SHUBHANGI AMOL NAGPURE

Correspondence Address: C/o Sadique Ansari, Plot no.15, Professor Colony, New Yerkheda, Kalamana Road- Kamptee, Nagpur, Maharashtra-441002

Residential Address : Plot no. 10, Rajnagar, Surana Layout Nagpur, Maharashtra-440013

Email id: sadikansari65@gmail.com, **Mobile no:** +91-9823665000

Date: 30.11.2017

To
The Member Secretary (Non- Coal Mining) IA Division
Ministry of Environment, Forest & Climate Change
Indira Paryavaran Bhawan, Jorbagh Road, Aliganj,
New Delhi- 110003

Sub: Application for grant of Terms of Reference for obtaining Environmental Clearance of Bhilapar Manganese Mine (Area: 19.257 ha.; Proposed Production 15,000 TPA) of Smt.Shubhangi Amol Nagpureat Village- Bhilapar,Tehsil Sausar, District- Chindwara, Madhya Pradesh.

Dear Sir,

Present proposal is for mining of Manganese ore (15,000 TPA) from above mine situated atVillage- Bhilapar, Tehsil Sausar, District- Chindwara, Madhya Pradesh. The area proposed for mining is 19.257 Ha and located in Khasra No. 68,69,70,71,72/1,72/2,74/1-4,75, 76, 80,82, 86.
The lease area for mining is adjacent to Maharashtra-Madhya Pradesh state boundary. Hence general condition is applicable on the project. Therefore, the project is considered as Category "A" project as per EIA Notification, 2006
Accordingly, we are applying to MoEF&CC under category 'A' along with following documents:

1. Form I
2. Pre- feasibility report with Executive summary
3. Google map in kml format
4. Brief summary of project
5. One soft copy (CD)

We will be thankful if the Terms of Reference (TOR) for obtaining Environmental Clearance is granted to us.

Thanking You,

Yours faithfully,

S. A. Nagpure

[Smt. Shubhangi Amol Nagpure]
Authorized Signatory

Encl: As above

APPLICATION FOR GRANT OF TERMS OF REFERENCE

FOR

BHILAPAR MANGANESE ORE MINE

(ML Area: 19.257Ha)

Proposed Production of Manganese: 15,000 TPA

AT

Village - Bhilapar,

Tahsil – Sausar, District – Chhindwara, Madhya Pradesh

Project Proponent

SMT. SHUBHANGI AMOL NAGPURE

C/o Sri. Sadique Ansari,

Residential Address: Resident Plot no. 10, Rajnagar, Surana Layout, Nagpur, Maharashtra-440013

Correspondence Address: Plot no.15, Professor Colony, New Yerkheda, Kalamana Road- Kamptee, Nagpur, Maharashtra-441002

Prepared By

Environmental Consultant

M/s Perfact Enviro Solutions Pvt. Ltd.

NABET registered Environment Consultant

List A-Rev 60/7th December, 2017 at S.No.-109

503-507, 5th Floor, NN Mall, Mangalam Palace, Sector 3, Rohini, New Delhi

Phone No.: 011-49281360

Contents

FORM-I

FORM – 1

(I) Basic Information

S.No.	Item	Details
1.	Name of the Project/s	Bhilapar Manganese Ore Mine
2.	S. No. in the schedule	1 (a)
3.	Proposed Capacity/area/ Length/tonnage to be handled/ command area/ lease area/ number of wells to be drilled.	Mining Capacity- **15,000 Metric Tonnes Per Annum.** Total area for ML: 19.257 Ha
4.	New/Expansion/Modernization	New
5.	Existing Capacity/Area etc.	Nil
6.	Category of project i.e. 'A' or 'B'	'A'
7.	Does it attract general conditions? If yes, Please Specify.	Yes Madhya Pradesh- Maharashtra state boundary is adjacent and is in south directions from the lease area.
8.	Does it attract the specific condition? If yes, please specify.	No
9.	Location	Latitude 21°35'29.98"N to 21°35'44.38"N" Longitude 78°56'11.58"E to 78°56'32.80"E Survey of India Toposheet No. 55K/14(OSM no.F44M14), 55O/2(OSM no.F44MN2), 55K/15(OSM no.F44M15) & 55O/3(OSM no.F44N3).
	Plot/survey/Khasra No.	Khasara No. 68,69,70,71,72/1,72/2,74/1-4,75, 76, 80,82, 86
	Village	Bhilapar
	Tehsil	Sausar
	District	Chhindwara
	State	M.P.
10.	Nearest Railway station/ airport along with distance in kms.	Lodhikhera RLY Stn. 7.3 km SW Bardi Halt R.S. 11.2K NW Tinkheda Chaurai Rd. 0.85Km W Chindwara Road (NH-26B)—13.2Km SW (Crow fly) Nagpur Airport- 51 Km S
11.	Nearest Town, city, district Headquarters along with distance in kms.	Nearest Town Sausar 15km NW District Head quarters at Chindwara 51KmN
12.	Village panchayats, Zilla parishad, Municipal corporation, Local body (complete postal	Village - Khapa Padriwar, Tahsil – Sausar, District – Chhindwara, M. P.

	addresses with telephone nos. to be given)	
13.	Name of the applicant	Smt. Shubhangi Amol Nagpure w/o. Late Amol Bhupendranath Nagpure
14.	Registered Address	Resident Plot no. 10, Rajnagar, Surana Layout Nagpur, Maharashtra-440013
15.	Address for correspondence	
a	Name	Smt. Shubhangi Amol Nagpure
b	Designation(Owner/Partner/CEO)	Owner
c	Address	Smt. Shubhangi Amol Nagpure C/o. Mr. Sadique Ansari Plot no.15, Professor Colony, New Yerkheda, Kalamana Road- Kamptee, Nagpur, Maharashtra-441002
d	Pin code	440013
e	E-mail	sadikansari65@gmail.com
f	Telephone No.	+91-9823665000
g	Fax. No.	-
16.	Details of alternative Sites examined, if any. Location of these sites should be shown on a Topo sheet.	Not required as the mineral reserve occurs at the existing place.
17.	Interlinked Projects	Not applicable.
18.	Whether separate application of interlinked project has been submitted?	Not applicable.
19.	If Yes, date of submission	Not applicable.
20.	If No, reason	Not applicable.
21.	Whether the proposal involves approval/ clearance under: if Yes, details of the same and their status to be given. (a) The forest (conversation) Act, 1980? (b) The wildlife (Protection) Act, 1972? (c) The C.R.Z. notification, 1991?	a) None b) No Lease area is out-side of the ESZ of Pench National Park which is 5.7 Km NE C) N/A
22.	Whether there is any Government Order/Policy relevant/ relating to the site?	No
23.	Forest land involved(hectares)	7.088 Ha
24.	Whether there is any litigation pending against the project and/or land in which the project is	

	proposed to be set up. (a) Name of the court (b) Case No. (c) Orders/ directions of the Court, if any and its relevance with the proposed project.	 (a) Not applicable (b) Not applicable (c) Not applicable

