants levels namely; PM <sub>10</sub> , SO <sub>2</sub> , NO <sub>x</sub> are displaying near the plant main gate of the company in the public domain.
xiii)	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored	Complying, we are submitting six monthly reports on the status of the compliance of the stipulated environmental conditions and monitored data in soft copies only by e-mail



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	data (both in hard copies as well as by e-mail) to the Regional Office of this Ministry at Bangalore/CPCB/SPCB shall monitor the stipulated conditions.	and to the Regional Office of this Ministry at Bangalore and upload the same in Parivesh website. Also the same report is submitted to CPCB/SPCB as well.
xiv)	The environmental statement for each financial year ending 31 <sup>st</sup> March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (protection) Rules, 19086, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective regional Office of the MoEF at Bangalore by e mail.	Complying, the environmental statement for each financial year ending 31 <sup>st</sup> March in Form-V is being submitted by us to the concerned State Pollution Control Board and is also sent to the respective regional office of the MoEF at Bangalore by e mail. Environmental Statement Report (Form-V) for F.Y. 2021-22 was submitted to regulatory authority via. letter no. JKCW/ENV./CFO (Plant)/60/15 dated 05-09-2022.
xv)	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 of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> . 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 region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the regional office at Bangalore.	Complied, we had informed 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 of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> . This had been advertised within seven days from the date of issue of the clearance letter, in two local newspapers that are widely circulated in the region of which one was in the vernacular language of the locality concerned and a copy of the same had been forwarded to the regional office at Bangalore.
xvi)	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 commencing the land development work.	Complied, we had informed 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 commencing the land development work.

Yours faithfully

For J.K. Cement Works, Muddapur (Karnataka)

  
Uma Shankar Choudhary  
(Unit Head)







# **J.K. Cement WORKS, MUDDAPUR (KARNATAKA)**

CEMENT PLANT & 2X25 CPP MW


**QUARTERLY AAQM REPORT (SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>), FOR THE MONTH OF APRIL-2022 TO SEPTEMBER-2022**

( ALL VALUES IN MICROGRAMS / CUBIC METER )

Month	Sl. No.	Date	Week	SO <sub>2</sub>				NO <sub>2</sub>				PM <sub>10</sub>				PM <sub>2.5</sub>			
				Locations				Locations				Locations				Locations			
				A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
A p r i l	1	01.4.2022	1st	7.5	8.0	7.2	6.8	17.0	18.0	17.8	18.2	59.3	59.9	32.5	30.6	20.8	25.8	22.8	25.3
	2	05.4.2022		8.0	8.2	8.0	7.8	18.0	18.0	18.0	16.8	66.2	63.4	40.8	42.5	33.3	28.3	25.6	23.5
	3	08.4.2022	2nd	6.8	6.3	7.6	7.2	16.8	16.7	16.7	17.8	70.1	68.8	35.6	33.2	29.2	22.1	20.5	22.7
	4	12.4.2022		6.7	7.0	8.0	7.0	16.7	17.7	18.2	17.6	68.8	72.7	38.7	35.6	37.5	33.3	23.7	20.5
	5	15.4.2022	3rd	6.2	6.3	6.3	7.2	17.3	17.5	16.5	17.8	72.8	61.1	45.3	42.8	25.0	20.8	18.8	22.8
	6	19.4.2022		8.0	7.0	7.5	8.0	18.0	17.0	19.5	18.5	61.9	58.0	36.5	34.4	37.5	29.2	25.8	20.6
	7	22.4.2022	4th	6.8	8.0	6.8	6.5	16.7	18.0	17.6	17.2	68.6	65.8	43.6	41.8	25.0	31.3	22.4	18.4
	8	26.4.2022		8.0	6.7	7.3	7.0	18.0	16.7	16.8	16.5	72.3	60.8	47.5	43.5	29.2	25.0	23.0	20.8
	9	29.4.2022		8.5	8.2	8.3	8.0	18.0	18.2	18.2	18.0	77.1	72.0	42.8	40.6	37.5	37.5	21.8	19.0
M a y	1	3.5.2022	1st	7.2	7.0	6.3	7.8	19.0	18.3	17.3	18.6	68.3	76.7	68.6	65.5	29.2	33.3	30.6	35.4
	2	6.5.2022		8.3	6.8	7.7	8.0	17.7	17.7	18.5	18.2	71.4	64.2	65.8	70.6	37.5	37.5	28.5	33.3
	3	10.5.2022	2nd	6.2	6.0	6.7	7.6	16.5	16.5	17.7	17.5	79.1	69.1	70.4	68.5	20.8	25.0	25.0	29.2
	4	13.5.2022		7.5	7.7	7.7	8.2	17.5	17.7	17.8	16.9	81.6	77.3	73.5	70.2	25.0	29.0	30.0	28.0
	5	17.5.2022	3rd	8.0	6.7	8.0	7.5	18.0	17.2	18.0	18.4	74.1	60.3	64.5	72.8	29.2	32.0	28.0	30.0
	6	20.5.2022		7.3	7.7	7.5	7.7	19.2	17.8	18.8	17.2	86.5	65.2	68.5	74.6	34.6	33.0	25.2	28.5
	7	24.5.2022	4th	7.8	8.0	7.3	8.1	17.5	18.0	17.7	17.8	77.6	69.8	72.3	76.1	32.8	30.0	27.0	36.0
	8	27.5.2022		6.7	8.0	6.8	7.6	18.8	17.0	18.0	16.6	70.7	74.4	70.2	71.6	33.3	28.0	32.0	32.0
	9	31.5.2022		7.7	7.7	7.5	7.4	17.2	17.7	17.3	18.6	75.1	62.7	60.2	67.2	30.0	32.0	30.0	30.5
J u n e	1	3.6.2022	1st	7.8	7.5	8.5	8.0	18.0	17.8	19.5	18.0	81.5	77.6	40.3	45.5	20.8	20.8	25.0	16.7
	2	7.6.2022		8.0	8.3	9.2	8.2	19.0	18.0	18.5	18.8	73.5	80.7	37.9	56.8	18.7	16.7	20.8	20.8
	3	10.6.2022	2nd	7.2	8.5	8.0	7.8	17.7	19.0	18.0	17.0	29.1	18.7	45.2	47.7	8.3	14.6	17.5	25.0
	4	14.6.2022		8.0	8.0	9.0	7.5	18.0	18.3	19.0	17.8	45.9	44.5	47.0	52.7	6.2	8.3	23.3	27.1
	5	17.6.2022	3rd	8.5	8.2	8.2	9.0	18.0	18.0	18.2	19.0	59.5	47.2	35.3	57.4	10.4	12.5	18.8	20.8
	6	21.6.2022		8.2	8.7	7.5	8.8	19.0	19.5	17.5	18.8	43.6	16.8	30.9	48.8	12.5	19.2	25.0	12.5
	7	24.6.2022	4th	8.2	7.3	8.0	7.5	16.8	17.7	18.0	17.3	28.2	15.7	39.0	52.5	8.3	9.6	33.3	22.9
	8	28.6.2022		7.5	8.0	9.2	6.7	17.5	18.5	19.2	17.0	62.3	43.3	45.4	46.5	16.7	16.7	20.8	16.7
J u l y	1	1.7.2022	1st	7.7	5.7	6.3	6.0	17.7	16.0	16.0	17.0	56.8	57.2	61.0	57.8	29.2	23.0	24.2	20.8
	2	5.7.2022		8.8	7.2	7.7	7.7	18.8	17.5	17.3	17.7	52.6	41.3	56.7	50.6	16.7	29.6	20.8	25.0
	3	8.7.2022	2nd	6.8	6.8	6.8	8.0	16.8	18.0	18.2	16.7	66.2	55.1	49.9	47.8	20.8	20.8	18.7	29.7
	4	12.7.2022		7.8	7.0	6.0	7.3	17.8	16.8	17.0	17.3	57.7	61.1	64.1	53.5	25.8	29.2	25.0	22.0
	5	15.7.2022	3rd	8.0	8.5	7.7	8.3	18.8	18.7	18.7	18.3	44.1	57.1	57.9	50.3	12.5	25.0	16.7	22.5
	6	19.7.2022		7.5	8.0	8.0	6.7	17.8	18.8	17.8	16.7	67.7	59.4	61.0	59.4	16.7	29.2	15.8	18.8
	7	22.7.2022	4th	6.7	6.8	6.7	8.0	18.2	17.3	17.7	18.0	48.3	66.5	54.8	62.0	12.5	20.8	20.4	22.1
	8	26.7.2022		8.0	7.2	7.6	9.2	18.0	17.7	17.6	19.2	58.1	60.8	65.1	58.9	16.7	17.5	22.9	20.8
	9	29.7.2022		8.0	8.0	8.8	6.5	18.0	18.0	17.8	18.0	63.7	67.5	67.1	59.4	27.5	16.7	19.6	25.0
A u g u s t	1	2.8.2022	1st	8.0	6.8	6.8	6.8	18.0	17.0	16.8	17.3	40.7	36.8	35.8	45.0	17.9	8.3	4.2	9.2
	2	5.8.2022		7.5	8.0	8.3	8.0	17.5	18.0	18.3	18.0	47.9	40.3	30.5	34.2	4.2	6.7	12.5	8.3
	3	9.8.2022	2nd	7.7	8.2	7.7	9.6	18.3	19.0	17.7	19.2	42.3	34.6	39.9	39.9	12.5	14.6	7.5	13.3
	4	12.8.2022		8.3	9.2	8.3	7.2	19.2	18.5	18.3	17.7	48.6	47.0	45.7	48.1	12.5	8.3	13.3	12.9
	5	16.8.2022	3rd	9.0	8.7	8.3	7.5	19.0	19.0	19.2	18.0	45.4	32.2	43.3	39.1	7.5	8.3	12.9	13.3
	6	19.8.2022		7.7	6.8	7.3	8.0	17.7	16.7	18.2	18.0	37.7	34.8	48.1	41.6	8.3	12.5	10.0	10.4
	7	23.8.2022	4th	7.3	7.3	6.5	6.7	17.3	17.3	17.2	16.7	31.8	38.9	33.3	39.8	11.3	6.2	5.0	8.3
	8	26.8.2022		9.4	7.0	7.3	8.3	19.2	16.8	17.5	19.6	43.2	32.1	30.9	45.0	12.5	12.5	9.2	9.2
	9	30.8.2022		8.2	8.0	7.0	7.5	18.2	18.0	18.0	18.0	42.0	44.0	46.9	41.8	25.0	16.7	13.3	9.6
S e p t e m b e r	1	04.9.2022	1st	7.7	5.7	6.8	6.0	17.7	16.7	16.8	17.0	54.8	40.0	50.9	37.8	12.5	12.5	21.7	14.6
	2	07.9.2022		6.3	7.3	7.7	7.7	17.0	17.2	17.7	17.7	48.0	45.9	41.4	47.7	17.5	20.8	18.8	20.8
	3	11.9.2022	2nd	6.8	6.2	8.0	8.0	16.8	16.8	18.0	16.7	50.4	48.9	33.0	48.8	13.3	16.7	15.8	16.7
	4	14.9.2022		8.0	8.5	8.8	7.3	18.0	18.5	19.8	17.3	56.1	32.0	45.9	33.3	16.7	18.8	12.5	8.3
	5	18.9.2022	3rd	6.8	7.8	6.8	8.3	17.8	18.8	16.8	18.3	52.7	30.8	50.5	32.5	14.2	10.0	14.6	12.5
	6	21.9.2022		7.7	6.7	8.0	6.7	17.8	17.3	17.5	16.7	59.6	39.3	35.1	43.7	18.8	17.5	20.8	14.6
	7	24.9.2022	4th	7.8	8.2	8.7	8.0	18.0	19.0	18.7	18.0	53.3	46.9	42.1	38.4	14.2	15.8	22.9	20.8
	8	28.9.2022		7.2	7.5	8.8	9.2	17.8	17.5	18.8	19.2	57.9	55.6	40.0	48.1	20.5	18.3	19.6	16.7
Avg.				7.6	7.5	7.6	7.6	17.9	17.8	17.9	17.8	58.7	52.9	48.6	49.9	20.5	20.9	20.5	20.5
Min.				6.2	5.7	6.0	6.0	16.5	16.0	16.0	16.5	28.2	15.7	30.5	30.6	4.2	6.2	4.2	8.3
Max.				9.4	9.2	9.2	9.6	19.2	19.5	19.8	19.6	86.5	80.7	73.5	76.1	37.5	37.5	33.3	36.0

