

***PRE FEASIBILITY
REPORT***

[ASPERMOEF GUIDELINCE FORP.F.R.,CIRCULARDATED 30thDECEMBER 2010]

1. EXECUTIVE SUMMARY

Shri Ram Chandra Bansal is the applicant of the proposed project. The mining lease area is situated in Village- Mungwari, Taluka- Majhgawan, District- Satna, State – Madhya pradesh. The lease area is 4.95 ha of Govt. Land. Mining will be carried out by opencast other than fully mechanized method of mining. The mineral will be loaded mechanically on dumpers or trucks. About 42,612 TPA will be produced. Cost of the proposed project is Rs. 1 Crores.

1.1 SALIENT FEATURESOF THE PROJECT

Particulars	Details
Project Name	Mungwari Bauxite, Laterite, Ochre & White Clay Mine from Mines/Quarries at Village Mungwari, Tehsil- Majhgawan, District- Satna , State Madhya pradesh.
LOCATION	
Village	Mungwari
Taluka	Majhgawan
District	Satna
State	Madhya pradesh
Mining Lease Area &Type of Land	4.95 Ha & Govt. Land
Name of Mineral to be mined out	Bauxite, Laterite, Ochre & White Clay Mine
Latitude	24 ⁰ 53'40.5" to 24 ⁰ 53'53.3"North
Longitude	81 ⁰ 01'7.8" to 81 ⁰ 01'17.7"East
ToposheetNo.	63H/1
Mineable Reserve	340129 Tonnes
Capacity	42,612 TPA
Estimated Project Cost	1.0 Crores
DG Set	As per requirement
Highest and Lowest Elevation	406 m AMSL highest and 370 m AMSL lowest
Ultimate Depth of Mining	4 mt

Nearest Habitation/Town	Satna 37.88 Km SW
Nearest Airport	Khajuraho Airport 111.23 Km SW
Nearest Highway	SH -11 19.17 Km SW
Nearest Railway Station	Manikpur Railway Junction 20.11 Km NE
Nearest Dispensary & Govt. Hospital	Govt. Hospital 4.1 Km NW
Education Facility	Sashkiya Vidyalaya 8.8 Km SW
Water Demand and Supply	7.00 KLD ,Bore well and mine sump
Seismic zone	As per the 2002 Bureau of Indian Standards (BIS) map, Madhya Pradesh also falls in Zones II & III.

2.0 INTRODUCTION OF THE PROJECT/ BACKGROUND INFORMATION

2.1 IDENTIFICATION OF PROJECT AND PROJECT PROPONENT

MINE OWNER	ADDRESS
Shri Ram Chandra Bansal	P.O.- Jaitwara, District – Satna (M.P.) Pin Code - 485221 Phone No. – 07671-274272

- (i) The ML area was previously sanctioned under mining lease for 20 years period i.e. 17.07.1982 to 16.07.2002. The ML area has been renewed for 20 years period upto 16.07.2022. In accordance with, The Mines & Minerals (Development & Regulation) Amendment Act 2015 the lease period is deemed to be extended for period upto 16.07.2032. The Scheme of Mining has been approved by IBM.

2.2 BRIEF DESCRIPTION OF NATURE OF THE PROJECT

Opencast other than fully mechanized method of mining will be adopted in the lease area in future. All operation of mining such as development, winning of ore and loading will be carried out by mechanized means. No drilling and blasting will be carried out. Sorting & sizing of mineral will be carried out by manual means.

2.3 NEED FOR THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY OR REGION

The production of mineral will benefit to the State in the form of Royalty. Apart from this, the project will generate direct and indirect employment opportunities to the tune of about 75 persons from the nearby villages. Also, the mine management will conduct medical camps at regular intervals in the nearby villages and will help the nearby villages in providing infrastructure like school furniture, water tankers, etc. The lease will additionally pay to the district mineral foundation as per the rules.

2.4 DEMAND-SUPPLY GAP

The Bauxite is proposed to be sold to Aluminium plants. Laterite will be used in the cement industry while Ochre will be used for colour washing and paint industry. The white clay will be used for white washing and as filler in rubber industry. The staining power, brilliance and fineness of texture are the main properties by which an ochre is judged for its quality and sale value. It will be used in paint & rubber industry as well as for colour washing. White clay is suitable for white washing and rubber industry.

2.5 IMPORTS VS. INDIGENOUS PRODUCTION

Indigenous production of mineral will be used for infrastructure sector in our country. No export is envisaged of the mineral presently and in future also.