(II) Activity

1. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)

S. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)	Yes	Mining will be carried out in lease area of 19.257 ha which is agriculture land. The proposed mining will change land use of the area. Reclamation will be as per approved mine plan.
1.2	Clearance of existing land, vegetation and buildings?	Yes	The area is vegetated with natural vegetation. Hence, land clearance will be carried out at the time of mining.
1.3	Creation of new land uses?	Yes	Mining in the lease area will create mine pit which will be ultimately reclaimed by converting it as ground water recharge pit. The old dumps and new dumps will be stabilized with plantation.
1.4	Pre-construction investigations e.g. boreholes, soil testing?	Yes	Reserve estimation has been done by two old existing pits and by digging trial pits which show mineral exposed. Exploration will be carried out in future to explore additional mineral reserve in the area.
1.5	Construction works?	Yes	Some infrastructure including haul roads, temporary office building, Rest-shelter will be undertaken as per approved mining plan.
1.6	Demolition works?	No	None
1.7	Temporary sites used for construction works or housing of construction workers?	No	None
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations	Yes	This will be done as per approved mine plan.
1.9	Underground works including mining or tunneling?	No	Not applicable

1.10	Reclamation works?	Yes	Reclamation work of the mine area shall be undertaken as per the approved mine plan.
1.11	Dredging?	No	Not Applicable
1.12	Offshore structures?	No	Not Applicable
1.13	Production and manufacturing processes?	Yes	Mining method will be opencast semi-mechanized method with drilling and blasting. The proposed production of manganese ore is 15,000 Tonne per annum(max.). Mining of manganese deposit includes drilling, blasting, loading and transportation of mineral. There will be no mineral processing done at the mine site. Mining method in detail is given in Pre-Feasibility report.
1.14	Facilities for storage of goods or materials?	Yes	Mined out material will be properly stacked at the defined site and dispatched to buyers. Store for spares, pump for diesel and a proper storage for used oil as per statutory requirement.
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	Solid waste generated due to mining will be kept properly at designated dump sites as per approved mine plan.
1.16	Facilities for long term housing of operational workers?	No	Labours will be hired from nearby villages, hence no housing will be provided.
1.17	New road, rail or sea traffic during construction or operation?	No	No new rail, road is required.
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No	No new rail, road is required.
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	No closure or diversion in existing transportation.
1.20	New or diverted transmission lines or pipelines?	No	No transmission line or pipeline will be made.
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	A mining pit with maximum depth of 18m will be created and utilized as water reservoir. This will facilitate rain water harvesting in the area.
1.22	Stream crossings?	Yes	There is an ephemeral stream passing through the lease area almost in the middle.

1.23	Abstraction or transfers of water form ground or surface waters?	No	No abstraction of water is required. Water requirement will be met by nearby village.
1.24	Changes in water bodies or the land surface affecting drainage or run-off?	No	Mining will not be done in the ephemeral drain. Due measures will be taken to prevent surface runoff in the drain by constructing Parapet wall, garland drain, check dam settling pit etc. Water table will not be intersected. Pit water accumulated during rainy season will be pumped out to create face for mining.
1.25	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Semi mechanized opencast mining is proposed. Mineral will be transported through trucks, dumpers, tractor trolley.
1.26	Long-term dismantling or decommissioning or restoration works?	No	Not applicable
1.27	Ongoing activity during decommissioning which could have an impact on the Environment?	No	Not applicable
1.28	Influx of people to an area in either temporarily or permanently?	Yes	No large influx of people is anticipated. Influx of people will be limited to 34 number of local workers and some truck drivers.
1.29	Introduction of alien species?	No	Only locally thriving species will be planted.
1.30	Loss of native species or genetic diversity?	No	No such loss is anticipated.
1.31	Any other actions?	Yes	The activities in operational phase can be broadly classified excavation, drilling blasting, dumping and transportation.

2**. Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are nonrenewable or in short supply):**

S.No.	Information/checklist confirmation	Yes/ No	Details thereof (with approximate quantities / rates, wherever possible) with source of information data
2.1	Land especially undeveloped or agricultural land (ha)	Yes	Total 19.257 Ha ML area is private revenue land. There is no Forest land involved
2.2	Water (expected source & competing users) unit: KLD	Yes	The total water requirement of the mine at present is 14KLD. The water will be sourced from nearby villages. Drinking: 2.0 KLD

			Mining and allied activities: 12.0 KLD (mainly sprinkling & plantation)
2.3	Minerals (MT)	No	No mineral will be used.
2.4	Construction material – stone, aggregates, sand / soil (expected source – MT)	Yes	Small quantities of stone and aggregate will be used for construction of office infrastructure at mine site.
2.5	Forests and timber (source – MT)	No	No
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)	Yes	All the mining machineries will be diesel driven. Approximately, 300 liter per day will be consumed when mine will be running at its full capacity. It will be sourced from local market.
2.7	Any other natural resources (use appropriate standard units)	No	No Applicable

3. Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.

S.No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies)	No	No storage of explosives is proposed. The drilling and blasting will be done through recognized drilling and blasting contractor. Proper management of diesel & Used oil from mining machines shall be done. Used oil shall be sold to vendors authorized by CPCB.
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	Suitable drainage and waste management measures shall be adopted. This restricts stagnation of water or accumulation of water, hence there will be no occurrence of any disease. Regular medical checkup shall be conducted.
3.3	Affect the welfare of people e.g. by changing living conditions?	Yes	It is expected that due to this activity benefits will be more than the losses. The direct and indirect employment will enhance the income level hence it will improve living conditions.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,	No	None

3.5	Any other causes	Yes	Mining operations mainly contribute to generation of dust for which sprinkling of water is proposed.

