



By E-mail

Cho/MoEF/HYC/C/302/3574

Date- 31-10-2023

To,
Deputy Director General of Forests (C)
Integrated Regional Office, Gandhi Nagar
Ministry of Environment, Forest & Climate Change,
A- Wing - 407 & 409, Aranya Bhawan,
Near CH - 3 Circle Sector-10 A,
Gandhinagar -382010 (Gujarat)

Subject: Submission of Compliance Report of the conditions as laid down in the Environmental Clearance letter no. J-11015/47/2005-IA. II (M) dated 07.10.2005 in respect of **Chorbedi (Composite) Limestone Mines** for the half year period **April-2023 to September -2023**

Respected Sir,

As required, we are submitting herewith Point wise compliance status to various stipulations, as laid down in Environmental Clearance letter No. J-11015/47/2005-IA. II(M) dated 07.10.2005 with supporting documents, is enclosed with the following Annexure: -

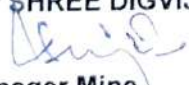
Sr. No.	Annexure	Sr. No.	Annexure
1	Annexure-1 (Details of Garland Drain & Water Recharge and Siltation)	6	Annexure-6 A & B (SPCB-CTO)
2	Annexure-2 (Photographs of Water Reservoir)	7	Annexure-7 (Ambient Air Reports -April - 2023 To June- 23)
3	Annexure-3 (Proposed Plantation List)	8	Annexure-8 (Noise Reports – April - 2023 To June - 2023)
4	Annexure-4 (Plantation Photographs)	9	Annexure-9 (Environment Yearly Expenses Statement)
5	Annexure-5 (Comprehensive Hydrogeological Report)	10	Annexure-10 (MOEF-EC)

We hope that you will find the above submission in order.

Thanking you,

Yours faithfully,

For **SHREE DIGVIJAY CEMENT CO. LTD.**


Manager Mine

Enclosures - As Above

Copy To:

1.The Environmental Engineer, Gujarat Pollution Control Board, Paryavaran Bhavan, Sector 10A, Gandhinagar -382010.

**SHREE DIGVIJAY
CEMENT CO. LTD.**

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SHREE DIGVIJAY CEMENT CO. LTD.
CHORBEDI (COMPOSITE) LIMESTONE MINE
SIX MONTHLY COMPLIANCE STATUS
April-2023 to September-2023

S. NO.	CONDITIONS	COMPLIANCE STATUS																									
A.	Specific Conditions																										
(i)	The production capacity from this mine shall not exceed 0.9 MTPA with a capping of production of limestone to a capacity of 2.2 MTPA from all 5 Mines, namely Gop, Pachhtar, Mokhana, Chorbedi and Bhogat Limestone mines put together subject to the individual mines obtaining environmental clearance.	Production during April-2023 to September-2023 is 0.069 MT from Chorbedi (Composite) Limestone Mine. 04 Mines viz. Gop, Chorbedi, Pachhtar and Mokhana Mines have obtained EC individually as detailed below: Gop Mines – J-11015/47/2005-IA. II (M) dated 7th October 2005. Chorbedi Mines – J-11015/47/2005-IA. II (M) dated 7th October 2005. Pachhtar Mines - J-11015/49/2005-IA. II (M) dated 7th October 2005. Mokhana Mines- J-11015/48/2005-IA. II (M) dated 7th October 2005. Production of all 05 Limestone Mines during April-2023 to September-2023 and its capacities are as under: <table><tr><th>Name of Mine</th><th>EC Capacity in Million Tons</th><th>Production in Million Tons</th><th>Remarks</th></tr><tr><td>Gop</td><td>0.25</td><td>0.139</td><td rowspan="4">Within the EC Limit</td></tr><tr><td>Pachhtar</td><td>1.00</td><td>0.445</td></tr><tr><td>Chorbedi</td><td>0.90</td><td>0.069</td></tr><tr><td>Mokhana</td><td>0.70</td><td>0.000</td></tr><tr><td>Bhogat</td><td>EC not granted</td><td>0.000</td><td></td></tr><tr><td>Total</td><td>2.85 (Limited to 2.20)</td><td>0.653</td><td></td></tr></table> Mokhana Mines: Whole lease area of Mokhana Mines was under Forest Land for which Possession taken over by Forest Department on 07.08.2004. The operations were stopped since 05.08.2004. Bhogat Mines: The area covered under CRZ and EC for this mine is rejected vide MoEF letter 09.10.2006. There is no production from Bhogat Mines Since 21.10.2004.	Name of Mine	EC Capacity in Million Tons	Production in Million Tons	Remarks	Gop	0.25	0.139	Within the EC Limit	Pachhtar	1.00	0.445	Chorbedi	0.90	0.069	Mokhana	0.70	0.000	Bhogat	EC not granted	0.000		Total	2.85 (Limited to 2.20)	0.653	
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Bhogat	EC not granted	0.000																									
Total	2.85 (Limited to 2.20)	0.653																									
(ii)	No mining shall be undertaken in forest land for which forestry clearance has not been obtained.	No Forestry Clearance given for 220.84 Hectares Forest land and possession handed over to Forest Department since 24.09.2004. No Mining is undertaken within the Forest Area since enforcement.																									

S. NO.	CONDITIONS	COMPLIANCE STATUS
(iii)	Catch drains and siltation ponds of appropriate size and check dams should be constructed to arrest silt and sediment flows from the mining operations. The drains should be regularly desilted and maintained properly. Garland drain (size, gradient & length) shall be constructed for both the mine pit and for the waste dump. Sump capacity should be designed to keep 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains.	Construction of Garland Drains: For Waste Dump: Not applicable as there is no waste. For Mines: The mining is being done in slope and bottom of the hilly area following limestone deposits. Water flowing downwards from catchment is trapped into Mine Pits through water channels (Drains). The details are given in Annexure – 1 1, vide our letter no Cho/MoEF/HYC/A/302/1985, Email dated 20.03.2020. Pits and Drains are marked in Surface Plan and submitted vide our letter no Cho/MoEF/HYC/A/302/1985, Email dated 20.03.2020. Size of the Sump (Pit) is capable to receive and store 803900.00 KL of water with average rainfall 630 mm and calculated by considering 60 % run of coefficient collection efficiency = 303874.2 KL. Sumps are large enough to provide adequate retention period for proper settling of silt material. Water reservoir is enclosed as Annexure-2
		
(iv)	Drills should be wet operated or with dust extractors.	Drill machines are not in operation.
(v)	Controlled blasting should be practiced and only between 12 Noon and 2 PM. The mitigative measures for control of ground vibrations to arrest the fly rocks and boulders should be implemented.	Drilling & Blasting has been eliminated by the use of Ripper-Dozer and Excavator combination, an Eco-Friendly mining.  

S. NO.	CONDITIONS	COMPLIANCE STATUS																
(vi)	Plantation shall be done over the lease area covering 20.95 ha, which includes a green belt of adequate width around the ML area, along roads by planting suitable native species in consultation with the local DFO/Agricultural Department. The density of trees should be around 1000 plants per hectare.	Plantation program is under progress & required area to be afforested during life of mine. A table with year wise plantation is given below: <table><tr><th>Year</th><th>Nos of Saplings planted</th></tr><tr><td>Up to 2018-19</td><td>5880</td></tr><tr><td>2019-20</td><td>1100</td></tr><tr><td>2020-21</td><td>4141</td></tr><tr><td>2021-22</td><td>11118</td></tr><tr><td>2022-23</td><td>25336</td></tr><tr><td>2023-24 (Apr-23 to Sep-2023)</td><td>1000</td></tr><tr><td>Total</td><td>48575</td></tr></table> The species are selected as per recommendations of the Social Forestry division of the Forest Department at Taluka Lalpur, District Jamnagar. Saplings are also purchased from their Nursery. We have planted 1000. Nos of plants against the target of 800 Nos of Plants for development of greenbelt. Plantation Photographs are enclosed as Annexure-3	Year	Nos of Saplings planted	Up to 2018-19	5880	2019-20	1100	2020-21	4141	2021-22	11118	2022-23	25336	2023-24 (Apr-23 to Sep-2023)	1000	Total	48575
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(vii)	A water reservoir of 6 ha shall be created from the deeper section of worked out pit. The higher benches of the void shall be terraced, and plantation done to stabilize	A water reservoir of 6 ha. (Size – 400m X 150m) is created from the deeper section of worked out pit which helps in recharging ground water in the area. Terracing of Benches is being done.
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S. NO.	CONDITIONS	COMPLIANCE STATUS
	the slopes. Peripheral fencing shall be done along with excavated area.	Planation at bench and fencing shall be created around the reservoir on maturity of mining operations; during final closure of the mining in 2033.
		
(viii)	Ground water shall not be encountered during mining operations. Prior approval of the MOEF and CGWA shall be taken for mining below ground water.	Ground Water is not encountered during mining operations. Mining is being carried out as per Approved mining plan and no ground will intersect. The Limestone thickness in the area is 4-10 mtrs from GL, whereas the Water table lies about 12-20 mtrs BGL, so there is no possibility of working below Ground Water.
(ix)	Rainwater harvesting measures shall be taken up in consultation with the Regional Office, CGWB to recharge and augment groundwater in the area.	A study from reputed consultant and ex Director of CGWB is carried out for systematic Rainwater Harvesting in Chorbedi Mines. The report with proposals is submitted to Regional Office, CGWB, Ahmedabad along with application for Ground Water abstraction. As per the proposal old mine pits are created which serve as recharge ponds. Additionally Circular pits in plantation area are also being made. Artificial Recharge structure at proposed Mines Office shall also be taken up once approval from CGWB, Ahmedabad is granted. Comprehensive Groundwater report (CHR) is enclosed as Annexure-4
(x)	A final Mine Closure Plan along with detail of Corpus Fund should be submitted to the Ministry of Environment and Forests 5 years in advance of final mine closure for approval.	The validity of the Mining Lease is up to 06.11.2033. Balance life of Mine is envisaged as 10 Years @ present rates of production. So Final Closure is anticipated by 2033; accordingly, Final Mine Closure plan will be submitted by 2028 i.e. before 5 years of anticipated closure.
(xi)	Consent to operate shall be obtained from the SPCB before expanding mining operations.	CTO and subsequent Renewal of Consolidated Consents & Authorization has been obtained from GPCB, Gandhinagar, vide Order No. PC/CCA/JMN-49/ID30233/589013 dated 28.04.2021 Consent order No.AWH-112516 dated

S. NO.	CONDITIONS	COMPLIANCE STATUS								
		16.04.2021 valid up to 21.03.2026. Enclosed Annexure-5 & 6								
B.	General conditions									
(i)	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment and Forests.	Noted There is no change in mining technology and scope of working.								
(ii)	No change in the calendar plan including excavation, quantum of limestone and waste should be made.	No change is made in the calendar plans including excavations, quantum of Limestone and waste. <table><tr><th>Year</th><th>Mineral</th><th>Proposed Production as per approved Mining Plan in MT</th><th>Actual Production in MT</th></tr><tr><td>2023-24 (April-2023 to Sep-2023)</td><td>Limestone</td><td>400000</td><td>69187.128</td></tr></table>	Year	Mineral	Proposed Production as per approved Mining Plan in MT	Actual Production in MT	2023-24 (April-2023 to Sep-2023)	Limestone	400000	69187.128
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2023-24 (April-2023 to Sep-2023)	Limestone	400000	69187.128							
(iii)	Data on ambient air quality (RPM and SPM) should be regularly submitted once a year to the Ministry including its Regional Office (WZ) at Bhopal and the Gujarat State Pollution Control Board /Central Pollution Control Board once in six months.)	Ambient Air Quality is being monitored on a regular basis and results are well within the stipulated norms. Monitoring reports are being submitted to all concerned offices regularly. A copy of the test report for the period of April-2023 to June-2023 is attached herewith for your kind reference as Annexure-7 .								
(iv)	Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, wagon loading, dump trucks (loading & unloading) should be provided and properly maintained.	Water is being sprinkled continuously on the mine haul roads as well as near the faces in order to suppress the fugitive emissions generated due to the movements of vehicles. 								
(v)	Adequate measures should be taken for control of noise levels in the work environment.	Noise monitoring is being done regularly. The noise levels are well within the limits; however, ear plugs / earmuffs is being provided to operators. Copy of noise monitoring report for the period of April-2023 to June-2023 enclosed as Annexure-8								