2.6 DOMESTIC/ EXPORT MARKETS

The Bauxite, Laterite, White Clay & Ochre has a good potential market in the country. No export is proposed.

2.7 EMPLOYMENT GENERATION (DIRECT AND INDIRECT)

DU TO THE PROJECT DIRECT EMPLOYMENT

The requirement of various technical and non-technical personnel is determined while adopting the following norms:-

1. The mine will be worked in a single shift in day light hours.
2. In estimating the requirement of competent person, mates, etc. due consideration has been given to the statutory provisions.

Man power requirement and its distribution.

The total manpower requirement in this project directly is **50** persons.

The man power proposed is as under:-

Mining Engineer & I st class mine manager	1
Mines foreman	1
Mining mate	1
Blaster	1
Operator	1
Dumper Driver	3
Helper	3
Vendor	1
Clerk	1
Supervisor	2
Security Guard	2
Peon	1
Operator	5
Labour	27
Total	50

3.0 PROJECT DESCRIPTION

3.1 TYPE OF PROJECT INCLUDING INTERLINKED AND INTERDEPENDENT PROJECTS, IF ANY.

The proposed project is not an interlinked project, it is independent project that involves extraction of Material (Bauxite, Laterite, White Clay & Ochre).

3.2 LOCATION (MAP SHOWING GENERAL LOCATION, SPECIFIC LOCATION AND PROJECT BOUNDARY & PROJECT SITE LAYOUT) WITH COORDINATES

The lease area of mine is situated near Village- Mungawari, Taluka- Mungawari, District- Satna, State - Madhya pradesh for an area of 4.95 ha. The geographical location of the mine is:-

Coordinates of Pillar –

Pillar No.	Latitude	Longitude	Pillar No.	Latitude	Longitude
1	24°53'43.3"	81°01'07.8"	2	24°53'41.7"	81°01'12.0"
3	24°53'40.5"	81°01'13.2"	4	24°53'41.0"	81°01'13.1"
5	24°53'43.6"	81°01'11.6"	6	24°53'45.6"	81°01'11.9"
7	24°53'46.9"	81°01'14.5"	8	24°53'48.2"	81°01'17.0"
9	24°53'52.3"	81°01'17.7"	10	24°53'52.9"	81°01'15.1"
11	24°53'53.3"	81°01'12.6"	12	24°53'52.9"	81°01'11.3"
13	24°53'49.0"	81°01'10.0"			

3.3 DETAILS OF ALTERNATE SITES CONSIDERED AND THE BASIS OF SELECTING THE PROPOSED SITE, PARTICULARLY THE ENVIRONMENTAL CONSIDERATIONS GONE INTO SHOULD BE HIGHLIGHTED

No alternate site was considered as the project is mineral specific. The mine lease area is situated in Sub Division Majhgawan, District Satna, State – Madhya Pradesh

3.4 SIZE OR MAGNITUDE OF OPERATION

3.4.1

Size

The entire project area is 4.95 hectares.

3.4.2

RESERVES

Mineral Resources :-

Measured Mineral Resource (331) –

(A) Bauxite/Laterite

Section Line	Sectional Area (sqm)	Influence (m)	Volume (m ³)	Measured Mineral Resource (331) in tones
	(A)	(B)	(C = A x B)	D = C x 2.3(BD) x 0.80 (Incidence)
B – B'	600	125	75000	138000
C – C'	790	72	56880	104659
D – D'	500	53	26500	48760
E – E'	440	81	35640	65577
				356996

(B) Ochre

Section Line	Sectional Area (sqm)	Influence (m)	Volume (m ³)	Measured Mineral Resource (331) in tones
	(A)	(B)	(C = A x B)	D = C x 2.0(BD) x 0.60 (Incidence)
B – B'	240	125	30000	36000
				36000

(C) White Clay

Section Line	Sectional Area (sqm)	Influence (m)	Volume (m ³)	Measured Mineral Resource (331) in tones
	(A)	(B)	(C = A x B)	D = C x 2.0(BD) x 0.70 (Incidence)
B – B'	70	125	8750	11375
C – C'	50	72	3600	4680
D – D'	50	53	2650	3445
				19500

Remaining Resources (Pre Feasibility Mineral Resource - 221)

The following are the Pre Feasibility Mineral Resource -

	Bauxite/Laterite
Deduction due to 7.5 m barrier as per M.M.R. 1961 = Perimeter along ML Barrier x average width x Av. Thickness of Mineral x B.D. x Incidence	1100m x 7.5 m x 4.0m x 2.3 x 0.80 = 60720 t.
Deduction due to slope stability:- = Perimeter along slope x Cross Section area of Mineral Zone x B.D. x Incidence	1055m x 6.0 sqm x 2.3 x 0.80 = 11647 t.
Pre Feasibility Mineral Resource (221)	72367 t.

