

EXECUTIVE SUMMARY

(In English & Hindi)

Of

DRAFT EIA/EMP Report

For

**PROPOSED DOLOMITE STONE MINE OF NARMADA MINERALS
AND SHITLA MINERALS CLUSTER**

**VILLAGE - KIRNA & LAMTI, TEHSIL - PATHARIYA,
DISTRICT - MUNGELI, CHHATTISGARH**

**(Submitted for Public Consultation as per EIA Notification 2006 & its
subsequent amendments till dated)**

Total Mining Lease Area: 9.449 Ha

{ (4.63 ha. (Narmada Minerals) + 4.819 ha. (Shitla Minerals) },

Total Production Capacity :- 4,01,529.38 TPA (ROM)

{ (2,00,212.5 (Narmada Minerals) + 2,01,316.88 (Shitla Minerals) }

Total Area of Dolomite stone mine cluster - 16.875

Total Project Cost : Rs. 276.75 Lakhs

Category - B1

In Favor of	Prepared By
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<p>Shitla Minerals Partner : Manish Kumar Agrawal City/Post – Kirna, Tehshil – Pathariya District – Mungeli, State - Chhattisgarh</p>	

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1 EXECUTIVE SUMMARY

1.1 Introduction and Background

The dolomite stone mine of Narmada Minerals & Shitla Minerals is located in Village – Kirna & Lamti. Tehsil – Pathariya District – Mungeli Chhattisgarh State Capital and District office Mungeli is connect by good tar road.

Name	M/s. Narmada Minerals	M/s. Shitla Minerals	Total	Annexure No.
Reference of TOR	1930/S.E.A.C.CG/Mine/1451 Nawa Raipur Atal Nagar dated 4/2/2021	1932/S.E.A.C.CG/Min e/1453 Naya Raipur Atal Nagar dated 4/2/2021	-	Annexure - II
Amended TOR number	568/S.E.A.C.,C.G./Mine/1451 Nawa Raipur Atal Nagar, Dated 19/07/2022	574/S.E.A.C.,C.G./Min e/1453 Nawa Raipur Atal Nagar, Dated 19/07/2022	-	Annexure - II
Area	4.630 hect.	4.819 hect.	9.449 hect	Annexure - 1
Khasra No.	486, 479/1, 479/2, 479/3, 480/1, 480/2, 480/3, 480/4, 482/2,483/2, 483/3, 487/2, 487/3, 487/4, 488/2, 488/3, 489/1, 489/2, 490/1 & 490/4	42, 79, 83, 84, 85/1, 85/2, 89 Samil 88, 90, 91/1, 91/2, 92, 93, 94, 95/2, 96, 98/1, 98/2, 99, 100, 101, 102, 103/1, 103/2, 104, 105, 106, 107, 118, 119, 120, 122, 123		Annexure - 1
Applied Capacity	2,00,212.5 TPY	2,01,316.88 TPY	4,01,529.38 TPY	Annexure - II
Village	Kirna	Lamti	Kirna/Lamti	Annexure - 1
District	Mungeli	Mungeli	Mungeli	Annexure - 1
LOI	Letter Number 517/Khali 02 /Na.Kra.03/2020-21 Mungeli dated 29/07/2020	Letter Number 513/Khali 02/Na.Kra.01/2020-21 Mungeli dated 29/07/2020	-	Annexure - 1

