

cement! sugar! refractories! power!

DCBL/YKLM/MoEF/EC-HYC/2023-24/350

Date: 29.05.2024

To,

The Regional Director Ministry of Environment, Forest & Climate Change Regional Office (South Zone), Kendriya Sadan,4th Floor, E & F wing, 17th Main Road, Il Block, Koramangala, Bengaluru - 560034.

Dear Sir.

Sub: Submission of Half Year EC Compliance Report of M/s Dalmia Cement Bharat Limited. (Yadwad and Kunnal Limestone Mine) for the period Oct 2023 to Mar 2024.

Ref: F.No.J-11015/36/2009 - IA II (M) Dated. 13th March 2015.

Dear Sir.

With Reference to the above, we are here with attached Half Year Environment Clearance compliance reports of M/s. Dalmia Cement (Bharat) Limited (Yadwad and Kunnal Limestone Mine), Yadwad villages, Mudalagi Taluk, Belgaum district, Karnataka, for the period of Oct 2023 to Mar 2024.

Kindly request to acknowledge the same.

Yours faithfully

For M/s. Dalmia Cement (Bharat) Limited, Belagavi

Karnataka

Authorised Signator

Talagi Dt:86 Cc: 1. The Environmental Officer, Karnataka State Pollution Control Board, Plot No.6816/1/P-5, 5th cross, Harinagar, Chikkodi-591201.

- 2. The Member Secretary, Karnataka State Pollution Control Board, Parisara Bhayana, 1st to 5th Floor, #49, Chruch street, Bengaluru-560001.
- 3. Regional Officer, Central Pollution Control Board, Nisarga Bhavan, Thimmaiah Road, 7th D Main Rd, Shivanagar, Bengaluru, Karnataka - 560079.



**Environmental Clearance Compliance (Lime stone Mine) Half Yearly Report** 

For Oct, 2023 to Mar, 2024

# **Half Yearly Compliance Report**

On

**Environmental Clearance** 

Of

M/s Dalmia Cement (Bharat) Limited (Yadwad and Kunnal Lime Stone Mines)

Oct, 2023 to Mar, 2024



## **Dalmia Cement (Bharat) Limited**

(An ISO 14001, 18001 & 9001 Certified Company)

Yadwad village , Mudalagi Taluk, Belagavi District , Karnataka, - 591136





Environmental Clearance Compliance (Lime stone Mine) Half Yearly Report

For Oct, 2023 to Mar, 2024

### Production Capacity: Limestone: 4.30 MTPA

### **PROJECT PROFILE**

1	Project type	IA-II (M	) – Captive Lime Stone Mining				
2	Name of the project	(Bharat	Lime stone Mines of M/s Dalmia Cement Ltd, Yadwad and Kunnal Village, Mudalagi Belagavi District, Karnataka				
3	Clearance letter No.& date	1	CC. EC: F. No. J-11015/36/2009/-IA II(M), 13 <sup>th</sup> March 2015.				
4	Location: District & State / UT	Mudala Belaga	Yadwad and Kunnal Village, Mudalagi Taluk, Belagavi District, Karnataka 591136				
5	Address for correspondence:	M/s Dalmia Cement (Bharat) Limited, RS No. 394, Yadwad Village, Mudalagi Taluk, Belagavi District, Karnataka -591136 Phone: +918334 4292271 Fax No: +91 40 - 30006955 Web: www.dalmiacement.com					
6.	Status:	In Oper	ation				
a.	Date of commencement	11 <sup>th</sup> Jar					
b.	Date of site visit of Director- MOEF&CC/CPCB Officials	MoEFC	DEFCC official visit: 13 <sup>th</sup> Mar 2024				
S. No	Conditions	7)	Compliance Status				
A.	Specific Conditions						
İs	The EC valid only for 1223.78 ha of of 1228.63 ha, subject to final outcome the Writ Petitions in the Karnata Court.	me in all	Noted.  Lease granted area is 1048.24 Ha. Final outcome of all the writ petitions from Karnataka high court is still awaited				
ii.	The PP to provide unhindered access other lease holder(s) and farmers land in the lease area.	ss to the to their	Complied.  Access to farmers having land in lease area is provided.				





**Environmental Clearance Compliance (Lime stone Mine) Half Yearly Report** 

III.	The project proponent shall obtain Consent to Establish and Consent to Operate from the Karnataka State Pollution Control Board and effectively implement all the conditions stipulated therein.	Complied.  Consent to Establishment vide order no. PCB/MIN/CFE/2015-16/296 and Combined Consent for Operation vide order number AW-326556 Dt.03.09.2021 obtained from Karnataka State Pollution Control Board and conditions are being effectively implemented.			
iv,	The mining operations shall be restricted to above ground water table and it should not intersect the groundwater table.	Complied.  Present mining operation is well above the ground water table			
V.	To avoid adverse impact of mining operations on habitations/villages, the Project shall comply with conditions provided in OM no. Z-11013/57/2014- IA. II (M) dated 29.10.2014 on Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area.	Complied. There are no habitations/ village near to the present mine work and hence there is no adverse impact on habitations/ villages due to mining operation. However, conditions are being complied.			
vi	The lose solids should be kept separately from flowing water and flow of effluents to nearby areas outside the leasehold shall be prevented. The paved drains along with arrangements for Over Burden Dumps and their drainage may be clearly depicted on a contoured map of the mining area.	Complied.  Overburden dump is being maintained separately and protected from soil erosion by garland drains and retaining wall. There is no flow of water / effluents outside from the lease area.			
vii	The project proponent shall ensure that no natural watercourse and/or water resources shall be obstructed due to any mining operations. Adequate measures shall be taken for conservation and protection of the 1 <sup>st</sup> and 2 <sup>nd</sup> order streams, emanating or passing through the mine lease during the course of mining operation.	Complied. There is no water course inside the lease block boundaries.			
viii	The top soil, if any shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation.	Complied.  Topsoil is being stacked separately in the earmarked area as per mining plan. The same shall be utilized as per proposed reclamation plan and also being utilized for plantation.			
ix	Appropriate safeguard measures shall be taken to ensure stability and drainage of dump so that no solid waste/debris flows into the nallah.	Complied. Garland drain and retaining wall constructed around waste dump to prevent solid waste /debris flow. Photographs are attached herewith as Annexure - 1			





