

No.JKCW/ENV/2022/ EC Compliance/1<sup>st</sup> Half(MINE)/93/12

Date – 19-11-2022

To

The Deputy Director,  
Ministry of Environment & Forest  
Govt. of India, Indira Paryavaran Bhavan,  
New Delhi- 110 003

Sub: **Half Yearly Environmental Clearance Compliance report for the period from April-2022 to Sept-2022 (1<sup>st</sup> Half) for Halki Limestone Mine, Village- Halki, Taluka- Mudhol, District- Bagalkot (Karnataka).**

Ref: **MoEF Letter No. J-11015/384/2006-1A.II(M), dtd.21-01-2008.**

Dear Sir,

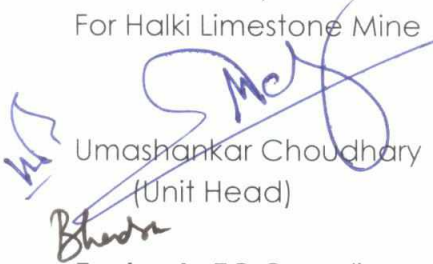
With reference to aforesaid subject and reference matter, we are here by sending the enclosed pointwise environmental clearance compliance report for the period **April-2022 to Sept-2022 (1<sup>st</sup> Half)** of **Halki Limestone Mine** (Limestone production of 2 MTPA) Village-Halki, Taluka-Mudhol, District-Bagalkot, Karnataka.

This for your kind perusal and acknowledge the receipt

Thanking you

Yours faithfully

For Halki Limestone Mine



Umashankar Choudhary  
(Unit Head)

Encl. – A- EC Compliance Report **Annexure-1**

- a. Ambient Air Quality Monitoring– **Annexure -2**
- b. Fugitive emission Monitoring - **Annexure -3**
- c. Noise Level Monitoring– **Annexure -4**
- d. Mines Water Analysis Report – **Annexure- 5**
- e. Environmental expenditure- **Annexure-6**
- f. CSR Report-**Annexure-7**

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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, 1<sup>st</sup> & 2<sup>nd</sup> Floors, Nisarga Bhavan, A-Block, Thimmaiah, Main Road, 7<sup>th</sup>D Cross, Shivanagar, Opp. Pushpanjali Theatre, Bengaluru
- 4- Member Secretary, Karnataka Pollution Control Board, Church Street, Bangalore
- 5- The Environmental officer, Karnataka State Pollution Control Board, Bagalkot – 587102

# Halki Limestone Mine(2344(A), Village- Halki, Taluk- Mudhol, Dist.- Bagalkot, Karnataka

MoEF Letter No. J-11015/384/2006-1A. II(M) /dated. 21<sup>st</sup> January 2008

EC to Halki Limestone Mine (ML area 124.24 ha and 2.0 MTPA of limestone Production) of M/s J.K. Cement Ltd., at village Halki, in Mudhol Taluk, Bagalkot, Dist. In Karnataka.

S.No	Condition	Compliance status
A.	Specific Conditions	
i)	Land use pattern of nearby village shall be studied and action plan for abatement and compensation for damage to agriculture land /common property land as applicable due to mining activity shall be submitted to the Regional office of the Ministry within six month. Annual status of implementation of the plan and expenditure thereon shall be reported to the regional office of the ministry.	Complied. It has been studied with EIA which submitted to concerned authority. Mining is being done as per IBM approved modified mining Plan so there is no damage to agriculture land /common property.
ii)	Need based assessment for the nearby villages shall be conducted to study economic measures which can help in upliftment of poor section of society such as development of fodder farm, fruit orchard, vocational training etc. Year wise allocation of funds for implementation of these economic measures shall be reported to the regional office of the ministry within six months.	Complying, Surrounding village people are sustaining their lively hood in this project. The literacy rate and better living standards enhanced due to increased earning capacity of villagers, better medical facility, and transportation and communication facilities. For socio economic development we have granted funds to the nearby villagers. A copy enclosed as <b>Annexure-7</b> .
iii)	A no mining zone barrier of 50 m from the canal passing through the lease areas on both sides shall be demarcated and the area shall be afforested with thick species of native vegetation.	Complied. In mining zone barrier of 50 m from the canal passing through the lease areas on both sides has been demarcated and afforested with local species like Neem, Tapasi, and Gulmohar. Also, it is planned to shift the canal outside the lease area.
iv)	Recommendations of NEERI, Nagpur, as mentioned in their report on status of Environment –“Action plan ” for the State of Karnataka, as be applicable to this project, shall be reported to the Regional office of the Ministry.	Not Applicable.
v)	Conservation plan for wild life shall be prepared in consultation of with the Chief wild life warden and shall be implemented within six months. Necessary allocation of fund for implementation of the same and the status of implementation of the plan shall be reported to the regional office of the Ministry.	Not Applicable as there is no forest area nearby mining lease.
vi)	Measures for control and preventions of soil erosion and management of silt shall be prepared and submitted to the Regional office of the ministry within six months	Complied. Soil erosion control measures have been mentioned in EIA which is already submitted to MOEF.



