EXECUTIVE SUMMARY OF
DRAFT ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN
FOR
ACHHOLI FLAGSTONE QUARRY,
TOTAL MINE LEASE AREA- 4.84 Ha.
TOTAL AREA OF ACHHOLI MINE CLUSTER IS 33.12 Ha.

TOTAL PRODUCTION OF MINE LEASE AREA –7650.5 CUM/Year

S. No.	Project Proponent	Khasra No.	Area	Production/ Year
1	Shri Kuldeep Sahu	1808, 1810, 1811 & 1812	1.61 Ha.	2200 Cum (5500 Tons)/Year
2	Shri Koman Lal sahu	84/1, 2,3,4, 85 & 89/2	0.49 Ha.	1140 Tons (456 Cum)/Year
3	Shri Kuldeep Sahu	1241 (P), 1202/1, 1202/5 (P)	1.49 Ha.	2500.5 Cum/Year
4	Shri Narendra Suryavanshi	1885	0.45 Ha.	1447.5 Tons (579 Cum)/Year
5	Shri Neeraj Suryavanshi	1298	0.55 Ha	1000 M^3/Year
6	Shri Lalchand Agrawal	1328, 1329 & 1330	0.25 Ha	915 M^3/Year

AT

Village Achholi, Tehsil & District Mahasamund, Chhattisgarh

Project Activity - Mining of Minerals 1(a) (i)

Project Category – B1

MONITORING PERIOD- 3rd MARCH 2024 to 2nd JUNE 2024

1. Shri Kuldeep Sahu ToR Letter No. 2732/S.E.A.C.C.G./Mine/2151 Nawa Raipur Atal Nagar dated 23/03/2023
2. Shri Koman Lal Sahu ToR Letter No. 1312/S.E.A.C.C.G./Mine/1709 Nawa Raipur Atal Nagar dated 23/09/2021 & ToR Amendment Letter No. 911/S.E.A.C.C.G./Mine/1909 Nawa Raipur Atal Nagar dated 08/08/2024
3. Shri Kuldeep Sahu ToR Letter No. 818/S.E.A.C.C.G./Mine/2311 Nawa Raipur Atal Nagar dated 04/07/2023
4. Shri Narendra Suryavanshi ToR Letter No. 1314/S.E.A.C.C.G./Mine/1708 Nawa Raipur Atal Nagar dated 23/09/2021 & ToR Amendment Letter No. 1082/S.E.A.C.C.G./Mine/1708 Nawa Raipur Atal Nagar dated 04/10/2024
5. Shri Neeraj Suryavanshi ToR Identification No. TO24B0107CG5710030N dated 11/09/2024
6. Shri Lalchand Agrawal ToR Identification No. TO24B0108CG5984166N dated 07/08/2024

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EXECUTIVE SUMMARY

Project Proposal

"Flagstone Quarry" at Achholi, Tehsil- Mahasamund, District Mahasamund, Chhattisgarh by M/s Shri Kuldeep Sahu (1.61 Ha), Shri Koman Lal Sahu, Shri Kuldeep Sahu (1.49 Ha), Shri Narendra Suryavanshi, Shri Neeraj Suryavanshi and Shri Lalchand Agrawal

S. No.	Particular	Details
Environmental Sensitivity		
	Nearest Village	Achholi Village, Approx. 0.5 Km in South direction
	Nearest Town	Mahasamund, approx. 13.4 Km in S direction
	Nearest National / State Highway	NH- 53 is approx. 6.0 km in South direction.
	Nearest Railway Station	Mahasamund railway station which is approx. 13.0 km in South direction
	Nearest Airport	Swami Vivekanand International Airport, Raipur- Approx. 31.3 km in West.
	Ecological Sensitive Areas (National Park, Wild Life Sanctuaries, Biosphere Reserve etc.) within 15 km radius.	None
	Reserved / Protected Forest within 15 km radius	No any Reserved / Protected Forest within 15 km radius.
	Water bodies within 15 km radius of the mine site.	Kurud Dam- Approx. 3.1 km in South Direction
	Archaeological Important Place	None
	Seismic Zone	III

1.0 Introduction

The proposed **Flagstone Quarry** mine comes under located in Village- Achholi, Tehsil- Mahasamund, District- Mahasamund, Chhattisgarh. The proposed production capacity of Limestone Quarry belongs to Shri Kuldeep Sahu (1.61 Ha), Shri Koman Lal Sahu, Shri Kuldeep Sahu (1.49 Ha), Shri Narendra Suryavanshi, Shri Neeraj Suryavanshi and Shri Lalchand Agrawal. The lease area is private land. As per the EIA notification of Ministry of Environment Forests and Climate Change, Government of India (MoEF&CC), dated 14thSeptember, 2006, as amended from time to time. this project falls under category 'B' project, activity 1(a) of EIA Notification (due to cluster of mine lease area is more than 5ha.), an Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) is required for obtaining Environmental clearance based on TOR as approved by the statutory authority, the TOR was granted by State Environment Impact Assessment Authority.

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 **03rd March, 2024 to 02nd June, 2024**.