**Environmental Clearance Compliance (Lime stone Mine) Half Yearly Report** 

For Oct, 2023 to Mar, 2024

X.	The over burden (OB) generated during the mining operation shall be stacked at earmarked dump site(s) only and it should not be kept active for a long period of time and their phase-wise stabilization shall be carried out. Proper terracing of OB dump(s) shall be carried out. The over burden dump(s) shall be scientifically Vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of the dumps. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office, Bangalore on six monthly basis.	Complied.  Over burden is being stacked separately in the designated area and stabilization of the same shall be taken up as per the approved mining plan. The quantity of over burden generated during April-2023 to Mar-2024 is 2.56 lakh MT.
xi.	Catch drains and siltation ponds of appropriate size shall be constructed for the working pit, temporary OB and mineral dumps to arrest flow of silt and sediment directly into the adjoining River and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted particularly after the monsoon and maintained properly.	Complied. Catch drains are connected to siltation pond at working pit. Water is being utilized for dust suppression on haul roads and green belt development. No water is allowed to flow outside the lease area to river and other water bodies. Photographs of drains and siltation pond is enclosed as Annexure - 2
xii.	Dimension of the retaining wall at the toe of the OB dump(s) and the OB benches within the mine to check run-off and siltation should be based on the rain fall data.	Complied.  Retaining wall constructed as per the approved mining plan wherein the rain fall data is considered.
Xiii.	Plantation shall be raised in a specified area including a 7.5 m wide green belt in the safety zone around the mining lease, OB dump(s), along the roads, etc. by planting the native species in consultation with the local DFO/Agriculture Department. In addition, plantation shall also be raised in the backfilled and reclaimed area and around water body. The density of the trees should be around 1500 plants per ha.	Plantation proposed in phased manner covering safety zone of 7.5 m and other proved non-mineralised area. Plantation is being carried as per proposal with local species suggested by forest department. Nurturing and watering of the plantation made is being carried out on continuous basis to sustain the survival rate of the green belt and photographs of plantation are enclosed as Annexure 3.
		Total no. of Plantation done in FY 2022-23 is 1700 and area Covered is 0.65 hectare with

Survival rate of 92%.





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xiv.	Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as around crushing and screening plant, loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.	Complied.  Water sprinklers have been installed all along the main haul road which are prone to dust emissions and two water tankers of 10KL capacity has been dedicated for suppressing fugitive dust emissions at source points. Ambient air quality is continuously monitored and maintained as per CPCB norms.  Photographs of water sprinkling system for haul road are enclosed as Annexure - 4  The ambient air quality data is enclosed as Annexure -5
XV.	Regular monitoring of water quality upstream and downstream of perennial nallahs falling in the impact zone shall be carried out and record of monitoring data should be maintained and submitted to Ministry of Environment, Forest and Climate Change, its Regional Office, Bangalore, Central Groundwater Authority, Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board.	Complied.  There is no perennial nallah falling in the impact zone.
xvi.	Appropriate measures shall be taken for treatment of the upper catchment of the mine lease area.	Complied.  Rain water harvesting pond of 40000 m³ along with channels is developed in a strategic location to collect the maximum rain water during monsoon.
xvii.	The project authority should implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.	•





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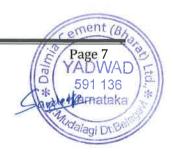
xviii	Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and installing new piezometers during the mining operation. The periodic monitoring (at least four times in a year- premonsoon [(April-May), monsoon (August), post-monsoon (November) and winter (January); once in each season)] shall be carried out in consultation with the State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the Ministry of Environment, Forest and Climate Change and its Regional Office Bangalore, the Central Ground Water Authority and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity, necessary corrective measures shall be carried out.	Complied.  Ground water level and quality is being monitored regularly in both core zone and buffer zone of the mining lease area. There is no effect of ground water table and water quality with the present mining activity.  The report on Ground water level and quality is enclosed as Annexure 7
xix.	The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of water, required for the project.	Noted.  We are utilizing rain water from Rain water harvesting to meet the requirement for mines.
XX.	Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.	Complied.  Rain water harvesting with catch drains developed in strategic location inside the mines to collect all the possible water during monsoon.
xxi.	Appropriate mitigative measures should be taken to prevent pollution of nearby River in consultation with the State Pollution Control Board.	Complied.  All preventive measures taken and no water from mine lease flow in to the river
xxii.	Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.	Complied.  Emission from Vehicle are being maintained as per norms. All preventive maintenance jobs are carried out as per schedule. No dumper is overloaded with mineral (Lime stone). Roads are maintained and kept wet to avoid/ reduce fugitive emissions.