	Extension letter no - 1896/Khali 02 /Na.Kra.03/2020-21 Mungeli, dated 27/01/2022	Extension letter no - 1895/Khali 02 /Na.Kra.01/2020-21 Mungeli, dated 27/01/2022		
NOC by Gram Panchayat	Gram Panchayat Kirna dated 07/12/2020	Gram Panchayat Kirna dated 10/08/2021	-	Annexure - IV
NOC by Forest Office	Ma.chi/960/2021Mungeli, Dated13/04/2021	Ma.chi/962/2021Mungeli, Dated13/04/2021	-	Annexure - V
Approval letter of Mine Plan	Letter No. - 1372/2/Khani /Dolomite/U.Yo./2020 Bilaspur dated 20/10/2020	Letter No. - 1373/2/Khani/Dolomite/U.Yo./2020 Bilaspur dated 20/10/2020	-	Annexure - III
1) Geological Reserve	32,80,287.50 MT	32,91,387.50 MT	65,71,675.00 MT	Annexure – III
2) Mineable Reserve	17,94,543.75 MT	17,23,681.25 MT	35,18,225.00 MT	
Recoverable Reserve	17,04,816.55 MT	16,37,497.18 MT	33,42,313.73 MT	
Maximum Annual Mining Capacity	200212.5 TPY	201316.88 TPY	4,01,529.38 TPY	TOR Annexure – II
Cluster Area	16.875 hect	16.875 hect	-	Annexure - VI
Cost of Project	174.15 lac	102.6 lac	276.75lac	-

The Production details are as given below:

Details of proposed Production of Kirna & Lamti Dolomite Stone Mine Cluster

Year	Production (in Tonne)	
	M/s Narmada Minerals	M/s Shitla Minerals
1 st	1,50,040.63 MT	1,50,189.06 MT
2 nd	1,97,926.56 MT	1,98,253.13 MT
3 rd	2,00,212.50 MT	1,99,820.63 MT
4 th	1,99,856.25 MT	2,00,390.63 MT
5 th	1,99,500.00 MT	2,01,316.88 MT
6 th	1,50,693.75 MT	1,37,013.75 MT
7 th	1,50,800.63 MT	1,37,085.00 MT
8 th	1,51,406.25 MT	1,36,621.88 MT
9 th	1,51,762.50 MT	1,37,868.75 MT
10 th	1,52,332.50 MT	1,38,937.50 MT
Total	17,04,531.56 MT	16,37,497.18 MT

The studies were undertaken by The Consultant namely, Aseries Envirotek India Pvt. Ltd. (AEIPL) Noida. AEIPL is a National Accreditation Board for Education and Training (NABET) Accredited Consultant Organization (ACO) and is qualified to prepare EIA reports for Project / Activity 1(a) (Mining of Minerals), a mandatory requirement for agencies submitting such studies to regulators for the purpose of seeking EC.

The EIA study report has been based upon the following :-

- Field data collection on different aspects of environment including air, soil, water, land, meteorology, noise, flora, fauna, agriculture and socio-economy in the study area of 10 km radius with mine as its center.
- Study of opencast mining methodology, water requirement, source of pollutants and pollution control strategy.
- Ecological Prospective and Green Belt Development.

The EIA study evaluates the impact on the present environmental scenario and check out the environmental management plan incorporating further step to mitigate the adverse impacts of air, noise, water, land pollution on environment.

1.2 Location and Communication

Table 1-1: Location and Communication from ML area

S.No.	Particulars	Details												
A.	Nature of the Project	Proposed Dolomite Stone Mining Project of M/s. Narmada Minerals & M/s Shitla Minerals in Kirna & Lamti Dolomite Stone mining Cluster												
B.	Size of the Project													
1.	Mine area	9,449 Ha {(4.63 ha. (M/S. Narmada Minerals) + 4.819 ha. (M/s Shitla Minerals) }												
2.	Production Capacity	4,01,529.38 TPA (ROM) {(200212.5 (M/S. Narmada Minerals) + 201316.88(M/s Shitla Minerals) }												
C	Location Details													
1.	Village	Kirna & Lamti												
2.	Tehsil	Pathariya												
3.	District	Mungeli												
4.	State	Chhattisgarh												
5.	Latitude & Longitude	<u>Narmada Minerals</u> - Latitude : 21°52'7.04"N to 21°52'18.80"N Longitude: 81°55'54.80"E to 81°56'3.73"E <u>Shitla Minerals</u> - Latitude : 21°51'41.07"N to 21°51'53.52"N Longitude: 81°56'11.77"E to 81°56'20.48"E												
6.	Toposheet No.	64 G/13												
D	Environmental Settings of the Area													
1.	Ecological Sensitive Areas	No protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration located within the 15 km radius of the mining lease.												
2.	River / water body	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>S.No.</th> <th>Particular</th> <th>M/s. Narmada Minerals</th> <th>M/s. Shitla Minerals</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Seonath River</td> <td>~3.30 km south-east</td> <td>~2.40 km, south-east</td> </tr> <tr> <td>2.</td> <td>Seasonal Nalla</td> <td>Linjua nalla at 50 m towards south</td> <td>Linjua nalla at 50 m towards west</td> </tr> </tbody> </table>	S.No.	Particular	M/s. Narmada Minerals	M/s. Shitla Minerals	1.	Seonath River	~3.30 km south-east	~2.40 km, south-east	2.	Seasonal Nalla	Linjua nalla at 50 m towards south	Linjua nalla at 50 m towards west
S.No.	Particular	M/s. Narmada Minerals	M/s. Shitla Minerals											
1.	Seonath River	~3.30 km south-east	~2.40 km, south-east											
2.	Seasonal Nalla	Linjua nalla at 50 m towards south	Linjua nalla at 50 m towards west											