Mineral reserve and Remaining Resources :-

Mineral reserve = Total mineral resource - Remaining resources

Probable Mineral reserve (121):-

Probable Mineral reserve (121) of Bauxite/Laterite = 3,56,996 t.- 72,367 t. = 2,84,629 t.
(Out of this 50% is Bauxite & 50% is Laterite in the whole ML area while the bauxite :
Laterite is 40:60 in north and 60:40 in south)

MINERAL RESERVE AS PER UNFC CLASSIFICATION:-

United Nations Frame- work Classification (UNFC)	UNFC code	Bauxite (t.)	Laterite (t.)	Ochre (t.)	White Clay (t.)	Grade
Proved Mineral Reserve	111	-		-	-	Bauxite is of metal grade. Laterite is of cement grade. Ochre & clay is of moderate grade.
Probable Mineral Reserve	121	142314	142315	36000	19500	
Feasibility mineral Resource	211	-	-	-	-	
Pre-Feasibility Mineral Resource	221	36183	36184	-	-	
Measured Mineral Resource	331	-	-	-	-	
Indicated Mineral Resource	332	-	-	-	-	
Inferred Mineral Resource	333	-	-	-	-	
Reconnaissance Mineral Resource	334	-	-	-	-	

The grade will be controlled by suitable blending from different faces of quarry. No blasting will be done.

Targeted Production = 42,612 TPA

3.5 PROJECT DESCRIPTION WITH PROCESS DETAILS (A SCHEMATIC DIAGRAM/FLOWCHART SHOWING THE PROJECT LAYOUT, COMPONENTS OF THE PROJECT ETC. SHOULD BE GIVEN

3.5.1 Method for developing and working the deposits

The mine will be carried out by open-cast other than fully mechanized method of mining. Only excavation and loading activities will be required as the mineral is loose and no drilling/blasting is needed.

3.5.2 Mining Process

Opencast other than fully mechanized method of mining will be adopted in the lease area in future. All operation of mining such as development, winning of ore and loading will be carried out by mechanized means. No drilling and blasting will be carried out. Sorting & sizing of mineral will be carried out by manual means.

The development in the over burden will be carried out in benches of height equal to 6.0m and width equal to 6.0 m to 15 m . Development in mineral bench will also be carried out in benches of height equal to 6.0 m and width equal to 6.0m to 15 m . The haul road is extended upto the working face at gradient of 1 in 16. No labour camp is proposed within the lease area. The transport of men is not applicable and they will come from nearby villages on their own. No tubs, haulage rope, conveyor or locomotive will be used. The OB and mineral will be excavated and loaded mechanically on dumpers.

3.6 RAW - MATERIAL REQUIRED ALONG WITH ESTIMATED QUANTITY, LIKELY SOURCE, MARKETING AREA OF FINAL PRODUCT/S, MODE OF TRANSPORT OF RAW - MATERIAL AND FINISHED PRODUCT

No raw material will be required in the proposed project. The operation involves the extraction of Mineral in its existing form and loaded into trucks/trolleys which will transport the material to the local market. The existing roads will be utilized for the transport of sand from mine site to market.

3.7 RESOURCE OPTIMIZATION/ RECYCLING AND REUSE ENVISAGED IN THE PROJECT, IF ANY, SHOULD BE BRIEFLY OUTLINED

Not envisaged.

3.7.1 Water

The water consumption at the mine is in the following areas

- Water sprinkling at mine pit areas and haulage roads.
- Plantation
- For domestic purpose
- Around 7.00 KLD water will be required under following heads:

Activity	Water requirement, KLD	Source
Dust suppression /allied mining activity	2.0	Mine sump and Bore well
Plantation	3.00	
Domestic	2.0	
Total	7.00	

3.7.2 Power

The mine will be worked by Other than fully mechanised method. Electrical power will be required only for site office and will be obtained from Solar energy. Transportation will be done through dumpers or trucks operating on diesel. No storage for diesel is proposed.

