

**EXECUTIVE SUMAMRY OF
DRAFT ENVIRONMENTAL IMPACT ASSESSMENT AND
ENVIRONMENTAL MANAGEMENT PLAN**

FOR

**GODPENDRI LIMESTONE QUARRY
LEASE AREA: 1.85 Ha.
TOTAL CLUSTER AREA : 58.502 Ha.**

PROPOSED PRODUCTION CAPACITY - 40,125 Tons/Annum

AT

**Khasra No. 367/2 Part, 368 Part, 363, 364/2, 365/2, 367/3, 369, 370, 371, 372 & 373
Village - Godpendri, Tehsil - Patan, District - Durg, Chhattisgarh**

**Project Activity - Mining of Minerals 1(a) (i)
Project Category – B1**

ToR Letter No.114/SEAC, CG./Mine/1930 Nawa Raipur Atal Nagar dated 11/04/2023

MONITORING PERIOD- 15thOCTOBER 2022 to 14thJANUARY 2023

**PROJECT PROPONENT
SMT. SANGEETA TIWARI
W/O SHRI AJAY KUMAR TIWARI,
QUARTER NO. 02/B, STREET 14, SECTOR-7, BHILAI
DIST.- DURG (C.G.)**

ENVIRONMENT CONSULTANT

P and M Solution

**Address: C-88, Sector 65, Noida -201301 – U.P,
A NABET ACCREDITED CONSULTANT**

**Executive Summary for Limestone Quarry” at Village- Godpendri, Tehsil- Patan, District Durg,
Chhattisgarh by Smt. Sangeeta Tiwari**

EXECUTIVE SUMMARY

Project Proposal			
<p>“Limestone Quarry” Mine comes under located at Khasra no.363, 364/2, 365/2, 367/2, 367/3, 368, 369, 370, 371, 372 &373 Village-Godpendri, Tehsil- Patan, District-Durg, State-Chhattisgarh</p> <p align="center">Proponent Smt. Sangeeta Tiwari W/o Shri Ajay Kumar Tiwari Niwasi- Quarter No. 02/B, Street 14, Sector-7, Bhilai DIST.- Durg(C.G.)</p>			
Location of the applied area			
Village & Tehsil	Village-Godpendri, Tehsil- Patan		
District & State	District-Durg, Chhattisgarh		
Extent of the ML area	1.85 Hectares, Private land		
Survey of India Map No.	64G/8		
Latitudes	BP.No.	Latitude	Longitude
Longitudes	BP-1	21°5’34.80"N	81°26’52.96"E
	BP-2	21°5’36.38"N	81°26’53.14"E
	BP-3	21°5’37.27"N	81°26’52.65"E
	BP-4	21°5’37.46"N	81°26’53.97"E
	BP-5	21°5’37.91"N	81°26’54.01"E
	BP-6	21°5’37.97"N	81°26’54.67"E
	BP-7	21°5’38.79"N	81°26’54.69"E
	BP-8	21°5’38.79"N	81°26’55.07"E
	BP-9	21°5’37.98"N	81°26’55.05"E
	BP-10	21°5’38.20"N	81°26’58.01"E
	BP-11	21°5’39.57"N	81°26’58.37"E
	BP-12	21°5’39.47"N	81°26’59.13"E
	BP-13	21°5’39.75"N	81°26’59.19"E
	BP-14	21°5’39.75"N	81°27’0.55"E
	BP-15	21°5’37.82"N	81°27’0.82"E
	BP-16	21°5’37.78"N	81°26’59.88"E
	BP-17	21°5’35.85"N	81°27’0.02"E
	BP-18	21°5’35.77"N	81°26’57.49"E
	BP-19	21°5’35.67"N	81°26’53.99"E
	BP-20	21°5’34.77"N	81°26’53.96"E
Transport Network			
Nearest City/ Town	Godpendri Village, Approx. 0.57 Km in NW direction		
Nearest Railway station	Maroda railway station which is approx. 11.5 km in NW direction		
Nearest Airport	Raipur Airport, Raipur-Approx. 32.22 km in NE.		
Archeological Place	No Archeological place in the study area.		
National Park, Wild Life Sanctuary, Wild Life Corridors, Biosphere Reserves, Protected Forest	None		

