

No.JKCW/ENV/2024/ EC Compliance/1<sup>st</sup> Half(MINE)/93/15

Date – 27-11-2024

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 April-2024 to Sept-2024 (1<sup>st</sup> Half) for Muddapur Limestone Mine, Village- Muddapur, Taluka- Mudhol, District- Bagalkot (Karnataka).**

Ref: **MoEF Letter No. J-11015/383/2006-1A. 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-2024 to Sept-2024 (1<sup>st</sup> Half)** of **Muddapur Limestone Mine** (Limestone production of 2 MTPA) Village-Muddapur, Taluka-Mudhol, District-Bagalkot, Karnataka, along with **Annexure-1 to 7.**

This for your kind perusal and acknowledge the receipt

Thanking you

Yours faithfully

For Halki Limestone Mine

Prabhat Singh Parihar

(Unit Head)

- Encl. –
- A- All 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**

## Corporate Office

Prism Tower 5th Floor, Ninaniya Estate Gwal Pahari,  
Gurugram - 122102, Haryana, INDIA

☎ +0124-6919000

✉ admin.prismt@jkcement.com

🌐 www.jkcement.com

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Balasinor (Gujarat) | Fujairah

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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

**Corporate Office**

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**Muddapur Limestone Mines, Village- Muddapur, Taluk- Mudhol, Dist.- Bagalkot, Karnataka**  
**Ref: MoEF Letter No. J-11015/383/2006-IA. II (M)/dated. 21<sup>st</sup> January-2008**

EC to Muddapur Limestone Mine (ML area 161.87 ha., 2.0 MTPA of limestone Production) of  
M/s J.K.Cement Ltd., at village Muddapur, in Mudhol Taluk, Bagalkot-Dist. In Karnataka

**EC Compliance Report for the period April- 2024 to September- 2024**

**Specific Condition:**

**Annexure-1**

S.N.	CONDITION	COMPLIANCE STATUS
<b>A.</b>	<b>Specific Conditions</b>	
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 <b>Annexure-6</b> .
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 established funds to the nearby villagers. Copy of CSR activities enclosed as <b>Annexure-7</b> .
iii)	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 Plan" for the State of Karnataka.
iv)	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 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



**Muddapur Limestone Mines, Village- Muddapur, Taluk- Mudhol, Dist.- Bagaikot, Karnataka**  
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		conservation plan for wild life for site is not applicable as per above statement.
v)	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.
vi)	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 by approved lab and no contamination has been observed. Water quality report of surface (mine pit) is attached as <b>Annexure-5.</b>
vii)	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.
viii)	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.
ix)	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 a regular basis as required under Mines Rules 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.
x)	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 there is no solid waste generation during the course of mining.

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xi)	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 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.	Will be complied. At present, there are no overburden dumps within the lease area.
xii)	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 the pit. The collected water in the pit is being used for green belt development and water spraying on haul roads for controlling fugitive dust emission. There is no nallah within the lease area.
xiii)	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.



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<b>xiv)</b>	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.
<b>xv)</b>	Details of the year wise a forestation programmed 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.	Complying, Details of the year wise a forestation programme is already submitted to MoEF and Plantation is being done as per mining plan.
<b>xvi)</b>	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.
<b>xvii)</b>	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.
<b>xviii)</b>	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.
<b>xix)</b>	Drilling and blasting (if any) shall be conducted by using dust extractors/ wet drilling.	Complying. Wet drilling operation is being practiced.

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<b>xx)</b>	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 of ores are being carried out is being regularly maintained by the company at its own expenses.
<b>xxi)</b>	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>	
<b>i)</b>	No change in mining technology and scope of working shall be made without prior approval of Ministry of Environment & Forests.	Noted.
<b>ii)</b>	No change in calendar plan including excavation, quantum of mineral, limestone and waste shall be made.	Noted.
<b>iii)</b>	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.
<b>iv)</b>	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 to SPCB/CPCB and MoEF, Bangalore on six monthly basis. AAQM data is attached as <b>Annexure-2</b> .
<b>v)</b>	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.
<b>vi)</b>	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.	Being complied. HEMM maintenance is being done regularly. For workers earplugs/ muffs have been provided.



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<b>Vii)</b>	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 waste water discharged from mines.
<b>viii)</b>	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.
<b>ix)</b>	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, who is directly reporting to the head of the organization.
<b>X)</b>	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.
<b>xi)</b>	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.
<b>xii)</b>	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.
<b>xiii)</b>	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.



**Muddapur Limestone Mines, Village- Muddapur, Taluk- Mudhol, Dist.- Bagalkot, Karnataka**  
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<b>xiv)</b>	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.
<b>xv)</b>	State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industry Centre and collector's office /Tehsildar's office for 30 days.	Noted.
<b>xvi)</b>	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.



# COSMO CONSCIOUS RESEARCH LABORATORY

Environmental Laboratory Recognized by MEF & L.C. Accredited by NABL (ISO/IEC 17025)  
Lab Certificate No. TC6152230000007527F Certified by ISO 14001:2015



Certificate No:TC6152

## AIR QUALITY MONITORING DATA

Report No.: I A3

- Name of the Project : M/s. JK Cement Works, Muddapur,
- 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 : 03.04.2024
- Analysis Completion Date : 08.04.2024
- Month of Monitoring : April 2024
- Environmental condition at the time of sampling : 33.6°C
- Unique Lab Report Number : TC6152230000007527F

Name of the Station/ Date of Sample Collection	Lab Sample Code	Particulars of Sample Collected			
		SO <sub>2</sub> ( µg/m <sup>3</sup> )	NO <sub>2</sub> ( µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )
AAQM Locations for Muddapur Mines		NAAQ standards 2009			
		80 (µg/m <sup>3</sup> )	80 (µg/m <sup>3</sup> )	100 (µg/m <sup>3</sup> )	60 (µg/m <sup>3</sup> )
AIX-Near Muddapur Mines Office					
06.04.2024	960, 960, C119, 951	12	15	56	16
AX- Petlur					
02.04.2024	954, 954, C42, 594	10	14	45	23
AXI-Thimmapur Village					
02.04.2024	955, 955, C44, 585	14	13	55	21
AXII- D-Colony, D-block quarters					
06.04.2024	963, 963, C87, 059	13	18	48	17


END OF REPORT

Note: 1. SO<sub>2</sub> – Sulfur Dioxide, NO<sub>2</sub> – Nitrogen Dioxide, PM<sub>10</sub> – Particulate Matter (size less than 10 µm), PM<sub>2.5</sub> – 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. Harika)  
Technical Manager

