

PRE-FEASIBILITY REPORT

EXECUTIVE SUMMARY

Project	:	Mining Lease of Iron Ore (Ari Dongri Iron Ore Mine)	
Name of Company / Mine Owner	:	Godawari Power and Ispat Limited	
Location			
Village	:	Kachhe	
Tehsil	:	Bhanupratappur	
District	:	Uttar Baster (Kanker)	
State	:	Chhattisgarh	
1	Mining Lease Area & Type of Land	32.36 (Government Forest Land)	
2	Geographical co-ordinates	Latitude	Longitude
		N 20 ⁰ 24' 27"	E 81 ⁰ 03' 56"
		N 20 ⁰ 24' 27"	E 81 ⁰ 04' 14"
		N 20 ⁰ 24' 48"	E 81 ⁰ 04' 14"
		N 20 ⁰ 24' 54"	E 81 ⁰ 03' 56"
3	Name of River / Nallahs / Tanks / Spring / Lakes etc.	Khandri Nadi 8.5 Km. south	
4	Name of Reserve Forest (s), Wild life Sanctuary / National Parks etc.	Kachhe RF	Mine lease is within forest area
		Rajobidih RF	1.5 Km, E
		Khande PF	8.4 Km, NE
		Naghu RF	6.5 Km, W
		Pichekatta RF	4.3 Km, SSE
		Mardel PF	7.6 Km, SSE
		Ranwahi PF	8.7 Km, SSE
		Unochapani RF	7.0 Km, SE
		Magardha RF	4.5 Km, E
		Limodih PF	9.6 Km, NE
5	Topography of ML area	Elevation : 410 m AMSL to 590 m AMSL	
6	Name of Mineral mined	Iron Ore	

Expansion of Iron Ore Mining Lease Area from 106.60 ha. to 138.96 ha. at Village: Kachhe,
Tehsil: Bhanupratappur, District: Uttar Bastar (Kanker), Chhattisgarh

Pre-Feasibility Report

7	Rate of Production (in MTPA)	Existing area of 106.60	7.05 lakh tonnes/annum
		Additional area 32.36 ha.	7.0 lakh tonnes/annum
		Total 138.96	14.05 lakh tonnes/annum
8	Life of mine	4 Years	
9	Mineral Reserve in Million Tonnes	2.43 million tones	
10	Drilling / Blasting	Drilling and Blasting will be used	
11	Ultimate depth of Mining	460 m MSL	
12	Ground water level	> 405 m MSL	
13	GWT intersection	No	
14	Drainage pattern / water courses	Dendritic	
15	Break-up of Land Utilization Patter	Enclosed in Annexure-2	
16	Water requirement & Source	25 KLD & Ground Water	
17	Solid waste (Overburden)	1.145 million tones	
20	Cost of project	Rs. 8.76 crores only	
21	Any Other (Specify)	--	

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PRE-FEASIBILITY REPORT

1.0 Introduction

The Chhattisgarh State Government vide letter No. F.3-3/2010/12 dated 04.02.2010 submitted their proposal to Government of India in Ministry of Mines, New Delhi for its prior approval Under S-5(1) of the Mines and Mineral (Development and Regulation) Act, 1957 for grant of mining lease for iron ore over 32.36 ha. (enclosed Annexure – 1). The Central Government by its letter No. 5/33/2010-M.IV dated 31.08.2010 conveyed its prior approval under S-5(1) of the MMDR Act, 1957 for grant of mining lease for iron ore over 32.36 ha. in Village Kache, District North Bastar Kanker, Chhattisgarh in favour of M/s. Godawari Power and Ispat Ltd. for a period of 20 years. Thereafter State Government has issued the letter of intention to grant the mining lease.

The necessary proposal has been submitted to Central Government in the Ministry of Environment and Forests (FC Division) and the Forest Advisory Committee has considered in its meeting held on 17.9.2012 (enclosed Annexure – 2) and recommended for I-Stage clearance under the provisions of the Forest (Conservation) Act, 1980.

Location:

The area of 32.36 ha. in question is surrounded from three sides by the existing mining lease (total sanctioned area of 106.60 ha.). The area of 32.36 ha. is compact and contiguous to the existing mining lease thus making the total area of 138.96 ha.

1.1 Name, Address of the Applicant

Name, Address of the Applicant	M/s Godawari Power & Ispat Ltd Registered Office & Works Plot No 428/2, Phase – I Siltara – 493 111, Raipur Ph:0771-4082333, 4082000 Fax: 0771 – 4057601 / 4082334 e-mail: tbose@hiragroupindia.com
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1.2 Status of the Applicant

M/s Godawari Power & Ispat Ltd. is a public limited company engaged in manufacturing of steel.

1.3 Location & Details of the Area

The applied mining lease area falls in the forest compartment No 608 of Kachche RF of Kachhe Village, Bhanupratappur Tehsil, Kanker District of Chhattisgarh.

The details of the area are as follows:

District/ State	Taluk/ Village	Area	Ownership
Kanker / Chhattisgarh	Bhanupratappur / Kachhe	32.36 ha	Government Forest Land

The mining lease area can be located in SoI toposheet no. 64 H/3 and Latitudes and Longitudes of the mine are given below.