4. Production of solid wastes during construction or operation or decommissioning (MT/month)

S.No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
4.1	Soil, overburden or mine wastes	Yes	The top soil is very less in the area. However, top soil obtained if any will be stacked and utilized for plantation. During the plan period about 136000 cum OB/reject will be generated which will be stacked in part dump area.
4.2	Municipal waste (domestic and or commercial wastes)	Yes	Domestic waste of about 5.2kg/day will be generated from the project which will be collected and sent to nearby MSW site. Commercial waste from office will be negligible.
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	Yes	Used oil from engines will be carefully stored in leak proof HDPE drums in isolated and covered facility. The used oil will be sold to vendors authorized by Central Pollution Control Board for the treatment of the same. Suitable care will be taken so that spills / leaks of used oil from storage will be avoided.
4.4	Other industrial process wastes	No	None
4.5	Surplus product	No	None
4.6	Sewage sludge or other sludge from effluent treatment	No	Not applicable
4.7	Construction or demolition wastes	No	Not Applicable
4.8	Redundant machinery or equipment	Yes	Redundant machinery/equipment will be handed over to authorized vendor.
4.9	Contaminated soils or other materials	No	Soil & other solid waste will be dumped on earmarked places. Proper drainage management will be done as per approved mine plan.
4.10	Agricultural wastes	No	Not Applicable
4.11	Other solid wastes	No	Not Applicable

5. Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)

S. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	Yes	The emission from combustion of fossil fuel will be from use of diesel operated machinery
5.2	Emissions from production processes	Yes	Dust is likely to be generated from the mining process for which sprinkling of water shall be done so that the impact on the environment will be minimal
5.3	Emissions from materials handling including storage or transport	Yes	Dust and emissions will be generated from material handling and transportation by trucks.
5.4	Emissions from construction activities including plant and equipment	No	Not Applicable
5.5	Dust or odours from handling of materials including construction materials, sewage and waste	Yes	Dust will be generated from the mining process for which water sprinkling will be done wherever necessary.
5.6	Emissions from incineration of waste	No	Not Applicable
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No	Not Applicable
5.8	Emissions from any other sources	Yes	Drilling and blasting are the other source of emission.

6. Generation of Noise and Vibration, and Emissions of Light and Heat:

S.No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	Yes	Semi-mechanized mining method will be adopted with drilling and blasting loading and transportation, which will cause noise and vibration in the area. All the equipment's will be of highest standard of reputed make and adhered to international standards. These standards

			itself will take significant care of noise pollution control. Further, a vegetative barrier is also proposed for the purpose. All the equipment will be regularly maintained to keep noise level within the prescribed limits
6.2	From industrial or similar processes	No	Not Applicable
6.3	From construction or demolition	No	Not Applicable
6.4	From blasting or piling	Yes	Vibration and noise will be produced from blasting. To reduce the impact of Noise and vibration due to blasting, optimum parameter for blasting will be designed. Green barrier will also help to reduce the impact due to blasting.
6.5	From construction or operational traffic	Yes	Noise will be produced from mining operations i.e. drilling, blasting and from transportation of raw material through trucks.
6.6	From lighting or cooling systems	No	None
6.7	From any other sources	No	None

7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:

S.No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
7.1	From handling, storage, use or spillage of hazardous materials	Yes	The drilling and blasting will be done through authorized contractor. Storage of used/waste oil on impervious surface will be provided. The used oil will be sold to vendors authorized by CPCB.
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	Yes	The generated sewage will be discharged to septic tank followed by soak pit.
7.3	By deposition of pollutants emitted to air into the land or into water	Yes	Dust will be generated during operation of the mine. Sprinklers will be provided to suppress dust. Proper green belt shall be maintained along to the periphery to minimize the environmental impact.
7.4	From any other sources	No	None
7.5	Is there a risk of long term build up of	No	None

	pollutants in the environment from these sources?		

8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment.

S.No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances	Yes	All appropriate measures will be taken as described in approved mining plan and as per statutory provisions and direction of DGMS. The drilling and blasting will be done through authorized contractor. Used oil from equipment shall be stored in leak proof HDPE drums and kept in isolated place.
8.2	From any other causes	No	Not Applicable
8.3	Could the project be affected by natural disasters causing environmental damage (e.g: floods, Earthquakes, landslides, cloudburst etc).	No	The chances of earthquake in the area are very less as Madhya Pradesh lies in Seismic Zone–III. There is no history of Flood or cloudburst. Slope failure in mining benches may be a possibility, but since mining depth is limited only 18m and proper pit slope will be proposed as per approved mining plan hence slope failure is not expected to occur.

9. Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality.

S. No.	Information/Checklist confirmation	Yes/ No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
9.1	Lead to development of supporting facilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: •Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) • housing development • extractive industries	Yes	Social benefits will accrue from this mining project to the surrounding villages i.e. Employment generation and improved standard of living through welfare activities; Development of health, education, economy, and agriculture.

	• supply industries • other		
9.2	Lead to after-use of the site, which could have an impact on the environment	Yes	The ultimate proposed land-use is water reservoir and afforestation, which will facilitate better agricultural yields in surroundings. Thus, providing a positive effect. The mine closure plan shall be implemented as per IBM guidelines.
9.3	Set a precedent for later developments	Yes	Development of good landscape
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	No	Not Applicable

(III) Environmental Sensitivity

S. No.	Areas	Name/ Identity	Aerial distance (within 15 km.) from Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Pench National Park Mansinghdeo Wildlife Sanctuary	5.75Km E 13 Km SE
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	**Water Bodies** Stream crossing the lease area Stream Pond Pond Kanhan River Kekhra Pond **Forests** Warpani P.F Bhudkum R.F Sapghota R.F	 Within lease Adjacent in W 1Km SE 3.7 Km SE 5Km W(Flow-North to South) 4.7Km S Adjacent 2.3 km NE 2 km S

		Bhondetal R.F PF Paregghat RF Khapa Padriwar R.F.	6.8 km SE 0.42 Km S 5.38 Km SW 9 Km SW
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Pench National Park Mansinghdeo Wildlife Sanctuary	5.75Km E 13 Km SE
4	Inland, coastal, marine or underground waters.	**No**	None
5	State, National boundaries	Madhya Pradesh—Maharashtra state boundary	Adjacent
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	**Roads** Tinkheda Chaurai Rd. Chindwara Road (NH-26B) **Railway Station** Lodhikhera RLY Stn. Bardi Halt R.S **Airport** Nagpur Airport	 0.85Km W 13.2 km SW 7.3 Km NW 11.2Km NW 51 Km S
7	Defense installations	No	None
8	Densely populated or built-up area	Bhilapar village Savarni village Sindewani Buzurg vill. Vairagarh Vill Bichuwa Lodhikhera Vill Sausar Tehsil Chindwara District	1.5 Km NW 1.8 Km N 1.4Km SW 2.2Km NW 3.10Km SE 7.70 SW 15 Km NW 51 Km N

9	Areas occupied by sensitive man-made land uses *(hospitals, schools, places of worship, community facilities)*	**Hospitals** In Bichawa **School** School in Bhilapar School in Savarni village Govt. Degree College in Sausar **Places of Worship** Mandir in Bhilapar **Community facilities** Post office in Savarni Police Station, Savarni	3.10 km SE 1.5Km NW 1.8Km N 14.8 km NW 1.5 km SE 2 km N 2 km N
10	Areas containing important, high quality or scarce resources *(Ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)*	No	None
11	Areas already subjected to pollution or environmental damage. *(Those where existing legal environmental standards are exceeded)*	No	None.
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (*Earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions*)	Seismic Zone–III	It is included in the moderate seismic zone.