Note:- Location A-Near Admin Bld  
Location B-Guest House  
Location C-Muddapur  
Location D-Bamanbudhini

  
Vani Patil  
Monitored by

  
Vinit Kumar Sharma  
Checked by

**Plant AAQ sample**

<b>Name and Address of Customer:</b> M/s. JK Cement Works, Muddapur (Unit : J.K. Cement LTD.,) Muddapur -587122 Distt. Bagalkot (Karnataka) India			<b>Report Date:</b> 31/08/2022				
			<b>Date of Receipt of sample:</b> 24/08/2022				
			<b>Test Report No:</b> SIRC/2022/08/4767				
			<b>Test Completed on:</b> 31/08/2022				
<b>Test Performed On:</b> 24/08/2022			<b>Sample Packing:</b> Absorbing solution Sealed Bottle and Filter paper zip lock covered				
S.No	Parameters	Method	NAAQ standards	Location			
			2009	Site-1	Site-2	Site-3	Site-4
1	Particulate Matter (PM10), µg/m <sup>3</sup>	IS 5182 (P23):2006	100	60	53.8	47.8	68
2	Particulate Matter (PM2.5), µg/m <sup>3</sup>	40CFR Part 53& 58	60	36	29.1	34.9	36
3	Sulfur Dioxide (SO2), µg/m <sup>3</sup>	IS 5182 (P2):2001	80	8	13.5	10.4	
4	Nitrogen Dioxide (NO2), µg/m <sup>3</sup>	IS 5182 (P6):2006	80	17	26.1	21.4	26
5	Ammonia (NH3), µg/m <sup>3</sup>	Method 401, Air Sampling	400	20.6	15.7	20.6	20
6	Carbon Monoxide (CO), mg/m <sup>3</sup>	Non-Dispersive Infra-Red Method	04	ND	ND	ND	ND
7	Ozone (O3), µg/m <sup>3</sup>	Method 411, Air Sampling	180	7.6	11.5	13.1	12.5
8	Lead (Pb), µg/m <sup>3</sup>	EPA compendium method IO 3.2	1.0	BDL	BDL	BDL	BDL
9	Nickel (Ni), ng/m <sup>3</sup>	EPA compendium method IO 3.2	20	BDL	BDL	BDL	BDL
10	Arsenic (As), ng/m <sup>3</sup>	EPA compendium method IO 3.2	06	BDL	BDL	BDL	BDL
11	Benzo(a)Pyrene(BaP), ng/m <sup>3</sup>	IS 5182 (Part 12):2004	01	BDL	BDL	BDL	BDL
12	Benzene (C6H6), µg/m <sup>3</sup>	IS 5182 (Part11):2006	05	BDL	BDL	BDL	BDL

**Note:** Site-1: Near Administration Building Site-2: Near Guest House Site-3: Muddapur & Site-4: Bamanbudhini  
**BDL:** Below detectable limit, **ND:** Not Detected

<b>INFERENCE</b>	As per NAAQMS Standards, Report Status: - - The measured values for the above parameters are within the standards
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**AUTHORIZED SIGNATORY**  
 Dr. Siddalingeshwara K G  
 Quality





# SCIENTIFIC & INDUSTRIAL RESEARCH CENTRE

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ISO 9001:2015 & OHSAS 45001:2018 Certified Laboratory.

## TEST REPORT

<b>Name and Address of Customer:</b> M/s. JK Cement Works, Muddapur (Unit : J.K. Cement LTD..) Muddapur -587122 Dist. Bagalkot (Karnataka) India	<b>Report Date:</b> 06/07/2022
	<b>Date of Receipt of sample:</b> 01/07/2022
	<b>Test Report No:</b> SIRC/2022/06/3444
	<b>Test Completed on:</b> 06/07/2022
<b>Test Performed On:</b> 01/07/2022	<b>Sample Packing:</b> Absorbing solution Sealed Bottle and Filter paper zip lock covered

## RESULTS

Sample Collected By	Sample Nature	Sample Location	Sample Condition on Receipt
SIRC	AAQ sample	Near Dispatch Gate	Satisfactory

S.No	Parameters	Results	NAAQ standards 2009	Method
1	Particulate Matter (PM10), $\mu\text{g}/\text{m}^3$	65.0	100	IS 5182 (P-23):2006
2	Particulate Matter (PM2.5), $\mu\text{g}/\text{m}^3$	33.3	60	40CFR Part 53& 58
3	Sulfur Dioxide (SO <sub>2</sub> ), $\mu\text{g}/\text{m}^3$	11.1	80	IS 5182 (P-2):2001
4	Nitrogen Dioxide (NO <sub>2</sub> ), $\mu\text{g}/\text{m}^3$	19.4	80	IS 5182 (P-6):2006
5	Ammonia (NH <sub>3</sub> ), $\mu\text{g}/\text{m}^3$	16.0	400	Method 401, Air Sampling
6	Carbon Monoxide (CO), $\text{mg}/\text{m}^3$	ND	04	Non-Dispersive Infra-Red Method
7	Ozone (O <sub>3</sub> ), $\mu\text{g}/\text{m}^3$	11.0	180	Method 411, Air Sampling
8	Lead (Pb), $\mu\text{g}/\text{m}^3$	BDL	1.0	EPA compendium method IO 3.2
9	Nickel (Ni), $\text{ng}/\text{m}^3$	BDL	20	EPA compendium method IO 3.2
10	Arsenic (As), $\text{ng}/\text{m}^3$	BDL	06	EPA compendium method IO 3.2
11	Benzo(a)Pyrene (BaP), $\text{ng}/\text{m}^3$	BDL	01	IS 5182 (Part 12):2004
12	Benzene (C <sub>6</sub> H <sub>6</sub> ), $\mu\text{g}/\text{m}^3$	BDL	05	IS 5182 (Part 11):2006

BDL: Below detectable limit, ND: Not Detected

<b>INFERENCE</b>	As per NAAQMS Standards, Report Status: - - The measured values for the above parameters are within the standards
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**AUTHORIZED SIGNATORY**

Sateesh G Muttagi  
Technical Manager

## NOTE

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2. Samples will be destroyed after specified retention time.
3. This report is not to be reproduced wholly or in part & cannot be used as evidence in the court of law & should not be used in any advertising media without our special permission in writing.
4. Sample(s) not drawn by us unless otherwise stated.
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Mob: 8494900231, 8892972297, 9632917186

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## TEST REPORT

Name and Address of Customer: M/s. JK Cement Works, Muddapur (Unit: J.K. Cement LTD.) Muddapur-587122 Dist. Bagalkot (Karnataka) India	Report Date: 06/07/2022
	Date of Receipt of sample: 01-07/2022
	Test Report No: SIRC/2022/06/3443
	Test Completed on: 06-07/2022
Test Performed On: 01/07/2022	Sample Packing: Absorbing solution Sealed Bottle and Filter paper zip lock covered

## RESULTS

Sample Collected By	Sample Nature	Sample Location	Sample Condition on Receipt
SIRC	AAQ sample	Near D Block Staff Colony Quarters	Satisfactory