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xxiii	Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.	Complied.  State of art (NONEL) technology being practised for Controlling ground vibrations and to arrest fly rocks & boulders and the vibration level of each blast is being monitored and recorded.  A Sample of ground vibration monitoring report is attached as Annexure – 9.
xxiv	Drills shall either be operated with dust extractors or equipped with water injection system.	Complied.  We are using state of art drill machine which is equipped with in built dust collectors and equipped with water injection system for wet drilling.
XXV.	Mineral handling area shall be provided with the adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.	Complied.  Fugitive dust generation is being controlled in mineral handling areas by dedicated water tankers whereas, the lime stone crusher is equipped with bag filter and transfer towers are provided with water sprinkling system.  The report on fugitive emission at mines is enclosed as Annexure 10
xxvi	Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and waste water generated during the mining operation.	Complied.  Sewage Treatment Plant of capacity 215 KL/day is installed at colony. Workshop water is treated in Effluent Treatment Plant
xxvi i.	Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.	Complied.  Pre-placement medical examination conducted for the workers employed and same will be done for future employment.  Schedule for periodical health examination is prepared and being implemented.
xxvi ii.	Regular monitoring of free silica in the dust will be carried out and records maintained. It shall be ensured that the levels of silica do not exceed the prescribed limit. The workers will be provided with personal protective measures to guard against in hailing silica dust.	Complied.  Regular monitoring of free silica in the dust is being monitored. The level of silica is under prescribed limit. Attached as Annexure-8





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xxix	Provision shall be made for the housing of
	construction labour within the site with all
	necessary infrastructure and facilities such
	as fuel for cooking, mobile toilets, mobile
	STP, safe drinking water, medical health
	care, creche etc. The housing may be in the
	form of temporary structures to be removed
	after the completion of the project.

### Noted.

Being mining operation no major construction activities are involved. All the workmen residing in village Yadwad, Mudhol and also being complied.

XXX.

The project proponent should take all precautionary measures during mining operation for conservation and protection of endangered flora as well as endangered fauna in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. Copy of action plan may be submitted to the Ministry and its Regional Office at Bangalore within 3 months.

#### Noted.

No endangered flora and fauna was identified in the study area of 10 km from the project site. Hence it doesn't require any action.

Copies of the Baseline study conducted for preparation of EIA /EMP are submitted to Ministry and its regional Office.

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xxxi	The critical parameters such as RSPM (Particulate matter with size less than 10 micron i.e., PM10) and NOx in the ambient air within the impact zone, peak particle velocity at 300m distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharged water shall also be monitored [(TDS, DO, PH and Total Suspended Solids (TSS)]. The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public domain. The Circular No. J-20012/1/2006-11A.11(M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change, which is available on the website of the Ministry www.envfor.nic.inshall also be referred in this regard for its compliance.	Complied.  Ambient Air quality is being monitored periodically in both core and buffer zone areas.  Peak particle velocity is monitored at 300 m distance. The discharged water quality is also monitored on regular basis.  The reports on PM10, NOx etc, (Annexure 5), peak particle velocity (Annexure 9) and discharged water quality are enclosed as Annexure 11			
xxxi i.	A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment, Forest and Climate Change 5 years in advance of final mine closure for approval.	Noted and shall be complied.			
xxxi ii.	The project proponent shall undertake all the commitments made during the public hearing and effectively address the concerns raised by the locals in the public hearing as well as during consideration of the project, while implementing the project.	Complied.  Commitments towards welfare of the local community are being carried out by adopting villages and providing ODF facility and many other CSR activities like clean water, water reservoir, check dam and drip irrigation etc.			
В	GENERAL CONDITIONS				
L	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment, Forest and Climate Change.	Complied.  Mining is being carried out as per proposal.			
il	No change in the calendar plan including excavation, quantum of mineral limestone and waste should be made.	Complied.  Mining and excavation are as per approved Mine plan.			





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111,	Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10micron i.e., PM10) and NOx monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.	Complied.  Regular monitoring is being carried out at 4 core zone areas as well as 4 buffer zone areas.  Report on Ambient Air Quality is enclosed as Annexure 5
iv.	Data on ambient air quality RSPM (Particulate matter with size less than 10 micron i.e., PM10) & NOx should be regularly submitted to the Ministry of Environment, Forest and Climate Change including its Regional office located at Bangalore and the State Pollution Control Board / Central Pollution Control Board once in six months.	Complied.  Monitoring data of Ambient Air Quality and RSPM are submitted to the board on sixmonth basis.
<b>V.</b>	Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.	Complied.  Water sprinkling is being carried out with two nos. dedicated 10 KL water tanker on all the source of emissions. Drilling is done by adopting wet drilling technology, water sprinkling system is installed for haul road and unloading point as well as transfer points.
vi	Measures should be taken for control of noise levels below 85dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.	Complied.  All workmen employed were provided with PPE's including ear plugs and muffs. Noise level is also being monitored on regular interval.  Report on Noise levels is enclosed as Annexure 12