Table Error! No text of specified style in document.**-2 Details of lease/land**

Name	Shri Kuldeep Sahu (1.61 Ha)	Shri Koman Lal Sahu	Shri Kuldeep Sahu (1.49 Ha)	Shri Narendra Suryavanshi	Shri Neeraj Suryavanshi	Shri Lalchand Agrawal
Reference of TOR	2732/SEAC,C.G/Mine/2151 Nawa Raipur Atal Nagar dated 23/03/2023	1312/Mine/Mahasamund/1709 Nawa Raipur Atal Nagar dated 23/09/2021 & ToR amendment dated 08/08/2024	818/SEAC/Mine/2311 Nawa Raipur Atal Nagar dated 04/07/2023	1314/Mine/Mahasamund/1708 Nawa Raipur Atal Nagar dated 23/09/2021 & Tor Amendment dated 04/10/2024	OL/TOR/MIN/MAHASAMUND/3102 dated 11/09/2024	OL/TOR/MIN/MAHASAMUND/3084 dated 07/08/2024
Area	1.61 Ha	0.49 Ha	1.49 Ha	0.45 Ha	0.55 Ha	0.25 Ha
Khasra No.	1808, 1810, 1811 and 1812	84/1, 2, 3, 4, 85, 89/2	1241, 1202/1, 1202/5	1885	1298	1328, 1329, 1330
Material	Flagstone	Flagstone	Flagstone	Flagstone	Flagstone	Flagstone
Applied Capacity	2200 m^3 (5,500 Tons)/Year	1,140 Tons (456 Cum)/Year	2500.5 m^3/Year	1,447.5 Tons (579 Cum)/Year	1000 m^3/year	915 m^3/year
Village	Achholi	Achholi	Achholi	Achholi	Achholi	Achholi
Tehsil	Mahasamund	Mahasamund	Mahasamund	Mahasamund	Mahasamund	Mahasamund
District	Mahasamund	Mahasamund	Mahasamund	Mahasamund	Mahasamund	Mahasamund
State	Chhattisgarh	Chhattisgarh	Chhattisgarh	Chhattisgarh	Chhattisgarh	Chhattisgarh
Geological Reserve	2,23,500 m^3	34,200 m^3	2,23,500 m^3	32,016 m^3	82500	20005
Recoverable Reserve	88,047 m^3	3,726 m^3	88,047 m3	5,362 m^2	19316.25	3661.5
Total Cluster Area	21.32 Ha	22.36 Ha	26.02 Ha	22.48 Ha	33.61 Ha	0.25 Ha
Cost of Project	54.33	30.88 Lakhs	42.88 Lakhs	30.40 Lakhs	29 Lakhs	28 Lakhs

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 byproduct as khanda and kattal which is being generated during the flag stone cutting.

2.0 Topography and Drainage Pattern

Topography:1. Shri Kuldeep Sau (1.61 Ha)

The Topography of the area is almost flat. The RL of the area is 264m. the applied area is devoid of any vegetation. Approach raod is passing by 75 m approx. at East from lease area. The applied area is for away from Mahasamund. Tehsil Mahasamund which is about 15km away from the lease area.

2. Shri Koman Lal Sahu

The area is about 1 Km from the village Achholi in the Northwest direction. Some part of the lease area having two working pits (9m in Pit1 and 6 m Pit 2) and rest part is flat terrain. The general surface level is 259 m from M.S.L. The lease area has been surveyed on a scale of 1:1000 with contour interval of one meter. Kadar Nala is present about 180m west of the lease area. The drainage pattern is dendritic to sub dendritic.

3. Shri Kuldeep Sahu (1.49 Ha)

The area is about 0.5 km from the village Achholi in the Northwest direction. The area is flat terrain which devoid of vegetation. The general surface level is 265m from M.S.L. The lease area has been surveyed on a scale of 1:1000 with contour interval of one meter. Kodar is present about 650m west of the lease area. The drainage pattern is dendritic to sub dendritic.

4.Shri Nareandra Suryavanshi

The area is almost a flat terrain which is devoid of vegetation. It is about 100m from the village the village Achholi in the South West direction. The maximum elevation is about 266m has been shown in the map/plan. The lease area has been surveyed on a scale of 1:1000 with contour interval of one meter.

5. Shri Neeraj Suryavanshi

The area is about 1.0 Km from the village Achholi in the North West direction. The lease area is flat terrain with devoid of vegetation. The general surface level is 260m from M.S.L. The lease area has been surveyed on a scale of 1:1000 wit contour interval of one meter. Kodar Nala is present about 230m West of the lease area. The drainage pattern is dendritic to sub dendritic.

6. Shri Lalchand Agrawal

The area is about 1.0 Km from the village Achholi in the North West direction. About 180 m2 area already excavated up m2 uptothe to 5m in pit 1 and about 1855 m2 to 11m in pit 2 from surface while rest of the area is falt terrain with devoid of vegetation. The general surface level is 258m from M.S.L. The lease area has been surveyed on a scale of 1:1000 with contour interval of one meter.

Kodar Nala is present about 75m West of the lease area. The drainage pattern is dendritic to sub dendritic.

Source- Approved Mine Plan

2.1 Geology

The area showing a nature and extent of the mineral body

The area around Dulna 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 Achholi which is situated in Tehsil Mahasamund is covered by limestone of Charmuria formation of Raipur Group of Chhattisgarh Supergroup. This mineral body is homogeneous in nature. On the basis of detailed geological mapping nearby pits etc of the area and lithology of the area following sequence:

Soil

Limestone (Flagstone)

(Source- Approved Mining Plan)

2.2 Reserves

Geological Reserve:

Reserves Calculation

Reserves	Shri Kuldeep Sahu (1.61 Ha)	Shri Koman Lal Sahu	Shri Kuldeep Sahu (1.49 Ha)
1) Geological Reserve (in m3)	2,33,910	34,200	2,23,500
2) Mineable Reserve	1,42,027.5	4,152	1,17,396
3) Recoverable Reserve	1,06,520.6	3,726	88,047

Reserves	Shri Narendra Suryavanshi	Shri Neeraj Suryavanshi	Shri Lalchand Agrawal
4) Geological Reserve (in m3)	32,016	82,500	20,005
5) Mineable Reserve	7,372	25,755	4,882
6) Recoverable Reserve	5,362	19,316.25	3661.5

Mineral Benefication:

No mineral benefication is needed as the mineral produced from this mine is to be displaced in crude form. No activity for up gradation of mineral at the mine site shall be carried out.

