

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

FOR

**FLAGSTONE QUARRY,
LEASE AREA: 0.64 Ha.**

PROPOSED PRODUCTION CAPACITY -1250 Tons/Annum (500 m³)

AT

Khasra no. Part of 714/1, 715, Village Kurdi, Tehsil- Gunderdehi, District Balod, Chhattisgarh

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

ToR Letter No.1188/SEAC, CG./Mine/1861Nawa Raipur Atal Nagar dated 19/10/2022

MONITORING PERIOD- 15thOCTOBER 2022 to 14thJANUARY 2023

**PROJECT PROPONENT
M/s SMT. RAJNI SINGH
W/O, SHRI CHHATAR SINGH THAKUR
NIWASI- SUBHASH NAGAR KASARIDIH, TEHSIL- DURG,
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

Project Proposal																														
“Flagstone Quarry” Mine comes under located at Khasra no. Part of 174/1, 715, Village-Kurdi, Tehsil- Gunderdehi, District-Badol, State-Chhattisgarh																														
Proponent																														
M/s Smt. Rajni Singh Niwasi- Subhas Nagar Kasaridih, Tehsil- Durg, DIST.- Durg(C.G.)																														
Location of the applied area																														
Village &Tehsil	Village-Kurdi, Tehsil- Gunderdehi																													
District &State	District-Balod, Chhattisgarh																													
Extent of the ML area	0.64 Hectares, Private land																													
Survey of India Map No.	64 K/4																													
Latitudes	<table border="1"> <thead> <tr> <th>BP.No.</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr> <td>BP-A</td> <td>20°51'7.57"N</td> <td>81°13'7.02"E</td> </tr> <tr> <td>BP-B</td> <td>20°51'7.51"N</td> <td>81°13'8.83"E</td> </tr> <tr> <td>BP-C</td> <td>20°51'4.63"N</td> <td>81°13'8.48"E</td> </tr> <tr> <td>BP-D</td> <td>20°51'4.64"N</td> <td>81°13'8.19"E</td> </tr> <tr> <td>BP-E</td> <td>20°51'3.65"N</td> <td>81°13'7.98"E</td> </tr> <tr> <td>BP-F</td> <td>20°51'3.65"N</td> <td>81°13'7.72"E</td> </tr> <tr> <td>BP-G</td> <td>20°51'2.02"N</td> <td>81°13'7.35"E</td> </tr> <tr> <td>BP-H</td> <td>20°51'2.07"N</td> <td>81°13'6.86"E</td> </tr> </tbody> </table>	BP.No.	Latitude	Longitude	BP-A	20°51'7.57"N	81°13'7.02"E	BP-B	20°51'7.51"N	81°13'8.83"E	BP-C	20°51'4.63"N	81°13'8.48"E	BP-D	20°51'4.64"N	81°13'8.19"E	BP-E	20°51'3.65"N	81°13'7.98"E	BP-F	20°51'3.65"N	81°13'7.72"E	BP-G	20°51'2.02"N	81°13'7.35"E	BP-H	20°51'2.07"N	81°13'6.86"E		
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Longitudes																														
Transport Network																														
Nearest City/ Town	Kurdi Village, Approx. 2.2 Km in NW direction																													
Nearest Railway station	Sikosa railway station which is approx. 7.8 km in NE direction																													
Nearest Airport	Raipur Airport, Raipur-Approx. 60 km in NE.																													
Archeological Place	No Archeological place in the study area.																													
National Park, Wild Life Sanctuary, Wild Life Corridors, Biosphere Reserves, Protected Forest , Migratory routes for Birds etc. within 10 Km radius study area	None																													
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	151000 tons																													
Production Capacity, cum/annum	1250 Tons (500 m ³)/annum																													
Method of Mining	open cast manual mining method																													
Total Project Cost	Rs. 19.20Lakhs																													
Cost for Environmental Protection Measures	Capital Cost-Rs. 1,50,000/-																													

**Executive Summary for Flagstone Quarry” at Village- Kurdi, Tehsil- Gunderdehi, District Balod,
Chhattisgarh by M/s Smt. Rajni Singh**

	Recurring Cost-Rs. 30,000/-
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1.0 Introduction

The proposed “Flagstone Quarry” Mine comes under located at Khasra no. 714/1, 715, Village Kurdi, Tehsil- Gunderdehi, District- Balod, Chhattisgarh, Area- 0.64 Ha, The proposed Flagstone Quarry production capacity from the mine lease is 1250 Tons/Annum belongs to M/s Rajni Singh. The lease for mining of Flagstone Quarry over an area of 0.64Ha was granted by the Government of Chhattisgarh. The Letter of Intent for the lease has been granted for 30 years to Project Proponent Smt. Rajni Singh Mining Office Balod, vide letter no. 1201, dated- 30/07/2021. The Mine Plan has been approved by Mining Officer Kanker, Chhattisgarh vide letter no. 657 dated 04/10/2021 for a production capacity of maximum 1250 Tons (500 m³) per year. The proposed production capacity of the mine is 1250 Tons (500 m³) annum of Flagstone 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.

