EXECUTIVE SUMMARY OF DRAFT EIA REPORT

FOR

PROPOSED DOLOMITE MINING PROJECT

(Minor mineral)

Total Mine area is 4.007 ha

At

Near Village :- Akalsara, Tehsil - Jaijaipur, District-

Janjgir-Champa, State - Chhattisgarh

APPLICANT

Girwar Agrawal S/o. Shri Harchand Agrawal R/O : - Village/City : Naya Baradwar, Dist– Janjgir - Champa State - Chhattisgarh, Pin no :- 495689

ENVIRONMENTAL CONSULTANT



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TABLE OF CONTENTS

EXECU	UTIVE SUMMARY
1.0	INTRODUCTION
2.0	PROJECT DESCRIPTION
3.0	DESCRIPTION OF ENVIRONMENT9
4.0 MAN	ANTICIPATED ENVIRONMENT IMPACTS AND ENVIRONMENT IAGEMENT PLAN
5.0	ANALYSIS OF ALTERNATIVES
6.0	ENVIRONMENTAL MONITORING PROGRAM16
7.0 R	ISK ASSESSMENT
8.0 E	MERGENCY RESPONSE AND DISASTER MANAGEMENT PLAN
9.0	CAPITAL INVESTMENT AND PROJECT SCHEDULE
10.0	PROJECT BENEFITS
11.0	NEED BASED ACTIVITY 17
12.0	ENVIRONMENT MANAGEMENT PLAN (EMP) 17
13.0	CONCLUSIONS

LIST OF TABLES

Table E.1: Environmental Setting around Project Site	.5
Table E.2: Salient Features of Proposed Project	.7
Table E.3: Water Requirment Details	.8
Table E.4: Summary of the Meteorological Data generated at Site	.9

LIST OF FIGURE

Figure E-1: Location map of the Project Site	4
Figure E-2: Area of the proposed Mining site	Error! Bookmark not defined.
Figure E-3: LULC Classification (10 km radius of the l	Proposed Project Area)12



EXECUTIVE SUMMARY

1.0 Introduction

The proposed Dolomite mining mineral project of area 4.007 Hectare situated near Village-Akalsara, Tehsil - Jaijaipur, District, Janjgir – Champa, State - Chhattisgarh. The project is issued in favour of Shri Girwar Agrawal by Under Secretary, Mineral Resource Department, Govt. of Chattisgarh under Chhattisgarh Minor Mineral Rule 2015.

This mining project comes under Category 'B1' (Cluster situation) Project or activity 1(a) as per EIA Notifications 2006, and its subsequent amendments and will be appraised at SEAC, Chattisgarh. The lease is falling in the cluster as per 15th January 2016 EIA Notification of MoEF&CC and NGT order dated13th September 2018.

Project Location

Khasra No : 804/1, 804/2, 805, 800/5k, kh, 806 and 807. Of District Janjgir – Champa, Tehsil Jaijaipur, village Akalsara. Akalsara Dolomite mine of Lessee Girwar Agrawal featured in the Survey of India Toposheet No. 64 K/13, 64J/16.



