PRE-FEASIBILITY REPORT

EXECUTIVE SUMMARY

1.0 Introduction

The mine lease area is located at Village- Gop & Zinavari, Tehsil- Jamjodhpur, District- Jamnagar, and State- Gujarat. It is proposed for Lime stone mine. The lease area is 218.53 Hectares.

The project falls under Schedule 1(a) of mining and is a Category- "A" project as per EIA notification 14th September 2006.

Status of Leases:

The mining leases at Gop-1 (218.53 Ha) was granted by Govt. of Gujarat vide letter dated 01.06.1958. The mining lease got renewed by State Govt. vide order no. MCR-1577(D-56) - 6858 CHH dated 05.10.1978 for period of 20 years. The lease is executed on 31.03.1979 and made effective from 01.06.1978 for 20 years span from the date of first renewal. Hence renewal is valid up to 31 .05.1998.Applied for 2nd renewal on 25.04.1997 for next term of 20 years i.e. up to 31.05.2018. The renewal was pending with the State Govt. Lease documents are attached as **Annexure Ia, 1b &1c**. Surface Plan showing Lease boundary and MLB Coordinates is enclosed as **Annexure No. 1d**.

The lease is being operated up to 11.01.2015 under deemed renewal as per Rule 24A of the Mineral Concession Rules, 1960. Since 12.01.2015, the lease-period has been extended as per section 8A (5) of Mines and Minerals (Development and Regulation) Amendment Act, 2015. State Govt. has issued letter for extension of Leases vide letter no. MCR-1577 (D-56)- 6858 Chh.1 dated 15.06.2017 stating that the lease is extended up to 31/03/2030 [**Annexure-2**].

The Environmental Clearance has been accorded by Ministry of Environment & Forest, Government of India vide letter no. J-11015/47/2005-IA.II (M) dated 7th October' 2005 towards Gop (Composite -277.215 ha) Limestone mine (Combined for all 02 adjoining Leases of the Company) for production capacity @ 2.5 lac tonnes/ annum cumulatively. [**Annexure-3]**.

Consent to Operate for Gop (Composite) Limestone Mine granted by Gujarat Pollution Control Board, Gandhinagar, vides consent order no. AWH-69729 dated 21.04.2015 for production capacity @ 0.25 million tonnes/ annum and the same is valid up to 24.05.2020.Copy of Consent is enclosed as [**Annexure-4].**

About the company (Lessee)

Shree Digvijay Cement Co. Limited (SDCCL) was established in 6th Nov' 1944 in the remote opportunities of employment area in Semi Desert Saurashtra Region. (One of the oldest Cement Plant of the Country).

It used to be a Wet Process Cement manufacturing unit, based on Calcareous Sand in the islands of nearby Gulf of Kutch region, as principal Raw Material.

After declaration of Marine National Park and Sanctuary in the Gulf of Kutch region in 1980, SDCCL had to surrender its Calcareous Sand Leases.

Compensatory mining leases of Limestone were granted at villages Pachhtar, Chorbedi, Mokhana and Bhogat all at a distance of more than 90 -100 Kms from the Plant.

The company changed over its process technology from Wet to Dry process in 1982 for use of Limestone as principal raw material in place of Calcareous Sand.

Presently Votorantim Cimentos of Brazil is the holding company of M/s. Shree Digvijay Cement Company Ltd.

SDCCL is accredited with various prestigious certification of international repute like ISO 9001:2008; OHSAS 18000, EMS 14001 and API QI 9th Edition (Specially for manufacturing and marketing of OIL WELL CEMENT in India and abroad).

It is also an active member of **Cement Sustainability Initiative** (CSI); a close ally of **World Business Council for Sustainable Development** (WBCSD). Presently SDCCL has one Cement Plant with production capacity of 1.07 million TPA of clinker (1.20 Million TPA cement).

According to plant capacity, about **1.6 million tonnes** of limestone is required annually. Limestone requirement of cement plant is met by its Gop, Chorbedi & Pachhtar limestone mines supplemented with purchased limestone from nearby sources in Jamnagar and Porbander districts.

Besides manufacturing Ordinary Portland Cement (OPC) and Pozzolana Portland Cement (PPC) SDCCL also manufactures Sulphate Resisting Portland Cement (SRPC) and Oil Well Cement Class "G" by Dry Process Technology. The Cement is marketed under the brand name "Kamal".

Buffer map of 10 km radius is attached as **Annexure 5**.