3.8 QUANTITY OF WASTES TO BE GENERATED (LIQUID AND SOLID) AND SCHEME FOR THEIR MANAGEMENT/ DISPOSAL

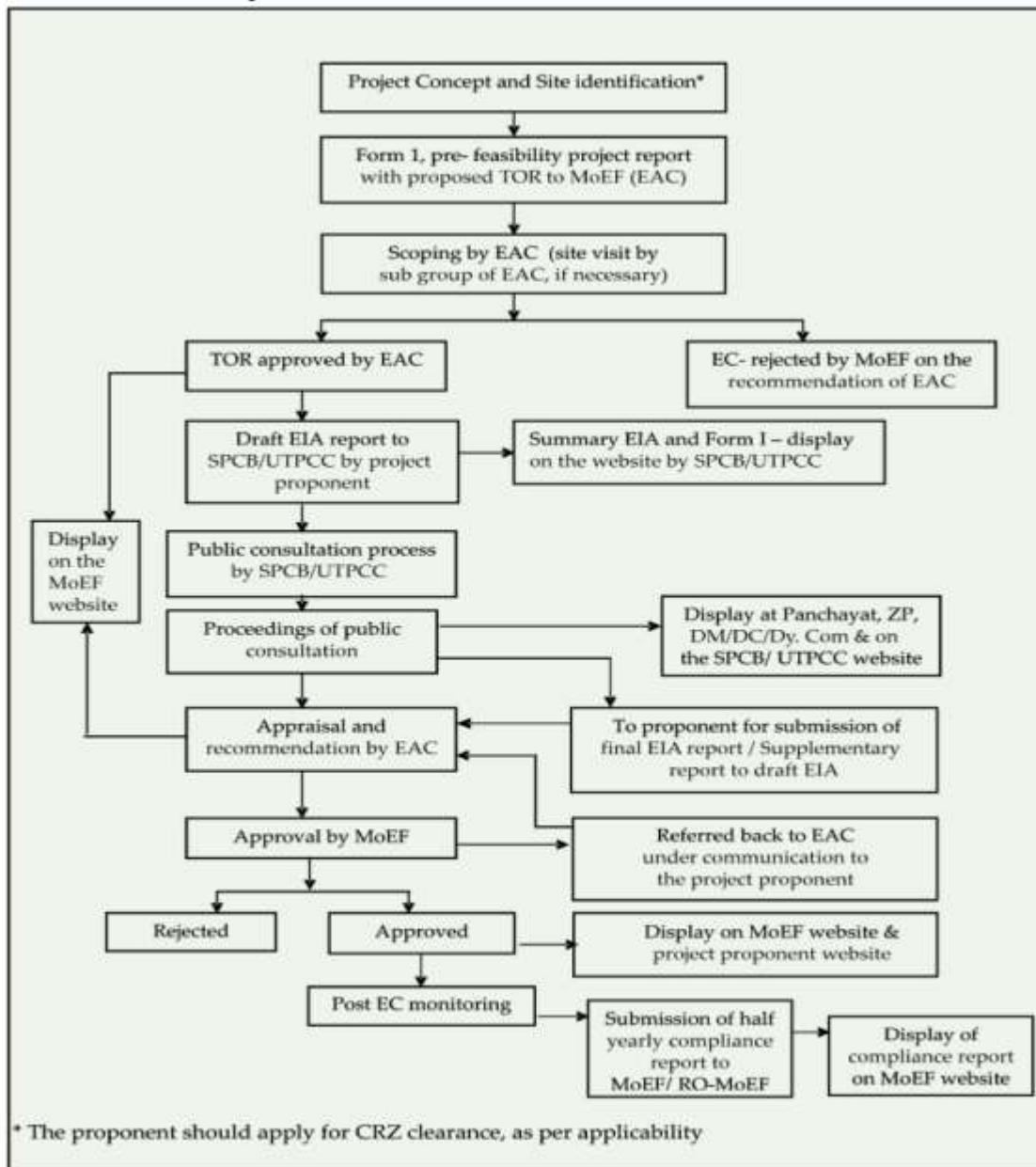
3.8.1 Solid Waste

About 1000 MT/month of overburden and mine waste will be generated from the mine. It will be temporarily stacked and then simultaneous backfilling and reclamation will be carried out in the mined out pits in the lease area. Plantation will be carried out on the backfilled area.

3.8.2 Liquid Effluent

Portable toilets will be used so that liquid effluent will not be generated.