2.0 Topography and Drainage Pattern

Topography: The area is about 0.7km from the village Kurdi in the Southern direction. Some part of the lease area (about 1200 m²) having old pit of 4.5m depth from the surface and rest part is almost flat terrain with devoid of vegetation. The general surface level is about 308 m from M.S.L the lease area has been surveyed on a scale of 1:1,000 with contour interval of one meter. Tandula River is present about 2.65 km east and Gariyan Nala is present about 0.47 km South of the lease area. The drainage pattern is dendrite to sub dendritic.

Drainage Pattern: The drainage pattern is dendretic to sub dendretic.

2.1 Geology

The area around Kurdi village comes under Charmuria Formation of Raipur Group of Chhattisgarh Supergroup. Charmuria Formation comprises of Phosphatic limestone with shale inter-beds, cherty limestone and Phosphatic dolomite, chert-shale interbeds.

The area showing a nature and extent of the mineral body.

The area around Kurdi which is situated in Tehsil Gunderdehi is covered by Limestone (flaggy Limestone) of Charmuria formation of Raipur Group of Chhattisgarh Super Group. The mineral body is homogenous in nature. On the basis of detailed geological mapping nearby pits etc of the area and Lithology of the area following sequence can be established:

Soil

Lime stone (flaggy limestone)

2.2 Geological Reserve of Flag Stone in Quarry:

A) Geological Reserve of Flagstone stone in fresh Area

$$Area (m^2) \times depth = Volume (m^3) \times BD = Tonnage$$

$$5200 \times 10 = 52000 \times 2.5 = 130000 \text{ tons}$$

B) Geological Reserve below the working pit

$$Area (m^2) \times depth = Volume (m^3) \times BD = Tonnage$$

$$1200 \times 7.0 = 8400 \times 2.5 = 21000 \text{ tons}$$

Hence, the Geological Reserve comes (A+B) = 151000 tons

Blockage of Reserve

A. Reserve Blocked in Mine Limit of 7.5m on fresh area

$$Area (m^2) \times depth (m) \times BD = Tonnage$$

$$2700 \times 10 \times 2.5 = 67500 \text{ tons}$$

B. Reserve Blocked in Mine Limit below working pit

$$Area (m^2) \times depth (m) \times BD = Tonnage$$

$$260 \times 7 \times 2.5 = 4550 \text{ tons}$$

C. Reserve Blocked in Benches

Benches	Area	Depth	Volume	Tons
1st bench	401	8.5	3409	8521
2nd bench	383	7.0	2681	6703
3rd bench	365	5.5	2008	5019
4th bench	602	4.0	2408	6020
5th bench	249	2.5	623	1556
6th bench	230	1.0	230	575
Total			11359	28394

Total Bench Blockage = 28394 tons

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D. Reserve Blocked due to tapering

$$\text{Area (m}^2\text{)} \times \text{depth (m)} \times \text{BD} = \text{Tonnage}$$

$$280 \times 10 \times 2.5 = 7000 \text{ tons}$$

Total Blocked Reserve (A+B+C+D) = 107444 tons

Mineable Reserve= (Geological reserve– Blocked reserve)

$$= 151000 - 107444$$

$$= \mathbf{43556 \text{ tons}}$$

Recoverable Reserve = 43556 x 0.75 (25 % mining loss)

$$= \mathbf{32667 \text{ tons}}$$

Anticipated Life of mine:

The estimated mineable reserve of this area is of the order of **32667 tons** up to 12 m below soil cover. The Conceptual quarry plan is prepared for the lease period of 5 years and anticipated life of mine is about 10 years.

(Source- Approved mine plan)

2.3 Method of Mining:

Quarrying will be earned out by open-cast method adopting a system of benches. Mode of working will be manual. Only development work will be carried out by excavator and cutting of stone on mine surface will be carried out by stone cutter. Manual labors are deployed for quarrying and loading of sized stone on Truck/tractor. Truck/ tractor will be used for transporting of flag.