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,Migratory routes for Birds etc. within 10 Km radius study area	
Reserve Forest and Protected Forest within 10 Km radius	No any Reserved / Protected Forest within 15 km radius.
Water bodies within 10km radius	Mahanadi- Approx. 170 m in East Direction
Mining Details	
Geological Reserves	6,87,475 Tons
Production Capacity, cum/annum	40,125 Tons/annum
Method of Mining	open cast manual mining method
Total Project Cost	Rs. 75.00 Lakhs
Cost for Environmental Protection Measures	Capital Cost-Rs. 2,52,150/- Recurring Cost-Rs. 1,09,930/-

1.0 Introduction

The proposed “Limestone Quarry” Mine comes under located at Khasra no. located at Khasra no. 363, 364/2, 365/2, 367/2, , 367/3, 368, 369, 370, 371, 372 & 373 Village Godpendri, Tehsil- Patan, District-Durg, Chhattisgarh, Area- 1.85 Ha, The proposed Limestone Quarry production capacity from the mine lease is 40,125 Tons/Annum belongs to Smt. Sangeeta Tiwari. The lease for mining of Limestone Quarry over an area of 1.85 Ha was granted by the Government of Chhattisgarh. The Letter of Intent for the lease has been granted for 30 years to Project Proponent Smt. Sangeeta Tiwari, vide letter no. -Kramak/1008/Khanij/U.P./2021 dated 01/10/2021. The Mine Plan has been approved by Mining Officer Kanker, Chhattisgarh vide letter no. Kr/1286/Khnai. Aanu-01/2021 dated 29/11/2021 for a production capacity of maximum 40,125 Tons per year. The proposed production capacity of the mine is 40,125 Tons/annum of Limestone Quarry. The mining operation will be manually opencast method. The sequences of operations are removal of over burden, sizing, loading and transportation of Minerals.

This EIA has been prepared as per the Terms of Reference granted and the EIA Notification. Further to assess the impact on environment, it is necessary to ascertain present status of environment prevailing at the project site and proposed operation including identification and Assessment of impact on the environment.

Keeping these points and statutory requirement in view, this Environment Impact Assessment Report and Environmental Management Plan (EMP) (here in after described as the EIA/EMP Report) has been prepared. Environmental Study has been carried out within 10 km radius of the mine area over a period of **15th October, 2022 to 14th January, 2023.**

1.1 Need for the Project

Minerals are the chief source of present phase of industrialization and play an important role in the present phase of the national economy and overall development of the nation. The Flag Stone slabs produced from the quarry will be supplied for the purpose of slab cuttings, and then it will be sold to end user for construction purpose, at present due to growing fashion of ceramic tiles in rural area also, the demand of the flag stone is reduces, therefore the quarry management is focused on the by product as khanda and kattal which is being generated during the flag stone cutting.

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2.0 Topography and Drainage Pattern

Topography: The area is almost a flat terrain with devoid of vegetation. It is about 2.2 km from the village Godpendri which is situated in the NW direction. The maximum elevation is about 268 m from M.S.L.

Drainage Pattern: Kharun River is present at about 14k m in east direction from the lease area. The drainage pattern is dendretic to sub dendretic.

2.1 Geology

Mineable Reserve

The quarry lease area is 1.85 Ha., so that the limestone (minor mineral) reserve will be estimated only within the quarry area and thickness of the Limestone Mineable reserve is considering 20m from below the soil cover. Hence, the estimated of Mineable reserve is calculated as under by cross sectional method.

