

DCBL/YKLM/MoEF/EC-HYC/2022-23/201

Date: 26.05.2023

To,

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

Sub: Submission of DCBL Six Monthly Compliance Report of Yadwad and Kunnal Limestone Mine – Reg.

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

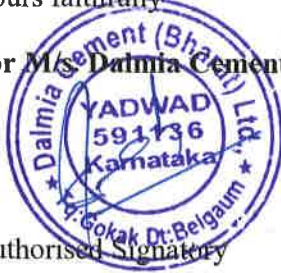
Dear Sir,

With Reference to the above, we are enclosing herewith Six Monthly Environment Clearance compliance reports of M/s. Dalmia Cement (Bharat) Limited (Yadwad and Kunnal Limestone Mine), Yadwad Village, Mudalagi Taluk, Belgaum District, Karnataka, for the period from Oct 22 to Mar 2023.

Kindly request to acknowledge the same.

Yours faithfully

For M/s. **Dalmia Cement (Bharat) Limited**



Authorised Signatory

- Cc:** 1. The Environmental Officer, Karnataka State Pollution Control Board, Plot No.3224/3, Hanuman Nivas, First Floor, B.K. Collage Road, Chikkodi-591201.
2. The Member Secretary, Karnataka State Pollution Control Board, Parisara Bhavana, 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.

Dalmia Cement (Bharat) Limited

RS No. 394, Yadwad (Village), Mudalagi (Taluk), Belagavi (District), Karnataka - 591136, India.

T 9606014495 / 96 / 97 / 98 W www.dalmiacement.com CIN : U65191TN1996PLC035963

Registered Office : Dalmiapuram, Dist. Tiruchirapalli - 621 651, Tamil Nadu, India.

A **Dalmia Bharat Group** company, www.dalmiabharat.com

Half Yearly Compliance Report

On

Environmental Clearance

Of

Yadwad and Kunnal Limestone Mine

October 2022 to March 2023



Dalmia Cement (Bharat) Limited

(An ISO 14001, 18001 & 9001 Certified Company)

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

Production Capacity:

Limestone : 4.30 MTPA

PROJECT PROFILE

1	Project type	IA-II (M) – Captive Lime Stone Mining
2	Name of the project	Yadwad Lime stone Mines of M/s Dalmia Cement (Bharat) Ltd, Village Yadwad and Kunnal District Belagavi, Karnataka
3	Clearance letter No.& date	MoEF&CC. EC: F. No. J-11015/36/2009/-IA II(M), Dated: 13 th March 2015.
4	Location: District & State / UT	RS No. 394, Yadwad 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 Operation
a.	Date of commencement	11 th Jan 2017
b.	Date of site visit of Director-MOEF&CC/CPCB Officials	CPCB official visit : 12 th and 13 th February 2019

S.No	Conditions	Compliance Status
A.	Specific Conditions	
i.	The EC valid only for 1223.78 ha of land out of 1228.63 ha, subject to final outcome in all the Writ Petitions in the Karnataka High Court.	Lease granted area is 798.01 Ha. Final outcome of all the writ petitions from Karnataka high court is still awaited
ii.	The PP to provide unhindered access to the other lease holder(s) and farmers to their land in the lease area.	Access to farmers having land in lease area is provided.
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.	Consent to Establishment vide order no. <u>PCB/MIN/CFE/2015-16/296</u> and Combined Consent for Operation vide order number <u>AW-326556 Dt.03.09.2021</u> 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.	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.	There are no habitations/village near to the present mine workings. At present there is no adverse impact on habitations/villages due to mining operation. However conditions are being complied.
vi	The loose 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.	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 st and 2 nd order streams, emanating or passing through the mine lease during the course of mining operation.	There is no water course inside the lease block boundaries. However, no water course is being disturbed outside the 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.	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.	Garland drain and retaining wall constructed around waste dump to prevent solid waste /debris flow. Few photographs are attached herewith as Annexure - 1
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.	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 October 22 to March -23 is 105885.0 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.	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 catch drains and siltation pond are 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.	Retaining wall constructed as per the approved mining plan wherein the rain fall data is considered.

Xiii.	<p>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.</p>	<p>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.</p> <p>Total no. of Plantation done in Apr-22 to Mar-23 is 2900 and area Covered is 2.5 hectare with Survival rate of 81.28%.</p>
xiv.	<p>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.</p>	<p>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.</p> <p>Photographs of water sprinkling system for haul road are enclosed as Annexure - 4</p> <p>The ambient air quality data is enclosed as Annexure -5</p>
xv.	<p>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.</p>	<p>There is no perennial nallah falling in the impact zone.</p>
xvi.	<p>Appropriate measures shall be taken for treatment of the upper catchment of the mine lease area.</p>	<p>Rain water harvesting pond of 40000m³ along with channels is developed in a strategic location to collect the maximum rain water during monsoon.</p>

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.	Rain water harvesting pond in mine shall act as natural recharge point for enhancing the ground water table. In addition to this we have constructed about 40000 KL and 1.5 Lac KL capacity rain water harvesting pond developed with catch drains to collect all the surface runoff during monsoon and to conserve the water. Photographs of rain water harvesting pond are enclosed as Annexure 6
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- pre-monsoon [(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.	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.	Agreed. We are utilizing only rain water Harvesting water to meet the requirement of 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.	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.	All preventive measures taken and no water from mine lease will 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.	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.
xxiii.	Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.	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.	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.	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.	Sewage Treatment Plant of capacity 215 KL/day is installed at colony. Workshop water is treated in Effluent Treatment Plant
xxvii.	Pre-placement medical examination and periodical medical examination of	<ul style="list-style-type: none"> • Pre-placement medical examination conducted for the workers employed and same will be

	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.	done for future employment. • Schedule for periodical health examination is prepared and being implemented.
xxvii i.	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.	Regular monitoring of free silica in the dust is being monitored. The level of silica is under prescribed limit. Attached as Annexure-8
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.	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.	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.