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

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"SURVEY HOUSE", #121, 2nd Cross, Nehru Colony, Ballari-583103 (Karnataka)

Ph: 08392 255744, Website: [www.tscrl.com](http://www.tscrl.com) email: [chiefexecutive@tscrl.com](mailto:chiefexecutive@tscrl.com)



OHSAS 18001:2007





## AIR QUALITY MONITORING DATA

Report No.: I A3

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 : 07.05.2024
7. Analysis Completion Date : 09.05.2024
8. Month of Monitoring : April 2024
9. Environmental condition at the time of sampling : 33.8°C
10. Unique Lab Report Number : TC6152230000007640F

Name of the Station/ Date of Sample Collection	Lab Sample Code	Particulars of Sample Collected			
		SO <sub>2</sub> ( µg/m <sup>3</sup> )	NO <sub>2</sub> ( µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )
AAQM Locations for Muddapur Mines		NAAQ standards 2009			
		80 (µg/m <sup>3</sup> )	80 (µg/m <sup>3</sup> )	100 (µg/m <sup>3</sup> )	60 (µg/m <sup>3</sup> )
AIX-Near Muddapur Mines Office					
08.05.2024	42, 42, C131, 805	12	11	51	20
AX- Petlur					
06.05.2024	37, 37, C130, 811	13	18	50	14
AXI-Thimmapur Village					
06.05.2024	35, 35, C129, 810	16	15	57	12
AXII- D-Colony, D-block quarters					
08.05.2024	44, 44, C122, 818	11	17	55	15

END OF REPORT

Note: 1. SO<sub>2</sub> – Sulfur Dioxide, NO<sub>2</sub> – Nitrogen Dioxide, PM<sub>10</sub> – Particulate Matter (size less than 10 µm), PM<sub>2.5</sub> – 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. Dhavadeshwar)  
Analyst

VERIFIED BY:   
(P. Harika)  
Technical Manager

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

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## AIR QUALITY MONITORING DATA

Report No.: I A3


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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 : 18.06.2024
7. Analysis Completion Date : 20.06.2024
8. Month of Monitoring : June 2024
9. Environmental condition at the time of sampling : 29.8°C
10. Unique Lab Report Number : TC6152230000007740F

Name of the Station/ Date of Sample Collection	Lab Sample Code	Particulars of Sample Collected			
		SO <sub>2</sub> ( µg/m <sup>3</sup> )	NO <sub>2</sub> ( µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )
AAQM Locations for Muddapur Mines		NAAQ standards 2009			
		80 (µg/m <sup>3</sup> )	80 (µg/m <sup>3</sup> )	100 (µg/m <sup>3</sup> )	60 (µg/m <sup>3</sup> )
AIX-Near Muddapur Mines Office					
17.06.2024	149, 149, C139, 287	14	11	60	16
AX- Petlur					
18.06.2024	151, 151, C145, 293	18	17	51	13
AXI-Thimmapur Village					
18.06.2024	150, 150, C143, 291	17	15	54	10
AXII- D-Colony, D-block quarters					
17.06.2024	148, 148, C138, 286	09	14	50	12

END OF REPORT

- Note: 1. SO<sub>2</sub> – Sulfur Dioxide, NO<sub>2</sub> – Nitrogen Dioxide, PM<sub>10</sub> – Particulate Matter (size less than 10 µm), PM<sub>2.5</sub> – Particulate Matter (size less than 2.5 µm).  
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Combo Sampler	230568 to 230571	30.11.2023	29.11.2024

ANALYZED BY:   
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VERIFIED BY:   
(P.Harika)  
Technical Manager

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

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# 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)



Certificate No:TC6152

Name of the Station/ Date of Sample Collection	Lab Sample Code	Particulars of Sample Collected			
		SO <sub>2</sub> ( µg/m <sup>3</sup> )	NO <sub>2</sub> ( µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )
AAQM Locations for Muddapur Mines					
AIX-Near Muddapur Mines Office					
09.07.2024	287, 287, C24, 139	11	19	44	18
AX- Petlur					
08.07.2024	285, 285, C24, 145	13	11	47	23
AXI-Thimmapur Village					
08.07.2024	284, 284, C27, 143	14	18	51	32
AXII- D-Colony, D-block quarters					
09.07.2024	290, 290, C23, 138	14	19	53	29

END OF REPORT


Note: 1. SO<sub>2</sub> - Sulfur Dioxide, NO<sub>2</sub> - Nitrogen Dioxide, PM<sub>10</sub> - Particulate Matter (size less than 10 µm), PM<sub>2.5</sub> - 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

**AIR QUALITY MONITORING DATA**

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 : 23.08.2024
7. Analysis Completion Date : 23.08.2024
8. Report Issue Date : 02.09.2024
9. Month of Monitoring : August 2024
10. Environmental condition at the time of sampling : 28.2°C
11. Unique Lab Report Number : TC6152240000000054F

Name of the Station/ Date of Sample Collection	Lab Sample Code	Particulars of Sample Collected			
		SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>2</sub> (µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )
AAQM Locations for Muddapur Mines		NAAQ standards 2009			
		80 (µg/m <sup>3</sup> )	80 (µg/m <sup>3</sup> )	100 (µg/m <sup>3</sup> )	60 (µg/m <sup>3</sup> )
AIX-Near Muddapur Mines Office					
19.08.2024	358, 358, C11, 455	18	19	60	15
AX- Petlur					
19.08.2024	360, 360, C01, 453	10	13	52	16
AXI-Thimmapur Village					
19.08.2024	359, 359, C12, 464	14	15	55	13
AXII- D-Colony, D-block quarters					
21.08.2024	357, 357, C05, 457	11	16	54	21

END OF REPORT

Note: 1. SO<sub>2</sub> - Sulfur Dioxide, NO<sub>2</sub> - Nitrogen Dioxide, PM<sub>10</sub> - Particulate Matter (size less than 10 µm), PM<sub>2.5</sub> - 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. Harika)  
Technical Manager

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

Digitally signed by  
SHASHIKALA MULABAGULA  
Date: 2024.09.05 16:37:39  
+05'30'

3 of 24



"SURVEY HOUSE", #121, 2nd Cross, Nehru Colony, Ballari-583103 (Karnataka)  
Ph: 08392 255744, Website: [www.tscrl.com](http://www.tscrl.com) email: [chiefexecutive@tscrl.com](mailto:chiefexecutive@tscrl.com)



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## AIR QUALITY MONITORING DATA