S.No.	Particulars	Details			
		3.	Village Pond	~530 m., east	~530 m, east
3.	Nearest Human Habitation	Village : Kirna (~355 m, towards east direction) & Village :Lamti (~ 420m, towards east direction)			
4.	Nearest Town / City	Bilaspur (~31.75 km, North East direction)			
5	National Highway	NH-130 towards South-East direction from the mine site at a distance of 440 km (Raipur-Bilaspur Road).		NH-130 towards North-West direction from the mine site at a distance of 130 km (Raipur-Bilaspur Road).	
6	State Highway	State Highway-10 Road 13.20 km (Mungeli-Bhatapara Road) towards South.		State Highway-10 Road 12.60 km (Mungeli-Bhatapara Road) towards South.	
7.	Nearest Railway Station	Nipania Railway station : (~12.50 km, south-east direction & railway line at 11.65km towards south-east direction from Narmada Minerals) & (~11.73 km, south-west direction & railway line at 10.70 km towards south-east direction from Shitla Minerals)			
8.	Nearest Airport	Bilasa Devi Kevat Airport, Bilaspur (~23.08 km, North-east direction).			
9.	Seismic Zone	Zone – II [as per IS 1893 (Part-I): 2002]			
D	Cost Details				
1.	Project Cost	276.75 lakh (144.15lakhs- M/S. Narmada Minerals + 102.60- M/s Shitla Minerals)			
E	Requirements of the Project				
1.	Water Requirement	14.50 KLD			
2.	Fuel requirement	100			
3.	Man Power Requirement	82			

1.3 Project Chronology till Date

- The Details of online file for the project proposal namely Form-1 (as per the EIA Notification 2006, as amended till date) along with a Pre-feasibility Report, Approved Mining plan and proposed Terms of References (ToR) for carrying out environmental studies to the State Environment Impact Assessment Authority Chhattisgarh, for the mine lease are as follows : -

Sr.No	Lessee	Date of submission
1	M/s. Narmada Minerals	31/10/2020
2	M/s. Shitla Minerals	31/10/2020

2. Details regarding First technical presentation made are as given below :-

Sr.No	Lessee	No. of SEAC meeting	Date of Presentation
1	M/s. Narmada Minerals	351 th	10/12/2020
2	M/s. Shitla Minerals	351 th	10/12/2020

3. The details of TOR granted are as follows :-

Sr.No	Lessee	TOR Letter No	Date
1	M/s. Narmada Minerals	1930/S.E.A.C.CG/Mine/1451 Nawa Raipur Atal Nagar dated 4/2/2021	04/02/2021
2	M/s. Shitla Minerals	1932/S.E.A.C.CG/Mine/1453 Naya Raipur Atal Nagar dated 4/2/2021	04/02/2021

1.4 Project Description

1.4.1 Study Area at a Glance

The study area is taken in accordance with the provisions of sector specific EIA guidance manual for Mining of Minerals manual, published by Ministry of Environment and Forests, during 2010. The study area for the Dolomite stone Mining Project was as follows:

- The proposed project area (M. L. area) is considered as ‘Core Zone’.
- 10 km radius from the boundary limits of the M.L. area is considered as ‘Buffer Zone’.