# Halki Limestone Mine(2344(A), Village- Halki, Taluk- Mudhol, Dist.- Bagalkot, Karnataka

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vii)	Water quality both for surface as well as ground water in the core zone shall be regularly monitored for contamination due to mining activity and records maintained. In case contamination is observed, measures for control and action taken shall be reported to the State Government as well as the Regional Office of the Ministry within six months.	Complying. Water quality is being monitored regularly and no contamination is observed. Water quality reports of surface (mine pit ) as well as ground water in the core zone is attached as <b>Annexure-5</b>
viii)	Water bodies shall be developed and utilized to develop Pisciculture. Fishermen cooperative society shall be established with the land losers (if any) and specially the poorer section as members of society. Initial financial assistance either in the form of shared money or other wise and managerial assistance shall be provided so that the members themselves can run the affairs of the society in due course. The project proponent shall arrange marketing tie up so that the society gets fair price of their produce and the profits are equitably shared by the members of the society as regular source of income.	Noted. During final closure of mine, Mining pit will be developed as water body and to be utilized to develop Pisciculture.
ix)	Action taken report on issues raised during the public hearing shall be submitted to the Ministry and the State Governments within six months.	Complied and it has been submitted.
x)	Occupational health and safety measures for the workers including training on malaria eradication, HIV, health effects on exposure to mineral dust etc. shall be carried out. The company shall engage a full time doctor who is trained in occupational health surveillance. Records of the health of the workers shall be maintained.	Complying. Initial and periodical medical examinations of all mine workers are being done on regular basis as required under Mine Rule 1955 and training on various medical aspects are being imparted. The company has engaged fulltime doctor who is trained in Occupational health surveillance. Records are being maintained.
xi)	Top soil/solid waste(if any) shall be stacked properly with proper slope and adequate safe guards and shall back filled for reclamation and rehabilitation of the mined area	Complying. Top soil is being utilized for plantation and solid waste is being stacked properly with proper slope and adequate safe guards have been provided.
xii)	Over burden if any shall be stacked at earmarked dump site(s) only and shall not be kept active for long period. The maximum height of the dump shall not be exceed 30m, each stage shall preferably be of 10m and overall slope of the dump shall not exceeded 28°. The OB dump shall be backfilled. The OB scientifically vegetated with suitable native	Complying. Over burden is being stacked at earmarked dump site as planned in mining plan. Presently, dumps are active. After completion of dumps, planation will be done. Presently dump height is 18 meter with two stages and overall slope is

# Halki Limestone Mine(2344(A), Village- Halki, Taluk- Mudhol, Dist.- Bagalkot, Karnataka

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	species to prevent erosion and surface run off. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self – sustaining. Compliance status shall be submitted to the Ministry of Environment Forests on six monthly bases.	maintained less than 28°. The OB dump is being scientifically vegetated with suitable native species to prevent erosion and surface run off .Compliance report is being submitted to the ministry of environment and forest on six monthly basis.
xiii)	Garland drains shall be constructed to arrest silt and sediment flows from soil, and mineral dumps. The water so collected shall be utilized for watering the mine areas, roads, green belt development etc. The drains shall be regularly de-silted particularly after monsoon and maintained properly. Garland drain of appropriate size, gradient and length shall be designed keeping 50% safety margin over and above peak sudden rain fall (based on 50 years' data) and maximum discharge in the area adjoining the mine site. Sump capacity will also provide adequate retention period to allow proper settling of silt materials. Sedimentation pits shall be constructed at the corners of the garland drains and desilted at regular intervals. Check dams and gully checks shall be constructed across nallahs (if any) flowing through the lease area.	Complying. Garland drains have been made around dumps and pit. The collected water in the pit is being used for green belt development and spraying on haul roads for controlling fugitive dust emission. There is no nallah within the lease area.
xiv)	Slope of mining bench and ultimate pit limit shall be as per the mining scheme approved by Indian Bureau of mines.	Complying. Slope of mining bench and ultimate pit limit are followed as per the mining plan approved by Indian Bureau of mines.
xv)	Green Belt Development shall be carried out considering CPCB guidelines including selection of plan species and in consultation with DFO. Herbs, shrubs shall also form a part of a forestation programme besides tree plantation. Plantation shall be raised in 22.0 ha around the ML area, haul roads, OB dump sites etc. the density of the trees shall be not less than 2500 plants per ha. The company shall involve local people with the help of self help group for plantation programme.	Complying. Green Belt Development is being done with native species and in consultation with DFO as committed in Mining plan.
xvi)	Details of the year wise afforestation programme already under take as well as proposed to be taken of including rehabilitation of mined out areas shall be submitted to the Ministry within six months.	Complied. Details of the year wise afforestation programme is already submitted to MoEF and plantation is being done as per mining plan.
xvii)	The project authority shall implement suitable conservation measures to augment ground water resource in the areas in consultation with the Regional Director, Central Ground Water Board.	Complying. Surface/rain water harvested in pit recharges ground water as water percolates down wards due to inclined strata.



