

EXECUTIVE SUMMARY
OF
ENVIRONMENTAL MANAGEMENT PLAN REPORT
OF
Amakoni Lime stone Quarry Mining Project

Village: Amakoni, Tehsil: Simga, District: Baloda Bazar

State: Chhattisgarh

Area: 1.01 Ha, proposed Average Production Capacity: 32,313.75 TPA

APPLICANT

Shri Vivek Agrawal

Bajrang - Chowk, Nevra,

Tehsil – Tilda, Dist.-Raipur,

Chhattisgarh

1.0 INTRODUCTION

Environmental Impact Assessment (EIA) is a process, used to identify the environmental, social and economic impacts of a project prior to decision-making. It is a decision making tool, which guides the decision makers in taking appropriate decisions for proposed projects. EIA systematically examines both beneficial and adverse consequences of the proposed project and ensure that these impacts are taken into account during the project designing.

The Environmental Impact Assessment Documentation has been prepared in terms of EIA notification of the MoEF dated 14-9-2006 and its subsequent amendments thereof and the EIA Guidance Manual for Mining of Minerals (Feb, 2010) of MoEF, Govt. of India, for seeking environmental clearance for mining in the existing area of Amakoni Lime Stone Quarry Project measuring 1.01 hectares falling under category “B1” due to the order of Hon’ble NGT (PB), Ministry of Environment, Forest & Climate Change (MoEF &CC), Govt. of India vide Office Memorandum F.No.J-13012/12/2013-IA-II (I) dated 24.12.2013.

1.1 Location of the Project

The mining area is located at Khasra No. 36(P), 38(P), 39, Village - Amakoni, Tehsil -Simga District – Baloda Bazar, and State: Chhattisgarh.

Table No. 1.1 Latitude & Longitude of Lease Area

Boundary Pillars No.	Latitude	Longitude
A	21° 38' 37.54" N	81° 59' 17.18 " E
B	21° 38' 38.20" N	81° 59' 17.09" E
C	21° 38' 38.68" N	81° 59' 13.70" E
D	21° 38' 39.78" N	81° 59' 14.06" E
E	21° 38' 40.85" N	81° 59' 13.93" E
F	21° 38' 41.44" N	81° 59' 15.26" E
G	21° 38' 41.67" N	81° 59' 16.50" E
H	21° 38' 41.16" N	81° 59' 16.50" E
I	21° 38' 40.31" N	81° 59' 18.29" E
J	21° 38' 39.94" N	81° 59' 18.35" E
K	21° 38' 39.69" N	81° 59' 18.86" E