(Source- Approved mine plan)

Resources optimization / Recycling and reuse envisaged in the project

a. All the machinery & equipment used in the present will be put to use in other similar project once the project is completed.
b. Waste water generated will be sent to septic tank/soak pit.
c. Rainwater harvesting will be carried out during the operational phase and harvested water will be stored in ponds in the slope areas. This water will be used for sprinkling plantation and sanitary use.
d. Safety zone will be created around the mining lease area to avoid any eventualities and barrier will impose through plantation.
e. Proper restoration of the mine lease area will be carried out at the end of the mining through scientific way. Mine restoration plan will be suggested.

Year-wise Production of Mineral

Year	Production in Year (Volume in m^3)		
	Shri Kuldeep Sahu (1.61 Ha)	Shri Koman Lal Sahu	Shri Kuldeep Sahu (1.49 Ha)
1st Year	2200	456	2500.5
2nd Year	2200	456	2500.5
3rd Year	2200	456	2500.5
4th Year	2200	456	2500.5
5th Year	2200	456	2500.5
Total	**11,000**	**2280**	**12502.5**

Year	Production in Year (Volume in m^3)		
	Shri Narendra Suryavanshi	Shri Neeraj Suryavanshi	Shri Lalchand Agrawal
1st Year	1200	1000	915
2nd Year	1237.5	1000	915
3rd Year	1275	1000	915
4th Year	1368.75	1000	915
5th Year	1398.75	1000	915
Total	**6480**	**5000**	**4635**

Quarrying Method

Quarrying will be carried 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 seized stone on Truck/tractor. Truck/tractor will be used for transporting of flag stone.

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

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

As post quarrying land use, this pit may further be reclaimed by waste materials or this may be converted into a water pond and used as a natural water harvesting system for collection of rain

water after permission of Gram Panchayat/relevant authority. This will recharge the ground water and may be used by local people.

Due to the quarrying the generated over burden/mine waste will not be sufficient to reclaim the working pit. No any type of rehabilitation will be required in the proposed area because there is no any important monument, structure or villages come in the core zone. All dump of soil wil1 be used for afforestation.

Exploration:

The mining will be done only 6m depth. Hence, no exploration is required.

2.4 Drilling and Blasting

Not Applicable

2.5 RESOURCES

2.5.1 Mining Machines and Transport Vehicles

The details of mining machines and transport vehicles are given in above table No 2.4.

2.5.2 Water Balance

The water required is mainly for dust suppression, green belt development, drinking and other domestic purpose during mining operations. Water requirement will meet from hired Tanker supply. The total water requirement will be approx. **6.0, 4.0, 6.0 and 4.0 KLD.**

	Water Requirement			
Particulars	**Shri Kuldeep Sahu (1.61 Ha)**	**Shri Koman Lal Sahu**	**Shri Kuldeep Sahu (1.49 Ha)**	**Shri Narendra Suryavanshi**
Domestic	1.0	1.0	2.5	1.0
Green Development	3.0	1.0	2.0	1.0
Dust Suppression	2.0	2.0	1.5	2.0
Total	**6.0**	**4.0**	**6.0**	**4.0**

	Water Requirement		
Particulars	**Shri Narendra Suryavanshi**	**Shri Neeraj Suryavanshi**	**Shri Lalchand Agrawal**
Domestic	1.0	1.5	2.5
Green Development	1.0	1.0	1.0
Dust Suppression	2.0	2.5	1.5
Total	**4.0**	**5.0**	**5.0**

2.5.3 Electric Power

All the activity will be carried out in day time only. All machineries used for mining will be driven by diesel. Electricity will be required for Mine Office and Rest Room, which will be provided by State Electricity Board through temporary connection.

2.5.4 Manpower

The mine will provide direct and indirect employment. Directly employment will be employed for extraction/collection, breaking, sorting, sizing/ powdering and loading of minerals in the mining area. All the workers will be employed as contract laborers.

Manpower in Numbers			
Particulars	**Shri Kuldeep Sahu (1.61 Ha)**	**Shri Koman Lal Sahu**	**Shri Kuldeep Sahu (1.49 Ha)**
Skilled	3	8	8
Un-skilled	9	2	5
Total	**11**	**10**	**13**

	Manpower in Numbers		
Particulars	**Shri Narendra Suryavanshi**	**Shri Neeraj Suryavanshi**	**Shri Lalchand Agrawal**
Skilled	6	1	1
Un-skilled	4	10	10
Total	**10**	**11**	**11**

3.0 Baseline Data, Impact Assessment and Management Plan

The EIA report incorporates one season data generated for a period from 03rd March, 2024 to 02nd June, 2024. **.** 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.**
March, 2024	17.0	42.0	2.9
April, 2024	20.0	42.0	3.6
May, 2024	22.0	46.0	4.7

