DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT
&
ENVIRONMENT MANAGEMENT PLAN
of

PROJECT: AKALSARA DOLOMITE QUARRY (LOW GRADE)
APPLIED AREA- 1.884 HA, VILLAGE AKALSRA, DISTRICT-SAKTI (C.G.)
APPLICANT: RACHIT AGRAWAL

Executive Summary – English

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

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EXECUTIVE SUMMARY

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 during its 268th meeting dated 16thJanuary 2016. 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. **1727/SEAC,C.G./MINE/2334 Nawa Raipur Atal Nagar, Dated 30/10/2023**

PROJECT DESCRIPTION

The mining lease is located in village of Akalsara, Tehsil- Jaijaipur, District- Sakti(C.G.) Geographically the ML area extends from Longitude - 82° 51'37.10485"E to 82° 51'35.83174"E Latitude - 21° 55'12.39666"N to 21° 55'12.71097"N

POINTS ID	GEOGRAPHICAL COORDINATES (WGS 84 DATUM)		UTM COORDINATES (ZONE 44 N)	
	LONGITUDE	LATITUDE	EASTING (X)	NORTHING (Y)
A01	82° 51'37.10485"E	21° 55'12.39666"N	692154.3360	2425149.1440
A02	82° 51'36.58666"E	21° 55'10.86356"N	692140.0360	2425101.8090
A03	82° 51'36.64454"E	21° 55'09.56142"N	692142.1820	2425061.7780
A04	82° 51'36.52062"E	21° 55'08.65207"N	692138.9650	2425033.7660
A05	82° 51'35.01887"E	21° 55'08.64745"N	692095.8670	2425033.1010
A06	82° 51'34.94265"E	21° 55'07.52555"N	692094.0980	2424998.5680
A07	82° 51'35.32533"E	21° 55'07.49553"N	692105.0920	2424997.7780
A08	82° 51'35.32941"E	21° 55'06.85147"N	692105.4490	2424977.9690
A09	82° 51'33.79145"E	21° 55'07.11184"N	692061.2130	2424985.4430
A10	82° 51'32.54241"E	21° 55'07.28598"N	692025.3010	2424990.3650
A11	82° 51'32.46784"E	21° 55'07.53058"N	692023.0700	2424997.8620
A12	82° 51'31.03112"E	21° 55'07.85328"N	691981.7160	2425007.2880
A13	82° 51'31.16128"E	21° 55'09.01895"N	691985.0170	2425043.1860
A14	82° 51'32.09913"E	21° 55'09.10565"N	692011.9010	2425046.1790
A15	82° 51'32.37415"E	21° 55'10.70425"N	692019.1980	2425095.4440
A16	82° 51'32.79060"E	21° 55'12.89545"N	692030.3330	2425162.9840
A17	82° 51'34.45665"E	21° 55'12.61660"N	692078.2520	2425154.9870
A18	82° 51'34.15234"E	21°55'11.32021"N	692070.7358	2425115.1324
A19	82° 51'35.37315"E	21°55'11.05241"N	692105.6424	2425107.0839
A20	82° 51'35.83174"E	21° 55'12.71097"N	692117.6810	2425158.3680

The life of the mine is anticipated at 30 years based on the level of exploration and reserve established as per UNFC classification and expecting the market demand will remain at 80,000 TPA.

|Address

The lessee **Mr. Rachit Agrawal .**

Mailing/ Correspondence Address of Project Proponent:

Mr. Rachit Agrawal

Village : Akalsara

P.O. & Tehsil- Jaijaipur , Dist: Sakti (C.G.)

495689

Brief Description of Project

Nature of the Project:

Opencast mechanized method of mining is proposed in the lease area.

Size of the Project

The total Mine Lease areas considered is 1.884ha. The proposed production is 80,000 Tones/Year.