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 : 18.09.2024
7. Analysis Completion Date : 21.09.2024
8. Report Issue Date : 04.10.2024
9. Month of Monitoring : September 2024
10. Environmental condition at the time of sampling : 29.8°C

Name of the Station/ Date of Sample Collection	Lab Sample Code	Particulars of Sample Collected			
		SO <sub>2</sub> ( µg/m <sup>3</sup> )	NO <sub>2</sub> ( µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )
AAQM Locations for Muddapur Mines		NAAQ standards 2009			
		80 (µg/m <sup>3</sup> )	80 (µg/m <sup>3</sup> )	100 (µg/m <sup>3</sup> )	60 (µg/m <sup>3</sup> )
AIX-Near Muddapur Mines Office					
19.09.2024	444, 444, C20, 086	17	19	49	20
AX- Petlur					
17.09.2024	435, 435, C14, 090	14	10	52	17
AXI-Thimmapur Village					
18.09.2024	438, 438, C15, 091	18	11	59	16
AXII- D-Colony, D-block quarters					
19.09.2024	442, 442, C19, 084	15	13	57	11

END OF REPORT

Note: 1. SO<sub>2</sub> - Sulfur Dioxide, NO<sub>2</sub> - Nitrogen Dioxide, PM<sub>10</sub> - Particulate Matter (size less than 10 µm), PM<sub>2.5</sub> - 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. Dhavalleshwar)  
Analyst

VERIFIED BY:   
(P. Harika)  
Technical Manager

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

Digitally signed by  
SHASHIKALA MULABAGULA  
Date: 2024.10.04 17:12:11  
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# COSMO CONSCIOUS RESEARCH LABORATORY

Environmental Laboratory Recognized by MUDRA & Accredited by NABL (ISO 17025)  
Lab Certificate No. 1074152 and Certified by ISO 45001:2018

## FUGITIVE EMISSION AIR QUALITY MONITORING DATA

Report No. I B3

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 : 09.05.2024
7. Analysis Completion Date : 10.05.2024
8. Month of Monitoring : May 2024
9. Environmental condition at the time of sampling : 33.6°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 <sup>3</sup> )	IBM Standard (mg/m <sup>3</sup> )
Fugitive Locations for Muddapur Mines					
1.	08.05.2024	Drilling Area	510441	0.96	1.2
2.	08.05.2024	Loading Area	510430	0.90	1.2
3.	08.05.2024	Haulage Road	510433	0.83	1.2
4.	09.05.2024	Waste Dumping Site	510428	1.07	1.2
5.	09.05.2024	Service Road	510429	1.09	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.Dhavalashwar)  
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, and Certified by ISO (45001:2018)

## FUGITIVE EMISSION AIR QUALITY MONITORING DATA

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 : 28.09.2024
7. Analysis Completion Date : 28.09.2024
8. Report Issue Date : 04.10.2024
9. Month of Monitoring : September 2024
10. Environmental condition at the time of sampling : 29.6°C
11. 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 <sup>3</sup> )	IBM Standard (mg/m <sup>3</sup> )
<b>Fugitive Locations for Muddapur Mines</b>					
1.	19.09.2024	Drilling Area	509952	0.97	1.2
2.	19.09.2024	Loading Area	509956	0.89	1.2
3.	18.09.2024	Haulage Road	509951	0.98	1.2
4.	20.09.2024	Waste Dumping Site	509955	1.05	1.2
5.	18.09.2024	Service Road	509957	0.91	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:

SHASHIKALA  
MULABAGULA

Digitally signed by  
SHASHIKALA MULABAGULA  
Date: 2024.10.04 17:16:32  
+05'30'

(M. Shashikala)  
Head of the Laboratory



# COSMO CONSCIOUS RESEARCH LABORATORY

Environmental laboratory recognized by MoEF & CC Accredited by NABL (ISO/IEC 17025)  
 Calibration certificate No. 106152 and Certified by ISO (45001:2018)

## AMBIENT NOISE LEVEL MONITORING DATA

Report No. IV B

- 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 : 06.05.2024 to 13.05.2024
- Month of Monitoring : May 2024

### I. Mines Buffer Zone:

Sl. No.	Code	Sampling Location	Date	Unit	L max.	L eq.		L min.
						Day	Night	
1.	N1	Muddapur Village	06.05.2024	dB (A)	62.4	53.1	52.4	51.4
2.	N2	Halki Village	06.05.2024	dB (A)	61.7	54.0	53.0	52.1
3.	N3	Petlur Village	08.05.2024	dB (A)	62.7	60.8	57.2	53.2
4.	N4	Metgudda Village	08.05.2024	dB (A)	61.8	54.5	53.1	52.0
5.	N5	Ningapur Village	09.05.2024	dB (A)	62.4	52.8	51.8	51.3
6.	N6	Bomanabudhini Village	09.05.2024	dB (A)	61.2	51.8	50.8	50.4
7.	N7	Thimmapur Village	10.05.2024	dB (A)	63.2	62.0	52.7	51.8
8.	N8	Kasba Jambgi	10.05.2024	dB (A)	62.4	54.5	53.2	50.9
9.	N9	Chinchakhandi	13.05.2024	dB (A)	62.4	53.4	52.1	51.4

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

48 of 50



"SURVEY HOUSE", #121, 2nd Cross, Nehru Colony, Ballari-583103 (Karnataka)  
 Ph: 08392 255744, Website: [www.iscrl.com](http://www.iscrl.com) email: [chiefexecutive@iscrl.com](mailto:chiefexecutive@iscrl.com)



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 OHSAS 18001:2007





# COSMO CONSCIOUS RESEARCH LABORATORY

Environmental laboratory Recognized by MoEF & CC Accredited by NABL (ISO/IEC 17025)  
vide certificate No. CC 2152 and Certified by ISO 14001:2015

## NOISE LEVEL MONITORING DATA

Report No. IV D

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 : 14.05.2024
7. Month of Monitoring : May 2024

### I. Muddapur Mines (Buffer Zone) :

Sl. No.	Code	Sampling Location	Date	Unit	L max.	L eq.		L min.
						Day	Night	
1.	N1	Muddapur Mines North Boundary	14.05.2024	dB (A)	64.1	54.2	52.4	51.1
2.	N2	Muddapur Mines Office	14.05.2024	dB (A)	63.4	53.8	52.9	51.4