S.No	Parameters	Results	NAAQ standards 2009	Method
1	Particulate Matter (PM10), $\mu\text{g}/\text{m}^3$	53.0	100	IS 5182 (P-23):2006
2	Particulate Matter (PM2.5), $\mu\text{g}/\text{m}^3$	19.1	60	40CFR Part 53& 58
3	Sulfur Dioxide (SO <sub>2</sub> ), $\mu\text{g}/\text{m}^3$	11.4	80	IS 5182 (P-2):2001
4	Nitrogen Dioxide (NO <sub>2</sub> ), $\mu\text{g}/\text{m}^3$	19.8	80	IS 5182 (P-6):2006
5	Ammonia (NH <sub>3</sub> ), $\mu\text{g}/\text{m}^3$	14.4	400	Method 401, Air Sampling
6	Carbon Monoxide (CO), $\text{mg}/\text{m}^3$	ND	04	Non-Dispersive Infra-Red Method
7	Ozone (O <sub>3</sub> ), $\mu\text{g}/\text{m}^3$	10.2	180	Method 411, Air Sampling
8	Lead (Pb), $\mu\text{g}/\text{m}^3$	BDL	1.0	EPA compendium method IO 3.2
9	Nickel (Ni), $\text{ng}/\text{m}^3$	BDL	20	EPA compendium method IO 3.2
10	Arsenic (As), $\text{ng}/\text{m}^3$	BDL	06	EPA compendium method IO 3.2
11	Benzo(a)Pyrène(BaP), $\text{ng}/\text{m}^3$	BDL	01	IS 5182 (Part 12):2004
12	Benzene (C <sub>6</sub> H <sub>6</sub> ), $\mu\text{g}/\text{m}^3$	BDL	05	IS 5182 (Part 11):2006

BDL: Below detectable limit, ND: Not Detected

INFERENCE	As per NAAQMS Standards.
	Report Status: -- The measured values for the above parameters are within the standards

**AUTHORIZED SIGNATORY**

Sateesh G Muttagi

Technical Manager

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## TEST REPORT

|                                                                                                                                                              |                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| <b>Name and Address of Customer:</b><br>M/s. JK Cement Works, Muddapur<br>(Unit : J.K. Cement LTD.,)<br>Muddapur -587122 Dist. Bagalkot<br>(Karnataka) India | <b>Report Date:</b> 06/07/2022                                                            |
|                                                                                                                                                              | <b>Date of Receipt of sample:</b> 01/07/2022                                              |
|                                                                                                                                                              | <b>Test Report No:</b> SIRC/2022/06/3442                                                  |
|                                                                                                                                                              | <b>Test Completed on:</b> 06/07/2022                                                      |
| <b>Test Performed On:</b> 01/07/2022                                                                                                                         | <b>Sample Packing:</b> Absorbing solution Sealed Bottle and Filter paper zip lock covered |

## RESULTS

| Sample Collected By | Sample Nature | Sample Location  | Sample Condition on Receipt |
|---------------------|---------------|------------------|-----------------------------|
| SIRC                | AAQ sample    | Near Guest House | Satisfactory                |

| S.No | Parameters                                                         | Results | NAAQ standards 2009 | Method                          |
|------|--------------------------------------------------------------------|---------|---------------------|---------------------------------|
| 1    | Particulate Matter (PM10), $\mu\text{g}/\text{m}^3$                | 52.0    | 100                 | IS 5182 (P-23):2006             |
| 2    | Particulate Matter (PM2.5), $\mu\text{g}/\text{m}^3$               | 15.0    | 60                  | 40CFR Part 53 & 58              |
| 3    | Sulfur Dioxide (SO <sub>2</sub> ), $\mu\text{g}/\text{m}^3$        | 10.7    | 80                  | IS 5182 (P-2):2001              |
| 4    | Nitrogen Dioxide (NO <sub>2</sub> ), $\mu\text{g}/\text{m}^3$      | 23.3    | 80                  | IS 5182 (P-6):2006              |
| 5    | Ammonia (NH <sub>3</sub> ), $\mu\text{g}/\text{m}^3$               | 15.2    | 400                 | Method 401, Air Sampling        |
| 6    | Carbon Monoxide (CO), $\text{mg}/\text{m}^3$                       | ND      | 04                  | Non-Dispersive Infra-Red Method |
| 7    | Ozone (O <sub>3</sub> ), $\mu\text{g}/\text{m}^3$                  | 11.0    | 180                 | Method 411, Air Sampling        |
| 8    | Lead (Pb), $\mu\text{g}/\text{m}^3$                                | BDL     | 1.0                 | EPA compendium method IO 3.2    |
| 9    | Nickel (Ni), $\text{ng}/\text{m}^3$                                | BDL     | 20                  | EPA compendium method IO 3.2    |
| 10   | Arsenic (As), $\text{ng}/\text{m}^3$                               | BDL     | 06                  | EPA compendium method IO 3.2    |
| 11   | Benzo(a)Pyrene(BaP), $\text{ng}/\text{m}^3$                        | BDL     | 01                  | IS 5182 (Part 12):2004          |
| 12   | Benzene (C <sub>6</sub> H <sub>6</sub> ), $\mu\text{g}/\text{m}^3$ | BDL     | 05                  | IS 5182 (Part 11):2006          |

BDL: Below detectable limit, ND: Not Detected

|                  |                                                                                                                      |
|------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>INFERENCE</b> | As per NAAQMS Standards.<br>Report Status: - - The measured values for the above parameters are within the standards |
|------------------|----------------------------------------------------------------------------------------------------------------------|

**AUTHORIZED SIGNATORY**

Sateesh G Muttagi  
Technical Manager

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## TEST REPORT

|                                                                                                                                                             |                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| <b>Name and Address of Customer:</b><br>M/s. JK Cement Works, Muddapur<br>(Unit : J.K. Cement LTD.)<br>Muddapur -587122 Dist. Bagalkot<br>(Karnataka) India | <b>Report Date:</b> 06/07/2022                                                            |
|                                                                                                                                                             | <b>Date of Receipt of sample:</b> 01/07/2022                                              |
|                                                                                                                                                             | <b>Test Report No:</b> SIRC/2022/06/3441                                                  |
|                                                                                                                                                             | <b>Test Completed on:</b> 06/07/2022                                                      |
| <b>Test Performed On:</b> 01/07/2022                                                                                                                        | <b>Sample Packing:</b> Absorbing solution Sealed Bottle and Filter paper zip-lock covered |

## RESULTS

| Sample Collected By | Sample Nature | Sample Location              | Sample Condition on Receipt |
|---------------------|---------------|------------------------------|-----------------------------|
| SIRC                | AAQ sample    | Near Administration Building | Satisfactory                |

| S.No | Parameters                                                         | Results | NAAQ standards 2009 | Method                          |
|------|--------------------------------------------------------------------|---------|---------------------|---------------------------------|
| 1    | Particulate Matter (PM10), $\mu\text{g}/\text{m}^3$                | 67.0    | 100                 | IS 5182 (P-23):2006             |
| 2    | Particulate Matter (PM2.5), $\mu\text{g}/\text{m}^3$               | 21.2    | 60                  | 40CFR Part 53& 58               |
| 3    | Sulfur Dioxide (SO <sub>2</sub> ), $\mu\text{g}/\text{m}^3$        | 10.5    | 80                  | IS 5182 (P-2):2001              |
| 4    | Nitrogen Dioxide (NO <sub>2</sub> ), $\mu\text{g}/\text{m}^3$      | 20.0    | 80                  | IS 5182 (P-6):2006              |
| 5    | Ammonia (NH <sub>3</sub> ), $\mu\text{g}/\text{m}^3$               | 17.6    | 400                 | Method 401, Air Sampling        |
| 6    | Carbon Monoxide (CO), $\text{mg}/\text{m}^3$                       | ND      | 04                  | Non-Dispersive Infra-Red Method |
| 7    | Ozone (O <sub>3</sub> ), $\mu\text{g}/\text{m}^3$                  | 12.7    | 180                 | Method 411, Air Sampling        |
| 8    | Lead (Pb), $\mu\text{g}/\text{m}^3$                                | BDL     | 1.0                 | EPA compendium method IO 3.2    |
| 9    | Nickel (Ni), $\text{ng}/\text{m}^3$                                | BDL     | 20                  | EPA compendium method IO 3.2    |
| 10   | Arsenic (As), $\text{ng}/\text{m}^3$                               | BDL     | 06                  | EPA compendium method IO 3.2    |
| 11   | Benzo(a)Pyrone(BaP), $\text{ng}/\text{m}^3$                        | BDL     | 01                  | IS 5182 (Part 12):2004          |
| 12   | Benzene (C <sub>6</sub> H <sub>6</sub> ), $\mu\text{g}/\text{m}^3$ | BDL     | 05                  | IS 5182 (Part 11):2006          |

BDL: Below detectable limit, ND: Not Detected

|                  |                                                                                                                     |
|------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>INFERENCE</b> | As per NAAQMS Standards,<br>Report Status: -- The measured values for the above parameters are within the standards |
|------------------|---------------------------------------------------------------------------------------------------------------------|

**AUTHORIZED SIGNATORY**

Sateesh G Muttagi  
Technical Manager

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**J.K. Cement WORKS, MUDDAPUR (KARNATAKA)**  
(Unit : J.K. Cement Ltd.)