Table No. 1.2 Salient Features of Project

S.no	Information	Details																																				
1.	Project Name	Amakoni Lime stone Quarry Mining Project																																				
2.	Name of the Lessees	Prop: Shri Vivek Agrawal																																				
3.	Name & Address of POA Holder	Bajrang-Chowk, Nevra, Tehsil-Tilda, Dist.-Raipur, Chhattisgarh																																				
4.	Proponent Contact No	8319756715																																				
5.	Mining Lease Area	1.01 ha																																				
6.	Khasra No	36,38,39																																				
7.	lease period	For 30 Years																																				
8.	Mining Plan period	5 Years																																				
9.	Location of mine	<table border="1"> <thead> <tr> <th>PILLARS</th> <th>LATITUDE</th> <th>LONGITUDE</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>21° 38' 37.54" N</td> <td>81° 59' 17.18" E</td> </tr> <tr> <td>B</td> <td>21° 38' 38.20" N</td> <td>81° 59' 17.09" E</td> </tr> <tr> <td>C</td> <td>21° 38' 38.68" N</td> <td>81° 59' 13.70" E</td> </tr> <tr> <td>D</td> <td>21° 38' 39.78" N</td> <td>81° 59' 14.06" E</td> </tr> <tr> <td>E</td> <td>21° 38' 40.85" N</td> <td>81° 59' 13.93" E</td> </tr> <tr> <td>F</td> <td>21° 38' 41.44" N</td> <td>81° 59' 15.26" E</td> </tr> <tr> <td>G</td> <td>21° 38' 41.67" N</td> <td>81° 59' 16.50" E</td> </tr> <tr> <td>H</td> <td>21° 38' 41.16" N</td> <td>81° 59' 16.50" E</td> </tr> <tr> <td>I</td> <td>21° 38' 40.31" N</td> <td>81° 59' 18.29" E</td> </tr> <tr> <td>J</td> <td>21° 38' 39.94" N</td> <td>81° 59' 18.35" E</td> </tr> <tr> <td>K</td> <td>21° 38' 39.69" N</td> <td>81° 59' 18.86" E</td> </tr> </tbody> </table>	PILLARS	LATITUDE	LONGITUDE	A	21° 38' 37.54" N	81° 59' 17.18" E	B	21° 38' 38.20" N	81° 59' 17.09" E	C	21° 38' 38.68" N	81° 59' 13.70" E	D	21° 38' 39.78" N	81° 59' 14.06" E	E	21° 38' 40.85" N	81° 59' 13.93" E	F	21° 38' 41.44" N	81° 59' 15.26" E	G	21° 38' 41.67" N	81° 59' 16.50" E	H	21° 38' 41.16" N	81° 59' 16.50" E	I	21° 38' 40.31" N	81° 59' 18.29" E	J	21° 38' 39.94" N	81° 59' 18.35" E	K	21° 38' 39.69" N	81° 59' 18.86" E
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10.	Village	Amakoni																																				
11.	Tehsil	Simga																																				
12.	District :	Baloda Bazar -Bhatapara																																				
13.	State :	Chhattisgarh																																				
14.	River/Nalla/Nadi	None within 10 km radius buffer zone																																				
15.	Minerals of mine	Limestone																																				
16.	Proposed Production	32313.75 TPA (Maximum)																																				
17.	Bulk Density	2.5																																				
18.	Method of mining	Open Cast Semi-Mechanized Method																																				
19.	Drilling or Blasting	Drilling and blasting by licensed Contractor.																																				

20.	No of working days	300 days		
21.	Water demand		Purpose	Water Demand In KLD
			Domestic	1.125
			Dust Suppression	1.0
			Plantation	7.2
			Total	9.325
22.	Man Power	25		
23.	Nearest Railway Station	Bhatapara Railway Station 10.67km in NNW		
24.	Nearest SH & NH	SH-10 8.50 km in north direction		
25.	Nearest Airport	Bilasa Devi Kevat Airport, Bilaspur (About 41.0Km towards North direction)		
26.	Nearest School	<ul style="list-style-type: none"> Govt. High School, Amakoni approx 1.10 km in ESE direction. Govt. School, Rani jaroud approx -1.16 Km in SSE direction. 		
27.	Gram Panchayat	Gram Panchayat-Amakoni, approx 2.50km towards ESE		
28.	Hospital	<ul style="list-style-type: none"> Govt. Hospital Suhela 3.66 Km in SSW direction. Primary Health Centre, Mopar approx 4.50km in East direction 		

1.2 GREEN BET PLANT

Progressive Afforestation: During the proposal period about 150 trees in first year will be planted, on mine site and Total 1010 trees will be used in other activities like Distribution in village, Panchayat, school, plantation across route etc in first year of mining operation.

Area covered by afforestation is 0.3081 ha during conceptual period which will be rehabilitated providing plantation. Details of proposed plantation are mentioned below:

Progressive Afforestation during first year of operation

पौधों की कुल संख्या - 1,010				
अवस्था	प्रस्तावित वृक्षारोपण हेतु नियत स्थान	पौधों की प्रजातियां	पौधों की संख्या	टिप्पणी
प्रथम वर्ष	बैरियर जोन	नीम, खमेर, सिरस, चिरोल, करंज, बबूल, सीताफल, अशोक, सिस्सू एवं अन्य स्थानीय प्रजातियां	150	<ul style="list-style-type: none"> 4 पौधों के बीच में एक सीताफल पौधे का रोपण किया जाएगा। पौधों से पौधों के बीच की दूरी 3 मी. एवं पंक्ति से पंक्ति की दूरी 2.5 मी. और गड्ढे का आकार 0.70मी. x 0.70मी. x 0.70मी. एवं गड्ढे में गोबर की खाद और शेष मिट्टी से भरा जाएगा। परिनाली के निर्माण के दौरान निकली हुई मिट्टी में सूबबूल, नीम, बबूल, प्रोसोपिस और अन्य स्थानीय प्रजातियों के बीज बुवाई की जाएगी। ट्रेंच 45 सेमी x 45 सेमी x 45 सेमी विकसित की जाएगी। तार की बाड़ की सुरक्षा के साथ।
प्रथम वर्ष	गैर खनन क्षेत्र	खमेर, चिरोल, करंज, महुआ, सेजा, बीजा, सीताफल एवं अन्य स्थानीय प्रजातियां	160	<ul style="list-style-type: none"> 4पौधों के बीच में एक सीताफल पौधे का रोपण किया जाएगा। पौधों से पौधों के बीच की दूरी 3 मी. एवं पंक्ति से पंक्ति की दूरी 2.5 मी. और गड्ढे का आकार 0.70मी. x 0.70मी. x 0.70मी. एवं गड्ढे में गोबर की खाद और शेष मिट्टी से भरा जाएगा। सुरक्षा हेतु तार की बाड़ की जावेगी।

	परिवहन मार्ग	खमेर, चिरोल, करंज, बीजा, सीताफल, जंगल जलेबी, कदम एवं अन्य स्थानीय प्रजातियां	150	<ul style="list-style-type: none"> परिवहन मार्ग के दोनों ओर एक पंक्ति में 4-5 फीट ऊंचाई पौधों के वृक्षारोपण किए जाएंगे। पौधों से पौधों के बीच की दूरी 3 मी. एवं पंक्ति से पंक्ति की दूरी 2.5 मी. और गड्ढे का आकार 0.70मी. x 0.70मी. x 0.70मी. एवं गड्ढे में गोबर की खाद और शेष मिट्टी से भरा जाएगा। पौधों की सुरक्षा हेतु प्रभावशाली 6 फीट ऊंचाई का ट्री गार्ड।
प्रथम वर्ष	ग्रामवासियों में वितरण हेतु) ग्राम पंचायत परसवाड़ा)	नीम, आम, कटहल, बेर, आँवला, हर्षा, सीताफल, महुआ, कबीट, नींबू, बहेरा, बेल एवं अन्य स्थानीय प्रजातियां	150	<ul style="list-style-type: none"> ग्रामवासी इन पेड़ों को अपने खेतों की मेड़ पर लगाएंगे।
	ग्राम पंचायत के सहयोग से ग्राम पंचायत परसवाड़ा के चिन्हित क्षेत्र में	नीम, आम, कटहल, बेर, आँवला, हर्षा, सीताफल, महुआ, कबीट, नींबू, अचार एवं अन्य स्थानीय प्रजातियां	200	<ul style="list-style-type: none"> गड्ढे का आकार 0.70मी. x 0.70मी. x 0.70मी. एवं गड्ढे में गोबर की खाद और शेष मिट्टी से भरा जाएगा। सुरक्षा हेतु तार की बाड़ की जावेगी।
	ग्राम पंचायत परसवाड़ा के प्राथमिक शाला, आंगनवाड़ी एवं ग्राम पंचायत परिसर में	कदम, नीम, खमेर, अशोक, सिस्सू एवं अन्य स्थानीय प्रजातियां	200	<ul style="list-style-type: none"> गड्ढे का आकार 0.70मी. x 0.70मी. x 0.70मी. एवं गड्ढे में गोबर की खाद और शेष मिट्टी से भरा जाएगा। सुरक्षा हेतु परिसर में बाउंड्री वाल की व्यवस्था है।

1.3 BASE LINE DATA

This section contains the description of baseline studies of the 10 Km radius of the area surrounding “Amakoni Lime Stone Quarry Project”. The data collected has been used to understand the existing environment scenario around the proposed mining project against which the potential impacts of the project can be assessed.