### II. Muddapur Mines (Core Zone) :

Sl. No.	Code	Sampling Location	Date	Unit	Day	
					Max.	Min.
1.	N1	Muddapur Mines Drilling Time	15.05.2024	dB	64.5	63.1
2.	N2	Muddapur Mines Waste Dump Site	15.05.2024	dB	63.8	62.4
3.	N3	Muddapur Mines Service Road	15.05.2024	dB	64.5	59.8
4.	N4	Excavator Muddapur Mine	15.05.2024	dB	62.7	61.8

### 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

MONITORED BY:

(G.Dhavalshwar)  
Analyst

VERIFIED BY:

(P.Harika)  
Technical Manager

AUTHORISED SIGNATORY: (M. Shashikala)

Head of the Laboratory





## AMBIENT NOISE LEVEL MONITORING DATA

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 : 17.09.2024 to 18.09.2024
7. Month of Monitoring : September 2024


### I. Mines Buffer Zone:

Sl. No.	Code	Sampling Location	Date	Unit	L max.	L eq.		L min.
						Day	Night	
1.	N1	Muddapur Village	17.09.2024	dB (A)	63.1	52.4	51.6	50.9
2.	N2	Halki Village	17.09.2024	dB (A)	62.3	53.8	52.8	51.9
3.	N3	Petlur Village	17.09.2024	dB (A)	66.4	54.1	51.9	50.2
4.	N4	Metgudda Village	17.09.2024	dB (A)	56.7	52.2	51.6	50.5
5.	N5	Ningapur Village	18.09.2024	dB (A)	61.8	53.4	52.4	50.4
6.	N6	Bomanabudhini Village	18.09.2024	dB (A)	62.8	52.4	51.8	50.8
7.	N7	Thimmapur Village	18.09.2024	dB (A)	64.7	54.2	52.8	50.2
8.	N8	Kasba Jambgi	18.09.2024	dB (A)	66.4	53.5	52.1	51.2
9.	N9	Chinchakhandi	18.09.2024	dB (A)	65.1	52.8	51.9	51.0

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			

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

SHASHIKALA  
MULABAGULA

Digitally signed by  
SHASHIKALA MULABAGULA  
Date: 2024.10.04 18:25:52  
+05'30'

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



## NOISE LEVEL MONITORING DATA

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 : 21.09.2024 to 22.09.2024
7. Month of Monitoring : September 2024

### I. Muddapur Mines (Buffer Zone) :

Sl. No.	Code	Sampling Location	Date	Unit	L max.	L eq.		L min.
						Day	Night	
1.	N1	Muddapur Mines North Boundary	21.09.2024	dB (A)	63.4	53.5	52.1	51.0
2.	N2	Muddapur Mines Office	21.09.2024	dB (A)	62.8	52.4	51.4	50.9

### II. Muddapur Mines (Core Zone) :

Sl. No.	Code	Sampling Location	Date	Unit	Day	
					Max.	Min.
1.	N1	Muddapur Mines Drilling Time	22.09.2024	dB	62.8	61.2
2.	N2	Muddapur Mines Waste Dump Site	22.09.2024	dB	63.8	60.9
3.	N3	Muddapur Mines Service Road	22.09.2024	dB	61.9	58.7
4.	N4	Excavator Muddapur Mine	22.09.2024	dB	64.2	61.9

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			

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

SHASHIKALA  
MULABAGULA  
Digitally signed by  
SHASHIKALA  
MULABAGULA  
Date: 2024.10.04  
18:30:54 +05'30'

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





## Analysis Report of Mines Pit Water

Report No: II L1

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	: Muddapur Mines
5. Particulars of sample collected	: Mines Pit Water-2
6. Field Sample code	: JKSW5
7. Lab Sample Code	: CCRL W 9650
8. Date of sample collection	: 09.05.2024
9. Date of sample Received	: 11.05.2024
10. Date of sample Analyzed	: 11.05.2024 to 18.05.2024
11. Method of Sampling	: IS:3025 (Part 1) 1987 (Reaffirmed 2019)
12. Environmental condition at the time of sampling	: 33.3°C
13. Unique Lab Report Number	: TC6152230000007652F

Sl. No	Parameters	Protocol	Unit of Measurement	Results	General Standards for Inland Surface water Schedule-VI (EPA-'86)
				May.'-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	735	-
3.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2017, Gravimetric method	mg/L	518	-
4.	pH	IS:3025 (part 11)-1983, RA-2022, Electrometric method	-	8.72	5.50 to 9.0
5.	Turbidity	IS:3025 (part 10)-1984, RA-2017, Nephelometric method	NTU	0.10	-
CHEMICAL					
6.	Dissolved Phosphate as PO <sub>4</sub>	IS:3025 (part 31)-1988, RA-2021 Stannous chloride method	mg/L	0.224	5
7.	Sodium as Na	IS:3025 (part 45)-1993, RA-2019 Flame Emissionphotometric method	mg/L	140.0	-
8.	Potassium as K	IS:3025 (part 17)-1984, RA-2019 Flame Emissionphotometric method	mg/L	1.10	-
9.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2019 EDTA Titrimetric method	mg/L	40.88	-
10.	Magnesium as Mg	APHA 23 <sup>rd</sup> Edition 3500-B-Mg By calculation	mg/L	21.35	-
11.	Total Hardness as CaCO <sub>3</sub>	IS:3025 (part 21)-1983, RA-2019 EDTA Titrimetric method	mg/L	190	-
12.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2019 Argentometric Method	mg/L	65.47	-
13.	Sulphate as SO <sub>4</sub>	APHA 23 <sup>rd</sup> Edition 4500-SO <sub>4</sub> <sup>2-</sup> -E (P.NO.4-190-191) Turbidimetric method	mg/L	21.90	-

Cont'd...