xxxii.	The critical parameters such as RSPM (Particulate matter with size less than 10 micron i.e., PM10) and NOx in the ambient	Ambient Air quality is being monitored periodically in both core and buffer zone areas. Peak particle velocity is monitored at 300 m
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	<p>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.in shall also be referred in this regard for its compliance.</p>	<p>distance. The discharged water quality is also monitored on regular basis.</p> <p>The reports on PM10, NOx etc, (Annexure 5), peak particle velocity (Annexure 9) and discharged water quality are enclosed as Annexure 11</p>
xxxii.	<p>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.</p>	<p>Noted and shall be complied.</p>
xxxii i.	<p>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.</p>	<p>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.</p>
B	GENERAL CONDITIONS	
i.	<p>No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment, Forest and Climate Change.</p>	<p>Mining is being carried out as per proposal.</p>
ii.	<p>No change in the calendar plan including excavation, quantum of mineral limestone and waste should be made.</p>	<p>Mining and excavation are as per approved Mine plan.</p>

iii.	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.	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.	Monitoring data of Ambient Air Quality and RSPM are submitted to the board on six-month basis.
v.	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.	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.	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
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.	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	<ul style="list-style-type: none"> • Use of PPE is mandatory in mine working

	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 style="list-style-type: none"> • Adequate training is being provided on safety and health at our mine vocational training centre. • Occupational health surveillance programs are conducted periodically.
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.	Environment Management cell established with qualified Environmental Officer.
x.	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.	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. Will be informed.
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.	All compliance data and reports shall be made available to the Regional office at any time.
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	Being Complied with six monthly reports on EC conditions to Regional office - MOEF&CC and also uploaded to our company web site

	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.	
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.
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.	Complied.
xvi.	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.	Form - V is submitted to the Board in time i.e, before 31 st sep 2022.

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.	Advertised in “ The New Indian Express ” and “ Udayavani ” (vernacular language)” on 21 st March 2015. A copy of the same forwarded to the regional office of this ministry located at Bangalore.
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Annexure 1 &2: Garland drain, retaining wall, Catch drain and Siltation Pond , Dump Yard



Dalmia Cement (Bharat) Limited, Yadwad, Belagavi District												
GREEN BELT DEVELOPMENT REPORT- 2013-2023												
Sr. No	Unit	Year										Total Plantation
		2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	
CEMENT PLANT												
1	No. of Trees Planted	1802	11981	48835	16415	7437	44874	11717	1500	0	5000	149561
2	Area Covered (Ha)	0.7208	4.7924	19.534	6.566	2.9748	17.9496	4.6868	0.5	0	2.5	60.22
3	Survival Rate (%)	89	91	91	93	94	94	96	95	0	96	93.22
MINES												
1	No. of Trees Planted				230	4484	8066	1884	2500	2800	2900	22864
2	Area Covered (Ha)				0.85	16.04	22.07	0.75	2	2.5	2.5	46.71
3	Survival Rate (%)				91	93	93	95	95	95	81.28	91.89
TOTAL PLANTATION											172425	
TOTAL AREA COVERED UNDER GREEN BELT(CEMENT PLANT +MINES) (Ha)											106.93	
33% AREA REQUIRED UNDER GREEN BELT (Ha) - CEMENT PLANT											39.6	
% AREA COVERED UNDER GREEN BELT (CEMENT PLANT)											50.18	



Annexure - 3: Green Belt Development



Annexure 4: Water sprinkling system at mines





Annexure -5

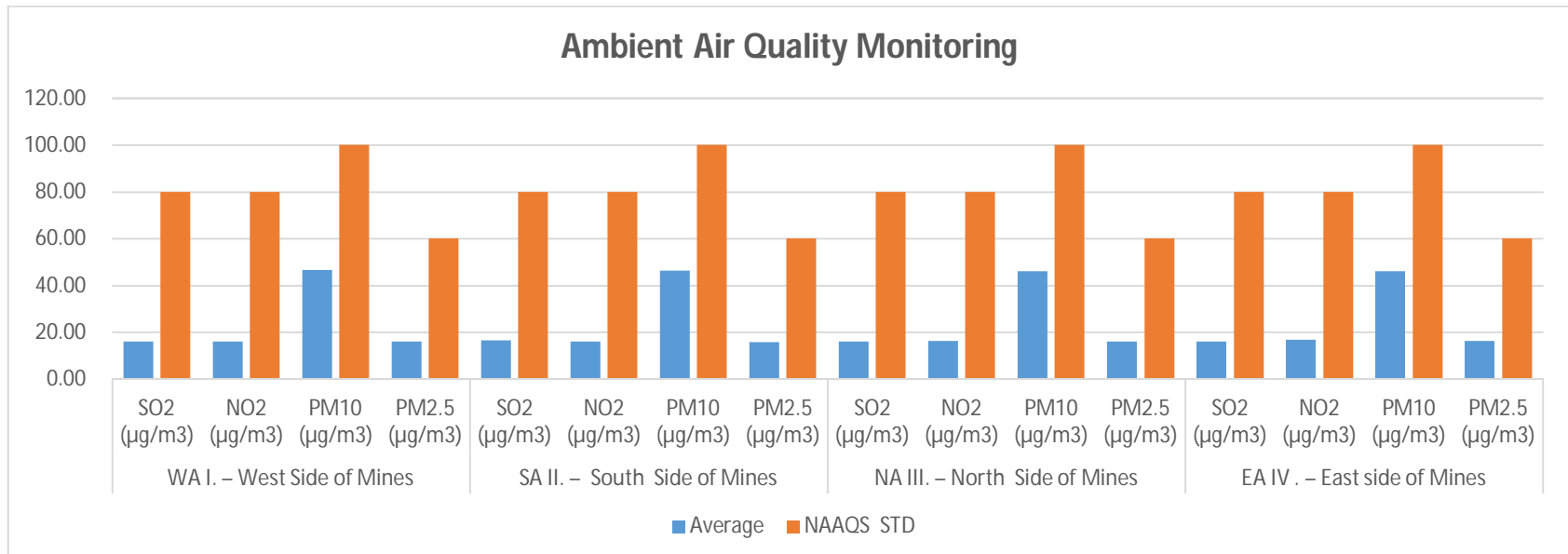
Ambient Air Quality Monitoring from Oct 2022 – Mar 2023

