



JK Cement WORKS

MUDDAPUR

(Unit : J. K. Cement Ltd.)

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Dist. Bagalkot (Karnataka) India

No. - JKCW/ENV./CFO (MINE)/7/11

Date: 30-08-2014

The Member Secretary
Karnataka State Pollution Control Board,
"Parisar Bhavan" 4th & 5th Floor,
49, Church Street, BANGALORE- 560 001

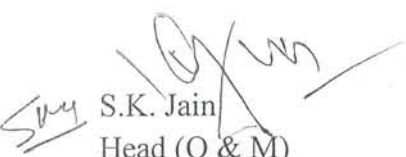
Subject- Environmental Statement Report of Halki Limestone Mine, Village- Halki, Dist. - Bagalkot (Karnataka) for the financial year April-2013 to March-2014

Dear Sir

As per 14 of Environment (Protection) Rule 1986, please find herewith enclosed Environmental Statement Report for Halki Limestone Mine, Village- Halki, Dist.- Bagalkot (Karnataka) in form V for the financial year **2013-2014** for your kind information and record, please.

Thanking you,

Yours faithfully,
Halki Limestone Mine, Halki


S.K. Jain
Head (O & M)

Encl:

- 1- Duly filled Form-V as Environmental Statement Report of Muddapur Limestone Mine
- 2- Mine's pit water testing report as Annexure-1
- 3- Ambient Air Quality Monitoring report of Muddapur Limestone Mine as per Annexure-2
- 4- Fugitive emission report of Muddapur Limestone Mine as per Annexure-3
- 5- Noise Monitoring report of Muddapur Limestone Mine, Muddapur as per Annexure-4

CC:

- 1- The Addl. Principle Chief Conservator of Forest (C), Ministry of Environment & Forests, Regional Office (South Zone), Bangalore- 560034
- 2- Environment Officer, Karnataka State Pollution Control Board, BAGALKOT- 587 102

Registered Office :

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FORM – V

**ENVIRONMENTAL STATEMENT REPORT FOR THE FINANCIAL
YEAR 2013-14**

M/s Halki Lime Stone Mine (Unit: J. K. Cement Limited)

PART – A

(I)	Name & Address of the Owner / Occupier of the Industry Operation or Process	A.K. Jain (Unit Head) Halki Lime Stone Mine (Unit: J. K. Cement Limited) Village-Halki, Bagalkot (Karnataka)
(II)	Industry Category Primary (STC CODE) Secondary (SIC CODE)	Red Category
(III)	Production Capacity	2.0 MTPA
(IV)	Year of Establishment	Year 2008
(V)	Date of last Environmental Statement Submitted	19-08-2013

PART – B

Water & Raw Material Consumption and Lime stone production

A. Water

- (i) Over All Consumption -
Process (Dust Suppression) - 15454 KL
Cooling - N.A.
Domestic - 112.2 KL

- (ii) Consumption per unit of production

Name of the Product	Process Water Consumption per unit of Product Output (KL/MT of Limestone)	
	During the Previous Financial Year (2012-13)	During the Current Financial Year (2013-14)
Lime Stone	0.01328 m ³ /mt. of Limestone	0.02812 m ³ /mt. of Limestone

B. Raw Material Consumption

Name of the Raw Material	Name of Product	Consumption of Raw Material per Unit Product Output (MT/MT of Cement)	
		During the Previous Financial Year (2012-13)	During the Current Financial Year (2013-14)
N.A	N.A	N.A	N.A

C. Total Lime Stone Production (In Tons)

During the Previous Financial Year (2012-13)	During the Current Financial Year (2013-14)
909269.00	549539.06

D. Total Power consumption (KWH/ton)

During the Previous Financial Year (2012-13)	During the Current Financial Year (2013-14)
0.02121	0.03898

PART - C**Pollutant Discharged To Environment / Unit of Output**

(Parameters as specified in the consent issued)

S. No.	Pollutants	Quantity of Pollutants Discharged (Mass / day) (tonne/day)	Concentrations of Pollutants in discharged (Mass / Volume) (kg/m ³)	Percentage of variation from prescribed standard with reasons
(a)	Water	Waste water generated from the office toilets is discharged into soak pit via septic tank. There is no waste water in the mine. Mine's pit water is used for dust suppression in mine. Pit water testing report is as per Annexure-1		
(b)	Air	There is no point source emission in mine. Ambient air quality and fugitive emission monitoring report as Annexure- 2 & 3		

PART – D

(As specified under Hazardous waste / Management and Handling rules, 1989 as Amended -2008)

Hazardous waste	During the Previous Financial Year (2012-13)	During the Current Financial Year (2013-14)
We are having common authorization for Hazardous Waste Management & Handling for Cement Plant, Power Plant, Halki and Muddapur Lime stone mine.		