# COSMO CONSCIOUS RESEARCH LABORATORY

Environmental Laboratory for Quality, Health & Safety Assessment of Water (ISO/IEC 17025)  
vide certificate No. 154/25 and Certificate No. 156/01, 2018



Certificate No: TC6152

Sl. No	Parameters	Protocol	Unit of Measure ment	Results	General Standards for Inland Surface water Schedule-VI (EPA-'86)
				May.-24	Limits
14.	Fluoride as F	APHA 23 <sup>rd</sup> Edition 4500-F- D. (P.NO. 4-87 – 88)SPADNS Method	mg/L	0.90	2
15.	Nitrate Nitrogen as NO <sub>3</sub>	IS:3025 (part 34)-1988, RA-2019 Chromotropic acid method	mg/L	0.29	10
16.	Total Alkalinity as CaCO <sub>3</sub>	IS:3025 (part 23)-1986, RA-2019 Indicator method	mg/L	65	-
<b>TRACE METALS</b>					
17.	Total Iron as Fe	APHA 23 <sup>rd</sup> Edition 3111B (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	3
18.	Nickel as Ni	APHA 23 <sup>rd</sup> Edition 3111B (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	3
19.	Manganese as Mn	APHA 23 <sup>rd</sup> Edition 3111B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	2
20.	Copper as Cu	APHA 23 <sup>rd</sup> Edition 3111B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	3
21.	Zinc as Zn	APHA 23 <sup>rd</sup> Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	3
22.	Lead as Pb	APHA 23 <sup>rd</sup> Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.10
23.	Chromium as Cr	APHA 23 <sup>rd</sup> 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

International Laboratory Recognized by ISO 15189:2013, Accredited by NABL (ISO 15189:2013)  
NABL Certificate No. 17C6152 and Certified by ISO 14500:2014

## Analysis Report of Mines Pit Water

Report No: II L2

1. Name of the Industry : M/s. JK Cement Works, Muddapur,  
(Unit: J.K.Cement Ltd),P.O.Muddapur-
2. Address : 587122,  
Dist.Bagalkot (Karnataka) India
3. Sample collected by : Cosmo Conscious Research Laboratory
4. Name of the Location : Muddapur Mines
5. Particulars of sample collected : Mines Pit Water-2
6. Field Sample code : JKSW5
7. Lab Sample Code : CCRL W 9650
8. Date of sample collection : 09.05.2024
9. Date of sample Received : 11.05.2024
10. Date of sample Analyzed : 11.05.2024 to 18.05.2024
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)
				May.'-24	Limits
TRACE METALS					
1.	Mercury as Hg	APHA 23 <sup>rd</sup> 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.Dhavalleshwar)  
Analyst

VERIFIED BY:

(P.Harika)  
Technical Manager

AUTHORISED SIGNATORY: (M. Shashikala)

Head of the Laboratory



## Analysis Report of Mines Pit Water

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	: Muddapur Mines
5. Particulars of sample collected	: Mines Pit Water-2
6. Field Sample code	: JKSW5
7. Lab Sample Code	: CCRL W 9754
8. Date of sample collection	: 25.08.2024
9. Date of sample Received	: 25.08.2024
10. Date of sample Analyzed	: 25.08.2024 to 30.08.2024
11. Report Issue Date	: 02.09.2024
12. Method of Sampling	: IS:3025 (Part 1) 1987 (Reaffirmed 2019)
13. Environmental condition at the time of sampling	: 29.8°C
14. Unique Lab Report Number	: TC6152240000000058AF

Sl. No	Parameters	Protocol	Unit of Measurement	Results	General Standards for Inland Surface water Schedule-VI (EPA-'86)
				Aug.'-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	501	-
3.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2017, Gravimetric method	mg/L	657	-
4.	pH	IS:3025 (part 11)-1983, RA-2022, Electrometric method	-	8.18	5.50 to 9.0
5.	Turbidity	IS:3025 (part 10)-1984, RA-2017, Nephelometric method	NTU	1.20	-
CHEMICAL					
6.	Dissolved Phosphate as PO <sub>4</sub>	IS:3025 (part 31)-1988, RA-2021 Stannous chloride method	mg/L	0.116	5
7.	Sodium as Na	IS:3025 (part 45)-1993, RA-2019 Flame Emissionphotometric method	mg/L	59.0	-
8.	Potassium as K	IS:3025 (part 17)-1984,, RA-2019 Flame Emissionphotometric method	mg/L	5.20	-
9.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2019 EDTA Titrimetric method	mg/L	37.67	-
10.	Magnesium as Mg	APHA 23 <sup>rd</sup> Edition 3500-B-Mg By calculation	mg/L	22.33	-
11.	Total Hardness as CaCO <sub>3</sub>	IS:3025 (part 21)-1983, RA-2019 EDTA Titrimetric method	mg/L	186	-
12.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2019 Argentometric Method	mg/L	74.97	-
13.	Sulphate as SO <sub>4</sub>	APHA 23 <sup>rd</sup> Edition 4500-SO <sub>4</sub> <sup>2-</sup> -E (P.NO.4-190-191) Turbidimetric method	mg/L	18.47	-

Cont'd...





Sl. No	Parameters	Protocol	Unit of Measure ment	Results	General Standards for Inland Surface water Schedule-VI (EPA-'86)
				Aug.'-24	Limits
14.	Fluoride as F	APHA 23 <sup>rd</sup> Edition 4500-F- D. (P.NO. 4-87 - 88)SPADNS Method	mg/L	0.74	2
15.	Nitrate Nitrogen as NO <sub>3</sub>	IS:3025 (part 34)-1988, RA-2019 Chromotropic acid method	mg/L	0.88	10
16.	Total Alkalinity as CaCO <sub>3</sub>	IS:3025 (part 23)-1986, RA-2019 Indicator method	mg/L	120	-
<b>TRACE METALS</b>					
17.	Total Iron as Fe	APHA 23 <sup>rd</sup> Edition 3111B (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	3
18.	Nickel as Ni	APHA 23 <sup>rd</sup> Edition 3111B (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	3
19.	Manganese as Mn	APHA 23 <sup>rd</sup> Edition 3111B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	2
20.	Copper as Cu	APHA 23 <sup>rd</sup> Edition 3111B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	3
21.	Zinc as Zn	APHA 23 <sup>rd</sup> Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	3
22.	Lead as Pb	APHA 23 <sup>rd</sup> Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.10
23.	Chromium as Cr	APHA 23 <sup>rd</sup> 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

SHASHIKALA  
MULABAGULA

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



## Analysis Report of Mines Pit Water

1. Name of the Industry	: M/s. JK Cement Works, Muddapur,
2. Address	: (Unit: J.K.Cement Ltd),P.O.Muddapur- 587122,
3. Sample collected by	: Dist.Bagalkot (Karnataka) India
4. Name of the Location	: Cosmo Conscious Research Laboratory
5. Particulars of sample collected	: Muddapur Mines
6. Field Sample code	: Mines Pit Water-2
7. Lab Sample Code	: JKSW5
8. Date of sample collection	: CCRL W 9650
9. Date of sample Received	: 25.08.2024
10. Date of sample Analyzed	: 25.08.2024
11. Report Issue Date	: 25.08.2024 to 30.08.2024
12.. Method of Sampling	: 02.09.2024
	: 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)
				Aug.'-24	Limits
TRACE METALS					
1.	Mercury as Hg	APHA 23 <sup>rd</sup> 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