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(vi)	Industrial wastewater, if any, should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May, 1993 and 31 st December, 1993 or as amended from time to time.	Repair and maintenance of vehicles is being done at Tata Cargo workshop, Jamnagar. All maintenance & treatment facilities like ETP are available as per the norms. A photograph is attached for your kind reference. 																																																
(vii)	Occupational health surveillance programme of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	Occupational health surveillance program of the workers is being taken regularly and Periodic Medical Examination (PME) of all the workmen is done at statutory intervals. Initial / Periodical Medical Examination is being carried out for following parameters as per Form O under rule 29 B of Mines Rules 1955 for all employees General Development: Height, Weight, Eye, Ears, Respiratory System, Circulatory System, Nervous System, Locomotor System, Hydrocele Any other abnormality. Urine, Skiagram of Chest, Cardiological Assessment, Neurological Assessment, ILO-Chest Radiograph, Spirometry, Audiometry, Pathological Test (Blood Sugar – Fasting & Post Prandial). So far not a single case is detected for dust borne disease.																																																
(viii)	The funds earmarked for environmental protection measures should be kept in separate accounts and should not be diverted for other purposes. Year wise expenditure should be reported to this Ministry’s Regional Office located at Bhopal (WZ).	Noted, Year wise expenditures on environmental protection measures is given below: <table><tr><th>S. No.</th><th>Year</th><th>Recurring Expenditure</th><th>Yearly (In Rs)</th></tr><tr><td>1</td><td>2013-14</td><td>₹ 303784</td><td></td></tr><tr><td>2</td><td>2014-15</td><td>₹ 340882</td><td></td></tr><tr><td>3</td><td>2015-16</td><td>₹ 356060</td><td></td></tr><tr><td>4</td><td>2016-17</td><td>₹ 311700</td><td></td></tr><tr><td>5</td><td>2017-18</td><td>₹ 437775</td><td></td></tr><tr><td>6</td><td>2018-19</td><td>₹ 472097</td><td></td></tr><tr><td>7</td><td>2019-20</td><td>₹ 417950</td><td></td></tr><tr><td>8</td><td>2020-21</td><td>₹ 620250</td><td></td></tr><tr><td>9</td><td>2021-22</td><td>₹ 762327</td><td></td></tr><tr><td>10</td><td>2022-23</td><td>₹ 2433060</td><td></td></tr><tr><td>11</td><td>2023-24 (Apr-23 to Sep-23)</td><td>₹ 313400</td><td></td></tr></table>	S. No.	Year	Recurring Expenditure	Yearly (In Rs)	1	2013-14	₹ 303784		2	2014-15	₹ 340882		3	2015-16	₹ 356060		4	2016-17	₹ 311700		5	2017-18	₹ 437775		6	2018-19	₹ 472097		7	2019-20	₹ 417950		8	2020-21	₹ 620250		9	2021-22	₹ 762327		10	2022-23	₹ 2433060		11	2023-24 (Apr-23 to Sep-23)	₹ 313400	
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S. NO.	CONDITIONS	COMPLIANCE STATUS
		Details on Expenditure for environmental protection measures for the FY 2023-24 (Apr-23 to Sep-2023) is enclosed as Annexure-9 .
(ix)	The Regional Office (WZ) of this Ministry located at Bhopal shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the office (s) of the Regional Office by furnishing the requisite data / information/ monitoring reports.	Noted Compliance report is being submitted regularly along with annexures to all concerned offices along with MoEF &CC, Regional Office.
(x)	A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom and suggestion / representation has been received while processing the proposal.	A copy of clearance letter has been submitted to all concerned Panchayat/Offices. Copy is enclosed as Annexure-10 
(xi)	State Pollution Control Board should display a copy of the clearance letter at the Regional Office, District Industry Centre, and Collector's Office/Tehsildar's Office for 30 days and provide copies of the same to anyone requesting for the same.	Noted

S. NO.	CONDITIONS	COMPLIANCE STATUS
(xii)	The project authorities should advertise in at least two local newspapers widely circulated around the project, one of which shall be in vernacular language of the locality concerned, within 7 days of the issue of 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 may also be seen at web site of the Ministry of Environment and Forests at http://envfor.nic.in.	Noted We have published Environment Clearance information in the two local newspapers dated 10.12.2005. (1) Times of India – Ahmedabad Edition (2) Phoolchhab – Rajkot edition.   

Thanking you,
Yours faithfully,

For **SHREE DIGVIJAY CEMENT CO. LTD.**

[Signature]
Manager Mine

Details of Garland Drain & Water Recharge and Siltation Pond
Chorbedi Composite Limestone Mines
Shree Digvijay Cement Co Ltd

Garland Drains				Water Recharge Pit and Siltation Pond					
Drain No	Length	Width	Depth	Pit No	Length	Width	Depth	Area	Volume
1	239	9	1.20	6	492	85	4.5	41820	188190.00
2	178	5	1.5						
3	173	6	0.9						
4	101	5	1.5	5	538	79	5	42502	212510.00
5	124	4	0.8						
6	55	8	0.5						
7	87	5	1.3	4	315	160	8	50400	403200.00
8	141	5	1.5						
9	99	3	1.6						
10	405	3	0.5						
Total Volume									803900.00

SHREE DIGVIJAY CEMENT COMPANY LIMITED
Reservior Photographs of Chorbedi Composite Limestone Mine



Area Specific Plantation at Chorbedi Composite Limestone Mines







**COMPREHENSIVE REPORT ON GROUND WATER CONDITIONS AT
CHORBEDI VILLAGE, LALPUR TALUKA, JAMNAGAR DISTRICT, GUJARAT**

FOR

SHREE DIGVIJAY CEMENT COMPANY LTD

AT

**CHORBEDI LIMESTONE MINE
CHORBEDI VILLAGE
TALUKA: LALPUR
DISTRICT: JAMNAGAR
GUJARAT**



Report Prepared by:-

Dr N.Varadaraj M.Tech, P.G.Dip (Hons), Ph.D

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COMPREHENSIVE REPORT ON GROUND WATER CONDITIONS AT CHORBEDI VILLAGE, LALPUR TALUKA, JAMNAGAR DISTRICT, GUJARAT

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COMPREHENSIVE REPORT ON GROUND WATER CONDITIONS AT CHORBEDI VILLAGE, LALPUR TALUKA, JAMNAGAR DISTRICT, GUJARAT

1. Introduction

Shree Digvijay Cement Co Ltd., established in 1942 at Sikka – Jamnagar and one of the pioneers in the Cement business, is a flagship Company of Votorantim. The fully computer controlled plant has a production capacity of 1.30 million tonnes per annum. The limestone required for cement plant is obtained from three mines located in Jamnagar and Devbhumi Dwarka Districts. The Chorbedi limestone mine is one of the mines in operation with 0.9 MTPA capacity.

At the instance of company management, Krisha Geo ventures Pvt Ltd, Chennai has taken up detailed ground water surveys and rain water harvesting studies in the mines and adjoining villages in 10 km radius. The detailed ground water studies for designing rainwater harvesting structures in accordance with CGWB guidelines in its website is carried out during the period of 9th April 2017 to 11th April 2017. Dr N.Varadaraj, Ground water Expert (Formerly Member, CGWB, and Govt. of India) and team from Krisha Geo Ventures Pvt. Ltd, Chennai, collected the primary and secondary data on, Geology, Hydrogeology and land use pattern and prepared technical report on ground water conditions of the study area.

2. Location

Chorbedi limestone mine is located in S.No.1 of Chorbedi village located near Gop Jam railway which is about 55 km away from Jamnagar town and lies between N. Latitude $22^{\circ}03'41''$ and $22^{\circ}06'00''$ and E longitude $69^{\circ}59'00''$ to $70^{\circ}00'00''$. The location map of Chorbedi area is given in Fig-1 and Google map of mines and surrounding area is shown in Fig-2.

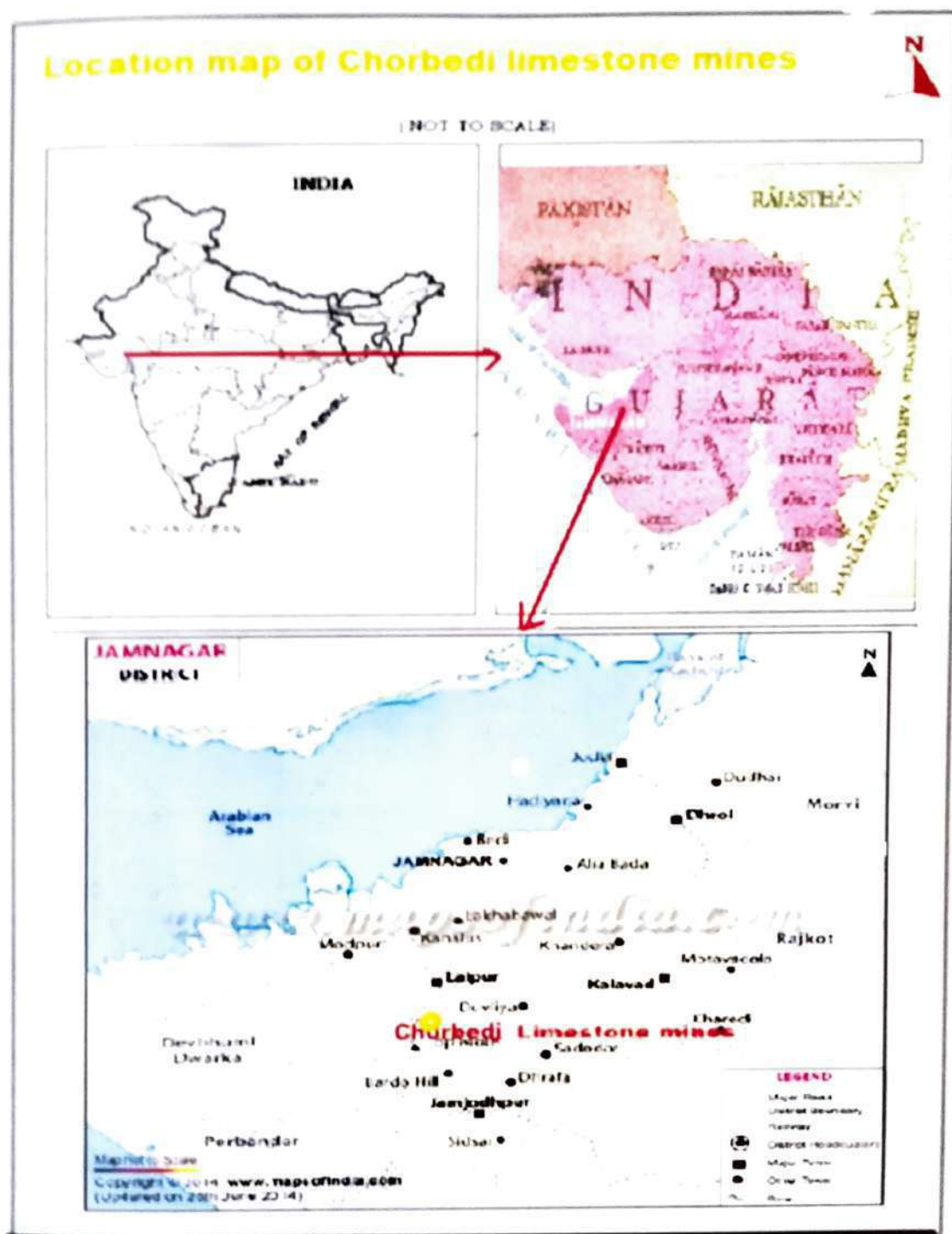


Fig-1 Location map of Chorbedi Limestone mines



Fig: 2 GOOGLE map of GOP Mines area

In order to get the regional hydrogeological information, traverses are made in a 10 km radius zone in and around the Mine site. The GPS points studied are shown in the Google map and the details of the study points are given in Table-1