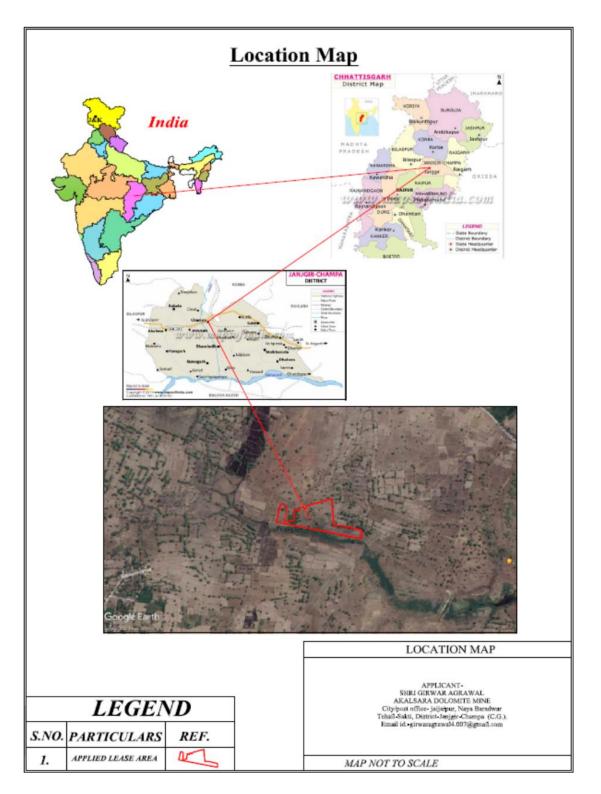


Figure E-1: Location map of the Project Site



The details of environmental setting are given below.

Particulars Details									
Name of the Project	Akalsara Dolomite Mine , Total Area 4.007 ha (private land)								
Location of the Project	Village Akalsara, Tehsil - Jaijaipur,								
	District - Janjgir Champa								
	State - Chhattisgarh								
Geographical Akalsara Dolomite mine									
Coordinates :	BOUNDRY	LATITUDE	LONGITUDE						
	POINT								
	BP1	21°55'19.91"N	82°51'36.28"E						
	BP2	21°55'19.48"N	82°51'37.46"E						
	BP3	21°55'16.72"N	82°51'37.08"E						
	BP4	21°55'16.96"N	82°51'38.72"E						
	BP5	21°55'19.07"N	82°51'38.82"E						
	BP6	21°55'18.73"N	82°51'39.82"E						
	BP7	21°55'19.25"N	82°51'39.87"E						
	BP8	21°55'19.38"N	82°51'40.32"E						
	BL9	21°55'19.05"N	82°51'40.70"E						
	BP10	21°55'19.11"N	82°51'41.01"E						
	BP11	21°55'19.60"N	82°51'41.09"E						
	BP12	21°55'20.81"N	82°51'45.63"E						
	BP13	21°55'16.13"N	82°51'46.06"E						
	BP14	21°55'16.15"N	82°51'47.32"E						
	BP15	21°55'15.29"N	82°51'51.03"E						
	BP16	21°55'13.79"N	82°51'51.22"E						
	BP17	21°55'14.15"N	82°51'48.54"E						
	BP18	21°55'15.04"N	82°51'44.55"E						
	BP19	21°55'15.45"N	82°51'42.53"E						
	BP20	21°55'15.87"N	82°51'40.10"E						
	BP21	21°55'16.70"N	82°51'35.51"E						
Maximum Temperature	43.6° C								
Minimum Temperature	7° C								
Annual rainfall	1129.30 mm								
Size of the Project	4.007 Ha.								
Nearest Highway	NH 200 at 10.50 km towards North from the project site.								
Nearest railway station	Baradwar Railway Station -11.0 Km in North direction from the								
	project site.Bilaspur Airport ~ 77.40 Km in West direction from the project								
Nearest Airport	Bilaspur Airport site.	~ 77.40 Km in We	est direction from	the project					
Nearest town/City		- 25.80 Km (North	h west)						
-	Nearest water body Naya Talab -3.86 km,ENE								

 Table E.1: Environmental Setting around Project Site



Particulars	Details
Major water bodies	Borai Nadi ~ 6.50 km toward East
within 10 km radius	Son Nadi ~ 6.50 km toward west north west
Densely populated or	Champa – 25.80 km NW
built-up area	District Headquarter, Janjgir-Champa – 28.50 km NW
Archaeologically	None within 10 km radius
important places	
Protected areas as per	None within 10 km radius
Wildlife Protection Act	
(Tiger reserve, Elephant	
reserve, Biospheres,	
National parks, Wildlife sanctuaries, community	
reserves and	
conservation reserves)	
Reserved / Protected	1. Chhitapandariya PF : 2.16 Km, NE
Forests	2. Sakti RF : 20.89 Km, N
Defense Installations	None within 10 km radius
Seismicity	Since project site comes under Seismic zone II, which is least
Seisimerty	active zone for earthquakes as per IS: 1893 (Part 1: 2002).
WildlifeSanctuary	None within 10 km radius
Nationalpark	None within 10 km radius
Biosphere reserves	None within 10 km radius
Important migration	None within 10 km radius
routes of birds	
Ramsar sites (Wetlands	None within 10 km radius
of International	
Importance	
Unique or threatened	None within 10 km radius
ecosystems	
Important topographical	None within 10 km radius
features, including	
ridges, river valleys,	
shorelines, and riparian	
areas	
Mangrooves	None within 10 km radius
Physical Sensitive	None within 10 km radius
Receptors	TORC WITHIN TO KIN FACILITY
Notified Ground Water	None within 10 km radius
	INORE WITHIN TO KIN LAURUS
Zone by CGWA	
Critically	None within 10 km radius
Environmental polluted	
Area	
Pollution Sources	None within 10 km radius