(IV) PROPOSED TERMS OF REFERENCE:

Proposed ToR is attached as Annexure -VII

SHUBHANGI AMOL NAGPURE

Correspondence Address: C/o Sadique Ansari, Plot no.15, Professor Colony, New Yerkheda, Kalamana Road- Kamptee, Nagpur, Maharashtra-441002

Residential Address : Plot no. 10, Rajnagar, Surana Layout Nagpur, Maharashtra-440013

Email id: sadikansari65@gmail.com, **Mobile no:** +91-9823665000

I hereby give an undertaking that the data and information given in the application and enclosures are true to the best of my knowledge and I am aware that if any part of the data and information submitted is found to be false or misleading at any stage, the project will be rejected and clearance given, if any to the project will be revoked at our risk and cost.

Date:

S. A. Nagpure

[Smt. Shubhangi Amol Nagpure]

AUTHORIZED SIGNATORY

PRE-FEASIBILITY REPORT

1. EXECUTIVE SUMMARY

Background information

Total resources of manganese ore in the country as on 1.04.2013 are placed at 475 Million tonnes as per UNFC system. The manganese being the main raw material for manufacturing of steel is always in demand and 7 to 8 % growth of steel consumption is expected.

The proposed production capacity from the mine will be 15000 TPA. The mining lease area is 19.257 ha situated at Khasra No. 68,69,70,71,72/1,72/2,74/1-4,75, 76, 80,82, 86 Village Bhilapar, Tehsil Sausar, District- Chindwara, State- M.P. Method adopted will be semi-mechanized open cast mining with drilling and blasting.

The lease area falls adjacent to the Maharashtra-Madhya Pradesh state boundary falling in south direction. Hence general condition is applicable on the project. Therefore, the project is considered as Category "A" project as per EIA Notification, 2006.

Project Description

The proposal is for Mining of Manganese mineral from Bhilapar Manganese Ore Mine of Smt. Shubhangi Amol Nagpure C/o. Mr. Sadique Ansari. The proposed production capacity from the mine will be 15000 TPA. The mining lease area is 19.257 ha situated at Khasra No. 68,69,70,71,72/1,72/2,74/1-4,75, 76, 80,82, 86 Village Bhilapar, Tehsil Sausar, District- Chindwara, State- M.P. The latitude is 21°35'29.98"N to 21°35'44.38"N, and longitude 78°56'11.58"E to 78°56'32.80"E. The area falls in the Survey of India Topo-sheet no.55K/14(OSM no.F44M14), 55O/2(OSM no.F44MN2), 55K/15(OSM no.F44M15) & 55O/3(OSM no.F44N3).

The LoI to the PP was granted by Mineral Resources Department, Bhopal, M.P. vide Letter no. F 3/38/2004/12/2 dated 12.06.2007 for an area of 21.935Ha. At the time of grant of LoI the lease had two old existing pit and two OB dumps of low grade Manganese Ore in the mine lease area.

The lease was not executed then due to local issues and land falling within 250m perimeter of the forest boundary. The two compartments no. 77& 81 were coming in the jungle jhar area. Subsequently, now the lease area has been executed by deducting above compartments 77 &81 from the lease area and hence now the lease area is 19.257 Ha vide letter 958/Mining Branch/2017 dated 31.05.2017 as per order of Divisional Commissioner, Jabalpur dated 11.1.2017.

Now the PP is applying for grant of Terms of Reference at a production of 15000TPA of manganese ore under EIA notification 2006 and subsequent amendments. The present proposal is under Category A as Maharashtra-Madhya Pradesh State Boundary lies within 5 Km from the project site, hence the present proposal is being submitted to MoEF&CC. Notified ESZ areas are: Pench National Park is at 5.75Km E to the lease boundary and Mansinghdeo Wildlife Sanctuary is about 13Km SE from the lease boundary.

The leasehold area displays an undulating topography. The leasehold area in northern and eastern part is mainly flat undulating plateau, which rises towards south and west. The contour rises from north to south and from east to west. The maximum contour is 406 mRL and minimum contour is 399 mRL.

Reserve estimation has been done by two old existing pits and by digging trial pits which show mineral exposed. Exploration will be carried out in future to explore additional mineral reserve in the area. As per present lease area of 19.257Ha the reserves will be approx. 204880 & Mineable reserves will be

193384 and life of the mine will be 13years(approx.) which will enhance after future exploration. The new mining plan for 19.257Ha is under preparation and all the final figures will be considered from the New approved mining plan. Method adopted will be semi-mechanized open cast mining with drilling and blasting. During the plan period about 136000 cum OB/reject will be generated which will be stacked into dumps created in the mined out area. Entire mined out area is proposed to be reclaimed by backfilling and rest of the area will be converted into water recharge pit. The raw materials required for working includes water and diesel. The daily consumption of diesel in the mine will be around 200 liters per day. About 14 KLD water will be required per day at peak demand.

The maximum strength of direct workers will be 34 majorities of which will be hired locally. Besides there will be indirect employment on account of transportation, canteen, repair shop, security etc. Since there is no habitation in the lease area therefore no resettlement will be necessary. The project cost is about Rs.50 Lakh.

ROM will be dispatched to consumers directly. There will be no mineral processing done at the mine site. As per demand if it's necessary then about 10 tons/ hour of screening plant and 1 Ton per hour of jigging plant will be proposed in nearby Bhilapar village. The mine will always have economic viability as the market is already assured.

Analysis of proposal (Final Recommendations)

The project is proposed to mine Manganese ore in an area of 19.257 Ha. It will provide direct employment to about 34 workers. Besides there will be indirect employment for transportation, canteen, repair shop, security etc. Most of the employment will be given to locals from the nearby village. Further, the share of indirect employment like increased purchasing power, dhabas and retail shops etc. is largely shared by local residents.

2. PREFEASIBILITY REPORT

Introduction of Project—Background information

The total resources of manganese ore in the country as on 1.04.2013 are placed at 475 million tonnes as per UNFC system. Out of these, 95.87 million tonnes are categorized as reserves and the balance 379.31 million tonnes are in the remaining resources category. Grade-wise, ferro-manganese grade accounts for 8%, medium grade 11%, BF grade 34% and the remaining 47% are of mixed, low, others, unclassified, and not known grades including 0.35 million tonnes of battery/ chemical grade. State-wise, Odisha tops the total resources with 40% share followed by Karnataka 20%, Madhya Pradesh 11%, Maharashtra 8%, Andhra Pradesh 4% and Jharkhand & Goa 3% each. Rajasthan, Gujarat and West Bengal together shared the remaining about 2% resources ***[Indian Minerals Yearbook 2015, 54th Edition]***

The present proposal is for Bhilapar Manganese Mine over an area of 19.257 Ha. of Smt.Shubhangi Amol Nagpure C/o Mr. Sadique Ansari located in village Bhilapar, Tehsil Sausar, district Chindwara of Madhya Pradesh State. The proposed maximum production from the mine is 15000 TPA. ROM from this mine shall be sold to the domestic buyers.