Stack monitoring report of Cement plant & 2x25 MW Thermal power plant for April-2022 to September-2022

| Sl. No. | Month/Year | Stack locations     |                      |                      |                     |                      |                      |              |  |
|---------|------------|---------------------|----------------------|----------------------|---------------------|----------------------|----------------------|--------------|--|
|         |            | Thermal Power Plant |                      |                      | Kiln / Raw Mill     |                      |                      |              |  |
|         |            | Standards 50 mg/Nm3 | Standards 600 mg/Nm3 | Standards 450 mg/Nm3 | Standards 30 mg/Nm3 | Standards 100 mg/Nm3 | Standards 800 mg/Nm3 | DG Set       |  |
|         |            | PM in mg/Nm3        | SO2 in mg/Nm3        | NOx in mg/Nm3        | PM in mg/Nm3        | SO2 in mg/Nm3        | NOx in mg/Nm3        | PM in mg/Nm3 |  |
| 1       | Apr-22     |                     |                      |                      | 11.5                | 0.0                  | 552.0                | -            |  |
| 2       | May-22     |                     |                      |                      | 7.1                 | 0.0                  | 548.0                | -            |  |
| 3       | Jun-22     |                     |                      |                      | 15.6                | 0.0                  | 445.0                | -            |  |
| 4       | Jul-22     |                     |                      |                      | 9.4                 | 0.0                  | 524.0                | -            |  |
| 5       | Aug-22     |                     |                      |                      | 14.9                | 0.0                  | 360.0                | -            |  |
| 6       | Sep-22     |                     |                      |                      | 14.4                | 0.0                  | 396.0                | -            |  |

| Sl. No. | Month/Year | Stack locations                    |              |      |               |       |        |           |
|---------|------------|------------------------------------|--------------|------|---------------|-------|--------|-----------|
|         |            | PM Standards 30 mg/Nm <sup>3</sup> |              |      |               |       |        |           |
|         |            | CM-3<br>(Slag Cement Mill)         | Coal crusher | LSC  | CM-1          | CM-2  | Cooler | Coal Mill |
| 1       | Apr-22     | 17.1                               | 9.0          | 12.3 | 6.53          | 11.10 | 7.6    | 17.6      |
| 2       | May-22     | 15.4                               | 10.0         | 7.6  | 8.16          | 16.00 | 11.2   | 14.0      |
| 3       | Jun-22     | 11.3                               | 13.2         | 10.1 | 5.0           | 17.0  | 9.7    | 16.9      |
| 4       | Jul-22     | 15.6                               | 11.2         | 12.2 | Mill shutdown | 15.0  | 14.5   | 14.5      |
| 5       | Aug-22     | 9.5                                | 8.9          | 8.6  | 6.2           | 10.7  | 7.5    | 12.7      |
| 6       | Sep-22     | 14.5                               | 9.9          | 11.7 | 17.7          | 14.5  | 17.1   | 11.5      |

  
Vani Patil  
Monitored by

  
Vinit Kumar Sharma  
Checked by

**STACK TEST REPORT**

|                                                                                                                                                                      |                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <b>Name and Address of Customer:</b><br><b>M/s. JK Cement Works, Muddapur</b><br>(Unit : J.K. Cement LTD.,)<br>Muddapur -587122 Distt. Bagalkot<br>(Karnataka) India | <b>Report Date:</b> 31/08/2022               |
|                                                                                                                                                                      | <b>Date of Receipt of sample:</b> 25/08/2022 |
|                                                                                                                                                                      | <b>Test Report No:</b> SIRC/2022/08/4770     |
|                                                                                                                                                                      | <b>Test Completed On:</b> 31/08/2022         |
| <b>Test Performed On:</b> 25/08/2022                                                                                                                                 | <b>Date of Monitoring:</b> 23/08/2022        |

|                            |                      |                 |                             |
|----------------------------|----------------------|-----------------|-----------------------------|
| <b>Sample Collected By</b> | <b>Sample Nature</b> | <b>Stack ID</b> | <b>Sample Packing:</b>      |
| SIRC                       | STACK                | RAW MILL        | Thimble in zip lock covered |

**Stack Details**

|                                                              |          |
|--------------------------------------------------------------|----------|
| <b>Stack Id</b>                                              | RAW MILL |
| <b>Ambient Temperature ,(<sup>0</sup>C)</b>                  | 32       |
| <b>Stack Temperature, (<sup>0</sup>C)</b>                    | 168      |
| <b>Diameter, (m)</b>                                         | 7.54     |
| <b>Cross Sectional Area in meter square, (m<sup>2</sup>)</b> | 19.63    |
| <b>Velocity, (m/s)</b>                                       | 5.69     |
| <b>Flue gas Discharge, Nm<sup>3</sup>/hr</b>                 | 278182.5 |
| <b>Dust Emission , mg/Hr</b>                                 | 2.8      |

**Results**

| S.No | Parameters         | Unit               | Results | Limits | Method             |
|------|--------------------|--------------------|---------|--------|--------------------|
| 1    | Particulate Matter | mg/Nm <sup>3</sup> | 12      | 30     | IS 11255 (P1) 2003 |
| 2    | Moisture           | %                  | <1      | NS     | IS 11255 (P1) 2003 |
| 3    | Sulphur Dioxide    | mg/Nm <sup>3</sup> | ND      | 100    | IS 11255 (P2) 2003 |
| 4    | Oxides of nitrogen | mg/Nm <sup>3</sup> | 465     | 800    | Flue gas analyzer  |

Note: ND: Not Detected, NS: Not Specified

|                  |                                                                                                                                   |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>INFERENCE</b> | <b>As per MOEF Standards,</b><br><b>Report Status:</b> - - The measured values for the above parameters are within the standards. |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------|

  
**AUTHORIZED SIGNATORY**  
 Sateesh G Muttagi  
 Technical Manager



### TEST REPORT

|                                                                                                                                                               |                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <b>Name and Address of Customer:</b><br>M/s. JK Cement Works, Muddapur<br>(Unit : J.K. Cement LTD.,)<br>Muddapur -587122 Distt. Bagalkot<br>(Karnataka) India | <b>Report Date:</b> 31/08/2022               |
|                                                                                                                                                               | <b>Date of Receipt of sample:</b> 25/08/2022 |
|                                                                                                                                                               | <b>Test Report No:</b> SIRC/2022/08/4773     |
|                                                                                                                                                               | <b>Test Completed On:</b> 31/08/2022         |
| <b>Test Performed On:</b> 25/08/2022                                                                                                                          | <b>Date of Monitoring:</b> 23/08/2022        |

|                            |                      |                 |                             |
|----------------------------|----------------------|-----------------|-----------------------------|
| <b>Sample Collected By</b> | <b>Sample Nature</b> | <b>Stack ID</b> | <b>Sample Packing:</b>      |
| SIRC                       | STACK                | Cement Mill-2   | Thimble in zip lock covered |

### Stack Details

|                                                              |               |
|--------------------------------------------------------------|---------------|
| <b>Stack Id</b>                                              | Cement Mill-2 |
| <b>Ambient Temperature , (°C)</b>                            | 31            |
| <b>Stack Temperature, (°C)</b>                               | 125           |
| <b>Diameter, (m)</b>                                         | 1.4           |
| <b>Cross Sectional Area in meter square, (m<sup>2</sup>)</b> | 1.23          |
| <b>Velocity, (m/s)</b>                                       | 5.41          |
| <b>Flue gas Discharge, Nm<sup>3</sup>/hr</b>                 | 18241.5       |
| <b>Dust Emission , mg/Hr</b>                                 | 0.2           |

### Results

| S.No | Parameters         | Unit               | Results   | Limits | Method             |
|------|--------------------|--------------------|-----------|--------|--------------------|
| 1    | Particulate Matter | mg/Nm <sup>3</sup> | 11.6(7.6) | 30     | IS 11255 (P1) 2003 |
| 2    | Moisture           | %                  | <1        | NS     | IS 11255 (P1) 2003 |

Note: NS: Not Specified

|                  |                                                                                                                                   |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>INFERENCE</b> | <b>As per MOEF Standards,</b><br><b>Report Status: - -</b> The measured values for the above parameters are within the standards. |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------|

  
**AUTHORIZED SIGNATORY**  
 Sateesh G Muttagi  
 Technical Manager

### TEST REPORT

|                                                                                                                                                                      |                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <b>Name and Address of Customer:</b><br><b>M/s. JK Cement Works, Muddapur</b><br>(Unit : J.K. Cement LTD.,)<br>Muddapur -587122 Distt. Bagalkot<br>(Karnataka) India | <b>Report Date:</b> 02/09/2022               |
|                                                                                                                                                                      | <b>Date of Receipt of sample:</b> 27/08/2022 |
|                                                                                                                                                                      | <b>Test Report No:</b> SIRC/2022/08/4803     |
|                                                                                                                                                                      | <b>Test Completed On:</b> 02/09/2022         |
| <b>Test Performed On:</b> 27/08/2022                                                                                                                                 | <b>Date of Monitoring:</b> 25/08/2022        |

|                            |                      |                 |                             |
|----------------------------|----------------------|-----------------|-----------------------------|
| <b>Sample Collected By</b> | <b>Sample Nature</b> | <b>Stack ID</b> | <b>Sample Packing:</b>      |
| SIRC                       | STACK                | Cement Mill-3   | Thimble in zip lock covered |

### Stack Details

|                                                              |               |
|--------------------------------------------------------------|---------------|
| <b>Stack Id</b>                                              | Cement Mill-3 |
| <b>Ambient Temperature ,(<sup>0</sup>C)</b>                  | 30            |
| <b>Stack Temperature, (<sup>0</sup>C)</b>                    | 105           |
| <b>Diameter, (m)</b>                                         | 3.75          |
| <b>Cross Sectional Area in meter square, (m<sup>2</sup>)</b> | 11.04         |
| <b>Velocity, (m/s)</b>                                       | 5.53          |
| <b>Flue gas Discharge, Nm<sup>3</sup>/hr</b>                 | 176315.4      |
| <b>Dust Emission , mg/Hr</b>                                 | 2.3           |

### Results

| S.No | Parameters         | Unit               | Results   | Limits | Method             |
|------|--------------------|--------------------|-----------|--------|--------------------|
| 1    | Particulate Matter | mg/Nm <sup>3</sup> | 12.8(7.6) | 30     | IS 11255 (P1) 2003 |
| 2    | Moisture           | %                  | <1        | NS     | IS 11255 (P1) 2003 |

Note: NS: Not Specified

|                  |                                                                                                                                   |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>INFERENCE</b> | <b>As per MOEF Standards,</b><br><b>Report Status: - -</b> The measured values for the above parameters are within the standards. |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------|