1.2 Salient features of the project

Project Name	Gop-1 Limestone Mining Project
Mining Lease Area	218.53 Ha
Location of mine	Village: Gop & Zinavari Tehsil: Jamjodhpur District : Jamnagar State : Gujarat
Coordinates	Latitude: 22 º 03'14.7"N to 22 º 01'54.4"N Longitude: 69°54'54.3"E to 69°55'56.8"E
Land Use	218.53 Hectares; Government Waste Land
Minerals of mine	Limestone
Life of mine	13 Years @ envisaged rate of production
Total Geological Reserve	2.54 MT
Total Mineable Reserve	1.961 MT
Proposed production of mine	0.22 MT
Method of mining	Opencast Fully Mechanized Mining
No of working days	300 days
Water demand	18 KLD
Sources of water	Water for drinking and dust suppression will be taken through springs or *nalla* come under gram panchayat Gop.
Man power	20
Nearest railway station	Gop Jam Railway Station at 0.65 km away in West direction from the project site.
Nearest state/national highway	SH 27 (about 3.5 km in West direction)
Nearest airport	Jamnagar Airport (Approx. 47.0 km in NNE direction)
Seismic zone	Zone IV

2. INTRODUCTION OF THE PROJECT/ BACKGROUND INFORMATION

2.1 Identification of Project and Project Proponent

The project is proposed for mining of Limestone. The details are given below:

Name of the applicant	Shri Anil Kumar Nigam
Address of applicant	Shree Digvijay Cement Co. Ltd. PO : Digvijaygram, Sikka District : Jamnagar (Gujarat)
Status of Mine	The Mine is in operation with all requisite clearance and

	permission.

2.2 Brief Information about the Project

The project has lease area of 218.53 ha and proposed annual production capacity of 0.22 MTPA of limestone mineral. Mining operations will be carried out by opencast fully mechanized method. The expected life of the mine is 13 years @ present envisaged rate of production. Limestone Mine is proposed to be continued with an eco-friendly Opencast Fully Mechanized mining method without drilling & blasting. Ripper-Dozer will be dominant equipment for excavation and other allied activities. Many other eco-friendly excavation equipment like Surface Miner, Vibro Ripper, Hydraulic Hammer, Rock Breaker etc. may also be used in the mine, considering availability of equipment and/or economics of the operations. Water requirement for the proposed project is 18 KLD for drinking, domestic, plantation and dust suppression. Green belt development will be carried out as a part of progressive reclamation works.

2.3 Need for the Project and Its Importance to the Country or Region

The Gop-1 Limestone Mine is major source of raw material for operating the captive cement plant. It provided employment opportunity to the local people and also generates substantial revenues to state exchequer. Part of the fund generated through District Mineral Foundation @ 30% of royalty also helps in development of the infrastructures in affected villages. Therefore there is an all-out development and social upliftment of the society of the area.

2.4 Demands-Supply Gap

India is second largest cement producing country in the world after China. There were 210 large cement plants having an installed capacity of 410 million tonnes in 2015-16 in addition to more than 350 mini cement plants having estimated capacity of around 11.10 million tonnes per annum. The total installed capacity of cement in 2015-16 was thus about 421.10 million tpy against 356 million tpy in the preceding year. Besides, there are three white cement plants having a total 990,000 tpy capacity. The total production of cement reached 283.45 million tonnes in 2015-16 registering a growth of about 6.52% over the preceding year. In 2016-17, the total consumption of limestone, as reported by different industries was 242.45 million tonnes. Cement was the major consuming industry accounting for 92% consumption, followed by iron & steel (5%) and chemical (2%). Consumption of limestone from 2014-15 to 2016-17 is given in below Table:

Table - 17 (A) : Consumption* of Limestone, 2014-15 to 2016-17
(By Industries)

(In tonnes)

Industry	2014-15	2015-16 (R)	2016-17 (P)
All Industries	**266432500**	**294263400**	**242459100**
Aluminium/Alumina	213200	375500	176800
Alloy steel	44100	75200	33600
Cement	248500800	276329400	223110700
Chemical	4649800	4887700	5013100
Fertilizer	700	2200	1500
Ferro alloys	1700	5600	10600
Foundry	500	500	700
Glass	76400	93800	68000
Iron & Steel	11482700	11064200	12636500
Metallurgy	22600	3500	48100
Paper	5200	5200	-
Sugar (e)	993100	918800	717400
Others**	441700	501800	642100

Figures rounded off.
** Includes actual reported consumption and/or estimates made wherever required and due to paucity of data, coverage may not be complete. Where the apparent consumption of limestone was 249521600 tonnes by the year 2016-17.*
*** Include, Calcination,ceramic,electode,refractory,sponge iron & thermal power.*

Source: https://ibm.gov.in/writereaddata/files/03202018145745Limestone_AR_2017.pdf

2.5 Imports vs. Indigenous Production

In 2016-17 import of limestone was 17.8 million tonnes. Limestone was mainly imported from UAE (80.25%), Oman (12.44%), Malayasia (2.47%), Vietnam (1.79%) & Iran (1.76%). As per the foreign trade policy 2015-20, the import of limestone, lime kankar, lime shell and chalk are free. Imports of limestone increased 13.94 million tonnes in the previous year. Imports of chalk in 2015-16 drastically decreased to 6,174 tonnes as against 26,734 tonnes in the previous year. Mineral is available in abundant quantity in area and can be extracted indigenously.