The mining lease area is 19.257 ha situated at Khasra No. 68,69,70,71,72/1,72/2,74/1-4,75, 76, 80,82, 86 Village Bhilapar, Tehsil Sausar, District- Chindwara, State- M.P. The latitude is 21°35'29.98"N to 21°35'44.38"N, and longitude 78°56'11.58"E to 78°56'32.80"E. The area falls in the Survey of India Topo-sheet no. 55K/14(OSM no.F44M14), 55O/2(OSM no.F44MN2), 55K/15(OSM no.F44M15) & 55O/3(OSM no.F44N3).

The LoI to the PP was granted by Mineral Resources Department, Bhopal, M.P. vide Letter no. F 3/38/2004/12/2 dated 12.06.2007 for an area of 21.935Ha. At the time of grant of LoI the lease had two old existing pit and two OB dumps of low grade manganese ore in the mine lease area. No mining has been carried out by PP till date.

The lease was not executed then due to local issues and falling within 250m perimeter of the forest boundary. The two compartments no. 77& 81 were coming in the jungle jhar area. Subsequently, now the lease area has been executed by deducting above compartments 77 &81 from the lease area and hence now the lease area is 19.257 Ha vide letter 958/Mining Branch/2017 dated 31.05.2017 as per order of Divisional Commissioner, Jabalpur dated 11.1.2017 for reduced area. As per the lease paper the modified mining plan is under preparation. **(Lease papers -Annexure-1)**

Now the PP is applying for grant of Terms of Reference as per production of 15000TPA of manganese ore under EIA notification 2006 and subsequent amendments. The present proposal is under Category A as Maharashtra-Madhya Pradesh State Boundary lies adjacent in South direction to the project site, hence the present proposal is being submitted to MoEF&CC.

The leasehold area displays an undulating topography. The leasehold area in northern and eastern part is mainly flat undulating plateau, which rises towards south and west. The contour rises from north to south and from east to west. The maximum contour of 406 mRL and minimum contour of 399 mRL.

Reserve estimation has been done by two old existing pits and by digging trial pits which show mineral exposed. Exploration will be carried out in future to explore additional mineral reserve in the area. As per present lease area of 19.257Ha the reserves will be approx. 204880 & Mineable reserves will be

193384 and life of the mine will be 13 years approx. which will enhance after future exploration. The new mining plan for 19.257Ha is under preparation and all the final figures will be considered from the New approved mining plan.

Method adopted will be semi-mechanized open cast mining with drilling and blasting. Entire mined out area is proposed to be reclaimed by converting into water recharge pit. The raw materials required for working includes water and diesel. The daily consumption of diesel in the mine will be around 200 liters per day. About 14 KLD water will be required per day at peak demand.

The maximum strength of direct workers will be 34 majorities after expansion which will be hired locally. Besides there will be indirect employment on account of transportation, canteen, repair shop, security etc. Since there is no habitation in the lease area therefore no resettlement will be necessary. The project cost is about Rs.50 Lakh.

ROM will be dispatched to consumers directly and there will be no mineral processing done at the mine site. The mine will always have economic viability as the market is already assured.

Need of the project

There is a growing demand of Manganese ore in the country. From the mine ROM will be transported to Ferro-manganese and steel industries. The list of prospective manganese ore buyers is as below:

1. M/s. Uniferro International Ltd. Tumsar (M.S.)
2. Mukund Steel (Navi Mumbai)
3. Bhilai Steel Plant, Bhilai (Chhattisgarh)
4. Balaji Electro-smelters Ltd. Yavatmal and local buyers

The mine will generate direct and indirect employment due to this project.

Demand-Supply Gap:

7 to 8 % growth in steel consumption is taking place in the country; therefore, there will always be demand of manganese in the country. The manganese ore mined from this lease shall be sold as a raw material to steel and allied industries.

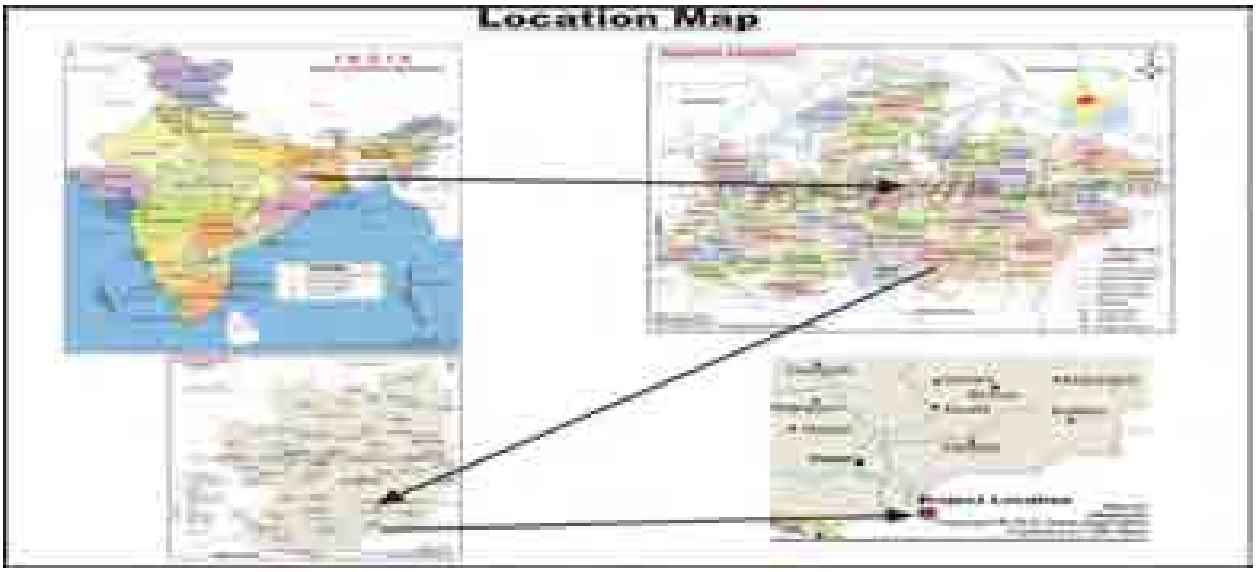
Employment Generation

34 persons will be directly employed. Besides substantial number of indirect employment will be generated in the form of dhabas, transporters etc. which will improve the economic conditions of the area.