(a) From Process (In Cement Plant)	(a) Category 5.1- Used Oil	Total generated 16.203 KL, Out of 13.281 KL, 13.053 KL was self-used for lubrication in cement plant and 3.15 KL were sold out to authorized recycler and nothing was in balance.	Total generated 11.772 KL, Out of 11.772 KL, 2.296 KL was self-used for lubrication in cement plant and 9.4 KL was sold out to authorized recycler and 0.076 was in balance.
	(b) Category 5.2- Oil soaked cotton waste	NIL	Total generated oil soaked cotton waste was 36 kg and it was disposed of in own cement plant's kiln.
	(c) Category 5.2- Oil Filters	NIL	NIL
	(d) Old Batteries	Total generated 43 Nos. and it had been returned to authorize dealer.	NIL
	(e) E-Waste-	NIL	NIL
(b) From Pollution Control Facilities	Nil	Nil	Nil

PART – E

Solid Wastes

Solid Waste		Total Quantity	
		During the Previous Financial Year (2012-13)	During the Current Financial Year (2013-14)
(a)	From Process	N.A.	
(b)	From Pollution Control facilities	N.A.	
(c)	(i) Qty. recycled or reused Within the unit.	N.A.	
	(ii) Sold	N.A.	
	(iii) Disposed: During the mining of limestone disposed of overburden (In MT)	524492.00	373014.00

PART – F

PLEASE SPECIFY THE CHARACTERISATIONS (IN TERMS OF COMPOSITION AND QUANTUM) OF HAZARDOUS AS WELL AS SOLID

WASTES AND INDICATE DISPOSAL PRACTICE ADOPTED FOR BOTH THE CATEGORIES OF WASTES.

Hazardous waste: In mines, used oil is as a Hazardous waste. It is drained from Mining machineries / equipments. It will be used for lubrication in chains, stacker and reclaimer etc. and also sold to CPCB/KSPCB authorized recycler.

Solid waste: Solid waste from the mine is overburden and it is dumped in predetermined dumping area. The total overburden generated from the April-2013 to March-2014 was 373014.00 MT.

PART – G

IMPACT OF THE POLLUTION ABATEMENT MEASURES TAKEN ON CONSERVATION OF NATURAL RESOURCES AND ON THE COST OF PRODUCTION.

AIR

There is no harmful impact observed on vegetation & water bodies in the surrounding areas due to mining activities because dust is suppressed at its generating sources.

The following measures are taken to suppress the dust at the source as well as to prevent the same, spreading in the atmosphere:

- Wet drilling system is provided on all drill machines.
- Regular water sprinkling on haul road during operation.
- Optimize blasting parameters for proper fragmentation to reduce dust generation.
- Plantation and development of Green Belt along the Haul Roads and Working Pits.

WATER

Being Mechanized Limestone mine, it requires water mainly for Wet Drilling, Road Spraying, Green Belt Development, and Machineries Washing. The source of water is the accumulated rainwater in the lower most benches. At Halki Mine there is no discharged of liquid effluent / waste water from the Mine.

No discharge of rain water or waste water from the mine to outside lease area. Rain water in the catchment area of mine lease is diverted through drainage in to lower level area of mine and that water is used for dust suppression and plantation purpose.

NOISE

Noise is generated in the mine due to following mining activities:

- Excavation, drilling, blasting and operations of HEMM.

- Transportation and handling of material.

The results of base line noise level survey are well below the permissible limit except near machinery while operating. The noise generating sources are scattered within the whole mining area. All the sources will not generate the noise simultaneously hence; the noise level would not alter the noise environment significantly. The noise level reduces with increase in distance from the source.

The following measures are taken to reduce the noise level at the source as well as to prevent the same, spreading in the atmosphere:

- Providing enclosures for noise sources to reduce dispersion of noise like cabin in HEMM.
- Proper maintenance and lubrication of machinery rotating parts.
- Use electric delay detonator on surface in place of detonating fuse.
- By covering the detonating fuse as well as detonators under drill cutting or the fine material.
- By providing earmuffs and earplugs to eligible miners.
- Use of Air Decking & sufficient column stemming in the blast holes.

PART – H

ADDITIONAL MEASURES / INVESTMENT PROPOSALS FOR ENVIRONMENTAL PROTECTION INCLUDING ABATEMENT POLLUTION, PREVENTION OF POLLUTION.