1.4.2 Utilities

Table 1-2: Water Requirement for the mining

S.NO.	Project Proponent	Purpose of water requirement			Total Avg Demand /day in KLD
		Dust suppression@ 0.5 Lit/Sqm (twice in a day)	Land reclamation / plantation @2.5 Lit/ Tree	Drinking @ 25 Lpd/Worker	
1	Narmada Minerals	Haul Road Area = (500 m Length X 4 m width = 2000 sqm.) X 0.5 L/sqm = 1000 L/day X 2 time = 2000 L/day	1629 Trees X 2.5 L/day = 4072.5 Lit/day	41 workers x 25 L/day = 1025 Lit /day	7.10

2	Shitla Minerals	Haul Road Area = (500 m Length X 4 m width = 2000 sqm.) X 0.5 L/sqm = 1000 L/day X 2 time = 2000 L/day	1752 Trees X 2.5 L/day = 4380 Lit/day	41 workers x 25 L/day = 1025 Lit/day	7.40
Total Water Requirement		4 KLD in Dust Suppression	8.45 KLD in Plantation	2.05 KLD in Domestic	14.50

1.4.3 Topography and Drainage

The topography of the area is flat land. The stone is buried under the soil in few area. However stone is exposed in some developed part of previous mine land.

Narmada Minerals : The general slope is towards South-west. Maximum Altitude of the applied area is 250 m AMSL at north-eastern part while lowest side is 248 m AMSL at south-western part of grated area.

Shitla Minerals : The general slope is towards west. Maximum Altitude of the applied area is 247 m AMSL at western eastern part while lowest side is 249 m AMSL at western part of grated area.

Therefore, granted area has been surveyed in contour interval of 1 meter and shown on plan accordingly. Granted area is devoid of any vegetation. The climate of the area is sub-tropical with hot summer

1.4.4 Local Geology

The applied area forms a part of Raipur group kodwa Formation of Meso-Neo Proterozoic age comprises of predominantly grey dolomite, argillaceous dolomite. The sequence of the formation is as follows:-

Meso - Neo Proterozoic	Chhattisgarh Super group	Raipur Group	Kodwa Formation	Grey dolomite, argillaceous dolomite
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The topography of the applied area is Flat Land. The general slope is towards South-west. The applied area is devoid of any vegetation.

(Above Geological data is adopted from District Resource Map of Geological Survey of India)

1.4.5 Mineable Reserve & Life of Mine

Table 1-3: Geological Reserve

<i>Reserve</i>	M/s Narmada Minerals	M/s Shitla Minerals	Total
1) GEOLOGICAL RESERVES	32,80,287.50 MT	32,91,387.50 MT	65,71,675.00 MT
Less	5,78,693.75MT	6,22,631.25 MT	12,01,325.00 MT

i) Reserves Blocked under boundary			
ii) Reserves Blocked under mine benches	9,07,050.00 MT	9,45,075.00 MT	18,52,125.00 MT
2) MINEABLE RESERVES (1 - i - ii)	1,794,543.75 MT	17,23,681.25 MT	3518225.00MT
Less iv) Mine Loss (2 X 5%)	89,727.20 MT	86,184.08 MT	1,75,911.28MT
3) RECOVERABLE RESERVES (2 - iii)	17,04,816.55 MT	16,37,497.18MT	33,42,313.73MT
4) TOP SOIL TO BE GENERATE	14,992.50 CUM	11,027.50 CUM	26,020.00 CUM

1.5 Life of Mine

Table : Life of Mine

		M/s Narmada Minerals	M/s Shitla Minerals
A)	Estimated Recoverable Reserves	6,81,926.63 cum Or 17,04,816.56 tons	6,54,998.88cum. or 16,37,497.19 tons
B)	Average rate of production per year during Five year plan	75802.88 cum. Or 189507.19 tons	75997.63cum or 189994.06tons
C)	Expected rate of Production after five year plan	60559.65 cum. Or 1,51,399.13 tons	55002.15cum or 1,37,505.38tons
D)	Sanctioned Granted period	30 year from the date of lease agreement	30 year from the date of lease agreement
E)	Plan period	10 years	10 years
F)	Thus anticipated life of the quarry	About 10 years. (Up to 30m of mine depth from surface level)	About 10 years. (Up to 30m of mine depth from surface level)

1.5.1 Mining Method

The mining operation was carried out open cast semi mechanized mining method in very small scale. Controlled blasting will be carried out for production. The bench height is 3 x 3m width meters and face slope is 45° angle. The ultimate pit depth is 30 m.