Table 1 Year wise productions

Year	Depth of Pit mRL	Area in m ²	Total Soil Quantity (1.5m) in m ²
1st Year	308.0-306.5	333.5	500
2nd Year	308.0-306.5	333.5	500
3rd Year	308.0-306.5	333.5	500
4th Year	308.0-306.5	333.5	500
5th Year	308.0-306.5	333.5	500
Total		1667	2500

3.0 Baseline Data, Impact Assessment and Management Plan

The EIA report incorporates one season data generated for a period from **15th October 2022 to 14th January 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

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November, 2022	11.0	30.0	3.6
December, 2022	8.0	25.0	4.7

Source: Meteorological at station site

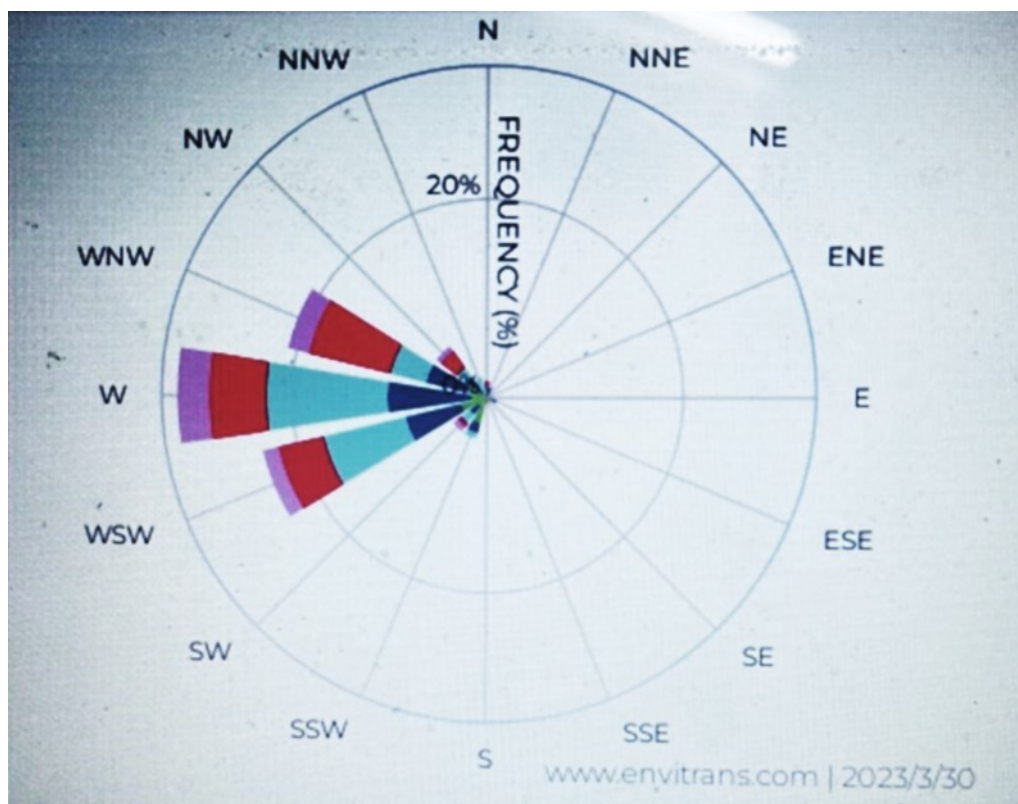


Figure 1: Wind Rose

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 12 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	52.6	22.0	9.5	11.7
MAX	63.3	26.9	17.3	24.1
AVERAGE	59.5	25.1	12.5	17.2
98 %TILE	63.0	26.7	17.3	24.1
AAQ-2				