Cross-Section	X-sectional area (sq. m)	Distance between x-section (m)	Volume (cu.m)	B.D	Reserves (Tonnes)
C ₁ -C _{1'}	755	40	30,200	2.5	75,500
C ₂ -C _{2'}	626	40	25,040	2.5	62,600
C ₃ -C _{3'}	615	40	24,500	2.5	61,500
C ₄ -C _{4'}	625	40	25,000	2.5	62,500
C ₅ -C _{5'}	1525	30	45,750	2.5	1,14,375
Total					3,76,475

Mineral Blockage

- a) **The estimation of blocked out resources:** Calculation of blocked out reserve up to 20m thickness of Limestone (minor mineral) and also blocked along the 7.5m Quarry Limit Zone (QLZ) and pit slope area:

Calculation of blocked out reserve up tp 20m thickness of limestone by cross sectional method.

Cross-Section	X-sectional area (sq. m)	Distance between x-section (m)	Volume (cu.m)	B.D	Reserves (Tonnes)
C ₁ -C _{1'}	665	40	26,600	2.5	66,500
C ₂ -C _{2'}	650	40	26,000	2.5	65,000
C ₃ -C _{3'}	650	40	26,000	2.5	65,000
C ₄ -C _{4'}	650	40	26,000	2.5	65,000
C ₅ -C _{5'}	660	30	19,800	2.5	49,500
Total					3,11,000

The total Blocked Reserve for the quarry lease area is about= 3,11,000T

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- b) Other Blockage:** This is the fresh quarry lease area in private land and proposed crusher site within the safety zone of blockage area of approximately 800 sqm at South-West corner in the quarry lease area.

Total Blocked Reserve (a+b) = 3,11,000 T

Mineable reserve = 3,76,475 T

Geological Reserve = (Mineable reserve + Blocked Reserve) = (3,76,475 + 3,100,000) = 6,87,475 T

Recoverable Reserve = (10% quarrying loss to be deducted) = (3,76,475 - 37,647.5T) = 3,38,827.5T

(Source- Approved mine plan)

Quarrying

Open Cast Quarrying Method

Salient feature of the quarry:

The total Quarry Lease area is about – 18,500 sqm.

The quarry limit zone (QLZ) of 7.5m around quarry lease is about- 5,970 sqm.

The existing quarry pit is about in mineable area = 4055 sqm.

The fresh mineable area within the quarry limit is about – 8475 sqm.

A tentative Plan of quarrying, annual program and plan for excavation from year to year for five year.

As per the LOI (Letter of Intent) issued by the District Collector, Mining Office, (Kramak/1008/Khanji/U.P/2021, on the date-01/10/2021), thus the quarry plan is prepared for the five years from the execution of the Quarry Lease period.

In proposed Excavation Year:

- i. Construction of the main haulage road by maintain a gradient of 1:16 from level 310 Mrl to facilitate transport of limestone at the lowest RL of 290 mRL and off-shoot roads will be taken from main road for each bench.
- ii. Development by removing top soil in about 4830 sqm area to facilitate quarry during the 05 years of Quarry Plan period. Since, the average thickness of soil is 0.5 m, this will be removed by using a dozer fitted with ripper. The top soil is an alluvial yellow soil and very much fertile in nature will be temporary stacked on to 7.5 m of non-quarrying zone for the subsequent plantation. The top soil stack will be proper protected by creating a soil bund all around.

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Development

Table Error! No text of specified style in document.-1Proposed Development by the removal of top soil

Year	Av. OB Bench (RL)	Area in m ²	Thickness (m)	Total Volume (cum)
1 st Year	310 mRLto 309.5mRL	3595	0.5	1797.5
2 nd Year	-	-	-	-
3 rd Year	-	-	-	-
4 th Year	310 mRLto 309.5mRL	1235	0.5	617.5
5 th Year	-	-	-	-
Total		4830		2415

Table Error! No text of specified style in document.-3Proposed Production Plan for 1st Five Years Period

