

ENVIRONMENTAL IMPACT ASSESSMENT REPORT & ENVIRONMENT MANAGEMENT PLAN of

M/s Singh Stone Mines (Dhaurabhata Dolomite Mine)

at

Village: Dhaurabhata, Tehsil: Bilha, Dist.: Bilaspur, State: Chhattisgarh

Area 4.049 ha at

Khasra No: - 873

Capacity: 1,20,000 Tons per annum

Proposal No. SIA/CG/MIN/433738/2023

Executive Summary- English

Applicant

**M/s SINGH STONE MINES
(Shri Raghuraj Singh)**



Contact: 8826287364, 9555548342
GSTIN-09AATFP5994M1ZY
PAN- AATFP5994M



P & M Solution



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SUMMARY AND CONCLUSION

INTRODUCTION

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

ENVIRONMENTAL CLEARANCE

The proposed project is categorized under 1 (a) (<50 hectare of mining lease area) of Gazette Notification dated Sep 14th, 2006 and subsequent amendment made on 01.12.2009 & April 2011. As per the Gazette Notification, 2006. The proposed project is under “B” category no National Park, Biosphere reserve, Migratory routes of fauna and National Monument within 5 Km radius from the project site under 1(a) activity of EIA Notification.

TERMS OF REFERENCE

The State Level Expert Appraisal Committee for mining projects considered the project Based on the information contained in the documents submitted and the presentation made, the SEAC Committee has prescribed the Terms of Reference (TOR) vide letter no **2023/SEAC, C.G./MINE/2523 Nawa Raipur Atal Nagar Dated 01/12/2023.**

10.2 PROJECT DESCRIPTION

The mining lease is located in Village- Dhaurabhata, Tehsil- Belha, and District- Bilaspur (C.G.). Geo-geographically the ML area extends from Longitude 82°51'31.03112"E to 82°51'37.10485"E and Latitude N 21°57'30" to N22°0'00'.

The study area of the proposed project comprises of 10 km radius around the mining lease boundary, the map showing the core zone (ML area) and buffer zone (10 km radius from the lease boundary).

Table No: 10.1: Geographical Co-ordinates of the Mine lease area

Boundary Pillar	Latitude	Longitude
BP -1	N 21°58'1.31"	E 82°01'30.14"
BP-2	N 21°58'1.46"	E 82°01'27.59"
BP-3	N 21°58'0.91"	E 82°01'27.33"
BP-4	N 21°58'0.56"	E 82°01'26.77"
BP-5	N 21°57'59.23"	E 82°01'26.78"
BP-6	N 21°57'56.28"	E 82°01'27.94"

BP-7	N 21°57'55.26"	E 82°01'27.68"
BP-8	N 21°57'54.06"	E 82°01'28.01"
BP-9	N 21°57'51.26"	E 82°01'27.61"
BP-10	N 21°57'50.68"	E 82°01'27.20"
BP-11	N 21°57'50.18"	E 82°01'34.01"
BP-12	N 21°57'51.32"	E 82°01'32.34"
BP-13	N 21°57'51.61"	E 82°01'33.00"
BP-14	N 21°57'53.92"	E 82°01'33.46"
BP-15	N 21°57'58.48"	E 82°01'30.29"

The life of the mine is anticipated at 14 years based on the level of exploration and reserve established as per UNFC classification and expecting the market demand will remain at 1,20,000Tonnes per Annum.

**Location of
Mailing/ Correspondence Address of Project Proponent:**

M/s Singh Stone Mines Shri Raghuraj Singh
Adarsh Nagar
Bilaspur C.G.

Size of the Project

The total Mine Lease areas considered is 4.049ha. The proposed production is 1,20,000 MT.

Anticipated Life of Project and Cost of the Project

The life of the mine is anticipated at 14 years based on the level of exploration and reserve established as per UNFC classification and expecting the market demand will remain at 1,20,000MT.

LOCATION

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Table: Description of the Project

Project Name	M/s Singh Stone Mines Shri Raghuraj Singh
Location of the Project	Village: Dhaurabhata, Tehsil: Belha, Dist: Bilaspur C.G.

