

Ref: DCBL/ENV/KSPCB-Form-V/Mines/2021-22/101

Date: 27.09.2022

To,
Environmental Officer,
Regional Office Belgaum-2,
Karnataka State Pollution Control Board,
Plot No-3224/3, Hanuman Nivas,
1st Floor, B K College Road, Chikkodi,
Belgaum District – 591201.

Dear Sir,

Sub: Environment Statement in Form-V, Yadwad & Kunnal Limestone Mine – reg.

With reference to the above subject, we are herewith submitting the Environment Statement in Form-V for the financial year April-2021 to March-2022.

We hereby assure that all the conditions stipulated in Consent for Operate will be strictly complied with.

Kindly acknowledge receipt of the same.

Thanking you,

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

Authorized Signatory

CC:

The senior Environmental Officer,
Karnataka State Pollution Control Board
#49 Parisara Bhavana, Church Street,
Bangalore – 560001.

Encl:

Form-V: Yadwad & Kunnal Limestone Mine.

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

INTEGRITY
TRUST & RESPECT
HUMILITY
COMMITMENT



FORM V

ENVIRONMENTAL STATEMENT

Yadwad & Kunnal Limestone Mine

**For the Year
2021-22**

**Dalmia Cement (Bharat) Ltd., Yadwad
Gokak Taluk,
Belgavi District,
Karnataka**

ENVIRONMENTAL STATEMENT (FORM-V)

(See Rule 14)

Environmental Statement for the financial year 2021-22 ending with 31st March 2022.

PART-A

(i)	Name and Address of the Owner / Occupier of the industry	Yadwad & Kunnal Limestone Mine M/s.Dalmia Cements (Bharat) Ltd., R.S.No. 394, Yadwad Village, Gokak Taluk,Belgaum District-591136, KARNATAKA
(ii)	Operation or process Industry category primary-(STC Code) Secondary-(STC Code)	Mining Operations Not applicable
(iii)	Production Category- units	Red Category 4.3 MTPA
(iv)	Year of establishment	2017
(v)	Date of the last environmental statement submitted	30.09.2021

PART-B

Water and Raw Material Consumption

(i) **Water consumption:** 79.7 m³/day

Process:

Cooling:

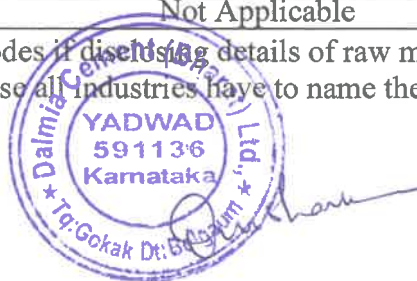
Water Code	Consented Water (KL/D)	Water Consumption (KL/D)
Manufacturing Process	10.0	7.07
Dust Suppression	60.0	46.75
Green Belt Development	20.0	19.09
Domestic Purpose	10.0	6.79

Name of Product	Process Water Consumption per unit of product	
	During the current financial year (2020-21)	During the current financial year (2021-22)
Limestone	0.0041 KL/MT	0.0035KL/MT

(ii) **Raw material consumption:**

Name of raw Materials*	Name of Products	Consumption of Raw material per unit of output	
		During the current financial Year (2020-21)	During the current financial Year (2021-22)
Not Applicable			

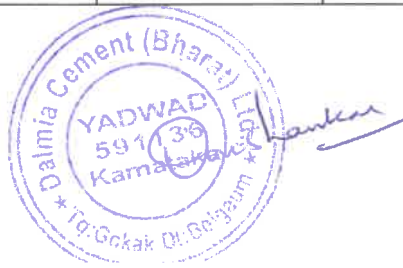
- Industry may use codes if disclosing details of raw materials would violate contractual obligations, otherwise all industries have to name the raw materials used.



