

No.JKCW/ENV/2024-25/ EC Compliance/2nd Half(Halki LSM)/93/17 Date : 21-05-2024

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 October-2023 to March-2024 (2nd 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 **October-2023 to March-2024 (2nd 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

Vinit

Umashankar Choudhary
(Unit Head)

Encl. – A- EC Compliance Report Annexure-1

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- 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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Balasinor (Gujarat) | Fujairah

JK CEMENT
WallMaxX
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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, 1st & 2nd Floors, Nisarga Bhavan, A-Block, Thimmaiah, Main Road, 7thD 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. 21st 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 months. 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. Environmental expenditure is attached as Annexure-6 .
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 of CSR activities enclosed as Annexure-7 .
iii)	A no mining zone barrier of 50 m from the cannel 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 cannel 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. As per the email communication dated 15.12.2009 with NEERI Director said, NEERI has not prepared any report on Status of Environment-Action for the State of Karnataka.
v)	Conservation plan for wildlife 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, however we had submitted an application to forest department on dated 25.08.2007, branch forest, Lokapur had inspected on 27.08.2007 and submitted a letter to zonal forest Mudhol 28.08.2007 and Zonal forest Mudhol had submitted its report to

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		Deputy Conservator of Forest, Bagalkot Division, Bagalkot on dated 28.08.2007, detailed report as there is no schedule-I species are available in 10 KM radius area, hence no conservation plan for wild life for site is not applicable as per above statement.
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.
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 Annexure-5
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 otherwise 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's workers are being done on a regular basis as required under Mine Rule 1955 and training on various medical aspects is being imparted. The company has engaged a fulltime doctor who is trained in Occupational health surveillance. Records are being maintained.

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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. Topsoil 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 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.	Complying. Over burden is being stacked at earmarked dump site as planned in mining plan. Presently, dumps are active. After completion of dumps, plantation will be done. Presently the dump height is 18 meters with two stages and overall slope is 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 pits. 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 a seasonal nallah inside the mining lease and we are not disturbing it, 50m of area has left both side of season nallah as no mining 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	Complying. Green Belt Development is being done with native species and in consultation with DFO as committed in Mining plan.

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	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.	
xvi)	Details of the year wise afforestation programme already undertake 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. Status of implementation shall be reported to the regional office of the Ministry from time to time.	Complying. Surface/rainwater harvested in pit recharges ground water as water percolates down wards due to inclined strata.
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	General Condition:	
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	Complied. Four Ambient Air Quality

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	be established in the core zone as well as in the buffer zone for RPM, SPM, SO ₂ , NO _x 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.	monitoring stations have been established in the core and buffer zone.
iv)	Data on Ambient Air Quality (RSPM, SPM, SO ₂ , and NO _x) 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 Annexure-2 .
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 wastewater (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 wastewater 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 inform 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.

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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 by furnishing the requisite data/ information /monitoring reports.	Agreed.
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 http: www.envfor.nic.in and a copy of the same shall be forwarded to the Regional Office of the Ministry located at Bangalore .	Complied.

Yours faithfully
For Halki Limestone Mine


Umashankar Choudhary
(Unit Head)



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Environmental laboratory, Recognized by MHT & CC Accredited by NABL (ISO/IEC 17025)
vide certificate No : TC6152 and Certified by ISO (45001:2018)



Certificate No:TC6152

AIR QUALITY MONITORING DATA

Report No.: I A2

1. Name of the Project : M/s. JK Cement Works, Muddapur,
2. Name of the Client : (Unit: J.K.Cement Ltd),P.O.Muddapur-587122,
Dist.Bagalkot (Karnataka) India
3. Sample Collected By : Cosmo Conscious Research Laboratory
4. Particulars of Sample Collected : Source Emission Air Quality Monitoring
5. Sample Condition : Satisfactory
6. Analysis Start Date : 17.10.2023
7. Analysis Completion Date : 22.10.2023
8. Month of Monitoring : October 2023
9. Environmental condition at the time
of sampling : 29.3°C
10. Unique Lab Report Number : TC6152230000006688F

Name of the Station/ Date of Sample Collection	Lab Sample Code	Particulars of Sample Collected			
		SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)
AAQM Locations for Halki Mines		NAAQ standards 2009			
		80 (µg/m ³)	80 (µg/m ³)	100 (µg/m ³)	60 (µg/m ³)
AV- Near Halki mines office					
16.10.2023	436, 436, C992, 721	12	15	61	15
AVI- North Boundary Side					
16.10.2023	437, 437, C991, 722	13	20	46	16
AVII-Halki Village					
15.10.2023	434, 434, C597, 132	15	22	57	19
AVIII- Metgudda Village					
15.10.2023	435, 435, C599, 604	16	17	51	18

END OF REPORT

Note: 1. SO₂ - Sulfur Dioxide, NO₂ - Nitrogen Dioxide, PM₁₀ - Particulate Matter (size less than 10 µm), PM_{2.5} - Particulate Matter (size less than 2.5 µm).

2. The above results are related only to the samples collected & tested on the particular date and time.

3. RA - Reaffirmed.


ANALYZED BY:


(G. Dhavaleshwar)
Analyst

VERIFIED BY:


(P. Harika)
Technical Manager

AUTHORISED SIGNATORY:


(M. Shashikala)
Head of the Laboratory

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Certificate No.TC6152

AIR QUALITY MONITORING DATA

Report No.: I A2

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2. Name of the Client : (Unit: J.K.Cement Ltd), P.O.Muddapur-587122,
Dist.Bagalkot (Karnataka) India
3. Sample Collected By : Cosmo Conscious Research Laboratory
4. Particulars of Sample Collected : Source Emission Air Quality Monitoring
5. Sample Condition : Satisfactory
6. Analysis Start Date : 11.11.2023
7. Analysis Completion Date : 26.11.2023
8. Month of Monitoring : November 2023
9. Environmental condition at the time
of sampling : 27°C
10. Unique Lab Report Number : TC6152230000006882F

AAQM Locations for Halki Mines					
AV- Near Halki mines office					
09.11.2023	543, 543, C01, 716	14	18	41	13
AVI- North Boundary Side					
09.11.2023	544, 544, C02, 717	15	14	44	23
AVII-Halki Village					
25.11.2023	551, 551, C621, 099	10	13	49	18
AVIII- Metgudda Village					
25.11.2023	552, 552, C622, 100	16	10	42	15

END OF REPORT

Note: 1. SO₂ – Sulfur Dioxide, NO₂ – Nitrogen Dioxide, PM₁₀ – Particulate Matter (size less than 10 µm), PM_{2.5} – Particulate Matter (size less than 2.5 µm).