***Source: Meteorological at station site*.**

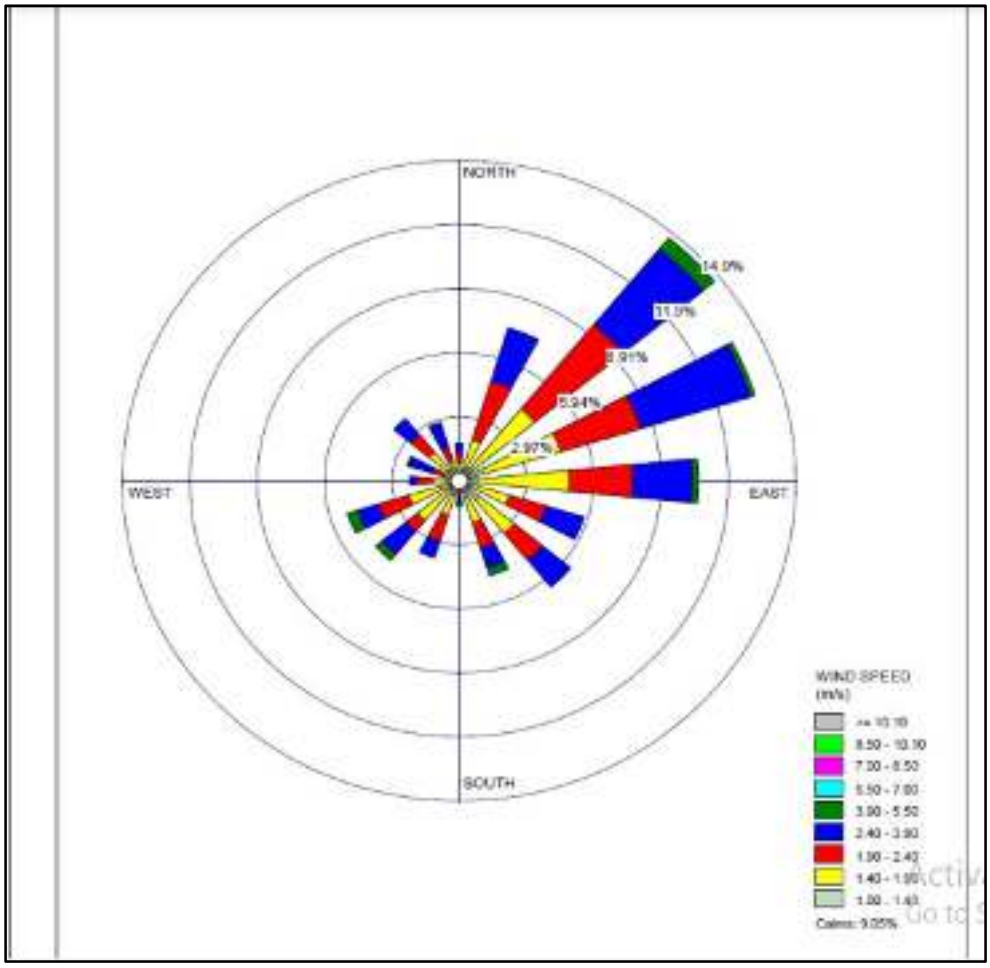

Figure 1: Wind Rose Diagram at Site

3.1 Baseline Environment Status

Ambient Air Quality Monitoring reveals that the **minimum** and **maximum concentrations of PM_{10}** for all the **8 Air Quality** monitoring stations were found to be **39.9µg/m^3** and **61.2µg/m^3** respectively, while for **$PM_{2.5}$** Varies between **19.2µg/m^3**and **26.9µg/m3.**As far as the gaseous pollutants SO_2&NO2, are concerned, the prescribed limits under NAAQ Standards for residential and rural areas has never surpassed at any station. The **minimum** and **maximum concentrations of SO_2** were found to be **9.2µg/m^3** and **15.2µg/m^3** respectively. The **minimum** and **maximum concentrations of NO_2** were found to be **11.1µg/m^3** and **21.0µg/m^3**respectively.The prescribed limits of SO_2 and NO_2 are 80 µg/m^3 residential and rural areas has never surpassed at any monitoring station. ***The standards of Ambient Air Quality in India are available online at*** ***http://cpcb.nic.in/National_Ambient_Air_Quality_Standards.php***

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

- **pH** varies from to 6.84 to 7.20 to 7.56
- **Total Hardness** varies from 305 to 679 mg/L.
- **Total Dissolved Solids** varies from 327 to 836 mg/L.

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

- **pH** varies from to 7.32 to 7.69
- **Total Dissolved Solids** varies from 108 to 189 mg/L.
- **BOD** varies from 1.8 to 2.0 mg/L.
- **COD** varies from 8.6 to 12.4 mg/L.

A review of the above chemical analysis reveals that there is some variation in chemical composition of water tapped from different sources but the ground water from all sources remains suitable for drinking purposes as all the constituents are within the limits prescribed for drinking water standards promulgated by Indian Standards (IS: 10500). It can be observed that the surface water quality does not indicate any industrial pollution.

The analysis Interpretation show that soil is basic in nature as pH value ranges from **5.60 to 8.40** with organic matter **0.72 % to 1.54 %.** The concentration of Nitrogen, Phosphorus and Potassium has been found to be in good amount in the soil samples. Soil texture is Silt Loam to Silty Clay Loam.

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 ($\mu g/m^3$)	Incremental GLCs ($\mu g/m^3$)	Resultant Concentration ($\mu g/m^3$)	Limit (Industrial, Residential, Rural and other area) ($\mu g/m^3$)
1.	Excavation+Loading+Transportation	65.0	0.01201	65.01201	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

The proposed green belt in the lease area is to be developed taking into consideration the availability of area as the efficiency of green belt in pollution control mainly depends on tree species, its width, distance from pollution sources, side of the habitat from working place and tree height. The proposed green belt has been designed to control PM10, gaseous pollutants, noise, surface run off and soil erosion etc. While considering the above aspects due care will be taken for selecting the suitable characteristics plant species such as fast growing, locally suitable plant species, resistant to specific pollutant and those which would maintain the regional ecological balance, soil and hydrological conditions.