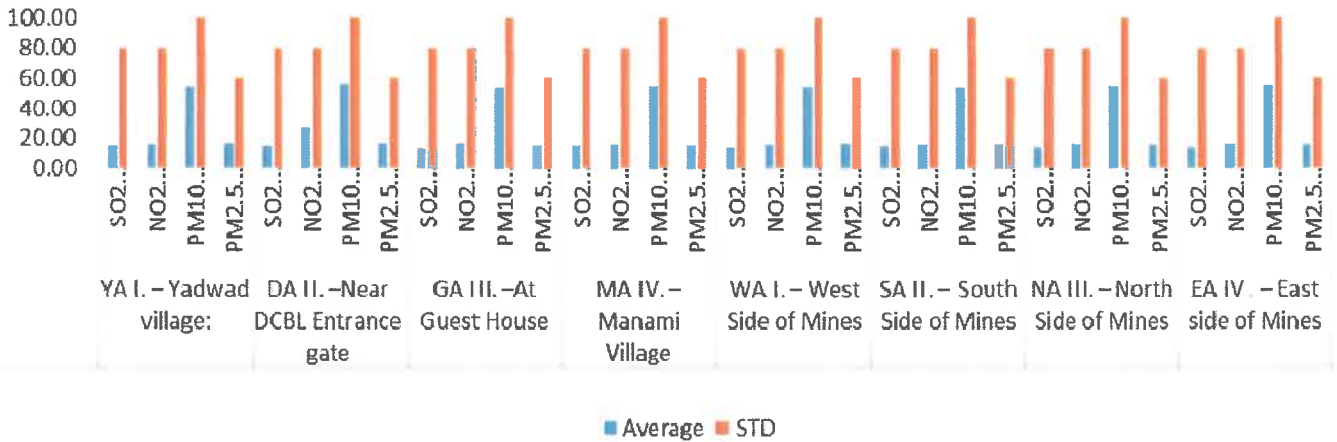
PART-C

Pollution discharged to environment/unit of output:

Pollutants		Quantity of Pollutants discharged (mass/day)	Concentrations of pollutants discharged (mass/volume)	Percentage of variation from prescribed standards with reasons
(A) Water				
1	DCGW1: East side of mine working pit (tube well)			Enclosed vide Annexure-I
2	DCGW3: South side of mine working pit (tube well)			
3	DCGW4: North side of mine working pit (tube well)			
4	DCGW5: DCBL Entry Gate (tube well)			
5	Vehicle wash water sample			
(B) AIR				
a	YAI – Yadwad Village	PM10	54.28	Within Standards
		PM2.5	16.74	
		SO2	14.98	
		NO2	16.48	
b	DAII–Near DCBL Entrance Gate	PM10	55.99	Within Standards
		PM2.5	17.02	
		SO2	13.48	
		NO2	16.76	
c	GAIII-At Guest House	PM10	53.87	Within Standards
		PM2.5	16.66	
		SO2	13.48	
		NO2	16.76	
d	MAIV-Manami Village	PM10	54.65	Within Standards
		PM2.5	15.89	
		SO2	15.09	
		NO2	16.22	
e	WAI-West Side of Mines	PM10	54.71	Within Standards
		PM2.5	16.75	
		SO2	14.07	
		NO2	16.22	
f	SAII-South Side of Mines	PM10	53.64	Within Standards
		PM2.5	15.94	
		SO2	15.14	
		NO2	15.99	
g	NAIII-North Side of Mines	PM10	55.02	Within Standards
		PM2.5	16.55	
		SO2	14.75	
		NO2	16.20	
h	EA IV-East side of Mines	PM10	55.25	Within Standards
		PM2.5	16.37	
		SO2	14.33	
		NO2	16.53	