2. The above results are related only to the samples collected & tested on the particular date and time.

3. RA – Reaffirmed.

Name of the Equipment	Eq. ID. No.	Date of Calibration	Calibration Due on
Combo Sampler	230568 to 230571	30.11.2023	29.11.2024

ANALYZED BY:

(G.Dhavaleshwar)
Analyst

VERIFIED BY:

(P.Hanka)
Technical Manager

AUTHORISED SIGNATORY:

(M. Shashikala)
Head of the Laboratory

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AIR QUALITY MONITORING DATA

Report No.: I A2

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2. Name of the Client : (Unit: J.K.Cement Ltd), P.O. Muddapur-587122,
Dist. Bagalkot (Karnataka) India
3. Sample Collected By : Cosmo Conscious Research Laboratory
4. Particulars of Sample Collected : Source Emission Air Quality Monitoring
5. Sample Condition : Satisfactory
6. Analysis Start Date : 09.12.2023
7. Analysis Completion Date : 13.12.2023
8. Month of Monitoring : December 2023
9. Environmental condition at the time
of sampling : 28.3°C
10. Unique Lab Report Number : TC6152230000007017F

AAQM Locations for Halki Mines					
AV- Near Halki mines office					
11.12.2023	617, 617, C66, 640	13	17	50	16
AVI- North Boundary Side					
11.12.2023	619, 619, C68, 821	16	13	53	19
AVII- Halki Village					
08.12.2023	609, 609, C161, 590	12	19	56	14
AVIII- Metgudda Village					
08.12.2023	611, 611, C69, 822	14	15	59	18

END OF REPORT

- Note: 1. SO₂ – Sulfur Dioxide, NO₂ – Nitrogen Dioxide, PM₁₀ – Particulate Matter (size less than 10 µm), PM_{2.5} – Particulate Matter (size less than 2.5 µm).
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 3. RA – Reaffirmed.

Name of the Equipment	Eq. ID. No.	Date of Calibration	Calibration Due on
Combo Sampler	230568 to 230571	30.11.2023	29.11.2024

ANALYZED BY:

(G. Dhavaleshwar)
Analyst

VERIFIED BY:

(P. Harika)
Technical Manager

AUTHORISED SIGNATORY:

(M. Shashikala)
Head of the Laboratory



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Certificate No: TC6152

AIR QUALITY MONITORING DATA

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- Name of the Client : (Unit: J.K.Cement Ltd), P.O. Muddapur-587122,
Dist. Bagalkot (Karnataka) India
- Sample Collected By : Cosmo Conscious Research Laboratory
- Particulars of Sample Collected : Source Emission Air Quality Monitoring
- Sample Condition : Satisfactory
- Analysis Start Date : 07.01.2024
- Analysis Completion Date : 18.01.2024
- Month of Monitoring : January 2024
- Environmental condition at the time of sampling : 29.4°C
- Unique Lab Report Number : TC6152230000007153F

Name of the Station/ Date of Sample Collection	Lab Sample Code	Particulars of Sample Collected			
		SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)
AAQM Locations for Halki Mines		NAAQ standards 2009			
		80 (µg/m ³)	80 (µg/m ³)	100 (µg/m ³)	60 (µg/m ³)
AV- Near Halki mines office					
16.01.2024	693, 693, C176, 142	17	11	56	16
AVI- North Boundary Side					
16.01.2024	691, 691, C180,141	12	20	51	20
AVII-Halki Village					
07.01.2024	686, 686, C203, 132	12	17	65	17
AVIII- Metgudda Village					
06.01.2024	685, 685, C289, 036	14	17	46	20


END OF REPORT

Note: 1. SO₂ - Sulfur Dioxide, NO₂ - Nitrogen Dioxide, PM₁₀ - Particulate Matter (size less than 10 µm), PM_{2.5} - Particulate Matter (size less than 2.5 µm).

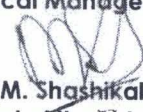
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3. RA - Reaffirmed.

Name of the Equipment	Eq. ID. No.	Date of Calibration	Calibration Due on
Combo Sampler	230568 to 230571	30.11.2023	29.11.2024

ANALYZED BY: 
(G. Dhavatheshwar)
Analyst

VERIFIED BY: 
(P. Harika)
Technical Manager

AUTHORISED SIGNATORY: 
(M. Shashikala)
Head of the Laboratory

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vide certificate No: TC 6152 and Certified by ISO (45001:2018)

AIR QUALITY MONITORING DATA

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1. Name of the Project : M/s. JK Cement Works, Muddapur,
2. Name of the Client : (Unit: J.K.Cement Ltd), P.O. Muddapur-587122,
Dist. Bagalkot (Karnataka) India
3. Sample Collected By : Cosmo Conscious Research Laboratory
4. Particulars of Sample Collected : Source Emission Air Quality Monitoring
5. Sample Condition : Satisfactory
6. Analysis Start Date : 11.02.2024
7. Analysis Completion Date : 29.0.2024
8. Month of Monitoring : February 2024
9. Environmental condition at the time of sampling : 30.4°C
10. Unique Lab Report Number : TC6152230000007315F

Name of the Station/ Date of Sample Collection	Lab Sample Code	Particulars of Sample Collected			
		SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)
AAQM Locations for Halki Mines		NAAQ standards 2009			
		80 (µg/m ³)	80 (µg/m ³)	100 (µg/m ³)	60 (µg/m ³)
AV- Near Halki mines office					
23.02.2024	773, 773, C346, 408	17	15	52	13
AVI- North Boundary Side					
23.02.2024	772, 772, C343, 406	16	19	51	14
AVII-Halki Village					
11.02.2024	720, 720, C328, 426	17	15	55	18
AVIII- Metgudda Village					
10.02.2024	715, 715, C323, 424	13	12	49	16


END OF REPORT


Note: 1. SO₂ – Sulfur Dioxide, NO₂ – Nitrogen Dioxide, PM₁₀ – Particulate Matter (size less than 10 µm), PM_{2.5} – Particulate Matter (size less than 2.5 µm).