Year	Cross-Section	Av. Bench (RL)	X-sectional area (sq. m)	Distance between x-section (m)	Volume (cu.m)	B.D	Production (ROM)	Production Recovery (90%)
1 st Year	C ₁ -C _{1'}	309.5 to 303 mRL	535	30	16,050	2.5	40,125	36,112.5
2 nd Year	C ₂ -C _{2'}	303 to 296.5 mRL	530	30	15,900	2.5	39,750	35,775
3 rd Year	C ₃ -C _{3'}	296.5 to 290 mRL	460	30	13,800	2.5	34,500	31,050
4 th Year	C ₄ -C _{4'}	309.5 to 302 mRL	315	40	12,600	2.5	31,500	28,350
5 th Year	C ₅ -C _{5'}	302 to 290 mRL	310	40	12,400	2.5	31,000	27,900
Total	Total		2150		70,750		1,76,875	1,59,187.5

3.0 Baseline Data, Impact Assessment and Management Plan

The EIA report incorporates one season data generated for a period from **15thOctober 2022 to 14thJanuary 2023**. A summary of the same is presented below:

3.1 Meteorology

Site Specific meteorological data is given in **Table4** and wind rose is given in **Figure 1**.

Table 4: Site Specific Meteorological Data

Month	Temperature °C		Wind Speed (Km/hr.)
	Min	Max	Avg.
October 2022	20.0	36.0	2.9
November, 2022	11.0	30.0	3.6
December, 2022	8.0	25.0	4.7