Ambient Air Quality 2021-22



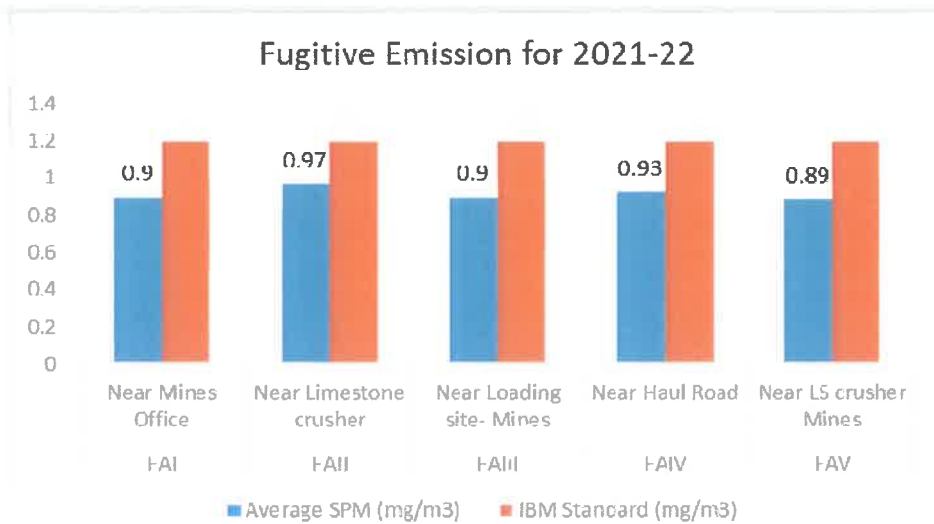
(C) Noise Levels			
Code	Stations	Average Max	Average Min
N1	At packing plant truck loading	71.5	62.9
N2	At Cement Mill	75.9	71.4
N3	At CCR	71.7	59.4
N4	At main gate Security office	66.8	58.8
N5	At Clinker cooler	75.0	71.1
N6	At Raw Mill	76.5	72.3
N7	At Coal Mill	75.0	69.4
N8	At Health Centre	70.9	65.2
N9	At CCR-CPP	68.9	60.4
N10	At Turbine floor	72.3	64.4
N11	At LS crusher	75.4	67.8
N12	At Guest House	70.9	57.3
N13	At Store	68.8	63.3
N14	Near Packer Packing Plant	77.1	70.9
N15	At Mines Office	69.3	61.3
N16	Inside HEME equipment cabin	69.4	65.9

Within Standards

Ambient Noise



(D) Fugitive Emissions				
Code	Stations	Average SPM (mg/m ³)	IBM Standard (mg/m ³)	
FAI	Near Mines Office	0.90	1.2	Within Standards
FAII	Near Limestone crusher	0.97	1.2	
FAIII	Near Loading site- Mines	0.90	1.2	
FAIV	Near Haul Road	0.93	1.2	
FAV	Near LS crusher Mines	0.89	1.2	



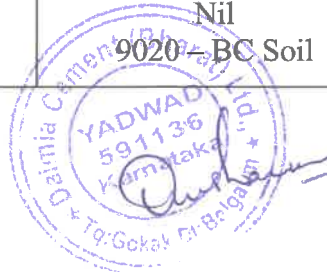
**PART-D
HAZARDOUS WASTES**

[as specified under Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2016 as Amended]

Hazardous Wastes	Total Quantity in (kg)	
	During the Current financial year (2020-21)	During the Current financial year (2021-22)
1. From Process	Nil	Nil
2. From Pollution control facilities	Nil	Nil

**Part-E
SOLID WASTE**

Solid Waste	Total Quantity in (MT)	
	During the current financial year (2020-21)	During the current financial year (2021-22)
a. From Process	61710 MT	40175 MT
b. From Pollution Control Facility	Nil	Nil
c. Quantity recycled or re-utilized within the unit	9020 – BC Soil	19030 – BC Soil



PART-F

Please specify the characteristics (in terms of concentration and quantum) of Hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

Waste Details	Quantity (MT/KL)	Disposal Method
Hazardous Waste	Nil	No Hazardous Waste generated in the mine
Solid Waste	40175	Stacked separately at designated area as per IBM rules and same is used as per restoration plan and 19030 MT of BC soil utilized within the unit for plantation.