2.0 Project Description

The proposed project of Akalsara Dolomite Quarry of 4.007 Ha is situated at Village - Akalsara, Tehsil - Jaijaipur, District :- Jangir champa, State : Chattishgarh. The life span of proposed mine block is 50 years. The proposed method of mining is open cast semi mechanized mining.

INFORMATION	DETAILS			
Name of the project	Akalsara Dolomite mine			
Village	Akalsara			
Tahsil	Jaijaipur			
District	Janjgir Champa			
State	Chhattisgarh			
Toposheet No	64 K/13, 64J/16			
Name of Leaseholder	Akalsara Dolomite Mine Director – Shri Girwar Agrawal			
Address and Contact details of Lease Holder	Shri Girwar Agrawal Village - Naya Baradwar Tehsil - Sakti District – Janjgir - Champa State – Chhattisgarh			
Name of the Mineral to be mined	Dolomite			
Type of land	Private			
Status of Operation (New Project or Existing Project operating since)	New Project			
Mine Area	4.007 ha			
Ultimate depth of mining	30 m			
Minable Reserve	Akalsara Dolomite mine 9,13,054.00 MT			
Production Capacity	Akalsara Dolomite Mine 2,47,950.00 TPA			
Life of Mine	As per Lease period - 50 years			
Quantity of topsoil and Overburden estimated to be removed	0.5 m thick volume 8,950 Cum			
Depth of Ground Water Table	Approx. 45 meter of below from the normal surface level			
Method of Mining	Opencast Semi-Mechanized			
No.of working days	300 Days			

 Table E.2: Salient Features of Proposed Project



SeismicZone	Seismic Zone II

Mining methodology

The mode of working will be open cast semi mechanized method of mining with low capacity blast. Small scale drilling and blasting will be carried out for exploration of stone. Rock breaker, Jack Hammer will yield the sufficient quantity of stone. Further the stone will be sized and dressed according to the required specification and stacked on the mine surface.

Power Requirement

No power is required for mining purpose other than for labour, admin building. State electricity board will supply the electricity. Electric power is available in the lease area.

Water Requirement

The total water requirement shall be 8.00 KLD for Akalsara dolomite Mine for domestic, green belt and sprinkling purpose, which will be sourced from Water Tankers from nearby village. Detail of water requirement is given below :-

- Dust suppression 2.0 KLD
- Green Belt 5.20 KLD
- Domestic 0.80 KLD

	Table E.S: water Requirment Details								
Sr.	Usage	Water Requirement							
No.									
1.	Greenbelt	2062 Trees X 2.5 Lit/day = 5155	5.20						
	Development@ 2.5	Lit/day	KLD						
	L/tree								
2.	Dust Suppression @	Haul road Area = (500 m Length x)	2.00						
	0.5 L/Sqm (twice a	4 m width = 2000 sqm.) x 0.5	KLD						
	day)	li/sqm =1000 lit /day x 2 time =							
		2000 lit/day							
3.	Domestic Purpose	32 workers x 25 lit per day = 800	0.80						
	@25 lpd/worker	Lit/Day	KLD						
		Total ::	8.00						
			KLD						