Date	WA I. – West Side of Mines				SA II. – South Side of Mines				NA III. – North Side of Mines				EA IV. – East side of Mines			
	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)
08.10.2022	14	16	41	14	19	11	39	15	19	14	40	18	14	11	41	12
09.10.2022	16	18	39	11	16	14	42	12	15	12	46	13	18	25	48	16
10.10.2022	19	13	45	18	25	12	46	20	23	15	43	17	16	19	43	11
11.10.2022	21	11	40	15	23	16	44	18	16	19	41	15	19	17	40	18
22.10.2022	19	14	45	12	16	14	35	12	24	13	38	17	16	19	42	14
23.10.2022	23	20	39	17	18	17	44	16	18	23	35	14	20	11	36	16
24.10.2022	15	18	36	13	12	22	39	19	20	14	41	18	17	22	40	18
25.10.2022	20	16	38	15	14	11	43	17	23	18	35	16	21	18	44	20
04.11.2022	14	18	47	17	18	14	46	16	19	15	46	18	15	12	45	16
05.11.2022	17	15	47	19	16	18	48	12	17	16	44	13	14	18	49	16
06.11.2022	17	14	46	18	18	17	45	13	14	18	43	22	18	16	47	18
07.11.2022	18	14	46	17	19	16	47	18	15	18	48	14	18	16	46	18
18.11.2022	12	16	46	16	15	12	46	19	18	11	46	12	15	18	47	17
19.11.2022	15	17	48	16	17	15	46	17	17	18	47	17	17	12	48	13
20.11.2022	15	17	44	15	13	17	48	13	18	12	47	13	14	16	46	15
21.11.2022	17	15	48	17	18	15	49	11	11	16	47	14	14	16	45	16
03.12.2022	11	18	48	12	16	14	48	12	18	15	45	18	14	12	47	17
04.12.2022	16	13	46	11	14	18	46	15	13	21	42	14	18	16	40	19
05.12.2022	12	19	43	16	17	15	45	11	11	18	46	12	13	22	43	14
06.12.2022	15	14	47	14	13	21	48	14	13	22	44	16	17	15	45	18
16.12.2022	12	14	47	16	15	13	48	14	14	11	46	17	13	17	47	14
17.12.2022	14	18	45	13	14	11	44	15	17	13	44	15	17	15	45	18
18.12.2022	17	16	44	15	18	14	46	17	15	12	46	13	15	14	44	16
19.12.2022	15	14	48	18	17	18	45	15	13	18	48	16	18	16	48	19
01.01.2023	13	16	43	14	22	15	43	18	18	16	44	15	12	24	47	17
02.01.2023	20	13	47	16	16	13	46	14	23	11	39	12	19	15	45	11
03.01.2023	18	15	30	12	19	16	38	16	16	19	45	14	12	17	43	16
04.01.2023	14	12	45	18	13	17	47	13	14	17	47	18	20	19	46	13
14.01.2023	16	23	42	13	20	13	43	11	18	21	40	15	15	24	41	17



15.01.2023	17	14	33	15	14	18	34	17	15	17	42	11	21	18	43	14
16.01.2023	12	18	31	20	24	15	40	20	11	14	37	16	13	20	30	16
17.01.2023	15	20	38	18	17	11	31	13	13	18	44	14	18	16	40	20
04.02.2023	13	23	45	17	17	12	41	14	18	12	39	16	21	19	47	14
05.02.2023	20	17	40	15	14	18	44	12	13	25	46	20	17	15	41	11
06.02.2023	14	22	43	18	21	16	47	17	23	19	48	17	12	22	38	16
07.02.2023	18	12	46	20	18	25	38	20	14	21	41	19	15	20	43	19
24.02.2023	16	14	50	14	13	18	49	18	18	19	53	14	23	18	50	14
25.02.2023	23	19	56	17	17	15	54	15	20	16	47	17	15	23	46	18
26.02.2023	18	16	49	16	13	18	49	12	22	18	54	13	17	16	51	15
27.02.2023	22	14	51	13	17	22	52	14	15	13	52	15	19	25	48	11
11.03.2023	13	16	50	20	17	16	49	18	18	15	48	15	19	15	52	15
12.03.2023	11	13	48	14	15	13	46	14	12	16	50	17	18	12	50	13
13.03.2023	18	15	51	16	12	19	50	17	14	13	47	19	13	17	48	18
14.03.2023	12	19	46	17	19	15	47	16	17	19	46	14	17	18	46	14
25.03.2023	20	12	46	13	21	14	43	17	16	12	45	11	23	14	48	20
26.03.2023	18	14	43	16	16	23	45	13	19	23	47	18	17	20	42	16
27.03.2023	21	17	45	14	25	17	40	18	15	21	43	14	14	22	40	13
28.03.2023	25	19	42	20	13	21	42	15	18	16	46	17	20	17	49	18
	16.13	16.06	46.52	16.05	16.43	15.93	46.25	15.78	16.15	16.20	46.05	15.98	15.94	16.75	46.02	16.18
	80	80	100	60	80	80	100	60	80	80	100	60	80	80	100	60





Rain Water Harvesting Pond at Mines and Cement Plant:









GROUND WATER ANALYSIS REPORT										
SI No	Parameters	DCGW1	DCGW3	DCGW4	DCGW5	DCGW1	DCGW3	DCGW4	DCGW5	Permissible Limits IS:10500:2012
		Nov-22				Feb-23				
1	Colour	<1	<1	<1	<1	<1	<1	1	<1	15
2	Ambient Temperature	26.90	27.70	28.40	28.20	24.1	23.9	24.1	26.1	-
3	Conductivity	3240	1362	2760	3490	3130	1385	3160	3160	-
4	Total Dissolved Solids	1980	944	1930	1970	1900	934	1980	1925	2000
5	pH	8.23	8.01	7.80	7.87	8.11	8.00	7.96	8.12	6.5 to 8.5
6	Turbidity	Nil	0.20	0.20	0.10	0.1	2.0	0.1	0.6	5
7	Total Suspended Solids	6	5	16	15	3	3	6	4	-
8	Dissolved Oxygen	7.50	7.60	6.50	6.90	7.90	8.10	8.40	7.90	-
9	Biochemical Oxygen Demand for 3 days at 27°C	<1	<1	<1	<1	<1	<1	<1	<1	-
10	Chemical Oxygen Demand	<1	<1	<1	<1	<1	<1	<1	<1	-
11	Phosphorous as P	0.13	0.07	0.11	0.39	0.08	0.172	0.06	0.052	-
12	Sodium as Na	405.70	177.50	940.60	819.20	375	202.3	528.9	364.9	-
13	Potassium as K	22.00	15.80	13.10	13.30	0.5	1.4	0.8	0.1	-