Source: Meteorological at station site

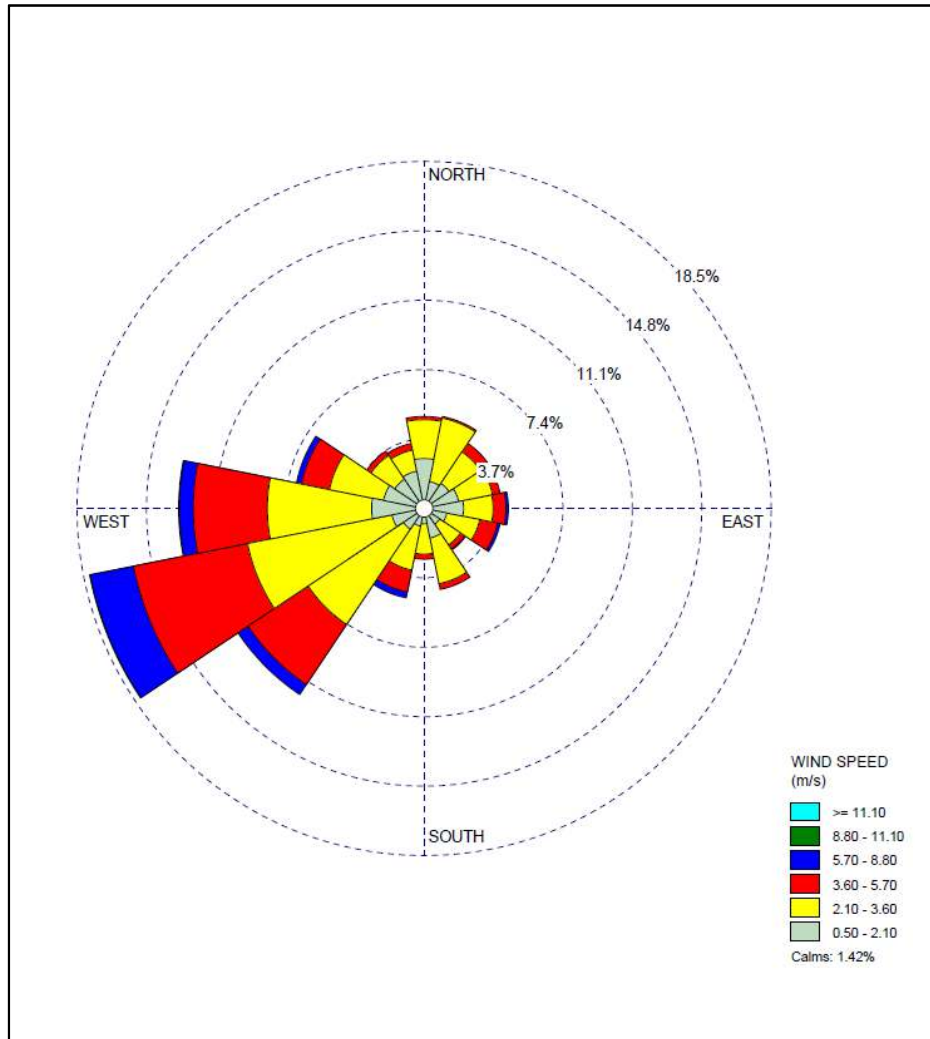


Figure 1: Wind Rose

3.2 Ambient Air Quality Status

The status of ambient air quality within the study area was monitored for the period of during **15thOctober 2022 to 14thJanuary 2023** at 8 locations including the Plant area and in nearby villages. Total 8 sampling locations were selected based on the meteorological conditions considering upwind and downwind directions. The levels of Respirable Particulate Matter (PM₁₀), Fine Particulates (PM_{2.5}), Sulphur Dioxide (SO₂) and Oxides of Nitrogen (NO_x) were monitored. The minimum and maximum values of monitoring results are summarized in **Table 5**.

Table5: Summary of Ambient Air Quality Results

Parameters	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)
AAQM Norms	100	60	80	80
AAQ-1				
MIN	60.3	2.2	10.9	16.7
MAX	74.7	32.6	13.2	22.5

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AVERAGE	68.8	27.3	12.1	18.7
98 %TILE	73.9	31.9	13.2	21.7
AAQ-2				
MIN	65.8	25.6	11.7	19.7
MAX	74.3	31.6	14.5	25.5
AVERAGE	71.5	29.5	13.0	22.7
98 %TILE	73.9	31.4	14.4	25.3
AAQ-3				
MIN	68.4	26.7	11.5	16.1
MAX	78.9	35.8	15.9	22.9
AVERAGE	72.2	30.7	13.7	19.0
98 %TILE	77.7	34.7	15.5	22.4
AAQ-4				
MIN	68.4	29.4	11.0	14.0
MAX	80.2	38.4	13.4	20.5
AVERAGE	74.2	32.2	12.2	17.4
98 %TILE	79.8	37.4	13.4	20.1
AAQ-5				
MIN	66.5	25.8	10.5	16.3
MAX	73.6	32.4	14.3	23.3
AVERAGE	70.8	29.0	12.1	20.0
98 %TILE	73.6	32.3	13.9	22.8
AAQ-6				
MIN	58.6	25.4	11.3	16.5
MAX	72.0	33.6	14.4	24.3
AVERAGE	65.6	29.0	12.9	19.9
98 %TILE	71.8	32.6	14.4	23.8
AAQ-7				
MIN	68.2	30.6	10.6	16.5
MAX	81.6	41.2	14.2	25.6
AVERAGE	76.4	35.6	12.2	20.4
98 %TILE	81.5	40.9	14.0	25.2
AAQ-8				
MIN	70.1	30.6	11.9	21.8
MAX	78.3	40.5	15.3	27.9
AVERAGE	73.9	35.4	13.6	23.9
98 %TILE	77.7	40.0	14.9	26.9

From the above results, it is observed that the ambient air quality with respect to PM₁₀, PM_{2.5}, SO₂ and NO_x at all the monitoring locations was within the permissible limits specified by CPCB.

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3.3 Ambient Noise Levels

Ambient noise level monitoring was carried out at the 8 monitoring locations; those were selected for ambient air quality monitoring. The monitoring results are summarized in **Table 6**.