3. PROJECT DESCRIPTION

Type of Project:

Present proposal pertains to mining of Manganese ore mineral in 19.257 ha mining lease area by Semi-mechanized open cast mining method in district Chindwara, Madhya Pradesh. The lease is located in village Bhilapar. The project is categorized as Schedule S. No. 1(a), Category-A for obtaining the environmental clearance. Location of mine is shown ahead:



Interlinked Projects:

It is not an interlinked project.

Lease Details:

Name of Lessee : Mrs.Shubhangi Amol Nagpure W/o. Late Amol Bhupendranath Nagpure

Status of lessee : Private individual

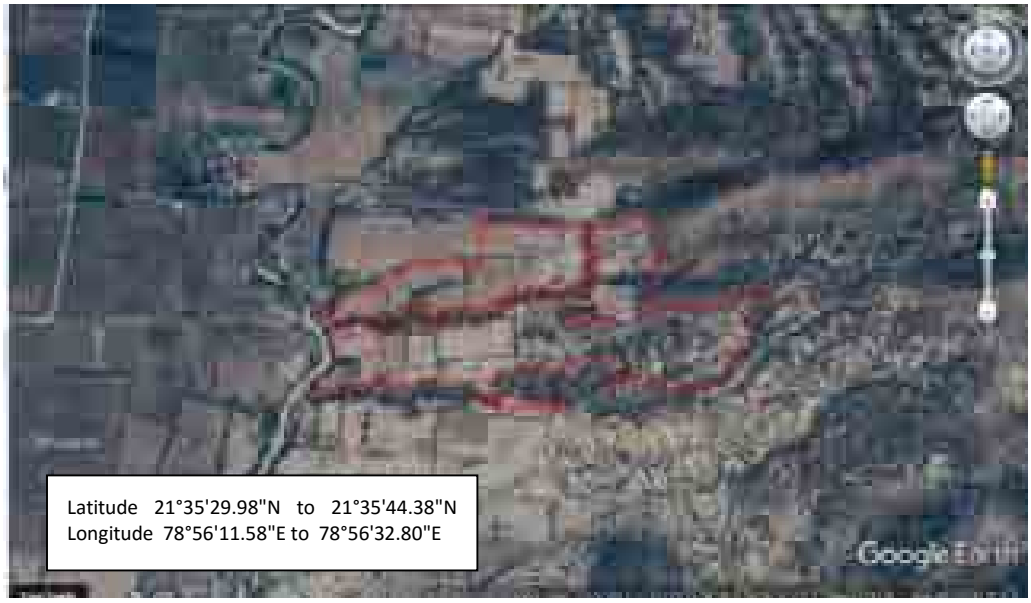
Residential Address : Plot no. 10, Rajnagar, Surana Layout Nagpur, Maharashtra-440013

Correspondence Address: Plot no.15, Professor Colony, New Yerkheda, Kalamana Road- Kamptee, Nagpur, Maharashtra-441002

Lease Area :19.257 Hectares

Date of Grant : 31.05.2017(Lease valid till 50 year)

Location : Latitude 21°35'29.98"N to 21°35'44.38"N
Longitude 78°56'11.58"E to 78°56'32.80"E
Survey of India Toposheet No. 55K/14(OSM no.F44M14), 55O/2(OSMno.F44MN2), 55K/15(OSM no.F44M15) & 55O/3(OSM no.F44N3)Village Bhilapar, Tehsil Sausar, District Chindwara, M.P.



Magnitude of operation:

Past Production: New Mine. No past production. However, in the lease area there are two old existing pits and two OB and low grade manganese ore dumps created by earlier lessee.

Proposed Production: This is a new mine. Proposed production in the first 5 years of the Mining plan will be as given as under: However, maximum production will be 15000 TPA in the second plan period.

Years	Production Tonne	Waste in Cum	Soil in cum (Considering 10cm thickness)
1st	10000	20000	1200
2nd	13000	26000	1200
3rd	15000	30000	1000
4th	15000	30000	1000
5th	15000	30000	1000
Total	**68000**	**136000**	**6267**

*Presently the old approved mining plan for 21.935Ha has been used as a reference to deduce the tentative figures by proportionately reducing the details. The new mining plan is under preparation. Mining will be done by adhering to the new approved mining plan prepared for 19.257Ha as and when received.

The **Surface & Geological Plan** and the showing Mining pit, Dumps & plantation are shown as **Annexure-VI & V**

Equipment

S. No.	Equipment	Capacity	No.
1	Jack Hammer	34 mm	4
2	Diesel driven compressor	360 cfm capicity	2
3	Diesel operated pump	10 HP & 5 HP	1
4	JCB Excavator 3d	-	1
5	Tractor	-	4

Salient Features of the proposed Working:

- Semi-Mechanized open cast mining with drilling & blasting will be undertaken.
- OB/reject will be generated which will be temporarily stacked in dumps created at the designated site.
- The ultimate maximum bench height will be upto 6m with minimum working width of 15m.
- Mining will be done up to depth of 18 m (tentatively) i.e. up to 388mRL during plan period.
- No. of working day will be 300.
- Total no. of direct employment is about 34(skilled, semi skilled and unskilled.)
- During mining water table is not likely to get intersected.
- ROM will be excavated and stacked at designated area within lease from here it will be sold to consumers.

Raw Materials:

The important inputs required for mining of desired quantity of Manganese ore are diesel & water. Peak demand of all inputs is given below:

Inputs	Approx Quantity required
Diesel	300 Liters per day
Water for Drinking & Domestic	2.0KLD
Water for Sprinkling and allied activities and green belt	12.0 KLD

Market and Mode of Transport: The manganese ore produced from this mine will be sold to the domestic market as a raw material to steel and allied industries.

Resource Optimization/Recycling: Waste will be dumped in the dumping yard situated within the mine site. Soil generated if any will be used in plantation. Used oil will be stored as per prescribed norms and will be sold to authorized vendor.

Requirement of Water, Energy/Power: The water will be used for drinking purpose, wet drilling, sprinkling and plantation. Domestic water requirement will be 2.0 KLD approx. Water for wet drilling (occasional), sprinkling, dust suppression and green belt development will be about 12.0 KLD. Thus,

there will be total requirement of 14 KLD water (at peak demand). Water will be sourced through water tankers from nearby village. The power or energy is obtained from diesel driven engines. The daily consumption of diesel will be 300 liters.

Waste Generation and Disposal: Total about 136000cum of OB/waste will be generated during Plan period. Soil will be stacked in 7.5m wide strip and used in plantation. Waste will be dumped in the dumping yard located within the mine site. Mined out area will be converted into water reservoir. This area is proposed to be reclaimed by afforestation.