Annexure-7

14	Calcium as Ca	68.14	60.92	125.05	70.54	87.37	51.30	82.56	83.36	200
15	Magnesium as Mg	51.93	30.57	63.56	34.93	57.76	0.99	52.90	54.36	100
16	Total Hardness as CaCO ₃	384	278	574	320	456	124	424	432	600
17	Chloride as Cl	269.92	157.45	434.87	337.40	147.45	122.46	234.93	147.45	1000
18	Sulphate as SO ₄	87	78.20	107.31	95.61	109	80.79	109.50	109.70	400
19	Fluoride as F	1.78	1.39	1.48	0.28	0.56	0.48	1.33	0.75	1.5
20	Nitrate Nitrogen as NO ₃	4.75	2.30	4.00	1.50	3.70	5.80	4.55	2.90	45
21	Total Alkalinity as CaCO ₃	365	470	490	445	435	550	460	485	600
22	Acidity as CaCO ₃	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	-
23	Oil & Grease	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-
24	Total Iron as Fe	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.3
25	Nickel as Ni	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02
26	Manganese as Mn	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.3
27	Copper as Cu	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.5
28	Zinc as Zn	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	15
29	Lead as Pb	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.01

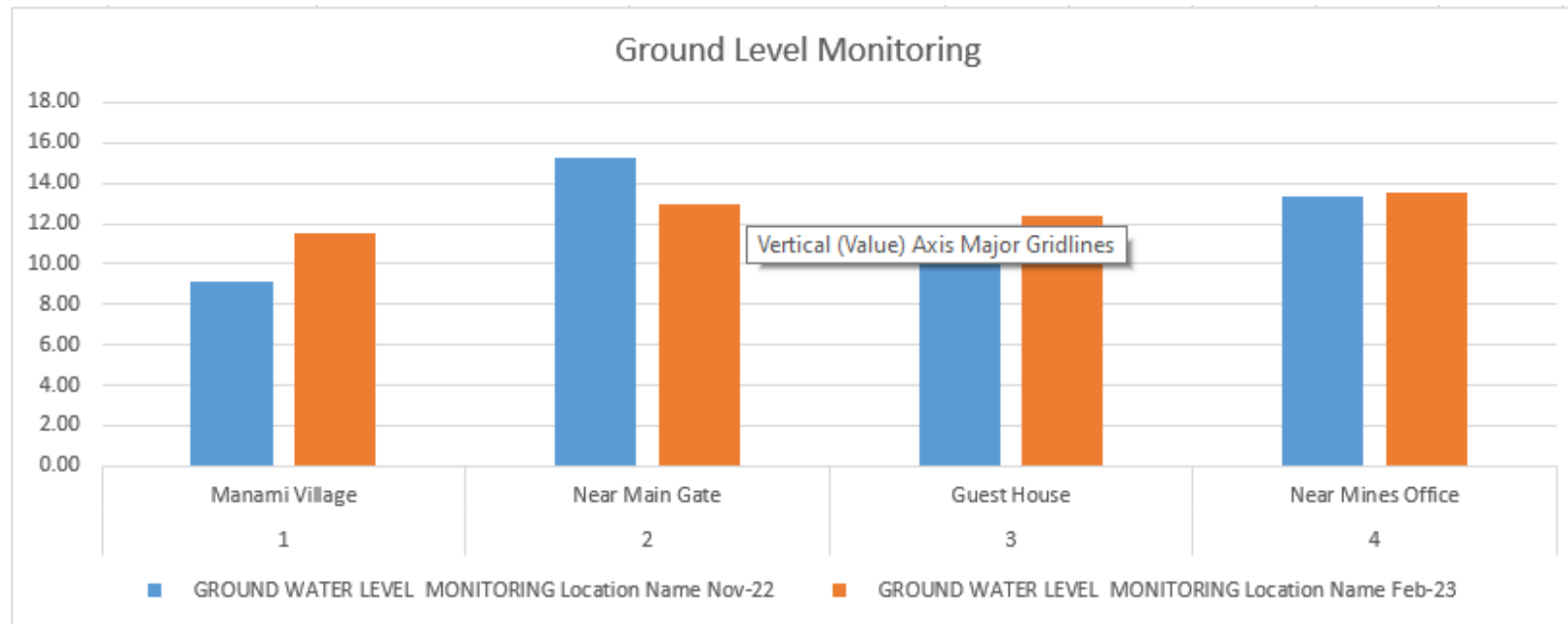


30	Chromium as Cr	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.05
31	Silver as Ag	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.1
33	Mercury as Hg*	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.001
34	Total Coliform count*	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Shall not be detectable in any 100 ml sample
35	Escherichia coli count*	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****DCGW3: South Side of Mines Working Pit****DCGW4: North Side of Mines Working Pit****DCGW5: DCBL Entry Gate Pit**

GROUND WATER LEVEL MONITORING			
Sl.No	Location Name		
		Nov-22	Feb-23
1	Manami Village	9.10	11.50
2	Near Main Gate	15.25	13.00
3	Guest House	11.20	12.40
4	Near Mines Office	13.35	13.50





Respirable Dust Sampling and Free Silica monitoring											
Sr. No	Locations	Final Wt	22-Nov				23-Feb				
			Lab Sample Code	Date of sampling	Personal Dust Concentration in µg/cum	Free Silica Content %	Lab Sample Code	Date of sampling	Personal Dust Concentration in µg/cum	Free Silica Content %	STD Limit for Free Silica (as per (DGMS)
1	Inside HEME Cabin	0.0612	P33	19.11.2022	Nil	ND	P35	04.02.2023	1	ND	<5%
2	Near Packer - Packing Plant	0.0621	P30	21.11.2022	2	ND	P39	05.02.2023	2	ND	<5%
3	Inside CCR DCBL	0.0622	P32	07.11.2022	Nil	ND	P36	06.02.2023	Nil	ND	<5%
4	Cement Mill CCR	0.0615	P34	18.11.2022	2	ND	P38	07.02.2023	1	ND	<5%
5	Inside CCR-CPP	0.0618	P31	06.11.2022	Nil	ND	P37	08.02.2023	1	ND	<5%



Date/Time Tran at 12:59:45 PM October 19, 2022
Trigger Source Geo: 0.700 mm/s, Mic: 2.000 pa.(L)
Range Geo: 254.0 mm/s
Record Time 2.0 sec at 1024 sps
Operator/Setup: Operator/DCBL-1.MMB

Serial Number UM9188 V 10-76 Micromate ISEE
Battery Level 3.8 Volts
Unit Calibration December 7, 2021 by UES New Delhi
File Name UM9188_20221019125945.IDFW