Green belt development and tree plantation is our ongoing process. Plantation has been done on OB sites, road sides and on other parts of non mineralized ML area. The top layer of the dump material and slopes is covered with top soil which is excellent property of water retention that supports good tree growth. Plantation

Year	No. of trees planted
Upto March, 2010	9350
2010-2011	6435
2011-2012	5854
2012-2013	Within lease- 10750, outside lease- 1090
2013-2014	Within lease- 4630, outside lease- 1016

PART – I

ANY OTHER PARTICULARS FOR IMPROVING THE QUALITY OF ENVIRONMENT.

- Regular water spraying is being done on haulage road and near loading places for effective dust suppression.
- Thick plantation in and around the mine is being done.
- Regular and proper maintenance of noise generating machinery including the transport vehicles is being done to maintain noise levels.

- Air quality is being regularly monitored.
- Delay detonators and shock tube initiation system is being used for blasting so as to reduce vibration and dust.
- Sharp drill holes and drills with water flushing systems are being used to reduce dust generation.
- We are providing all personal protective equipment (PPEs) to all mine employees i.e. dust mask (respirator), ear plug & ear muff, eye goggle etc. Concern to them as additional measures of Air & Noise Pollution Control.
- We are having full flash environmental laboratory for the monitoring of ambient air quality, water testing, noise monitoring etc.
- Industry has been certified for standards ISO 9001: 2008, ISO 14001: 2004 and OHSAS 18001.
- Company publishes its magazine i.e JK Spotlight. Environmental messages also printed in it.
- Some committees have been formed by company i.e Stoppage Analysis Committee, Spillage Study & Control Committee, Safety Committee, Task force committee for Scrap material and Committee of shining the plant area. These committees. These committees work to improve the environment in different ways.
- Industry is taking Energy conservation measures.

For Halki Lime Stone Mine, Halki (Karnataka)
(Unit: J.K. Cement Limited)


S.K. Jais
Head (O & M)

HALKI AND MUDDAPUR MINES, (KARNATAKA)

(Unit: J.K. Cement Ltd.)

Average Water analysis report of Core and Buffer Zone for the month of April-2013 to March-2014

Sample collected from		TEST REPORT											
Core Zone & Buffer Zone		Core Zone						Buffer Zone					
Sl. No.	Constituents	Desirable Limit	Halki mines pit ^c	Halki Mines	Muddapur mines pit	Muddapur mines	Muddapur	Pettur	Meigud	Ningapur	Halki	Bamanbudini	Thimmapur
1	Odour	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable
2	Taste	Aggreable	Aggreable	Aggreable	Aggreable	Aggreable	Aggreable	Aggreable	Aggreable	Aggreable	Aggreable	Aggreable	Aggreable
3	Total Dissolved Solids	500	624.2	515.8	438.8	427.4	470.0	464.8	480.0	387.1	443.2	431.4	371.1
4	Turbidity	5 NTU	1.2	1.1	1.0	0.9	1.0	1.0	1.0	1.1	1.1	1.0	1.0
5	pH	6.5-8.5	8.0	56.1	8.1	84.2	57.8	54.4	50.2	46.2	42.6	55.1	7.9
6	Total Hardness	300	364.5	274.2	227.2	207.4	229.9	264.8	218.2	256.9	267.1	236.5	277.8
7	Calcium	75	94.0	71.2	48.8	52.2	56.8	60.9	56.6	63.2	67.6	58.4	63.4
8	Magnesium	30	31.5	62.7	25.6	63.2	49.7	51.8	39.4	56.8	49.5	42.3	29.0
9	Alkanity	200	237.3	209.6	163.2	167.2	268.7	196.2	257.7	228.5	226.4	220.6	217.4
10	Chloride	250	298.8	247.4	198.3	190.7	238.7	258.7	255.4	248.3	282.6	237.0	238.5

Note: 1- The Above analysis have been carried out as per IS-10500.

2- Observed Concentration in mg/liter except pH and Turbidity.

HALKI LIMESTONE MINES, (KARNATAKA)

(Unit: JK Cement Ltd.)

YEARLY AAQM REPORT (SO₂, NO_x, PM 10, SPM) FOR THE MONTH OF APRIL-2013 TO MARCH-2014
(ALL VALUES IN MICROGRAMS / CUBIC METER)