4. SITE ANALYSIS:

Location and Connectivity of the lease is given as under:

Location and Connectivity: The area falls in the Survey of India Topo-sheet no. 55K/14(OSM no.F44M14), 55O/2(OSM no.F44MN2), 55K/15(OSM no.F44M15) & 55O/3(OSM no.F44N3) at latitude 21°35'29.98"N to 21°35'44.38"Nand longitude 78°56'11.58"E to 78°56'32.80"Emarks the lease area. The proposed mine lease area is connected by Tinkheda Chaurai Rd at 0.85Km W. There is Chindwara Road (NH-26B)—13.2Km SW from the mine lease. The nearest railway station is Lodhikhera RLY Station is about 7.3Km SW from the lease area. The **location plan** & **10 Km. Buffer area** is shown as **Annexure II & Annexure III.**

Land use and Land ownership: It is a private revenue land**,** involving 19.257ha. Till date no mining has been done**.** Presently the old approved mining plan for 21.935Ha has been used as a reference to deduce the tentative figures by proportionately reducing the details. The new mining plan is under preparation. Mining will be done by adhering to the new approved mining plan prepared for 19.257Ha as and when received.

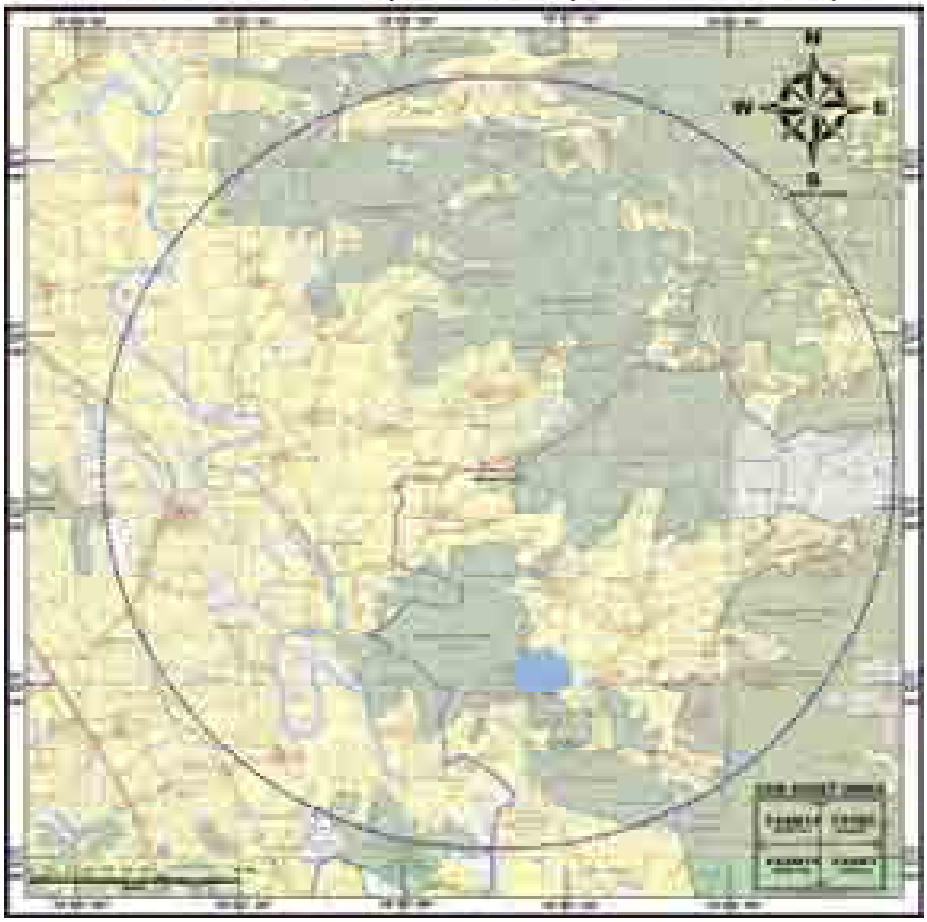
The details of existing and proposed land use are given below:

Table showing Existing, Post plan period land use(in Hectares)

Land Use/Activity	Existing (Area in Ha)	End of Planned period (Area in Ha)
Area under pits	0.20	**6.67**
Area under mineral storage	0.03	0.95
Dump Area OB/soil/rejects/waste)	0.12	2.72
Mine Road	0.00	0.50
Infrastructure (Work shop, office, administrative building)	0.00	0.437
Green Belt	0.00	3.20
Undisturbed land	18.91	4.78
Total	**19.257**	**19.257**

TOPOGRAPHICAL MAP-10KM RADIUS AREA

BHILAPAR MANGANESE ORE MINE,TEHSIL SAUSAR, DISTRICT CHINDWARA, M.P.



Topography of the area: The leasehold area displays an undulating topography. The leasehold area has a general slope towards South. The contour rises from north to south and from east to west. The maximum contour of 405 mRL and minimum contour of 399 mRL are passing through the lease area. A hillock of 10-15m elevation is located in the area. The lease is divided into two parts by water stream which is flowing from East to West from within the lease area. The **Surface Geological Plan** of the area is shown in **Annexure IV**.

Drainage: Kanhan River flows almost North to South is about 4 Km W from the lease area. The leasehold area has a general slope towards South

Geology of the area: Regional and Local Geology of the area is briefly described as under:

Regional Geology:

The manganese occurs a manganese-oxide-quartzite formations and impure manganese silicate rocks, derived from the metamorphism of banded pure and impure manganese formations. The ore bodies are generally braunite quartzite rocks consisting of alternating layers of manganese oxide, braunite and dark manganiferous quartzite.

Local Geology:

The area under proposed lease exhibits the rock types of Mansr and Chorbaoli stages. These rock types are occasionally intruded with quartz veins. The following litho units are exposed in the area:

A- Alluvium and Soil(predominantly found in the southern part of the ML area)
B- Quartzite(micaceous) and quartz schist (Charbaoli stage, exposed in the western and northwestern part of ML area)
C- Muscovite-schist and muscovite gneisses (Mansar Stage, usually occurs in eastern part of ML area)
D- Manganese ore and gondite (found bedded or reef deposite)
E- Phyllites

The general strike of the ore body is N70^{o}E and S70^{o}W. The dips are high and is at places 70^{o} due S.

Exploration Undertaken: Reserve estimation has been done by two old existing pits and by digging trial pits which show mineral exposed. Exploration will be carried out in future to explore additional mineral reserve in the area.

Quality & Grade of Mineral: The Mn ore is medium grade and siliceous with little high phosphorus. The composition of these two bands is as below:

Category	Band N
Mn	26.05 to 35.12%
Fe	5.61 to 7.66%
SiO_2	17.91 to 32.33%
Al_2O_3	2.99 to 4.26%
P	0.16 to 0.37%

Reserves: Geological reserve in the lease area is estimated to be 204880T, while mineable reserve is estimated at 193384T as on date, tentatively as per deduced from old approved mining plan which will increase after future exploration.