PART-G

Impact of pollution control measures taken on conservation of natural resources and consequently on the cost of production;

Rain Water Harvesting:

Existing rain water harvesting pond within the mine and plant are maintained.

Catchment drains:

Catchment drains along the profile were made to collect rain water from higher elevations. Drains along the Haul roads, top soil storage & waste dumps developed and connected to the rain water harvesting pond.

During the financial year 2021-22 up keeping of retaining wall 645 mtr at top soil dump with an expenditure of Rs. 121260/- and up keeping of retaining wall of 745 mtr & 425 mtr at rejection dump with an expenditure of Rs.600000/- along with up keeping of garland drain of 645 mtr with an expenditure of 30000/- at top soil dump and 770 mtr & 435 mtr at rejection dump by spending Rs. 160000/- respectively. Maintaining of settling pond at top soil dump area at an expenditure of Rs.25000/- and Rs.33000/- at waste dump. Rain water harvesting pit of 40000 m³ capacity with an expenditure of Rs. 330000/- for maintenance.



Mines View



Top Soil Dump



Waste Soil Dump



Siltation Pond



Garland Drain



Storm water drainage at Mines



Stamp: D 6 Karnataka
Signature: Anshu

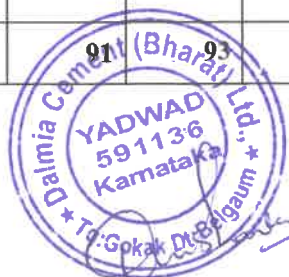
Water Sprinkling Facilities for Dust Suppression in Mines



Green Belt Development:

Extensive Green belt developed over an area of about 25 ha with the lease area & outside the lease providing a barrication along the lease boundary. More than 15 varieties of various local spices were identified in consultation with forest department and around 2800 saplings planted & maintained with a survival rate of 89% and also maintained the previously carried out plantation.

Sr. No.	Unit	<u>Plantation Details</u>									
		Year									TOTAL
		2013-14	2014-15	2013-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	
CEMENT PLANT											
1	No. of Trees Planted	1802	11981	48835	16415	7437	44874	11717	1500	-	144561
2	Area Covered (Ha)	0.7208	4.7924	19.534	6.566	2.9748	17.9496	4.6868	0.5	-	57.7
3	Survival Rate %	89	91	91	93	94	94	93	93	-	92
MINES											
1	No. of Trees Planted	-	-	-	230	4484	8066	1884	2500	2800	19964
2	Area Covered (Ha)	-	-	-	0.85	16.04	22.07	0.75	2	2.5	44.21
3	Survival Rate (%)	-	-	-	-	93	93	95	95	95	93.66



PART-H**Additional measures/investment proposal for environmental protection including abatement of pollution.**

- (i) Mine Management is regularly seeking information on advanced /latest environment control measures from various government agencies / experts in improving the local environment & ecology.
- (ii) Company is committed to take local community along for taking environmental protection measures effectively thereby controlling the environmental degradation and by taking extensive community developmental activities in the region.
- (iii) Trucks carrying ores are being loaded with permitted quantity and covered with tarpaulin.
- (iv) Regular Air, Water and Noise Monitoring being carried out to take corrective actions.
- (v) A separate Environment Management Cell was constituted headed by the Mines Manager to look after all the environmental related aspects.

PART-I**(MISCELLANEOUS)****Any other particulars in-respect of environmental protection and abatement of pollution;**

- Dalmia Cement (Bharat) Ltd. is highly serious and committed to comply with environment norms, rules and regulations in all aspects covered. A panorama of environmental promotional activities has been depicted in Environmental Statement, which also gives a view of extensive green belt development, dense forest created in plant premises, along with a compliance status of emission norms under various laws/by laws of Water Pollution Act, 1974 and Air Act, 1981.
- We have always given priorities to the directions and timely programmes of state pollution control boards, took lead in implementing those programmes, along with a strong compliance of environmental norms.
- In addition to complying with the legal norms and standards, the company also undertakes several social projects as part of its social responsibility initiatives and has thus incurred several expenditures on several measures, including those for protection of the environment.