**AUTHORIZED SIGNATORY**

Sateesh G Muttagi  
Technical Manager



### TEST REPORT

|                                                                                                                                                               |                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <b>Name and Address of Customer:</b><br>M/s. JK Cement Works, Muddapur<br>(Unit : J.K. Cement LTD.,)<br>Muddapur -587122 Distt. Bagalkot<br>(Karnataka) India | <b>Report Date:</b> 31/08/2022               |
|                                                                                                                                                               | <b>Date of Receipt of sample:</b> 25/08/2022 |
|                                                                                                                                                               | <b>Test Report No:</b> SIRC/2022/08/4771     |
|                                                                                                                                                               | <b>Test Completed On:</b> 31/08/2022         |
| <b>Test Performed On:</b> 25/08/2022                                                                                                                          | <b>Date of Monitoring:</b> 24/08/2022        |

|                                    |                               |                             |                                                       |
|------------------------------------|-------------------------------|-----------------------------|-------------------------------------------------------|
| <b>Sample Collected By</b><br>SIRC | <b>Sample Nature</b><br>STACK | <b>Stack ID</b><br>Coal Mil | <b>Sample Packing:</b><br>Thimble in zip lock covered |
|------------------------------------|-------------------------------|-----------------------------|-------------------------------------------------------|

### Stack Details

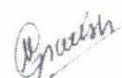
|                                                              |          |
|--------------------------------------------------------------|----------|
| <b>Stack Id</b>                                              | Coal Mil |
| <b>Ambient Temperature , (°C)</b>                            | 31       |
| <b>Stack Temperature, (°C)</b>                               | 84       |
| <b>Diameter, (m)</b>                                         | 1.80     |
| <b>Cross Sectional Area in meter square, (m<sup>2</sup>)</b> | 2.54     |
| <b>Velocity, (m/s)</b>                                       | 5.12     |
| <b>Flue gas Discharge, Nm<sup>3</sup>/hr</b>                 | 39938.7  |
| <b>Dust Emission , mg/Hr</b>                                 | 0.5      |

### Results

| S.No | Parameters         | Unit               | Results   | Limits | Method             |
|------|--------------------|--------------------|-----------|--------|--------------------|
| 1    | Particulate Matter | mg/Nm <sup>3</sup> | 13.58(12) | 30     | IS 11255 (P1) 2003 |
| 2    | Moisture           | %                  | <1        | NS     | IS 11255 (P1) 2003 |

Note: NS: Not Specified

|                  |                                                                                                                                  |
|------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>INFERENCE</b> | <b>As per MOEF Standards,</b><br><b>Report Status:</b> -- The measured values for the above parameters are within the standards. |
|------------------|----------------------------------------------------------------------------------------------------------------------------------|



**AUTHORIZED SIGNATORY**

Sateesh G Muttagi  
Technical Manager

**TEST REPORT**

|                                                                                                                                                                      |                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <b>Name and Address of Customer:</b><br><b>M/s. JK Cement Works, Muddapur</b><br>(Unit : J.K. Cement LTD.,)<br>Muddapur -587122 Distt. Bagalkot<br>(Karnataka) India | <b>Report Date:</b> 02/09/2022               |
|                                                                                                                                                                      | <b>Date of Receipt of sample:</b> 27/08/2022 |
|                                                                                                                                                                      | <b>Test Report No:</b> SIRC/2022/08/4804     |
|                                                                                                                                                                      | <b>Test Completed On:</b> 02/09/2022         |
| <b>Test Performed On:</b> 27/08/2022                                                                                                                                 | <b>Date of Monitoring:</b> 25/08/2022        |

|                            |                      |                      |                             |
|----------------------------|----------------------|----------------------|-----------------------------|
| <b>Sample Collected By</b> | <b>Sample Nature</b> | <b>Stack ID</b>      | <b>Sample Packing:</b>      |
| SIRC                       | STACK                | Clinker Cooler Stack | Thimble in zip lock covered |

**Stack Details**

|                                                              |                      |
|--------------------------------------------------------------|----------------------|
| <b>Stack Id</b>                                              | Clinker Cooler Stack |
| <b>Ambient Temperature ,(<sup>0</sup>C)</b>                  | 32                   |
| <b>Stack Temperature, (<sup>0</sup>C)</b>                    | 267                  |
| <b>Diameter, (m)</b>                                         | 3.86                 |
| <b>Cross Sectional Area in meter square, (m<sup>2</sup>)</b> | 12.56                |
| <b>Velocity, (m/s)</b>                                       | 6.62                 |
| <b>Flue gas Discharge, Nm<sup>3</sup>/hr</b>                 | 168948.3             |
| <b>Dust Emission , mg/Hr</b>                                 | 1.5                  |

**Results**

| S.No | Parameters         | Unit               | Results   | Limits | Method             |
|------|--------------------|--------------------|-----------|--------|--------------------|
| 1    | Particulate Matter | mg/Nm <sup>3</sup> | 9.1(11.8) | 30     | IS 11255 (P1) 2003 |
| 2    | Moisture           | %                  | <1        | NS     | IS 11255 (P1) 2003 |

Note: ND: Not Detected, NS: Not Specified

|                  |                                                                                                                                                              |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>INFERENCE</b> | <b>As per MOEF Standards GSR 612 E dated 25.08 2014.</b><br><b>Report Status: - -</b> The measured values for the above parameters are within the standards. |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|



**AUTHORIZED SIGNATORY**  
 Sateesh G Muttagi  
 Technical Manager



### TEST REPORT

|                                                                                                                                                               |                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <b>Name and Address of Customer:</b><br>M/s. JK Cement Works, Muddapur<br>(Unit : J.K. Cement LTD.,)<br>Muddapur -587122 Distt. Bagalkot<br>(Karnataka) India | <b>Report Date:</b> 31/08/2022               |
|                                                                                                                                                               | <b>Date of Receipt of sample:</b> 25/08/2022 |
|                                                                                                                                                               | <b>Test Report No:</b> SIRC/2022/08/4772     |
|                                                                                                                                                               | <b>Test Completed On:</b> 31/08/2022         |
| <b>Test Performed On:</b> 25/08/2022                                                                                                                          | <b>Date of Monitoring:</b> 23/08/2022        |

|                            |                      |                 |                             |
|----------------------------|----------------------|-----------------|-----------------------------|
| <b>Sample Collected By</b> | <b>Sample Nature</b> | <b>Stack ID</b> | <b>Sample Packing:</b>      |
| SIRC                       | STACK                | Crusher         | Thimble in zip lock covered |

### Stack Details

|                                                              |         |
|--------------------------------------------------------------|---------|
| <b>Stack Id</b>                                              | Crusher |
| <b>Ambient Temperature , (°C)</b>                            | 32      |
| <b>Stack Temperature, (°C)</b>                               | 58      |
| <b>Diameter, (m)</b>                                         | 1.20    |
| <b>Cross Sectional Area in meter square, (m<sup>2</sup>)</b> | 1.13    |
| <b>Velocity, (m/s)</b>                                       | 4.93    |
| <b>Flue gas Discharge, Nm<sup>3</sup>/hr</b>                 | 18495.1 |
| <b>Dust Emission , mg/Hr</b>                                 | 0.3     |

### Results

| S.No | Parameters         | Unit               | Results | Limits | Method             |
|------|--------------------|--------------------|---------|--------|--------------------|
| 1    | Particulate Matter | mg/Nm <sup>3</sup> | 17.9    | 30     | IS 11255 (P1) 2003 |

|                  |                                                                                                                                   |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>INFERENCE</b> | <b>As per MOEF Standards,</b><br><b>Report Status: - -</b> The measured values for the above parameters are within the standards. |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------|

  
**AUTHORIZED SIGNATORY**  
 Sateesh G Muttagi  
 Technical Manager



# SCIENTIFIC & INDUSTRIAL RESEARCH CENTRE

#91/43, 1<sup>st</sup> Floor, 8<sup>th</sup> cross Goraguntepalya, Yeshwanthpur Industrial Area, Bangalore-560022.

E-mail: sircbangalore@yahoo.com. Web site: www.sircblr.in

Mob: 8494900231, 8892972297, 9632917186

Recognized by MoEF&CC.

ISO 9001:2015 & OHSAS 45001:2018 Certified Laboratory.

## TEST REPORT

|                                                                                                                                                              |                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <b>Name and Address of Customer:</b><br>M/s. JK Cement Works, Muddapur<br>(Unit : J.K. Cement LTD.,)<br>Muddapur -587122 Dist. Bagalkot<br>(Karnataka) India | <b>Report Date:</b> 09/07/2022               |
|                                                                                                                                                              | <b>Date of Receipt of sample:</b> 02/07/2022 |
|                                                                                                                                                              | <b>Test Report No:</b> SIRC/2022/07/3509     |
|                                                                                                                                                              | <b>Test Completed On:</b> 09/07/2022         |
| <b>Test Performed On:</b> 02/07/2022                                                                                                                         | <b>Date of Monitoring:</b> 01/07/2022        |

|                                    |                               |                            |                                                       |
|------------------------------------|-------------------------------|----------------------------|-------------------------------------------------------|
| <b>Sample Collected By</b><br>SIRC | <b>Sample Nature</b><br>STACK | <b>Stack ID</b><br>Crusher | <b>Sample Packing:</b><br>Thimble in zip lock covered |
|------------------------------------|-------------------------------|----------------------------|-------------------------------------------------------|

### Stack Details

|                                                 |         |
|-------------------------------------------------|---------|
| Stack Id                                        | Crusher |
| Ambient Temperature, ( $^{\circ}$ C)            | 32      |
| Stack Temperature, ( $^{\circ}$ C)              | 45      |
| Diameter, (m)                                   | 1.20    |
| Cross Sectional Area in meter square, ( $m^2$ ) | 1.13    |
| Velocity, (m/s)                                 | 4.83    |
| Flue gas Discharge, $Nm^3/hr$                   | 18869.4 |
| Dust Emission, mg/Hr                            | 0.4     |

### Results

| S.No | Parameters         | Unit      | Results | Limits | Method             |
|------|--------------------|-----------|---------|--------|--------------------|
| 1    | Particulate Matter | $mg/Nm^3$ | 21.3    | 30     | IS 11255 (P1) 2003 |

|                  |                                                                                                                     |
|------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>INFERENCE</b> | As per KSPCB Standards,<br>Report Status: -- The measured values for the above parameters are within the standards. |
|------------------|---------------------------------------------------------------------------------------------------------------------|

  
**AUTHORIZED SIGNATORY**  
Sateesh G Muttagi  
Technical Manager

### NOTE

1. The results listed refer only to the tested samples & applicable parameters. Endorsement of product is neither inferred nor implied.
2. Samples will be destroyed after specified retention time.
3. This report is not to be reproduced wholly or in part & cannot be used as evidence in the court of law & should not be used in any advertising media without our special permission in writing.
4. Sample(s) not drawn by us unless otherwise stated.
5. Total liability of our laboratory is limited to the invoice amount. Any dispute arising out of this report is subjected to Bangalore Jurisdiction only.