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MIN	40.1	18.0	8.6	11.5
MAX	47.5	22.9	10.9	14.3
AVERAGE	44.8	20.0	9.6	13.0
98 %TILE	47.3	22.4	10.8	14.2
AAQ-3				
MIN	45.8	21.2	9.3	10.6
MAX	53.3	25.6	11.6	14.8
AVERAGE	48.6	23.7	10.4	12.6
98 %TILE	53.2	25.6	11.5	14.4
AAQ-4				
MIN	44.4	20.9	9.0	12.1
MAX	49.3	24.9	12.2	17.8
AVERAGE	46.5	22.5	10.4	14.3
98 %TILE	49.3	24.8	12.1	17.1
AAQ-5				
MIN	44.8	20.4	8.5	11.3
MAX	51.2	24.5	10.1	13.9
AVERAGE	47.9	22.7	9.3	12.0
98 %TILE	50.9	24.3	10.1	13.6
AAQ-6				
MIN	45.2	24.3	9.4	12.5
MAX	51.5	29.1	12.4	16.6
AVERAGE	48.1	26.0	10.8	14.7
98 %TILE	51.5	28.7	12.3	16.5
AAQ-7				
MIN	43.4	22.5	8.6	11.6
MAX	52.2	28.3	11.0	16.4
AVERAGE	48.6	25.9	10.0	14.0
98 %TILE	51.9	28.1	11.0	16.2
AAQ-8				
MIN	45.7	18.8	8.6	11.3
MAX	56.3	24.2	11.4	17.4
AVERAGE	52.2	21.9	9.9	14.1
98 %TILE	56.0	24.1	11.3	16.7
AAQ-9				
MIN	39.9	17.6	8.3	10.5
MAX	47.3	22.5	10.6	13.3

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AVERAGE	44.5	19.6	9.3	11.9
98 %TILE	47.1	22.0	10.5	13.2
AAQ-10				
MIN	44.8	20.2	8.1	10.0
MAX	52.3	24.6	11.2	14.2
AVERAGE	47.6	22.6	10.0	12.0
98 %TILE	52.2	24.6	11.1	13.8
AAQ-11				
MIN	44.8	24.4	8.8	11.6
MAX	51.1	29.2	11.8	15.7
AVERAGE	47.7	26.2	10.2	13.8
98 %TILE	51.1	28.8	11.7	15.5
AAQ-12				
MIN	39.3	17.4	7.9	10.3
MAX	46.7	22.3	10.2	13.1
AVERAGE	43.9	19.4	9.0	11.7
98 %TILE	46.5	21.8	10.1	13.0

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.

3.3 Ambient Noise Levels

Ambient noise level monitoring was carried out at the 12 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)	Kurdi	Lasatola	Biretara	Kasahi	Sikosa	Basin	Ghina	Pairi	Sakra	Chaurel	Paradiah	Monagri
600	46.6	41.4	44.1	40.4	42.8	39.6	38.8	43.1	42.2	40.8	39.6	40.3
700	49.4	42.9	45.2	41.7	45.6	41.3	40.5	45.0	44.1	42.1	40.9	41.6
800	51.2	46.6	46.1	43.5	48.0	38.8	38.0	45.9	45.0	43.5	42.3	43.0
900	53.7	48.3	48.7	45.1	50.6	43.2	42.4	48.5	47.6	46.1	44.9	45.6
1000	55.5	48.0	53.1	46.8	53.8	48.6	47.8	52.9	52.0	48.1	46.9	47.6
1100	57.6	49.0	52.0	46.0	54.7	41.6	40.8	51.8	50.9	46.6	45.4	46.1
1200	56.2	46.4	50.5	46.7	52.4	46.1	45.3	50.3	49.4	46.2	45.0	45.7
1300	55.2	46.0	49.7	45.0	51.6	43.1	42.3	49.5	48.6	46.6	45.4	46.1
1400	54.6	47.6	47.6	43.9	49.5	45.6	44.8	47.4	46.5	43.2	42.0	42.7
1500	53.6	48.9	49.6	44.3	51.5	47.9	47.1	49.4	48.5	45.1	43.9	44.6
1600	53.2	47.3	47.7	41.4	49.6	42.9	42.1	47.5	46.6	47.9	46.7	47.4
1700	56.4	46.9	46.7	45.4	48.6	40.3	39.5	46.5	45.6	44.5	43.3	44.0
1800	54.9	46.2	48.6	45.1	50.5	42.1	41.3	48.4	47.5	46.1	44.9	45.6
1900	55.2	45.9	47.6	43.6	49.5	41.3	40.5	47.4	46.5	43.5	42.3	43.0
2000	53.4	43.6	50.0	44.0	48.2	45.2	44.4	49.8	48.9	42.9	41.7	42.4
2100	52.6	42.0	45.5	46.5	47.4	42.3	41.5	45.3	44.4	41.3	40.1	40.8