Table- Details of Greenbelt sapling during 1st Five years

PLANTATION EXPENDITURE ALONG WITH FENCING IN THE 7.5 M SAFETY ZONE SHRI KULDEEP SAHU								
S. No.	ITEM	RATE (in Rs.)	QUANTITY (kg/days)	AMOUNT (in Rs.)				
				1st Year	2nd year (90% survival)	3rd year (90% survival)	4th Year (90% survival)	5th Year (90% survival)
1	Plants of local species ie. Neem, Karanj, Arjun, Kadam local species	Rs 50 per sapling	200 Plants	10000	1000	1000	1000	1000
2	Fencing around with chain link wire including cement pillar	Number of Pillar (Rs 100 per Pillar)	134	13400	-	-	-	-
		Rs. 200/ Mtr wire	670	134000	-	-	-	-
3	Labour charge	-	-	30000	-	-	-	-
4	Plantation dig (45cm x 45cm x 45cm) size	Rs 20 per dig	200 plants	4000	400	400	400	400
5	Manure (cow dung/	Rs 20/kg	50 kg	1000	100	100	100	100

	vermi compost) 250gm/plant							
6	Water Tank For Water sprinkling	Rs 300 /day	240 days	72000	72000	72000	72000	72000
7	Gardner (Maintenance)	Rs 3000/month @ 12 month		36,000	36,000	36,000	36,000	36,000
8	Insecticide Miscellaneous	-	-	10,000	1000	1000	1000	1000
9	Miscellaneous for board & others	-	-	5,000	-	-	-	-
	Total			**3,15,400**	**1,10,500**	**1,10,500**	**1,10,500**	**1,10,500**

PLANTATION EXPENDITURE ALONG WITH FENCING IN THE 7.5 M SAFETY ZONE SHRI KOMAN LAL SAHU								
S. No.	**ITEM**	**RATE (in Rs.)**	**QUANTITY (kg/days)**	AMOUNT (in Rs.)				
				1st Year	**2nd year (90% survival)**	**3rd year (90% survival)**	**4th Year (90% survival)**	**5th Year (90% survival)**
1	Plants of local species ie. Neem, Karanj, Arjun, Kadam local species	Rs 50 per sapling	200 Plants	10000	1000	1000	1000	1000
2	Fencing around with chain link wire including cement pillar	Number of Pillar (Rs 100 per Pillar)	72	7200	-	-	-	-
		Rs. 200/ Mtr wire	360	72000	-	-	-	-
3	Labour charge	-	-	30000	-	-	-	-
4	Plantation dig (45cm x 45cm x 45cm) size	Rs 20 per dig	200 plants	4000	400	400	400	400
5	Manure (cow dung/ vermi compost) 250gm/plant	Rs 20/kg	50 kg	1000	100	100	100	100
6	Water Tank For Water sprinkling	Rs 300 /day	240 days	72000	72000	72000	72000	72000
7	Gardner (Maintenance)	Rs 3000/month @ 12 month		36,000	36,000	36,000	36,000	36,000
8	Insecticide Miscellaneous	-	-	10,000	1000	1000	1000	1000
9	Miscellaneous for board & others	-	-	5,000	-	-	-	-
	Total			**2,47,200**	**1,10,500**	**1,10,500**	**1,10,500**	**1,10,500**

PLANTATION EXPENDITURE ALONG WITH FENCING IN THE 7.5 M SAFETY ZONE SHRI NARENDRA SURYAVANSHI								
S. No.	**ITEM**	**RATE (in Rs.)**	**QUANTITY (kg/days)**	AMOUNT (in Rs.)				
				1st Year	**2nd year (90% survival)**	**3rd year (90% survival)**	**4th Year (90% survival)**	**5th Year (90% survival)**

1	Plants of local species ie. Neem, Karanj, Arjun, Kadam local species	Rs 50 per sapling	700 Plants	35000	3500	3500	3500	3500
2	Fencing around with chain link wire including cement pillar	Number of Pillar (Rs 100 per Pillar)	60	6000	-	-	-	-
		Rs. 200/ Mtr wire	300	60000	-	-	-	-
3	Labour charge	-	-	105000	-	-	-	-
4	Plantation dig (45cm x 45cm x 45cm) size	Rs 20 per dig	700 plants	14000	1400	1400	1400	1400
5	Manure (cow dung/ vermi compost) 250gm/plant	Rs 20/kg	175 kg	3500	350	350	350	350
6	Water Tank For Water sprinkling	Rs 500 /day	240 days	120000	120000	120000	120000	120000
7	Gardner (Maintenance)	Rs 3000/month @ 12 month		36,000	36,000	36,000	36,000	36,000
8	Insecticide Miscellaneous	-	-	20,000	2000	2000	2000	2000
9	Miscellaneous for board & others	-	-	10,000	-	-	-	-
	Total			**4,09,500**	**1,63,250**	**1,63,250**	**1,63,250**	**1,63,250**

PLANTATION EXPENDITURE ALONG WITH FENCING IN THE 7.5 M SAFETY ZONE SHRI KULDEEP SAHU								
S. No.	**ITEM**	**RATE (in Rs.)**	**QUANTITY (kg/days)**	AMOUNT (in Rs.)				
				1st Year	**2nd year (90% survival)**	**3rd year (90% survival)**	**4th Year (90% survival)**	**5th Year (90% survival)**
1	Plants of local species ie. Neem, Karanj, Arjun, Kadam local species	Rs 50 per sapling	1000 Plants	50000	5000	5000	5000	5000
2	Fencing around with chain link wire including cement pillar	Number of Pillar (Rs 100 per Pillar)	107	10700	-	-	-	-
		Rs. 200/ Mtr wire	533	106600	-	-	-	-
3	Labour charge	-	-	105000	-	-	-	-
4	Plantation dig (45cm x 45cm x 45cm) size	Rs 20 per dig	1000 plants	20000	2000	2000	2000	2000
5	Manure (cow dung/ vermi compost) 250gm/plant	Rs 20/kg	250 kg	5000	500	500	500	500
6	Water Tank For Water sprinkling	Rs 500 /day	240 days	120000	120000	120000	120000	120000
7	Gardner (Maintenance)	Rs 3000/month @ 12 month		36,000	36,000	36,000	36,000	36,000

8	Insecticide Miscellaneous	-	-	20,000	2000	2000	2000	2000
9	Miscellaneous for board & others	-	-	10,000	-	-	-	-
	Total			**5,28,300**	**1,65,500**	**1,65,500**	**1,65,500**	**1,65,500**