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	Status of implementation shall be reported to the regional office of the Ministry from time to time.	
xviii)	Prior permission from the competent authority shall be obtained for extraction of ground water, if any.	Complied. Prior permission taken from Karnataka Ground water authority for extraction of ground water.
xix)	Drilling and blasting (if any) shall be conducted by using dust extractors/ wet drilling.	Complying. Wet drilling is being followed.
xx)	Vehicles used for transportation of ores and other mining operation shall have valid permission as prescribed under Central Motor Vehicles rules,1989 and its amendments. Transporting of ores shall be done covered with a tarpaulin or other suitable enclosures so that no dust particles /fine matters escape during the course of transportation. No overloading of ores for transportations shall be under taken.	Complying. Vehicles used for transportation of ores and other mining operation have valid permission as prescribed under Central Motor Vehicles rules,1989 and its amendments. It is ensured that no spillage is occurred during transportation.
xxi)	Village roads through which transportation of ores are being carried out shall be regularly maintained by the company at its own expenses.	Complying. Village roads through which transportation are being carried out shall be regularly maintained by the company at its own expenses.
xxii)	A final mine closure plan, along with details of corpus funds, shall be submitted to the Ministry of Environments & Forests within six months, in advance of final mine closure for approval.	Noted.
<b>B</b>	<b>General Condition:</b>	
i)	No change in mining technology and scope of working shall be made without prior approval of Ministry of Environment& Forests.	Agreed.
ii)	No change in calendar plan including excavation, quantum of mineral, limestone and waste shall be made.	Agreed.
iii)	Four Ambient Air Quality – monitoring station shall be established in the core zone as well as in the buffer zone for RPM, SPM, SO <sub>2</sub> , NO <sub>x</sub> monitoring. Location of the stations should be decided based on the metrological data, Topographical features and Environmentally and ecologically sensitive targets and frequency of monitoring should be under taken in consultation with the State Pollution Control Board.	Complied. Four Ambient Air Quality monitoring stations have been established in core and buffer zone.
iv)	Data on Ambient Air Quality (RSPM, SPM, SO <sub>2</sub> , and NO <sub>x</sub> ) should be regularly submitted to the Ministry including its Regional Office located at Bangalore and the State Pollution Control Board/Central Pollution Control Boards once in six months.	Complying. Ambient air quality data is being submitted regularly to MoEF, Bangalore and SPCB/CPCB. AAQM data is attached as <b>Annexure-2</b> .

**Halki Limestone Mine(2344(A), Village- Halki, Taluk- Mudhol, Dist.- Bagalkot, Karnataka**MoEF Letter No. J-11015/384/2006-1A. II(M) /dated. 21<sup>st</sup> January 2008

v)	Fugitive dust emissions from all the sources shall be controlled regularly. Water spraying arrangements on haul roads, loading and unloading and at transfer points shall be provided and properly maintained.	Complying. Water is spraying on the haul roads, loading and unloading points by tankers.
vi)	Measures shall be taken for control of noise level below 85 dBA in the work environments. Workers engaged in operations of HEMM, etc shall be provided with ear plugs/ muffs.	Complying, earplugs/ muffs have been provided.
Vii)	Industrial waste water (Works shop and waste water from the mine should 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. Oil and Grease trap shall be instilled before discharge of effluents.	Not applicable, there is no workshop in mines area and no waste water discharged from mines.
viii)	Personnel working in dusty areas shall be provided with protective respiratory devices and they shall also be imparted adequate training and information of Safety and Health aspects.	Complying. Personnel working in dusty areas have been provided with protective respiratory devices and imparted adequate training and information of Safety and Health aspects.
ix)	A separate Environmental Management cell with suitable qualified personnel shall be set up the control of Senior Executive, who will be report directly to the head of the organization.	Complied. A separate Environmental Management cell with suitable qualified personnel has been set up the control of Senior Executive, who is report directly to the head of the organization.
X)	The project authorities shall informed to the Regional Office of the Ministry located at Bangalore regarding date of financial closures and final approval of the project by the concern authorities and the date of start of land development work.	Complied.
xi)	The funds earmarked for Environmental Protection measures shall be kept in separate account and shall not be diverted for other purpose. Year wise expenditure shall be reported to the Ministry and its Regional office located at Bangalore.	Complied.
xii)	The project authorities shall informed to the Regional Office of the Ministry located at Bangalore regarding date of financial closures and final approval of the project by the concern authorities and the date of start of land development work.	Complied.
xiii)	The Regional Office of the Ministry, Bangalore shall monitor compliance of the stipulated conditions. The project authorities shall extend full cooperation to the officer(s) of the Regional office	Agreed.