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Vii	Industrial waste water (workshop 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 315' December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.	Complied.  No industrial water is being generated at present working. However, workshop water is treated in ETP and treated water meets GSR 422 E standard.  Report on treated water is enclosed as Annexure 11
Viii	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	<ul> <li>Complied.</li> <li>Use of PPE is mandatory in mine working</li> <li>Adequate training is being provided on safety and health at our mine vocational training centre.</li> <li>Occupational health surveillance programs are conducted periodically.</li> </ul>
ix.	A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.	Complied.  Environment Management cell established with qualified Environmental Officer.
х.	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment, Forest and Climate Change and its Regional Office located at Bangalore.	Complied.  Funds separately allocated & maintained for Environment protection measures. Annual expenditure shall be provided in Environmental Statement.
xi.	The project authorities should inform the Regional Office located at Bangalore regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	Noted.





**Environmental Clearance Compliance (Lime stone Mine) Half Yearly Report** 

xii	The Regional Office of this Ministry located at Bangalore shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	Noted.  Compliance data and reports shall be made available to the Regional office as per the requirement.
xiii	The project proponent shall submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment, Forest and Climate Change, its Regional Office Bangalore, the respective Zonal Office of Central Pollution Control Board the State Pollution Control Board. The proponent shall upload the status of compliance of the Environmental Clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the Ministry of Environment, Forest and Climate Change, Bangalore, the respective Zonal Office of Central Pollution Control Board and the State Pollution Control Board.	Complied.  Being Complied with six monthly reports on EC conditions to Regional office - MOEF&CC and also uploaded to our company web site
xiv	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	Complied.  Copy of the EC letter have send to the concern local body.
XV.	The State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and the Collector's office/ Tehsildar's Office for 30 days.	Noted.





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The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall be put on the website of the company along with the status of compliance of Environmental Clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment, Forest and Climate Change, Bangalore by e-mail.

### Complied.

Form - V is submitted to the Board on time i.e, before 31st Sep 2024 for Financial year 2023-24

xvii. The project authorities should advertise at least in two local newspapers of the District or State widely circulated in which the project is located and one of which shall be in the vernacular language of the locality concerned, within 7 days of the 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 Environment, Forest and Climate Change at http://envfor.nic.in and a copy of the same should be forwarded to the Regional Office

of this Ministry located at Bangalore.

#### Complied.

Advertised in "The New Indian Express" and "Udayavani" (vernacular language)" on 21st March 2015. A copy of the same forwarded to the regional office of this ministry located at Bangalore.



## Garland drain and Retaining wall







Annexure - 2







	M/s. Dalmia Cement (Bharat) Limited (Yadwad and Kunnal Limestone Mine), Belagavi									
	GREEN BELT DEVELOPMENT REPORT- 2017-2024									
							<del></del> -			
S.No.	Particular	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Total
1	No. of Trees Planted	230	4484	8066	1884	2500	2800	2900	1700	24564
2	Area Covered (Ha)	0.85	16.04	22.07	0.75	2	2.5	2.5	0.65	47.36
3	Survival Rate (%)	91	93	93	95	95	95	81.3	82	90.7