2.6 Export Possibility

None

2.7 Domestic/ Export Markets

Mineral will be used in own Cement Plant situated at Digvijaygram, Sikka District Jamnagar (Gujarat)

2.8 Employment Generation

Owing to the topography of the area, which is a rough terrain, Lime Stone mining activity is needed as the primary source of income for the locals. Mines will provide employment to about 20 persons. It will also provide employment to the people residing in vicinity and also indirectly by the development of supporting infrastructure and allied activities.

Particular	**Numbers**	Available
Highly Skilled	Mines Engineer (U/d Rule 42 MCDR)	01
	Geologist	01
Skilled	Supervisors, Operators, Drivers	13
Semi-Skilled	Royalty Clerks	3
Un- Skilled	--	2
Total Workers		**20**

3.0 PROJECT DESCRIPTION

3.1 Type of Project Including Interlinked and Interdependent Projects, If Any.

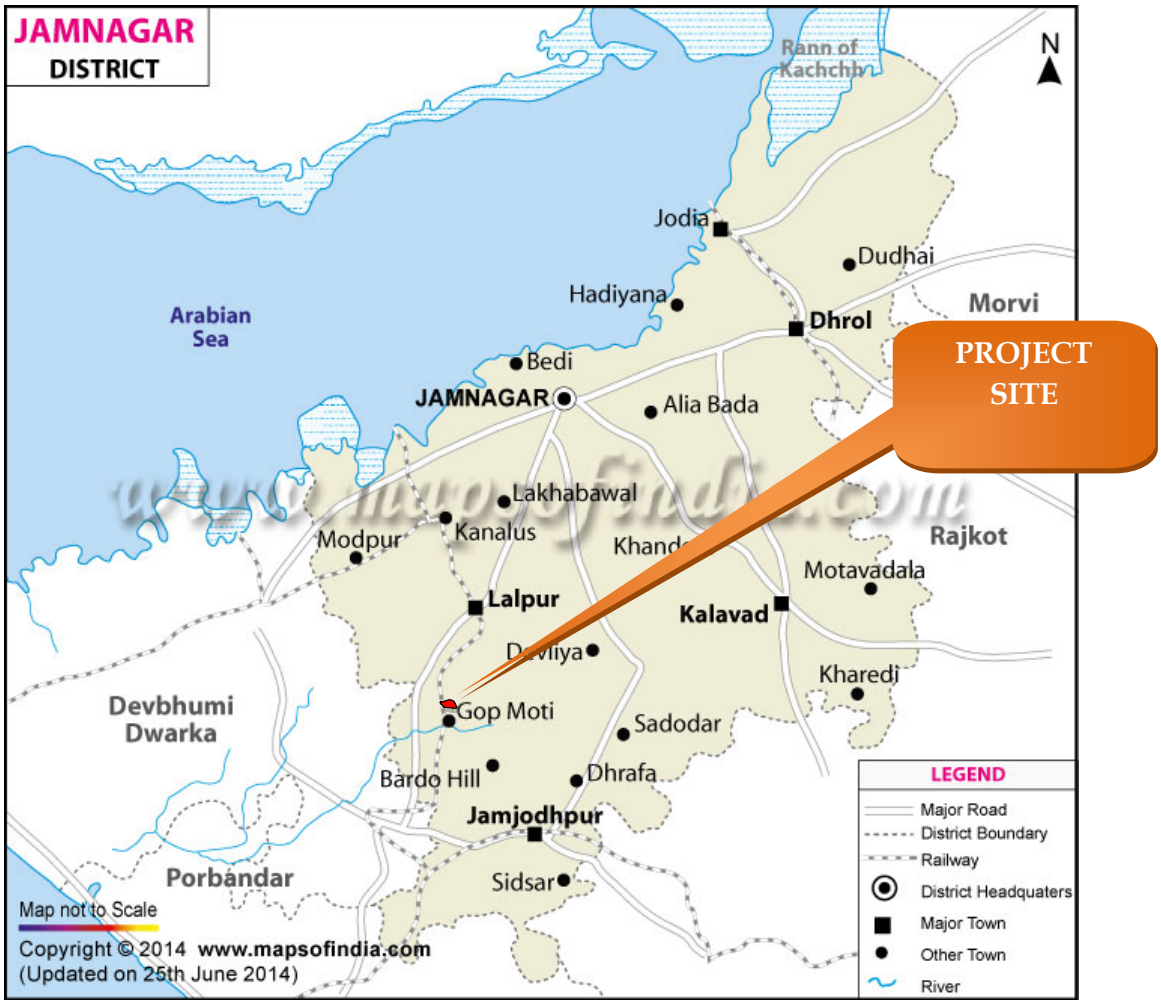
The proposed project for mining of Limestone mineral is an independent project. There are no interlinked or interdependent projects.