GPS NO	latitude	longitude	Altitude (m)	Description
017	22.054693000	69.907506000	124.8	Irrigation WELL
018	22.058647000	69.957945000	175.6	Irrigation WELL
019	22.057561000	69.969837000	198.0	Irrigation WELL
020	22.064735000	69.989832000	216.1	Forest WELL
021	22.067989000	69.987712000	207.1	OLD PIT
022	22.076027000	69.989300000	186.3	Check Dam and irrigation WELL-Bhanjiram
023	22.077744000	69.991151000	184.4	Hand Pump
024	22.085319000	69.995365000	172.8	Gully
025	22.093744000	69.998686000	180.0	NEW Bore Well
026	22.095303000	69.995587000	162.7	WQ monitoring well
027	22.098219000	69.999778000	172.5	Proposed BW
028	22.097066000	69.996110000	163.7	WQ Monitoring well
029	22.106958000	70.007400000	165.2	NALA
030	22.128192000	69.995886000	142.9	Dam

Table-1 GPS readings for survey points –Chorbedi Mines area

3. Physiography and Drainage

Chorbedi mines area is coastal upland with number of isolated rocky pediments and pediments. The prominent land form is the hillocks trending in North East-South West direction. The regional slope is towards North East and ground elevation varies from 125 to 216 m above Mean sea level (m amsl). A nala is flowing in the western border of the Mines area and joins the seasonal stream in north. There is a mini dam with water storage in the valley.

The prominent geomorphic units identified in the area through interpretation of Satellite imagery are 1) Rocky pediment 2. Pediment 3) Buried Pediments and manmade structures. The topsoil occurring in the study site is grey coloured loam derived from weathering of country rock. The thickness of top soil varies from place to place depending on the extent of weathering of host Deccan trap rocks. It is very thin in major part of the study area. The Google map of the study area showing the land use of mines, built up area near railway station and cultivated lands are shown in Fig-3.

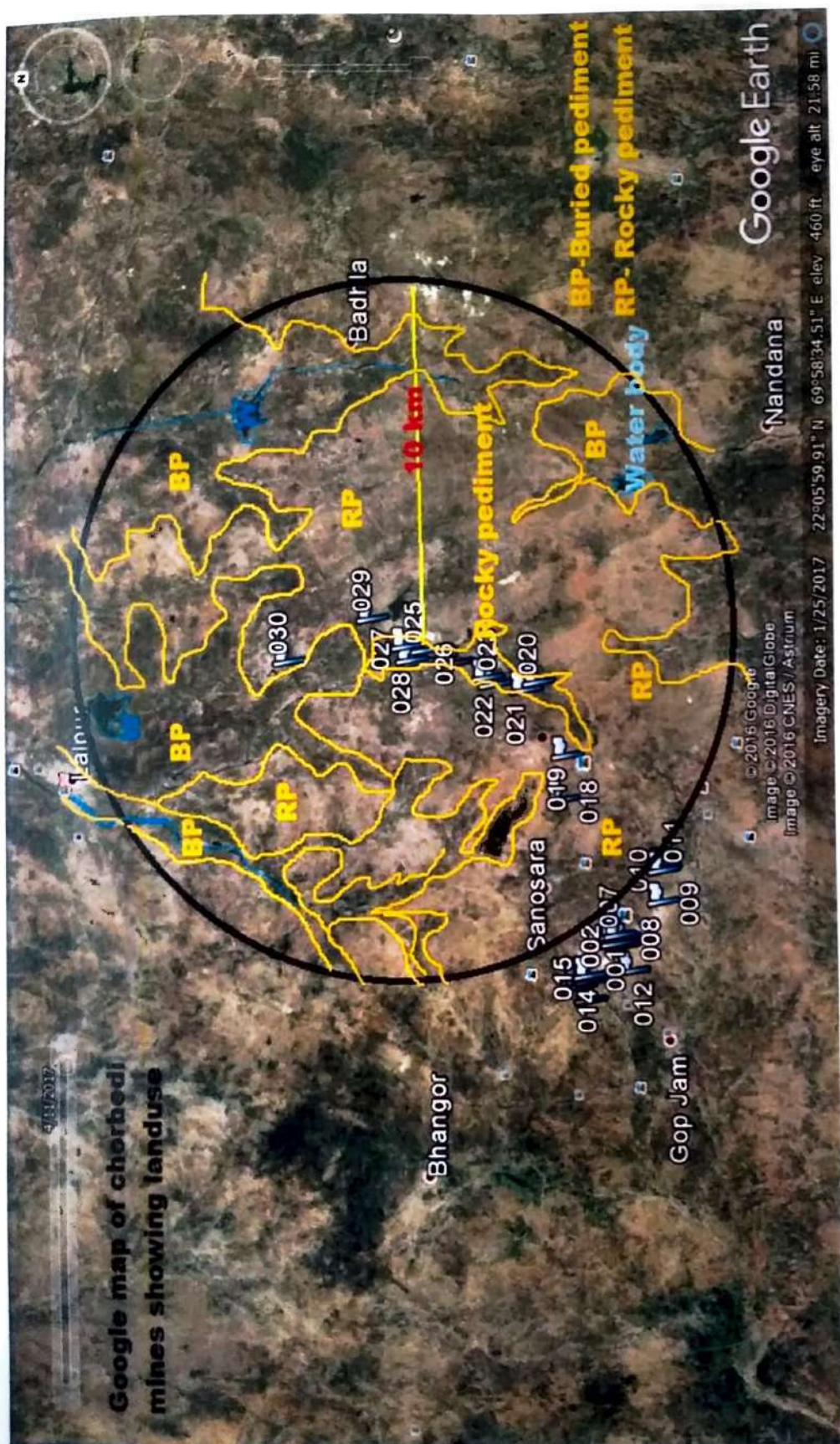


Fig-3 Google map of Chorbedi Mines landforms& Land use

The 10 km area surrounding the mines is unique upland with mining and agriculture. The valley is having a deep cut nala bordering the lease area and surface run off in the nala is stored in a mini dam which acts as recharge point for the area and number of irrigation wells along the valley is seen. The main stream is also having a mini dam which favours good ground water potential in the region.

4. CLIMATE AND RAINFALL

Jamnagar district enjoys a semi-arid climate. The weather is pleasant during the period from November to January. January is the coldest month with minimum daily temperature at 10.7°C and the mean daily maximum temperature at 26.3°C. May is the hottest month with maximum temperature of 36.4°C. The relative humidity during the southwest monsoon is very high (70.5 to 80.5%). The relative humidity during winter and summer months is 52 to 58%.

The average annual rainfall for the period is 573.4 mm only and the normal monthly rainfall distribution is given in table-2

Table-2 Monthly Temperature & rainfall distribution in Jamnagar

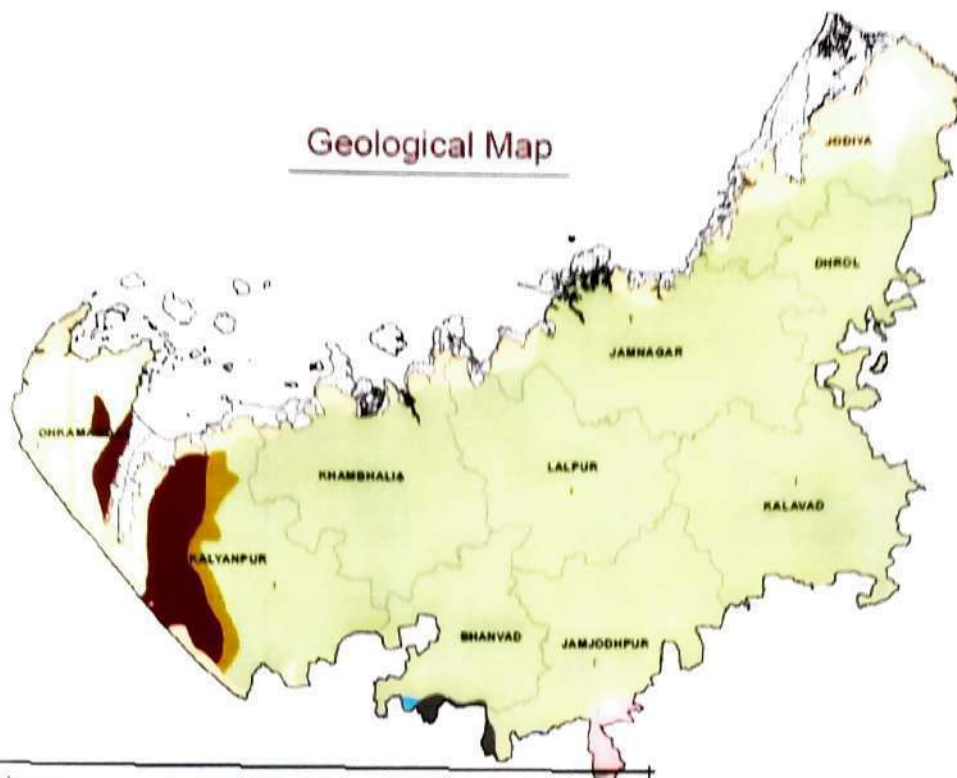
Month	Max Temp (Deg. C)	Min Temp (Deg. C)	Humi dity (%)	Wind Spd. Kmpd	Sunshi ne (Hour s)	Solar Rad. (MJ/m 2/d)	Eto (mm/d)	Rainfall (mm)
Januar y	26.3	10.7	52.5	143.7	8.9	17.0	3.6	1.7
Februa ry	29.0	12.8	54.0	127.4	9.3	19.5	4.1	1.8
March	33.0	17.4	58.0	143.7	9.6	22.3	5.3	1.1
April	35.4	21.4	62.0	181.3	10.3	25.0	6.4	0.0
May	36.4	24.9	65.5	259.7	10.2	25.3	7.2	0.9
June	35.9	26.7	70.5	264.6	7.9	21.8	6.3	91.6
July	33.0	25.7	78.0	254.8	5.0	17.4	4.8	197.6
August	31.5	24.8	80.5	231.9	4.9	16.9	4.3	180.3
Septem ber	32.2	23.5	76.5	158.4	7.0	19.0	4.5	62.0
Octobe r	34.5	21.2	62.0	114.3	8.8	19.5	4.6	28.6
Novem ber	31.8	16.7	52.0	112.7	9.0	17.5	3.9	7.0
Decem ber	27.9	12.4	52.5	122.5	8.6	15.9	3.3	0.8
Total	-	-	-	-	-	-	-	573.4
Averag e	32.2	19.9	63.7	176.3	8.3	19.8	4.8	-