SHASHIKALA  
MULABAGULA

Digitally signed by  
SHASHIKALA MULABAGULA  
Date: 2024.09.05 16:41:15  
+05'30'

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



## Analysis Report of Mines Pit Water

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	:	Muddapur Mines
5. Particulars of sample collected	:	Mines Pit Water-2
6. Field Sample code	:	JKSW5
7. Lab Sample Code	:	CCRL W 9787
8. Date of sample collection	:	23.09.2024
9. Date of sample Received	:	24.09.2024
10. Date of sample Analyzed	:	24.09.2024 to 01.10.2024
11. Report Issue Date	:	04.10.2024
12. Method of Sampling	:	IS:17614 (Part-I) 2021
13. Environmental condition at the time of sampling	:	29.8°C

Sl. No	Parameters	Protocol	Unit of Measure ment	Results	General Standards for Inland Surface water Schedule-VI (EPA-'86)
				Sept.'-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	437	-
3.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2023, Gravimetric method	mg/L	344	-
4.	pH	IS:3025 (part 11)-1983, RA-2012, Electrometric method	-	8.61	5.50 to 9.0
5.	Turbidity	IS:3025 (part 10)-1984, RA-2023, Nephelometric method	NTU	1.00	-
CHEMICAL					
6.	Dissolved Phosphate as PO <sub>4</sub>	IS:3025 (part 31)-1988, RA-2021 Stannous chloride method	mg/L	0.168	5
7.	Sodium as Na	IS:3025 (part 45)-1993, RA-2019 Flame Emissionphotometric method	mg/L	140.4	-
8.	Potassium as K	IS:3025 (part 17)-1984,, RA-2019 Flame Emissionphotometric method	mg/L	1.10	-
9.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2019 EDTA Titrimetric method	mg/L	32.06	-
10.	Magnesium as Mg	APHA 24th Edition 350-B-Mg By calculation	mg/L	22.81	-
11.	Total Hardness as CaCO <sub>3</sub>	IS:3025 (part 21)-1983, RA-2019 EDTA Titrimetric method	mg/L	174	-
12.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2019 Argentometric Method	mg/L	58.98	-
13.	Sulphate as SO <sub>4</sub>	APHA 24 <sup>th</sup> Edition 4500-SO <sub>4</sub> <sup>2--</sup> E Turbidimetric method	mg/L	19.78	-

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# COSMO CONSCIOUS RESEARCH LABORATORY

Environmental laboratory, Recognized by MoEF & CC, and Certified by ISO (45001:2018)

Sl. No	Parameters	Protocol	Unit of Measurement	Results	General Standards for Inland Surface water Schedule-VI (EPA-'86)
				Sept.'-24	Limits
14.	Fluoride as F	APHA 24 <sup>th</sup> Edition 4500-F D. SPADNS Method	mg/L	0.71	2
15.	Nitrate Nitrogen as NO <sub>3</sub>	IS:3025 (part 34)-1988, RA-2019 Chromotropic acid method	mg/L	0.615	10
16.	Total Alkalinity as CaCO <sub>3</sub>	IS:3025 (part 23)-1986, RA-2023 Indicator method	mg/L	145	-
<b>TRACE METALS</b>					
17.	Total Iron as Fe	APHA 24 <sup>th</sup> Edition 3111B Direct Air Acetylene Flame Method	mg/L	BDL	3
18.	Nickel as Ni	APHA 24 <sup>th</sup> Edition 3111B Direct Air Acetylene Flame Method	mg/L	BDL	3
19.	Manganese as Mn	APHA 24 <sup>th</sup> Edition 3111B Direct Air Acetylene Flame Method	mg/L	BDL	2
20.	Copper as Cu	APHA 24 <sup>th</sup> Edition 3111B Direct Air Acetylene Flame Method	mg/L	BDL	3
21.	Zinc as Zn	APHA 24 <sup>th</sup> Edition 3111B Direct Air Acetylene Flame Method	mg/L	BDL	3
22.	Lead as Pb	APHA 24 <sup>th</sup> Edition 3111B Direct Air Acetylene Flame Method	mg/L	BDL	0.10
23.	Chromium as Cr	APHA 24 <sup>th</sup> Edition 3111B 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

SHASHIKALA  
MULABAGULA  
Digitally signed by SHASHIKALA MULABAGULA  
Date: 2024.10.04 17:28:52 +05'30'

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



## Analysis Report of Mines Pit Water

1. Name of the Industry : M/s. JK Cement Works, Muddapur,  
(Unit: J.K.Cement Ltd), P.O. Muddapur-
2. Address : 587122,  
Dist. Bagalkot (Karnataka) India
3. Sample collected by : Cosmo Conscious Research Laboratory
4. Name of the Location : Muddapur Mines
5. Particulars of sample collected : Mines Pit Water-2
6. Field Sample code : JKSW5
7. Lab Sample Code : CCRL W 9787
8. Date of sample collection : 23.09.2024
9. Date of sample Received : 24.09.2024
10. Date of sample Analyzed : 24.09.2024 to 01.10.2024
11. Report Issue Date : 04.10.2024
12. Method of Sampling : IS:17614 (Part-I) 2021

Sl. No	Parameters	Protocol	Unit of Measurement	Results	General Standards for Inland Surface water Schedule-VI (EPA-'86)
				Sept.'-24	Limits
TRACE METALS					
1.	Mercury as Hg	APHA 24 <sup>th</sup> Edition 3112 B. 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

SHASHIKALA  
MULABAGULA

Digitally signed by  
SHASHIKALA MULABAGULA  
Date: 2024.10.04 17:30:07  
+05'30'

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



## Analysis Report of Bore well Water

Report No: II K1

1. Name of the Industry : M/s. JK Cement Works, Muddapur,  
(Unit: J.K.Cement Ltd),P.O.Muddapur-
2. Address : 587122,  
Dist.Bagalkot (Karnataka) India
3. Sample collected by : Cosmo Conscious Research Laboratory
4. Name of the Location : Muddapur Mines
5. Particulars of sample collected : Bore well Water
6. Field Sample code : JKGW13
7. Lab Sample Code : CCRL W 9649
8. Date of sample collection : 09.05.2024
9. Date of sample Received : 11.05.2024
10. Date of sample Analyzed : 11.05.2024 to 18.05.2024
11. Method of Sampling : IS:3025 (Part 1) 1987 (Reaffirmed 2019)
12. Environmental condition at the time of sampling : 33.5°C
13. Unique Lab Report Number : TC6152230000007651F