Extent of Opencast Mechanized

S. NO.	NAME OF MACHINERY	NUMBER
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		M/s Narmada Minerals	M/s Shitla Minerals
1.	Excavator / Loader	3	3
2.	Dumper / Tipper	6	6
3.	Tractor	3	3
4.	Water Tanker with water sprinkler	1	1
5.	Dewatering Pumps	2	2
6.	Rock breaker	3	3
7.	Compressor	3	3
8.	Jack Hammer	3	3

1.6 Meteorology Long Term Meteorology (Secondary Data)

Information presented in subsequent paragraphs is from the Indian Meteorological Department (IMD) Raipur, Long Term Climatological Tables, 1971-2000. These tables give useful information about a region's weather, since it was collected over a period of 30 years.

1.6.1 Temperature

The month from March to May are considered as hottest with increase in temperatures. May is generally the hottest month with a mean daily maximum temperature of about 38.0°C and mean daily minimum of about 24.1°C. The highest temperature recorded at Raipur is 46.1°C on 22th May 1912. From November, both day and night temperatures start decreasing rapidly. December is generally the coldest month with the mean daily maximum temperature at about 27.8°C and mean daily minimum at about 11.1°C.

1.6.2 Wind

Long- term wind direction data is presented in **Table 3-6**. and indicates that the predominant wind during the study period (1st Oct 2021 to 31st Dec 2021) is NE and second predominant wind direction is N.

1.6.3 Rainfall

As per IMD station at Raipur the rainfall in region was observed to be 1445.5 mm in a year, bulk of rainfall was received in monsoon months from June to September. Maximum cloud cover was observed in the months of June to September.

1.6.4 Relative Humidity

Most humid conditions were found in the monsoons, followed by post-monsoons, winter and summer in that order. Mornings were more humid than evenings and humidity ranged from a high of 88-82% in monsoon mornings to a low of 53-34% in summer evening.

1.6.5 Site Specific Meteorology

Baseline meteorological data representing the Winter season (1st Oct 2021 to 31st Dec 2021) was collected near project site. The parameters for which data collected are :-

- Wind Speed
- Wind direction
- Temperature
- Rainfall

Baseline Meteorological Data

Meteorological data showed that the average wind speed during the study period was observed to be 10.8 m/sec.. It was observed that during study period wind blows pre dominantly from NE and Second pre dominant direction is N. The data obtained during the study period was compiled to obtain average data

1.7 Existing Environment Scenario

1.7.1 Land Use

Land Use of the Study Area

The land use land cover map of the study area has been prepared using recent Landsat satellite image, area and distance calculations have been carried out using GIS software after geo-referencing and interpretation. Total Land covers an area of 25789.78 ha. Out of which 6272.11 (24.32%) is built-up land, 6515.5 (25.26 %) is crop land, 2180.49 (8.46%) is fallow land, 2523.5 (9.79 %) is forest land, 4452.37 (17.26 %) is waste land, 3845.81 (14.91) Water bodies /River.

1.7.2 Soil Quality

The soils of study area are predominantly Sandy loam in texture. The pH of the soil is ranges from 7.15 to 8.14. The soil being of friable consistency, the bulk density of the soil is in the range of 1.34 to 1.51 g/cm³. The organic matter content of the soil samples varies from 0.21 to 0.35 %

1.7.3 Ambient Air Quality

In order to assess the background air quality data and also to represent the interference from various local activities, screening technique used for identification of air quality stations in the study area. Ambient air quality of the study area was assessed through a network of Eight ambient air quality monitoring stations to represent whole study area including the M.L. area with at least two monitoring location in downwind and one in up wind direction.