Table 6: Summary of Ambient Noise Level Monitoring Results [Leq in dB(A)]

Time (Hrs)	Chunkatta	Gondpendri	Selud	Achanakpur	Karsa	Parsahi	Funda	Utai	
Day Time	600	46.9	45.8	44.3	46.3	42.7	40.8	46.3	47.2
	700	52.2	47.6	46.3	48.7	44.4	42.5	49.3	49.6
	800	53.2	49.6	50.3	52.6	41.9	40.2	50.9	53.4
	900	54.0	53.2	51.7	49.8	46.3	44.4	52.3	54.1
	1000	56.3	56.7	54.5	51.3	51.7	49.8	55.1	55.8
	1100	57.3	58.2	51.7	53.6	44.7	42.8	52.3	56.2
	1200	56.9	53.6	49.3	55.2	48.3	47.3	49.9	54.7
	1300	53.2	52.4	47.7	48.7	46.0	45.2	48.3	55.8
	1400	56.2	48.6	49.3	51.6	48.7	46.8	50.2	51.2
	1500	53.2	51.3	50.5	52.6	49.6	49.1	51.1	49.6
	1600	54.7	50.2	49.9	50.8	46.0	44.1	50.5	54.6
	1700	51.5	43.4	52.5	54.6	43.4	41.5	53.1	51.6
	1800	55.2	54.7	51.8	49.8	45.2	43.3	52.4	53.7
	1900	54.3	50.6	48.7	51.6	44.4	42.5	49.3	51.2
	2000	55.5	51.7	50.7	48.2	48.3	46.4	51.3	53.8
	2100	52.6	50.8	48.9	47.3	45.4	43.5	49.5	51.3
2200	50.3	48.6	47.3	49.2	47.9	46.0	47.9	50.7	
Night Time	2300	48.3	45.2	44.6	45.8	41.1	41.9	46.0	46.8
	2400	46.2	43.6	43.6	42.6	40.1	42.3	44.2	45.2
	100	43.1	41.8	39.6	38.2	39.3	39.6	40.2	42.6
	200	41.2	39.4	37.7	36.4	38.4	38.6	38.3	40.8
	300	40.1	38.6	36.3	37.2	37.2	37.6	36.9	39.8
	400	39.2	40.5	39.3	39.0	37.7	40.2	39.9	40.0
	500	41.1	42.6	40.7	42.6	39.0	41.2	41.3	44.6
Range	39.2-57.3	38.6-58.2	36.3-54.5	36.4-55.2	37.2-51.7	37.6-49.8	36.9-55.1	39.8-56.2	
Ld	54.4	52.5	50.4	51.4	46.9	45.4	51.1	53.3	
Ln	44.0	42.2	41.2	41.5	39.2	40.5	42.0	43.6	
Ldn	54.3	52.4	50.6	51.4	47.7	47.6	51.4	53.4	

3.4 Ground and Surface Water Resources & Quality

Ground Water

Sampling was carried out at 8 locations during the study period. Sampling and analysis was carried out, as per standard methods and frequency of the sampling was thrice/stations. the summary of the results is presented below:

Analysis results of **Ground Water** reveal the following:

- **pH** varies from to 7.20 to 8.13
- **Total Hardness** varies from 146 to 496 mg/L.
- **Total Dissolved Solids** varies from 367 to 789 mg/L.

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Analysis results of **Surface Water** reveal the following:

- **pH** varies from to 7.21 to 7.58
- **Total Dissolved Solids** varies from 162 to 183 mg/L.
- **BOD** varies from 1.6 to 2.4 mg/L.
- **COD** varies from 10.2 to 12.6 mg/L.

The heavy metal contents are found to be negligible. Water quality is excellent but it is not potable due to presence of coliform. It can be used for drinking purpose after installing bacteriological.

3.5 Soil Quality

Sampling was carried out at 8 locations during the study period. The summary of the results are presented below:

- pH in soil sample was observed in the range **6.78 to 7.60**
- Organic Matter was observed in the range of **0.33 % to 1.00%**.