Notes

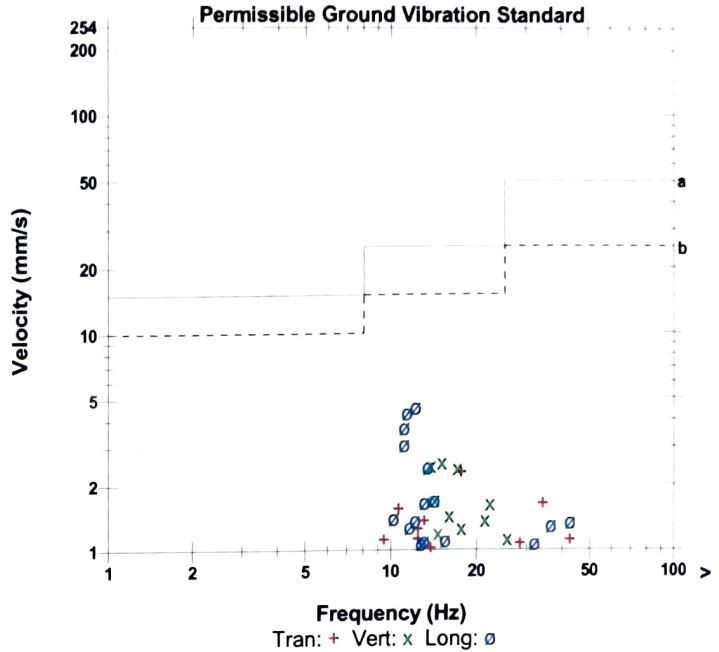
Location: YADWAD AND KUNNAL LIMESTONE MINE
Client: DALMIA CEMENT BHARAT LIMITED
User Name: DCBL
General: Pit-2, N / NE / E / SE / S / SW / W / NW

Microphone Linear Weighting
PSPL 5.586 pa.(L) at 1.965 sec
ZC Freq 11 Hz
Channel Test Passed (Freq = 19.7 Hz Amp = 1263 mv)

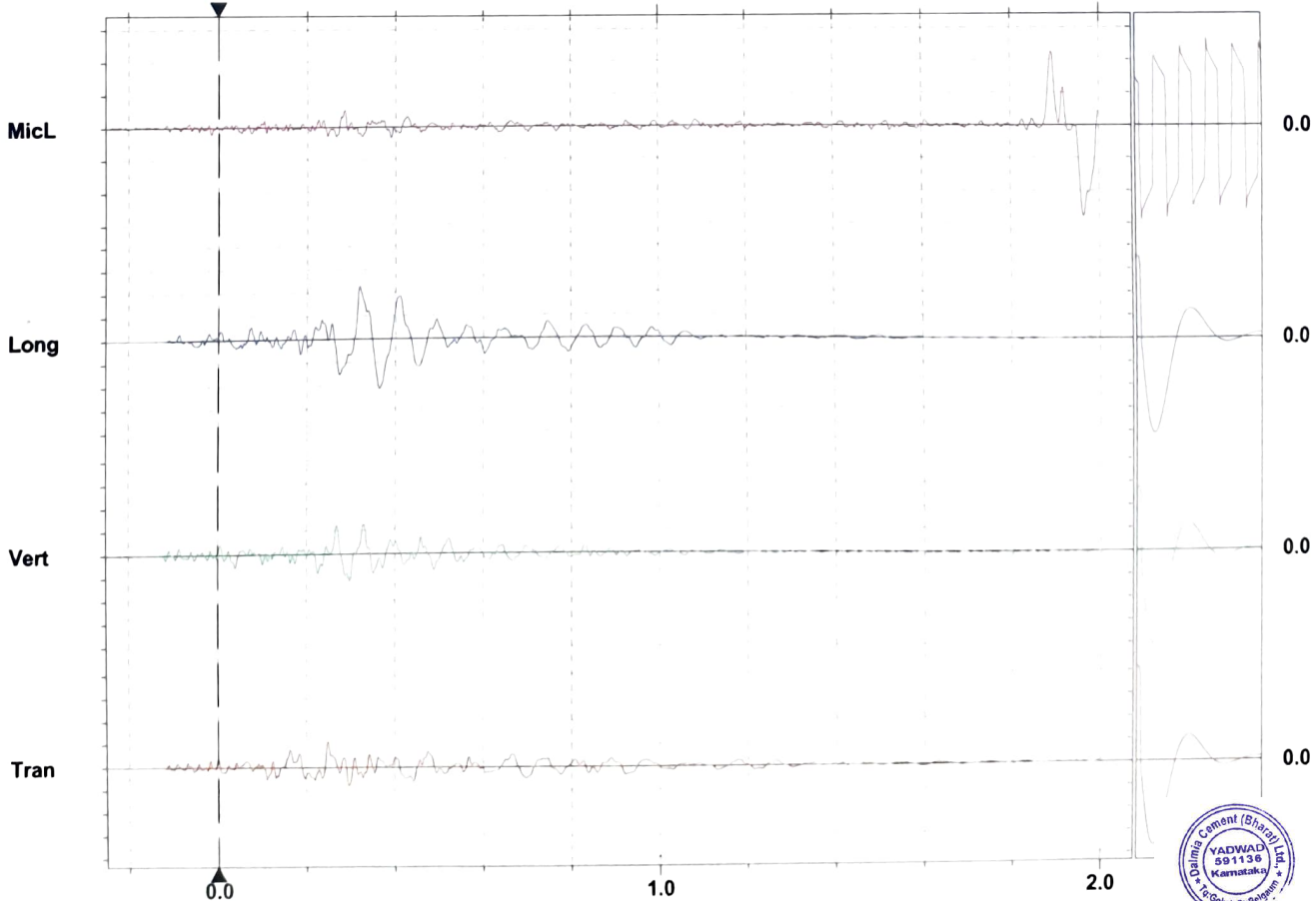
	Tran	Vert	Long	
PPV	2.270	2.522	4.548	mm/s
PPV (Ponderated)	1.777	2.273	4.257	mm/s
PPV	58.12	59.04	64.16	dB
ZC Freq	18	15	12	Hz
Time (Rel. to Trig)	0.249	0.329	0.319	sec
Peak Acceleration	0.066	0.070	0.094	g
Peak Displacement	0.017	0.020	0.053	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.7	7.5	Hz
Overswing Ratio	3.3	3.4	3.3	