2. The above results are related only to the samples collected & tested on the particular date and time.

3. RA – Reaffirmed.

Name of the Equipment	Eq. ID. No.	Date of Calibration	Calibration Due on
Combo Sampler	230568 to 230571	30.11.2023	29.11.2024

ANALYZED BY: 
(G. Dhavalreshwar)
Analyst

VERIFIED BY: 
(P. Harika)
Technical Manager

AUTHORISED SIGNATORY: 
(M. Shashikala)
Head of the Laboratory



AIR QUALITY MONITORING DATA

Report No.: I A2

1. Name of the Project : M/s. JK Cement Works, Muddapur,
2. Name of the Client : (Unit: J.K.Cement Ltd),P.O.Muddapur-587122,
Dist.Bagalkot (Karnataka) India
3. Sample Collected By : Cosmo Conscious Research Laboratory
4. Particulars of Sample Collected : Source Emission Air Quality Monitoring
5. Sample Condition : Satisfactory
6. Analysis Start Date : 10.03.2024
7. Analysis Completion Date : 15.03.2024
8. Month of Monitoring : March 2024
9. Environmental condition at the time
of sampling : 31.4°C
10. Unique Lab Report Number : TC6152230000007410F

Name of the Station/ Date of Sample Collection	Lab Sample Code	Particulars of Sample Collected			
		SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)
AAQM Locations for Halki Mines		NAAQ standards 2009			
		80 (µg/m ³)	80 (µg/m ³)	100 (µg/m ³)	60 (µg/m ³)
AV- Near Halki mines office					
11.03.2024	852, 852, C28, 201	16	14	47	16
AVI- North Boundary Side					
11.03.2024	849, 849, C29, 202	15	17	50	14
AVII-Halki Village					
12.03.2024	850, 850, C06, 571	15	12	49	15
AVIII- Metgudda Village					
08.03.2024	842, 842, C06, 567	19	12	58	17

END OF REPORT

Note: 1. SO₂ – Sulfur Dioxide, NO₂ – Nitrogen Dioxide, PM₁₀ – Particulate Matter (size less than 10 µm), PM_{2.5} – Particulate Matter (size less than 2.5 µm).

2. The above results are related only to the samples collected & tested on the particular date and time.

3. RA – Reaffirmed.

Name of the Equipment	Eq. ID. No.	Date of Calibration	Calibration Due on
Combo Sampler	230568 to 230571	30.11.2023	29.11.2024

ANALYZED BY:

(G.Dhavareshwar)
Analyst

VERIFIED BY:

(P.Harika)
Technical Manager

AUTHORISED SIGNATORY:

(M. Shashikala)
Head of the Laboratory



COSMO CONSCIOUS RESEARCH LABORATORY

Environmental Laboratory Recognized by MCEP & CC, Accredited by NABL (ISO/IEC 17025)
vide certificate No : TC6152 and Certified by ISO 45001:2018

FUGITIVE EMISSION AIR QUALITY MONITORING DATA

Report No. I B2

1. Name of the Industry : M/s. JK Cement Works, Muddapur,
2. Address : (Unit: J.K.Cement Ltd), P.O. Muddapur-587122,
Dist. Bagalkot (Karnataka) India
3. Sample Collected By : Cosmo Conscious Research Laboratory
4. Particulars of Sample Collected : Fugitive Emission Air Quality Monitoring
5. Sample Condition : Satisfactory
6. Analysis Start Date : 03.12.2023
7. Analysis Completion Date : 08.12.2023
8. Month of Monitoring : December 2023
9. Environmental condition at the time of sampling : 28.6°C
10. Method adopted (Sampling & Analysis) : IS 5182 (Part 4) :2006

Sl. No.	Date of Sample Collection	Name of the Station	Lab Sample Code	SPM (mg/m ³)	IBM Standard (mg/m ³)
Fugitive Locations for Halki Mines					
1.	04.12.2023	Drilling Area	999335	1.02	1.2
2.	02.12.2023	Loading Area	999334	0.84	1.2
3.	02.12.2023	Haulage Road	999333	0.82	1.2
4.	04.12.2023	Waste Dumping Site	999332	0.92	1.2
5.	07.12.2023	Service Road	999331	0.86	1.2

END OF REPORT

Note: 1. SPM – Suspended Particulate Matter.

2. The above results are related only to the samples collected & tested on the particular date and time.

ANALYZED BY:

(G. Dhavaleshwar)
Analyst

VERIFIED BY:

(P. Harika)
Technical Manager

AUTHORISED SIGNATORY:

(M. Shashikala)
Head of the Laboratory

5 of 16



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OHSAS 18001:2007



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vide certificate No: 1C6152 and Certified by ISO (45001:2018)

FUGITIVE EMISSION AIR QUALITY MONITORING DATA

Report No. I B2

1. Name of the Industry : M/s. JK Cement Works, Muddapur,
2. Address : (Unit: J.K.Cement Ltd), P.O. Muddapur-587122,
Dist. Bagalkot (Karnataka) India
3. Sample Collected By : Cosmo Conscious Research Laboratory
4. Particulars of Sample Collected : Fugitive Emission Air Quality Monitoring
5. Sample Condition : Satisfactory
6. Analysis Start Date : 23.03.2024
7. Analysis Completion Date : 24.03.2024
8. Month of Monitoring : March 2024
9. Environmental condition at the time of sampling : 31.3°C
10. Method adopted (Sampling & Analysis) : IS 5182 (Part 4) :2006

Sl. No.	Date of Sample Collection	Name of the Station	Lab Sample Code	SPM (mg/m ³)	IBM Standard (mg/m ³)
Fugitive Locations for Halki Mines					
1.	22.03.2024	Drilling Area	517155	0.95	1.2
2.	22.03.2024	Loading Area	517156	0.88	1.2
3.	23.03.2024	Haulage Road	517157	0.80	1.2
4.	23.03.2024	Waste Dumping Site	517158	1.04	1.2
5.	23.03.2024	Service Road	514793	0.97	1.2

END OF REPORT

Note: 1. SPM – Suspended Particulate Matter.