3.6 Biological Environment

Rare and Endangered Flora in the Study Area

The IUCN Red List is the world's most comprehensive inventory of the global conservation status of plant and animal species. It uses a set of criteria to evaluate the extinction risk of thousands of species and subspecies. These criteria are relevant to all species and all regions of the world. With its strong scientific base, the IUCN Red List is recognized as the most authoritative guide to the status of biological diversity. **Among the enumerated flora in the study area, none of them were assigned any threat category, by RED data book of Indian Plants.**

4.0 IMPACT ASSESSMENT AND MITIGATION MEASURES

4.1 AIR Pollution

The air quality modeling has been done and the details are given below:

Sr. No.	Activity in the Quarry	Maximum Baseline Concentration ($\mu\text{g}/\text{m}^3$)	Incremental GLCs ($\mu\text{g}/\text{m}^3$)	Resultant Concentration ($\mu\text{g}/\text{m}^3$)	Limit (Industrial, Residential, Rural and other area) ($\mu\text{g}/\text{m}^3$)
1.	Excavation+Loading+Transportation	63.3	0.10	63.40	100

Prevention and Control of Air Pollution

- The dust generated during the process will be minimized by water spray at the working faces before and after the activity.
- Plantation will be carried out on approach roads and in Lease boundary.
- Planning transportation routes of mined material so as to reach the nearest paved roads by shortest route. (minimize transportation over unpaved road;

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- Personal Protection Equipment’s (PPE) like dust masks, ear plugs etc. will be provided to mine workers.
- Speed limit will be enforced to reduce airborne fugitive dust from vehicular traffic.
- Deploying PUC certified vehicles to reduce their noise emission.
- Spillage from the trucks will be prevented by covering tarpaulin over the trucks.

4.2 Water Quality Management

The impact of mining project on groundwater hydrology and surface water regime are site specific and depends upon the characteristics of the mineral, hydrogeology and requirement of groundwater for other uses.

ANTICIPATED IMPACTS

- No natural course of water stream is interrupted or diverted due to mining activity; hence no impact on natural drain is anticipated.
- Surface run off distribution during rainy season may get affected due to excavated pits and overburden stack.
- Runoff from the mining benches or from overburden during the rainy season may get contaminated.
- Ground water pollution can take place only if the mining rejects contain toxic substances, which get leached by the precipitation water and percolate to the ground water table thus polluting it. Any nearby wells or other sources of water can be rendered unfit for drinking and even for industrial use.
- Domestic sewage will be generated which can create contamination.

MITIGATION MEASURES

- Overall drainage planning has been done in such a manner that the existing pre-mining drainage conditions will be maintained to the extent possible so that run off distribution is not affected.
- The waste dump will be protected by retaining walls around the dump., moreover the excavated mineral itself is non-toxic and hence no effect due to water flow during rains following the contours of the area is expected.
- The excavated pit will be converted into the water reservoir at the end of mine life. This will help in recharging ground water table by acting as a water harvesting structure.
- Garland drain will be constructed on all sides of quarry along with settling pond in the lowermost part to remove the suspended solids from storm water. The collected water shall be used in plantation and spraying on haul roads. Settling ponds will be designed on the basis of silt loading, slope of the lease, detention time required etc.
- Septic tanks and soak pits will be provided for the disposal of domestic effluent generated from mine site.

4.3 Noise Pollution Control

The area generally represents calm surroundings. There is no heavy traffic, industry or noisy

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habitation in the area except the existing mine. As the project is proposed for open cast manual method mining.

Noise pollution is mainly due to occasional plying of trucks. These activities will not cause any problem to the inhabitants of this area because there is no human settlement in close proximity to the lease area.

ANTICIPATED IMPACT

- The source of Noise pollution will be the vehicular movements.
- Noise will be generated by the digging of mine area using shovels, crowbars etc.

MITIGATION MEASURES

- **Maintenance of Machinery:** - The vehicles operating will be maintained and provided with good silencers. All machines will be used at optimum capacity.
- **Vegetation:** Plantation of trees around haul roads will be done to reduce the noise.
- **Hearing Protection:** Equipment like ear-muffs, ear-plugs, etc. are commonly used devices for hearing protection.