**Authorized Signatory**

EXTRACT OF WATER QUALITY MONITORING DATA (Ground water samples)

Project: Yadwad Limestone Mines (MI. No. 002, A/P)
Client: M/s. Dalmia Cement (Bharat) Limited

Period: June 2021 to Mar. 2022

Sl. No.	Parameters	Protocol	Unit	Results in rang				Drinking water specification Standards as per IS:10500:2012
				DCGW1	DCGW3	DCGW4	DCGW5	
PHYSICAL								
1.	Colour	IS: 3025 (PART 14)- 1984, RA-2012, Platinum cobalt Method	Haze n units	<1	<1	<1	<1	15
2.	Ambient Temperature	IS:3025 (PART 9)-1984, RA-2012, Thermometer	°C	26.90 to 29.5	27.10 to 29.4	27.40 to 29.3	28.00 to 29.7	-
3.	Conductivity	IS:3025 (PART 14)-1984, RA-2013, Electrometric method	µs/cm	2440 to 3400	1702 to 2900	1382 to 3420	227 to 3480	-
4.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2012, Gravimetric method	mg/L	1520 to 1960	1190 to 1700	970 to 1980	132 to 1980	2000
5.	pH	IS:3025 (part 11)-1983, RA-2012, Electrometric method	-	7.69 to 8.06	7.54 to 7.99	7.67 to 7.82	7.8 to 7.94	6.5 to 8.5
6.	Turbidity	IS:3025 (part 10)-1984, RA-2012, Nephelometric method	NTU	0.50 to 4.2	0.40 to 2.1	0.30 to 0.60	0.6 to 3.10	5
7.	Total Suspended Solids	IS:3025 (part 17)-1984, RA-2012, Gravimetric Method	mg/L	6 to 10	1 to 11	3 to 27	4 to 22	-
CHEMICAL								
8.	Dissolved Oxygen	IS:3025 (part 38)-1989, RA-2014, Winkler titrimetric azide modification	mg/L	6.8 to 7.10	5.6 to 7.2	5.8 to 6.90	6.3 to 6.9	-
9.	Biochemical Oxygen Demand for 3 days at 27°C	IS:3025 (part 44)-1993, RA-2014 Three days BOD at 27°C	mg/L	<1	<1 to <1	<1	<1	-
10.	Chemical Oxygen Demand	APHA 5220-B (P.NO. 5-17) Open reflux method	mg/L	<1	<1 to <1	<1	<1	-
11.	Phosphate as PO ₄	IS:3025 (part 31)-1988, RA-2014 Stannous chloride method	mg/L	0.02 to 0.075	0.02 to 0.075	0.04 to 0.075	0.02 to 0.075	-