Month	Sl. No.	Date	Week	SO ₂				NO _x				PM 10				SPM			
				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	2/4/2013	1 st	9.7	11.5	9.5	11.7	11.2	13.2	10.8	13.7	65.5	69.9	65.6	62.2	134.9	143.5	135.8	128.6
	2	5/4/2013		11.2	11.5	10.0	12.5	14.2	13.0	11.8	14.7	60.7	67.5	63.3	65.4	125.6	138.6	130.5	134.9
	3	9/4/2013	2 nd	12.0	13.5	10.8	11.2	13.5	14.5	12.0	11.8	64.2	62.3	59.1	61.3	132.2	128.6	122.9	125.6
	4	13/4/2013		11.5	12.5	12.0	13.0	13.2	13.5	12.7	15.0	60.8	57.6	62.4	64.3	125.6	120.1	128.8	132.5
	5	17/4/2013	3 rd	10.7	11.7	9.8	11.3	12.0	13.7	11.2	13.3	65.1	61.6	59.5	67.8	134.0	127.9	122.7	139.3
	6	20/4/2013		11.2	12.2	12.8	10.3	13.0	14.7	14.8	12.2	62.4	64.7	65.4	70.5	131.9	132.8	135.0	144.4
	7	24/4/2013	4 th	12.5	12.8	11.3	11.8	14.3	14.2	13.2	13.3	59.8	67.2	62.4	65.1	123.4	138.2	129.2	134.0
	8	27/4/2013		10.7	12.2	12.3	11.0	12.7	13.5	14.5	11.8	63.1	62.3	66.6	69.0	129.8	128.7	137.0	141.8
Average				11.2	12.2	11.1	11.6	13.0	13.8	12.6	13.2	62.7	64.1	63.0	65.7	129.7	132.3	130.3	135.1
M A Y	1	3/5/2013	1 st	11.2	12.7	11.2	10.0	13.2	14.0	13.0	12.0	67.2	69.7	65.4	62.5	139.0	144.2	135.4	129.8
	2	7/5/2013		9.7	12.0	10.0	11.2	12.7	15.0	11.0	13.2	63.8	73.1	69.0	65.3	131.3	148.9	142.5	135.4
	3	10/5/2013	2 nd	11.0	10.3	13.0	11.7	11.7	12.2	14.0	14.0	66.1	68.4	73.2	67.7	136.9	141.5	150.9	139.9
	4	14/5/2013		11.8	13.0	11.5	13.7	13.8	14.3	13.0	15.7	62.6	71.9	70.1	64.0	129.1	147.6	144.7	132.5
	5	17/5/2013	3 rd	13.7	11.3	10.8	14.3	15.0	12.8	12.3	16.0	65.5	74.5	67.4	61.2	135.6	153.3	139.5	126.9
	6	21/5/2013		11.3	13.0	11.8	14.2	14.0	15.0	13.7	13.8	67.9	71.1	71.9	64.8	140.6	146.4	148.2	134.4
	7	24/5/2013	4 th	11.8	10.8	13.3	11.7	14.7	11.7	15.8	14.0	60.9	65.5	74.9	69.4	129.4	139.2	156.3	146.4
	8	29/5/2013		12.5	12.2	11.3	13.3	15.3	13.2	12.7	14.8	62.7	70.2	69.0	64.4	131.2	145.1	142.4	134.1
Average				11.6	11.9	11.6	12.5	13.8	13.5	13.2	14.2	64.6	70.6	70.1	64.9	134.1	145.8	145.0	134.9
J U N E	1	3/6/2013	1 st	9.8	10.8	11.3	11.7	11.7	12.3	13.3	14.0	60.7	64.0	62.1	67.0	126.8	133.6	129.6	139.0
	2	6/6/2013		11.5	10.7	13.7	10.7	13.7	13.0	15.3	12.8	58.6	61.1	65.4	71.0	122.7	128.5	137.7	146.8
	3	10/6/2013	2 nd	12.0	10.8	11.7	10.8	14.7	12.7	13.0	12.5	62.6	65.2	61.1	74.2	131.6	136.2	127.7	153.6
	4	13/6/2013		11.2	11.7	12.7	11.0	12.8	14.0	15.5	12.7	66.4	69.3	64.1	69.9	139.1	144.6	134.4	144.8
	5	17/6/2013	3 rd	10.0	11.8	13.8	10.8	11.2	14.3	15.0	14.3	61.4	64.0	68.3	67.5	128.4	134.0	141.7	141.0
	6	20/6/2013		11.2	10.8	12.5	12.3	13.3	13.3	15.5	14.5	64.1	60.6	63.3	70.6	132.7	126.0	130.8	145.8
	7	24/6/2013	4 th	11.8	11.7	13.3	11.3	14.3	13.0	15.0	12.3	67.3	57.5	59.5	66.2	140.0	120.9	124.0	137.2
	8	27/6/2013		9.8	13.0	10.3	11.3	11.8	15.0	13.0	13.3	71.1	61.9	56.4	63.6	146.5	128.8	119.3	132.4
Average				10.9	11.4	12.4	11.3	12.9	13.5	14.5	13.3	64.0	63.0	62.5	68.7	133.5	131.6	130.7	142.6
J U L Y	1	3/7/2013	1 st	10.3	12.3	10.3	12.8	12.0	15.0	12.5	14.8	70.7	74.6	65.9	62.8	148.1	155.8	137.0	133.4
	2	6/7/2013		13.3	11.2	12.0	10.8	16.3	13.2	14.3	13.2	73.8	69.9	61.4	63.5	153.5	145.7	127.6	133.8
	3	10/7/2013	2 nd	10.8	9.8	12.7	11.7	12.8	11.0	14.7	12.5	67.0	62.9	56.4	55.1	138.6	130.1	118.7	114.8
	4	13/7/2013		12.0	11.5	9.8	13.7	14.5	13.7	11.8	15.5	69.8	65.5	60.9	59.5	144.2	135.7	126.9	124.2