Anticipated Life of Mine and Cost of the Project

The life of the mine is anticipated at 30 years based on the level of exploration and reserve established as per UNFC classification and expecting the market demand will remain at 80,000Tones/Year. Total cost of the project is approx 124 Lacs.

Location of the Project

The mining lease is located in village of Akalsara, Tehsil- Jaijaipur, District- Sakti(C.G.) Geographically the ML area extends from Longitude - 82° 51'37.10485"E to 82° 51'35.83174"E Latitude - 21° 55'12.39666"N to 21° 55'12.71097"N

Details of Project

Project Name	Akalsara Dolomite Quarry	
Location of the Project	Village: Akalsara, Tehsil: Jaijaipur, Distric: Sakti(C.G.)	
Mine Lease Area	1.884 hac	Khasra No: 869/2, 870/2, 871, 872/1, 872/2, 876, 893/2, 894
Latitude & Longitude	**Latitude**	**Longitude**
	82° 51'37.10485"E to 82° 51'35.83174"E	- 21° 55'12.39666"N to 21° 55'12.71097"N"
Toposheet Number	64 K/13	
Type of Land	Non forest Private land	
Elevation	Highest Elevation: 243 m AMSL Lowest Elevation : 241 m AMSL	
Project Cost	1.1 cr	
Man Power & No. of Working days	11 person /240 Working Days	
Total Geological Reserve	1476585.302 T	
Total Mineable Reserve	872189.78T	
Recoverable Reserve	828580.29 Tonnes.	

Targeted Production	Production from mine largely depends on market demand presently it is fixed at 80,000T. as per present market scenario.
Validity of Lease	30 years
Seismic Zone	Seismic Zone II as per IS-1893 (Part-1)-2002
End use of Product	In Chhattisgarh dolomite is mostly used in iron and steel industries. Most of the dolomite is used in Steel plant.
Nearest Town	Sakti 16 km in NE Direction.
Nearest Airport	Swami Vivekananda Airport approx 145 km in NW direction.
Nearest Railway Station	Railway Station Naya Baradwar approx at 11 km in NW Direction.
Nearest Highway	National Highway 200 at 4.5 km
Nearest Water Bodies	Hasdeo River at 15 km and Son River at 6.8 km West Direction, and Borai River approx 6.7 km East Direction.
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	Agrawal City Hospital, at Baradwar 11 km in NW Direction.

Mining

Opencast Working

Opencast mechanized method of mining will be adopted in the lease area. The excavation will be carried out usually by semi mechanized way with the use of jack hammer ,excavator, dumper, etc. and loaded into tractor/truck/tipper. The Dolomite will be suitably blended to be supplied in market. Rest is inner burden.

Method of Mining

Opencast mechanized method will be adopted. It has already mentioned that, the complete mining operation will be mechanised in nature. Some drilling and blasting will be required for removal of mineral body.

However, if, mine owner wants to increase the production in the lease area than in that condition some mechanical excavator might be used for removal and loading of top soil and the dolomite.

When production increased, machines will be deployed according to requirement of work and Mining plan will be modified accordingly.

Drilling: - Drilling machines:

The holes will be drilled by compressed air operated by 65 mm dia wagon drill with compressor/DTH or Jack hemmer (32mm dia) and spacing between two holes will be 2.0 m, the depth of each hole will be 3.0m. Total requirement of drilled equipment is as under:

S.	P	R
1	Maximum proposed annual production	80000 T
2	Production per day (65000/300 day=217)	Say 267
3	Output per hole = Spacing x Burden x depth x B.D. (2.0 x	2 5.
4	Nos. of holes per day (267/25.6 = 10.4)	11 nos.
5	Drill meterage required (11 x 3.0 =33)	3
6	Drilling capacity of a wagon/DTH drill in a hour in	7
7	Hours per shift	8 hours
8	Availability	8
9	Utilization	8
1	Effective hours per shift 8 x 0.85 x0.85	5.78
1 1	Working capacity of jack hammer drill per day 5.78 x 7 m = 40.4	40.4 m
1	Therefore no. of wagon/DTH drills required	Say 1

Type	Nos.	Dia of hole	Size/ capacity	Make	Motive power	H.P.
Drifter Wagon Drill	2	65/90 mm	100	Atlas Copco	Air Compressed	-
Jack hemmer	1	32mm	32mm	Atlas Copco	Air Compressed	-

Blasting:

1) Broad blasting parameters-

Blasting will be carried out by contractual agency in accordance with the Explosive Act and MMR, 1961.