(Source: CGWB)

5. Hydrogeology

Hydrogeological set up of the area is inferred from the analysis of geological formation, hydrological features and rainfall analysis. The Study area is covered by Deccan Trap rocks and geological map of the District is given in fig-4

Geological Map



Geology

LITHOLOGY

- ALLUVIUM BLOWN SAND
- MILIOLITE LIMESTONE
- SHALES, MARLS AND SANDSTONES
- GYPSIFEROUS CLAYS & SANDY LIMESTONES
- LATERITE AND BAUXITE
- BASIC INTRUSIVE
- TRAP
- DIORITES
- FELSITE, RHYOLITE & PITCHSTONE FLOWS

AGE

- RECENT- HOLOCENE
- PLEISTOCENE
- MIOCENE
- DWARKA BEDS
- PALAEOCENE TO EOCENE
- PALAEOCENE TO UPPER CRETACEOUS
- LOWER EOCENE TO UPPER CRETACEOUS
- UPPER CRETACEOUS TO PALAEOCENE
- DECCAN TRAP

Legend

- District Boundary
- Taluka Boundary
- District Headquarter
- Taluka Headquarter
- Mudflat

External boundaries are not authenticated

* Maps are not to the Scale

Fig-4 Generalised Geological map of Jamnagar area

REGIONAL GEOLOGY

The miliolitic limestone deposit in the leasehold area at Chorbedi occurs in the valleys and also along hill slope and well extending on the low flat ground Gop Limestone deposit occurs along the southern slopes of GOP hill

ranges trending in an east west direction. The prominent GOP hill ranges are occupied by basalt belonging to Deccan traps. Geologically Miliolitic

Limestone deposit of Recent age in Saurashtra coastal region is one of the most widespread and important mineral wealth of Gujarat State. The basaltic traps and associated lava differentiates of the Deccan trap occupying extensive area of Saurashtra region form the oldest basement rocks.

The regional stratigraphic sequence is given in table-3 below:

Table -3 Stratigraphy of GOP area

AGE	FORMATION	ROCK TYPE
Recent (Holocene)	Alluvium/Recent Limestone	Alluvial Soil, Black-brown soil, coastal limestone
Early Holocene to Late Pleistocene	Miliolite Formation	Arenaceous limestone and calcareous sandstone
Pliocene	Dwarka Beds	Gypsiferous clay and sandy foraminifer limestone
Miocene	Gaj Beds	Clay and calcareous clay
-----	-----	-----
-----	Unconformity----	-----
Paleocene to Upper Cretaceous	Deccan Trap	Basalt and its derivatives including the intermediate and acidic rock types like, dacite, granophyre's etc.

The rocks of the Miliolite Formation have the appearance of dirty white, friable, oolitic calcarinite. The rocks occur in beds which show a gentle

eastward dip of 5° to 14° . The rocks are extensively cross-laminated showing dune type current bedding. Alternating coarse and fine grained lamination is common. They occur at various levels, in the coastal plains, along the foothills and high up in their glens. The name "miliolite" has been derived from the Miliolidae, belonging to the common foraminifera present in profusion in the rock. Composition-wise, the rocks are extremely variable ranging from near pure limestone devoid of sand to calcareous sandstone and clays limestone.

The rock formations originated as beach sediments formed in agitated, warm and very shallow waters. They were subsequently cemented by calcspar precipitated from sea water saturated with CaCO_3 . The warm, shallow, circulating waters were favourable living areas for marine organisms which have left their in shells and faecal pellets.

The occurrence of the Pleistocene beach limestone all over Tertiary coastal plains fringing the Deccan Trap plateau and deep in the interior of the Deccan Trap country at high elevations, tends to lead to the conclusion that during Pleistocene period the sea level stood much higher than at present. This may be true in respect of the areas of the coastal plain and the foothill regions. But the occurrence of the Miliolite rocks at higher elevation in the interior areas also point to an Aeolian origin indicating that the windblown particles from the fragmented beach sediments might have been deposited in the valleys of the high hills which acted as natural wind barrier and the sea need not have transgressed to such great heights in order to form the thinner layers of the Miliolite rocks at such higher altitudes.

LOCAL GEOLOGY:

The limestone bearing lease hold area of Shree Digvijay Cement Co. Ltd. at Chorbedi is geologically miliolite limestone deposit of recent age in Saurashtra region is one of the most wide spread and important mineral wealth of Gujarat. The rainwater flows down the slope of the area and flows into the nearby areas.

The Limestone formation is practically horizontally bedded and general off white to buff in colour. The Limestone is soft, porous and friable in nature but also compact, hard and boulder at places. Thickness varies from 0.6 meters to 11.5 meters. The variation is due to undulating basalt floor. However it is not continuous and separated by basalt rock intrusion at irregular places.

Local Stratigraphic sequences in Chorbedi Lease area

Geological Age	Thickness	Rock Type
Pleistocene to Sub recent	0.6 to 11.5 Meters	Oolitic Miliolite limestone
..... Unconformity.....		
Palaeocene to Upper Cretaceous	Thickness not known	Basaltic rock

The weathered and jointed rocks are seen in the dug well sections in the study area while bore wells have encountered massive and fractured rock formation. The well cuttings at the Ghunda and Zinavari villages is highly compact and rock exposures

are seen in most of the forest and waste land region. These are essentially basaltic flows having general horizontal to near horizontal disposition over large area. The basaltic flows do not have any primary porosity in the lower massive portion, but the top vesicular portion has some porosity because of the vesicles formed due to escaping gases. Both massive and vesicular portions have no primary permeability, as the vesicles are seldom interconnected.

Ground water condition

The ground water condition in and around the Chorbedi mine site covering 10 km radius is studied in detail. The northern part of the site is part of valley with dam water irrigation while the southern side is mostly barren land with isolated cropped area. The secondary porosity and permeability developed due to fracturing and jointing provides passage for infiltration, storage and movement of groundwater. The weathered zone extends to about 9-12m bgl in the valley bordering lease area while it is very thin in mines area. Weathered flow contacts extend to greater depths in few places. The permeability of these zones are further intensified by fracturing and jointing. These interflow zones and fractured and jointed zones have given rise to stratified aquifer system, which is responsible for occurrence of water even at greater depths as inferred from the existing bore wells and dug wells.

As per CGWB report, the depth of water level in the area ranges from 3.30 m bgl to 25.40 bgl during the pre-monsoon period while during the post monsoon the water level ranges from 0.06 to 17.50 m bgl. The yields of the wells tapping weathered basalts are in the range of 20-100m³/day. Those in which interflow zones have been tapped 100-400m³/day. The bore wells drilled in the district have yields ranging from 100 to 500m³/day.

There are few bore wells and dug wells in Study area which are low yielding due to unfavourable hydrogeological setting. Few wells are inventoried and details

are given in table-4. The wells studied are shown in the Google map in Fig.3 with GPS number and also detailed in Table-1.

Table-4 Details of Dug wells & Bore wells existing at Mine area:

Particulars	Private well in Ghunda village	Forest well	Private well- Bhanjiram, Ghunda	Hand pump	Irrigation well in Dam side	Irrigation well
Diameter (m)	4.2	4.5 x 4.5	4.0	0.015	3.0	6 x 2
Depth reported/ Measured (m)	18.5	21.0	15.0	45.0	18	6.0
Water Quality	Good	Good	Good	Good	Good	Good
Static water level M below top of casing	13.2	15.5	10.0	-	8.4	2.0
Use	Irrigation	Plantation	good yield Horizontal bore exists	Moderate yield	Irrigation	Lift Irrigation well
Remarks	Low yield	Old lease area		Located near old mine pit	weathering is 6 m 5 HP submergible pump WQ monitoring	Fitted with 5HP pump WQ monitoring

There are number of dug wells and bore wells in the study area along the valley and wells are pumped for 6 to 8 hours with 1 to 2 lac litres per day yield. Bore wells are limited.

Depth to Water Level

The water level varies with season and deep water table is noticed in the entire study area in the range of 10 to 12 m in April 2017. The water level fluctuation is 3 to 6m in high grounds and the dam side and valley area has shallow water table of 2 to 5 m. There are number of lift irrigation wells in the nala and dam water is recharging the region

Quality of water

The quality of water is in general potable in Chorbedi area. The summarised analytical results of the water samples from monitoring wells is given in table-5. The results are indicative of moderate quality water in the study area with high hardness, alkalinity and nitrate.

Table-5 Analytical data of Water samples collected in February 2017

Sample ID:	JCW - 402 / 02 / 2017	Sample Type :	Drinking Water	Condition of Sample :	Satisfactory
Main Source:	Pvt Well, 12 Ft.Dia & 65 Ft. Deep			Source:	--
Location:	K M Vajani's Agri Field				
Village:	CHORBEDI			Habitation:	CHORBEDI
Taluka:	LALPUR			District:	JAMNAGAR
Latitude:	--			Longitude:	--

dry find herewith the Analytical Results.

Sr.No.	Parameter	Unit	IS-10500:2012(S.R.)		Reference Method :	Analytical Value
			Requirement (Acceptable Limit) MAX.	Permissible Limit in the Absence of Alternate Source MAX.		
1	*Colour	Hazen	5	15	APHA (22 nd Ed. 2012). Method - 2120 C	3.81
2	Turbidity	NTU	1	5	APHA (22 nd Ed. 2012). Method - 2130 B	0.49
3	pH at 25° C	-	6.5 to 8.5	No relaxation	APHA (22 nd Ed. 2012). Method - 4500 H ⁺ B	7.95
4	Conductivity at 25° C	µS/cm	-	-	APHA (22 nd Ed. 2012). Method - 2510 B	415
5	Total Dissolved Solids	mg/l	500	2000	APHA (22 nd Ed. 2012). Method - 2640 C	228
6	Total Hardness (as CaCO ₃)	mg/l	200	600	APHA (22 nd Ed. 2012). Method - 2340 C	166
7	Calcium (as Ca)	mg/l	75	200	APHA (22 nd Ed. 2012). Method - 3500 Ca ⁺² B	35
8	Magnesium (as Mg)	mg/l	30	100	APHA (22 nd Ed. 2012). Method - 3500 - Mg ⁺² B	19
9	Chloride (as Cl)	mg/l	250	1000	APHA (22 nd Ed. 2012). Method - 4500 - Cl B	51
10	Sulphate (as SO ₄)	mg/l	200	400	APHA (22 nd Ed. 2012). Method - 4500 - SO ₄ ⁻² E	29
11	Nitrate (as NO ₃)	mg/l	45	No relaxation	APHA (22 nd Ed. 2012). Method - 4500 - NO ₃ ⁻ B	10.29
12	Fluoride (as F)	mg/l	1.00	1.50	APHA (22 nd Ed. 2012). Method - 4500 - F ⁻ C	0.37
13	Total Alkalinity (as CaCO ₃)	mg/l	200	600	APHA (22 nd Ed. 2012). Method - 2320 B	218

6. Conclusions

The ground water condition in and around the Chorbedi Limestone mines variable from place to place depending on the ground elevation and thickness of overburden and top soil. Due to the presence of Dams in the western side of the mine lease area, surface water and ground water potential is good in the 10 km area around mines and there are number of dug wells . The potential area is restricted to the valley section and water level is deep in high grounds and area away from direct recharge zone. The ground water development in the Lalpur Taluka Assessment unit is low and the area falls in Safe category (CGWB)

Area is covered by Deccan trap rocks with shallow and deeper water bearing zones. Existing dug wells in surrounding area are giving moderate yield and sustainable in summer in the presence of water in dam. There are no wells and bore wells in the high grounds and mine lease area. The ground water flow is towards the nala in north and local flow in westerly direction is inferred.