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	2200	51.8	40.9	47.1	42.3	46.3	44.8	44.0	46.9	46.0	40.4	39.2	39.9
Night Time	2300	49.0	40.3	45.2	40.6	43.9	40.7	39.9	45.0	44.1	39.0	37.8	38.5
	2400	45.6	39.6	45.4	39.8	43.2	41.1	40.3	44.4	43.5	38.8	37.6	38.3
	100	43.0	38.8	44.5	39.6	42.1	38.4	37.6	43.2	42.3	38.2	37.0	37.7
	200	40.0	39.3	44.0	40.9	40.6	37.4	36.6	43.8	42.9	38.4	37.2	37.9
	300	39.2	38.2	43.7	39.6	38.2	39.8	39.0	40.2	39.3	39.0	37.8	38.5
	400	38.6	38.5	42.2	38.8	37.6	39.8	39.0	40.8	39.9	40.4	39.2	39.9
	500	40.0	39.7	43.2	39.1	39.6	38.9	38.1	42.1	41.2	39.4	38.2	38.9
Range	38.6-57.6	38.2-49.0	42.2-53.1	38.8-46.8	37.6-54.7	37.4-48.6	36.6-47.8	40.2-52.9	39.3-52.0	38.2-48.1	37.0-46.9	37.7-47.6	
Ld	54.3	46.4	48.9	44.5	50.4	44.1	43.3	48.6	47.8	45.0	43.8	44.5	
Ln	43.9	39.2	44.2	39.8	41.3	39.6	38.8	43.1	42.2	39.1	37.9	38.6	
Ldn	54.2	47.4	51.2	46.8	50.7	46.5	45.7	50.4	49.6	46.7	45.4	46.1	

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 6.53 to 7.88
- **Total Hardness** varies from 164 to 468 mg/L.
- **Total Dissolved Solids** varies from 219.0 to 920.0 mg/L.

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

- **pH** varies from to 7.3 to 7.42
- **Total Dissolved Solids** varies from 153 to 190 mg/L.
- **BOD** varies from 1.6 to 2.0 mg/L.
- **COD** varies from 6.2 to 7.0 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 **6.89 to 7.56**
- Organic Matter was observed in the range of **0.91 % to 1.52%**.

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

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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	0.00009	63.30009	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;
- 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 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

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view but is basically developed as a screen to check the spread of dust pollution. It is proposed to total number of plants **740 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.)	QUANTITY (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 i e. Neem, Aam, Karanj, Kadam, Jamun, Aamla, Amaltash,, peepal etc.	(Rs 50 per sapling)	740	37,000	3,700	3,700	3,700	3,700
2	Fencing around with chain link wire including cement pillar	Number of Pillar Rs 100 per Pillar	85	8,500	-	-	-	-
		Rs 200/mtr wire	1900	85,200	-	-	-	-
3	Labour charge	-	-	50000	-	-	-	-
4	Plantation dig (45cm x 45cm x 45cm) size	Rs 6 per dig	740	4440	444	444	444	444
5	Plantation work	Rs 10/plant	740	7400	740	740	740	740
6	Manure (cow dung / vermi compost) 250gm/plant	Rs 10 /kg	185	1850	185	185	185	185
7	Neem , Karaunj, Mahua khalli , bone powder (250g / plant)	Rs 20/kg	185	3700	370	370	370	370
8	Water Tank For Water sprinkling	Rs 500 /day	240 days	120000	120000	120000	120000	120000
9	Gardner	Rs 8000/month @ 12 month		96,000	96,000	96,000	96,000	96,000
Total				4,14,090	2,21,429	2,21,429	2,21,429	2,21,429

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 Approach Road (approx.0.5 km)	2,50,000	2,50,000	2,50,000	2,50,000	2,50,000
both side plantation	3,50,000	50,000	50,000	50,000	50,000
Amount for plantation (90%					

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on access road (5000 No's)	survival rate)					
	Amount for Fencing	12,50,000	-	-	-	-
	Fertilizers, seeds & maintenance of plant	5,00,000	4,00,000	4,00,000	4,00,000	4,00,000
Environment Monitoring (Quarterly)		2,00,000	2,00,000	2,00,000	2,00,000	2,00,000
Maintenance of Road/Approach Road		2,00,000	2,00,000	2,00,000	2,00,000	2,00,000
Plantation of trees at Village Road (upto 2 K.M.)		1,00,000	30,000	30,000	30,000	30,000
Total		28,50,000	11,30,000	11,30,000	11,30,000	11,30,000

Participation of Project proponent in Common EMP

both side plantation on access road (200 No's)	Amount for plantation (90% survival rate)	30,000	10,000	10,000	10,000	10,000
	Amount for Fencing	80,000	-	-	-	-
	Fertilizers, seeds & maintenance of plant	40,000	20,000	20,000	20,000	20,000

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. 3,95,000/-** 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.