2. The above results are related only to the samples collected & tested on the particular date and time.

ANALYZED BY:

(G. Dhavaleshwar)
Analyst

VERIFIED BY:

(P. Harika)
Technical Manager

AUTHORISED SIGNATORY:

(M. Shashikala)
Head of the Laboratory



COSMO CONSCIOUS RESEARCH LABORATORY

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Annexure-4

NOISE LEVEL MONITORING DATA

Report No. IV C

- Name of the Client : M/s. JK Cement Works, Muddapur,
- Address : (Unit: J.K.Cement Ltd), P.O. Muddapur-587122,
Dist. Bagalkot (Karnataka) India
- Sample Collected By : Cosmo Conscious Research Laboratory
- Particulars of Sample Collected : Noise Monitoring
- Sample Condition : Satisfactory
- Monitoring Date : 27.01.2024 to 29.01.2024
- Month of Monitoring : January 2024

I. Halki Mines (Buffer Zone) :

Sl. No.	Code	Sampling Location	Date	Unit	L max.	L eq.		L min.
						Day	Night	
1.	N1	Halki Mines North Boundary	29.01.2024	dB (A)	61.2	54.2	53.4	52.1
2.	N2	Halki Mines Office	29.01.2024	dB (A)	62.8	53.8	52.8	51.9

II. Halki Mines (Core Zone) :

Sl. No.	Code	Sampling Location	Date	Unit	Day	
					Max.	Min.
1.	N1	Halki Mines Drilling Time	27.01.2024	dB	64.8	63.6
2.	N2	Halki Mines Waste Dump Site	27.01.2024	dB	63.2	62.8
3.	N3	Halki Mines Service Road	27.01.2024	dB	64.9	61.8
4.	N4	Excavator Halki Mine	27.01.2024	dB	63.8	62.8

MOEF ambient Noise standards in dB(A) Leq (No.41, Dt.11.01.2010)	Residential Area limits dB(A) Leq		Industrial Area limits dB(A) Leq	
	Day time	Night time	Day time	Night time
	55	45	75	70
Method Adopted		Integrated Sound Level Meter		

Name of the Equipment	Eq. ID. No.	Date of Calibration	Calibration Due on
Sound Level Meter	Lutron/SL-4030	26.06.2023	25.06.2024

Note: 1. The above results are related only to the samples collected & tested on the particular date and time

MONITORED BY:

(G. Dhavaleshwar)
Analyst

VERIFIED BY:

(P. Harika)
Technical Manager

AUTHORISED SIGNATORY: (M. Shashikala)
Head of the Laboratory



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Environmental laboratory, Recognized by MoEF & CC, Accredited by NABL (ISO/IEC: 17025)
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Certificate No:TC6152

WORK ZONE NOISE LEVEL MONITORING DATA

Report No. IV E

1. Name of the Client : M/s. JK Cement Works, Muddapur,
2. Address : (Unit: J.K.Cement Ltd),P.O.Muddapur-587122,
Dist.Bagalkot (Karnataka) India
3. Sample Collected By : Cosmo Conscious Research Laboratory
4. Particulars of Sample Collected : Noise Monitoring
5. Sample Condition : Satisfactory
6. Monitoring Date : 20.11.2023 to 23.11.2023
7. Month of Monitoring : November-2023

I. Halki Mines						
Sl. No.	Code	Sampling Location	Date	Unit	Day	
					Max.	Min.
1.	N1	Halki Mines Drilling Time	22.11.2023	dB	64.5	63.4
2.	N2	Halki Mines Waste Dump Site	22.11.2023	dB	61.2	60.8
3.	N3	Halki Mines Service Road	22.11.2023	dB	63.5	60.4
4.	N4	Excavator Halki Mine	22.11.2023	dB	61.8	60.8
II. Muddapur Mines						
5.	N5	Muddapur Mines Drilling Time	23.11.2023	dB	63.8	61.2
6.	N6	Muddapur Mines Waste Dump Site	23.11.2023	dB	64.2	60.3
7.	N7	Muddapur Mines Service Road	23.11.2023	dB	62.7	60.1
8.	N8	Muddapur Halki Mine	23.11.2023	dB	63.8	61.0

End of Report

Name of the Equipment	Eq. ID. No.	Date of Calibration	Calibration Due on
Sound Level Meter	Lutron/SL-4030	26.06.2023	25.06.2024

Note: 1.The above results are related only to the samples collected & tested on the particular date and time

ANALYZED BY:

1. (K. Somasekhar Rao)
Analyst

2. (G. Dhavatheshwar)
Analyst

VERIFIED BY:

(P. Harika)
Technical Manager

AUTHORISED SIGNATORY:

(M. Shashikala)
Head of the Laboratory



COSMO CONSCIOUS RESEARCH LABORATORY

Environmental laboratory Accredited by MoEF & CC Accredited by NABL (ISO/IEC 17025)
vide certificate No: IC 6152 and Certified by ISO (45001:2018)



Certificate No:TC6152

Analysis Report of Water (Ground water)

Report No: II E1

1. Name of the Industry : M/s. JK Cement Works, Muddapur,
2. Address : (Unit: J.K.Cement Ltd),P.O.Muddapur-
587122,
Dist.Bagalkot (Karnataka) India
3. Sample collected by : Cosmo Conscious Research Laboratory
4. Name of the Location : Bore well in Halki Mines
5. Particulars of sample collected : Bore well Water
6. Field Sample code : JKGW12
7. Lab Sample Code : CCRL W 9418
8. Date of sample collection : 30.11.2023
9. Date of sample Received : 01.12.2023
10. Date of sample Analyzed : 01.12.2023 to 08.12.2023
11. Method of Sampling : IS:3025 (Part 1) 1987 (Reaffirmed 2019)
12. Environmental condition at the time of sampling : 28.2°C
13. Unique Lab Report Number : TC6152230000006888F