Mine Lease Area	4.049ha.	Khasra No.: 873
Latitude & Longitude	Latitude	Longitude
	N 21°57'30" to N 22°0'00"	E 82°00'00" to E 82°02'30"
Toposheet Number	64 K/1	
Type of Land	Private land	
Elevation	Highest Elevation: 260 m MSL Lowest Elevation: 252 m MSL	
Project Cost	1.20 Cr.	
Man Power & No. of Working days	24person /300 Working Days	
Total Geological Reserve	5291547.8Tonnes	
Total Mineable Reserve	293401.0Tonnes	
Targeted Production	Production from mine largely depends on market demand presently it is fixed at 12,000Tonnes per annum. as per present market scenario.	
Validity of Lease	50 years	
Seismic Zone	Seismic Zone II as per IS-1893 (Part-1)-2002	
End use of Product	The Dolomiteisrequiredinvariousconstructionactivities as decorative material landwill besold to nearby markets& as per the order to fulfill the requirement of local & other people.	
Nearest Town	Belha 7 km.	
Nearest Airport	Bilasa Devi Airport 10 km.	
Nearest Railway Station	Railway Station Belha7.1 km.	
Nearest Highway	National Highway 130–1.20 km.	
Nearest Water Bodies	Maniyar river 1.10 km.	
Historical Monuments (in 10 km Buffer)	None within the study Area.	
Status of Protected/ Other Areas (in 10 km Buffer)	None within the study Area.	
Nearest Dispensary & Govt. Hospital	Dhaurabhata at 0.20 km	

MINING AND MINING METHODS

Dolomite stonemining will be done at the proposed site. Mining operations are to be carried out by open cast semi mechanized method by manual means i.e. with the help of small machinery and by the manual means. Mining will be carried out in the form of benches. The overburden removal from benches will be done by drilling method with blasting involved along

with deployment of small excavator and

dumpers. Mining operation is proposed in this small area for further 10 year plan. Drilling of Dolomite stone boulders will be carried out by using wagon drill. For transporting waste to the respective dumping sites, tippers and Hydraulic Tractor will be used.

Process details of the Mine

S. No.	Particulars	Details
1.	Mine Lease Area	4.049ha
2.	Method of mining	Opencast Fully mechanized mine
	Geological Reserve	52,91,547.8 tonnes
3.	Mineable Reserve	29,49,986.9 tonnes
4.	Average Production	1,20,000 tonnes
6.	Bench Height	3m (min)
7.	Slope Angle	45°
8.	Average working days	300
9.	Anticipated Life of mine	14 years

Drilling: Drilling operation will be done using Compressed Air Operated Down Hole (DTH) drill having wet drilling operation. Drilling is not required in overburden benches, if found anywhere, and drilling in ore benches is done with a series of holes measuring 2.50 m and 3.0 m with a depth of 5.0 m. Typically staggered patterns are used to sequence drilling. Blasting.

Blasting:

The Blasting operation in this mine is on the large scale as the average production is of the tune of 1,20,000 tonnes/annum.

S.no	Particulars
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**PROJECT: M/s SINGH STONE MINES (DHAURABHATA DOLOMITE MINE), AREA: 4.049 ha,
VILLAGE: DHAURABHATA, Prop: SHRI RAGHURAJ SINGH**

A)	DrillParameters	
1	HoleDiameter	32mm
2	HoleDepth(Av.)	1.5m
3	HoleBurden(Av.)	0.75m
4	HoleSpacing(Av.)	1.0m
B)	BlastingParameters	
1	CartridgeExplosive	25mmDiameter,125gm
2	TotalChargePerHole	500gm
3	Lengthof ExplosiveColumn	1.0meter
4	Stemming	0.5
5	Stemming Material	Drill Cuttings
6	Inter Row delay	25ms Through cord relay
7	Initiation In Hole	Through Ordinary Detonator Via Detonating Cord
8	No of Holes in blast	25-50 In single blast
9	Tonnage/ Hole	3.0 Tonne
10	Explosive Charge In One Hole	25-50 in single blast
11	Powder Factor	6.0t/kg
12	Year Consumption of Explosive	20000.0Kg

Production Plans for First 5 Years:

TheProposed Production ofDolomite stonein next 5 years:

Year	BlockYear	Area	Bench Heightin Mtr	Volume	Bulk Density	Excavation inTonne
		(inm ³)		(inm ³)		
1 th Year		7400	6.00	44400	2.72	120000
2 th Year		7400	6.00	44400	2.72	120000
3 th Year		7400	6.00	44400	2.72	120000
4 th Year		7400	6.00	44400	2.72	120000
5 th Year		7400	6.00	44400	2.72	120000
6 th Year	2021-22	7400	6.00	44400	2.72	120000
7 th Year	2022-23	7400	6.00	44400	2.72	120000
8 th Year		7400	6.00	44400	2.72	120000
9 th Year	2024-25	7400	6.00	44400	2.72	120000
10 th Year	2025-26	7400	6.00	44400	2.72	120000