Drilling is proposed to be done by wagon/DTH (65/90 mm dia). The drilling parameter of the wagon is as under:

Output per blast hole will be (Spacing x Burden x Depth of hole x	2.0 x 1.5 x 3.0 x 2.85	2 5. 6
Maximum production in a year (av.)		80000 T/yr
Production in a day will be (Av. 300 working days)	80000/300	Say 267 T
No of holes to be drilled per day	267/25.6=10.4	Say 11 nos.

Meterage to be drilled per day	11 x 3.0 (depth)	33 m
Charge per hole	700-900gm approx.	Approx. 800gm
Max. charge per day	800 x 33 = 26400 gm	26.4 kg
Powder Factor	267/26.4 = 10.1	10.1 T/kg

The blasting will be

carried out by 80%

special gelatin. OR

If the cartridges are used for blasting 65/90 mm diahole jack hammer /DTH, the specification of cartridge

for blasting will have the following parameters:

Diameter of cartridge	60 mm
Length of the cartridge	420 mm
Weight of the cartridge	2.2kg

During the blasting, all Rules, Regulations and Precautionary measures will be taken. The blasting area will be covered by red flags at appropriate safety distance and operators and workers will be removed to safety distance and blasting will be conducted by a qualified blaster. The blasting will be done in twice/thrice in a week early morning or in the afternoon

Production Plans for First Five Years

Year	Area in m^2	Bench height in m.	Tentative ROM (T)	Production of Dolomite (T) (Rec.95%)	Intercalated Waste(T) (Mining losses 5%)	Upto RL In M.
(1)	(2)	(3)	(4)=(2)x(3)x2.8	(5)=(4)x0.95	(6)=(4)x0.05	(7)
1st year	13333.34	3	40000	38000	2000	241-238
2nd year	16666.67	3	50000	47500	2500	238-235
3rd year	20000.00	3	60000	57000	3000	235-232
4th year	23333.34	3	70000	66500	3500	232-229
5th year	26666.67	3	80000	76000	4000	229-226
Total			300000	285000	15000	

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.

Machinery to be deployed
List of Machine

S. NO.	LIST OF MACHINES	MAKE	MOTIVE POWER	PROPOSED
1	Hydraulic Excavator (Backhoe System) Tata Hitachi 200	TATA	Diesel	3
2	Dumpers-25 T Capacity	TATA	Diesel	4
3	Tractor-40hp & Water Tank	HINDUSTAN	Diesel	1
4	Tractor-40hp (Hindustan) Compressor (Atlas Copco)	HINDUSTAN AND ATLAS COPCO	-	1
5	Jack Hammer	ATLAS COPCO 32/65MM DIA.	Com. Air	1
6	Wagon Drill	ATLAS COPCO <100MM DIA.	Com. Air	2
7	Rock Breaker		Diesel	1
8	Pumps-5 Hp	CROMPTON	Diesel	1
9	Drill, Other & Spares	As Per Requirement		
10	Mining Safety Equipments As Safety Shous, Helmets, Hand Gloves, Leg Guard Etc.	As Per Requirement MMR 1961		
11	Mining Equipment Such As Crowbar, Pick-Axe, Spade, Chisel Etc.	As Required		

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: - Top soil and Lateritic soil will be removed from the lease area. Total alluvial top soil 6586.40 m^3 top soils will be generated from the area 5655 cum soil /OB will be Dumped on 1 m height in the Barrier Zone. And remaining Soil will be Dump in adjacent Land.