Sl. No	Parameters	Protocol	Unit of Measure ment	Results	Drinking water specification Standards as per IS:10500:2012
				Nov.'-23	Limits
PHYSICAL					
1.	Colour	IS: 3025 (PART 4)- 1984, RA-2021, Platinum cobalt Method	Hazen units	Under range	15
2.	Temperature	IS:3025 (PART 9)-1984, RA-2017, Thermometer	°C	27.80	-
3.	Conductivity	IS:3025 (PART 14)-1984, RA-2019, Electrometric method	µs/cms	873	-
4.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2017, Gravimetric method	mg/L	621	2000
5.	pH	IS:3025 (part 11)-1983, RA-2022, Electrometric method	-	7.60	6.5 to 8.5
6.	Turbidity	IS:3025 (part 10)-1984, RA-2017, Nephelometric method	NTU	0.60	5
7.	Total Suspended Solids	IS:3025 (part 17)-1984, RA-2021, Gravimetric Method	mg/L	4	-
CHEMICAL					
8.	Dissolved Oxygen	IS:3025 (part 38)-1989, RA-2019, Winkler titrimetric azide modification	mg/L	5.80	-
9.	Biochemical Oxygen Demand for 3 days at 27°C	IS:3025 (part 44)-1993, , RA-2019 Three days BOD at 27°C	mg/L	<1	-
10.	Chemical Oxygen Demand as O ₂	APHA 23 rd Edition 5220-B (P.NO. 5-17) Closed reflux method	mg/L	<1	-
11.	Dissolved Phosphate as PO ₄	IS:3025 (part 31)-1988, RA-2021 Stannous chloride method	mg/L	0.100	-
12.	Sodium as Na	IS:3025 (part 45)-1993, RA-2019 Flame Emissionphotometric method	mg/L	86.10	-
13.	Potassium as K	IS:3025 (part 17)-1984, , RA-2019 Flame Emissionphotometric method	mg/L	0.20	-
14.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2019 EDTA Titrimetric method	mg/L	76.95	200

Cont'd...



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Certificate No:TC6152

Sl. No	Parameters	Protocol	Unit of Measurement	Results	Drinking water specification Standards as per IS:10500:2012
				Nov.'-23	Limits
15.	Magnesium as Mg	APHA 23 rd Edition 3500-B-Mg By calculation	mg/L	46.10	100
16.	Total Hardness as CaCO ₃	IS:3025 (part 21)-1983, RA-2019 EDTA Titrimetric method	mg/L	382	600
17.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2019 Argentometric Method	mg/L	60.48	1000
18.	Sulphate as SO ₄	APHA 23 rd Edition 4500-SO ₄ ²⁻ E (P.NO.4-190-191) Turbidimetric method	mg/L	35.76	400
19.	Fluoride as F	APHA 23 rd Edition 4500-F- D. (P.NO. 4-87 - 88)SPADNS Method	mg/L	1.74	1.50
20.	Nitrate Nitrogen as NO ₃	IS:3025 (part 34)-1988, RA-2019 Chromotropic acid method	mg/L	2.37	45
21.	Total Alkalinity as CaCO ₃	IS:3025 (part 23)-1986, RA-2019 Indicator method	mg/L	325	600
22.	Acidity as CaCO ₃	IS:3025 (part 22)-1986, RA-2019 Indicator method	mg/L	Nil	-
23.	Oil & Grease	IS:3025 (part 39)-1991, RA-2021 Partition Gravimetric method	mg/L	BDL	-
TRACE METALS					
24.	Total Iron as Fe	APHA 23 rd Edition 3111B (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.30
25.	Nickel as Ni	APHA 23 rd Edition 3111B (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.02
26.	Manganese as Mn	APHA 23 rd Edition 3111B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.30
27.	Copper as Cu	APHA 23 rd Edition 3111B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	1.50
28.	Zinc as Zn	APHA 23 rd Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	15
29.	Lead as Pb	APHA 23 rd Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.01
30.	Chromium as Cr	APHA 23 rd Edition 3111 B. (p.no.3-18) Direct Air Acetylene Flame Method	mg/L	BDL	0.05
31.	Silver as Ag	APHA 23 rd Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.10

End of Report

Note: 1. RA: Reaffirmed **BDL-** Below detectable limit, (For trace metals <0.1, Oil & grease <4.0).

2. The above results are related only to the samples collected & tested on the particular date and time.

ANALYZED BY: (G.Dhavaleshwar)
Analyst

VERIFIED BY: (P. Harika)
Technical Manager

AUTHORISED SIGNATORY: (M. Shashikala)
Head of the Laboratory



COSMO CONSCIOUS RESEARCH LABORATORY

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vide certificate No : TC&152 and Certified by ISO (45001:2018)

Analysis Report of Water (Ground water)

Report No: II E2

1. Name of the Industry	:	M/s. JK Cement Works, Muddapur,
2. Address	:	(Unit: J.K.Cement Ltd), P.O. Muddapur- 587122, Dist. Bagalkot (Karnataka) India
3. Sample collected by	:	Cosmo Conscious Research Laboratory
4. Name of the Location	:	Bore well in Halki Mines
5. Particulars of sample collected	:	Bore well Water
6. Field Sample code	:	JKGW12
7. Lab Sample Code	:	CCRL W 9418
8. Date of sample collection	:	30.11.2023
9. Date of sample Received	:	01.12.2023
10. Date of sample Analyzed	:	01.12.2023 to 08.12.2023
1. Method of Sampling	:	IS:3025 (Part 1) 1987 (Reaffirmed 2019)

Sl. No	Parameters	Protocol	Unit of Measurement	Results	Drinking water specification Standards as per IS:10500:2012
				Nov.'-23	Limits
PHYSICAL					
1.	Odour	IS: 3025 (PART 5)- 1983, RA-2018, True Odour	-	Agreeable	-
TRACE METALS					
2.	Mercury as Hg	APHA 23 rd Edition 3112 B. (p.no.3-23) Direct Air Acetylene e Flame Method	mg/L	BDL	0.001
MICROBIOLOGICAL					
3.	Total Coliform count	APHA 23 rd Edition 9222-B (p.no.9-57-61) Membrane filter technique	MPN/ 100 ml	Absent	Shall not be detectable in any 100 ml sample
4.	Escherichia coli count	APHA 23 rd Edition 9221-F (p.no.9-51-52) Membrane filter technique	MPN/ 100 ml	Absent	Shall not be detectable in any 100 ml sample

End of Report

Note: 1. BDL- Below detectable limit. (Mercury <0.001).