	5	17/7/2013	3 rd	11.7	12.5	11.3	10.8	15.5	14.5	13.3	12.0	65.7	58.9	54.0	62.0	137.0	123.4	115.0	129.2
	6	20/7/2013		10.5	13.5	9.8	11.2	13.2	15.2	11.0	13.2	60.1	52.5	57.1	68.4	125.9	109.3	119.2	141.2
	7	24/7/2013	4 th	10.2	9.3	11.2	10.8	11.7	11.0	13.3	12.7	55.2	48.7	50.1	66.0	115.0	104.0	106.6	136.8
	8	27/7/2013		11.0	9.8	12.7	11.2	13.3	12.0	14.8	13.0	57.5	51.6	55.3	62.5	121.3	109.2	117.0	129.3
Average				11.2	11.3	11.2	11.6	13.7	13.2	13.2	13.4	65.0	60.6	57.6	62.5	135.4	126.6	121.0	130.3
A U G U S T	1	2/8/2013	1 st	11.3	10.8	10.7	9.7	13.7	11.7	11.8	11.0	60.0	54.5	46.8	57.2	126.8	113.5	99.6	120.5
	2	6/8/2013		12.8	11.5	13.3	12.0	14.7	13.0	15.0	14.2	56.8	51.1	53.4	61.1	118.6	108.3	111.9	128.5
	3	9/8/2013	2 nd	12.0	11.0	14.7	10.7	13.8	14.0	16.8	13.0	51.9	55.3	68.5	58.1	111.2	117.1	141.7	121.6
	4	13/8/2013		14.0	13.0	11.7	12.0	16.0	15.0	14.2	13.8	57.1	59.5	71.1	61.2	120.4	126.3	146.6	127.9
	5	17/8/2013	3 rd	13.0	10.0	10.2	13.8	15.2	12.0	12.5	15.7	60.5	51.3	63.9	56.5	129.0	107.9	133.1	119.2
	6	21/8/2013		10.0	11.2	12.0	9.7	12.7	13.2	14.5	11.7	54.9	47.8	59.1	49.6	116.2	103.1	124.2	104.0
	7	24/8/2013	4 th	12.8	10.0	13.7	9.0	15.7	13.0	16.2	11.3	59.1	50.2	62.3	44.4	124.8	108.4	129.7	95.5
	8	28/8/2013		11.3	13.0	12.5	11.0	13.8	16.0	14.8	12.8	63.0	55.5	67.5	51.5	131.1	116.6	140.3	109.2
Average				12.2	11.3	12.3	11.0	14.4	13.5	14.5	12.9	57.9	53.2	61.6	55.0	122.3	112.7	128.4	115.8
S E P T E M B E R	1	2/9/2013	1 st	9.8	9.0	9.8	9.5	11.8	11.5	11.5	13.7	66.4	62.6	70.5	82.1	173.2	179.6	189.2	298.0
	2	5/9/2013		12.0	11.8	12.7	10.8	14.7	13.7	14.5	14.3	43.3	50.5	65.3	67.3	133.6	151.0	213.2	226.7
	3	10/9/2013	2 nd	10.5	9.7	11.3	8.5	12.3	12.3	14.0	10.5	36.4	43.0	53.0	61.4	111.9	136.2	149.7	171.3
	4	13/9/2013		10.0	10.5	8.7	10.7	13.9	12.7	11.0	14.8	53.0	56.4	60.6	70.2	153.4	162.5	161.9	193.0
	5	17/9/2013	3 rd	8.3	9.0	10.7	12.8	10.7	13.0	14.0	17.2	47.2	40.8	50.9	65.5	135.7	123.9	139.0	174.5
	6	20/9/2013		9.0	10.5	13.0	8.7	11.5	13.7	16.0	10.7	56.6	49.8	63.9	77.5	162.2	141.1	176.3	207.4
	7	24/9/2013	4 th	11.5	9.2	13.2	11.2	14.2	12.2	16.3	13.7	65.3	63.5	79.3	71.7	182.9	192.2	230.7	231.2
	8	27/9/2013		9.5	11.3	10.8	12.5	12.7	13.8	14.3	15.5	53.1	49.7	61.1	47.3	153.0	136.8	188.4	148.8
Average				10.1	10.1	11.3	10.6	12.6	12.9	14.0	13.8	52.7	52.0	63.1	67.9	150.7	152.9	181.0	206.4
O C T O B E R	1	3/10/2013	1 st	11.5	9.7	11.5	9.5	15.0	12.5	13.2	12.0	50.1	73.9	66.4	45.3	155.1	193.2	219.2	148.4
	2	7/10/2013		9.5	11.5	10.7	12.7	11.8	14.2	13.0	14.8	58.6	65.9	40.4	55.2	181.7	175.7	132.0	172.3
	3	10/10/2013	2 nd	10.5	9.7	11.3	8.5	12.3	12.3	14.0	10.5	36.4	42.9	53.6	61.3	111.9	135.9	151.4	171.1
	4	14/10/2013		9.5	11.8	12.5	9.7	11.8	14.0	15.8	13.2	50.5	55.6	75.5	48.5	150.2	173.5	213.2	150.5
	5	17/10/2013	3 rd	7.7	10.0	10.3	11.3	9.8	13.2	13.7	14.3	63.6	77.4	41.1	60.2	182.1	212.9	137.4	159.3
	6	21/10/2013		6.8	8.7	9.5	9.7	9.0	11.2	11.2	12.0	51.6	65.7	36.9	65.4	137.1	180.7	125.7	182.8
	7	24/10/2013	4 th	9.5	7.3	7.3	10.7	11.0	9.7	10.2	12.7	40.2	43.7	23.4	51.8	101.7	130.7	71.2	151.1
	8	28/10/2013		8.5	7.7	9.2	11.5	10.0	10.5	11.7	13.3	34.7	52.2	47.9	62.8	115.0	154.6	142.2	188.7
Average				9.2	9.5	10.3	10.4	11.4	12										