\*\*\*\*\*We Provide Environmental Services\*\*\*\*\*





# SCIENTIFIC & INDUSTRIAL RESEARCH CENTRE

#91/43, 1<sup>st</sup> Floor, 8<sup>th</sup> cross Goraguntepalya, Yeshwanthpur Industrial Area, Bangalore-560022.

E-mail: sircbangalore@yahoo.com. Web site: www.sircblr.in

Mob: 8494900231, 8892972297, 9632917186

Recognized by MoEF&CC.

ISO 9001:2015 & OHSAS 45001:2018 Certified Laboratory.

## TEST REPORT

|                                                                                                                                                      |                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| Name and Address of Customer:<br>M/s. JK Cement Works, Muddapur<br>(Unit : J.K. Cement LTD.)<br>Muddapur -587122 Dist. Bagalkot<br>(Karnataka) India | Report Date: 09/07/2022               |
|                                                                                                                                                      | Date of Receipt of sample: 02/07/2022 |
|                                                                                                                                                      | Test Report No: SIRC/2022/07/3508     |
|                                                                                                                                                      | Test Completed On: 09/07/2022         |
| Test Performed On: 02/07/2022                                                                                                                        | Date of Monitoring: 01/07/2022        |

|                     |               |                      |                             |
|---------------------|---------------|----------------------|-----------------------------|
| Sample Collected By | Sample Nature | Stack ID             | Sample Packing:             |
| SIRC                | STACK         | Clinker Cooler Stack | Thimble in zip lock covered |

### Stack Details

|                                                 |                      |
|-------------------------------------------------|----------------------|
| Stack Id                                        | Clinker Cooler Stack |
| Ambient Temperature, ( $^{\circ}$ C)            | 32                   |
| Stack Temperature, ( $^{\circ}$ C)              | 289                  |
| Diameter, (m)                                   | 4.00                 |
| Cross Sectional Area in meter square, ( $m^2$ ) | 12.56                |
| Velocity, (m/s)                                 | 6.75                 |
| Flue gas Discharge, $Nm^3/hr$                   | 165608.5             |
| Dust Emission, mg/Hr                            | 1.7                  |

### Results

| S.No | Parameters         | Unit       | Results | Limits | Method             |
|------|--------------------|------------|---------|--------|--------------------|
| 1    | Particulate Matter | mg/ $Nm^3$ | 10.4    | 30     | IS 11255 (P1) 2003 |
| 2    | Moisture           | %          | <1      | NS     | IS 11255 (P1) 2003 |

Note: ND: Not Detected. NS: Not Specified

|           |                                                                                                                    |
|-----------|--------------------------------------------------------------------------------------------------------------------|
| INFERENCE | As per KSPCB Standards,<br>Report Status: -- The measured values for the above parameters are within the standards |
|-----------|--------------------------------------------------------------------------------------------------------------------|

  
AUTHORIZED SIGNATORY

Sateesh G Muntagi  
Technical Manager

### NOTE

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4. Sample(s) not drawn by us unless otherwise stated.
5. Total liability of our laboratory is limited to the invoice amount. Any dispute arising out of this report is subjected to Bangalore jurisdiction only.

-----We Provide Environmental Services-----



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## TEST REPORT

|                                                                                                                                                              |                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <b>Name and Address of Customer:</b><br>M/s. JK Cement Works, Muddapur<br>(Unit : J.K. Cement LTD.,)<br>Muddapur -587122 Dist. Bagalkot<br>(Karnataka) India | <b>Report Date:</b> 09/07/2022               |
|                                                                                                                                                              | <b>Date of Receipt of sample:</b> 02/07/2022 |
|                                                                                                                                                              | <b>Test Report No:</b> SIRC/2022/07/3507     |
|                                                                                                                                                              | <b>Test Completed On:</b> 09/07/2022         |
| <b>Test Performed On:</b> 02/07/2022                                                                                                                         | <b>Date of Monitoring:</b> 01/07/2022        |

|                            |                      |                 |                             |
|----------------------------|----------------------|-----------------|-----------------------------|
| <b>Sample Collected By</b> | <b>Sample Nature</b> | <b>Stack ID</b> | <b>Sample Packing:</b>      |
| SIRC                       | STACK                | Coal Mil        | Thimble in zip lock covered |

### Stack Details

|                                                        |          |
|--------------------------------------------------------|----------|
| Stack Id                                               | Coal Mil |
| Ambient Temperature, ( $^{\circ}\text{C}$ )            | 31       |
| Stack Temperature, ( $^{\circ}\text{C}$ )              | 78       |
| Diameter, (m)                                          | 1.80     |
| Cross Sectional Area in meter square, ( $\text{m}^2$ ) | 2.54     |
| Velocity, (m/s)                                        | 5.08     |
| Flue gas Discharge, $\text{Nm}^3/\text{hr}$            | 40278.6  |
| Dust Emission, mg/Hr                                   | 0.6      |

### Results

| S.No | Parameters         | Unit                    | Results | Limits | Method             |
|------|--------------------|-------------------------|---------|--------|--------------------|
| 1    | Particulate Matter | $\text{mg}/\text{Nm}^3$ | 14.56   | 30     | IS 11255 (P1) 2003 |
| 2    | Moisture           | %                       | <1      | NS     | IS 11255 (P1) 2003 |

Note: NS: Not Specified

|                  |                                                                                                                      |
|------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>INFERENCE</b> | As per KSPCB Standards,<br>Report Status: - - The measured values for the above parameters are within the standards. |
|------------------|----------------------------------------------------------------------------------------------------------------------|

### AUTHORIZED SIGNATORY

Sateesh G Muttagi  
Technical Manager

### NOTE

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5. Total liability of our laboratory is limited to the invoice amount. Any dispute arising out of this report is subjected to Bangalore Jurisdiction only.

\*\*\*\*\*We Provide Environmental Services\*\*\*\*\*





# SCIENTIFIC & INDUSTRIAL RESEARCH CENTRE

#91/43, 1<sup>st</sup> Floor, 8<sup>th</sup> cross Goraguntepalya, Yeshwanthpur Industrial Area, Bangalore-560022.

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Mob: 8494900231, 8892972297, 9632917186

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## TEST REPORT

|                                                                                                                                                      |                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| Name and Address of Customer:<br>M/s. JK Cement Works, Muddapur<br>(Unit: J.K. Cement LTD.,)<br>Muddapur -587122 Dist. Bagalkot<br>(Karnataka) India | Report Date: 06/07/2022               |
|                                                                                                                                                      | Date of Receipt of sample: 01/07/2022 |
|                                                                                                                                                      | Test Report No: SIRC/2022/06/3430     |
|                                                                                                                                                      | Test Completed On: 06/07/2022         |
| Test Performed On: 01/07/2022                                                                                                                        | Date of Monitoring: 29/06/2022        |

|                     |               |               |                             |
|---------------------|---------------|---------------|-----------------------------|
| Sample Collected By | Sample Nature | Stack ID      | Sample Packing:             |
| SIRC                | STACK         | Cement Mill-3 | Thimble in zip lock covered |

### Stack Details

|                                                 |               |
|-------------------------------------------------|---------------|
| Stack Id                                        | Cement Mill-3 |
| Ambient Temperature, ( $^{\circ}$ C)            | 30            |
| Stack Temperature, ( $^{\circ}$ C)              | 98            |
| Diameter, (m)                                   | 3.75          |
| Cross Sectional Area in meter square, ( $m^2$ ) | 11.04         |
| Velocity, (m/s)                                 | 5.48          |
| Flue gas Discharge, $Nm^3/hr$                   | 177971.0      |
| Dust Emission, mg/Hr                            | 1.7           |

### Results

| S.No | Parameters         | Unit      | Results | Limits | Method             |
|------|--------------------|-----------|---------|--------|--------------------|
| 1    | Particulate Matter | $mg/Nm^3$ | 9.5     | 30     | IS 11253 (PI) 2003 |
| 2    | Moisture           | %         | <1      | NS     | IS 11255 (PI) 2003 |

Note: NS: Not Specified

|           |                                                                                                                      |
|-----------|----------------------------------------------------------------------------------------------------------------------|
| INFERENCE | As per KSPCB Standards,<br>Report Status: - - The measured values for the above parameters are within the standards. |
|-----------|----------------------------------------------------------------------------------------------------------------------|

  
**AUTHORIZED SIGNATORY**  
Sateesh G Muttagi  
Technical Manager

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Mob: 8494900231, 8892972297, 9632917186

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ISO 9001:2015 & OHSAS 45001:2018 Certified Laboratory.