Peak Vector Sum 4.610 mm/s at 0.319 sec

DGMS India (B)



a) Industrial buildings
 b) Domestic houses/structures



Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div Mic: 2.000 pa.(L)/div
Trigger =

Sensor Check



Date/Time Vert at 3 09 06 PM December 5, 2022
Trigger Source Geo 0.700 mm/s, Mic 2.000 pa.(L)
Range Geo 254.0 mm/s
Record Time 2.0 sec at 1024 sps
Operator/Setup: Operator/DCBL-1.MMB

Serial Number UM9188 V 10-76 Micromate ISEE
Battery Level 3.7 Volts
Unit Calibration December 7, 2021 by UES New Delhi
File Name UM9188_20221205150906.IDFW

Notes

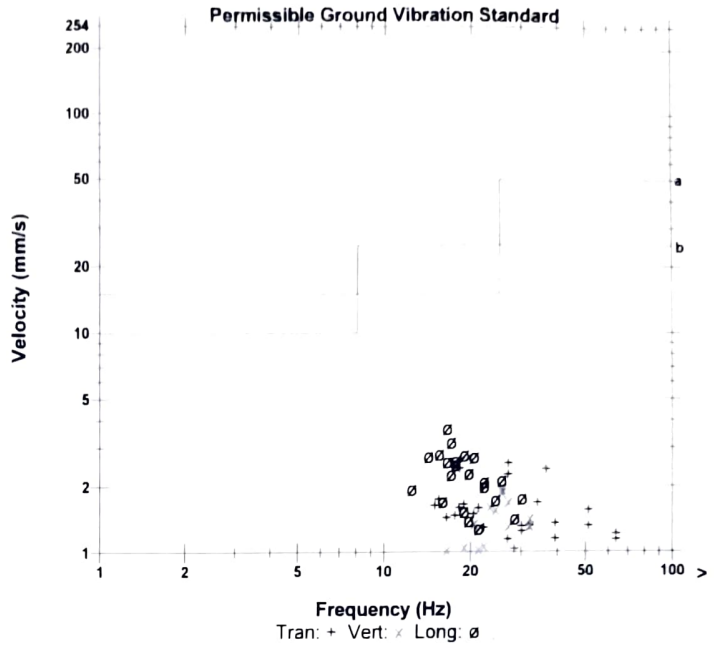
Location YADWAD AND KUNNAL LIMESTONE MINE
Client DALMIA CEMENT BHARAT LIMITED
User Name DCBL
General Pit-2 N / NE / E / SE / S / SW / W / NW

Microphone Linear Weighting
PSPL 48.36 pa (L) at 1.536 sec
ZC Freq 6.3 Hz
Channel Test Passed (Freq = 19.7 Hz Amp = 1293 mv)

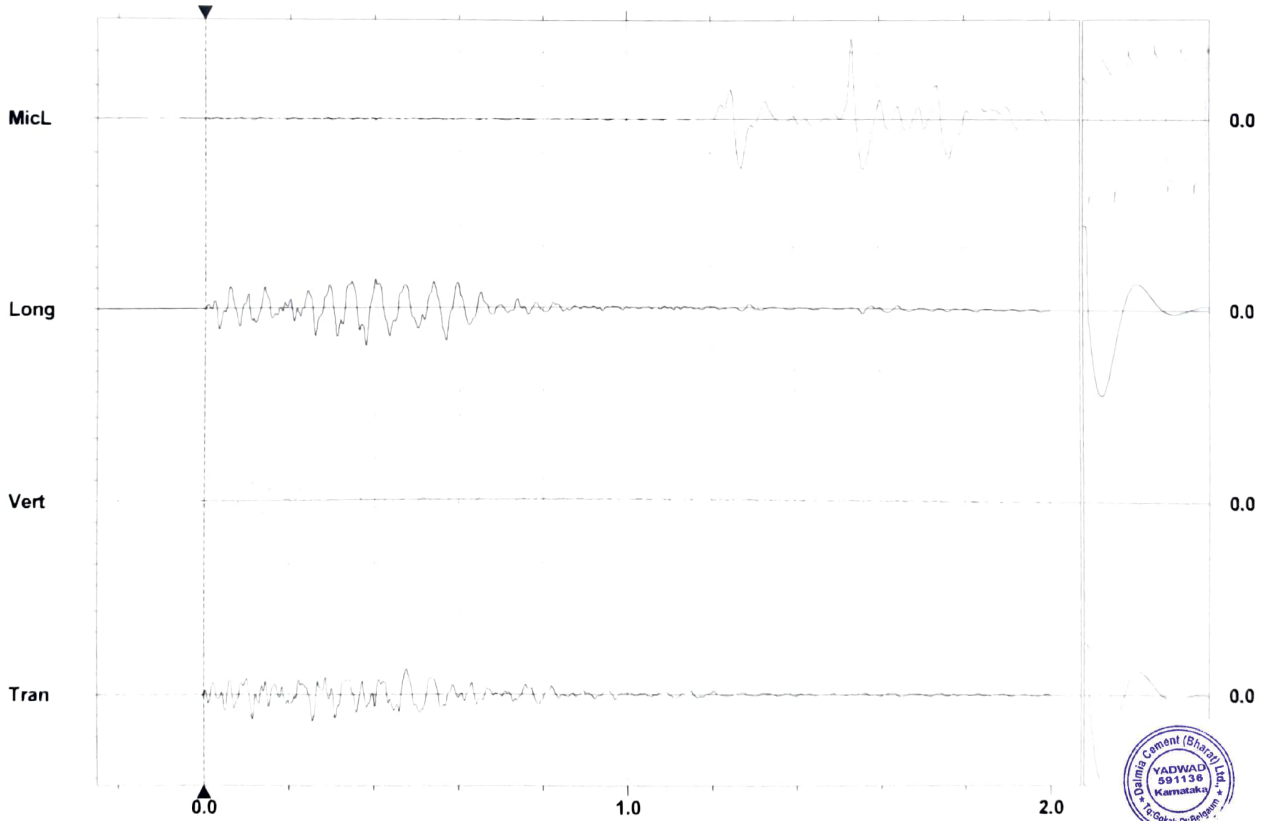
	Tran	Vert	Long	
PPV	2.546	1.947	3.665	mm/s
PPV (Ponderated)	2.242	1.640	3.086	mm/s
PPV	59.12	56.79	62.28	dB
ZC Freq	27	26	17	Hz
Time (Rel. to Trig)	0.255	0.133	0.378	sec
Peak Acceleration	0.109	0.058	0.081	g
Peak Displacement	0.020	0.011	0.029	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.7	7.5	Hz
Overswing Ratio	3.6	3.4	3.2	