3.9. Schematic representations of EIA



Adopted from EIA Guidance Manual- Mining of Minerals, 2010

4.0 SITE ANALYSIS

4.1 CONNECTIVITY

The lease area falls in Majhgawan Tehsil of Satna Distt. of Madhya Pradesh State. The lease area is about 37 kms from Satna. It can be approached via Jaitwara.

4.2 LANDFORM, LAND - USE AND LAND OWNERSHIP

4.2.1 Landform

The lease area is hilly waste land.

4.2.2 Land-use

Existing Land Use of the mine lease area

Sl. No.	Item	Type of Land – (in ha.)		
		Barren waste land	Any other type	Total
1.	(A) Lease area	4.95	-	4.95
2.	(B) Mining & allied activities			
	i. Pit	2.05	-	2.05
	ii. Dumps	0.50	-	0.50
	iii. Green Belt	0.45		0.45
	iv. Road	0.50		0.50

4.3 TOPOGRAPHY (ALONGWITH MAP)

The mining lease area is hilly having slope towards all direction. Highest elevation of the lease area is 406m R.L. and the lowest elevation is 370 m R.L. There is no river or any perennial surface water source within the core zone or nearby buffer zone.

4.3.1 GEOLOGY OF THE AREA

The lease area is situated in Satna-Rewa plateau. The plateau slopes down gently towards south and merges with the plains of Ganurgarh shale. A series of topographic highs in the form of detached mounds and ridges dot the plateau of Rewa quartzite, as also the plains of Ganurgarh shales. Ochre/clay & Bauxite/Laterite deposit of the lease area belong to Upper Rewa Sandstone in Rewa group of Vindhyan super group. The General succession of rocks is summarized as under: -

Regional Geological Succession is as below:

<u>Period/Sub Period</u>	<u>Age</u>	<u>Geological Formation</u>	<u>Associated Mineral Deposits</u>
Recent	1 M.Y.	Alluvium	Ground Water
Pleistocene	18 M.Y.	Laterite & Bauxite	Bauxite deposits of Rewa, Satna etc.
Cretaceous to Palaeocene	64 to 97 M.Y.	Deccan Trap Basalt, Bagh, Lametas	Gem varieties of Quartz, Road material, Limestone deposit of Dhar, Jhabua district.

		(Infra - trappean)	
Upper Carboniferous to lower Cretaceous	97 to 320 M.Y.	Gondwana Supergroup	Coal deposits of Betul, Sidhi, Shahdol and Chhindwara, Jabalpur, districts. Clay deposits of Katni, Shahdol district etc.
Proterozoic - III	570 to 900 M.Y.	Bhander Group Rewa Group	Limestone deposits of Damoh, Katni, Satna districts etc. Conglomeratic Diamond field of Panna district.
Proterozoic	900 to 1800 M.Y.	Kaimur Group Semri Group	Diamondiferous kimberlites of panna distt., limestone deposits of mandasaur, rewa, satna distt. Lead-zinc deposits of damoh distt.
Proterozoic I to II	-	Gwalior Group, Bijawar Group Chilpi Group	Rock Phosphate of Sagar distt. Dolomite deposit of Mandla district, Iron ore deposit of Jabalpur district (uneconomic) Minor occurrences of Mn ore.
Proterozoic - I	1600 to 2500 M.Y.	Sausar Group Aravalli Group	Manganese deposit of Balaghat and Chhindwara distt., Copper deposit of Balaghat. Phosphorite and Mn deposits of Jhabua distt.
Archaean to Proterozoic - I	-	Sakoli Group Bundelkhand granite	Pyrophyllite-Diaspore of Tikamgarh, Chhatarpur distt., Granite for cutting / polishing.
Archaean	Older than 2500 M.Y.	Amgaon Group peninsular gneisses, Older granites and Migmatites.	-

(Plz Refer..<http://geologyandmining.mp.gov.in/geology.htm>)

Local Geology: -

The surface area is covered by blanket of lateritic soil. The geological formations encountered in the area are as under :-

Age	Rock formations	
Recent	Lateritic soil/	0 to 0.5m
Sub-recent to Eocene	Laterite/Bauxite	3m to 8m
	OB/Sand	0.5m. to 6m.
	OB/Ochre	up to 6m.
	White clay	1m. to 1.5 m.
	Rewa quartzite	Continued

Laterite:- Laterite is mottled red or brown coloured scoriaceous rock with a vermicular structure near the surface, it is found as a capping over a large variety of rocks in areas subject to the tropical monsoonal and subtropical regime of climate. Desilication of preexisting sandstone is more possible explanation for Laterite formation. It is essentially a mixture of the hydrated of aluminium and Iron, partly soft and can be stressed easily but when it is exposed to the air it hardens quickly. Its bulk density is equal to 2.7. It has no well defined strike and dip.