## TEST REPORT

|                                                                                                                                                      |                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name and Address of Customer:<br>M/s. JK Cement Works, Muddapur<br>(Unit: J.K. Cement LTD.,)<br>Muddapur -587122 Dist. Bagalkot<br>(Karnataka) India | Report Date: 06/07/2022<br>Date of Receipt of sample: 01/07/2022<br>Test Report No: SIRC/2022/06/3429<br>Test Completed On: 06/07/2022<br>Date of Monitoring: 29/06/2022 |
| Test Performed On: 01/07/2022                                                                                                                        |                                                                                                                                                                          |

|                             |                        |                           |                                                |
|-----------------------------|------------------------|---------------------------|------------------------------------------------|
| Sample Collected By<br>SIRC | Sample Nature<br>STACK | Stack ID<br>Cement Mill-2 | Sample Packing:<br>Thimble in zip lock covered |
|-----------------------------|------------------------|---------------------------|------------------------------------------------|

### Stack Details

|                                                        |               |
|--------------------------------------------------------|---------------|
| Stack Id                                               | Cement Mill-2 |
| Ambient Temperature, ( $^{\circ}\text{C}$ )            | 31            |
| Stack Temperature, ( $^{\circ}\text{C}$ )              | 105           |
| Diameter, (m)                                          | 1.25          |
| Cross Sectional Area in meter square, ( $\text{m}^2$ ) | 1.23          |
| Velocity, (m/s)                                        | 5.27          |
| Flue gas Discharge, $\text{Nm}^3/\text{hr}$            | 18717.9       |
| Dust Emission, mg/Hr                                   | 0.3           |

### Results

| S.No | Parameters         | Unit                    | Results | Limits | Method             |
|------|--------------------|-------------------------|---------|--------|--------------------|
| 1    | Particulate Matter | $\text{mg}/\text{Nm}^3$ | 17.2    | 30     | IS 11255 (P1) 2003 |
| 2    | Moisture           | %                       | <1      | NS     | IS 11255 (P1) 2003 |

Note: NS: Not Specified

|           |                                                                                                                      |
|-----------|----------------------------------------------------------------------------------------------------------------------|
| INFERENCE | As per KSPCB Standards,<br>Report Status: - - The measured values for the above parameters are within the standards. |
|-----------|----------------------------------------------------------------------------------------------------------------------|

  
AUTHORIZED SIGNATORY  
Sateesh G Muttagi  
Technical Manager

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ISO 9001:2015 & OHSAS 45001:2018 Certified Laboratory.

## TEST REPORT

Name and Address of Customer:  
M/s. JK Cement Works, Muddapur  
(Unit : J.K. Cement LTD.,)  
Muddapur -587122 Dist. Bagalkot  
(Karnataka) India

Report Date: 06/07/2022  
Date of Receipt of sample: 01/07/2022  
Test Report No: SIRC/2022/06/3427  
Test Completed On: 06/07/2022  
Date of Monitoring: 29/06/2022

Test Performed On: 01/07/2022

| Sample Collected By | Sample Nature | Stack ID | Sample Packing:             |
|---------------------|---------------|----------|-----------------------------|
| SIRC                | STACK         | RAW MILL | Thimble in zip lock covered |

### Stack Details

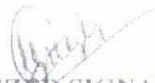
|                                                         |          |
|---------------------------------------------------------|----------|
| Stack Id                                                | RAW MILL |
| Ambient Temperature, (°C)                               | 32       |
| Stack Temperature, (°C)                                 | 176      |
| Diameter, (m)                                           | 5.00     |
| Cross Sectional Area in meter square, (m <sup>2</sup> ) | 19.63    |
| Velocity, (m/s)                                         | 5.74     |
| Flue gas Discharge, Nm <sup>3</sup> /hr                 | 275693.1 |
| Dust Emission, mg/Hr                                    | 2.5      |

### Results

| S.No | Parameters         | Unit               | Results | Limits | Method             |
|------|--------------------|--------------------|---------|--------|--------------------|
| 1    | Particulate Matter | mg/Nm <sup>3</sup> | 9.2     | 30     | IS 11255 (P1) 2003 |
| 2    | Moisture           | %                  | <1      | NS     | IS 11255 (P1) 2003 |
| 3    | Sulphur Dioxide    | mg/Nm <sup>3</sup> | ND      | NS     | IS 11255 (P2) 2003 |
| 4    | Oxides of nitrogen | mg/Nm <sup>3</sup> | 481     | NS     | Flue gas analyzer  |

Note: ND: Not Detected, NS: Not Specified

|           |                                                                                                                    |
|-----------|--------------------------------------------------------------------------------------------------------------------|
| INFERENCE | As per KSPCB Standards,<br>Report Status: -- The measured values for the above parameters are within the standards |
|-----------|--------------------------------------------------------------------------------------------------------------------|

  
**AUTHORIZED SIGNATORY**  
Sateesh G Mutagi  
Technical Manager

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-----We Provide Environmental Services-----

**J.K. Cement WORKS, MUDDAPUR (KARNATAKA)**

(Unit: J.K. Cement Ltd.)

Noise monitoring report of Cement &amp; Power Plant for April-22 to June-22 &amp; July-22 to Sept-22

Annexure-4

| Ambient Noise   |                                 |                     |                |                    |                |              |                |
|-----------------|---------------------------------|---------------------|----------------|--------------------|----------------|--------------|----------------|
| Sl. No.         | Location Name                   | April-22 to June-22 |                | July-22 to Sept-22 |                | Average      |                |
|                 |                                 | Day (dB) Leq        | Night (dB) Leq | Day (dB) Leq       | Night (dB) Leq | Day (dB) Leq | Night (dB) Leq |
| 1               | Boundary side                   | 71.6                | 67.5           | 70.2               | 68.5           | 70.9         | 68.0           |
| 2               | Administrative Building         | 68.5                | 66.4           | 66.5               | 65.8           | 67.5         | 66.1           |
| 3               | Lime Stone gate                 | 73.5                | 70             | 73.5               | 72.8           | 73.5         | 71.4           |
| 4               | Despatch gate                   | 70.8                | 69.5           | 70.8               | 69.2           | 70.8         | 69.4           |
| 5               | Near QC Lab.                    | 63.2                | 60.5           | 61.7               | 60.5           | 62.5         | 60.5           |
| 6               | Near Canteen                    | 65.9                | 63.8           | 67.5               | 66.4           | 66.7         | 65.1           |
| 7               | Plant main gate                 | 66.4                | 63.2           | 62.8               | 61.5           | 64.6         | 62.4           |
| 8               | General Store                   | 62.5                | 60.7           | 64.6               | 65.7           | 63.6         | 63.2           |
| Work zone Noise |                                 |                     |                |                    |                |              |                |
| Sl. No.         | Location Name                   | April-22 to June-22 |                | July-22 to Sept-22 |                | Average      |                |
|                 |                                 | Day (dB) Leq        |                | Day (dB) Leq       |                | Day (dB) Leq |                |
| 1               | Lime Stone Crusher              | 84.5                |                | 80.5               |                | 82.5         |                |
| 2               | Kiln/ Cooler                    | 82.5                |                | 82.8               |                | 82.7         |                |
| 3               | Kiln Platform                   | 80.6                |                | 80.5               |                | 80.6         |                |
| 4               | Power Plant                     | 50.8                |                | 48.7               |                | 49.8         |                |
| 5               | Coal Yard                       | 61.8                |                | 62.5               |                | 62.2         |                |
| 6               | Slag yard                       | 64.3                |                | 61.6               |                | 63.0         |                |
| 7               | Gypsum yard                     | 60.2                |                | 60.2               |                | 60.2         |                |
| 8               | Raw mill proportioning hopper   | 70.8                |                | 68.6               |                | 69.7         |                |
| 9               | coal mill                       | 78.3                |                | 74.2               |                | 76.3         |                |
| 10              | Near silo clinker loading point | 76.7                |                | 70.8               |                | 73.8         |                |
| 11              | CM-1 weigh feeder               | 74.5                |                | 72.6               |                | 73.6         |                |
| 12              | CM-2 weigh feeder               | 72.8                |                | 70.7               |                | 71.8         |                |
| 13              | Cement silo Packer-1            | 78.6                |                | 81.5               |                | 80.1         |                |
| 14              | Cement silo Packer-2            | 80.2                |                | 73.4               |                | 76.8         |                |
| 15              | Cement silo Packer-3            | 78.5                |                | 74.6               |                | 76.6         |                |
| 16              | Cement silo Packer-4            | 83.5                |                | 81.5               |                | 82.5         |                |
| 17              | Truck Loading point- 1          | 71.7                |                | 71                 |                | 71.4         |                |
| 18              | Truck Loading point- 2          | 70.3                |                | 69                 |                | 69.7         |                |
| 19              | Truck Loading point- 3          | 72.8                |                | 74.5               |                | 73.7         |                |
| 20              | Truck Loading point- 4          | 70.5                |                | 76.4               |                | 73.5         |                |
| 21              | Slag mill weigh feeder          | 66.7                |                | 67.4               |                | 67.1         |                |

  
Vani Patil  
Monitored by

  
Vinit Kumar Sharma  
Checked by



#### TEST REPORT

|                                                                                                                                                                      |                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| <b>Name and Address of Customer:</b><br><b>M/s. JK Cement Works, Muddapur</b><br>(Unit : J.K. Cement LTD.,)<br>Muddapur -587122 Distt. Bagalkot<br>(Karnataka) India | <b>Report Date:</b> 02/09/2022                |
|                                                                                                                                                                      | <b>Date of Receipt of sample:</b> 26/08/2022  |
|                                                                                                                                                                      | <b>Test Report No:</b> SIRC/2022/08/4791-4798 |
|                                                                                                                                                                      | <b>Test Completed on:</b> 07/07/2022          |
| <b>Test Performed On:</b> 26/08/2022                                                                                                                                 |                                               |

#### RESULTS

| Sample Collected By | Sample Nature                       | Sample Location | Sample Condition on Receipt            |
|---------------------|-------------------------------------|-----------------|----------------------------------------|
| SIRC                | Fugitive Emission Monitoring        | Mentioned Below | Satisfactory                           |
| Job Code            | Locations                           | SPM (ug/m3)     | Fugitive emission standard as per CPCB |
| 4791                | Near slag Storage shed              | 1422.5          | 5000µg/m3                              |
| 4792                | Near Gypsum Storage Shed            | 1033.0          |                                        |
| 4793                | Near Cement Mill Area               | 1184.1          |                                        |
| 4794                | Near Laterite Storage Area          | 1306.6          |                                        |
| 4795                | Near Cement Plant Coal Storage Shed | 1495.8          |                                        |
| 4796                | Near Lime Stone Crusher area        | 1366.3          |                                        |
| 4797                | Near Packing Plant area             | 1450.4          |                                        |
| 4798                | Near CPP Coal storage shed          | 1334.3          | 2000µg/m3                              |