Peak Vector Sum 3.751 mm/s at 0.258 sec

DGMS India (B)



a) Industrial buildings
 b) Domestic houses/structures

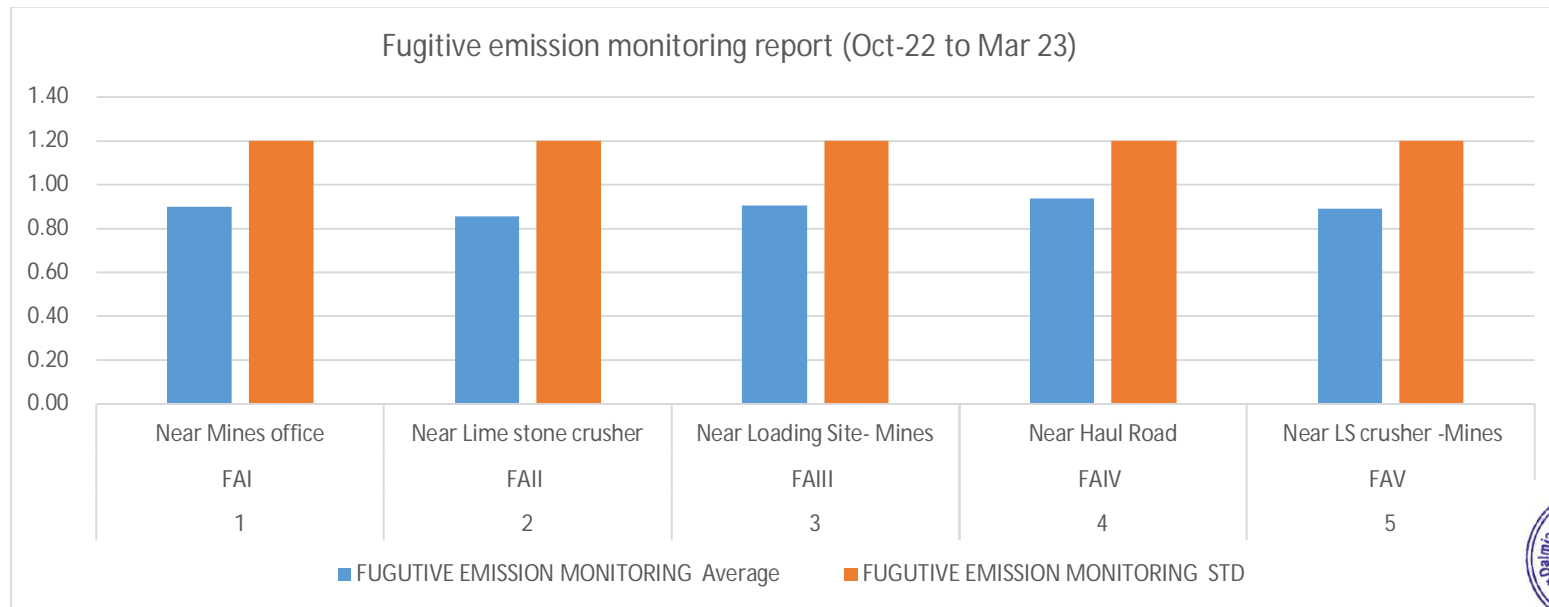


Time Scale: 0.20 sec/div **Amplitude Scale:** Geo: 2.000 mm/s/div Mic: 20.00 pa.(L)/div
 Trigger = ▶ ◀

Sensor Check



FUGUTIVE EMISSION MONITORING										
SI No.	Station Code	Name of the Station	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-22	Avg	STD
1	FAI	Near Mines office	0.91	0.94	0.90	0.80	0.87	0.97	0.90	1.2
2	FAII	Near Lime stone crusher	0.79	0.82	0.89	0.76	0.98	0.89	0.86	1.2
3	FAIII	Near Loading Site- Mines	0.80	0.81	0.83	1.06	1.05	0.87	0.90	1.2
4	FAIV	Near Haul Road	0.91	0.97	0.95	0.75	1.01	1.03	0.94	1.2
5	FAV	Near LS crusher -Mines	0.76	0.88	0.93	1.03	0.78	0.96	0.89	1.2



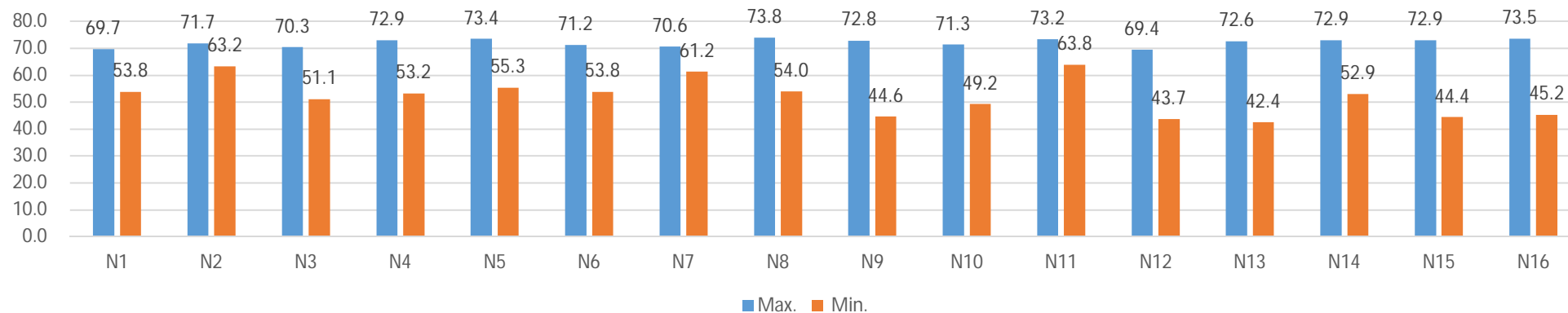
Vehicle Wash Treated Water Quality									
SI No	Parameters	Unit	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	As per GSR 422 (E)
1	Colour	Hazen units	<1	<1	<1	2	<1	<1	<1
2	Ambient Temperature	°C	26.9	27.80	20.7	21.8	20.90	26.0	-
3	pH	-	7.81	8.20	8.26	8.28	8.64	8.48	5.50 to 9.0
4	Total Dissolved Solids	mg/l	2380	2410	2420	760	2470	1146	
5	Total Suspended Solids	mg/L	3	13	3	1	11	14	100
6	Biochemical Oxygen Demand for 3 days at 27°C	mg/L	<1	3.00	<1	<1	1.80	<1	30
7	Chemical Oxygen Demand as O2	mg/L	<1	8	<1	<1	8	<1	250
8	Oil & Grease	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	10
9	Lead as Pb	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	0.1
10	Hexavalent Chromium as Cr+6	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	0.1
11	Copper as Cu	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	3
12	Zinc as Zn	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	5
13	Nickel as Ni	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	3
14	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-
15	Total Residual chlorine	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	1
16	Ammonia as NH3	mg/L	BDL	BDL	1.12	1.86	Nil	Nil	-
17	Kjeldahl nitrogen as NH3	mg/L	0.28	0.28	0.56	0.28	0.28	0.28	-
18	Ammonical nitrogen as N	mg/L	0.05	0.10	0.20	0.15	0.05	0.05	50
19	Cadmium as Cd	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	2
20	Arsenic as As	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	0.2
21	Mercury as Hg	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	0.01
22	Selenium As Se	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	0.05
23	Boron as B	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	-
24	Percent Sodium	mg/L	8.81	0.72	2.7	7.59	8.47	8.22	-