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Sl. No.	Parameters	Protocol	Unit	Results in range				Drinking water specification Standards as per IS:10500:2012 Limits
				DCGW1	DCGW3	DCGW4	DCGW5	
12.	Sodium as Na	IS:3025 (part 45)-1993, RA-2014 Flame Emissionphotometric method	mg/L	210.5 to 521.0	151.5 to 396.9	261.8 to 583.4	15.6 to 1236.9	-
13.	Potassium as K	IS:3025 (part 17)-1984, RA-2014 Flame Emissionphotometric method	mg/L	0.3 to 5.3	0.4 to 4.6	0.5 to 7.2	0.3 to 1.6	-
14.	Calcium as Ca	IS:3025 (part 40)-1991, RA-2014 EDTA Titrimetric method	mg/L	76.95 to 113.03	82.56 to 113.83	71.34 to 114.63	11.22 to 172.34	200
15.	Magnesium as Mg	APHA 22 nd Edition 350-B-Mg By calculation	mg/L	35.88 to 60.66	45.13 to 76.68	45.11 to 63.59	6.80 to 39.25	100
16.	Total Hardness as CaCO ₃	IS:3025 (part 21)-1983, RA-2014 EDTA Titrimetric method	mg/L	430 to 512	392 to 600	440 to 530	56 to 592	600
17.	Chloride as Cl	IS:3025 (part 32)-1988, RA-2014 Argentometric Method	mg/L	75.48 to 437.97	237.54 to 337.40	169.95 to 465	34.99 to 515.17	1000
18.	Sulphate as SO ₄	APHA 22 nd edition 4500-SO ₄ ²⁻ -E (P.NO.4-190-191) Turbidimetric method	mg/L	81 to 137.50	82.5 to 106	79.5 to 110	10 to 111	400
19.	Fluoride as F	APHA 22 nd edition 4500-F ⁻ -D. (P.NO. 4-87 - 88)SPADNS Method	mg/L	0.95 to 1.32	1.13 to 1.75	1.06 to 1.29	0.11 to 1.35	1.50
20.	Nitrate Nitrogen as NO ₃	IS:3025 (part 34)-1988, RA-2014 Chromotropic acid method	mg/L	3 to 5.60	3.60 to 5.80	3.85 to 13.35	3.38 to 5.40	45
21.	Total Alkalinity as CaCO ₃	IS:3025 (part 23)-1986, RA-2014 Indicator method	mg/L	290 to 160	420 to 560	435 to 545	55 to 475	600
22.	Acidity as CaCO ₃	IS:3025 (part 22)-1986, RA-2014 Indicator method	mg/L	Nil to 5	Nil to 4	Nil to 4.5	Nil to 3	-
23.	Oil & Grease	IS:3025 (part 39)-1991, RA-2014 Partition Gravimetric method	mg/L	BDL	BDL	BDL	BDL	-
24.	Total Iron as Fe	APHA 22 nd Edition 3111B (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	0.02 to 187	0.051 to 0.121	0.211 to 0.082	BDL to 0.256	0.30
25.	Nickel as Ni	APHA 22 nd Edition 3111B (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL to 0.009	BDL to 0.008	BDL to 0.006	BDL to 0.007	0.02
26.	Manganese as	APHA 22 nd Edition 3111B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL to 0.093	BDL to 0.147	BDL to 0.109	BDL to 0.085	0.30

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Sl. No.	Parameters	Protocol	Unit	Results in range					Drinking water specification Standards as per IS:10500:2012 Limits
				DCGW1	DCGW3	DCGW4	DCGW5		
TRACE METALS									
27.	Copper as Cu	APHA 22 nd Edition 3111B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL to 0.061	BDL to 0.065	BDL to 0.072	BDL to 0.087	1.50	
28.	Zinc as Zn	APHA 22 nd Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL to 0.022	0.016 to 0.030	BDL to 0.034	BDL to 0.027	15	
29.	Lead as Pb	APHA 22 nd Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL	BDL	BDL	BDL	0.01	
30.	Chromium as Cr	APHA 22 nd Edition 3111 B. (p.no.3-18) Direct Air Acetylene Flame Method	mg/L	BDL to 0.046	BDL to 0.035	BDL to 0.043	BDL to 0.045	0.05	
31.	Silver as Ag	APHA 22 nd Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL to 0.032	BDL to 0.029	BDL to 0.051	BDL to 0.041	0.10	
32.	Mercury as Hg	APHA 23 rd Edition 3112 B. (p.no.3-23) Direct Air Acetylene e Flame Method	mg/l	BDL	BDL	BDL	BDL	0.001	
MICROBIOLOGICAL									
32.	Total Coliform count	APHA 9222-B (p.no.9-57-61) Membrane filter technique	MPN/100 ml	Absent	Absent	Absent	Absent	Shall not be detectable in any 100 ml sample	
33.	Escherichia coli count	APHA 9221-F (p.no.9-51-52) Membrane filter technique	MPN/100 ml	Absent	Absent	Absent	Absent	Shall not be detectable in any 100 ml sample	

Note: 1. ND - Not detected, BDL- Below detectable limit. (Lead <0.001, Mercury <0.001, Nickel <0.001, Chromium <0.001, Silver <0.001, Oil & Grease <0.0045).
2. The above results are related only to the samples collected & tested on the particular date and time.