**AUTHORIZED SIGNATORY**

Sateesh G Muttagi  
Technical Manager

### STP WATER ANALYSIS REPORT

| <b>Name and Address of Customer:</b> M/s.<br>JK Cement Works, Muddapur (Unit :<br>J.K. Cement LTD.,) Muddapur -587122<br>Dist. Bagalkot (Karnataka) India |                             |                                                                                               | Date of Receipt of sample: 27/08/2022 |                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------|---------------------------|
|                                                                                                                                                           |                             |                                                                                               | Test Performed On: 29/08/2022         |                           |
|                                                                                                                                                           |                             |                                                                                               | Test Completed On: 10/09/2022         |                           |
|                                                                                                                                                           |                             |                                                                                               | Report Date: 10/09/2022               |                           |
| ULR No: TC846222000001775P                                                                                                                                |                             |                                                                                               | Test Report No: SIRC/2022/08/4882     |                           |
| Sl. No                                                                                                                                                    | Parameters                  | Protocol                                                                                      | Result                                | Standards As per IS :3025 |
|                                                                                                                                                           |                             |                                                                                               | STP Out Let                           |                           |
| 1.                                                                                                                                                        | pH                          | APHA 23 <sup>rd</sup> Edition-2017, 4500H+B                                                   | 8.5                                   | 6.5-9.0                   |
| 2.                                                                                                                                                        | Total Suspended             | APHA 23 <sup>rd</sup> Edition-2017, 2540 D                                                    | 18                                    | 20                        |
| 3.                                                                                                                                                        | BOD, mg/l, 3 days at 270 C  | APHA 23 <sup>rd</sup> Edition- 2017, 5210B                                                    | 8.8                                   | 10                        |
| 4.                                                                                                                                                        | COD, mg/l                   | APHA 23 <sup>rd</sup> Edition- 2017, 5220B                                                    | 29                                    | 50                        |
| 5.                                                                                                                                                        | Ammonical Nitrogen mg/l     | APHA 23 <sup>rd</sup> Edition-2017, 4500 NH <sub>3</sub> C                                    | 2                                     | 05                        |
| 6.                                                                                                                                                        | Phosphorous as P            | APHA 23 <sup>rd</sup> Edition-2017, 4500 P D                                                  | 0.86                                  | 2                         |
| 7.                                                                                                                                                        | Total Nitrogen mg/l         | APHA 23 <sup>rd</sup> Edition-2017, 4500- NO <sub>3</sub> E, 4500 NH <sub>3</sub> C, 4500Norg | 6                                     | 10                        |
| 8.                                                                                                                                                        | Faecal Coliforms, cfu/100ml | APHA 23 <sup>rd</sup> Edition-2017, 9222 D                                                    | Absent                                | 250                       |



**AUTHORIZED SIGNATORY**

Dr. Siddalingeshwara K G  
Quality Manager



**STP WATER ANALYSIS REPORT**

| <b>Name and Address of Customer:</b> M/s. JK<br>Cement Works, Muddapur (Unit : J.K.<br>Cement LTD.,) Muddapur -587122 Dist.<br>Bagalkot (Karnataka) India |                           |                                                                                               | Date of Receipt of sample: 08/07/2022 |                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------|------------------------------|
|                                                                                                                                                           |                           |                                                                                               | Test Performed On: 09/07/2022         |                              |
|                                                                                                                                                           |                           |                                                                                               | Test Completed On: 16/07/2022         |                              |
|                                                                                                                                                           |                           |                                                                                               | Report Date: 18/07/2022               |                              |
|                                                                                                                                                           |                           |                                                                                               | Test Report No: SIRC/2022/07/3802     |                              |
| Sl.<br>No                                                                                                                                                 | Parameters                | Protocol                                                                                      | Result                                | Standards As per<br>IS :3025 |
|                                                                                                                                                           |                           |                                                                                               | STP Out Let                           |                              |
| 1.                                                                                                                                                        | pH                        | APHA 23 <sup>rd</sup> Edition-2017,4500H+B                                                    | 8.7                                   | 6.5-9.0                      |
| 2.                                                                                                                                                        | Total Suspended Solids    | APHA 23 <sup>rd</sup> Edition-2017,2540 D                                                     | 16                                    | 20                           |
| 3.                                                                                                                                                        | BOD, mg/l, 3 days at 27°C | APHA 23 <sup>rd</sup> Edition- 2017, 5210B                                                    | 8.6                                   | 10                           |
| 4.                                                                                                                                                        | COD, mg/l                 | APHA 23 <sup>rd</sup> Edition- 2017, 5220B                                                    | 25                                    | 50                           |
| 5.                                                                                                                                                        | Ammonical Nitrogen mg/l   | APHA 23 <sup>rd</sup> Edition-2017, 4500 NH <sub>3</sub> C                                    | 2                                     | 05                           |
| 6.                                                                                                                                                        | Phosphorous as P          | APHA 23 <sup>rd</sup> Edition-2017, 4500 P D                                                  | 0.99                                  | 2                            |
| 7.                                                                                                                                                        | Total Nitrogen mg/l       | APHA 23 <sup>rd</sup> Edition-2017, 4500- NO <sub>3</sub> E, 4500 NH <sub>3</sub> C, 4500Norg | 6.4                                   | 10                           |



**AUTHORIZED SIGNATORY**  
Dr.Siddalingeshwara K G  
Quality Manager



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ISO 9001:2015 & OHSAS 45001:2018 Certified Laboratory.

## TEST REPORT

|                                                                                                                                                             |                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| <b>Name and Address of Customer:</b><br>M/s. JK Cement Works, Muddapur<br>(Unit : J.K. Cement LTD.)<br>Muddapur -587122 Dist. Bagalkot<br>(Karnataka) India | Date of Receipt of sample: 08/07/2022 |
|                                                                                                                                                             | Test Performed On: 09/07/2022         |
|                                                                                                                                                             | Test Completed On: 16/07/2022         |
|                                                                                                                                                             | Report Date: 18/07/2022               |
|                                                                                                                                                             | Test Report No: SIRC/2022/07/3802     |

## Biological Testing

| Sample Collected By | Sample Description | Sample Location  | Sample Condition on Receipt |
|---------------------|--------------------|------------------|-----------------------------|
| Company             | SIP Out Let Water  | Company Premises | Satisfactory                |

| Sl. No | Test Parameter              | Result | Limit as per KSPCB | Test Method                                 |
|--------|-----------------------------|--------|--------------------|---------------------------------------------|
| 1.     | Faecal Coliforms, cfu/100ml | Absent | Less than 250      | APHA 23 <sup>rd</sup> EDITION, 2017, 9222 D |

**Note:** The above tested parameters are within the limits (As per KSPCB).


  
**AUTHORIZED SIGNATORY**  
Dr. Siddalingeshwara K G  
Quality Manager

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| Annexure-7                                                                                                                                                                                                                                                                                                                                                                              |                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| EXPENDITURE ON THE ENVIRONMENTAL MANAGEMENT PLAN FOR THE PERIOD OF APRIL-22 TO SEPTEMBER-22                                                                                                                                                                                                                                                                                             |                       |
| DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                             | Expenditure (in Lakh) |
| Air Pollution Control in Kiln, Cooler, cement mill, coal mill, and LS crusher (main equipment) including stacks, Bag filters along with ventilation system for the control of fugitive dust emissions from the plant including stacks/ Cost of equipment for controlling emission like bag house, ESP, Bag filter etc., Operational cost/electricity cost, Operation & Maintenance cost | 897.14                |
| Fly ash Silo's and ash handling systems                                                                                                                                                                                                                                                                                                                                                 | 87.55                 |
| Emission Monitoring equipment (including online emission monitoring equipment (CEMS) at sources and ambient air quality in the vicinity) and laboratory                                                                                                                                                                                                                                 | 3.52                  |
| Green Belt Development, Sewage Treatment plant and Water Harvesting Schemes for plant                                                                                                                                                                                                                                                                                                   | 25.96                 |
| Extra expenditure on green purchase (Purchase of green fuel, recycled materials or any other such purchase (AFR purchase, Fly ash and Slag purchase) to reduce environmental footprint                                                                                                                                                                                                  | 1077.33               |
| Other environmental management costs (AFR system operation, odour control, environmental training/Award, SNCR system CPP, Environmental License Fees)                                                                                                                                                                                                                                   | 40.39                 |
| <b>TOTAL (Rs in Lakhs)</b>                                                                                                                                                                                                                                                                                                                                                              | <b>2131.88</b>        |


  
 Prepared By  
 Vinit Kumar Sharma

  
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Annexure-8  
JK CEMENT WORKS, MUDDAPUR

| DETAILS OF CSR ACTIVITY UNDERTAKEN DURING April-2022 to Sept-2022 |                                                                           |                |
|-------------------------------------------------------------------|---------------------------------------------------------------------------|----------------|
| SL NO                                                             | Particulars                                                               | Amount (Rs)    |
| 1                                                                 | Providing New desks for Govt. college                                     | 477280         |
| 2                                                                 | Running and maintenance of Sir Padampat School                            | 549199         |
| 3                                                                 | Education aid and support                                                 | 30000          |
| 4                                                                 | Road infrastructure development in Local village                          | 630668         |
| 5                                                                 | Pooja/ Fair/Festival/temple contributions                                 | 642000         |
| 6                                                                 | Rural development & other welfare activities                              | 1195000        |
| 7                                                                 | Health Camp at nearby village Halki                                       | 12,500         |
| 8                                                                 | Promoting Rural sports, Nationally recognized sports                      | 120000         |
| 9                                                                 | Health Camp at nearby village Halki, medical and health care activity.    | 109962.4       |
| 10                                                                | Promotion of education, upliftment of education quality for the surroundi | 82292          |
| 11                                                                | Pooja/ Fair/Festival/temple contribututions/Rural development.            | 193,615        |
| 12                                                                | Rural development & other welfare activities                              | 585440         |
| 13                                                                | Promoting Rural sports, Nationally recognized sports                      | 15000          |
|                                                                   | <b>Grand Total</b>                                                        | <b>4642956</b> |

  
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