**Halki Limestone Mine(2344(A), Village- Halki, Taluk- Mudhol, Dist.- Bagalkot, Karnataka**

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	by furnishing the requisite data/ information /monitoring reports.	
xiv)	A copy of clearance letter will be marked to concerned panchayat /local NGO, if any from whom suggestion /representation has been received while processing the proposal.	Complied.
xv)	State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industry Centre and collector's office /Tahsildar's office for 30 days.	Noted.
xvi)	The project authorities shall advertise at least in two local Newspapers widely circulated , one of which shall be in the vernacular languages of the localities concern within 7days of issue of the clearance letter informing that the project has been accorded Environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of the Environment & Forests at <a href="http://www.envfor.nic.in">http: www.envfor.nic.in</a> and a copy of the same shall be forwarded to the Regional Office of the Ministry located at Bangalore .	Complied.

Yours faithfully  
For Halki Lime Stone Mine

  
Umashankar Choudhary  
(Unit Head)





M/s. J K Cement Works MuddapurEnvironmental Expenditure for Halki Limestone Mine-2344(A)Apr 2022 to Sep 2022

Sl. No.	Particulars	Cost (In Rs.)	Remarks
1	Pollution Control	3017550.00	Water tankers
2	Pollution Monitoring	250000.00	
3	Occupational Health & Safety	0.00	
4	Green belt	100000.00	Plantation & Gardener Salary
5	Reclamation	0.0	
6	Others	0.0	
	<b>Total</b>	<b>33,67,550.00</b>	<b>Rupees Thirty Three Lacs Sixty Seven Thousand &amp; Five Hundred Fifty Only</b>





Mines Manager

Halki Limestone Mine

Annexure-7  
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 surroundin	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>4642956.4</b>

  
Vinit Kumar Sharma  
Prepared by

  
Veerbhadra Rao Vetcha  
Checked by



# HALKI LIMESTONE MINES, (KARNATAKA)

(Unit: Jk Cement Ltd.)

HALF YEARLY AAQM REPORT (SO<sub>2</sub>, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>) FROM APRIL-2022 TO SEPTEMBER-2022

( ALL VALUES IN MICROGRAMS / CUBIC METER )