D E C E M B E	8	29.11.2013		7.5	9.7	11.2	9.5	9.3	12.0	13.3	11.2	70.2	41.2	64.2	79.8	180.2	111.5	154.3	195.9
	Average			8.0	9.1	9.4	9.6	10.2	11.5	11.7	12.1	55.4	47.4	64.0	62.8	142.5	127.3	162.5	165.2
	1	3.12.2013	1 st	7.0	8.7	9.7	6.3	9.8	10.8	12.2	9.2	51.1	68.3	39.4	46.7	144.4	165.7	107.5	124.4
	2	6.12.2013		9.0	7.0	10.7	7.5	11.0	9.0	14.0	9.0	42.6	57.2	62.7	79.6	125.5	140.9	152.9	182.4
	3	10.12.2013	2 nd	8.0	9.5	8.0	6.5	10.7	12.8	10.7	8.7	63.4	72.4	54.2	70.5	171.5	194.9	130.4	161.3
	4	13.12.2013		8.7	7.7	10.7	11.5	11.3	9.8	13.0	14.2	50.6	60.2	68.5	57.7	139.0	160.9	177.9	146.2
	5	17.12.2013	3 rd	7.5	8.7	9.8	9.0	10.0	11.0	12.5	13.0	39.3	54.1	52.6	61.5	108.6	142.3	123.1	142.8
	6	20.12.2013		6.7	10.7	8.7	8.8	9.0	13.0	10.5	12.3	48.1	76.7	61.3	44.6	133.2	187.8	153.7	117.9
	7	24.12.2013		9.7	9.2	7.7	6.5	12.0	12.8	9.5	8.0	56.5	81.3	76.1	50.7	154.8	194.1	177.2	133.1
8	27.12.2013	4 th	8.3	11.0	8.2	9.2	11.2	13.3	10.5	11.2	40.4	59.8	85.8	63.7	111.2	148.5	196.4	142.6	
Average				8.1	9.0	9.2	8.2	10.6	11.6	11.6	10.7	49.0	66.3	62.6	59.4	136.0	166.9	152.4	143.8
J A N U A R Y	1	03.01.2014	1 st	7.3	9.0	7.5	6.5	9.8	11.3	9.7	8.7	45.8	59.2	40.2	62.5	124.1	153.9	119.8	178.0
	2	07.01.2014		9.0	7.0	10.7	7.5	11.0	9.0	14.0	9.0	42.6	57.3	62.6	79.5	125.4	141.0	152.8	182.4
	3	10.01.2014	2 nd	9.7	7.7	9.3	9.5	12.0	9.5	12.3	11.2	50.6	37.0	49.6	58.6	145.5	104.1	136.0	154.6
	4	14.01.2014		7.5	9.7	7.0	10.5	9.0	12.0	9.2	13.0	56.2	44.9	37.9	70.8	160.7	132.6	113.0	189.2
	5	17.01.2014	3 rd	6.5	7.8	8.2	9.8	8.7	10.7	10.5	13.2	44.6	55.8	44.2	76.3	138.6	159.1	132.4	205.8
	6	21.01.2014		8.0	7.0	9.5	8.5	11.0	9.0	11.7	11.2	52.3	63.3	59.5	67.5	163.1	183.7	161.6	172.0
	7	24.01.2014	4 th	7.0	8.8	8.5	6.0	8.3	11.2	10.5	8.3	65.7	75.0	44.0	80.2	191.9	208.7	127.3	203.6
	8	28.01.2014		8.7	7.7	10.5	7.0	12.0	9.8	13.0	9.0	49.6	60.0	85.7	63.6	126.3	154.3	196.2	153.5