GUJARAT POLLUTION CONTROL BOARD

PARYAVARAN BHAVAN

Sector-10-A, Gandhinagar-382 010

Phone : (079) 23226295

Fax : (079) 23232156

Website : www.gpcb.gov.in

In exercise of the power conferred under section-25 of the Water (Prevention and Control of Pollution) Act-1974, under section-21 of the Air (Prevention and Control of Pollution) Act-1981 and Authorization under rule 3(c) & 5(5) of the Hazardous Waste (Management, Handling and Transboundary Movement) Rules-2008 framed under the Environment (Protection) Act-1986

By R.P.A.D

And whereas Board has received Renewal of consolidated consent application Inward No 189737 dated 01/02/2021 for the renewal of the Consolidated Consent and Authorization (CC & A) of this Board under the provisions/rules of the aforesaid acts. Consents & Authorization are hereby granted as under:

CONSENTS AND AUTHORISATION:

(Under the provisions /rules of the aforesaid environmental acts)

To,

IO,

M/S. SHREE DCC LTD. (LIME STONE MINES) (30233),

PLOT NO: S.NO.1,

VILL CHORBEDI,

CHORBEDI - 360515,

TAL: LALPUR, DIST: JAMNAGAR.

- Consent Order No.: AWH-112516 date of Issue: 16/04/2021
- The consents shall be valid up to 21/03/2026 for use of outlet for the discharge of trade effluent and emission due to operation of industrial plant for manufacture of the following items/products:

Sr. No.	Product	Quantity
1.	Lime Stone Mine	9,00,000 MT/Month

Note: Applicant shall comply with the conditions of Environmental Clearance order no. J-11015/47/2005-4A.11(M) dated : 7th October 2005 granted by Ministry of Environment & Forests for Limestone mine located at village-Chorbadi, Tal. Lalpur/Jamjodhpur, Dist. Jamnagar.

3. Specific Conditions for mining.

Conditions for Mining Dumps:

- The individual dump should have maximum slope of 37 degree and an overall slope not exceed 28 degree.
- The external dump should have stretches of retaining wall at suitable locations of required height with weep holes to drain out water to the garland drain.
- The back-filled areas should be leveled to match with adjoining ground level.
- The completed dumps and the back-filled areas should be afforested in a planned way to increase their stability.

Conditions for Overburden Dumps

- The top soil prior to drilling and blasting should be stacked at designated area surrounded by embankment to prevent erosion.
- The over burden and top soil dumps should be stabilized by plantation and ankering with coir nets / blankets.
- Phase-wise waste management should be shown on surface plan in the mine leased Area for the 5th year, 10th year, 15th year 20th year, 25th year and 30th year.

Conditions for Transportation.

- Industry shall take adequate measures to control emission due to loading, unloading of materials and movement of vehicles.

Conditions for Material stockpiles

- Industry shall take necessary measures to control dust emission due to operation of mining activity. The mine waste management should be as per the approved mine plan.

4. CONDITIONS UNDER WATER ACT 1974:

- Source of water supply: Tanker
- The quantity of the fresh water consumption for industrial purpose shall not exceed 12 KL/day.
- The quantity of the fresh water consumption for domestic purpose shall not exceed 2 KL/day.
- There shall be no generation and discharge of industrial effluent from the mining process. However industry shall provide proper system for collection of runoff/seepages from the mining area.
- The quantity of the domestic waste water (sewage) shall not exceed 1.5 KL/day.
- Sewage shall be disposed of through Septic tank/soak pit system.
- Entire quantity of the mine seepage water/ runoff, if any, shall be treated to meet with the GPCB norms as prescribed below and shall be entirely utilized for dust suppression and for green belt development within the mines premises only.

Clean Gujarat Green Gujarat

ISO - 9001 - 2008 & ISO - 14001 - 2004 Certified Organisation



GUJARAT POLLUTION CONTROL BOARD

PARYAVARAN BHAVAN, SECTOR 10-A,
GANDHINAGAR - 382010,
(T) 079-23232152

Annexure - 6

BY R.P.A.D

AMENDMENT OF CONSOLIDATED CONSENT AND AUTHORIZATION (CC&A)

NO: GPCB/CCA-JMN-49(2)/ID-30233/ 684627

Date: 29/09/2022

To,

M/s Shree DCC Ltd. (Lime Stone Mines),

Plot No. S.No.1,

Vill Chorbedi,

Chorbedi-360515,

Tal: Lalpur, Dist: Jamnagar.

Sub: Amendment to Consolidated Consent & Authorization of (CCA) the Board.

Ref: (1) CCA order no.AWH-112516 dated 16/04/2021.

Sir,

This has reference to CCA renewal order no.AWH-112516 dated 16/04/2021, issued vide order no. GPCB/CCA/JMN-49(2)/ID-30233/589013 dated 28/04/2021 under the provisions of the Water Act 1974, Air Act 1981 and Hazards Waste Rules-2016.

The Board has reconsidered the case for the extension of validity at the CCA. The said CCA order no. AWH-112516 is hereby amended as under:

1. The condition Number 2 is amended and the consents shall be valid up to 21/03/2026 for use of outlet for the discharge of trade effluent & emission due to operation of industrial plant for manufacture of the following items/product:

Sr. No.	Product	Quantity
1	Lime Stone Mine	9,00,000 MT/Year

- Applicant shall comply with the condition of Environmental Clearance order no.J-11015/47/2005-IA. II (M) dated:7th October 2005 granted by Ministry of Environment & Forests for Limestone mine located at Village-Chorbedi, Tal : Lalpur/Jamjodhpur, Dist:Jamnagar.
2. All other condition of CCA order: AWH-112516 dated of issue. 16/04/2021 issued vide letter GPCB/CCA/JMN/49(2)/ID-30233/589013 dated 28/04/2021 under various Environment Acts/Rules shall remain unchanged.

For and on behalf of
Gujarat Pollution Control Board

Dipali Tank
28/9
(Dipali Tank)
Environment Engineer



Royal

Environment Auditing & Consultancy Service

Plot No. 19 & 20, B/s. The North Star Nest School, Masoom School Road, Mota Mava, RAJKOT - 360 005.
Ph.: +91 9099919954 ■ E-mail : royalsenvironment@live.com ■ admin@royalconsultancy.com

Annexure-7

Ref. No. : 490/04/2023-24

Date:01/05/2023

REPORT OF AMBIENT AIR QUALITY MONITORING : Core Zone CHORBEDI MINES : APRIL 2023 (1st time)

Name of company : Shree Digvijay Cement Company Limited

Digvijaygram - 361 140.

District : Jamnagar.

Sr. No.	Particulars	Unit	Core Zone = 1. Near Weigh Bridge			Average Result of 24 Hrs.
			1 st 8:00 Hrs.	2 nd 8:00 Hrs.	3 rd 8:00 Hrs.	
01.	Date of sampling	----	03/04/2023	03/04/2023	03/04/2023	03/04/2023
02.	Duration of Sampling	Hrs.	8.00	8.00	8.00	24.00
03.	Dominant Wind Direction (From)	----	SE	SE	SE	SE
04.	Average Wind Speed	Km./Hrs.	2 to 14	2 to 14	2 to 14	2 to 14
05.	Average flow rate during sampling	m3/minutes	1.20	1.10	1.10	1.13
06.	Average flow rate for Gas sampling	LPM	0.5	0.5	0.5	0.5
07.	Permissible Limits of PM 2.5	µg/m ³	60	60	60	60
08.	Measured Concentration of PM 2.5	µg/m ³	32.1	30.4	29.7	30.7
09.	Permissible Limits of PM 10	µg/m ³	100	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	54.8	51.6	49.7	52.0
11.	Permissible Limits of SO ₂	µg/m ³	80	80	80	80
12.	Measured Concentration of SO ₂	µg/m ³	20.7	21.6	18.4	20.2
13.	Permissible Limits of NO ₂	µg/m ³	80	80	80	80
14.	Measured Concentration of NO ₂	µg/m ³	30.2	27.4	25.8	27.8

Instrument used : 1) Ecotech RDS, Model No. AAS - 217BL, Gaseous Sampling Kit- AAS 109 & PM 2.5 Sampler AAS 127

Calibrate Done on : 26/12/2022

Royal Environment Auditing & Consultancy Service



Analyst

M. Jeyaraj



Royal

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Ref. No. :491/04/2023-24

Date:01/05/2023

REPORT OF AMBIENT AIR QUALITY MONITORING : Core Zone CHORBEDI MINES : APRIL 2023 (1st time)

Name of company : Shree Digvijay Cement Company Limited

Digvijaygram - 361 140.

District : Jamnagar.

Sr. No.	Particulars	Unit	Core Zone = 2. Near Loading Place			Average Result of 24 Hrs.
			1 st 8:00 Hrs.	2 nd 8:00 Hrs.	3 rd 8:00 Hrs.	
01.	Date of sampling	---	03/04/2023	03/04/2023	03/04/2023	03/04/2023
02.	Duration of Sampling	Hrs.	8.00	8.00	8.00	24.00
03.	Dominant Wind Direction (From)	---	SE	SE	SE	SE
04.	Average Wind Speed	Km./Hrs.	2 to 14	2 to 14	2 to 14	2 to 14
05.	Average flow rate during sampling	m3/minutes	1.10	1.16	1.18	1.15
06.	Average flow rate for Gas sampling	LPM	0.5	0.5	0.5	0.5
07.	Permissible Limits of PM 2.5	µg/m ³	60	60	60	60
08.	Measured Concentration of PM 2.5	µg/m ³	29.8	32.4	27.6	29.9
09.	Permissible Limits of PM 10	µg/m ³	100	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	53.2	49.5	47.6	50.1
11.	Permissible Limits of SO ₂	µg/m ³	80	80	80	80
12.	Measured Concentration of SO ₂	µg/m ³	18.8	20.7	17.4	19.0
13.	Permissible Limits of NO ₂	µg/m ³	80	80	80	80
14.	Measured Concentration of NO ₂	µg/m ³	28.4	26.5	24.8	26.6

Instrument used : 1) Ecotech RDS, Model No. AAS - 217BL, Gaseous Sampling Kit- AAS 109 & PM 2.5 Sampler AAS 127

Calibrate Done on : 26/12/2022

Royal Environment Auditing & Consultancy Service



Analyst



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Ref. No. :5050/04/2023-24

Date: 01/05/2023

REPORT OF AMBIENT AIR QUALITY MONITORING : Core Zone CHORBEDI MINES : APRIL 2023 (2nd time)

Name of company : Shree Digvijay Cement Company Limited
Digvijaygram - 361 140.
District : Jamnagar.