PLANTATION EXPENDITURE ALONG WITH FENCING IN THE 7.5 M SAFETY ZONE SHRI NEERAJ SURYAVANSHI

S. No.	ITEM	RATE (in Rs.)	QUANTITY (kg/days)	AMOUNT (in Rs.)				
				1st Year	2nd year (90% survival)	3rd year (90% survival)	4th Year (90% survival)	5th Year (90% survival)
1	Plants of local species ie. Neem, Karanj, Arjun, Kadam local species	Rs 50 per sapling	408 Plants	20400	2040	2040	2040	2040
2	Fencing around with chain link wire including cement pillar	Number of Pillar (Rs 100 per Pillar)	58	5800	-	-	-	-
		Rs. 200/ Mtr wire	290	58000	-	-	-	-
3	Labour charge	-	-	61200	-	-	-	-
4	Plantation dig (45cm x 45cm x 45cm) size	Rs 20 per dig	408 plants	8160	816	816	816	816
5	Manure (cow dung/ vermi compost) 250gm/plant	Rs 20/kg	102 kg	2040	204	204	204	204
6	Water Tank For Water sprinkling	Rs 500 /day	240 days	120000	120000	120000	120000	120000
7	Gardner (Maintenance)	Rs 3000/month @ 12 month		36,000	36,000	36,000	36,000	36,000
8	Insecticide Miscellaneous	-	-	20,000	2000	2000	2000	2000
9	Miscellaneous for board & others	-	-	10,000	-	-	-	-
	Total			**3,41,600**	**1,61,060**	**1,61,060**	**1,61,060**	**1,61,060**

PLANTATION EXPENDITURE ALONG WITH FENCING IN THE 7.5 M SAFETY ZONE SHRI LALCHAND AGRAWAL

S. No.	ITEM	RATE (in Rs.)	QUANTITY (kg/days)	AMOUNT (in Rs.)				
				1st Year	2nd year (90% survival)	3rd year (90% survival)	4th Year (90% survival)	5th Year (90% survival)
1	Plants of local species ie. Neem, Karanj, Arjun, Kadam local species	Rs 50 per sapling	200 Plants	10000	1000	1000	1000	1000
2	Fencing around with chain link wire including cement pillar	Number of Pillar (Rs 100 per Pillar)	61	6100	-	-	-	-
		Rs. 200/ Mtr wire	203	40600	-	-	-	-

3	Labour charge	-	-	30000	-	-	-	-
4	Plantation dig (45cm x 45cm x 45cm) size	Rs 20 per dig	200 plants	4000	400	400	400	400
5	Manure (cow dung/ vermi compost) 250gm/plant	Rs 20/kg	50 kg	1000	100	100	100	100
6	Water Tank For Water sprinkling	Rs 300 /day	240 days	72000	72000	72000	72000	72000
7	Gardner (Maintenance)	Rs 3000/month @ 12 month		36,000	36,000	36,000	36,000	36,000
8	Insecticide Miscellaneous	-	-	10,000	1000	1000	1000	1000
9	Miscellaneous for board & others	-	-	5,000	-	-	-	-
	Total			**2,14,700**	**1,10,500**	**1,10,500**	**1,10,500**	**1,10,500**

4.5 OTHER BENEFIT

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 4,03,0 00/-for CER activities for 1st year cost and five year cost is Rs. 10,60,000/- . Plantation of 700 No's of Treed under Pavitra Van Area Yojna. Details of CER activities proposed by project proponent are given here.

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

PLANTATION EXPENDITURE ALONG WITH FENCING IN THE PAVITRA VAN AREA IN GOVT. LAND								
S. No.	**ITEM**	**RATE (in Rs.)**	**QUANTITY (kg/days)**	AMOUNT (in Rs.)				
				1st Year	**2nd year (90% survival)**	**3rd year (90% trees)**	**4th Year (90% trees)**	**5th Year (90% trees)**
1	Plants of local species ie. Neem, Aam, Bel, Kadam, Jamun, Aamla, Bargad, Peepal, etc.	700 (Rs 50 per sapling)	700 Plants	35000	3500	3500	3500	3500
2	Fencing around with chain link wire including cement pillar	Rs. 200/ Mtr wire	225mtr	45000	-	-	-	-
		Number of Pillar (Rs 100 per Pillar)	45 Pillars	4500	-	-	-	-
3	Labour charge	-	-	105000	-	-	-	-
4	Plantation dig (45cm x 45cm x 45cm) size	Rs 20 per dig	700 Plants	14000	1400	1400	1400	1400
5	Manure (cow dung / vermi compost) 250gm/plant	Rs 20 /kg	175kg	3500	350	350	350	350
6	Water Tank For Water sprinkling	Rs 500 /day	240 days	120000	120000	120000	120000	120000
7	Gardner (Maintenance)	Rs 3000/month @ 12 month		36,000	36,000	36,000	36,000	36,000
8	Insecticide Powder	-		30,000	3000	3000	3000	3000
9	Miscellaneous for Board	-		10,000	-	-	-	-

	Total			**4,03,000**	**1,64,250**	**1,64,250**	**1,64,250**	**1,64,250**

4.6 Solid and Hazardous Waste Generation and Management

No solid waste will be generated.