Average				8.0	8.1	8.9	8.2	10.2	10.3	11.4	10.4	50.9	56.5	53.0	69.9	146.9	154.7	142.4	179.9
F E B R U A R Y	1	04.02.2014	1 st	7.7	6.0	7.0	10.5	11.0	7.8	9.3	13.0	63.1	45.0	63.6	45.9	169.6	111.3	155.5	128.3
	2	07.02.2014		6.5	8.0	8.7	9.8	8.3	9.7	11.3	12.2	77.1	59.9	43.0	60.3	193.2	148.1	116.1	155.9
	3	11.02.2014	2 nd	8.7	9.5	6.8	8.5	11.3	12.0	9.0	11.3	66.1	70.5	48.6	33.7	162.2	179.3	132.6	105.9
	4	14.02.2014		6.5	7.5	8.7	5.8	8.3	8.8	11.0	7.3	55.5	78.6	53.1	49.6	143.5	194.9	121.3	133.5
	5	18.02.2014	3 rd	8.7	9.5	9.0	7.5	11.3	12.0	11.7	9.0	37.4	54.2	44.2	56.6	109.0	154.3	132.9	146.7
	6	21.02.2014		9.5	7.7	10.0	6.8	12.0	10.8	13.0	9.0	43.7	60.4	57.3	65.4	132.5	153.9	156.8	176.9
	7	25.02.2014	4 th	7.8	9.5	6.5	7.7	8.3	12.0	9.0	11.2	36.4	52.9	41.1	73.2	102.0	138.0	111.1	164.7
	8	28.02.2014		9.5	6.8	8.5	6.5	11.7	9.0	11.7	8.8	45.3	70.7	58.3	65.6	155.2	200.5	140.9	147.2
Average				8.1	8.1	8.1	7.9	10.3	10.3	10.8	10.2	53.1	61.5	51.1	56.3	145.9	160.0	133.4	144.9
M A R C H	1	04.03.2014	1 st	6.5	7.8	9.5	6.0	9.5	9.7	12.0	8.0	51.4	40.6	64.4	70.5	131.3	104.6	152.3	175.4
	2	07.03.2014		5.5	8.5	7.5	7.5	7.7	10.5	9.7	10.2	35.7	61.4	54.3	52.3	94.0	136.2	134.3	128.5
	3	11.03.2014	2 nd	6.8	10.0	6.0	10.5	9.5	12.7	8.3	13.0	41.7	50.8	47.3	56.7	117.5	147.0	109.5	142.0
	4	14.03.2014		8.0	8.5	8.5	6.5	9.7	11.0	10.8	9.0	47.8	40.0	32.9	47.3	111.5	111.1	82.3	111.6
	5	19.03.2014	3 rd	9.0	7.0	9.5	6.8	11.0	8.7	11.2	8.8	50.1	58.4	42.7	35.0	128.7	135.6	114.3	139.4
	6	22.03.2014		8.0	6.0	8.5	10.5	10.7	9.3	11.0	13.0	58.5	40.2	55.9	67.6	169.6	113.2	152.0	191.0
	7	26.03.2014	4 th	8.7	6.5	10.8	8.3	11.3	9.0	13.0	11.5	44.6	47.3	72.5	53.8	107.0	140.6	194.0	153.7
	8	29.03.2014		6.5	8.8	5.5	9.0	9.0	11.0	9.0	11.7	51.8	68.6	44.8	67.2	172.3	162.9	120.8	172.2
Average				7.4	7.9	8.2	8.1	9.8	10.2	10.6	10.6	47.7	50.9	51.8	56.3	129.0	131.4	132.4	151.7
yearly Average				9.7	10.0	10.3	10.1	11.9	12.2	12.6	12.3	55.9	58.8	59.1	62.1	137.3	142.6	142.4	151.3