The top soil will be used as plantation.

(2) OB and Mine waste: - Nil

Method and manner of disposal of waste: Top soil and Lateritic soil excavation details are given bellow table:-

(a)	Year Wise Development Proposal				
Year	Area (m2)	Top soil CUM	OB/SB/IB in CUM	Intercalated Waste 5% of ROM (cum)	Total waste in CUM
(1)	(2)	(3)	(4)	(5)	(6)=(3)+(4)+(5)
1st year	9830.45 5295.57 part of 9830.45	6586.40 0	0 5030.79	701.75	12318.94
2nd year	4534.88 part of 9830.45	0	4308.13	877.19	5185.32
3rd year	0	0	0	1052.63	1052.63
4th year	0	0	0	1228.07	1228.07
5th year	0	0	0	1403.51	1403.51
Total	9830.45	6586.40	9338.92	5263.15	52244.4

Use of Mineral

The Dolomite is being sale to various part of the India for use in steel industries as flux

10.4 General Features

I) Surface Drainage Pattern

In the Study area of 10 km radius, Hasdeo River (Distance at 16 km)

ii). Vehicular Traffic Density

The lease area is about 11 km from Baradwar. The QL area can be approached from National Highway-200 which is at a distance of 11 km. the Nearest Railway Station Naya Baradwar approx at 11 km in NW Direction. The Nearest Airport is Swami Vivekanand Airport at a distance of 145 km.

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 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 operating on diesel. No storage for diesel is proposed.

b. Infrastructure and Basic Amenities

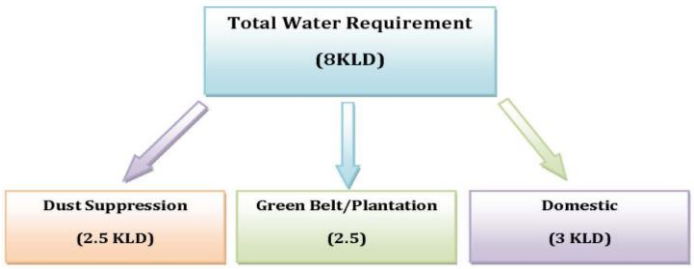
Basic amenities like rest room shelter/tents, first aid facility, temporary office and water for drinking and portable bio-toilets will be provided during operational phase.

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 8 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	2.5	Mine sump and bore well
Green Belt/Plantation	2.5	
Domestic	3	
Total	**8**	

Water Balance Chart



MANPOWER REQUIREMENT

About 21 persons will be getting direct and indirect employment in this mine. The man power will be mostly skilled and semiskilled.

Manpower requirement

S No.	Des	Qua	N
1	Mines Manager	Mines manager's Certification of	1
2	Mining Engineer / Geologist	Degree in Mining	1
3	Raising and other misc.	Skilled, semi-skilled &	8

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.

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.

(a) Results of Soil Analysis

Samples collected from identified locations indicate the soil is sandy type and the pH value ranging from 7.17 to 7.62, which shows that the soil is alkaline in nature. Potassium is found to be from 52.48 mg/kg to 60.20 mg/kg. The water holding capacity is found in between 28.45 % to 32.18 %.

(b) WATER ENVIRONMENT

Analysis of results of ground water reveals the following: -

- pH varies from 7.20 to 7.67.

The ground water from all sources remains suitable for drinking purposes as all the constituents are within the limits prescribed by drinking water standards promulgated by Indian Standards IS: 10500.

(c) AMBIENT AIR QUALITY

Ambient Air Quality Monitoring reveals that the minimum & maximum concentrations of PM10 for all the 8 AQ monitoring stations were found to be 57.59 $\mu g/m^3$ and 87.39 $\mu g/m^3$, respectively. The minimum & maximum concentrations of PM2.5 were found to be 23.03 $\mu g/m^3$ and 47.17 $\mu g/m^3$.