Table E.3: Water Requirment Details

Manpower

The mining project will generate direct & indirect employment. About 32 per day people will get direct employment, and some persons will also be affected indirectly and employed with allied and related industries, such as transportation, maintenance, etc. Following staff & workers are proposed to be employed: -

S. No	Particulars					
1	Mining Manager (Certificate holder)	01				
2	Geologist (part time)	01				
3	Mining Foreman (Certificate holder)	01				
4	Mining mate cum firstaider(Certificate holder)	02				
5	Blaster (Certificate holder)	01				
6	Drill operator (experienced)	01				
7	Dozer Operator (experienced)	01				
8	Dumper/tanker/Jeep driver (experienced)	05				
9	Excavator operator (experienced)	02				
10	Hydraulic rock Head clerk	01				
11	Accountant cum head clerk	01				
12	Helpers/ Semiskilled labours	15				
	TOTAL 32					

Table 2.13: Manpower Details of Akalsara Dolomite Stone

3.0 Description of Environment

The area around the proposed mining site has been surveyed for physical features and existing environmental scenario. The field survey and baseline monitoring has been done from the period of **October 2021 to December 2021**(Post Monsoon Season).

The observations for post monsoon season (October 2021 – December 2021) are summarized below:-

3.1 Meteorology

The secondary meteorological data of the study period collected from www. imdpune.gov.in/. The month wise meteorological data is given in Table E4 the wind rose during the study period is presented in Figure 3.13 A in EIA Report.

	Wind Speed (m/s)			Т	emp (°	C)	Relati	ve Hun (%)	hidity]	Rainfall	l
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
Period										(mm)	(mm)	(mm)
Oct-21	4.27	0.03	2.01	31.35	15.9	25.01	98.12	53.94	81.6	0.94	0	0.04
Nov21	4.37	0.06	1.96	28.18	11.3	21.41	100	42.44	77.3	1.15	0	0.02
Dec21	5.32	0.03	2.18	26.06	4.76	17.74	100	30.75	73.2	9.69	0	0.08

Table E.4 :- Summary of the Meteorological Data generated at Site

Air Environment



The ambient air quality is carried out at 08 locations in and around the project site and studies are carried out as per CPCB standards. It is observed that, all the values are within the prescribed limits as per National Ambient Air Quality Standards (NAAQS), 2009.

Particulate Matter (PM₁₀):

A maximum concentration of PM_{10} is 75 µg/m³ was observed at the AAQM-1 and minimum value of 43 µg/m³ was observed at AAQM –6.

Respirable Particulate Matter (PM_{2.5}):

A maximum concentration of $PM_{2.5}$ is recorded to be 38 µg/m³ at AAQM-1 and minimum value of 14 µg/m³ was observed at AAQM-6.

Sulphur Dioxide (SO₂):

Maximum concentration of SO₂ is observed to be 10 μ g/m³ at AAQM -1 & 4 and minimum value of 5 μ g/m³ observed at AAQM- 3,5,6,8.

Oxides of Nitrogen (NO_X):

Maximum concentration of NO_x is observed to be 19 μ g/m³ at AAQM - 1 & minimum value of 9 μ g/m³ observed at AAQM - 5 & 6

Carbon Monoxide (CO):

Maximum concentrations in the region are observed to be 0.9 mg/m^3 at AAQM-8 and minimum value of 0.3 mg/m^3 observed at AAQM-1, 2&3

Silica

Silica in the ambient air of the 10 Km radius of the study area of the project site has been analysed from the PM_{10} filter paper of the Ambient Air quality monitoring stations mentioned in Table 3.3 (7601,Issue 3 as per NIOSH Methods). The result indicates that silica concentration in the surrounding of project site was found to be in the range of $0.02\mu g/m^3$ to $0.06\mu g/m^3$.

The results are compared with the standards prescribed by Central Pollution Control Board (CPCB). The overall ambient air quality around the proposed mine lease is within the limits of ambient air quality standards prescribed by CPCB.

3.3 Noise Environment

Noise levels were monitored in eight locations including project within the study area. The noise levels ranged between 54.2 to 52.2 (A) during day time and noise levels ranged between 44.2 to 43.2 dB (A) during night time. Over all the monitored noise levels are found to be within the stipulated standards set by CPCB.