3.2 Location

The mining lease area is located in Village- Gop & Zinavari, Tehsil- Jamjodhpur, District- Jamnagar, and State- Gujarat. The details of location of mining lease area are given below:

Particulars	**Details**
Location	Village- Gop & Zinavari, Tehsil- Jamjodhpur, District- Jamnagar, and State- Gujarat.
Coordinates	Latitude: 22 º 03’14.7”N to 22 º 01’54.4”N Longitude: 69^{o}54’54.3”E to 69^{o}55’56.8”E

The vicinity map is given below:



3.3 Details of Alternate Sites

The Mines is in operation therefore no alternative site is required to be examined.

3.4 Size or magnitude of operation

The mine has lease area of 218.53 ha and during five year total production of useable material shall be approximately 1.09 Million tons @0.22 million tonnes / Annum. The average number of working days in the year would be 300.

Geological and mineable reserves

Based on the previous exploration work carried out at Gop-1 (218.53Ha) Mines area, working pit and surrounding pit, a broad estimate of reserves of limestone is given (as on 01.11.2016) in the table below:

Classification	Code	Quantity (Million Tonnes)
TOTAL MINERAL RESOURCES (A+B)		2.540
A. MINERAL RESERVE:-		
1. Proved Mineral Reserves	111	1.337
2. Probable Mineral Reserves	121	0.624
B. REMAINING RESOURCE:-		
1. Feasibility Mineral Resource	211	0.579
2. Pre-feasibility Mineral Resource	221	-
3. Measured Mineral Resource	331	-
4. Indicated Mineral Resource	332	-
5. Inferred Mineral Resource	333	-
6.Reconnaissance Mineral Resource	334	-

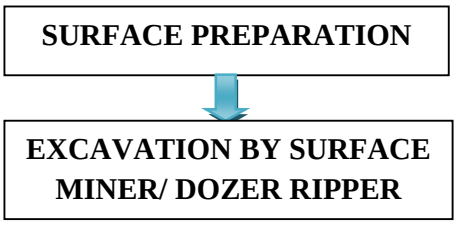
Year-wise proposed production from Gop-1 Limestone Mine is as under:

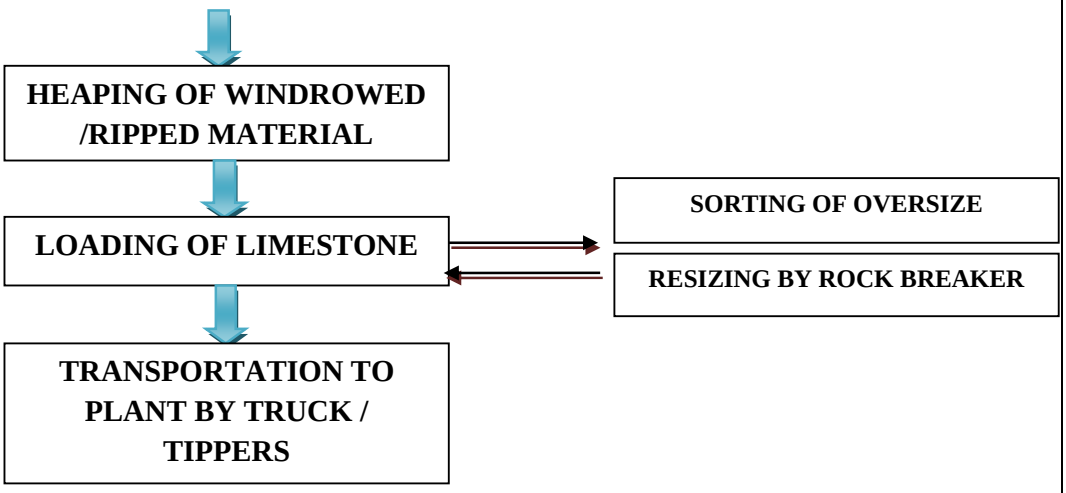
Year	Total ROM (In Tonnes)
I (2018-19)	216000
II (2019-20)	219931
III (2020-21)	218540
IV (2021-22)	217611
V (2022-23)	219425

3.5 PROJECT DESCRIPTION WITH PROCESS DETAILS

3.5.1 Method of Mining

Proposed Method: Gop-1Limestone Mine is proposed to be continued with an eco-friendly Opencast Fully Mechanized mining method. Ripper-Dozer will be dominant equipment for excavation and other allied activities. Many other eco-friendly excavation equipment like Vibro Ripper, Hydraulic Hammer, Rock Breaker etc. may also be used in the mine, in future considering availability of equipment and/or economics of the operations. A Typical Process Flow Diagram is given below:





Bench Design Parameters:

Working Benches		Roads	
Width (Mtrs.)	15m or More	Width	+10m
Height (Mtrs.)	Min. 0.5m; Max. 6.0m	Gradient	<1 in 16
Slope	Min 80^0	Preferred Traffic	One Way
		Ultimate Pit Slope	$<50^0$

3.6 Raw Material Required Along With Estimated Quantity, Likely Source, Marketing Area of Final Product/s, Mode of Transport of Raw Material and Finished Product

No raw material will be required in the proposed project. The operation involves the excavation of Limestone existing form and transported to the Digvijay Cement Plant.