Environmental data has been collected in relation to propose mining for:-

(a) Land

- (b) Water
- (c) Air
- (d) Biological
- (e) Noise
- (f) Socio-economic

1.4 AMBIENT AIR QUALITY

The results of AAQ are given in Annexure, the results when compared with National Ambient Air Quality Standards (NAAQS) of Central Pollution Control Board (CPCB) for "Residential, Rural and Industrial Areas" show that the average values of ambient air quality parameters are well within the stipulated limit.

The minimum and maximum level of PM₁₀ recorded within the study area was in the range of 65.43 µg/m³ to 93.76 µg/m³. PM_{2.5} recorded within the study area was in the range of 39.81 µg/m³ to 56.7 µg/m³. The minimum and maximum level of SO₂ recorded within the study area was in the range of 5.36 µg/m³ to 9.7 µg/m³. The minimum and maximum level of NO₂ recorded within the study area was in the range of 10.47 µg/m³ to 21.9 µg/m³.

1.5 NOISE ENVIRONMENT

The result of Noise Quality at Night time Leq (Ln) varies from 39.2 to 42.5 dB (A) and the hourly daytime Leq (Ld) varies from 49.6 to 53.8 dB (A) within the study area. Low noise level is due to absence of any major industry in the area.

1.6 WATER ENVIRONMENT

The water quality in the impact zone was assessed through physico- chemical and bacteriological analysis of ground and surface water samples. The results have been compared with the drinking water quality standards specified in IS: 10500. It was observed that all the physico chemical parameters and heavy metals from surface and ground water samples are below stipulated drinking water standards.

All the ground water samples analyzed can be considered fit for drinking purpose in the absence of alternate sources.

Comparing the values of pH, DO, BOD and total coliforms with 'Use based classification of surface waters' published by Central Pollution Control Board; it can be seen that all the analyzed

surface waters can be compared with class “B” and can be used as “Outdoor bathing (Organized)”.

1.7 SOIL ANALYSIS REPORT

Physical characteristics of soil were characterized through specific parameters viz bulk density, porosity, water holding capacity, pH, electrical conductivity and texture. Soil pH plays an important role in the availability of nutrients. Soil microbial activity as well as solubility of metal ions is also dependent on pH. In the study area, variations in the pH of the soil were found to be neutral (7.32 to 7.82). Electrical conductivity (EC) is a measure of the soluble salts and ionic activity in the soil. In the collected soil samples the conductivity ranged from 358 - 392µmhos/cm.

The soils with low bulk density have favorable physical condition where as those with high bulk density exhibit poor physical conditions for agriculture crops.

1.8 BIOLOGICAL ENVIRONMENT

The lease area as well as buffer zone area reveals no endangered and endemic species of flora and fauna in the area.

1.9 WATER REQUIREMENT

The total water consumption in the Mine is about 9.325 KLD. The water is used in the following purposes.

- For dust suppression & mining allied activity.
- For drinking & domestic consumption.
- For greenbelt development.

This water will be met from old bore well, hand pump and mine sump located in ML area.

The following table shows the water balance of the mine activity:

Table No. 1.3
WATER CONSUMPTION (KLD)

Activity	Water requirement (KLD)
Dust suppression	1.00
Domestic	1.125
Plantation	7.2
Total	9.325

1.10 WASTE DUMP DISPOSAL

There is Murum (overburden) overlain the deposit. Dumping of waste rock is not required.

1.10.1 LAND FOR DISPOSAL OF WASTE WITH JUSTIFICATION:

Not required as the available soil will be used to develop area for plantation; weathered waste/rejects will also be used in repair and maintenance of roads.

1.11 SOCIO-ECONOMICS

The mine area does not cover any habitation. Hence the mining activity does not involve any displacement of human settlement. No public buildings, places, monuments etc exist within the lease area or in the vicinity. The mining operation will not disturb/ relocate any village or need resettlement. Thus no adverse impact is anticipated.

The impact of mining activity in the area is positive on the socio-economic environment of the region. Amakoni Lime Stone Quarry Project is providing employment to local population and it will be give preference to the local people whenever there is requirement of man power.