3.4 Water Environment

Ground Water Quality

In order to establish the baseline water quality, 5 ground water and 5 surface water samples were collected and analysed in the study area. The quality of surface water samples was compared with surface water specification IS 2296:1982 and the surface water quality comes under Class D (Propagation of wildlife and fisheries). The ground water samples were compared with drinking water specification IS 10500:2012 standards.

3.5 Soil Quality

A total of 8 samples in and around the project site are collected and analysed. It has been observed that the pH of the soil quality ranged from 7.2 (S2, S6 & S8) to 7.6 (S1 & S5) indicating that the soil is slightly alkaline in nature.

3.6 Land Use/Land Cover of the Study Area

The project site is at Akalsara village, which is in the Jaijaipur tehsil of the Janjgir Champa district of Chhattisgarh, India. It is 11 kilometers from the sub-district headquarters in Jaijaipur (tehsildar office) and 24 kilometers from the district headquarters in Janjgir. According to 2009 census data, Aadil is the gram panchayat of Akalsara village. The village's entire geographical area is 4 hectares, with the study area occupying 325.07 square kilometers. Akalsara has a total population of 2689 people, 1295 of whom are male and 1394 of whom are female. Akalsara village has a literacy rate of 55.08%, with 56.65% of men and 43.35% of females being literate. Akalsara village has roughly 250 homes. Akalsara village's zip code is 495690.

The village of Akalsara is run by a sarpanch, who is chosen to serve as the community's representative through local elections. According to 2019 statistics, the village of Akalsara is part of the Chandrapura assembly district and the Janjgir Champa parliamentary district. For all important commercial operations, Sakti is the closest town to Akalsara, which is located around 7 kilometers distant. The land use and land cover maps for the 10-kilometer research region are shown in Figure 11.4. The analysis is separated into 10 area classes, as shown in Figure 4's LULC map, which includes the following: water body, canal, river crop land, settlement, vegetation, sand, fallow land, forest, and shrub land.



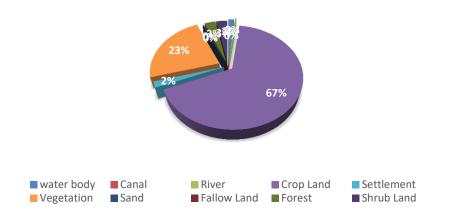


Figure E-3: LULC Classification (10 km radius of the Proposed Project Area)

3.7 Ecology and Biodiversity

The ecological study of the area has been conducted within 10 km radius of the project site in order to understand the existing status of flora and fauna to generate baseline information. Following Rf and PF are being observed within 10 km surrounding from the project site.

Sr. No.	Name of forest block	Name of forest block Type of Forest		Distance (km)
1	Chhitapandrariya	Protected forest	NE	2.16
2	Sakti	Reserved forest	N	20.89

3.8 Socio Economics

According to secondary statistics (Population Census 2011, the study region has 325663 persons) (10 km radius from the project location). households spread throughout 325.07 square kilometres of area. The female population in the study area is 163351, which is some what higher than the male population of 162312.

The sex ratio is the male-to-female ratio of the population. The human sex ratio is the maleto-female population ratio in anthropology and demography. Humans have more statistics than any other animal, and the human sex ratio has attracted the most research of any species; none the less, analysing this data can be difficult. In sexually reproduced animals, the ratio is normally 1:1. This inclination is explained by the Fisher hypothesis. However, many species deviate from the same sex ratio for a number of reasons, either on a regular or indefinite basis.



4.0 Anticipated Environment Impacts and Environment Management Plan

Land/Soil Environment Impact Mitigation

The mitigation measure of the land environment includes :-

- Before the mining activity the top soil will be scrapped and stored in the lease area and will be utilized for plantation purpose. Balance top soil if any preserved separately will be used to spread over partially reclaimed land.
- The limestone excavated from the lease area will be completely sellable resulting no dump within the lease area.
- At the end of conceptual period the excavated quarry will converted into water reservoir to supply water for local use like irrigation and pisciculture.
- Due to manual mining operation emission from the Dolomite mines are very less, there will be no impact on the surrounding soil quality and cropping pattern of the area.
- The propose project falls under the seismic zone –II (Low Hazard Risk Zone). Since this project will not have physical infrastructure to be constructed, no impact of seismicity is envisaged in this project. Further, this project will not change/alter the seismic behavior of the area.