4.4 Greenbelt Development and Plantation

A green belt will be developed along the roads, barren area, surrounding office, rest shelter and other social forestry program. Green belt is erected not from biodiversity conservation point of view but is basically developed as a screen to check the spread of dust pollution. It is proposed to total number of plants **1460 numbers sapling during 1st five years.**

Table- 8 Details of Greenbelt sapling during 1st three years

PLANTATION EXPENDITURE ALONG WITH FENCING IN THE 7.5 M SAFETY ZONE								
S. No.	ITEM	RATE (in Rs.)	QUANTIT Y (kg/days, Plants & Pillar)	AMOUNT (in Rs.)				
				1 st Year	2nd year (90% Survival)	3rd year (90% survival)	4th Year (90% survival)	5 th Year (90% survival)
1	Plants of local species ie. Neem, Seerish, Karanj, Arjun, Local Species, etc.	(Rs 30 per sapling)	1460	43,800	4380	4380	4380	4380
2	Fencing around with chain link wire including cement pillar	Number of Pillar Rs 100 per Pillar	260	26,000	-	-	-	-
		Rs 200/mtr wire	800	1,60,000	-	-	-	-
3	Labour charge	-	-	50,000	-	-	-	-
4	Plantation dig (45cm x 45cm x 45cm) size	Rs 10 per dig	1460	14600	146	146	146	146
6	Manure (cow dung / vermi compost) 250gm/plant	Rs 20 /kg	365	7300	730	730	730	730
7	Water Tank For Water sprinkling	Rs 500 /day	240 days	120000	120000	120000	120000	120000
9	Maintenance (Gardner)	Rs 5000/month		60,000	60,000	60,000	60,000	60,000

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		@ 12 month						
	Total			4,81,700	1,85,256	1,85,256	1,85,256	1,85,256

4.5 Solid and Hazardous Waste Generation and Management

No solid waste will be generated.

4.6 EMP and CER Details

Table 9 Budgets for Common Environmental Management Plan for Cluster

Particulars		1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year
Pollution control generate due to dust generation during movement of vehicles from mine site to nearest NH 53 (approx.1.3 km)		3,00,000	3,00,000	3,00,000	3,00,000	3,00,000
both side plantation on access road (15000 No's)	Amount for plantation (90% survival rate)	7,50,000	75,000	75,000	75,000	75,000
	Amount for Fencing	30,00,000	-	-	-	-
	Fertilizers, seeds & maintenance of plant	10,00,000	10,00,000	10,00,000	10,00,000	10,00,000
Environment Monitoring (Quarterly)		3,50,000	3,50,000	3,50,000	3,50,000	3,50,000
Maintenance of Road/Approach Road		3,00,000	3,00,000	3,00,000	3,00,000	3,00,000
Plantation of trees at Village Road (upto 2 K.M.)		2,00,000	50,000	50,000	-	-
Total		59,00,000	20,75,000	20,75,000	20,25,000	20,25,000

Participation of Project proponent in Common EMP

Particulars		1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year
Pollution control generate due to dust generation during movement of vehicles from mine site to nearest NH		21,430	21,430	21,430	21,430	21,430
both side plantation on access road 550M (500 No's)	Amount for plantation (90% survival rate)	35,000	3500	3500	3500	3500
	Amount for Tree Guard	1,00,000	-	-	-	-
	Fertilizers,	35,000	35,000	35,000	35,000	35,000

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	seeds & maintenance of plant					
Environment Monitoring (Quarterly)		25,000	25,000	25,000	25,000	25,000
Maintenance of Road/Approach Road		21,430	21,430	21,430	21,430	21,430
Plantation of trees at Village Road (up to 2 K.M.)		14,290	3570	3570	-	-
Total		2,52,150	1,09,930	1,09,930	1,06,360	1,06,360

It is proposed to undertake the need specific proposed CER activities in the surrounding areas of the mine. The project proponent has proposed to incur budget of **Rs. 1,50,000/-** for CER activities.

The detailed CER activities will be decided after public Hearing and same will be incorporated in Final EIA.

5.0 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 mitigative technique, as well as to control the pollutants released from the premises of the project.