Month	Sl. No.	Date	Week	(ALL VALUES IN MICROGRAMS /CUBIC METER)															
				SO <sub>2</sub>				NO <sub>x</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	8.0	6.8	6.8	8.8	18.0	17.8	17.5	17.8	67.1	55.2	70.4	68.2	27.5	25.0	20.8	29.2
	2	05.4.2022		7.3	7.5	6.8	6.8	17.8	18.0	16.8	16.7	62.9	65.0	65.0	54.3	20.8	20.8	37.5	33.3
	3	08.4.2022	2nd	6.7	7.0	7.0	7.2	16.7	17.0	17.7	17.7	57.7	57.9	69.1	65.1	37.5	29.2	25.0	25.0
	4	12.4.2022		8.0	6.7	7.8	6.8	18.0	18.0	17.0	16.8	61.3	69.4	66.0	71.0	29.2	33.3	29.2	35.4
	5	15.4.2022	3rd	7.2	7.5	8.0	7.8	17.8	17.5	18.7	18.0	69.7	57.0	59.4	77.6	33.3	29.2	33.4	41.7
	6	19.4.2022		8.3	8.0	8.0	8.0	18.3	18.0	18.0	18.0	75.2	63.2	61.3	64.6	20.8	33.3	29.2	37.5
	7	22.4.2022	4th	7.5	7.0	6.8	7.5	17.5	17.3	17.5	17.5	70.2	58.2	71.0	58.4	25.0	20.8	25.0	29.2
	8	26.4.2022		7.5	8.0	7.0	8.0	18.0	18.0	17.7	18.0	60.9	65.5	77.6	72.3	28.3	25.0	37.5	20.8
	9	29.4.2022		6.8	6.0	7.8	6.0	17.2	16.0	18.0	18.3	62.2	57.1	70.8	60.9	30.0	29.2	41.7	34.6
M a y	1	3.5.2022	1st	8.0	8.0	6.7	7.7	18.0	17.5	17.3	18.0	67.2	68.5	66.5	67.5	20.0	22.6	20.8	25.0
	2	6.5.2022		6.8	7.5	7.7	8.0	17.5	17.5	19.2	18.0	69.2	65.7	59.9	57.9	29.2	16.7	25.0	33.3
	3	10.5.2022	2nd	7.0	6.8	6.3	7.0	17.2	17.5	16.7	17.8	62.3	60.9	55.1	69.8	25.0	20.8	22.1	20.8
	4	13.5.2022		8.0	8.0	8.0	6.7	17.8	18.0	17.8	16.7	61.3	52.9	68.3	58.3	37.5	37.5	20.8	25.0
	5	17.5.2022	3rd	7.8	6.8	6.7	6.7	17.8	17.5	17.0	16.7	71.6	61.6	60.3	64.1	29.2	20.8	23.3	20.8
	6	20.5.2022		6.8	8.0	7.7	7.8	17.5	18.0	18.5	17.8	66.1	69.9	65.2	68.1	25.0	33.3	29.2	25.0
	7	24.5.2022	4th	8.0	7.5	8.2	7.8	17.8	17.5	19.0	17.8	75.2	66.7	69.8	65.9	20.8	25.0	33.3	29.1
	8	27.5.2022		8.0	8.0	6.3	8.0	18.0	18.0	17.2	18.0	63.7	58.3	60.0	63.6	33.3	28.3	27.1	33.3
	9	31.5.2022		7.0	6.5	8.0	8.0	17.5	16.5	17.3	18.0	73.9	67.1	62.7	84.6	25.0	22.9	24.2	37.5
J u n	1	1.6.2022	1st	8.0	8.0	7.8	8.0	18.0	18.0	17.8	18.0	56.4	56.9	53.3	55.1	16.7	25.0	16.7	11.2
	2	4.6.2022		7.0	7.8	6.0	7.7	17.0	17.3	18.2	17.3	65.0	61.1	39.2	47.4	20.8	20.8	25.0	12.5
	3	8.6.2022	2nd	7.5	6.7	6.8	6.8	16.8	17.5	16.8	17.2	32.5	22.5	56.2	53.5	12.5	22.9	20.8	16.7
	4	11.6.2022		6.7	7.0	7.7	7.5	16.7	17.7	17.8	17.5	61.9	58.1	66.4	30.6	20.8	18.7	12.5	20.8
	5	15.6.2022	3rd	7.7	8.0	8.0	8.0	18.0	17.5	18.0	18.0	51.6	52.8	60.0	45.7	11.3	8.3	15.4	16.7
	6	18.6.2022		7.5	6.8	6.8	6.8	17.5	16.8	16.8	16.8	58.7	48.8	75.6	61.1	16.7	21.7	20.8	22.5
	7	22.6.2022	4th	7.3	7.5	7.5	7.0	17.3	15.8	17.5	17.0	55.3	51.6	59.5	57.8	25.0	16.7	14.6	20.8
	8	25.6.2022		6.8	8.0	7.7	8.0	16.8	16.8	17.7	18.0	43.4	37.7	56.1	56.2	22.9	14.6	17.5	16.7
	9	29.6.2022		7.3	7.5	8.0	7.2	17.5	17.5	18.0	16.8	53.0	44.9	40.2	53.6	16.7	20.8	20.8	17.5
J u l y	1	2.7.2022	1st	8.0	7.5	8.0	8.3	18.0	18.0	18.0	18.3	65.8	59.4	56.1	64.5	5.8	20.0	22.4	20.8
	2	6.7.2022		7.8	8.0	7.5	7.7	17.8	18.0	17.7	17.8	53.2	67.0	50.4	60.0	12.5	16.7	15.8	25.0
	3	9.7.2022	2nd	6.8	6.8	7.0	8.0	16.7	16.8	17.0	18.0	59.2	57.4	62.6	55.6	16.7	20.8	25.0	29.2
	4	13.7.2022		8.0	8.0	8.5	7.5	18.0	18.0	18.7	17.5	69.3	65.2	58.2	61.7	12.5	24.6	20.8	16.7
	5	16.7.2022	3rd	9.8	7.8	7.7	8.0	19.8	17.8	17.2	17.8	62.6	69.8	66.0	64.2	16.7	20.8	25.8	20.8
	6	20.7.2022		8.0	8.2	8.0	9.2	18.0	18.2	18.0	18.2	58.6	65.6	62.2	57.5	20.8	22.1	29.2	16.7
	7	23.7.2022	4th	7.8	8.8	8.2	6.8	17.0	19.2	17.0	17.5	61.9	67.0	65.5	51.0	20.8	12.5	25.0	20.8
	8	27.7.2022		8.2	8.0	8.0	6.0	18.2	18.0	18.0	18.0	64.1	58.1	53.4	67.1	12.5	25.0	20.8	16.7
	9	30.7.2022		8.0	7.0	7.7	6.8	17.8	17.0	17.7	17.5	59.9	51.6	71.0	59.8	16.7	22.5	22.5	25.0
A u g u s t	1	3.8.2022	1st	6.7	6.2	5.8	6.5	17.3	16.2	15.8	16.5	39.0	42.1	30.4	43.0	18.3	15.8	16.7	16.7
	2	6.8.2022		7.0	8.0	8.0	8.0	17.7	18.0	18.8	18.0	45.8	48.4	47.8	51.6	13.3	12.5	14.6	20.8
	3	10.8.2022	2nd	6.2	6.0	6.5	5.7	16.8	16.0	16.5	15.7	42.1	45.5	43.7	40.5	16.7	20.8	12.5	12.5
	4	13.8.2022		5.0	5.2	4.8	5.0	15.5	16.0	14.8	15.2	37.1	42.1	36.2	45.9	21.3	16.7	22.5	12.5
	5	17.8.2022	3rd	6.7	5.0	5.8	8.0	15.3	14.5	15.3	18.7	46.9	41.7	48.2	38.2	17.5	18.8	20.8	25.0
	6	20.8.2022		8.0	4.8	4.5	8.0	13.7	14.3	14.3	17.8	39.6	47.9	40.4	45.4	20.8	14.6	12.5	16.7
	7	24.8.2022	4th	6.5	6.0	6.5	5.7	16.5	16.7	16.7	15.7	29.3	51.9	46.7	30.7	23.3	17.1	20.8	12.5
	8	27.8.2022		5.5	3.8	3.8	8.0	15.5	14.2	13.8	17.8	45.8	48.4	25.4	53.5	16.7	16.7	25.0	11.0
	9	31.8.2022		7.3	5.2	5.7	6.7	14.7	16.0	16.0	16.7	40.9	50.5	48.7	49.0	12.5	19.6	16.7	20.8
S e p t e m b e r	1	03.9.2022	1st	7.5	7.0	8.0	7.5	17.5	17.0	18.0	17.5	51.9	50.7	51.3	44.3	14.6	20.8	20.8	21.7
	2	07.9.2022		8.2	6.7	6.0	9.0	18.2	16.7	17.0	16.8	53.9	41.6	60.7	51.0	20.8	12.5	22.9	12.0
	3	10.9.2022	2nd	8.0	8.0	6.8	8.0	18.0	18.0	16.8	18.0	50.5	53.3	65.9	47.2	16.7	24.2	16.7	20.8
	4	14.9.2022		7.7	7.0	7.5	7.5	17.7	17.0	17.5	17.5	56.4	46.9	58.5	41.9	21.2	19.2	22.1	16.7
	5	17.9.2022	3rd	7.0	8.0	6.7	6.5	17.0	18.0	16.8	16.7	59.8	54.8	53.5	47.3	16.7	11.7	16.7	12.5
	6	21.9.2022		6.8	7.5	7.0	8.0	16.8	17.5	17.7	18.0	57.7	50.0	65.7	50.7	20.8	20.8	19.2	16.7
	7	24.9.2022	4th	8.0	8.0	7.8	6.3	18.0	18.0	17.5	16.8	50.8	53.5	60.2	54.9	19.2	17.5	25.0	20.8
	8	28.9.2022		8.0	7.7	7.5	7.0	18.0	17.7	17.5	17.0	47.7	44.4	63.6	47.2	16.7	12.5	20.8	12.5
Half Yearly Avg.				7.4	7.2	7.1	7.4	17.4	17.2	17.3	17.5	57.1	55.3	58.1	56.2	20.8	21.1	22.7	22.0
Half Yearly Min.				5.0	3.8	3.8	5.0	13.7	14.2	13.8	15.2	29.3	22.5	25.4	30.6	5.8	8.3	12.5	11.0
Half Yearly Max.				9.8	8.8	8.5	9.2	19.8	19.2	19.2	18.7	75.2	69.9	77.6	84.6	37.5	37.5	41.7	41.7