As far as the gaseous pollutants SO_2 and NOx are concerned, the prescribed CPCB limit of 80$\mu g/m^3$ for residential and rural areas has never surpassed at any station. The minimum & maximum concentrations of SO_2 were found to be **5.41** $\mu g/m^3$ & **16.91** $\mu g/m^3$ respectively. The minimum & maximum concentrations of NO_X were found to be **9.24** $\mu g/m^3$ & 24.9 $\mu g/m^3$.

(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 61.13 dB(A) (Industrial Zone) and 40.06 dB(A) and maximum & minimum noise levels at night time were recorded in the range of 51.65 dB(A) and 33.81 dB(A) 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

During the course of the study 12 social factors were identified that may influence the socio-economic life of the people in the study area. Except one all of them are positive impacts, which are expected to improve the quality of life of the local people. Beside the above the mining will bring revenue to the state government**.**

ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

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 (SO_2), 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.

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

BIOLOGICAL ENVIRONMENT

S. No.	Impact Predicted	Suggestive measure
1	Disturbance of free movement/living of wild fauna	• 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 have to provide pollution under control certificate at the end of three months • 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	• No tree cutting, chopping, lumbering, uprooting of shrubs and herbs should be allowed • Collections of economically important plants will be fully restricted

LAND ENVIRONMENT

S. No.	Impact Prediction	Mitigation Measures
1	Change in the Topography of the	The proposed mining activity is carried out in hilly region and waste land After removal of ore body, a undulating portion

	Land / Land Degradation	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, catch pits 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.

WATER ENVIRONMENT

S. No.	Impact Prediction	Mitigation Measures
1	Effect on the Ground Water Table	Max Elevation of the ML area is 250 m AMSL Ultimate depth of mine is up to 246 m AMSL. Ground Water table is 30m to 40m 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	A Garland drain has 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.

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 injured.

(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.

Budget for Environmental Protection

Particulars	Capital Cost	Recurring Cost/ year in Rs.
Environmental Protection		
Dust Suppression	**90,000**	**35,000**
Tarpaulin and cover for stack of fly ash	**70,000**	**20,000**
Environmental Monitoring	**60,000**	**32,000 (Air – 12,000 Water -10000 Soil and Noise- 10000)**
Green Belt along with chain link fencing in barrier zone	**5,13,352**	**1,15,348**
Total	**7,33,352**	**2,02,348**

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	30,000
Rest shelter	50,000	40,000
Sanitation (Urinal and Toilet)	1,00,000	30,000
Total	**2,00,000**	**1,00,000**

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

The species of Neem, Pipal, Karanj, Munga, Ber, Bel, Mango, Dalbergia sissoo, Gulmohar, Amla, Kachnar, Gamhar, Khamhar, Jamun, Mahua, and 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)

Articles		Pvt. Land (waste land)		
		Land use at Present in Ha.	Land use at the end of 5 years in Ha.	Land use at the end of C.P. in Ha.
A.	Lease Area	1.884	1.884	1.884
B. 1	Mining & allied Area under pits	0.000	0.983	1.337
2	Storage for top soil	0.000	0.440	0.440
3	Area for waste dump	0.000	0.183	0.000
4	Mineral storage	0.000	0.010	0.000

5	Infrastructure (workshop, administrative building etc.)	0.000	0.000	0.000
6	Roads	0.000	0.030	0.015
7	Railways	0.000	0.000	0.000
8	Tailing Pond	0.000	0.000	0.000
9	Effluent Treatment Plant	0.000	0.000	0.000
10	Mineral separation plant	0.000	0.000	0.000
11	Township area	0.000	0.000	0.000
12	Other to specify (Plantation)	0.000	0.44 on dump	0.44 on dump
13	Total Area (1 to 12)	0.000	1.646	1.792
14	Undisturbed area	1.884	0.238	0.092

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.

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.