2. The above results are related only to the samples collected & tested on the particular date and time.

ANALYZED BY: (G.Dhavaleshwar)
Analyst

VERIFIED BY: (P. Harika)
Technical Manager

AUTHORISED SIGNATORY: (M. Shashikala)
Head of the Laboratory



Analysis Report of Bore well Water

Report No: II 01

1. Name of the Industry	: JK Cements
2. Address	: M/s. JK Cements Works, Muddapur, (Unit: J.K.Cement Ltd), P.O.Muddapur-587122, Dist.Bagalkot(Karnataka) India
3. Sample collected by	: Cosmo Conscious Research Laboratory
4. Name of the Location	: Halki Mines
5. Particulars of sample collected	: Bore well Water
6. Field Sample code	: JKGW11
7. Lab Sample Code	: CCRL W 9512
8. Date of sample collection	: 30.01.2024
9. Date of sample Received	: 31.01.2024
10. Date of sample Analyzed	: 31.01.2024 to 05.02.2024
11. Method of Sampling	: IS:3025 (Part 1) 1987 (Reaffirmed 2019)
12. Environmental condition at the time of sampling	: 29.3°C
13. Unique Lab Report Number	: TC6152230000007169F

Sl. No	Parameters	Protocol	Unit of Measure ment	Results	Drinking water specification Standards as per IS:10500:2012
				Jan.'-24	Limits
PHYSICAL					
1.	Colour	IS: 3025 (PART 4)- 1984, RA-2021, Platinum cobalt Method	Hazen units	<1	15
2.	Temperature	IS:3025 (PART 9)-1984, RA-2017, Thermometer	°C	258	-
3.	Conductivity	IS:3025 (PART 14)-1984, RA-2019, Electrometric method	µs/cms	867	-
4.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2017, Gravimetric method	mg/L	586	2000
5.	pH	IS:3025 (part 11)-1983, RA-2022, Electrometric method	-	7.16	6.5 to 8.5
6.	Turbidity	IS:3025 (part 10)-1984, RA-2017, Nephelometric method	NTU	0.90	5
7.	Total Suspended Solids	IS:3025 (part 17)-1984, RA-2021, Gravimetric Method	mg/L	16	-
CHEMICAL					
8.	Dissolved Oxygen	IS:3025 (part 38)-1989, RA-2019, Winkler titrimetric azide modification	mg/L	6.10	-
9.	Biochemical Oxygen Demand for 3 days at 27°C	IS:3025 (part 44)-1993, , RA-2019 Three days BOD at 27°C	mg/L	0.70	-
10.	Chemical Oxygen Demand as O ₂	APHA 23 rd Edition 5220-B (P.NO. 5-17) Closed reflux method	mg/L	<1	-
11.	Dissolved Phosphate as PO ₄	IS:3025 (part 31)-1988, RA-2021 Stannous chloride method	mg/L	0.364	-
12.	Sodium as Na	IS:3025 (part 45)-1993, RA-2019 Flame Emissionphotometric method	mg/L	93.5	-
13.	Potassium as K	IS:3025 (part 17)-1984, , RA-2019 Flame Emissionphotometric method	mg/L	0.10	-
14.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2019 EDTA Titrimetric method	mg/L	72.14	200

Cont'd...



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vide certificate No: TC6152 and Certified by ISO (45001:2018)



Certificate No:TC6152

Sl. No	Parameters	Protocol	Unit of Measurement	Results	Drinking water specification Standards as per IS:10500:2012
				Jan.'-24	Limits
15.	Magnesium as Mg	APHA 23 rd Edition 3500-B-Mg By calculation	mg/L	49.51	100
16.	Total Hardness as CaCO ₃	IS:3025 (part 21)-1983, RA-2019 EDTA Titrimetric method	mg/L	384	600
17.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2019 Argentometric Method	mg/L	65.97	1000
18.	Sulphate as SO ₄	APHA 23 rd Edition 4500-SO ₄ ²⁻ E (P.NO.4-190-191) Turbidimetric method	mg/L	31.16	400
19.	Fluoride as F	APHA 23 rd Edition 4500-F D. (P.NO. 4-87 - 88)SPADNS Method	mg/L	0.55	1.50
20.	Nitrate Nitrogen as NO ₃	IS:3025 (part 34)-1988, RA-2019 Chromotropic acid method	mg/L	2.05	45
21.	Total Alkalinity as CaCO ₃	IS:3025 (part 23)-1986, RA-2019 Indicator method	mg/L	240	600
22.	Acidity as CaCO ₃	IS:3025 (part 22)-1986, RA-2019 Indicator method	mg/L	Nil	-
23.	Oil & Grease	IS:3025 (part 39)-1991, RA-2021 Partition Gravimetric method	mg/L	BDL	-

TRACE METALS

24.	Total Iron as Fe	APHA 23 rd Edition 3111B (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.30
25.	Nickel as Ni	APHA 23 rd Edition 3111B (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.02
26.	Manganese as Mn	APHA 23 rd Edition 3111B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.30
27.	Copper as Cu	APHA 23 rd Edition 3111B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	0.017	1.50
28.	Zinc as Zn	APHA 23 rd Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	15
29.	Lead as Pb	APHA 23 rd Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.01
30.	Chromium as Cr	APHA 23 rd Edition 3111 B. (p.no.3-18) Direct Air Acetylene Flame Method	mg/L	BDL	0.05
31.	Silver as Ag	APHA 23 rd Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.10

End of Report

Note: 1. RA: Reaffirmed BDL- Below detectable limit, (For trace metals <0.1, Oil & grease <4.0).

2. The above results are related only to the samples collected & tested on the particular date and time.

ANALYZED BY:


(G.Dhavaleshwar)
Analyst

VERIFIED BY:


(P.Harika)
Technical Manager

AUTHORISED SIGNATORY: (M. Shashikala)
Head of the Laboratory



COSMO CONSCIOUS RESEARCH LABORATORY

Environmental laboratory Recognized by MoEF & CC Accredited by NABL (ISO/IEC: 17025)
vide certificate No. 1C6152 and Certified by ISO (45001:2018)

Analysis Report of Bore well Water

Report No: II 02

1. Name of the Industry : JK Cements
M/s. JK Cements Works, Muddapur,
(Unit: J.K.Cement Ltd),
2. Address : P.O.Muddapur-587122,
Dist.Bagalkot(Karnataka) India
3. Sample collected by : Cosmo Conscious Research Laboratory
4. Name of the Location : Halki Mines
5. Particulars of sample collected : Bore well Water
6. Field Sample code : JKGW11
7. Lab Sample Code : CCRL W 9512
8. Date of sample collection : 30.01.2024
9. Date of sample Received : 31.01.2024
10. Date of sample Analyzed : 31.01.2024 to 05.02.2024
1. Method of Sampling : IS:3025 (Part 1) 1987 (Reaffirmed 2019)