WORK PLACE NOISE LEVEL MONITORING

Sl.No	Code	Sampling Location	Unit	Oct-22		Nov-22		Dec-22		Jan-23		Feb-23		Mar-23		Average	
				Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	N1	At Packing plant-truck loading	dB	69.7	66.4	69.5	53.8	68.7	65.3	63.5	60.6	65.2	60.7	67.8	63.6	75.2	53.8
2	N2	At Cement mill	dB	71.7	68.4	70.8	63.2	70.2	66.2	68.6	63.4	70.3	67.3	71.2	67.5	73.7	58.7
3	N3	At CCR	dB	65.3	60.7	64.7	51.1	70.3	66.4	67.4	64.1	66.8	62.1	68.8	62.4	74.6	51.1
4	N4	At main gate Security office	dB	72.9	71.4	72.8	64.7	67.9	53.2	63.1	62.6	58.9	55.0	68.9	61.2	72.9	53.1
5	N5	At Clinker cooler	dB	73.4	70.6	70.4	65.6	62.3	55.3	70.2	68.5	63.5	59.2	67.1	59.8	74.6	55.3
6	N6	At Raw Mill	dB	69.2	66.8	69.9	64.5	71.2	57.8	61.4	59.2	55.4	53.8	67.5	63.4	74.3	53.8
7	N7	At Coal mill	dB	70.5	67.2	70.6	66.3	68.7	62.4	68.1	65.2	66.6	62.7	63.6	61.2	71.7	61.2
8	N8	At Health centre	dB	73.6	69.1	73.8	64.4	69.2	54.2	58.8	54.0	57.1	54.6	63.9	58.8	73.8	50.9
9	N9	At CCR-CPP	dB	72.8	64.5	69.8	58.6	58.7	52.3	55.4	53.3	51.7	44.6	62.7	61.2	72.8	44.6
10	N10	At Turbine floor	dB	58.3	56.2	65.9	49.2	57.2	54.2	58.4	55.3	60.2	57.3	71.3	67.2	74.0	49.2
11	N11	At LS crusher	dB	73.2	70.5	72.2	64.5	71.2	65.6	66.8	63.8	68.4	65.5	69.8	66.4	73.2	58.4
12	N12	At Guest House	dB	59.5	57.0	61.1	52.5	54.4	44.1	60.4	58.3	52.3	43.7	69.4	63.5	72.5	43.7
13	N13	At Store	dB	71.8	68.2	62.3	53.7	53.2	42.4	59.3	57.4	61.5	59.4	72.6	66.3	72.6	42.4
14	N14	Near Packer-Packing Plant	dB	72.9	69.4	71.7	64.8	65.4	52.9	59.1	57.4	58.0	55.6	71.2	66.1	74.9	52.9
15	N15	At Mines office	dB	72.9	71.1	66.8	57.9	58.9	44.4	65.7	60.2	63.9	60.1	69.3	63.7	72.9	44.4
16	N16	Inside HEME equipment cabin	dB	73.5	68.3	59.9	48.2	58.7	45.2	66.6	62.9	65.3	63.5	73.2	65.8	73.5	45.2

Work Place Noise Monitoring (Oct 22 - Mar 23)



AMBIENT NOISE LEVEL MONITORING

Sl.No	Code	Sampling Location	Unit	Oct-22		Nov-22		Dec-22		Jan-23		Feb-23		Mar-23		Average		STD	
				Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1	N1	West side of Working Pit	dB	67.2	65.3	65.2	63.1	64.8	63.0	55.3	47.2	58.5	52.3	59.2	53.5	63.6	60.6	75.0	70.0
2	N2	South side of Working Pit	dB	58.4	57.2	59.1	56.4	58.7	57.8	60.8	58.7	58.2	56.2	58.9	55.1	63.1	60.5	75.0	70.0
3	N3	North side of Working Pit	dB	63.6	58.4	64.2	59.2	63.9	58.4	59.8	55.3	61.2	60.9	64.8	61.1	63.6	60.6	75.0	70.0
4	N4	East side of Working Pit	dB	59.8	57.3	58.4	58.9	57.2	56.7	65.4	63.2	60.9	60.4	60.2	58.1	60.1	57.8	75.0	70.0
5	N1	At Main Entrance gate	dB	59.8	56.2	58.7	57.1	64.5	55.6	64.9	55.2	55.2	54.4	60.7	56.1	62.6	59.2	75.0	70.0
6	N2	Yadwad village	dB	52.6	42.3	51.9	43.8	54.2	52.3	53.9	42.6	54.2	42.6	59.1	51.4	53.6	44.9	55.0	45.0
7	N3	Manami village	dB	50.1	41.8	52.2	43.2	52.4	51.1	53.1	44.3	53.3	41.2	64.2	60.5	53.8	45.4	55.0	45.0
8	N4	At Guest House	dB	53.2	44.1	54.2	43.1	51.4	45.2	52.3	41.1	50.1	42.2	51.2	42.9	52.5	43.4	55.0	45.0