Sr. No.	Particulars	Unit	Core Zone = 1. Near Weigh Bridge			Average Result of 24 Hrs.
			1 st 8:00 Hrs.	2 nd 8:00 Hrs.	3 rd 8:00 Hrs.	
01.	Date of sampling	---	18/04/2023	18/04/2023	18/04/2023	18/04/2023
02.	Duration of Sampling	Hrs.	8.00	8.00	8.00	24.00
03.	Dominant Wind Direction (From)	---	SW	SW	SW	SW
04.	Average Wind Speed	Km./Hrs.	3 to 15	3 to 15	3 to 15	3 to 15
05.	Average flow rate during sampling	m3/minutes	1.20	1.10	1.18	1.16
06.	Average flow rate for Gas sampling	LPM	0.5	0.5	0.5	0.5
07.	Permissible Limits of PM 2.5	µg/m ³	60	60	60	60
08.	Measured Concentration of PM 2.5	µg/m ³	38.2	34.3	36.8	36.4
09.	Permissible Limits of PM 10	µg/m ³	100	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	57.9	55.8	53.3	55.7
11.	Permissible Limits of SO ₂	µg/m ³	80	80	80	80
12.	Measured Concentration of SO ₂	µg/m ³	18.6	20.8	16.7	18.7
13.	Permissible Limits of NO ₂	µg/m ³	80	80	80	80
14.	Measured Concentration of NO ₂	µg/m ³	27.3	25.6	23.9	25.6

Instrument used : 1) Ecotech RDS, Model No. AAS - 217BL, Gaseouse Sampling Kit- AAS 109 & PM 2.5 Sampler AAS 127

Calibrate Done on : 26/12/2022

Royal Environment Auditing & Consultancy Service



Analyst



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Ref. No. : 5051/04/2023-24

Date: 01/05/2023

REPORT OF AMBIENT AIR QUALITY MONITORING : Core Zone CHORBEDI MINES : APRIL 2023 (2nd time)

Name of company : Shree Digvijay Cement Company Limited
Digvijaygram - 361 140.
District : Jamnagar.

Sr. No.	Particulars	Unit	Core Zone = 2. Near Loading Place			Average Result of 24 Hrs.
			1 st 8:00 Hrs.	2 nd 8:00 Hrs.	3 rd 8:00 Hrs.	
01.	Date of sampling	---	18/04/2023	18/04/2023	18/04/2023	18/04/2023
02.	Duration of Sampling	Hrs.	8.00	8.00	8.00	24.00
03.	Dominant Wind Direction (From)	---	SW	SW	SW	SW
04.	Average Wind Speed	Km./Hrs.	3 to 15	3 to 15	3 to 15	3 to 15
05.	Average flow rate during sampling	m3/minutes	1.20	1.21	1.19	1.20
06.	Average flow rate for Gas sampling	LPM	0.5	0.5	0.5	0.5
07.	Permissible Limits of PM 2.5	µg/m ³	60	60	60	60
08.	Measured Concentration of PM 2.5	µg/m ³	28.3	26.5	30.3	28.4
09.	Permissible Limits of PM 10	µg/m ³	100	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	59.8	57.6	54.3	57.2
11.	Permissible Limits of SO ₂	µg/m ³	80	80	80	80
12.	Measured Concentration of SO ₂	µg/m ³	18.4	17.2	20.7	18.8
13.	Permissible Limits of NO ₂	µg/m ³	80	80	80	80
14.	Measured Concentration of NO ₂	µg/m ³	27.6	28.8	25.3	27.2

Instrument used : 1) Ecotech RDS, Model No. AAS - 217BL, Gaseouse Sampling Kit- AAS 109 & PM 2.5 Sampler AAS 127

Calibrate Done on : 26/12/2022

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Ref. No. : 590/05/2023-24

Date:01/06/2023

REPORT OF AMBIENT AIR QUALITY MONITORING : Core Zone CHORBEDI MINES : May 2023 (1st time)

Name of company : Shree Digvijay Cement Company Limited

Digvijaygram - 361 140.

District : Jamnagar.

Sr. No.	Particulars	Unit	Core Zone = 1. Near Weigh Bridge			Average Result of 24 Hrs.
			1 st 8:00 Hrs.	2 nd 8:00 Hrs.	3 rd 8:00 Hrs.	
01.	Date of sampling	---	05/05/2023	05/05/2023	05/05/2023	05/05/2023
02.	Duration of Sampling	Hrs.	8.00	8.00	8.00	24.00
03.	Dominant Wind Direction (From)	---	SE	SE	SE	SE
04.	Average Wind Speed	Km./Hrs.	3 to 18	3 to 18	3 to 18	3 to 18
05.	Average flow rate during sampling	m3/minutes	1.20	1.10	1.10	1.13
06.	Average flow rate for Gas sampling	LPM	0.5	0.5	0.5	0.5
07.	Permissible Limits of PM 2.5	µg/m ³	60	60	60	60
08.	Measured Concentration of PM 2.5	µg/m ³	33.1	32.2	30.1	31.8
09.	Permissible Limits of PM 10	µg/m ³	100	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	55.1	53.2	50.1	52.8
11.	Permissible Limits of SO ₂	µg/m ³	80	80	80	80
12.	Measured Concentration of SO ₂	µg/m ³	22.3	21.3	21.2	21.6
13.	Permissible Limits of NO ₂	µg/m ³	80	80	80	80
14.	Measured Concentration of NO ₂	µg/m ³	31.0	28.1	26.1	28.4

Instrument used : 1) Ecotech RDS, Model No. AAS - 217BL, Gaseouse Sampling Kit- AAS 109 & PM 2.5 Sampler AAS 127

Calibrate Done on : 26/12/2022

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Ref. No. :591/05/2023-24

Date:01/06/2023

REPORT OF AMBIENT AIR QUALITY MONITORING : Core Zone CHORBEDI MINES : May 2023 (1st time)

Name of company : Shree Digvijay Cement Company Limited

Digvijaygram - 361 140.

District : Jamnagar.

Sr. No.	Particulars	Unit	Core Zone = 2. Near Loading Place			Average Result of 24 Hrs.
			1 st 8:00 Hrs.	2 nd 8:00 Hrs.	3 rd 8:00 Hrs.	
01.	Date of sampling	---	06/05/2023	05/05/2023	05/05/2023	05/05/2023
02.	Duration of Sampling	Hrs.	8.00	8.00	8.00	24.00
03.	Dominant Wind Direction (From)	---	SE	SE	SE	SE
04.	Average Wind Speed	Km./Hrs.	3 to 18	3 to 18	3 to 18	3 to 18
05.	Average flow rate during sampling	m3/minutes	1.10	1.16	1.18	1.15
06.	Average flow rate for Gas sampling	LPM	0.5	0.5	0.5	0.5
07.	Permissible Limits of PM 2.5	µg/m ³	60	60	60	60
08.	Measured Concentration of PM 2.5	µg/m ³	28.1	33.2	29.1	30.1
09.	Permissible Limits of PM 10	µg/m ³	100	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	54.1	58.5	59.6	57.4
11.	Permissible Limits of SO ₂	µg/m ³	80	80	80	80
12.	Measured Concentration of SO ₂	µg/m ³	17.4	21.2	18.6	19.1
13.	Permissible Limits of NO ₂	µg/m ³	80	80	80	80
14.	Measured Concentration of NO ₂	µg/m ³	29.1	27.4	26.4	27.6

Instrument used : 1) Ecotech RDS, Model No. AAS - 217BL, Gaseouse Sampling Kit- AAS 109 & PM 2.5 Sampler AAS 127

Calibrate Done on : 26/12/2022

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Ref. No. :6050/05/2023-24

Date: 01/06/2023

REPORT OF AMBIENT AIR QUALITY MONITORING : Core Zone CHORBEDI MINES : May 2023 (2nd time)

Name of company : Shree Digvijay Cement Company Limited

Digvijaygram - 361 140.

District : Jamnagar.

Sr. No.	Particulars	Unit	Core Zone = 1. Near Weigh Bridge			Average Result of 24 Hrs.
			1 st 8:00 Hrs.	2 nd 8:00 Hrs.	3 rd 8:00 Hrs.	
01.	Date of sampling	----	24/05/2023	24/05/2023	24/05/2023	24/05/2023
02.	Duration of Sampling	Hrs.	8.00	8.00	8.00	24.00
03.	Dominant Wind Direction (From)	----	SW	SW	SW	SW
04.	Average Wind Speed	Km./Hrs.	2 to 18	2 to 18	2 to 18	2 to 18
05.	Average flow rate during sampling	m3/minutes	1.20	1.10	1.18	1.16
06.	Average flow rate for Gas sampling	LPM	0.5	0.5	0.5	0.5
07.	Permissible Limits of PM 2.5	µg/m ³	60	60	60	60
08.	Measured Concentration of PM 2.5	µg/m ³	41.2	36.4	39.7	39.1
09.	Permissible Limits of PM 10	µg/m ³	100	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	58.4	56.1	51.2	55.2
11.	Permissible Limits of SO ₂	µg/m ³	80	80	80	80
12.	Measured Concentration of SO ₂	µg/m ³	19.1	21.4	17.8	19.4
13.	Permissible Limits of NO ₂	µg/m ³	80	80	80	80
14.	Measured Concentration of NO ₂	µg/m ³	26.4	24.5	22.3	24.4

Instrument used : 1) Ecotech RDS, Model No. AAS - 217BL, Gaseouse Sampling Kit- AAS 109 & PM 2.5 Sampler AAS 127

Calibrate Done on : 26/12/2022

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Ref. No. : 6051/05/2023-24

Date: 01/06/2023

REPORT OF AMBIENT AIR QUALITY MONITORING : Core Zone CHORBEDI MINES : May 2023 (2nd time)

Name of company : Shree Digvijay Cement Company Limited

Digvijaygram - 361 140.

District : Jamnagar.

Sr. No.	Particulars	Unit	Core Zone = 2. Near Loading Place			Average Result of 24 Hrs.
			1 st 8:00 Hrs.	2 nd 8:00 Hrs.	3 rd 8:00 Hrs.	
01.	Date of sampling	----	24/05/2023	24/05/2023	24/05/2023	24/05/2023
02.	Duration of Sampling	Hrs.	8.00	8.00	8.00	24.00
03.	Dominant Wind Direction (From)	----	SW	SW	SW	SW
04.	Average Wind Speed	Km./Hrs.	2 to 18	2 to 18	2 to 18	2 to 18
05.	Average flow rate during sampling	m3/minutes	1.20	1.21	1.19	1.20
06.	Average flow rate for Gas sampling	LPM	0.5	0.5	0.5	0.5
07.	Permissible Limits of PM 2.5	µg/m ³	60	60	60	60
08.	Measured Concentration of PM 2.5	µg/m ³	29.4	28.4	31.4	29.7
09.	Permissible Limits of PM 10	µg/m ³	100	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	60.1	58.4	55.6	58.0
11.	Permissible Limits of SO ₂	µg/m ³	80	80	80	80
12.	Measured Concentration of SO ₂	µg/m ³	19.2	21.0	18.5	19.6
13.	Permissible Limits of NO ₂	µg/m ³	80	80	80	80
14.	Measured Concentration of NO ₂	µg/m ³	26.4	29.1	27.4	27.6

Instrument used : 1) Ecotech RDS, Model No. AAS - 217BL, Gaseouse Sampling Kit- AAS 109 & PM 2.5 Sampler AAS 127

Calibrate Done on : 26/12/2022

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Ref. No. : 690/06/2023-24

Date:01/07/2023

REPORT OF AMBIENT AIR QUALITY MONITORING : Core Zone CHORBEDI MINES : June 2023 (1st time)

Name of company : Shree Digvijay Cement Company Limited

Digvijaygram - 361 140.

District : Jamnagar.