HALKI LIME STONE MINES, (KARNATAKA)

(Unit : JK Cement Ltd.)

Yearly Fugitive Emission Monitoring Report of Halki Lime Stone mines for the month of April-2013 to March-2014

Sl. No.	MONTH/YEAR	SPM ($\mu\text{g}/\text{m}^3$)				
		Loading Area	Drilling Area	Haulage Area	Waste Dumping Site	Service Road
1	Apr-13	988.1	984.9	810.4	784.1	889.0
2	May-13	1048.0	1054.2	981.7	876.0	721.5
3	Jun-13	732.0	835.6	665.8	699.7	574.2
4	Jul-13	466.1	557.4	550.8	384.3	383.3
5	Aug-13	541.7	627.6	640.7	544.6	667.6
6	Sep-13	476.9	554.4	837.6	684.8	574.0
7	Oct-13	838.0	772.9	683.0	722.0	752.1
8	Nov-13	698.7	612.2	866.8	981.9	894.4
9	Dec-13	869.5	771.2	580.3	590.1	453.8
10	Jan-14	461.1	690.1	488.9	504.4	471.7
11	Feb-14	409.0	523.4	818.2	800.6	541.2
12	Mar-14	614.5	734.9	586.7	674.1	480.1
Yearly average		678.6	726.6	709.2	687.2	616.9

Muddapur & Halki Limestone Mines (Karnataka)

(Unit: J.K. Cement Ltd.)

Noise monitoring report of Muddapur & Halki mines for the month of April-2013 to March-2014

Sl. No.	Time	Month	Muddapur mines boundary	Halki mines boundary	Muddapur mines office	Halki mines office	Muddapur mines Drilling Time	Halki mines Drilling Time	Halki mines Waste dumping site	Muddapur mines Waste dumping site	Halki mines Service Road	Muddapur mines Service Road
1	Day	April-13	52.6	54.1	51.8	53.9	66.4	68.4	51.6	49.8	53.2	51.7
	Night		41.6	39.7	40.3	39.4	-	-	42.6	41.7	38.6	39.7
2	Day	May-13	50.6	53.1	49.8	52.8	69.9	71.5	52.8	50.2	52.5	49.5
	Night		42.6	40.8	38.5	38.9	-	-	41.6	43.6	45.2	38.8
3	Day	June-13	52.3	54.6	50.8	53.9	70.5	72.8	54.6	53.9	50.8	53.4
	Night		43.6	44.2	39.5	41.7	-	-	40.9	44.8	42.9	45.3
4	Day	July-13	52.8	51.6	53.4	49.8	68.7	70.5	52.1	50.6	52.8	50.7
	Night		41.7	39.5	42.1	38.7	-	-	41.6	39.5	41.6	44.3
5	Day	August-13	54.3	52.7	50.9	53.5	71.5	73.4	54.1	53.8	51.9	53.4
	Night		40.2	42.8	43.7	39.5	-	-	38.5	37.9	40.5	39.4
6	Day	September-13	54.6	55	52.8	50.9	69.7	71.5	53.8	49.7	53.9	52.5
	Night		43.2	38.4	40.6	37.9	-	-	38.9	40.2	39.3	41.7
7	Day	October-13	52.6	54.8	53.6	48.5	68.2	67.2	52.7	54.6	55	52.2
	Night		44.2	39.5	41.7	40.2	-	-	38.5	41.7	43.2	38.9
8	Day	November-13	54	53.8	54.2	49.5	67.4	70.3	49.6	52.7	54.3	49.3
	Night		42.6	43.8	38.5	39.7	-	-	44.1	41.6	39.5	41.8
9	Day	December-13	50.8	51.3	49.6	50.8	65.7	67.9	53.2	51.3	49.5	52.9
	Night		42.3	45.3	38.9	40.5	-	-	38.4	44.3	39.6	40.8
10	Day	January-14	53.2	50.5	54.2	49.6	68.5	66.3	52.3	52.8	51.9	49.5
	Night		40.5	42.8	39.6	38.5	-	-	40.2	42.1	38.8	37.9
11	Day	February-14	54.2	52.3	53.6	50.4	69.4	65.8	51.7	50.8	49.5	51.7
	Night		39.5	40.5	41.3	39.4	-	-	42.3	43.7	40.8	39.5
12	Day	March-14	53.5	50.6	51.8	52.3	70.5	66.8	49.7	52.3	53.2	50.7
	Night		40.5	38.5	39.6	40.6	-	-	41.3	41.5	39.5	40.8
Yearly Day Average			52.96	52.87	52.21	51.33	68.87	69.37	52.35	51.88	52.38	51.46
Yearly Night Average			41.88	41.32	40.36	39.58	-	-	40.74	41.88	40.79	40.74

Note: All the values are in (dB) Leq.