1.12 OCCUPATIONAL HAZARDS AND SAFETY

Occupational safety and health is very closely related to productivity and good employer-employee relationship. The factors of occupational health in Amakoni Lime Stone Quarry Project are mainly dust and land degradation. Safety of employees during operation and maintenance etc. shall be as per Mines rules and regulations.

To avoid any adverse effect on the health of workers due to various pollutants, sufficient measures relating to safety and health will also be practiced:

- Provision of rest shelters for mine workers with amenities like drinking water etc.
- All safety measures like use of safety appliances, such as dust masks, helmets, shoes, safety awareness programs, awards, posters, slogans related to safety etc.
- Training of employees for use of safety appliances and first aid in vocational training center.
- Regular maintenance and testing of all equipment as per manufacturers' guidelines.
- Periodical Medical Examination (PME) of all workers by a medical Officer
- First Aid facility is provided at the mine site.
- Close surveillance of the factors in working environment and work practices which may affect environment and worker's health.

- Working of mine as per approved mining plan and environmental plans.

1.13 ENVIRONMENTAL MANAGEMENT PLAN

The mining activities involve, excavation, loading, haulage and transportation of mineral. These activities lead to generation of air borne dust, which can cause air pollution in and around the mining lease area, if appropriate control measures are not taken. Similarly mining causes Land Degradation, Noise and Water Pollution etc. in the area.

In order to minimize impacts of mining on different environmental parameters and to keep air and water quality within prescribed limits of CPCB, a rapid Environmental Management Plan (EMP) is prepared to strictly follow it. This helps in resolving all environmental and ecological issues due to mining in the area. The environmental management plan includes all measures and safety precautions necessary for safe mining along with rehabilitation measures for mined out areas.

ANNUAL EMP COST			
S NO.	Particulars	Budget Provisions (Rs)	
		Capital	Recurring
1(a)	Overhead water sprinkling facility with solar pump for outgoing and incoming transportation vehicles for haul and transportation.	1,30,000	15,000
1(b)	Cost of Water own (4000 liter capacity) 2 tanker x 200 Rs./per day X 300 days	Nil	1,20,000
2	Four Settling Tank [2.5m (W) x 10m (L) 2m (D)] Garland drain [445m (L) x 2m (W) x 1.5 m(D)]	50,000	10,000
3	Prepare & Maintenance of approach road (Max. Road length 300 m , Width 6.0m) 300m @ 600Rs./Meter	1,80,000	15,000
4	Monitoring twice a year (Air , Water & Noise twice a year)	Nil	40,000
5	Plantation (1,010lants will be planted & Distribution during the first year) = 1010 plants x 150/sapling	1,51,500	40,000
6	Grazing Land	40,000	10,000
7	Wire Fence 445 m x200	89,000	45,000

Labour Welfare			
8	Drinking Water Facility & Temporary rest shelter (25 x 15 feet)	70,000	20,000
9	Separate toilets for Male & Female No. of 2	1,80,000	15,000
10	Occupational health Survey 25 labour @ 500 Rs. = 12,500Rs./twice per year x 2	Nil	25,000
11	PPES to Work(Helmet shoes, gloves, goggle etc) , 25 labor @1200 Rs.	30,000	5000
12	First Aid Kits , Number of kits 5	40,000	10,000
13	Fire Safety (1 nos.) , @ 30,000	30,000	20,000
Solid Waste Management			
a.	Bins 2 Nos.	1500	5,000
b.	Pit and Composed	5000	
c.	Transport of Dry Waste	5000	
14	Vehicle Maintenance + PUC Certification	Nil	25,000
15	Signage and Caution Board	5,000	1,000
	Total EMP Cost	10,07,000	4,21,000

1.15 CONCLUSION

As discussed, it is safe to say that the project is not likely to cause any significant impact on the ecology of the area, as adequate preventive measures will be adopted to contain the various pollutants within permissible limits. Green belt development around the area will also be taken up as an effective pollution mitigates technique, as well as to control the pollutants released from the premises of the Proposed Mine.