Systematic working will be done by formation of benches as per M.M.R. 1961. All applicable rules of MMR 1961, Mines Act-1952, MCR-1960 and MCDR-1988 will be followed for safe, scientific & systematic working to follow the principles of safety & conservation of human health & mineral

Disposal of Waste

Nature of waste, its rate of yearly generation and proposals for disposal of waste: The mine waste is in the form of following: -

- (1) Top soil:** -Only top soil will be removed from the lease area. Total 13000 cum top soil will be generated from the lease which will be spread in 7.5m radius along the lease boundary for plantation.

- (2) OB and Mine waste:** -The waste generated as top soil will be used for plantation purpose at safety zone.

Method and manner of disposal of waste: Top soil excavated from the height of max. 1 m. Soil will be dumped at safety barriers around the lease area & adjacent land.

Use of Mineral

Dolomite Stone is used in steel and metallurgy unit as a flux

General Features

i). Surface Drainage Pattern

In the Study area of 10 km radius, Maniyari River (Distance at 1.10 km).

ii). Vehicular Traffic Density

The QL area can be approached from National Highway 130 which is at a distance of 1.20km. The Nearest Railway Station is Belha Railway Station about 7.1 km. The Nearest Airport is Bilasadevi Airport at a distance of 10km.

The mode of transport of mineral and waste will be dumpers or trucks within the QL area. The mineral transportation to the destination industry outside the mining lease area will be by road.

iii). Beneficiation/Processing

No processing of mineral will be done in the mine. Only simple sizing and sorting will be done.

iv). Township

There is no scope of earmarking any land for township; local workers will be employed.

v). Power, Water Supply and other Infrastructure requirements

a. Power

The mine will be worked by Semi-Mechanized method. No power will be required. Only for site office power will be obtained from solar energy. Transportation will be done through dumpers or trucks or tipper operating on diesel. No storage for diesel is proposed.

b. Infrastructure and Basic Amenities

Basic amenities like rest room shelter/tents, first aid facility, temporary office and water for drinking and portable bio-toilets will be provided during operational phase.

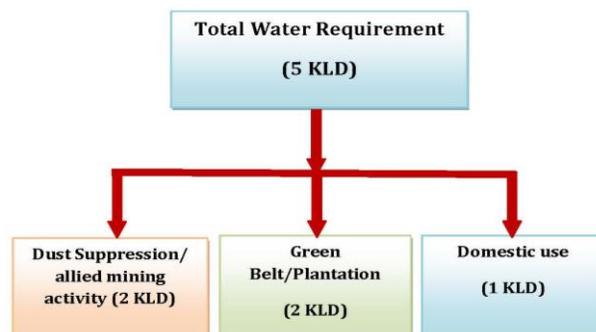
vi) Water Supply

The water required is mainly for dust suppression, green belt development, drinking and other domestic purpose during mining operations. The total requirement will be 5.0 KLD. Water required during operation phase will be procured from bore well in the lease area and sump.

Daily water requirement

Activity	Water requirement, KLD	Source
Dust suppression /allied mining activity	2	Mine sump and bore well
Green Belt/Plantation	2	
Domestic	1	
Total	5	

Water Balance Chart



MANPOWER REQUIREMENT

About 24 persons will be getting direct and indirect employment in this mine. The man power will be mostly skilled.

Manpower requirement

Mine manager	1
Mine supervisor	2
Blaster	3
Skilled Workers	8
Unskilled Worker	8
Mechanic	2
Total	24

ANALYSIS OF ALTERNATIVES

Mining is a site specific activity and mine is located in the Non forest Private Revenue land of the lease area. In the proposed project, opencast semi mechanized mining will be carried out. For that, no other methodology is going to be changed, depending upon the geological set up, strata of the rock and its structural behavior. The stripping ratio is also low.

DESCRIPTION OF ENVIRONMENT

This section contains the description of baseline studies of the 10 km radius of the area surrounding the Mine. The data collected has been used to understand the existing environment scenario around the proposed mining project against which the potential impacts of the project can be assessed.