Note:- Location A-Near mines office  
Location B-North boundary side  
Location C-Halki village  
Location D-Metgudda village

  
Vani Patil  
Monitored by

  
Vinit Kumar Sharma  
Checked by

(Unit: J.K. Cement Ltd.)

Half Yearly Fugitive Emission Monitoring Report of Halki mines for the month of April-2022 to September-2022

Sl. No.	MONTH/YEAR	SPM (µg/m <sup>3</sup> )				
		Loading Area	Drilling Area	Haulage Area	Waste Dumping Site	Service Road
1	Apr-22	531.34	593.48	555.78	562.84	586.54
2	May-22	587.67	577.79	580.84	578.70	598.65
3	Jun-22	479.76	487.85	530.21	460.26	472.11
4	Jul-22	561.6	502.7	544.7	499.7	509.1
5	Aug-22	527.4	551.1	457.1	455.7	593.0
6	Sep-22	514.2	502.2	494.3	394.0	581.1
	Minimum	479.76	487.85	457.11	394.00	472.11
	Maximum	587.67	593.48	580.84	578.70	598.65
	Average	533.67	535.85	527.16	491.86	556.74

Monitored by  
Vani Patil

Vinit Kumar Sharma  
Checked by



## Halki Limestone Mines (Karnataka)

(Unit: J.K. Cement Ltd.)