Life of Mine: The mineable reserve at the present stage is estimated **193384 Tonne.** The mineral reserve for manganese is sufficient to sustain production for 13 years (approx) period considering Maximum production @15000T/ annum. Since the entire lease area is mineralized, we will further carry out detailed exploration in future.

Sensitivity of Location:

- There is seasonal stream passing through leasehold area dividing it into two parts. The nearest ephemeral water body is Kanhan river about 4km W from the mining lease.
- There are three ponds at 1 km SE, 3.7Km SE & Kekhra Pond at 4.7Km S of the lease area.
- There is Pench National Park at 5.75Km E to the lease boundary and Mansinghdeo Wildlife Sanctuary is about 13Km SE from the lease boundary.
- The lease is adjacent to Warpani Protected Forest in East direction. Other forests are: Bhudkum R.F.- 2.3Km NE, Sapghota R.F- 2Km S, Bhondetal R.F.- 6.8Km SE, P.F. 0.42Km S, Perragghat RF- 5.38Km SE and Khapa Padriwar R.F. at 9km SW of the lease area.

- The nearest settlement is Bhilapar village at 1.5 km NW from the lease area. Sausar Tehsil is about 15km NW.
- The Maharashtra-Madhya Pradesh State boundary is situated adjacent in South direction from the lease area.

Existing Infrastructure:

The area is connected with all season motor roads.

Soil classification: (Source District profile Chindwara)

There are five types of soils are present in the district. Alluvial soil is commonly associated with rivers and streams. Silty soil is occurring on the bank of river Kanhan near Sausar town. Lateritic Soil is occurring in the eastern and south-western part of the district. Sandy soil is associated with Pench and Kanhan rivers. Black cotton soil is occurring in the central, northern and southern parts of the district. Soil of recent origin is developed in low-lying valleys

Jowar, Sesame, Rice Peas & Beans (Pulses) are some important crops grown in the district.

Climatic data from secondary sources: (Source District profile Chindwara)

Chhindwara has a subtropical climate bordering tropical wet and dry climate. Like most of north India it has a hot dry summer (April–June) followed by monsoon rains (July–September) and a cool and relatively dry winter. Average annual rainfall is 1,183 mm. Minimum temperature during winter is 4 to 6 degree Celsius while maximum temperature during summer is 38 to 42 degree Celsius.

Social Infrastructure available: Nearest Public Health Centre is located in Bichawa at about 4 Km S from this mining lease area. All other community facilities like Post office, ATM, Police Station are also available in Savarni Village about 2km N from the lease area.

5. PLANNING BRIEF

In present case the modified Mining Plan is under process and presently the old approved mining plan has been considered for giving details about the geology, reserve estimation, production and land use of the area. Proposed project is an open cast semi-mechanized mining with drilling and blasting. The salient and important features of mining plan are as below:

- The maximum strength of direct workers will be 34. Most of the workers will be hired from local area. The project will also generate indirect employment.
- It is an open pit mining with drilling by jack hammer and blasting for breaking the rock.
- Drilling will be done initially to drill holes for putting blasting material inside the holes.

Requirements are: Detonators 1/hole, fuse 1200mm, charge/hole- 1 stick of gelatine (80% to 90%) of 200 mm, Electric detonators- 1No. in wet hole. This will yield about 0.22cu.m of ROM/ hole. One kg of Gelatine (7 sticks) will produce 1.54cum*3 (Bulk Density) = 4.62 tons of ROM. Details of holes drilled and blasting requirements at 15000 TPA production are given below:

Hole dia	32mm
Hole depth	1.5m
Spacing	1.0m
Burden	0.60m

Powder factor	0.9cum or 2.7T
Blasting requirements/annum @15000 TPA Production	
Volume	5000cum
Volume/blast	0.22 cum
No. of holes	22800 No.
Explosive Required(Gelatine)	3000kg/Annum
Detonators	22800 no.
Fuse(1.2m/hole)	27000

- The broken mineral will be excavated and with the help of loader it will be loaded into trucks for supplying to consumers.

6. PROPOSED INFRASTRUCTURE

Physical Infrastructure: The proposed activity to mine Manganese ore will likely to assemble some temporary and statutory infrastructure like mine office, rest shelter, canteen and First Aid etc.

Green Belt/Afforestation:

Proposed Plantation: A green belt is proposed to be developed in the statuary width of 7.5m. of mining lease. Besides this, it is also proposed that plantation will be undertaken on the stabilized dumps as per conceptual plan.

Social Infrastructure: Due to initiation of mining project there will be an overall development in social infrastructure as a result of indirect employment.

Drinking Water Management (Source & Supply of Water):

Domestic water requirement will be approx.2 KLD, Water for sprinkling & dust suppression will be 7 KLD and green belt development about 5 KLD. Thus, there will be total requirement of 14KLD water (at peak demand). Drinking water will be sourced from water tanker. For sprinkling use water collected in the pits will be utilized.

Solid Waste Management: The top soil obtained if any during mining activity will be stacked and utilized for plantation. Parapet wall as well as garland drain will be made at the toe of the waste dump to prevent wash off from the dump. Plantation will be done to stabilize the dumps which will restrict runoff from the mine.

Power Requirement:

Mining method adopted is semi-mechanized mining. All equipment required for such mining will be powered with Diesel as fuel. Daily diesel requirement will be approximately 300 litres.

Supply/Source of Energy:

Daily requirement of the diesel will be brought by tanker from the nearest dispensing pump. Minimum diesel will be kept in barrel for any emergency at safe place.

7. REHABILITATION AND RESETTLEMENT (R &R) PLAN:

The mining lease encompasses about 19.257 Ha area which consists of manganese ore. There is no habitation in the lease area therefore resettlement will not be applicable.

8. PROJECT SCHEDULE & COST ESTIMATES.

Likely date of start of construction and likely date of completion:

After grant of EC for expansion of the project mining will be started after 3-4 months after grant of CTO to the mine.

Project Cost along with analysis in terms of Economic Viability of the Project.

The project cost is about Rs. 50 Lakh. Manganese ore is always in demand in steel industry. Hence, the mine will always have economic viability as the market is already assured. The Manganese ore produced from this mine will be sold to the domestic Steel Industry.

9. ANALYSIS OF PROPOSAL (FINAL RECOMMENDATIONS)

The project is proposed to mine Manganese ore in an area of 19.257 Ha. It will provide direct employment to about 34 workers. Besides there will be indirect employment for transportation, canteen, repair shop, security etc. Most of the employment will be given to locals from the nearby village. Further, the share of indirect employment like increased purchasing power, dhabas and retail shops etc. is largely shared by local residents.