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

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

(a) Land Use: The land-use is divided into agriculture land, settlement, and river and forest area as shown in the map. The area is fertile and dominated by the proportion of agriculture land.

Land Use Pattern of the Study Area (within 10 km Buffer)

Land use Type	Area (Ha)
Open Land	700.87
Stony Quarry	90.5
Settlement	1600.5
Water Bodies	275.30
Agriculture Land	29739.48
TOTAL	32406.65

There is no National Park, Biosphere reserve, Migratory routes of fauna and National Monument within 10km periphery of the lease area as per secondary data available. There is no habitation within lease area.

Resultsof the Soil Analysis.

The analysis results show that soil is basic in nature as pH value ranges from 7.04 to 7.86 showing the saline property of soil. High electrical conductivity (350 to 444 μ S/cm) is observed in the analysis report showing soil electrical behavior and dissolved solids in soil. The presence of Nitrogen content varies from 0.065 to 0.077 %. The concentration of Nitrogen, Phosphorus & Potassium are found low value in the soil samples. pH and EC values vary greatly and are affected by several environmental factors including, climate, local biota (plants and animals), bedrock and surficial geology, as well as human impacts are shown in the analysis report.

Low values of EC indicate relatively dilute waters, such as distilled water or glacial melt water and low deposition of TDS.

(b) WATER ENVIRONMENT

The results of Ground water samples are collected at six locations in the Pre monsoon season as discussed above for organoleptic & physical parameters, general parameters, toxic and biological parameters. The analysis results at the six ground water locations and two surface water locations are given below:

The analysis results indicate that pH of the groundwater is in range of 7.35 – 7.43. The TDS were found to be in the range of 431-452 mg/l. Total Hardness is in range of 315-316 mg/l. The analysis results indicate that pH of the surface water to be in range of 7.15 – 7.67. The TDS were found to be in the range of 423-476 mg/l. Total Hardness is in range of 170.42-181.25 mg/l. Other parameters like chloride and sulphate are observed within the

prescribed limits. The necessary treatment required to minimize the impact is mentioned in Environment Management Plan and cost is born by the Project Proponent.

(c) AMBIENT AIR QUALITY

The Ambient Air Quality Monitoring reveals that of 10 monitoring stations the minimum concentrations of PM_{2.5} are 30.16µg/m³ at AQ7 (Silent Zone) and maximum 40.28 µg/m³ at AQ8 (Max GLC& Transport Convergence zone).The results of PM₁₀ reveal that the minimum concentration of 50.21µg/m³ at AQ4 (Silent Zone) while maximum concentration of 65.47µg/m³ is found at AQ8 (Max GLC& Transport Convergence zone). These values for PM₁₀ and PM_{2.5}are within prescribed CPCB limit of 100 µg/m³ and 60 µg/m³ respectively for residential and rural areas at all stations.

(d) NOISE ENVIRONMENT

The values of noise observed in some of the areas are primarily owing to vehicular traffic and other anthropogenic activities. Noise monitoring results reveal that the maximum & minimum noise levels at day time were recorded in the range of 58.12 dB(A) at NQ8(Commercial Zone) and 37.21 dB (A) at NQ7 (Silent zone) and maximum & minimum noise levels at night time were recorded in the range of 42.32 dB(A) at NQ8(Commercial zone) and 31.10 dB(A) at NQ7(Silent zone) in downwind direction respectively.

(e) BIOLOGICAL ENVIRONMENT

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

(f) SOCIO- ECONOMIC

Population Composition

According to 2011 Population Census the study area has a total population of 97,765. of this 50.63percent are male and the remaining 49.36 percent are female. Further 20 percent of the total population belongs to 0-6 age group. About 55.90 percent of them are male and the remaining 44.09 percent are female.

Sex Ratio

The overall sex ratio in the study area has been worked out to 974 females per 1000 males, which is greater than the national average of 940 females per 1000 males. The highest sex ratio recorded in the study area is 979 females per thousands of males. Sex ratio of Children belonging to 0-6 age group has been worked out to 788 females per 1000 males.

Density of Population

The overall density of population in the study area has been worked out to 410 persons per sq. Kilometre. This is more than the density of population for the state, which stands at 236 persons per sq. Kilometre, according to census 2011.

Households

There are 21384 households in the study area and the average household size is four.