Budgets for Common Environmental Management Plan for Cluster

Table Budgets for Common Environmental Management Plan for Cluster

PLANTATION EXPENDITURE ALONG WITH TREE GUARD ALONG THE APPROACHED ROAD								
S no.	ITEM	RATE	QUANTITY	AMOUNT 1st Year (Rs.)	2nd year (in Rs)	3rd year (in Rs)	4th year (in Rs)	5th year (in Rs)
Total length of along the approached rod 7.2 km = 7200 m , 2 sides = 7200 +7200 = Total 14400 m Number of Plants = 14400/5 m gap = 4800 trees								
1	Plants of local species ie. Neem, Aam, bargad , peepal,	50 rs per sapling	4800	2,40,000	480 plant (90% survival)= 24000	480 plant (90% survival)= 24000	480 plant (90% survival)= 24000	480 plant (90% survival)= 24000
2	Tree Guard	300/tree guard		14,40,000	-	-	-	-
3	Labour charge			720000	-	-	-	-
4	Plantation dig (45cm x 45cm x 45cm) size	20 rs per dig	4800	96,000	480 x 20 = 9600	480 x 20 = 9600	480 x 20 = 9600	480 x 20 = 9600
5	Manure (cow dung / vermi compost) 250gm/plant	20rs /kg	1200 kg	24000	120 kg = 2400 Rs	120 kg = 2400 Rs	120 kg = 2400 Rs	120 kg = 2400 Rs
6	Water sprinkling cost (Dust suppression)	500rs /day	3 tanker	4,50,000	4,50,000	4,50,000	4,50,000	4,50,000
7	Gardner	3000/month @12 month	3 person =	1,08,000	1,08,000	1,08,000	1,08,000	1,08,000
8	Environment Monitoring (Quarterly)		-	5,25,000	5,25,000	5,25,000	5,25,000	5,25,000
9	Road maintenance 2.5 lack quarterly			10,00,000	10,00,000	10,00,000	10,00,000	10,00,000
10	Other Miscellaneous (Insecticides & Board)			50,000	50,000	50,000	50,000	50,000
	Total			40,05,000	21,69,000	21,69,000	21,69,000	21,69,000

Participation of Project proponent in Common EMP (Shri Kuldeep Sahu 1.61 Ha.)

PLANTATION EXPENDITURE WITH TREE GUARD ALONG THE APPROACHED ROAD FOR KULDEEP SAHU

S No.	ITEM	RATE	QUANTITY	AMOUNT 1st Year (Rs.)	2nd year (in Rs)	3rd year (in Rs)	4th year (in Rs)	5th year (in Rs)
	Total length of road 349m , 2 sides of road = 349+349= Total 698m Number of Plants = 698/3 m gap = 233 trees							
1	Plants of local species ie. Neem, Aam, bargad , peepal,	50 rs per sapling	233 Plants	11650	23 plant (90% survival) = 1150	23 plant (90% survival) = 1150	23 plant (90% survival) = 1150	23 plant (90% survival) = 1150
2	Tree Guard	400		39843	-	-	-	-
3	Labour charge		233 plants	34950	-	-	-	-
4	Plantation dig (45cm x 45cm x 45cm) size	20rs per dig	233	4660	23 x 20 = 460	23 x 20 = 460	23 x 20 = 460	23 x 20 = 460
5	Manure (cow dung / vermi compost) 250gm/plant	20rs /kg	58.25 kg	1165	5.75 kg = 115 Rs	5.75 kg = 115 Rs	5.75 kg = 115 Rs	5.75 kg = 115 Rs
6	Total			92268	1725	1725	1725	1725
7	Others (water sprinkling and Gardner road maintenance, Environment Monitoring miscellaneous Insecticides & Board)			103687	103687	103687	103687	103687
	Total amount paid			**1,95,955**	**1,05,412**	**1,05,412**	**1,05,412**	**1,05,412**

Participation of Project proponent in Common EMP (Shri Koman Lal Sahu)

PLANTATION EXPENDITURE WITH TREE GUARD ALONG THE APPROACHED ROAD FOR KOMAN LAL SAHU								
S No.	ITEM	RATE	QUANTITY	AMOUNT 1st Year (Rs.)	2nd year (in Rs)	3rd year (in Rs)	4th year (in Rs)	5th year (in Rs)
	Total length of road 106m , 2 sides of the road= 106+106= Total 212m Number of Plants = 212/3 m gap = 71 trees							
1	Plants of local species ie. Neem, Aam, bargad , peepal,	50 rs per sapling	71 Plants	3550	7 plant (90% survival) =350	7 plant (90% survival) =350	7 plant (90% survival) =350	7 plant (90% survival) =350
3	Tree Guard	400		28400	-	-	-	-
4	Labour charge		71 plants	10650	-	-	-	-
5	Plantation dig (45cm x 45cm x 45cm) size	20rs per dig	71	1420	7 x 20 = 140	7 x 20 = 140	7 x 20 = 140	7 x 20 = 140
6	Manure (cow dung / vermi compost) 250gm/plant	20rs /kg	17.75 kg	355	1.75 kg = 35 Rs	1.75 kg = 35 Rs	1.75 kg = 35 Rs	1.75 kg = 35 Rs
7	Total			44375	525	525	525	525

8	Others (water sprinkling and Gardner road maintenance, Environment Monitoring miscellaneous Insecticides & Board)			31557	31557	31557	31557	31557
	Total amount paid			**75,932**	**32,082**	**32,082**	**32,082**	**32,082**

Participation of Project proponent in Common EMP (Shri Kuldeep Sahu 1.49 Ha.)