Sl. No	Parameters	Protocol	Unit of Measurement	Results	Drinking water specification Standards as per IS:10500:2012
				Jan.'-24	Limits
TRACE METALS					
1.	Mercury as Hg	APHA 23 rd Edition 3112 B. (p.no.3-23) Direct Air Acetylene e Flame Method	mg/L	BDL	0.001
MICROBIOLOGICAL					
2.	Total Coliform count	APHA 23 rd Edition 9222-B (p.no.9-57-61) Membrane filter technique	MPN/ 100 ml	Absent	Shall not be detectable in any 100 ml sample
3.	Escherichia coli count	APHA 23 rd Edition 9221-F (p.no.9-51-52) Membrane filter technique	MPN/ 100 ml	Absent	Shall not be detectable in any 100 ml sample

End of Report

Note: 1. BDL- Below detectable limit. (Mercury <0.001).

2. The above results are related only to the samples collected & tested on the particular date and time.

ANALYZED BY:

(G.Dhavaleshwar)
Analyst

VERIFIED BY:

(P.Harika)
Technical Manager

AUTHORISED SIGNATORY:

(M.Shashikala)
Head of the Laboratory



COSMO CONSCIOUS RESEARCH LABORATORY

Environmental laboratory. Recognized by MoEF & CC. Accredited by NABL (ISO/IEC: 17025)
vide certificate No. 1C6152 and Certified by ISO (45001:2018)



Certificate No:1C6152

Analysis Report of Mines Pit Water

Report No: II R1

1. Name of the Industry : JK Cements
M/s. JK Cements Works, Muddapur,
(Unit: J.K.Cement Ltd),
2. Address : P.O.Muddapur-587122,
Dist.Bagalkot(Karnataka) India
3. Sample collected by : Cosmo Conscious Research Laboratory
4. Name of the Location : Halki Mines
5. Particulars of sample collected : Mines Pit Water-3
6. Field Sample code : JKSW7
7. Lab Sample Code : CCRL W 9515
8. Date of sample collection : 30.01.2024
9. Date of sample Received : 31.01.2024
10. Date of sample Analyzed : 31.01.2024 to 05.02.2024
11. Method of Sampling : IS:3025 (Part 1) 1987 (Reaffirmed 2019)
12. Environmental condition at the time of sampling : 29.2°C
13. Unique Lab Report Number : TC6152230000007172F

Sl. No	Parameters	Protocol	Unit of Measure ment	Results	General Standards for Inland Surface water Schedule-VI (EPA-'86)
				Jan.'-24	Limits
PHYSICAL					
1.	Colour	IS: 3025 (PART 4)- 1984, RA-2021, Platinum cobalt Method	Hazen units	<1	-
2.	Conductivity	IS:3025 (PART 14)-1984, RA-2019, Electrometric method	µs/cms	1138	-
3.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2017, Gravimetric method	mg/L	724	-
4.	pH	IS:3025 (part 11)-1983, RA-2022, Electrometric method	-	7.62	5.50 to 9.0
5.	Turbidity	IS:3025 (part 10)-1984, RA-2017, Nephelometric method	NTU	1.60	-
CHEMICAL					
6.	Dissolved Phosphate as PO ₄	IS:3025 (part 31)-1988, RA-2021 Stannous chloride method	mg/L	0.124	5
7.	Sodium as Na	IS:3025 (part 45)-1993, RA-2019 Flame Emissionphotometric method	mg/L	148.10	-
8.	Potassium as K	IS:3025 (part 17)-1984, , RA-2019 Flame Emissionphotometric method	mg/L	13.90	-
9.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2019 EDTA Titrimetric method	mg/L	92.18	-
10.	Magnesium as Mg	APHA 23 rd Edition 3500-B-Mg By calculation	mg/L	43.67	-
11.	Total Hardness as CaCO ₃	IS:3025 (part 21)-1983, RA-2019 EDTA Titrimetric method	mg/L	410	-
12.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2019 Argentometric Method	mg/L	62.48	-
13.	Sulphate as SO ₄	APHA 23 rd Edition 4500-SO ₄ ²⁻ -E (P.NO.4-190-191) Turbidimetric method	mg/L	27.35	-

Cont'd...





COSMO CONSCIOUS RESEARCH LABORATORY

Environmental Laboratory, Recognized by Mett & Co. Accredited by NABL (ISO/IEC 17025)
vide certificate No. TC6152 and Certified by ISO (45001:2018)



Certificate No:TC6152

Sl. No	Parameters	Protocol	Unit of Measurement	Results	General Standards for Inland Surface water Schedule-VI (EPA-'86)
				Jan.'-24	Limits
14.	Fluoride as F	APHA 23 rd Edition 4500-F D. (P.NO. 4-87 - 88)SPADNS Method	mg/L	1.34	2
15.	Nitrate Nitrogen as NO ₃	IS:3025 (part 34)-1988, RA-2019 Chromotropic acid method	mg/L	8.22	10
16.	Total Alkalinity as CaCO ₃	IS:3025 (part 23)-1986, RA-2019 Indicator method	mg/L	155	-
TRACE METALS					
17.	Total Iron as Fe	APHA 23 rd Edition 3111B (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	3
18.	Nickel as Ni	APHA 23 rd Edition 3111B (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	3
19.	Manganese as Mn	APHA 23 rd Edition 3111B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	2
20.	Copper as Cu	APHA 23 rd Edition 3111B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	0.004	3
21.	Zinc as Zn	APHA 23 rd Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	3
22.	Lead as Pb	APHA 23 rd Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.10
23.	Chromium as Cr	APHA 23 rd Edition 3111 B. (p.no.3-18) Direct Air Acetylene Flame Method	mg/L	BDL	2

End of Report


Note: 1. RA: Reaffirmed BDL- Below detectable limit, (For trace metals <0.1, Oil & grease <4.0).