Sl. No	Parameters	Protocol	Unit of Measurement	Results	Drinking water specification Standards as per IS:10500:2012
				May.'-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	30.00	-
3.	Conductivity	IS:3025 (PART 14)-1984, RA-2019, Electrometric method	µs/cms	3190	-
4.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2017, Gravimetric method	mg/L	1950	2000
5.	pH	IS:3025 (part 11)-1983, RA-2022, Electrometric method	-	7.86	6.5 to 8.5
6.	Turbidity	IS:3025 (part 10)-1984, RA-2017, Nephelometric method	NTU	0.00	5
7.	Total Suspended Solids	IS:3025 (part 17)-1984, RA-2021, Gravimetric Method	mg/L	2	-
CHEMICAL					
8.	Dissolved Oxygen	IS:3025 (part 38)-1989, RA-2019, Winkler titrimetric azide modification	mg/L	7.80	-
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 <sub>2</sub>	APHA 23 <sup>rd</sup> Edition 5220-B (P.NO. 5-17) Closed reflux method	mg/L	<1	-
11.	Dissolved Phosphate as PO <sub>4</sub>	IS:3025 (part 31)-1988, RA-2021 Stannous chloride method	mg/L	0.104	-
12.	Sodium as Na	IS:3025 (part 45)-1993, RA-2019 Flame Emissionphotometric method	mg/L	44.2	-
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	182.76	200

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# COSMO CONSCIOUS RESEARCH LABORATORY

Environmental Laboratory, ISO 9001:2015 & ISO 14001:2015 certified by TARI (ISO/IEC 17025)  
vide certificate No. 314152 and 141525 dated 20/01/2018



Certificate No:TC6152

Sl. No	Parameters	Protocol	Unit of Measurement	Results	Drinking water specification Standards as per IS:10500:2012
				May.-24	Limits
15.	Magnesium as Mg	APHA 23 <sup>rd</sup> Edition 3500-B-Mg By calculation	mg/L	66.45	100
16.	Total Hardness as CaCO <sub>3</sub>	IS:3025 (part 21)-1983, RA-2019 EDTA Titrimetric method	mg/L	580	600
17.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2019 Argentometric Method	mg/L	230.92	1000
18.	Sulphate as SO <sub>4</sub>	APHA 23 <sup>rd</sup> Edition 4500-SO <sub>4</sub> -E (P.NO.4-190-191) Turbidimetric method	mg/L	44.97	400
19.	Fluoride as F	APHA 23 <sup>rd</sup> Edition 4500-F D. (P.NO. 4-87 - 88)SPADNS Method	mg/L	1.03	1.50
20.	Nitrate Nitrogen as NO <sub>3</sub>	IS:3025 (part 34)-1988, RA-2019 Chromotropic acid method	mg/L	4.72	45
21.	Total Alkalinity as CaCO <sub>3</sub>	IS:3025 (part 23)-1986, RA-2019 Indicator method	mg/L	230	600
22.	Acidity as CaCO <sub>3</sub>	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	-
<b>TRACE METALS</b>					
24.	Total Iron as Fe	APHA 23 <sup>rd</sup> Edition 3111B (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.30
25.	Nickel as Ni	APHA 23 <sup>rd</sup> Edition 3111B (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.02
26.	Manganese as Mn	APHA 23 <sup>rd</sup> Edition 3111B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.30
27.	Copper as Cu	APHA 23 <sup>rd</sup> Edition 3111B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	1.50
28.	Zinc as Zn	APHA 23 <sup>rd</sup> Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	15
29.	Lead as Pb	APHA 23 <sup>rd</sup> Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.01
30.	Chromium as Cr	APHA 23 <sup>rd</sup> Edition 3111 B. (p.no.3-18) Direct Air Acetylene Flame Method	mg/L	BDL	0.05
31.	Silver as Ag	APHA 23 <sup>rd</sup> 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.Dhavalshwar)  
Analyst

VERIFIED BY:

(P.Harika)  
Technical Manager

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



# COSMO CONSCIOUS RESEARCH LABORATORY

Environmental Laboratory Recognized by MOTT MAC Accredited by NABL (ISO/IEC 17025)  
side certification #2: ISO/IEC 17025 certified by ISO/IEC 17025

## Analysis Report of Bore well Water

Report No: II K2

1. Name of the Industry : M/s. JK Cement Works, Muddapur,  
(Unit: J.K.Cement Ltd),P.O.Muddapur-
2. Address : 587122,  
Dist.Bagalkot (Karnataka) India
3. Sample collected by : Cosmo Conscious Research Laboratory
4. Name of the Location : Muddapur Mines
5. Particulars of sample collected : Bore well Water
6. Field Sample code : JKGW13
7. Lab Sample Code : CCRL W 9649
8. Date of sample collection : 09.05.2024
9. Date of sample Received : 11.05.2024
10. Date of sample Analyzed : 11.05.2024 to 18.05.2024
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
				May.'-24	Limits
TRACE METALS					
1.	Mercury as Hg	APHA 23 <sup>rd</sup> 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 <sup>rd</sup> Edition 9222-B (p.no.9-57-61) Membrane filter technique	CFU/ 100 ml	Absent	Shall not be detectable in any 100 ml sample
3.	Escherichia coli count	APHA 23 <sup>rd</sup> Edition 9221-F (p.no.9-51-52) Membrane filter technique	CFU/ 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.

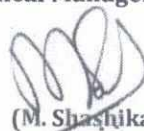
ANALYZED BY:

  
(G.Dhavalleshwar)  
Analyst

VERIFIED BY:

  
(P.Harika)  
Technical Manager

AUTHORISED SIGNATORY:

  
(M. Shashikala)  
Head of the Laboratory





## WATER QUALITY MONITORING DATA

### (GROUND WATER)

- |   |   |
|---|---|
| 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                             | : Muddapur Mines                          |
| 5. Particulars of sample collected                  | : Bore well                               |
| 6. Field Sample code                                | : JKGW5                                   |
| 7. Lab Sample Code                                  | : CCRL W 9751                             |
| 8. Date of sample collection                        | : 25.08.2024                              |
| 9. Date of sample Received                          | : 25.08.2024                              |
| 10. Date of sample Analyzed                         | : 25.08.2024 to 30.08.2024                |
| 11. Report Issue Date                               | : 02.09.2024                              |
| 12. Method of Sampling                              | : IS:3025 (Part 1) 1987 (Reaffirmed 2019) |
| 13. Environmental condition at the time of sampling | : 28.3°C                                  |
| 14. Unique Lab Report Number                        | : TC6152240000000056F                     |