Name of the Location : DCGW1: East side of Mine working Pit (Tube Well)
DCGW3: South side of Mine working Pit (Tube Well)
DCGW4: North side of Mine working Pit (Tube Well)
DCGW5: DCBL Entry Gate (Tube Well)



EXTRACT OF WATER QUALITY MONITORING DATA (Vehicle wash water)

Project: Yadwad Limestone Mines (Ml. No. 002, A/P)

Period: June 2021 to Mar 2022

Client : M/s. Dalmia Cement (Bharat) Limited)

Sl. No	Parameters	Protocol	Unit of Measurement	Results in range
1.	Colour	IS: 3025 (PART 14)- 1984, RA-2012 Platinum cobalt Method	Hazen units	<1
2.	Odour*	IS: 3025 (PART 5)- 1983, RA-2012, True Odour	-	Agreeable
3.	Ambient Temperature	IS:3025 (PART 9)-1984, RA-2012, Thermometer	°C	27.40 to 30.4
4.	pH	IS:3025 (part 11)-1983, RA-2012, Electrometric method	-	7.88 to 8.16
5.	Total Dissolved Solids	IS:3025 (part 16)-1984, RA-2012 Gravimetric method	mg/L	948 to 2650
6.	Total Suspended Solids	IS:3025 (part 17)-1984, RA-2012, Gravimetric Method	mg/L	3 to 36
7.	Biochemical Oxygen Demand for 3 days at 27°C	IS:3025 (part 44)-1993, RA-2014, Three days BOD at 27°C	mg/L	<1 to 1.50
8.	Chemical Oxygen Demand as O ₂	APHA 5220-B Closed reflux method	mg/L	1 to 8
9.	Oil & Grease	IS:3025 (part 39)-1991, RA-2014, Partition Gravimetric method	mg/L	BDL to 0.126
10.	Lead as Pb	APHA 22 nd Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL
11.	Hexavalent Chromium as Cr+6	APHA 22 nd Edition 3112 B. Direct Air Acetylene e Flame Method	mg/L	0.059 to 0.384
12.	Copper as Cu	APHA 22 nd Edition 3111B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL to 0.054
13.	Zinc as Zn	APHA 22 nd Edition 3111 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL to 0.059
14.	Nickel as Ni	APHA 22 nd Edition 3111B (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL to 0.171
15.	Total Residual chlorine	IS:3025 (part 26)-1986, RA-2003, Iodometric method	mg/L	BDL
16.	Ammonia as NH ₃	APHA 23 rd Edition 4500 NH ₃ C. Titration method	mg/L	BDL
17.	Kjeldahl nitrogen as NH ₃	APHA 23 rd Edition 4500-N _{org} B. Macrokjeldahl Method	mg/L	0.28 to 1.62
18.	Ammonical nitrogen as N	IS:3025 (part 34)-1988, RA-2014, Nesslerization method	mg/L	0.10 to 0.66
19.	Cadmium as Cd	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.077 to 0.086
20.	Arsenic as As	APHA 22 nd Edition 3114 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL



21.	Mercury as Hg	APHA 23 rd Edition 3112 B. (p.no.3-23) Direct Air Acetylene e Flame Method	mg/l	BDL
22.	Selenium As Se	APHA 22 nd Edition 3114 B. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL
23.	Boron as B	APHA 22 nd Edition 3111 D. (p.no.3-19) Direct Air Acetylene Flame Method	mg/L	BDL
24.	Percent Sodium	By calculation	mg/L	4.35 to 11.44

Note: 1. ND - Not detected, BDL- Below detectable limit,. (Boron <0.001, Lead <0.001, Hexavalent Chromium <0.001, Mercury <0.001, Selenium <0.001, Cadmium <0.001, Nickel <0.001, Arsenic <0.001),

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