Air Impact Mitigation

The mitigation measures undertaken in the mine for control of air pollution are :-

- Checking of vehicles and machinery to ensure compliance to Indian Emission Standards Transportation vehicles and machinery to be properly and timely maintained and serviced regularly to control the emission of air pollutants in order to maintain the emissions of NO_x and SO_x within the limits established by CPCB.
- Total 2.0 KLD water required for dust suppression purpose for which 1 no. of water tanker with 2500 liter capacity will be hired and used for water sprinkling twice in a day in haul roads, dumping site, loading and unloading site of each lease within the cluster and this will be regularly monitored by the cluster management. Water sprinkling on transport road side, stock yard (if any) etc. will be done by tractor mounted water sprinkler.
- Regular compaction and grading of haul roads will be done to clear the accumulation of loose material
- All the mines workers will be provided with the dust masks.
- Trees can act as efficient biological filters. As this is a small lease, the area available for plantation is very less. However a well-planned plantation programme has been proposed for the mining area to arrest the dust pollution within the lease boundary. There is the



proposal for continuous plantation along the cluster boundary and both sides of the road connecting the cluster.

- Vehicles with valid PUC shall be used for transporting the minerals to avoid the exhaust emission.
- A greenbelt development plan is prepared with local species. The greenbelt on the periphery will reduce the dust level sits.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce generation of dust.
 - Regular monitoring of the air quality as per the monitoring plan detailed in Chapter 6 of this EIA report shall be adopted during the operation phase, to ensure that, the air quality is within the desired limits prescribed by CPCB.

Noise Impact Mitigation

- No noise polluting work shall be carried out in the night hours
- Provision of PPE's for the workers
- Vehicles to be serviced regularly and maintained properly to avoid any unwanted generation of noise or vibration from them
- Green belt plantation and garden trees will help in reducing the noise, traffic related pollution and heat island effects.
- Proper lubrication, muffling and modernization of equipment shall be used to reduce the noise during operation phase.
- Vibration and noise due to blasting will be reduced by adopting controlled blasting technique.
- Blasting will be avoided under unfavourable conditions.
- A rock breaker is being/ will be used instead of secondary blasting.
- Regular monitoring of the noise levels as per the monitoring plan detailed in Chapter 6 of this EIA report shall be adopted during the operation phase, to ensure that, the noise levels are within the limits prescribed by CPCB.

Water Impact Mitigation

- Provision of temporary toilets for labourers.
- Domestic waste water will be treated into septic tank followed by soak pit outside of the proposed cluster project with a safe distance and no wastewater will be allowed to be get discharged into the water body



- All stacking and loading areas should be provided with proper garland drains
- Check dams should be provided to prevent solids from wash off.
- Construction of garland drains around freshly excavated and dumped areas so that flow of water with loose material is prevented.
- The mine water should be passed through specially constructed catch pits to arrest any loose material being carried away with water.
- Any areas with loose debris within the leasehold should be planted.
- Garland drains should be constructed surrounding the waste dumps and should be connected to the surface water reservoir to avoid the run-off mixing directly to natural water channels before settling.
- Ground water table will not be intersected during the mining activity

Ecology and Biodiversity Impact Mitigation

- Green Belt will be developed around the lease boundary, haul roads and plantation will be done on undisturbed area, reclaimed area, dump site, workshop & mine office.
- Total area of green belt proposed would be 20 % of the mining lease and surrounding area.
- Local species will be planted in consultation with Forest Department.

Socio-Economic Environment Impact Mitigation

- Employing local people for construction work.
- Providing proper facilities for sanitation for the construction workers such as temporary toilets.
- Barricades, fences and necessary personnel protective equipment shall be provided to the construction workers.
- The health of workers will be checked for general illness; first time upon employment and thereafter at periodic intervals, as per the local laws and regulations.