3.7 RESOURCE OPTIMIZATION/ RECYCLING AND REUSE

Limestone is a sedimentary rock composed mainly of calcium carbonate (CaCO3) in the form of the mineral calcite. The Limestone at Gop-1 Limestone Mine shall be fully utilized at the Cement Plant. Adequate Mining Method and machinery is selected with a view to complete extraction of mineral by proper blending and removal of contaminants effectively, so that optimum mineral recovery could be achieved.

- **Use of Mineral**
- The minerals i.e. the Limestone are also used for following purposes:
- Aluminium/Alumina
- Alloy Steel
- Cement
- Fertilizer
- Ferro alloys
- Foundry
- Glass
- Iron & Steel
- Metallurgy
- Paper
- Sugar

3.8 AVAILABILITY OF WATER ITS SOURCE, ENERGY/ POWER REQUIREMENT AND SOURCE

3.8.1 Water Requirement

Water for domestic, dust suppression and plantation is required to be **18 KLD**.

Water Requirement (KLD)				
Project Name	Sprinkling	Plantation	Domestic & Drinking	Total
Gop-1	3	3	12	18

Source of water: It is proposed to obtain water from nearby sources come under Gram Panchayat.

3.8.2 POWER

0.002 MW (2 KVA) Electricity from GEB for office (Lighting and Computer / Printer etc.) use. However, 2 KVA Diesel Generator set is provided for power backup in office and township to ensure availability of power at the time of GEB power failure.

3.9 QUANTITY OF WASTES TO BE GENERATED (LIQUID AND SOLID) AND SCHEME FOR THEIR MANAGEMENT/ DISPOSAL

3.9.1 Solid Waste Generation & its Disposal

As the limestone bed is exposed at the surface within the lease area at Gop Limestone Mines and there is no soil and overburden to be removed during mining. The entire thickness of Limestone from the surface up to the contact of basalt base rock has been considered as usable limestone for cement manufacture and there is no inter-burden to be treated as rejects. In view of the above no solid waste generation is visualized following mining of Limestone in Gop Limestone Mines and consequently there will be no waste disposal or dumping places as such.

Waste Dump:

As there is no waste generation, hence no provision of waste dump provided.

Storage and preservation of top soil:

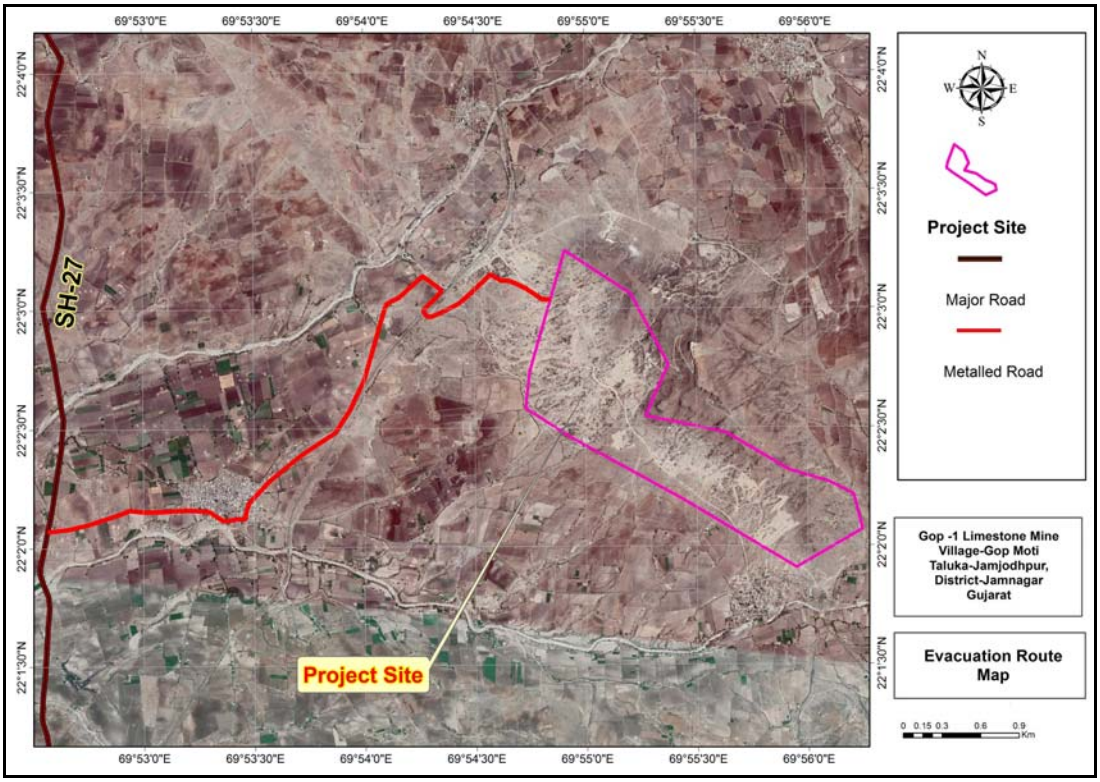
Gop-1 lease area is devoid of any top soil. Limestone is exposed on surface. Hence, there is no provision for stacking top Soil.