Social Structure

In the study area the total number of persons belonging to Scheduled Caste community is 23755, which is 24.29 percent of the total population. The gender wise distribution of schedule caste population indicates male 50.81 percent and female 49.18 percent, registering a sex ratio of 967 females per one thousand males.

Further analysis of data reveals that in the study area, the total number of persons belonging to Scheduled Tribe community is 12376, which is 13 percent of the total population. This is nearly same as the total number of persons belonging to Scheduled caste community residing in the study area.

About 37.41 percent of the total population belongs to General category, which includes people belonging to 'Other Backward Castes'. In absolute number the population belongs to this category are 36,580 with 54 percent male and 46 percent female. The sex ratio of General category population has been worked out to 852 females per 1000 males.

The socio-economic development of poor and downtrodden scheduled caste and scheduled tribe people is a continuous process and the governments, both at the center and the states are constantly making efforts to improve the destiny of these people. Distribution of surplus land to the members of the above categories of people is an important step taken by the government for their economic empowerment. The State Governments have drawn up its own list of socially and educationally backward classes and implementing various developmental schemes for them. These schemes are mainly in the field of education and income generation. All the ongoing schemes are critically examined and modified periodically to cater to the needs of different groups amongst the above communities. The government has also started various schemes to improve the quality of life of the rural poor, especially for the scheduled castes and scheduled tribes by making special provisions for them. 'SampornmaGrameenRozgarYojana' (SGRY) is one such programme, which was launched to safeguard the interest of the weaker sections and women by providing them wage employment. The 'Swarnjayanti Gram SwarozgarYojana' (SGSY), another rural development scheme aims at bringing poor families above the poverty line by providing them with income generating assets through a mixture of credit and subsidy. The SGSY has also made an explicit provision that 50 per cent of the Swarozgaris assisted should be from Scheduled caste and Scheduled Tribe communities.

Over the decades the Scheduled caste and scheduled tribe people are making rapid progress both in economic and social sphere. Today they are no more untouchables. The literate Schedule Caste and Scheduled tribe people are engaged in trade, commerce & industry, private & government services including police and armed forces.

Literates and Literacy Rate

All persons aged seven years and above, who can both read and write with understanding in any language including Braille are considered as literate. The total numbers of literate persons in the study area are 28008, which is 29 percent of the total population. Of the total number of literate persons 48 percent are male and the remaining 52 percent are female.

The overall literacy rate in the study area has been worked out to 29 percent. The gender wise distribution of literacy rate reveals that 18.28 percent of the literate persons are male and 11.12 percent are female. This creates a gender gap of 7.16 percent.

ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

1 Impact on Ambient Air Quality

The mining is proposed to be carried out by opencast other than fully mechanized method. The air borne particulate matter generated by ore and handling operations as well as transportation is the main air pollutant. The emissions of Sulphur dioxide (SO₂), Oxides of Nitrogen (NO_x) contributed by vehicles plying on haul roads are marginal. Prediction of impacts on air environment has been carried out taking into consideration proposed production and net increase in emissions.

Mitigation Measures

1. Water sprinkling will be done on the haul roads twice in a day.
2. The dust generated during the process will be minimized by water spray at the working faces before and after the activity.
3. Plantation will be carried out on approach roads and in Lease boundary.
4. Planning transportation routes of mined material so as to reach the nearest paved roads by shortest route. (minimize transportation over unpaved road);
5. Personal Protection Equipments (PPE) like dust masks, ear plugs etc. will be provided to mine workers.
6. Rock breaker will be used for breaking over size boulders in order to reduce dust and noise generation, which otherwise would be generated due to secondary blasting.
7. Speed limit will be enforced to reduce airborne fugitive dust from vehicular traffic.
8. Deploying PUC certified vehicles to reduce their noise emission.
9. Haul road shall be covered with gravels
10. Spillage from the trucks will be prevented by covering tarpaulin over the trucks.
11. Ambient Air Quality Monitoring will be conducted on regularly basis to assess the quality of ambient air.
12. Proper maintenance of machines improves combustion process & makes reduction

in the pollution.

13. Good maintenance and monitoring of fuel and oil will not allow significant addition in the gaseous emission.

.2 NOISE ENVIRONMENT

Noise generated at the mine is due to mechanized mining operations and truck transportation activities. The noise generated by the mining activity dissipates within the mine. There is no major impact of the mining activity on the nearby villages. However, pronounced effect of above noise levels is felt only near the active working area.