Bauxite:- Bauxite is predominantly pinkish to creamy white in colour. It is characterised by oolitic, concretionary, vermicular, spongy and brecciated texture. The quality of Bauxite in the area is mainly metal grade. Its specific gravity is 2.6 to 3.5. It is usually an amorphous or clay like substance which is however, not plastic.

Ochre & Clay:-

Ochre is found below Laterite/Bauxite in 2 layers of 2.5m average thickness in north of mound above 394 mRL. It is residual product derived from sandstone as mentioned above. The mineral ochres are formed from the ferruginous sandstone of Rewa group. The origin is considered due to enrichment of ferric oxide in sandstone having leaching action by water. The insoluble constituents like silica are removed by the constant flow of water leaving behind the soluble iron oxide in form of ochre bed.

The hydrous iron oxide imparts yellow colour and the anhydrous iron oxide imparting red colour.

Clay is residual product derived from sandstone resulting due to chemical weathering of Shale-sandstone sequence. Leaching and concentration controlled by water table fluctuation on one hand and the inherent permeability of the parent rock on other hand, appears to be responsible for the formation of White Clay deposit in the lease area. The White Clay is horizontally bedded. The mineral has got no well defined strike and dip. The clay of the lease area has soapy feel, dull white in colour having bulk density of 2 and this is non plastic.

4.4 EXISTING LAND- USEPATTERN(AGRICULTURE,NON-AGRICULTURE, FOREST,WATER BODIES (INCLUDING AREA UNDER CRZ),SHORTEST DISTANCES FROM THE PERIPHERY OF THE PROJECT TO PERIPHERY OF THE FORESTS,NATIONALPARK,WILDLIFESANCTUARY,ECO-SENSITIVE AREAS, WATERBODIES(DISTANCEFROMTHEHFL OF THERIVER),CRZ. IN CASE OF NOTIFIED INDUSTRIAL AREA, A COPYOF THE GAZETTE NOTIFICATION SHOULD BE GIVEN.

4.4.1 land-use pattern of the lease area

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	LAND USE	At the End of 5th year	At the of Mine life
1	Total area excavated	3.15	4.125
2	Area mined out(out of 1)	1.0	4.125
3	Area fully reclaimed(Backfilled out of 2)	0.70	4.125
4	Area rehabilitated out of 3 by afforestation	Nil	4.125
5	Area rehabilitad by water harvesting	Nil	Nil
6	Total area under dumps	0.50	Nil
7	Area under active dumps	0.50	Nil
8	Area under mineral stack	Nil	Nil
9	Area under road	0.50	Nil
10	Area under Green Belt	0.825	0.825
11	Area under infrastructure	0.01	Nil
12	Drain & Bund	0.10	Nil

4.4.2 Power

The mine will be worked by Other than fully mechanised method. Electrical power will be required only for site office and will be obtained from Solar energy. Transportation will be done through dumpers or trucks operating on diesel. No storage for diesel is proposed.

4.6 SOILCLASSIFICATION

SOIL TYPE CATEGORIES AND DISTRICTS

S.NO	Type of soil	Area (in m. ha.)	% Area covered	No. of district	Name of Districts
1.	Shallow and Medium black soil	3.06	6.91%	3	Betul, Chhindwara and Seoni
2.	Deep medium black soil	16.21	36.53%	35	Narsinghpur, Hoshangabad, Harda, Shahdol, Umaria, Jabalpur, Katni, Sagar, Damoh, Vidisha, Raisen, Bhopal, Sehore, Rajgarh, Ujjain, Dewas, Shajapur, Mandsour, Neemuch, Ratlam, Jhabua, Aleerajpur, Dhar, Indore, Khargone, Barwani, Khandwa, Guna (Partily) & Sidhi (Partly), Anuppur, Ashoknagar, Burhanpur shivpuri (Partly) Datiya (Partly) Singrolee
3.	Alluvial Soil	3.35	7.57%	4	Gwalior, Morena, Sheopurkala, Bhind & Shivpuri (Partly)
4.	Mixed Red & Black soil	8.11	18.30%	8	Mandla, Dindori, Balaghat, Rewa, Satna, Panna, Chhatarplur, Tikamgarh, Shivpuri (Partly) Guna (Partly & sidhi (Partly)

4.7 CLIMATIC DATAFROM SECONDARY SOURCES

The year is more or less clearly divided into three seasons; namely the hot season extending roughly from middle February to middle June; the rainy season from middle June to September and the winter from November to middle February. Ther month of October witness the transition from the rainy to the cold weather.