3.9.2 Liquid Effluent

No liquid effluent will be generated from the proposed mining project.

4. Site Analysis

4.1 Connectivity: The lease is well connected through metaled road which ultimately joins SH-27



Map I: Evacuation Route

4.2 LANDFORM, LANDUSE AND LAND OWNERSHIP

The Existing land use pattern is government waste land.

4.3 GEOLOGY OF THE MINING AREA

Topography:

The outcrop of the limestone deposit in Gop lease area occurs in the elevation range of 140 meters to 200 metres MSL.

Drainage pattern:

There is no river or perennial stream in the area. The general drainage of the area is through seasonal water courses which drain down the natural course of water along southern slope of hill to low lying flat areas

Vegetation:

Previously Gop-1 Mining lease was devoid of trees and shrubs. Only a few babool and zulifera plants can be seen in the lease area. Due to adverse terrain characteristics, negligible topsoil and scarcity of water, tree plantation work is a difficult task in this area. However we have planted in this area, making the cumulative number to 948 trees covering an area of 1.0 Hectare. Plant type are Buteau Frondosa- Dhak-khakaro, Ficus Religiosa- Pipal Emblica Officianale-Amla Custard Apple Sitaphal Saportra-Chiku, Guava, Gulmohar, Neem, Acacia Arabica-Desi Babool

Climate:

Climate is generally temperate in nature with not too hot summer and pleasant winter. Its close proximity to the Arabian Sea ensures moderate weather conditions. Summer begins from the month of March and continues till June. This is the only time when the temperature is on the higher side. During this period, the temperature often rises to 40° Celsius. Monsoons are very unpredictable. Occasionally, encounters thunderstorms because of its closeness to the Arabian Sea. The monsoon period generally stretches from the month of July to September. Winter Temperature during the winters is far more pleasant. Winter is experienced in the months of October, November, December, January and February.

Rainfall:

The average rainfall of Saurashtra is approximately 63 cms while the other parts of Saurashtra have a rainfall less than 63 cms in a year.

Table below presents the 5 years rainfall data of Jamnagar District.

YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
	R/F %DEP	R/F %DEP	R/F %DEP	R/F %DEP	R/F %DEP	R/F %DEP	R/F %DEP	R/F %DEP	R/F %DEP	R/F %DEP	R/F %DEP	R/F %DEP
2009	0.0 -100	0.0 -100	0.0 -100	0.0 -100	0.0 -100	128.4 55	629.7 212	142.8 3	12.5 -75	4.4 -56	0.2 -98	0.0 -100
2010	0.3 -40	0.0 -100	0.0 -100	0.0 -100	0.0 -100	112.2 35	619.3 207	471.9 241	237.1 372	3.0 -70	62.0 421	0.0 -100
2011	0.0 -100	0.4 -60	0.0 -100	0.0 -100	0.0 -100	24.2 -73	208.9 6	201.6 71	359.4 512	0.0 -100	0.1 -99	0.0 -100
2012	0.0 -100	0.0 -100	0.0 -100	0.0 -100	0.0 -100	17.5 -80	38.2 -81	21.8 -82	288.9 392	0.0 -100	0.0 -100	0.8 14
2013	1.3 117	0.6 -40	0.1 -96	0.0 -100	0.0 -100	180.9 103	236.6 20	115.8 -2	362.2 517	36.6 118	0.0 -100	0.0 -100

REGIONAL GEOLOGY

The miliolitic limestone deposit in the leasehold area at Gop 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 Decan trap occupying extensive area of Saurashtra region form the oldest basement rocks.

The regional stratigraphic sequence is given in table below:

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, dacites, granophyres etc.

Detailed description of the individual rock formation of the region is beyond the purview of the present study but a brief outline of the main rock type of interest, viz., the Miliolite Limestone will be appropriate in understanding the nature and quality of the deposit within the limited confines of the present area of investigation.