# Annexure-4 Water sprinkling system at mines







															Annexure	-5
						AMBIENT	AIR QUAI	LITY MO	NITORIN	IG						
	WA	I. – West	Side of Mi	nes	SA II.	- South	Side of Mi	nes	NA III	. – North	Side of I	Mines	EAI	V . – Eas	t side of N	/lines
Date	SO <sub>2</sub> (µg/m3)	NO <sub>2</sub> (μg/m3)	PM <sub>10</sub> (μg/m3)	PM <sub>2.5</sub> (μg/m3)	SO <sub>2</sub> (μg/m3)	NO <sub>2</sub> (μg/m3)	PM <sub>10</sub> (μg/m3)	PM <sub>2.5</sub> (μg/m3)	SO <sub>2</sub> (µg/m3)	NO <sub>2</sub> (µg/m3)	PM <sub>10</sub> (μg/m3)	PM <sub>2.5</sub> (μg/m3)	SO <sub>2</sub> (µg/m3)	NO <sub>2</sub> (µg/m3)	PM <sub>10</sub> (μg/m3)	PM <sub>2.5</sub> (μg/m3)
04.10.2023	15	17	48	16	18	15	50	13	18	16	52	18	13	17	50	11
05.10.2023	13	16	57	18	13	16	53	18	13	15	55	13	12	16	55	15
09.10.2023 10.10.2023	15 17	18 14	46 60	19 14	12 18	20 17	56 48	19 15	14 17	19 12	45 44	18 19	13 19	20 13	54 58	17 20
20.10.2023	16	17	47	19	13	16	52	16	17	15	54	20	13	16	44	16
21.10.2023	18	15	49	15	11	14	47	12	15	16	50	15	15	17	51	16
25.10.2023	16	17	49	15	14	16	53	13	14	18	44	13	14	16	44	15
26.10.2023	15	21	43	14	16	20	47	12	15	18	58	14	11	14	43	17
02.11.2023	14	16	52	12	18	19	58	15	11	14	55	18	13	18	57	17
03.11.2023	11	19	57	18	17	16	50	19	15	13	50	14	16	17	53	19
07.11.2023	17	13	53	17	14	18	56	12	17	18	52	15	15	13	50	14
08.11.2023	14	8	56	14	16	14	49	16	16	13	54	17	17	15	58	15
17.11.2023	14	15	54	19	18	20	48	17	15	18	45	16	11	21	50	20
18.11.2023	16	17	47	11	13	16	57	14	13	16	44	17	15	19	44	18
22.11.2023	15	16	43	16	10	14	45	12	10	19	50	15	16	17	49	15
23.11.2023	14	13	42	15	16	17	49	15	14	18	42	13	14	18	41	13
04.12.2023	17	16	46	17	10	19	51	15	19	10	59	19	16	17	54	14
05.12.2023	16	10	43	12	15	10	40	11	15	17	66	20	11	19	57	15
13.12.2023	14	18	49	14	18	15	54	16	19	10	53	14	16	12	54	17
14.12.2023	15	20	50	18	19	13	55	11	12	15	49	15	12	8	49	12
18.12.2023	13	18	52	19 20	18	16	51	17	15	20	54	18	10	19	45 54	10
19.12.2023 28.12.2023	14 15	20 18	53 52	16	14 15	16 12	55 57	13 16	10 16	14 12	47 49	20 16	13 19	16 17	56	15 17
29.12.2023	16	20	50	18	19	17	55	15	14	15	57	18	14	12	58	13
02.01.2024	18	12	48	11	19	14	50	13	14	16	48	19	18	14	53	17
03.01.2024	16	17	50	15	17	19	49	14	15	18	56	17	11	19	50	14
08.01.2024	12	14	52	14	12	17	55	11	19	12	54	14	12	15	48	12
09.01.2024	14	18	51	16	14	15	56	12	12	15	52	18	17	20	49	11
17.01.2024	17	11	54	12	13	20	54	17	17	13	55	16	15	18	57	13
18.01.2024	15	13	47	17	15	16	51	18	13	11	49	12	19	13	47	15
22.01.2024	19	16	57	13	11	18	53	13	11	17	47	15	13	17	51	18
23.01.2024	13	15	55	18	18	14	52	16	18	14	57	17	16	12	52	19
05.02.2024	10	12	57	14	20	18	46	13	16	17	50	16	18	15	55	12
06.02.2024	14	15	52	18	17	15	49	17	13	11	53	14	15	19	54	20
12.02.2024	20	24	56	19	14	13	50	19	10	20	59	12	14	21	52	22
13.02.2024	12	19	59	15	16	20	57	21	18	12	51	18	17	18	59	18
19.02.2024	15 17	18 20	49 54	20 11	18 9	14 22	55 53	14 15	15 14	18 15	52 55	20 16	12 10	14 20	52 60	16 23
20.02.2024	17	15	53	11	13	19	53	15 20	9	20	49	16	10	15	58	15
27.02.2024	9	22	56	21	13	13	58	12	12	18	49 57	17	9	11	58	17
04.03.2024	15	14	50	14	15	12	52	11	17	20	51	18	14	18	48	12
05.03.2024	17	16	52	18	14	10	55	12	12	14	49	16	15	17	53	20
13.03.2024	14	18	56	12	21	17	51	18	19	17	59	19	17	14	52	15
14.03.2024	12	13	53	17	16	13	58	20	14	13	54	11	12	16	59	11
18.03.2024	11	18	50	16	18	14	53	13	15	18	55	16	19	14	58	16
19.03.2024	13	20	52	14	14	19	54	12	18	15	53	20	16	20	55	14
26.03.2024	14	17	48	13	13	15	55	18	13	17	56	13	12	18	50	15
27.03.2024	11	20	53	18	15	12	58	14	14	13	59	18	19	11	55	20
Result	14.7	16.4	51.2	15.8	15.2	15.9	52.3	14.9	14.6	15.5	52.3	16.3	14.4	16.2	52.2	15.8
Standard	80	80	100	60	80	80	100	60	80	80	100	60	80	80	100	60



Annexure-6
Rain Water Harvesting System at M/s Dalmia cement Bharat Limited, Belagavi