Sr. No.	Particulars	Unit	Core Zone = 1. Near Weigh Bridge			Average Result of 24 Hrs.
			1 st 8:00 Hrs.	2 nd 8:00 Hrs.	3 rd 8:00 Hrs.	
01.	Date of sampling	---	06/06/2023	06/06/2023	06/06/2023	06/06/2023
02.	Duration of Sampling	Hrs.	8.00	8.00	8.00	24.00
03.	Dominant Wind Direction (From)	----	SE	SE	SE	SE
04.	Average Wind Speed	Km./Hrs.	3 to 11	3 to 11	3 to 11	3 to 11
05.	Average flow rate during sampling	m3/minutes	1.20	1.10	1.10	1.13
06.	Average flow rate for Gas sampling	LPM	0.5	0.5	0.5	0.5
07.	Permissible Limits of PM 2.5	µg/m ³	60	60	60	60
08.	Measured Concentration of PM 2.5	µg/m ³	28.6	32.4	29.8	30.3
09.	Permissible Limits of PM 10	µg/m ³	100	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	51.6	52.7	53.1	52.5
11.	Permissible Limits of SO ₂	µg/m ³	80	80	80	80
12.	Measured Concentration of SO ₂	µg/m ³	13.2	14.6	13.6	13.8
13.	Permissible Limits of NO ₂	µg/m ³	80	80	80	80
14.	Measured Concentration of NO ₂	µg/m ³	18.2	19.6	17.9	18.6

Instrument used : 1) Ecotech RDS, Model No. AAS - 217BL, Gaseouse Sampling Kit- AAS 109 & PM 2.5 Sampler AAS 127

Calibrate Done on : 26/12/2022

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Ref. No. :691/06/2023-24

Date:01/07/2023

REPORT OF AMBIENT AIR QUALITY MONITORING : Core Zone CHORBEDI MINES : June 2023 (1st time)

Name of company : Shree Digvijay Cement Company Limited

Digvijaygram - 361 140.

District : Jamnagar.

Sr. No.	Particulars	Unit	Core Zone = 2. Near Loading Place			Average Result of 24 Hrs.
			1 st 8:00 Hrs.	2 nd 8:00 Hrs.	3 rd 8:00 Hrs.	
01.	Date of sampling	---	06/06/2023	06/06/2023	06/06/2023	06/06/2023
02.	Duration of Sampling	Hrs.	8.00	8.00	8.00	24.00
03.	Dominant Wind Direction (From)	----	SE	SE	SE	SE
04.	Average Wind Speed	Km./Hrs.	3 to 11	3 to 11	3 to 11	3 to 11
05.	Average flow rate during sampling	m3/minutes	1.12	1.14	1.18	1.15
06.	Average flow rate for Gas sampling	LPM	0.5	0.5	0.5	0.5
07.	Permissible Limits of PM 2.5	µg/m ³	60	60	60	60
08.	Measured Concentration of PM 2.5	µg/m ³	24.6	31.5	32.4	29.5
09.	Permissible Limits of PM 10	µg/m ³	100	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	51.6	54.6	53.2	53.1
11.	Permissible Limits of SO ₂	µg/m ³	80	80	80	80
12.	Measured Concentration of SO ₂	µg/m ³	13.6	14.7	12.8	13.7
13.	Permissible Limits of NO ₂	µg/m ³	80	80	80	80
14.	Measured Concentration of NO ₂	µg/m ³	18.6	17.5	16.4	17.5

Instrument used : 1) Ecotech RDS, Model No. AAS - 217BL, Gaseouse Sampling Kit- AAS 109 & PM 2.5 Sampler AAS 127

Calibrate Done on : 26/12/2022

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Ref. No. : 7050/06/2023-24

Date: 01/07/2023

REPORT OF AMBIENT AIR QUALITY MONITORING : Core Zone CHORBEDI MINES : June 2023 (2nd time)

Name of company : Shree Digvijay Cement Company Limited

Digvijaygram - 361 140.

District : Jamnagar.

Sr. No.	Particulars	Unit	Core Zone = 1. Near Weigh Bridge			Average Result of 24 Hrs.
			1 st 8:00 Hrs.	2 nd 8:00 Hrs.	3 rd 8:00 Hrs.	
01.	Date of sampling	---	24/06/2023	24/06/2023	24/06/2023	24/06/2023
02.	Duration of Sampling	Hrs.	8.00	8.00	8.00	24.00
03.	Dominant Wind Direction (From)	----	NE	NE	NE	NE
04.	Average Wind Speed	Km./Hrs.	2 to 10	2 to 10	2 to 10	2 to 10
05.	Average flow rate during sampling	m3/minutes	1.18	1.10	1.14	1.14
06.	Average flow rate for Gas sampling	LPM	0.5	0.5	0.5	0.5
07.	Permissible Limits of PM 2.5	µg/m ³	60	60	60	60
08.	Measured Concentration of PM 2.5	µg/m ³	31.2	34.6	28.4	31.4
09.	Permissible Limits of PM 10	µg/m ³	100	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	51.2	52.4	49.8	51.1
11.	Permissible Limits of SO ₂	µg/m ³	80	80	80	80
12.	Measured Concentration of SO ₂	µg/m ³	14.1	13.2	13.7	13.7
13.	Permissible Limits of NO ₂	µg/m ³	80	80	80	80
14.	Measured Concentration of NO ₂	µg/m ³	18.2	19.6	16.9	18.2

Instrument used : 1) Ecotech RDS, Model No. AAS - 217BL, Gaseouse Sampling Kit- AAS 109 & PM 2.5 Sampler AAS 127

Calibrate Done on : 26/12/2022

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Ref. No. : 7051/06/2023-24

Date: 01/07/2023

REPORT OF AMBIENT AIR QUALITY MONITORING : Core Zone CHORBEDI MINES : June 2023 (2nd time)

Name of company : Shree Digvijay Cement Company Limited

Digvijaygram - 361 140.

District : Jamnagar.

Sr. No.	Particulars	Unit	Core Zone = 2. Near Loading Place			Average Result of 24 Hrs.
			1 st 8:00 Hrs.	2 nd 8:00 Hrs.	3 rd 8:00 Hrs.	
01.	Date of sampling	----	24/06/2023	24/06/2023	24/06/2023	24/06/2023
02.	Duration of Sampling	Hrs.	8.00	8.00	8.00	24.00
03.	Dominant Wind Direction (From)	-----	NE	NE	NE	NE
04.	Average Wind Speed	Km./Hrs.	2 to 10	2 to 10	2 to 10	2 to 10
05.	Average flow rate during sampling	m3/minutes	1.10	1.15	1.19	1.15
06.	Average flow rate for Gas sampling	LPM	0.5	0.5	0.5	0.5
07.	Permissible Limits of PM 2.5	µg/m ³	60	60	60	60
08.	Measured Concentration of PM 2.5	µg/m ³	27.9	31.4	27.6	29.0
09.	Permissible Limits of PM 10	µg/m ³	100	100	100	100
10.	Measured Concentration of PM 10	µg/m ³	48.9	51.0	52.1	50.7
11.	Permissible Limits of SO ₂	µg/m ³	80	80	80	80
12.	Measured Concentration of SO ₂	µg/m ³	12.7	11.8	10.8	11.8
13.	Permissible Limits of NO ₂	µg/m ³	80	80	80	80
14.	Measured Concentration of NO ₂	µg/m ³	17.1	17.3	18.1	17.5

Instrument used : 1) Ecotech RDS, Model No. AAS - 217BL, Gaseouse Sampling Kit- AAS 109 & PM 2.5 Sampler AAS 127

Calibrate Done on : 26/12/2022

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Ref. No. : 497/04/2023-24

Date:01/05/2023

REPORT OF AMBIENT NOISE LEVEL MEASUREMENT**Name of company : Shree Digvijay Cement Company Limited**

Digvijaygram - 361 140.

District : Jamnagar.

Sampling Date : 18/04/2023

Sr. No.	Location of Sampling	Noise Level Avg. in dB (A)	
		Day Time 06:00 AM to 10:00 PM	Night Time 10:00 PM to 06:00 AM
01.	GOP Mines Adm. Building	58.4	49.7
02.	Chorbedi Mines Adm. Building	55.7	47.5
03.	Pachhtar and Pachhtardi Mines Adm. Building	51.9	43.6

CPCB Standards

Area Code	Category of Area / Zone	Limit in dB(A) Leq.	
		Day Time	Night Time
A	Industrial Area	75.0	70.0
B	Commercial Area	65.0	55.0
C	Residential Area	55.0	45.0
D	Silence Zone	50.0	40.0

Reference : Limits As Per The Noise Pollution Regulation and Control Rules, 2000 Schedule See Rule 3(1) and 4(1).

Instruments used : Sound level meter, model : SL-4030. (LUTRON)

Calibration done on : 04/03/2023

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Ref. No. : 498/04/2023-24

Date:01/05/2023

WORK ZONE NOISE LEVEL MEASUREMENT

Name of company : Shree Digvijay Cement Company Limited

Digvijaygram - 361 140.

District : Jamnagar.

Sampling Date : 18/04/2023

Sr. No.	Location of Sampling	dB(A)		
Permissible Limits for 8:00 Hrs.		90 dBA		
CHORBEDI MINES		Inside Cabin	15 Mtr. Away from m/c.	50 Mtr. Away from m/c.
01.	Dozer D8 - N (CAT)	78.6	68.4	65.8
02.	Hyundai - 140 (LC - 9)	79.8	70.3	66.5
03.	Tata - 200 Excavator	80.3	72.8	63.7
Pachhtar and Pachhtardi Mines		Inside Cabin	15 Mtr. Away from m/c.	50 Mtr. Away from m/c.
04.	Dozer BD 355 Dozer(New)	84.2	71.6	65.6
05.	Hyundai - 140 Excavator	78.4	64.8	63.2
06.	Tata - 200 Excavator	76.3	70.4	64.7
GOP MINES		Inside Cabin	15 Mtr. Away from m/c.	50 Mtr. Away from m/c.
07.	Dozer D8 - N (CAT)	84.6	71.3	64.2
08.	Hyundai - 140 (LC - 9)	72.8	67.5	62.4

Instruments used : Sound level meter, model : SL-4030. (LUTRON)

Calibration done on : 04/03/2023

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Ref. No. : 597/05/2023-24

Date:01/06/2023

REPORT OF AMBIENT NOISE LEVEL MEASUREMENT

Name of company : Shree Digvijay Cement Company Limited

Digvijaygram - 361 140.

District : Jamnagar.

Sampling Date : 25/05/2023

Sr. No.	Location of Sampling	Noise Level Avg. in dB (A)	
		Day Time 06:00 AM to 10:00 PM	Night Time 10:00 PM to 06:00 AM
01.	GOP Mines Adm. Building	59.4	48.1
02.	Chorbedi Mines Adm. Building	54.6	46.1
03.	Pachhtar and Pachhtardi Mines Adm. Building	50.3	42.3

CPCB Standards

Area Code	Category of Area / Zone	Limit in dB(A) Leq.	
		Day Time	Night Time
A	Industrial Area	75.0	70.0
B	Commercial Area	65.0	55.0
C	Residential Area	55.0	45.0
D	Silence Zone	50.0	40.0

Reference : Limits As Per The Noise Pollution Regulation and Control Rules, 2000 Schedule See Rule 3(1) and 4(1).

Instruments used : Sound level meter, model : SL-4030. (LUTRON)

Calibration done on : 04/03/2023

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Ref. No. : 598/05/2023-24

Date: 01/06/2023

WORK ZONE NOISE LEVEL MEASUREMENT

Name of company : Shree Digvijay Cement Company Limited

Digvijaygram - 361 140.

District : Jamnagar.