The rocks of the Miliolite Formation along the coast have the appearance of dirty white, friable, oolitic calcarinite. Further inland but still along the coastal plains, these are somewhat purer, well consolidated, white oolitic limestone. The rocks occur in beds which show a gentle seaward 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 CaCO3. The warm, shallow, circulating waters were favourable living areas for marine organisms which have left their in shells and faecal pellets.

5. PLANNING BRIEF

5.1 Mine Planning

Exploration-

Bore holes, DTH holes and pits have provided enough data for estimation of reserves, Still 04 Bore Holes are proposed to convert it proved category.

Excavation

The Mine is planned to produce @ 2.2 LTPA for 05 years.

Life of mines

The reserves/resources are around 1.961 million tonnes. The anticipated life of mine of 0.22 million tonnes/annum @ envisaged production and subsequent 0.1 million tonnes per annum will be around 13 years @ envisaged production.

Ultimate pit limit

Ultimate pit limit will be maintained at depth of 9 meter from the top RL. At the end of the life of the final pit slope will be kept is about 50°and the slope of the working bench will be 45^{o} with Horizontal.

Waste Disposal

As the limestone bed is exposed at the surface within the lease area at Gop Limestone Mines and there is no soil and overburden to be removed during mining. The entire thickness of Limestone from the surface up to the contact of basalt base rock has been considered as usable Limestone for cement manufacture and there is no inter-burden to be treated as rejects. In view of the above no solid waste generation is visualized following mining of Limestone in Gop-1. Limestone Mines and consequently there will be no waste disposal or dumping places as such.

Reclamation and rehabilitation

The proposal for land reclamation will be to level the uneven mine floor and do plantation on benches at higher elevation and to leave the deepest portion as such for accumulation of rainwater.

Post mining land use conceptualized

At the close of the mine, our conceptual plan is as given below: -

Excavated out area will be made suitable for accumulation of rainwater. At present in the absence of topsoil and due to lease area being full of rocky and bereft of vegetation, trees/ shrubs etc. it is giving us difficulties in planting trees. The land use pattern is given at forthcoming pages. No waste is available as well as no mineral reject is there hence no backfilling is envisaged. The entire mined out area shall be made suitable for storage of rainwater. For this purpose, all necessary precaution shall be taken as per Reg 115(1) of MMR, 1961 to isolate and safeguard against the inadvertent entry to worked out pit area, Sides of reservoir/ voids shall be given adequate slope of about 50^{o}. Prior to abandonment of working, a protective barbed fencing shall be laid around the periphery of the pit to check the inadvertent entry of men and animals. So that it can be gainful post mining use to society. Regular water analysis shall be carried out.

Proposal for trees for afforestation/ plantation:

Total 1800 Nos. trees proposed to be planted as shown in the Reclamation plan and till the end of life of the mine covering an area of 3.2717 ha.

Types of species / saplings to be planted

(1) Acacia Arabica – Deshi Babul
(2) Butea Frondosa - Dhak-khakaro
(3) Ficus Religiosa – Pipal
(4) Emblica Officianale – Amla
(5) Custard Apple – Sitaphal
(6) Sapota – Chiku
(7) Guava
(8) Gulmohar
(9) Neem

Precautions shall be observed for their better survival include fencing around plantation area, regular & periodical watering & dressing of plants

5.2 Population projection

The project will employ most of the workers from nearby villages except for supervisory staff. Thus there will no increase in population due to the project. However, few people from

other area may migrate in this area for employment directly and indirectly for business opportunities.

5.3 Amenities/Facilities

- Temporary rest room shelter will be provided near project site.
- First-Aid facilities (along with anti-venom) & Government Hospital is available at Gop
- Safe drinking water
- Facilities for sanitation-community toilets.
- Direct and indirect Employment, most of which most will be from nearby villages.
- Arrangements for safe and healthy working conditions.
- Provision of safety equipments like ear-muffs, gloves, etc.
- Conducting medical camps for workers and nearby villagers at regular interval.

6. PROPOSED INFRASTRUCTURE

6.1 Industrial Area (Processing Area)

No infrastructure is proposed.

6.2 Residential Area (Non Processing Area)

As the local people are given employment, no residential area/ housing are proposed.

6.3 Green Belt

Total 1800 Nos. trees proposed to be planted as shown in the Reclamation plan and till the end of life of the mine covering an area of 3.2717 ha.

Types of species / saplings to be planted

(1) Acacia Arabica – Deshi Babul
(2) Butea Frondosa - Dhak-khakaro
(3) Ficus Religiosa – Pipal
(4) Emblica Officianale – Amla
(5) Custard Apple – Sitaphal
(6) Sapota – Chiku
(7) Guava
(8) Gulmohar
(9) Neem

Precautions shall be observed for their better survival include fencing around plantation area, regular & periodical watering & dressing of plants.