					GRO	UND WA	TER AN	ALYSIS I	REPORT						
SI No	Parameters	Location code	DCGW1	DCGW2	DCGW3	DCGW4	DCGW5	DCGW6	DCGW1	DCGW2	DCGW3	DCGW4	DCGW5	DCGW6	Permissible Limits
SI NO	Parameters	Unit			Nov	<b>/-23</b>					Feb	-24			IS:10500:2012
1	Colour	Hazen units	8	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	15
2	Ambient Temperature	°C	27.0	26.6	26.3	26.4	26.9	26.3	28.90	28.90	28.7	28.90	29.00	29.0	-
3	Conductivity	μs/cms	264	233	1422	228	4670	4600	203	216	3770	233	212	187.2	-
4	Total Dissolved Solids	mg/L	1184	1173	1171	161	2270	3240	141	131	2690	155	146	130.2	-
5	pH	-	8.04	8.15	8.11	8.12	7.69	7.45	8.48	8.20	8.19	8.19	8.24	8.26	6.5 to 8.5
6	Turbidity	NTU	0.60	0.00	Nil	0.00	Nil	Nil	0.60	0.10	0.10	0.20	0.90	0.80	5
7	Total Suspended Solids	mg/L	2	3	3	4	2	3	6	10	12	17	25	19	-
8	Dissolved Oxygen	mg/L	6.80	6.90	7.71	7.10	6.00	6.10	6.00	8.20	5.80	5.80	5.80	5.80	-
9	Biochemical Oxygen Demand for 3 days at 27°C	mg/L	0.80	0.90	0.70	0.70	<1	0.70	<1	<1	<1	<1	<1	<1	-
10	Chemical Oxygen Demand	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-
11	Phosphorous as P	mg/L	0.536	0.256	0.24	0.452	0.250	3.6	0.164	0.140	0.188	0.148	0.256	0.328	-
12	Sodium as Na	mg/L	21.6	39.9	37.7	38.5	311.2	311.2	40.2	41.20	41.20	43.6	561.40	43.3	-
13	Potassium as K	mg/L	2.80	0.60	0.40	0.50	2.90	4.1	Nil	0.10	0.60	Nil	4.10	0.10	-
14	Calcium as Ca	mg/L	21.64	120.24	6.41	62.52	41.68	75.35	4.00	9.61	160.32	8.01	8.0	2.40	200
15	Magnesium as Mg	mg/L	6.79	37.51	4.37	16.49	74.29	73.30	2.43	37.51	84.92	5.34	0.49	2.92	100
16	Total Hardness as CaCO3	mg/L	82	30	34	24	410	490	20	30	750	42	22	18	600
17	Chloride as Cl	mg/L	26.49	46.48	41.98	20.97	126.96	213.43	38.48	46.48	170.94	26.99	19.73	23.92	1000
18	Sulphate as SO4	mg/L	6.29	15.22	13.16	16.73	67.80	108.33	9.87	15.22	14.89	9.11	9.44	9.49	400
19	Fluoride as F	mg/L	0.38	0.53	0.41	0 .47	1.30	3.03	1.16	0.53	0.67	0.62	1.27	1.15	1.5
20	Nitrate Nitrogen as NO3	mg/L	0.073	0.049	0.34	0.073	3.55	1.78	0.67	0.049	4.53	0.08	0.02	0.196	45
21	Total Alkalinity as CaCO3	mg/L	40	50	50	40	430	395	25	50	365	55	45	35	600
22	Acidity as CaCO3	mg/L	1.25	Nil	Nil	1.25	Nil	1.25	1.25	Nil	Nil	Nil	Nil	1.25	-
23	Oil & Grease	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-
24	Total Iron as Fe	mg/L	BDL	BDL	BDL	BDL	0.191	BDL	BDL	BDL	BDL	0.018	0.119	0.101	0.3
25	Nickel as Ni	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02
26	Manganese as Mn	mg/L	0.221	0.115	0.284	0.119	BDL	0.207	BDL	0.115	BDL	BDL	BDL	BDL	0.3
27	Copper as Cu	mg/L	0.010	0.006	0.015	0.011	BDL	0.022	BDL	0.006	BDL	BDL	BDL	BDL	1.5
28	Zinc as Zn	mg/L	0.261	BDL	BDL	BDL	BDL	BDL	0.119	BDL	BDL	BDL	BDL	BDL	15
29	Lead as Pb	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.01
30	Chromium as Cr	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.05
31	Silver as Ag	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.1
33	Mercury as Hg*	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.001
34	Total Coliform count*	MPN/ 100 ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Shall not be detectable in any 100 ml sample
35	Escherichia coli count*	MPN/ 100 ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Shall not be detectable in any 100 ml sample

#### Location Code

DCGW1 : East side of Mines Working pit
DCGW2: West Side of Mines Working Pit
DCGW2: West Side of Mines Working Pit
DCGW4: North Side of Mines Working Pit

GROUND WATER LEVEL MONITORING													
SI.No	Location Name	Ground water level											
SI.NO	Location Name	May-23	Aug-23										
1	Manami Village	16.50	33.00										
2	Near Main Gate	13.70	8.20										
3	Guest House	11.20	11.50										
4	Near Mines Office	12.90	16.20										



Free Silica in Respirable Dust														
					Aug-23			F	eb-24					
Sr. No	Locations	Final Wt	Lab Sample Code	Sample   Date of   Con		Free Silica Content %	Lab Sample Code	Date of sampling	Personal Dust Concentration in µg/cum	Free Silica Content %	Standard Limit for Free Silica (As per DGMS)			
1	Inside HEME Cabin	0.0612	P55	04.08.2023	2	ND	P55	24.02.2024	2	ND	<5%			
2	Near Packer - Packing Plant	0.0621	P54	05.08.2023	1	ND	P54	27.02.2024	1	ND	<5%			
3	Inside CCR DCBL	0.0622	P51	11.08.2023	1	ND	P51	28.02.2024	2	ND	<5%			
4	Cment Mill CCR	0.0615	P53	12.08.2023	1	ND	P53	29.02.2024	1	ND	<5%			
5	Inside CCR-CPP	0.0618	P52	23.08.2023	Nil	ND	P52	26.02.2024	Nil	ND	<5%			



### **Blasting Vibration Evenet Report**



### Blasting Vibration Event Report

Velocity (mm/s)

Long at 3.00:06 PM January 31, 2024 Date/Time Geo: 0.700 mm/s, Mic: 2.000 ps.(L) Geo: 254.0 mm/s Trigger Source

Range Record Time 2.0 sec at 1024 sps Operator/Setup: Operator/DCBL-1.MMS

Notes Location: Client:

6

YADWAD AND KUNNAL LIMESTONE MINE DALMIA CEMENT BHARAT LIMITED

User Name:

PI-2, N / NE / E / SE / S / SW / W / NW General:

Microphone Linear Weighting PSPL. 16.15 pa.(L) at 1.771 sec

ZC Freq 14 Hz

Channel Test Passed (Freq = 19.7 Hz Amp = 1219 my )

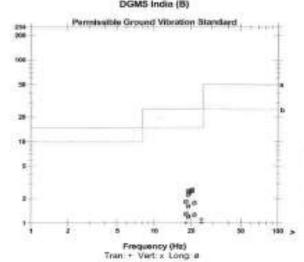
	11/209	Wert	Long	
PPV	1.096	0.646	2.601	mentila.
PPV (Ponderated)	0.948	0.497	2.542	mm/s
PPV	51,79	47.21	59.30	dB
ZC Freq	24	20	20	Hz
Time (Rel. to Trig)	0.158	0.128	0.161	80C
Peak Acceleration	0.047	0.025	0.086	G .
Peak Displacement	0.007	0.004	0.020	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.7	7.3	Hit
Overswing Ratio	3.5	3.4	3.4	

Peak Vector Sum 2,736 mm/s at 0,161 sec

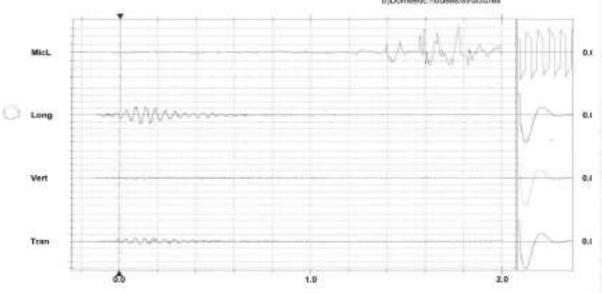
Serial Number UM9158 V 10-76 Micromate ISEE

Buttery Level 3.5 Vots Unit Calibration June 25, 2023 by UES New Deihi File Name UM9188\_20240131150008.IDFW

DGMS India (B)



a) industrial buildings b)Domestic houses/structures



Time Scale: 0,20 socidiv. Amplitude Scale: Geo: 2,000 mm/s/div Mic: 5,000 pa (L)/div

Trigger = 1

Format III 1995-2014 Xeurk Corporation

Sensor Check

Priving: March 14, 2024 (v. 19.72 - 19.72)

cement (Bhara Audalagi D

	FUGUTIVE EMISSION MONITORING (MINES)													
SI No.	Station Code	Name of the Station	Unit	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Average	STD			
1	FAI		g/m <sup>3</sup>	0.91	0.77	0.80	0.81	0.93	0.99	0.87	1.2			
2	FAII	Near Lime stone crusher	g/m <sup>3</sup>	1.09	0.87	0.90	1.01	1.01	1.00	0.98	1.2			
3	FAIII	Near Loading Site- Mines	g/m <sup>3</sup>	0.85	0.95	0.81	0.85	0.88	0.88	0.87	1.2			
4	FAIV	Near Haul Road	g/m <sup>3</sup>	0.74	0.98	0.98	1.03	0.91	0.91	0.93	1.2			
5	FAV	Near LS crusher -Mines	g/m <sup>3</sup>	0.88	1.08	0.97	0.91	0.95	0.95	0.96	1.2			



# Annexure-11 VEHICLE WASH TREATED WATER QUALITY

	VEHICLE W	ASH IKE	AIED W	AIER QU	ALIII	
S.N o.	Parameters	Unit	Jan-24	Feb-24	Mar-24	As per GSR 422 (E)
1	Colour	Hazen units	1	<1	<1	-
2	Ambient Temperature	°C	27.40	28.90	28.6	-
3	рН	-	7.90	8.02	7.78	5.50 to 9.0
4	Total Dissolved Solids	mg/l	734	2490	2630	-
5	Total Suspended Solids	mg/L	2	42	12	100
6	Biochemical Oxygen Demand for 3 days at 27oC	mg/L	<1	<1	2.40	30
7	Chemical Oxygen Demand as O2	mg/L	<1	<1	8	250
8	Oil &Grease	mg/L	BDL	BDL	BDL	10
9	Lead as Pb	mg/L	BDL	BDL	BDL	0.10
10	Hexavalent Chromium as Cr+6	mg/L	BDL	BDL	BDL	2.0
11	Copper as Cu	mg/L	BDL	BDL	BDL	3.0
12	Zinc as Zn	mg/L	BDL	BDL	BDL	5.0
13	Nickel as Ni	mg/L	BDL	BDL	BDL	3.0
14	Odour	-	Agreeable	Agreeable	Agreeable	-
15	Total Residual chlorine	mg/l	BDL	BDL	BDL	1
16	Ammonia as NH3	mg/L	0.12	0.56	0.56	5.0
17	Kjeldahl nitrogen as NH3	mg/L	0.84	0.56	1.12	100
18	Ammonical nitrogen as N	mg/L	0.05	0.03	0.05	50
19	Cadmium as Cd	mg/L	BDL	BDL	BDL	2.00
20	Arsenic as As	mg/L	BDL	BDL	BDL	-
21	Mercury as Hg	mg/L	BDL	BDL	BDL	0.01
22	Selenium As Se	mg/L	BDL	BDL	BDL	0.05
23	Boron as B	mg/L	BDL	BDL	BDL	-
24	Percent Sodium	mg/L	9.98	11.40	8.40	-