The impact of noise on the villages is negligible as the villages are far located from the mine workings. Since there is no involvement of major machinery, the impact of noise levels will be minimal.

S.No.	Impact Prediction	Mitigation Measures
1	Noise Impact due to mining activities.	The noise levels from all the sources are periodical and restricted to particular operation.
2	Noise impact due to vehicular movement.	a) Proper maintenance, oiling and greasing of machines at regular intervals will be done to reduce the generation of noise. b) Plantation along the sides of approach roads, around office building and mine area will be done to minimize the propagation of noise. c) Personal Protective Equipments (PPE) like earmuffs/earplugs will be provided to all operators and employees working near mining machineries or at higher noise zone. d) Periodical noise level monitoring will be done

.3 BIOLOGICAL ENVIRONMENT

S.No.	Impact Predicted	Suggestive measure
1	Disturbance of free movement/living of wild fauna	<ul style="list-style-type: none"> • Care will be taken that noise produced during vehicles movement for carrying OB and ore materials are within the permissible noise level. • Care will be taken that no hunting of animals (birds) carried out by labours. • If wild animals are noticed crossing the core zone, it will not be disturbed at all. Labours will not be allowed to discards food, plastic etc., which can attract animals near the core site. • Only low polluting vehicle will be allowed for carrying ore materials. All vehicles allowed in the project site area will

		<p>have to provide pollution under control certificate at the end of three months</p> <ul style="list-style-type: none"> • Noise level will be within permissible limit (silent zone-50dB during day time) as per noise pollution (regulation and control), rules, 2000, CPCB norms
2	Harvesting of flora	<ul style="list-style-type: none"> • No tree cutting, chopping, lumbering, uprooting of shrubs and herbs should be allowed • Collections of economically important plants will be fully restricted

.4 LAND ENVIRONMENT

S. No.	Impact Prediction	Mitigation Measures
1	Change in the Topography of the Land / Land Degradation	The proposed mining activity is carried out in hilly region and waste land After removal of ore body, a undulating portion will be created. All the broken area will be reclaimed by systematic backfilling and rehabilitated by afforestation so that landscape of the area is improved.
2	Solid waste generation	About 10% mineral wastes will be generated. Top Soil will backfilled in the mined out areas on which plantation will be raised.
3	Change in Drainage Pattern	Water flow / course will not be obstructed and natural drains or nallahs will not be disturbed.Run-off from mine and mineral stack will be prevented to avoid being discharged to surroundings, particularly to agricultural land.Garland drains and, catchpits has been constructed to prevent run off affecting the surrounding agricultural land. Green belt has been developed in boundary.
4	Impact on the Agricultural Practice at nearby area due to dust generation	Agriculture activities are practiced nearby areas may impacted because of dust generation but mitigative measures such as regular water sprinkling on active areas for example haul roads, excavation sites will be strictly followed so that impact is minimized.

.5 WATER ENVIRONMENT

S. No.	Impact Prediction	Mitigation Measures
1	Effect on the Ground Water Table	Max Elevation of the ML area is 267mAMSL Ultimate depth of mine is up to 266mAMSL. Ground Water table is 25m to 30mAMSL. The mining activity will not intersect with the

		ground water table.
2	Wash off from the dumps	No dumping has been proposed.
3	Soil Erosion	Reclamation of the mined out area will be done with plantation to avoid the soil erosion
4	Waste Water generation/ Discharge	Portable Bio-toilets will be used; hence no sewage / liquid effluent will be generated and contamination is also not expected due to percolation.
5	Siltation in nearby agriculture field	Garland drains have been constructed on the sloping side barrier of the ML area. The garland drain has been routed through settling tank to remove suspended solids from flowing into storm water.

.5 ADDITIONAL STUDIES

DISASTER MANAGEMENT PLAN

In order to avoid any danger in the mine site at the end of life of mine a disaster management cell headed by local authority District Collector will be constituted. Police department health authorities, including doctor, ambulances and so on will have a vital part to play following a disaster along with the mine management, and they will be an integral part of the disaster management plan.

The disaster management plan is aimed to ensure safety of human life and property and protection of environment Following are the objective of the disaster management plan.