5.0 Analysis of Alternatives

The proposed Akalsara Dolomite Mine, which includes the Dolomite Quarry of Leases, is owned by lessee and will be operated within the lease grant area.

So no alternate sites have been assessed. The mining technology is semi-mechanized open cast method in single shift manual mining without any change in technology.

This project is being granted to the respective project proponents by the Mineral Resource Department, Govt. of Chhattisgarh in the approved mineralized zone. This project is away



from habitation & located on maximum non-productive land, hence this is best suitable for mining activity. For recovery of mineral the procedure used here is the traditional method and as labour-intensive, this is adopted for the site proved as the best practice.

6.0 Environmental Monitoring Program

- Environmental monitoring shall be carried out at the locations to assess the environmental health in the post period. A post study monitoring programme is important as it provides useful information on the following aspects.
- It helps to verify the predictions on environmental impacts presented in this study.
- It helps to indicate warnings of the development of any alarming environmental situations, and thus, provides opportunities for adopting appropriate control measures in advance.

Detailed EMP plan during the operation phase is given chapter 6 of EIA/EMP report.

7.0 Risk Assessment

The hazards and its risk assessed during the operation phase of the proposed dolomite mining project are low, medium & high. The project proponents are proposed to implement all the mitigation measures to prevent the impact or consequences of the risk expected to be happened in both the project sites. The level of impact after implementing the mitigation measures will be low/medium in all the hazards identified.

8.0 Emergency Response and Disaster Management Plan

Impact of disaster can be significantly reduced through attempts at preparedness, mitigation, and post-event rehabilitation work. Based on hazard identification in the proposed project, an emergency plan has been prepared and the same plan will be implemented by the project implementing agency with the coordination of District Authorities to minimize the damage. The risk assessment and disaster management plan is detailed in Chapter 7 of the EIA report.

9.0 Capital Investment and Project Schedule

The proposed Dolomite mining project is estimated to cost Rs 83.90 Lacs.

Once the statutory clearance being obtained, the mine will start operating.

10.0 Project Benefits

Mining is back bone of infra-structure development of country. Proposed project has following benefits as given below:-

• Employment for local people



- Revenue for the State Government in form of excise duties, GST, taxes, levies etc.
- Generate business opportunity for the people
- Need based funds will be used for welfare of people in villages
- EMP funds will improve environmental quality
- The operation of the Dolomite result mining would help to improve socio-economic condition of people in villages through separate fund allocated for Need Based Activity.

11.0 Need Based Activity

The proposed mining project proponent is aware of the obligations towards the society and to full fill the social obligations unit will employ semi-skilled and unskilled labour from the nearby villages for the proposed project as far as possible. Unit will also try to generate maximum indirect employment in the nearby villages by appointing local contractors during construction phases as well as during operation phase. The Project proponents will contribute reasonably as part of social development as a part of EMP and will carry out various activities in nearby villages.

The total estimated cost of the project is 83.90 laces. 1.72 lacs will be allocated for need based activity for causes of development of school and village pond under corporate environment responsibility and Social Development activities.

12.0 Environment Management Plan (EMP)

The detailed Environment Management Plan has been prepared based on the mining activities and the impacts imparting on land soil, air, noise, water by the activities. The EMP and the cost for the environment protection measures are detailed in Chapter 10 of EIA report.

13.0 Conclusions

As discussed, it is safe to say that the collection of minor minerals from the proposed lease area is not likely to cause any significant impact on the ecology of the area as the mineral is and waste generated is non-toxic and does not harm the surrounding environment.

Adequate measures will be taken to control the fugitive emissions to be generating during mining operation. Socio-economic condition of the surrounding villages will improve in long run due to involvement of local population and improvement of infrastructure facilities. Green belt development in the statutory boundary, approach roads, schools are proposed with the participation of local people. This proposed plantation in the area will improve the aesthetic look along with betterment of ecology and environment of the locality.