Ambient air quality monitoring was carried out in Winter season (1st Oct 2021 to 31st Dec 2021).

1.7.4 Noise

Day time Noise Levels (Leq day)

- The day time (Leq day) noise levels observed in the range of 55.3 to 41.4 dB (A) in study area.

Night time Noise Levels (Leq night)

- The night time (Leq night) Noise levels observed in the range of 47.2 to 37.2 dB (A) which is within the prescribed limit of 45 dB (A) in study area.

1.7.5 Water Environment

Groundwater Quality

The analysis results shows that the pH for the ground water samples GW1, GW2, GW3 and GW4, ranged from 7.21 to 7.64 indicating slightly alkaline in nature. The TDS (Total Dissolved Solids) were found to be in the range 519.0 mg/l to 289.0 mg/l which is within the permissible limit of 2000 mg/l. Total Hardness of Ground water samples in the study area was found to be 323-165 mg/l which is within permissible limit. Alkalinity indicates better buffering capacity of water and ranges between 230.0-170.0 mg/l.

Fluoride content varies from 0.69 mg/l – 0.51 mg/l which is within permissible limit. The overall ground water quality in the study area was found to be mineralized with respect to total dissolved solid, chloride (132.0 mg/l to 161.0 mg/l), sulphate (62.0 mg/l to 73.0mg/l) and hardness.

Surface Water Quality

Surface water samples were collected, and analyzed, pH value was found to be 7.32 to 7.43 mg/l which indicate that surface water is alkaline in nature; TDS was found to be 268 to 272 mg/l. Dissolve oxygen were found about 5.9 and 6.8 mg/l. It is seen that the physicochemical analysis of other parameters like chloride, calcium, magnesium, nitrate and fluoride were found within the desirable limit. The overall surface water quality of the available sources within the study area was found to be good physico-chemically with respect to all the parameters. There is no organic load-observed in the sources monitored indicating no pollution load in the source.

Biological Environment

Ecological study is essential to understand the impact of industrialization and urbanization on existing flora and fauna of the study area.

There is no wildlife sanctuary, National park, Biosphere reserve, Wildlife corridors, Tiger/ Elephant reserve within 10 km radius of the mining lease.

1.7.6 Socio Economic Status

The study area includes 49 villages within the 10 km. radius with a total population 52220 as per census 2011. As per census 2011, about 15733 of the total are main workers, 9624 are marginal workers.

1.7.7 Impact on Air Environment

- Water sprinkling will be done twice during the day in summer season and once during the day in winter season for settling of dust particles.
- Sharp drill bits will be used for drilling and they will be maintained periodically to reduce the generation of dust.
- Transportation of mineral will be done on Kaccha road which will generate dust and rest of the distance will be on National Highway will not cause air pollution.
- Drilling machines will have bag filters attached to them also to prevent the dust to get air borne.

1.7.8 Impact on Traffic Density:

To ascertain the traffic density in the study area, Traffic study was conducted on the junction of NH 130 and the connecting road to mining site of proposed project. The composition of Traffic includes two wheelers, three wheelers, four wheeler (Passenger Cars) and four wheeler like heavy vehicles like Trucks, Lorries, Bus etc.

Comparison Carrying Capacity of Road in Existing & Proposed PCU in Peak hour

Location	Existing Traffic Load			Total Traffic load including applied project		
	No of PCUs	V/C	LoS	No of PCUs	V/C	LoS
Project site to NH-130	786	0.22	B	855	0.24	B

*LOS - Level of Services

Conclusion

Not much impact will be there on the local transport. The LOS value from the proposed mine may be “Very Good” for NH-130. So, the additional load on the carrying capacity of the concern roads is not likely to have any significant adverse effect.

1.7.9 Impact on Noise Environment

The expected noise levels in the working environment are compared with standards prescribed by occupational safety and health administration (OSHA-USA) & CPCB-NEW DELHI, the noise levels are expected to be in the acceptable range.