Noise monitoring report of Halki mines (Core zone) for the month of April-2022 to September-2022

Sl.No.	Time	Month	Halki Mines boundary	Halki Mines Office	Halki mines Drilling Time	Halki mines Waste dumping site	Halki mines Service Road	Excavator
1	Day	Apr-22	50.6	52.8	73.5	70.8	58.6	74.6
	Night		40.8	42.6	-	-	-	-
2	Day	May-22	55.6	53.8	80	50.2	72.8	74.6
	Night		53.8	50.7	-	-	-	-
3	Day	Jun-22	55.3	52.7	84.5	56.2	75.2	83.2
	Night		52.7	50.5	-	-	-	-
4	Day	Jul-22	58.5	51.8	83.4	57.3	76.2	84.5
	Night		56.7	51.6	-	-	-	-
5	Day	Aug-22	57.5	52.7	83.5	56.2	75.4	83.7
	Night		54.2	50.7	-	-	-	-
6	Day	Sep-22	56.5	53.6	82.8	55.8	74.8	82.6
	Night		52.8	51.7	-	-	-	-
Average	Day	Day	55.67	52.90	81.28	57.75	72.17	80.53
	Night	Night	51.83	49.63	-	#DIV/0!	#DIV/0!	#DIV/0!
Minimum	Day	Day	50.6	51.8	73.5	50.2	58.6	74.6
	Night	Night	40.8	42.6	0	0	0	0
Minimum	Day	Day	58.5	53.8	84.5	70.8	76.2	84.5
	Night	Night	56.7	51.7	0	0	0	0

  
Vani Patil

Monitored by

  
Vinit Kumar Sharma  
Checked by

### ANALYSIS REPORT OF SURFACE WATER QUALITY

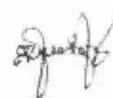
#### Muddapur Mines

<b>Name and Address of Customer:</b> <b>M/s. JK Cement Works,</b> <b>Muddapur (Unit : J.K. Cement</b> <b>LTD.,) Muddapur -587122 Dist.</b> <b>Bagalkot (Karnataka) India</b>				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/2022/08/4893			
Sl. No	Parameters	Protocol	Unit	Result		Standards As per IS :10500:2012	
				Pit-2	Pit-3	DL	PL
1.	Colour	APHA 23 <sup>rd</sup> Edition-2120 B	Hazen	05	5	5	15
2.	pH	APHA 23 <sup>rd</sup> Edition-4500 B	--	7.45	7.83	6.5-8.5	NR
3.	Turbidity	APHA 23 <sup>rd</sup> Edition-2130 B	NTU	0.0	0	1	5
4.	Conductivity	APHA 23 <sup>rd</sup> Edition-2510 B	µmhos/cm	1742	1562	-	-
5.	Total Dissolved Solids	APHA 23 <sup>rd</sup> Edition-2540 C	mg/l	964	852	500	2000
6.	Total Alkalinity as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition-2320 B	mg/l	21	04	200	600
7.	Total Hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition-2340 C	mg/l	456.41	368.15	200	600
8.	Calcium as Ca	APHA 23 <sup>rd</sup> Edition-3500 B	mg/l	224.20	148	75	200
9.	Magnesium as Mg	APHA 23 <sup>rd</sup> Edition-3500 B	mg/l	232.21	165	30	100
10.	Sodium as Na	APHA 23 <sup>rd</sup> Edition-3500 B	mg/l	176	96	-	-
11.	Potassium as K	APHA 23 <sup>rd</sup> Edition-3500 B	mg/l	14	21	-	-
12.	Iron as Fe	APHA 23 <sup>rd</sup> Edition-3500 B	mg/l	0.1485	0.1224	0.3	NR
13.	Chlorides as Cl	APHA 23 <sup>rd</sup> Edition-4500 B	mg/l	195.93	139.98	250	1000
14.	Sulphates as SO <sub>4</sub>	APHA 23 <sup>rd</sup> Edition-4500 B	mg/l	521	277.3	200	400
15.	Nitrates as NO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition-4500 E	mg/l	0.29	0.39	45	NR
16.	Fluoride as F	APHA 23 <sup>rd</sup> Edition-4500 D	mg/l	0.25	0.3	1.0	1.5
17.	Boron as B	APHA 23 <sup>rd</sup> Edition-4500 B	mg/l	Absent	Absent	1.0	5.0

Note: Pit-: Muddapur mine pit 2: Pit- Muddapur mine Pit no -3,

DL: Desirable Limit, PL: Permissible Limit, NR: No Relaxation, BDL: Below Detectable Limit.

<b>INFERENCE</b>	Standards As per IS :10500:2012 Report Status: - measured values for all the parameters are within the standards.
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**AUTHORIZED SIGNATORY**  
Dr. Siddalingeshwara K G  
Quality Manager

#### NOTE

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Sl. No	Parameters	Protocol	Unit	Result		Standards As per IS :10500:2012	
				Pit-2	Pit-3	DL	PL
17	Phosphorous as P	IS:3025(Part-31)-1988	mg/l			-	-
18	Cadmium as Cd	APHA 23 <sup>rd</sup> Edition -3111 B	mg/l	Absent	Absent	0.05	-
19	Nickel as Ni	APHA 23 <sup>rd</sup> Edition -3111 B	mg/l	0.0256	0.02878	0.02	NR
20	Zinc as Zn	APHA 23 <sup>rd</sup> Edition - 3111 B	mg/l	Absent	Absent	5	15
21	Lead as Pb	APHA 23 <sup>rd</sup> Edition -3111 B	mg/l	Absent	Absent	0.1	-
22	Chromium As Cr	APHA 23 <sup>rd</sup> Edition -3111 B	mg/l	Absent	Absent	0.05	-
23	Mercury as Hg	APHA 23 <sup>rd</sup> Edition -3112 B	mg/l	Absent	Absent	0.01	-
24	Manganese as Mn	APHA 23 <sup>rd</sup> Edition -3111 B	mg/l	Absent	Absent	0.1	0.5
25	Copper as Cu	APHA 23 <sup>rd</sup> Edition - 3111 B	mg/l	1.5	1.8	0.05	1.5