Sl. No	Parameters	Protocol	Unit of Measure ment	Results	Drinking water specification Standards as per IS:10500:2012
				Aug.'-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	27.9	-
3.	Conductivity	IS:3025 (PART 14)-1984, RA-2019, Electrometric method	µs/cms	3160	-
4.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2017, Gravimetric method	mg/L	1960	2000
5.	pH	IS:3025 (part 11)-1983, RA-2022, Electrometric method	-	7.10	6.5 to 8.5
6.	Turbidity	IS:3025 (part 10)-1984, RA-2017, Nephelometric method	NTU	0.50	5
7.	Total Suspended Solids	IS:3025 (part 17)-1984, RA-2021, Gravimetric Method	mg/L	15	-
CHEMICAL					
8.	Dissolved Oxygen	IS:3025 (part 38)-1989, RA-2019, Winkler titrimetric azide modification	mg/L	5.50	-
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 <sub>2</sub>	APHA 23 <sup>rd</sup> Edition 5220-B (P.NO. 5-17 ) Closed reflux method	mg/L	<1	-
11.	Dissolved Phosphate as PO <sub>4</sub>	IS:3025 (part 31)-1988, RA-2021 Stannous chloride method	mg/L	0.752	-
12.	Sodium as Na	IS:3025 (part 45)-1993, RA-2019 Flame Emissionphotometric method	mg/L	152.0	-
13.	Potassium as K	IS:3025 (part 17)-1984,, RA-2019 Flame Emissionphotometric method	mg/L	1.60	-
14.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2019 EDTA Titrimetric method	mg/L	199.59	200

Cont'd...





Sl. No	Parameters	Protocol	Unit of Measurement	Results	Drinking water specification Standards as per IS:10500:2012
				Aug.-24	Limits
15.	Magnesium as Mg	APHA 23 <sup>rd</sup> Edition 3500-B-Mg By calculation	mg/L	49.93	100
16.	Total Hardness as CaCO <sub>3</sub>	IS:3025 (part 21)-1983, RA-2019 EDTA Titrimetric method	mg/L	584	600
17.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2019 Argentometric Method	mg/L	45.48	1000
18.	Sulphate as SO <sub>4</sub>	APHA 23 <sup>rd</sup> Edition 4500-SO <sub>4</sub> <sup>2-</sup> E (P.NO.4-190-191) Turbidimetric method	mg/L	11.37	400
19.	Fluoride as F	APHA 23 <sup>rd</sup> Edition 4500-F D. (P.NO. 4-87 - 88)SPADNS Method	mg/L	1.21	1.50
20.	Nitrate Nitrogen as NO <sub>3</sub>	IS:3025 (part 34)-1988, RA-2019 Chromotropic acid method	mg/L	2.77	45
21.	Total Alkalinity as CaCO <sub>3</sub>	IS:3025 (part 23)-1986, RA-2019 Indicator method	mg/L	375	600
22.	Acidity as CaCO <sub>3</sub>	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	-
<b>TRACE METALS</b>					
24.	Total Iron as Fe	APHA 23 <sup>rd</sup> Edition 3111B (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.30
25.	Nickel as Ni	APHA 23 <sup>rd</sup> Edition 3111B (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.02
26.	Manganese as Mn	APHA 23 <sup>rd</sup> Edition 3111B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.30
27.	Copper as Cu	APHA 23 <sup>rd</sup> Edition 3111B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	1.50
28.	Zinc as Zn	APHA 23 <sup>rd</sup> Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	15
29.	Lead as Pb	APHA 23 <sup>rd</sup> Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	0.01
30.	Chromium as Cr	APHA 23 <sup>rd</sup> Edition 3111 B. (p.no.3-18) Direct Air Acetylene Flame Method	mg/L	BDL	0.05
31.	Silver as Ag	APHA 23 <sup>rd</sup> 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.Dhavalanwar)  
Analyst

VERIFIED BY:

(P.Harika)  
Technical Manager

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



## WATER QUALITY MONITORING DATA

### (GROUND WATER)

- |                                    |   |
|------------------------------------|---|
| 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            | : Muddapur Mines                          |
| 5. Particulars of sample collected | : Bore well                               |
| 6. Field Sample code               | : JKGW5                                   |
| 7. Lab Sample Code                 | : CCRL W 9751                             |
| 8. Date of sample collection       | : 25.08.2024                              |
| 9. Date of sample Received         | : 25.08.2024                              |
| 10. Date of sample Analyzed        | : 25.08.2024 to 30.08.2024                |
| 11. Report Issue Date              | : 02.09.2024                              |
| 12. 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
				Aug.'-24	Limits
TRACE METALS					
1.	Mercury as Hg	APHA 23 <sup>rd</sup> 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 <sup>rd</sup> Edition 9222-B (p.no.9-57-61) Membrane filter technique	CFU/ 100 ml	Absent	Shall not be detectable in any 100 ml sample
3.	Escherichia coli count	APHA 23 <sup>rd</sup> Edition 9221-F (p.no.9-51-52) Membrane filter technique	CFU/ 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.Dhaval Shiwari)  
Analyst

VERIFIED BY:

(P.Harika)  
Technical Manager

SHASHIKALA  
MULABAGULA

Digitally signed by SHASHIKALA  
MULABAGULA  
Date: 2024.09.05 16:38:38 +05'30'

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

M/s. J K Cement Works MuddapurEnvironmental Expenditure for Muddapur Limestone Mine-2343(A)Apr 2024 to Sep 2024

Sl. No.	Particulars	Cost (In Rs.)	Remarks
1	Pollution Control	21,00,000/-	Water tankers for haul road dust suppression, water pipelines & accessories etc.,
2	Pollution Monitoring	2,50,000/-	
3	Occupational Health & Safety	0	
4	Green belt	1,50,000/-	Maintenance/ upkeep of Plantation, Gardener Salary etc.,
5	Reclamation	0	
6	Others	0	
	<b>Total</b>	<b>25,00,000/-</b>	<b>Rupees Twenty Five Lacs Only</b>



Annexure-7

**JK CEMENT WORKS, MUDDAPUR**

DETAILS OF CSR ACTIVITY UNDERTAKEN DURING APRIL-2024 TO SEPTEMBER-2024		
SL NO	Particulars	Amount (RS)
1	Support for Health care, training and medical Aid	3,32,566
2	Education Aid and support to schools	8,87,500
3	Environmental activities and sampling donation	29,500
4	Rural development & other welfare activities	2,38,260
5	Other Activities	2,50,000
Total		17,37,826