1.7.10 Impact on Water Environment

Impact on Surface Water Quantity

Surface water will not be utilized and impact on surface water quantity is not anticipated due to the proposed activity.

The proposed opencast mining operation may cause water pollution. The sources of pollution generally are:

- Wash off from dumps
- Soil Erosion

Mitigation Measures

In open cast mining pits as well as on dumps, it is necessary that the rainwater falling outside the edge limit of the working areas will not be allowed to enter into the pit and working areas. Therefore it is proposed to develop garlands drains around the mining pits and dumps to arrest the surface runoff water and divert it to lower synclines without any contact with the mining operations.

In the lease for proper drainage of water, a set of garland drainages will be made in the mining lease area and the water will be accumulated at the lower most gradient by constructing siltation tanks which will act as water storage in the area as well as collection of silts. Silts will be regularly cleared regularly.

Impact on Groundwater Quantity

Water table is below the maximum excavation depth (30 m) of operation and the flow or extent of nearest hydrology is too far from the proposed lease area thus no impact can be assessed on water table, water flow or hydrology. Moreover no sewage or other effluents will be generated from the mine closure activity which are required to be discharged on water. Hence no water pollution can be assessed. The mining shall not cause any change or diversion of any source of water in the area or any drainage pattern. Water pollution in mining is generally caused due to generation of dust, oil & grease of transport vehicles and explosive materials etc.

1.7.11 Impact on Flora and Fauna

As the mining activities will be confined to core zone only, no adverse impact is foreseen on the flora & fauna in the core zone. To prevent the entry of wildlife animals from entering the lease area proper fencing will be done all around the lease area.

1.7.12 Impact on Top Soil

During mining of Dolomite stone top soil will be generated and will be used for plantation.

1.7.13 Impact on Socio Economic Status

Socio-economic survey was conducted in six villages within the study area located in all directions with reference to the project site.

The respondents were asked for their awareness/opinion about the project and their opinion about the impacts of the project, which is an important aspect of socio-economic environment, viz. job opportunities, education, health care, transportation facility and economic status.

1.8 Environment Monitoring Program

The monitoring of pollutant in mine will be carried out for air, water, soil and noise. It takes care of all monitoring needs of the mine. Additionally ambient air and work zone monitoring in mine will be conducted in every season near mining operation, loading and transportation (haul road) areas by Government approved private agency. The analysis results of air monitoring will be properly recorded and submitted to the statutory authorities from time to time. Noise measurement of mine equipment will be done once in a year, ambient air monitoring will be done once in one season at three locations (1 in upwind, 1 in downwind, 1 in lease area. Ambient noise monitoring will be carried out at 3 locations, 1 within the lease area, and 2 locations of nearest habitation to the lease. Water quality monitoring will be done once in season at two locations & soil quality monitoring will be done once in a year at 2 locations within the study area. A total of Rs. 0.80 lakhs/- every year will be spent on monitoring of environmental parameters.

1.9 Additional Studies

1.9.1 Risk Assessment and Disaster Management Plan

The following natural /industrial problems may be encountered during the mining operation are:

- Inundation-filling of the mine pit due to excessive rains.
- Slope failures at the mine faces or stacks.

Water table will not be encountered during proposed working. No high risk accidents like landslides, subsidence flood etc. have been apprehended. But possibility of accidental disaster is also not ruled out. Therefore, all the statutory precautions will be taken for quick evacuation as per the Mines Act 1952, the Mines Rules 1955, Rule of MMR- 1961 and the Rules of MCDR-1988.

1.10 Environment Management Plan

The environment management plan is prepared with a view to facilitate effective environmental management of the project. Apart from having an Environmental Management Plan, environment management cell consisting of mines manager, safety officer and environmental officer is constituted.

1.11 Project Benefits

The surrounding inhabitants around the mine lease area are mainly agricultural oriented. Opportunities for jobs activities will be created and mining will serve as a source of permanent livelihood. The mine will create employment directly or indirectly. Additional, certain works like transportation will be outsourced on contract. So, overall effect of mining is expected to be positive.