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### ANALYSIS REPORT OF GROUND WATER QUALITY


**Muddapur Mines**

<b>Name and Address of Customer:</b> <b>M/s. JK Cement Works, Muddapur</b> (Unit : J.K. Cement LTD.,) Muddapur - 587122 Dist. Bagalkot (Karnataka) India				Date of Receipt of sample: 27/08/2022			
				Test Performed On: 28/08/2022			
				Test Completed On: 10/09/2022			
				Report Date: 10/09/2022			
ULR No:TC846222000001775P				Test Report No: SIRC/2022/08/4894			
Sl. No	Parameters	Protocol	Unit	Result		Standards As per IS:10500:2012	
				GW-7	Ghataprabha River	DL	PL
1.	Color	APHA 23 <sup>rd</sup> Edition-2120 B	Hazen	02	08	5	15
2.	pH	APHA 23 <sup>rd</sup> Edition-4500 B	--	7.13	6.87	6.5-8.5	NR
3.	Turbidity	APHA 23 <sup>rd</sup> Edition-2130 B	NTU	2	2	1	5
4.	Conductivity	APHA 23 <sup>rd</sup> Edition-2510 B	µmhos/cm	3100	426	-	-
5.	Total Dissolved Solids	APHA 23 <sup>rd</sup> Edition-2540 C	mg/l	1728	244	500	2000
6.	Total Alkalinity as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition-2320 B	mg/l	177	261	200	600
7.	Total Hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition-2340 C	mg/l	184	274	200	600
8.	Calcium as Ca	APHA 23 <sup>rd</sup> Edition-3500 B	mg/l	340	64	75	200
9.	Magnesium as Mg	APHA 23 <sup>rd</sup> Edition-3500 B	mg/l	44	32	30	100
10.	Iron as Fe	APHA 23 <sup>rd</sup> Edition-3500 B	mg/l	0.1	Absent	0.3	NR
11.	Chlorides as Cl	APHA 23 <sup>rd</sup> Edition-4500 B	mg/l	409	25.99	250	1000
12.	Sulphates as SO <sub>4</sub>	APHA 23 <sup>rd</sup> Edition-4500 B	mg/l	308	37.81	200	400
13.	Nitrates as NO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition-4500 E	mg/l	0.38	0.065	45	NR
14.	Fluoride as F	APHA 23 <sup>rd</sup> Edition-4500 D	mg/l	0.10	0.3	1.0	1.5
15.	Boron as B	APHA 23 <sup>rd</sup> Edition-4500 B	mg/l			1.0	5.0
16.	Aluminum as Al	IS 3025(Part 55)	mg/l	0.04	0.06	0.03	0.2
17.	Total Ammonia	IS 3025(Part 34)	mg/l	0.01	0.1	0.5	NR

**Note: GW-7: Muddapur Mines Office.**

**DL: Desirable Limit, PL: Permissible Limit, NR: No Relaxation, BDL: Below Detectable Limit.**

<b>INFERENCE</b>	Standards As per IS:10500:2012 Report Status: - measured values for all the parameters are within the standards.
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Dr. Siddalingeshwara K G  
Quality Manager

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Sl. No	Parameters	Protocol	Unit	Result		Standards As per IS:10500:2012	
				GW-7	Ghataprabha River	DL	PL
17	Phosphorous as P	IS:3025(Part-31)-1988	mg/l	Absent	Absent	-	-
18	Cadmium as Cd	APHA 23 <sup>rd</sup> Edition -3111	mg/l	Absent	Absent	0.05	-
19	Nickel as Ni	APHA 23 <sup>rd</sup> Edition -3111	mg/l	Absent	Absent	0.02	NR
20	Zinc as Zn	APHA 23 <sup>rd</sup> Edition -3111	mg/l	0.5	I	5	15
21	Lead as Pb	APHA 23 <sup>rd</sup> Edition -3111	mg/l	Absent	Absent	0.1	-
22	Chromium As Cr	APHA 23 <sup>rd</sup> Edition -3111 B	mg/l	Absent	Absent	0.05	-
23	Mercury as Hg	APHA 23 <sup>rd</sup> Edition -3112 B	mg/l	Absent	Absent	0.01	-
24	Manganese as Mn	APHA 23 <sup>rd</sup> Edition -3111 B	mg/l	Absent	Absent	0.1	0.5
25	Copper as Cu	APHA 23 <sup>rd</sup> Edition -3111 B	mg/l	Absent	Absent	0.05	1.5



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