Month	Average Temperature In centigrade			
	Mean	Maximum	Mean	Minimum

	Maximum		Minimum	
January	24.4	29.2	9.3	4.0
February	27.8	33.1	11.3	6.6
March	33.4	38.6	16.6	11.4
April	38.6	42.6	22.2	16.9
May	42.3	45.0	27.2	22.3
June	39.7	41.8	28.4	23.1
July	32	37.0	25.2	22.8
August	30.5	33.5	24.5	22.4
September	31.3	33.8	23.9	21.6
October	31.3	33.7	19.5	14.1
November	28.9	31.8	11.8	8.0
December	26.1	29.5	8.8	5.0

(Source : <http://satna.nic.in/geography.htm>)

5.0 PLANNING BRIEF

5.1 PLANNING CONCEPT (TYPE OF INDUSTRIES, FACILITIES, AND TRANSPORTATION ETC.) TOWN AND COUNTRY PLANNING/ DEVELOPMENT AUTHORITY CLASSIFICATION

Mining, open-cast other than fully mechanized mining method will be practiced. The targeted production of the Bauxite, Laterite, Ochre & white clay will be 42,612 TPA. Mineral will be transported by trucks to the nearest market for intermediate use in construction work.

5.2 POPULATION PROJECTION

The project will employ most of the workers from nearby villages. There will not be any increase in population due to the project. However, few people from other area may migrate in this area for business opportunities.

5.4 ASSESSMENT OF INFRASTRUCTURE DEMAND (PHYSICAL & SOCIAL)

The following facilities will be extended to the nearby villages by the mine management.

Proposed facilities:

- Provision of green belt along the mine lease boundary
- Direct Employment to 50 or required number of persons from nearby villages.
- Indirect employment opportunities to about 25 persons from the nearby villages.
- Arrangements for safe and healthy working conditions
- Provision of Drinking water to nearby villages through tankers in dry period.

- Medical facilities and Health check-up camps for the workers
- Conducting medical camps in nearby villages at regular interval.

5.5 AMENITIES/ FACILITIES

The requisite site facilities are proposed as follows:

- **Site - Office-** A site - office is provided for technical & clerical staff and keeping the records.
- **First - Aid -** First aid - facility is provided in the office for giving first -aid to the injured persons.
- **Water - Hut -** Water - hut is proposed for drinking water for employees. The water is proposed to be stored in water pitchers and tanks.
- **Rest - Shelter -** A rest - shelter is proposed for workers for lunch and taking rest during interval.
- **Lavatory-** Portable toilets will be used.

6.0 PROPOSED INFRASTRUCTURE

The lessee will be committed for social development structures like Government Schools and Health Centers.

6.1 INDUSTRIAL AREA (PROCESSING AREA)

Office and stores has been provided in the mine lease area. Specified first Aid box will be maintained at the site office and the rest shelter as per mines Act-1952. Additional facilities will be made as per the requirement.

6.2 RESIDENTIAL AREA (NON PROCESSING AREA)

There is no residential area in the mine lease. Only Site office and rest shelter will be provided.

6.3 GREEN BELT

It is proposed to plant trees along the mine lease boundary as well as on the backfilled area. Total area for plantation is 0.825 ha. The details of the proposed plantation are given in table below:

Table: Greenbelt Programme

Year	Saplings to be planted	Survival 80 %	Place of Plantation

I	200	160	The plantation will be carried out of native species in consultation with the forest Department.. Fencing will be done to protect the plants.
II	200	160	
III	200	160	
IV	200	160	
V	200	160	
Total	1000	800	

6.4 SOCIAL INFRASTRUCTURE

- Road facility (existing roads will be maintained regularly)
- Employment opportunity
- Medical camps
- Social awareness camps,
- Donations to schools
- Secondary employment opportunities
- Formation of self help groups for the women in nearby villages

6.5 CONNECTIVITY (TRAFFIC AND TRANSPORTATION ROAD/ RAIL/ METRO/ WATER WAYS ETC.)

The lease area falls in Majhgawan Tehsil of Satna Distt. of Madhya Pradesh State. The lease area is about 37 kms from Satna. The nearest railway station is Majhgawan and Manikpur.