WORK PLACE NOISE LEVEL MONITORING																	
SI.No	Code	Sampling Location	Unit	Oct	t-23	Nov-23 Dec-23		-23	Jar	1-24	Feb-24		Mar-24		Average		
31.140	Code	Sampling Location	OIIIL	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	N1	At Packing plant-truck loading	dB	67.2	63.1	66.2	62.1	65.2	61.9	66.1	62.1	65.3	63.1	66.2	63.4	67.2	61.9
2	N2	At Cement mill	dB	68.1	62.4	69.2	63.2	68.4	62.4	67.2	63.2	68.2	62.3	67.3	61.8	69.2	61.8
3	N3	At CCR	dB	66.2	61.1	65.3	62.7	64.2	63.4	65.2	64.3	64.3	61.8	65.8	62.3	66.2	61.1
4	N4	At main gate Security office	dB	64.2	62.3	66.2	63.2	65.3	62.6	62.5	61.1	63.1	62.0	64.2	61.4	66.2	61.1
5	N5	At Clinker cooler	dB	65.2	61.9	64.8	62.5	66.2	61.9	65.8	62.3	64.6	61.8	63.2	60.7	66.2	60.7
6	N6	At Raw Mill	dB	66.1	63.2	67.2	64.2	65.2	63.2	66.2	63.2	65.2	63.1	66.5	62.1	67.2	62.1
7	N7	At Coal mill	dB	69.2	63.5	68.9	61.7	67.2	62.1	67.2	61.9	64.5	62.2	65.6	62.7	69.2	61.7
8	N8	At Health center	dB	62.4	61.0	63.1	60.9	62.8	61.9	63.8	62.2	63.3	61.8	61.9	60.4	63.8	60.4
9	N9	At CCR-CPP	dB	67.8	63.8	68.7	64.5	67.2	62.2	68.9	61.7	65.8	62.8	62.8	62.1	68.9	61.7
10	N10	At Turbine floor	dB	68.7	63.8	66.2	62.8	65.3	61.1	66.7	62.4	65.8	63.2	66.2	64.5	68.7	61.1
11	N11	At LS crusher	dB	69.8	62.5	69.7	63.4	68.7	62.5	69.2	63.2	68.8	64.3	67.9	64.8	69.8	62.5
12	N12	At Guest House	dB	68.1	63.8	66.5	61.8	65.3	62.5	65.3	61.2	64.7	62.6	66.8	63.8	68.1	61.2
13	N13	At Store	dB	69.7	65.2	68.2	64.2	67.2	63.2	66.2	62.8	65.9	63.9	65.7	62.8	69.7	62.8
14	N14	Near Packer-Packing Plant	dB	68.2	64.2	66.8	63.4	65.2	61.9	64.9	62.2	63.6	62.0	66.5	63.7	68.2	61.9
15	N15	At Mines office	dB	66.2	62.1	67.2	63.6	66.2	62.1	65.2	62.8	64.2	62.4	65.1	63.4	67.2	62.1
16	N16	Inside HEME equipment cabin	dB	65.8	63.2	64.2	62.7	63.2	61.2	64.3	62.5	63.9	61.9	64.8	62.2	65.8	61.2

	AMBIENT NOISE LEVELMONITORING																		
SI.No	Code	Sampling Location	Unit	Oc	t-23	Nov	<b>/-23</b>	Dec	:-23	Jar	1-24	Feb	-24	Ma	r-24	Ave	Average		TD
31.140	Code	Sampling Location	Oilit	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1	N1	West side of Working Pit	dB	54.1	53.2	54.7	53.0	52.1	50.9	52.8	51.1	53.1	52.4	54.1	53.0	53.5	52.3	75.0	70.0
2	N2	South side of Working Pit	dB	57.8	52.5	58.2	53.7	51.2	51.2	53.7	52.9	54.2	53.3	53.2	52.7	54.7	52.7	75.0	70.0
3	N3	North side of Working Pit	dB	63.8	58.7	62.9	59.2	62.6	59.2	61.1	57.2	62.3	58.4	62.7	51.5	62.6	57.4	75.0	70.0
4	N4	East side of Working Pit	dB	57.2	54.2	57.1	53.4	54.2	53.6	52.8	51.8	61.8	55.2	60.7	53.3	57.3	53.6	75.0	70.0
5	N1	At Main Enterance gate	dB	57.2	56.3	56.6	54.3	55.2	53.2	54.9	52.9	53.2	52.2	53.1	52.1	55.0	53.5	75.0	70.0
6	N2	Yadwad village	dB	53.8	44.2	54.1	45.2	52.9	44.2	53.2	43.8	52.2	44.5	52.8	44.4	53.2	44.4	55.0	45.0
7	N3	Manami village	dB	53.9	43.7	52.9	44.2	53.4	43.9	52.1	43.8	51.8	42.8	53.4	44.7	52.9	43.9	55.0	45.0
8	N4	At Guest House	dB	54.1	43.1	53.8	42.9	52.8	41.9	52.8	42.3	51.2	41.1	51.6	43.4	52.7	42.5	55.0	45.0