- (i) First Aid to injure.
- (ii) Rescue operation and provision of adequate medical facilities to the injured.
- (iii) Safety of the human life in the buffer zone if needed.
- (iv) Protecting and minimizing damage to property and the environment.
- (v) Initially restrict and ultimately bring the incident under control.
- (vi) Identify any dead.
- (vii) Inform to the administration, DGMS and statutory persons as per Rules.

6 PROJECT BENEFITS AND COSTS EVALUATION

The project will improve the physical infrastructure, social infrastructure like improvement of road conditions water supply during dry season, drainage, educational institutions and improved environmental conditions, etc. The project also provides direct employment to 50 persons and indirect employment to another 40 persons. It increases economic activities, better living standard, educational facility, health facility and infrastructural development. The project will contribute to district mineral fund which will directly provide aid to the local authority to fund the development projects. The management will provide free saplings of fruit bearing and other trees, etc. to local during rain for plantation.

This will increase the consciousness in workers and near-by villagers for greenery. Fruittrees can contribute towards their financial gains.

The CSR activities are increasingly being taken up by the project proponent not only as fulfilling of mandatory provisions but also for the formation or enhancement of brand image. Besides the above, CSR is seen more as a responsibility towards society rather than a business promotion activity.

Year wise allocation of funds for the above activities proposed to be taken up by the project proponent is provided in the table below:

Tentative allocation of funds for the various activities proposed to be taken up by the project proponent under CSR program

S. No	Activities	Tentative allocation of fund in Thousands					
		Year 1	Year 2	Year 3	Year 4	Year 5	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Health awareness and camps for local community	2500 0	25000	25000	2500 0	25000	25000
2	Financial Assistance for Construction of separate toilets for boys and girls in schools	4000 0	40000	40000	4000 0	40000	40000
3	Water supply in dry season	1500 0	15000	15000	1500 0	15000	15000
4	Green Belt Development in Buffer Zone	2000 0	20000	20000	2000 0	20000	20000
Total		1 Lacs	1 Lacs	1 Lacs	1 Lacs	1 Lacs	1 Lacs

All the activities listed above are for community development as a whole and not for individual person or a family. Each development initiative will be implemented in close collaboration with the village Panchayat. The Project proponent may avail the services of a NGO for the implementation of the above programme, if felt needed.

Budget for Environmental Protection

Particulars	Capital Cost	Recurring Cost/ year in Rs.
Environmental Protection		
Dust Suppression & Pollution Control	50,000	10,000
Tarpaulin and cover for stack of ore	50,000	10,000
Environmental Monitoring	80,000	15,000
Green Belt	70,000	15,000
Total	2,50,000	50,000

Budget for Occupational Health

Particulars	Capital Cost (Rs.)	Recurring Cost (Rs.)
For routine checkup	--	1,00,000
Infrastructure &PPE's	50,000	50,000

Budget for Water, Shelter and Sanitation for Mine Worker

Scheme	Capital Cost (In Rs)	Recurring Cost (In Rs)/year
Drinking water facility	50,000	20,000
Rest shelter	50,000	20,000
Sanitation (Urinal and Toilet)	1,00,000	30,000
Total	2,00,000	70,000

**7 IMPORTANT ASPECTS OF THE ENVIRONMENTAL MANAGEMENT PLAN
STAGE-WISE PLANTATION, & POST MINING LAND USE**

The species of Neem, Pipal, Karanj, Munga, Ber, Bel, Mango, Dalbergiasissoo, Gulmohar, Amla, Kachnar, Gamhar, Khamhar, Jamun, Mahua, Kadam etc. will be planted etc. will be planted every year. Barbed wire fencing will be done to protect the plants.

The proposed land use at the end of fifth year and at the end of mine life is given in table below:

Break-Up of Land Utilization Pattern (Area in ha)

S.no	Present Land Use	Occupied Area (Ha)
1	Area under Pites	3.0358
2	Area Under Dumps	0.6780
3	Area Under Roads	0.2000
4	Area under Crusher	-
5	Virgin Area	0.1352

.8 Important Aspects of the Environmental Monitoring Programme

The monitoring of the environment parameters will be out sourced and carried by the lab of SPCB or a lab approved by MoEF/NABL.

9 DISCLOSURE OF CONSULTANTS ENGAGED

P & M Solution is an environment consulting and research organization is accredited by NABET in sectors 1a.

CONCLUSION

As discussed, it is safe to say that the proposed facilities are not likely to cause any significant impact to the ecology of the area, as adequate preventive measures will be adopted to keep the various pollutants within the permissible limits.