6.6 DRINKING WATER MANAGEMENT (SOURCE & SUPPLY OF WATER)

Total water requirement is 7 KLD. Refer para 3.7.1

6.7 SEWERAGE SYSTEM

The domestic effluent from the site office and rest shelter will be discharged in septic tank and soak pit system.

6.8 INDUSTRIAL WASTE MANAGEMENT

There will not be any industrial waste generation. The only waste generated from the mine will be overburden.

6.9 SOLID WASTE MANAGEMENT

About 1000 MT/month of overburden and mine waste will be generated from the mine. It will be simultaneously backfilled and reclamation will be carried out in the mined out pits in the lease area. Plantation will be carried out on the backfilled area.

6.10 POWER REQUIREMENT & SUPPLY/ SOURCES.

The mine will be worked by Other than fully mechanised method. Electrical power will be required only for site office and will be obtained from Solar energy. Transportation will be done through dumpers or trucks operating on diesel. No storage for diesel is proposed.

7.0 REHABILITATION AND RESETTLEMENT (R&R) PLAN

There is no human settlement in the ML area. No R and R hence is proposed.

7.1 POLICY TO BE ADOPTED (CENTRAL/STATE) IN RESPECT OF THE PROJECT AFFECTED PERSONS INCLUDING HOME OUSTEES, LAND OUSTEES AND LANDLESS LABORERS (A BRIEF OUTLINE TO BE GIVEN)

There is no human settlement within the mine lease area. No human settlement will be disturbed due to the mining activity. Hence. No Rehabilitation and resettlement is proposed including home oustees, land oustees and landless laborers.

8.0 PROJECT SCHEDULE & COST ESTIMATES

8.1 LIKELY DATE OF START OF CONSTRUCTION AND LIKELY DATE OF COMPLETION (TIME SCHEDULE FOR THE PROJECT TO BE GIVEN)

The project will commence once environmental clearance and other necessary certificates are obtained from the respective departments.

8.2 ESTIMATED PROJECT COST ALONG WITH ANALYSIS IN TERMS OF ECONOMIC VIABILITY OF THE PROJECT

The estimated project cost will be Rs1 Crore.

Fund provision for EMP measures

Following provisions are proposed to be taken for improving, control and monitoring of environment protection measures.

Sr. No.	Particulars	Amount (in lacs)
1	Pollution monitoring – Air, Water, Noise	1.0
2	Pollution monitoring – Water sprinkling	0.4

3	Wire fencing at plantation sites	0.5
4	Plantation including maintenance	1.0
5	Haul road and other roads repair and maintenance	0.6
6	Pre-monsoon and post monsoon survey for sedimentation in the river bed	0.5
7	Misllaneous	1.0
	Total	5.0

The protection measures will be dynamic and subject to periodic review so that measures remain effective and appropriate.

9.0 ANALYSIS OF PROPOSAL (FINAL RECOMMENDATIONS)

9.1 FINANCIAL AND SOCIAL BENEFITS WITH SPECIAL EMPHASIS ON THE BENEFIT TO THE LOCAL PEOPLE INCLUDING TRIBAL POPULATION, IF ANY, IN THE AREA.

All workers will be subjected to medical examination as per Mines Rule 1955 both at times of appointment and at least once in five years. Medical camps will be organized for this activity. Insurance of all employees as per the rules will be provided.

The proposed mine will bring economical benefits to the state by the way of Royalty for mineral and to the local people by way of direct and secondary employment opportunities. The mine management will also help the nearby villages by providing aid to school, conducting medical and social awareness camps, helping in formation of self help groups, etc. especially keeping in view the tribal and economically backward population in the area. Thus the project will bring about socio-economic improvement of the area and will prove beneficial to the area.

Corporate Social Responsibility

As a corporate responsibility following measures along with budget provision is proposed for improving the conditions of persons in and around the project area:

Sr. No.	Description	Amount (in lacs)
1	Health check up camps	0.80
2	Surveillance programme of the workers	0.15
3	Insurance cover of workers	0.20
4	Assistance to local schools, scholarship to students	0.50
5	Sanitations and drinking water facilities	0.25
6	Vocational training to persons for income generation	0.40
7	Assistance to self help groups	0.20
Total		2.50