Area to be afforested by Shree Digvijay Cement Co. Ltd = 3.2717 Ha.

6.5 Water Management

The total water of about **18 KLD** will be supplied from the nearby sources in the village. Further water stored in existing pits will also be used for Domestic, dust suppression & Plantation purposes.

6.6 Sewerage System

No sewerage system is proposed.

6.7 Industrial Waste Management

Not applicable

6.8 Solid Waste management

As the limestone bed is exposed at the surface within the lease area at Gop Limestone Mines and there is no soil and overburden to be removed during mining. The entire thickness of Limestone from the surface up to the contact of basalt base rock has been considered as usable limestone for cement manufacture and there is no inter-burden to be treated as rejects. In view of the above no solid waste generation is visualized following mining of Limestone in Gop Limestone Mines and consequently there will be no waste disposal or dumping places as such.

6.9 Power Requirement & Supply/Source

During the operation 0.002 MW (2 KVA) Electricity from GEB for office (Lighting and Computer / Printer etc.) will be used.

However, 2 KVA Diesel Generator set is provided for power backup in office and township to ensure availability of power at the time of GEB power failure

6.10 Social Infrastructure

The Applicant shall spend 2% of profit for the development of the area i.e. treatment of poor, schools, temples and other social work

Budget for Corporate Social Responsibility (CSR)

S. No.	Activities	Amount (in lakhs)/Year
1	Health Camps	0.35
2	Social and Skill Development	0.30
3	Construction of Bus shelters	0.25
4	Distribution of Solar Lanterns in villages of the study area where it is needed	0.25
5	Distribution of Books and Notebooks among meritorious girl child belonging to Scheduled Caste and Scheduled Tribe population.	0.40
6	Cleaning of Tanks in selected villages	0.25
7	Repair and Painting of School Building in the project	0.20

	village	
Total		**2.00**

6.11 Environmental Management Plan

The environmental management plan consists of the set of mitigation, management, monitoring and institutional measures to be taken during the implementation and operation of the project, to eliminate adverse environmental impacts or reduce them to acceptable levels. The present environmental management plan addresses the components of environment, which are likely to be affected by the different operations in the mine area.

Budget Allotted for the Environmental Management Plan:

Sl .No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1	Pollution Control i) Dust Suppression	 20,000	 20,000/-
2	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	-- --	 10,000/- 10,000/- 10,000/- 10,000/-
3	Plantation/ Green belt	10,000	10,000/-
4	Reclamation of mined out area (pisciculture , irrigation purpose)	5,000	10,000/-
5	Occupational Health	5,000	20,000/-
Total		**40,000/-**	**1,00,000**

7. Rehabilitation and Resettlement (R&R) Plan

Not Applicable

8 PROJECT SCHEDULE & COST ESTIMATES

8.1 Likely date of start of construction and likely date of completion.

The Mine is already in Operation with all the requisite clearances.

8.2 Estimated project cost along with analysis in terms of economic viability of the project

The Mine is already in Operation with all the requisite clearances.

Cost of production of limestone is Rs. 193/-per Ton, which is cheaper than the cost of limestone from other competing sources like outside purchase (indigenous or imported).

The Total Project Cost = 428* Lacs

**Based on the production the cost may vary.*

Hence the Project is viable economically and also provides an opportunity of dependable supply to the Captive Cement Plant with following considerations:

- ✓ Detailed exploration is carried out and working pits are there which is as good as exploration.
- ✓ Mining plan was approved by IBM.
- ✓ End-use grades of reserves have been defined clearly in the mining plan.
- ✓ Different land-use data are clearly available and given in the Mining Plan.
- ✓ There is no forest land within the lease area.
- ✓ Mineral is occurring as outcrop so no Overburden/subgrade required to be handled.
- ✓ The deposit / Mine is nearer by 30-40kms from competing third party mines from where mineral is being presently purchased by the company. It will help to reduce transportation cost as well as saving of fuels and resulting conservation of national resources and environment protection also.

9. ANALYSIS OF PROPOSAL (FINAL RECOMMENDATIONS)

The proposed mine will bring economical benefits to the state by the way of Royalty for mineral and to the local people by way of direct and secondary employment opportunities. The mining activities as proposed are the backbone of all construction and infrastructure projects as the raw material for construction is available only from such mining activities. The stone extracted is in high demand at the local market for building, construction of dams, roads, paves, etc. This project operation will provide livelihood to the poorest section of the society/economically backward population in the area. It provides employment to the people residing in vicinity directly or indirectly. The mine management will also help nearby villages by providing aid to school, conducting medical and social awareness camps, helping in formation of self help groups, etc as a part of corporate social responsibility. Thus the project will bring socio-economic improvement of the area and will prove beneficial to the area.

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