PLANTATION EXPENDITURE WITH TREE GUARD ALONG THE APPROACHED ROAD FOR KULDEEP SAHU								
S No.	ITEM	RATE	QUANTITY	AMOUNT 1st Year (Rs.)	2nd year (in Rs)	3rd year (in Rs)	4th year (in Rs)	5th year (in Rs)
	Total length of road 349m , 2 sides of canal = 349+349= Total 698m Number of Plants = 498/3 m gap = 233 trees							
1	Plants of local species ie. Neem, Aam, bargad , peepal,	50 rs per sapling	233 Plants	11650	23 plant (90% survival) =1150	23 plant (90% survival) =1150	23 plant (90% survival) =1150	23 plant (90% survival) =1150
3	Tree Guard	400		93200	-	-	-	-
4	Labour charge		233 plants	34950	-	-	-	-
5	Plantation dig (45cm x 45cm x 45cm) size	20 rs per dig	233	4660	23 x 20 = 460	23 x 20 = 460	23 x 20 = 460	23 x 20 = 460
6	Manure (cow dung / vermi compost) 250gm/plant	20rs /kg	17.75 kg	355	1.75 kg = 35 Rs	1.75 kg = 35 Rs	1.75 kg = 35 Rs	1.75 kg = 35 Rs
7	Total			145625	1725	1725	1725	1725
8	Others (water sprinkling and Gardner road maintenance, Environment Monitoring miscellaneous Insecticides & Board)			95959	95959	95959	95959	95959
	Total amount paid			**2,41,584**	**97,684**	**97,684**	**97,684**	**97,684**

Participation of Project proponent in Common EMP (Shri Narendra Suryavanshi)

PLANTATION EXPENDITURE WITH TREE GUARD ALONG THE APPROACHED ROAD FOR NARENDRA SURYAVANSHI

S No.	ITEM	RATE	QUANTITY	AMOUNT 1st Year (Rs.)	2nd year (in Rs)	3rd year (in Rs)	4th year (in Rs)	5th year (in Rs)
	Total length of road 106m , 2 sides of the road =106+106= Total 212m Number of Plants = 212/3 m gap = 71 trees							
1	Plants of local species ie. Neem, Aam, bargad , peepal,	50 rs per sapling	71 Plants	3550	7 plant (90% survival) =350	7 plant (90% survival) =350	7 plant (90% survival) =350	7 plant (90% survival) =350
3	Tree Guard	400		28400	-	-	-	-
4	Labour charge		71 plants	10650	-	-	-	-
5	Plantation dig (45cm x 45cm x 45cm) size	20rs per dig	71	1420	7 x 20 = 140	7 x 20 = 140	7 x 20 = 140	7 x 20 = 140
6	Manure (cow dung / vermi compost) 250gm/plant	20rs /kg	17.75 kg	355	1.75 kg = 35 Rs	1.75 kg = 35 Rs	1.75 kg = 35 Rs	1.75 kg = 35 Rs
7	Total			44,375	525	525	525	525
8	Others (water sprinkling and Gardner road maintenance, Environment Monitoring miscellaneous Insecticides & Board)			28,981	29,823	29,823	29,823	29,823
	Total amount paid			**74,198**	**30,348**	**30,348**	**30,348**	**30,348**

Participation of Project proponent in Common EMP (Shri Neeraj Suryavanshi)

PLANTATION EXPENDITURE WITH TREE GUARD ALONG THE APPROACHED ROAD FOR NEERAJ SURYAVANSHI								
S No.	ITEM	RATE	QUANTITY	AMOUNT 1st Year (Rs.)	2nd year (in Rs)	3rd year (in Rs)	4th year (in Rs)	5th year (in Rs)
	Total length of road 54m , 2 sides of the road =54+54= Total 108 Number of Plants = 108/3 m gap = 36 trees							
1	Plants of local species ie. Neem, Aam, bargad , peepal,	50 rs per sapling	36 Plants	1800	4 plant (90% survival) =120	4 plant (90% survival) =120	4 plant (90% survival) =120	4 plant (90% survival) =120
3	Tree Guard	400		14400	-	-	-	-
4	Labour charge		4 plants	600	-	-	-	-
5	Plantation dig (45cm x 45cm x 45cm) size	20rs per dig	36	720	4 x 20 = 80	4 x 20 = 80	4 x 20 = 80	4 x 20 = 80
6	Manure (cow dung / vermi compost) 250gm/plant	20rs /kg	9 kg	180	1 kg = 20 Rs	1 kg = 20 Rs	1 kg = 20 Rs	1 kg = 20 Rs

7	Total			17700	220	220	220	220
8	Others (water sprinkling and Gardner road maintenance, Environment Monitoring miscellaneous Insecticides & Board)			199471	19471	19471	19471	19471
	Total amount paid			**37,170**	**19,691**	**19,691**	**19,691**	**19,691**

Participation of Project proponent in Common EMP (Shri Lalchand Agrawal)

PLANTATION EXPENDITURE WITH TREE GUARD ALONG THE APPROACHED ROAD FOR LALCHAND AGRAWAL								
S No.	ITEM	RATE	QUANTITY	AMOUNT 1st Year (Rs.)	2nd year (in Rs)	3rd year (in Rs)	4th year (in Rs)	5th year (in Rs)
	Total length of road 109m , 2 sides of the road =109+109= Total 218m Number of Plants = 218/3 m gap = 73 trees							
1	Plants of local species ie. Neem, Aam, bargad , peepal,	50 rs per sapling	73 Plants	3650	7 plant (90% survival) =350	7 plant (90% survival) =350	7 plant (90% survival) =350	7 plant (90% survival) =350
3	Tree Guard	400		29200	-	-	-	-
4	Labour charge		73 plants	10950	-	-	-	-
5	Plantation dig (45cm x 45cm x 45cm) size	20rs per dig	73	1460	7 x 20 = 140	7 x 20 = 140	7 x 20 = 140	7 x 20 = 140
6	Manure (cow dung / vermi compost) 250gm/plant	20rs /kg	18.25 kg	365	1.75 kg = 35 Rs	6.5 kg = 130 Rs	6.5 kg = 130 Rs	6.5 kg = 130 Rs
7	Total			45,625	525	525	525	525
8	Others (water sprinkling and Gardner road maintenance, Environment Monitoring miscellaneous Insecticides & Board)			29,823	29,823	29,823	29,823	29,823
	Total amount paid			**75,448**	**30,348**	**30,348**	**30,348**	**30,348**

It is proposed to undertake the need specific proposed CER activities in the surrounding areas of the mine. The all project proponent has proposed to be incurred budget of **2% of Project cost** 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