Sampling Date : 25/05/2023

Sr. No.	Location of Sampling	dB(A)		
Permissible Limits for 8:00 Hrs.		90 dBA		
CHORBEDI MINES		Inside Cabin	15 Mtr. Away from m/c.	50 Mtr. Away from m/c.
01.	Dozer D8 - N (CAT)	77.1	66.4	62.1
02.	Hyundai - 140 (LC - 9)	79.4	69.5	64.2
03.	Tata - 200 Excavator	81.2	71.5	64.5
Pachhtar and Pachhtardi Mines		Inside Cabin	15 Mtr. Away from m/c.	50 Mtr. Away from m/c.
04.	Dozer BD 355 Dozer(New)	83.1	70.8	66.4
05.	Hyundai - 140 Excavator	77.6	63.4	62.8
06.	Tata - 200 Excavator	75.1	69.8	65.4
GOP MINES		Inside Cabin	15 Mtr. Away from m/c.	50 Mtr. Away from m/c.
07.	Dozer D8 - N (CAT)	83.4	70.12	65.7
08.	Hyundai - 140 (LC - 9)	73.1	68.4	61.6

Instruments used : Sound level meter, model : SL-4030. (LUTRON)

Calibration done on : 04/03/2023

Royal Environment Auditing & Consultancy Service



Analyst



Royal

Environment Auditing & Consultancy Service

Plot No. 19 & 20, B/s. The North Star Nest School, Masoom School Road, Mota Mava, RAJKOT - 360 005.
Ph.: +91 9099919954 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 697/06/2023-24

Date:01/07/2023

REPORT OF AMBIENT NOISE LEVEL MEASUREMENT

Name of company : Shree Digvijay Cement Company Limited

Digvijaygram - 361 140.

District : Jamnagar.

Sampling Date : 26/06/2023

Sr. No.	Location of Sampling	Noise Level Avg. in dB (A)	
		Day Time 06:00 AM to 10:00 PM	Night Time 10:00 PM to 06:00 AM
01.	GOP Mines Adm. Building	60.2	44.9
02.	Chorbedi Mines Adm. Building	62.3	43.2
03.	Pachhtar and Pachhtardi Mines Adm. Building	49.8	44.6

CPCB Standards

Area Code	Category of Area / Zone	Limit in dB(A) Leq.	
		Day Time	Night Time
A	Industrial Area	75.0	70.0
B	Commercial Area	65.0	55.0
C	Residential Area	55.0	45.0
D	Silence Zone	50.0	40.0

Reference : Limits As Per The Noise Pollution Regulation and Control Rules, 2000 Schedule See Rule 3(1) and 4(1).

Instruments used : Sound level meter, model : SL-4030. (LUTRON)

Calibration done on : 04/03/2023

Royal Environment Auditing & Consultancy Service



Analyst



Royal

Environment Auditing & Consultancy Service

Plot No. 19 & 20, B/s. The North Star Nest School, Masoom School Road, Mota Mava, RAJKOT - 360 005.
Ph.: +91 9099919954 ■ E-mail : royalservice@live.com ■ admin@royalconsultancy.com

Ref. No. : 698/06/2023-24

Date:01/07/2023

WORK ZONE NOISE LEVEL MEASUREMENT

Name of company : Shree Digvijay Cement Company Limited

Digvijaygram - 361 140.

District : Jamnagar.

Sampling Date : 26/06/2023

Sr. No.	Location of Sampling	dB(A)		
Permissible Limits for 8:00 Hrs.		90 dBA		
CHORBEDI MINES		Inside Cabin	15 Mtr. Away from m/c.	50 Mtr. Away from m/c.
01.	Dozer D8 - N (CAT)	78.2	69.6	61.5
02.	Hyundai - 140 (LC - 9)	77.4	68.4	61.8
03.	Tata - 200 Excavator	73.2	67.6	63.4
Pachhtar and Pachhtardi Mines		Inside Cabin	15 Mtr. Away from m/c.	50 Mtr. Away from m/c.
04.	Dozer BD 355 Dozer(New)	79.6	68.2	62.1
05.	Hyundai - 140 Excavator	78.1	67.2	63.4
06.	Tata - 200 Excavator	74.3	66.1	61.2
GOP MINES		Inside Cabin	15 Mtr. Away from m/c.	50 Mtr. Away from m/c.
07.	Dozer D8 - N (CAT)	79.8	67.8	60.8
08.	Hyundai - 140 (LC - 9)	74.6	65.9	60.9

Instruments used : Sound level meter, model : SL-4030. (LUTRON)

Calibration done on : 04/03/2023

Royal Environment Auditing & Consultancy Service

Rajkot



Analyst



Annexure-9

CHORBEDI (COMPOSITE) LIMESTONE MINES
YEARLY EXPENDITURE STATEMENT
FOR ENVIRONMENT MANAGEMENT
(For the Period of April 2023 to September 2023)

Sr. No.	WORK	Grand Total
1	Ambient Air & Noise Monitoring	19480.00
2	Water Sprinkling on haul roads	44320.00
3	Plantation	159600.00
4.	Security and Maintenance	90000.00
	Total	313400.00


Manager Mines

14

No.J-11015/47/2005-IA.II (M)

Government of India
Ministry of Environment & ForestsParyavaran Bhawan,
C.G.O. Complex, Lodi Road,
New Delhi - 110 003Dated: 7th October 2005

To
Shri Chain Singh Jasol,
Vice-President (CE. C&L),
M/s Shree Digvijay Cement Co. Ltd,
Digvijaygram - 361140,
Jamnagar, GUJARAT

Subject: Chorbedi (Composite) Limestone Mine of M/s Shree Digvijay Cement Co. Ltd. at village Chorbedi, Taluka Lalpur/Jamjodhpur, District Jamnagar, Gujarat- Application for environmental clearance- reg.

Sir,

This has reference to your letter No. SDCCL/RM/ECA/5MP/GO/2005/02 dated 28.02.2005 enclosing your application and subsequent letter dated 10.05.2005 on the subject mentioned above. The Ministry of Environment and Forests has examined the application. It has been noted that the proposal is for expansion in production of the existing **Chorbedi Limestone Mine** over a total mining lease area of **419.07 ha**, of which, 220.84 ha is forestland and 198.23 ha is wasteland. Forestry clearance has not been obtained. There are no ecologically sensitive areas such as National Parks/Wildlife Sanctuaries/Biosphere Reserves found within 10 km of mine site. The project does not involve displacement of populations. Of the total lease area, area to be excavated is 127.16 ha, 0.01 ha is for infrastructure, 3.0 ha is for roads, 1.60 ha is for green belt, and 287.21 ha is undisturbed area. Mining will be Opencast by mechanised method and involves drilling & blasting. The project is for production of limestone at an annual targeted capacity of **0.9 million tonnes per annum (MTPA)**. Mineral transportation of 2000 TPD of limestone is by road. General ground elevation is 154 MSL. Mining is proposed upto 135-165 MSL, which it has reached. Water table is at 134-142 MSL. Working will be above groundwater table. Water requirement of 25 m³/day will be met from well water supplied by local villagers. No waste generation and hence no OB dumps and backfilling proposed. IBM has approved the Mining Plan on 23.06.2004. No Objection Certificate has been obtained from the State Pollution Control Board on 13.04.2004. Public Hearing was held on 09.10.2003. Life of the mine at the rated capacity is 18 years. Capital cost of the project is **Rs 18.07 lakhs**.

2.0 The Ministry of Environment and Forests hereby accords environmental clearance to the above mentioned **Chorbedi (Composite) Captive Limestone mine of M/s Shree Digvijay Cement Co. Ltd.** for expansion in production to a maximum of 0.9 million TPA involving lease area of **419.07 ha** under the provisions of the Environmental Impact Assessment Notification, 1994 and subsequent amendments thereto subject to compliance of the terms and conditions mentioned below:

A. Specific conditions

- (i) The production capacity of this mine shall not exceed 0.9 MTPA with a capping of production of limestone to a capacity of 2.2 MTPA from all 5 mines, namely Gop, Pachtar,

Mokahana, Chorbedi and Bhogat Limestone mines put together subject to each obtaining environmental clearance.

- (ii) No mining shall be undertaken in forestland for which forestry clearance has not been obtained.
- (iii) Catch drains, and siltation ponds of appropriate size and check dams should be constructed to arrest silt and sediment flows from the mining operations. The drains should be regularly desilted and maintained properly.
Garland drain (size, gradient & length) shall be constructed for both mine pit and for the waste dump. Sump capacity should be designed keeping 50 % safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains.
- (iv) Drills should be wet operated or with dust extractors.
- (v) Controlled blasting should be practiced and only between 12 Noon and 2 PM. The mitigative measures for control of ground vibrations to arrest the fly rocks and boulders should be implemented. No blasting shall be carried out within 500m distance from Gop Nath Temple and 1km distance from the Sun Temple.
- (vi) Plantation shall be done over the lease area covering 20.95 ha, which includes a green belt of adequate width around the ML area, along roads by planting suitable native species in consultation with the local DFO/Agriculture Department. The density of trees should be around 1000 plants per hectare.
- (vi) A water reservoir of 6 ha shall be created from the deeper section of worked out pit. The higher benches of the void shall be terraced and plantation done to stabilise the slopes. Peripheral fencing shall be done along the excavated area.
- (viii) Ground water shall not be encountered during mining operations. Prior approval of the MOEF and CGWA shall be taken for mining below ground water.
- (ix) Rainwater harvesting measures shall be taken up in consultation with the Regional Office, CGWB to recharge and augment groundwater in the area.
- (x) A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.
- (xi) A Consent to Operate shall be obtained from the SPCB before expanding mining operations.

B. General conditions

- (i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.
- (ii) No change in the calendar plan including excavation, quantum of limestone and waste should be made.

- (iii) Data on ambient air quality (RPM and SPM) should be regularly submitted once a year to the Ministry including its Regional office (CZ) at Lucknow and the Rajasthan State Pollution Control Board / Central Pollution Control Board once in six months.
- (iv) Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, wagon loading, dump trucks (loading & unloading) should be provided and properly maintained.
- (v) Adequate measures should be taken for control of noise levels in the work environment.
- (vi) Industrial waste water, if any, should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time.
- (vii) 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.
- (viii) 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 this Ministry's Regional Office located at Lucknow (CZ).
- (ix) The Regional Office (CZ) of this Ministry located at Lucknow shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the office (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.
- (ix) A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom and suggestion / representation has been received while processing the proposal.
- (x) State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office/ Tehsildar's Office for 30 days and provide copies of the same to anyone requesting for the same.
- (xi) The project authorities should advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of 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 may also be seen at web site of the Ministry of Environment & Forests at <http://envfor.nic.in>.

3. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

4. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance.

5. The above conditions will be enforced, inter alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act,

1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.



(DR.T.CHANDINI)
ADDITIONAL DIRECTOR

Copy to:

1. Secretary, Department of Environment, Government of Gujarat, Gandhinagar.
2. Secretary, Industries & Mines Department, Government of Gujarat, Sachivalaya, Gandhinagar, Gujarat.
3. Chief Conservator of Forests, Regional Office (WZ), Ministry of Environment and Forests, Bhopal.
4. Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
5. Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
6. Controller General, Indian Bureau of Mines, Indira Bhawan, Civil Lines, Nagpur.
7. Chairman, Gujarat State Pollution Control Board, Sector 10-A, Gandhinagar-382043.
8. Member-Secretary, Central Ground Water Authority, A3 W-3 Curzon Road Barracks, Kasturba Gandhi Marg, New Delhi.
9. District Collector, District Jamnagar, Government of Gujarat.
10. Monitoring File. 11. Guard File. 12. Record File.