2. The above results are related only to the samples collected & tested on the particular date and time.

ANALYZED BY:


(G.Dhavaleshwar)
Analyst

VERIFIED BY:


(P.Harika)
Technical Manager

AUTHORISED SIGNATORY: (M.Shashikala)
Head of the Laboratory



COSMO CONSCIOUS RESEARCH LABORATORY

Environmental laboratory Recognized by MoEF & CC, Accredited by NABL (ISO/IEC: 17025)
vide certificate No : TC6152 and Certified by ISO (45001:2018)

Analysis Report of Mines Pit Water

Report No: II R2

- | | |
|------------------------------------|---|
| 1. Name of the Industry | : JK Cements |
| 2. Address | : M/s. JK Cements Works, Muddapur,
(Unit: J.K.Cement Ltd),
P.O.Muddapur-587122,
Dist.Bagalkot(Karnataka) India |
| 3. Sample collected by | : Cosmo Conscious Research Laboratory |
| 4. Name of the Location | : Halki Mines |
| 5. Particulars of sample collected | : Mines Pit Water-3 |
| 6. Field Sample code | : JKSW7 |
| 7. Lab Sample Code | : CCRL W 9515 |
| 8. Date of sample collection | : 30.01.2024 |
| 9. Date of sample Received | : 31.01.2024 |
| 10. Date of sample Analyzed | : 31.01.2024 to 05.02.2024 |
| 1. Method of Sampling | : IS:3025 (Part 1) 1987 (Reaffirmed 2019) |

Sl. No	Parameters	Protocol	Unit of Measurement	Results	General Standards for Inland Surface water Schedule-VI (EPA-'86)
				Jan.'-24	Limits
TRACE METALS					
1.	Mercury as Hg	APHA 23 rd Edition 3112 B. (p.no.3-23) Direct Air Acetylene e Flame Method	mg/L	BDL	0.01

End of Report

Note: 1. BDL- Below detectable limit. (Mercury <0.001).

2. The above results are related only to the samples collected & tested on the particular date and time.

ANALYZED BY:

(G.Dhavaleshwar)
Analyst

VERIFIED BY:

(P.Harika)
Technical Manager

AUTHORISED SIGNATORY: (M. Shashikala)

Head of the Laboratory



Analysis Report of Water (Ground water)

Report No: II F1

1. Name of the Industry	:	M/s. JK Cement Works, Muddapur,
2. Address	:	(Unit: J.K.Cement Ltd),P.O.Muddapur- 587122, Dist.Bagalkot (Karnataka) India
3. Sample collected by	:	Cosmo Conscious Research Laboratory
4. Name of the Location	:	Bore well in Muddapur Mines
5. Particulars of sample collected	:	Bore well Water
6. Field Sample code	:	JKGW1
7. Lab Sample Code	:	CCRL W 9419
8. Date of sample collection	:	30.11.2023
9. Date of sample Received	:	01.12.2023
10. Date of sample Analyzed	:	01.12.2023 to 08.12.2023
11. Method of Sampling	:	IS:3025 (Part 1) 1987 (Reaffirmed 2019)
12. Environmental condition at the time of sampling	:	28.2°C
13. Unique Lab Report Number	:	TC6152230000006889F

Sl. No	Parameters	Protocol	Unit of Measurement	Results	Drinking water specification Standards as per IS:10500:2012
				Nov.'-23	Limits
PHYSICAL					
1.	Colour	IS: 3025 (PART 4)- 1984, RA-2021, Platinum cobalt Method	Hazen units	Under range	15
2.	Temperature	IS:3025 (PART 9)-1984, RA-2017, Thermometer	°C	28.40	-
3.	Conductivity	IS:3025 (PART 14)-1984, RA-2019, Electrometric method	µs/cms	2840	-
4.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2017, Gravimetric method	mg/L	2000	2000
5.	pH	IS:3025 (part 11)-1983, RA-2022, Electrometric method	-	7.59	6.5 to 8.5
6.	Turbidity	IS:3025 (part 10)-1984, RA-2017, Nephelometric method	NTU	1.10	5
7.	Total Suspended Solids	IS:3025 (part 17)-1984, RA-2021, Gravimetric Method	mg/L	6	-
CHEMICAL					
8.	Dissolved Oxygen	IS:3025 (part 38)-1989, RA-2019, Winkler titrimetric azide modification	mg/L	6.30	-
9.	Biochemical Oxygen Demand for 3 days at 27°C	IS:3025 (part 44)-1993, , RA-2019 Three days BOD at 27°C	mg/L	<1	-
10.	Chemical Oxygen Demand as O ₂	APHA 23 rd Edition 5220-B (P.NO. 5-17) Closed reflux method	mg/L	<1	-
11.	Dissolved Phosphate as PO ₄	IS:3025 (part 31)-1988, RA-2021 Stannous chloride method	mg/L	0.148	-
12.	Sodium as Na	IS:3025 (part 45)-1993, RA-2019 Flame Emissionphotometric method	mg/L	78.40	-
13.	Potassium as K	IS:3025 (part 17)-1984, , RA-2019 Flame Emissionphotometric method	mg/L	0.10	-
14.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2019 EDTA Titrimetric method	mg/L	88.17	200

Cont'd...

M/s. J K Cement Works Muddapur**Environmental Expenditure for Halki Limestone Mine-2344(A)****Oct 2023 to Mar 2024**

Sl. No.	Particulars	Cost (In Rs.)	Remarks
1	Pollution Control	3010000.00	Water tankers
2	Pollution Monitoring	57525.00	
3	Occupational Health & Safety	0.00	
4	Green belt	73800.00	Gardener Salary
5	Reclamation	0.0	
6	Others	67500.00	JCB
	Total	32,08,825.00	Rupees Thirty-Two Lacs Eight Thousand & Eight Hundred Twenty-Five Only



Mines Manager

Halki Limestone Mine

Annexure-7

JK CEMENT WORKS, MUDDAPUR

DETAILS OF CSR ACTIVITY UNDERTAKEN DURING OCTOBER-2023 TO MARCH-2024		
SL NO	Particulars	Amount (RS)
1	Support for Health care, training and medical Aid	1,035,000
2	Education Aid and support to schools	792,935
3	Environmental activities and sampling donation	28,320
4	Rural development & other welfare activities	646,930
5	Promoting Rural sports and festivals	110,000
Total		2,613,185