	Geographical Coordinates	
A	N 20 ⁰ 24' 27"	E 81 ⁰ 03' 56"
B	N 20 ⁰ 24' 27"	E 81 ⁰ 04' 14"
C	N 20 ⁰ 24' 48"	E 81 ⁰ 04' 14"
D	N 20 ⁰ 24' 54"	E 81 ⁰ 03' 56"

1.4 Objective of Study

The objective is to achieve the iron ore total production capacity of 14.05 LTPA from existing mining lease of 106.60 ha. (7.05 LTPA) and additional Mining Lease area of 32.36 ha. (7.0 LTPA).

1.5 Cost of Project

Total investment in this project by the applicant would be around Rs. 8.76 Crores.

1.6 Physiography

The applied Mine Lease area is located in the jurisdiction of village Kachche, of Bhanupratappur Tehsil and Uttar Baster Kanker District of Chhattisgarh State. The ML area is located at a distance of 2.5 km north of village Kachche. The terrain is hilly, rugged with steep slopes. The average ground level of the area is around 530m above the MSL with highest point of about 570m with steep slopes on all the slides showing the presence of insitu ore. The entire area falls under the forest. The entire lease area is hilly and undulating with Chote bade jhad ka jungle. Since the mining operations were seized in 1993, growth of trees within the applied area is seen. The ML area lies in the area where M/s BSP had carried out mining operations.

1.7 Mine Drainage

As the mines will be developed along the hill slope, there is little scope for pit formation. The measures required for safety and discharge of the mine water will be taken based on the actual position at the time of mining. All the statutory

precautions and measures will be taken to avoid any damage to the surrounding environment. The presence of water table is observed below 405m MSL. Present working is at 460m MSL and it will remain around 445m MSL during the next five years of working

1.8 Reserves & Production

Total Reserves (in tons):

Category	Block D1	Block D2	Block D3	Total
Measured Mineral Resources	2252250	-	-	2252250
Indicated Mineral Resources	-	624707	545580	1170287
Losses in measured resources due to mining constraint	816070	-	-	816070
Losses in indicated mineral resources due to mining constraint	-	92122	87822	179944
Net proved mineable reserves	1436180	-	-	1436180
Net probable mineable reserves	-	532585	457788	990373

Net proved mineable reserves : 1436180 tonnes

Net probable mineable reserves : 990373 tonnes

• Estimated Mineable Reserves	:	2.43 million tonnes
• Expected rate of production per year	:	0.7 Lakh tonnes/year
• Anticipated life of Mine	:	4 years

1.9 Details of Exploration:

Already Carried Out

Prospecting by detail geological mapping, surveying and exploratory drilling has been carried out in the Ari Dongri Mine by M/s BSP. In all, 4 bore holes have been drilled in the area. In addition, they did mining operations in the area for a period of 30 years and there by established the presence of ore body laterally as well as vertically. The geometry of the ore body in the applied area has been well established.

Proposed Exploration

There is a proposal for carrying out further exploration program. It is proposed to drill 26 boreholes during the next 5 years.

1.10 Mining

The applied mining lease area is in forest compartment 608 in an area of 32.36 ha. It is envisaged to develop the forest compartment by opencast mechanized mining method. Removal of waste rock will be done simultaneously in a systematic manner to get the adequate exposure of iron ore faces.

The annual production of iron ore has been planned at the production rate of 7.00 lakh tonnes/annum which will be used in his own existing DRI Plant. The mineral produced will not be sold in open market because the State Government has decided to grant the Mining lease for captive use in the iron ore based unit of project proponent. It is also proposed to maintain the uniform benches of 6.0 m. height and width of 12 m.

However, Since this mine is having common boundary with the existing lease of the lessee, on co-operative mining the production will go upto 7.0 lac MT per annum during the peak period of production.

1.11 Year wise Production Program (LTPA)

Since the ore to overburden ratio is very high at initial stages of mining the main concentration will be on removal of over burden. Float ore occurs in consolidate earth comprising of soil, soil and murrem and iron ore boulders / pebbles / fines. The insitu ore will be worked by 7.0m benches drilling will be DTH hydraulic drill machine of 115 mm diameter. It will be hydraulic operated. Loading of broken ore will be done by loader in the dumpers / trucks ROM. All +6mm material will go to plant for use in steel mill.

1.12 Drilling & Blasting

Drilling will be done by DTH drill machine. Instead of blasting with explosive, lessee proposes to develop crack by using expanding cement and then excavation by F.E.Loader.

As the area is sensitive, applicant do not want to do the blasting with explosive rather expanding cement is proposed to develop the cracks in insitu, by using expanding cement, vibration and noise will not be there. The directions and guidelines issued by the Director General of Mines Safety and stipulated in MMR 1961 will be followed scrupulously. In addition, proper warning system would be deployed and announced before cracking is resorted to. Quantity of expanding cements will depend upon nature and rock type, after charging of holes with expanding cement a line of crack will form between the holes and then rock breakers will be used for segregating the benches and pushing it by hydraulic shovel therefore, sizing and loading of the iron ore will be done manually in case of insitu ore, whereas in case of float ore material is directly loaded from area into dumpers by hydraulic shovel and shifted to screen plant for further size classification. In case of insitu ore working the cracking parameters will be as follows:

1.13 Broad Blasting Parameters

S. No	Item	Parameter
1	Bench height / Bench slice	6/7m
2	Hole diameter	38 mm
3	Hole depth	1.5 m
4	Spacing	1.0 m
5	Burden	0.9 m

1.14 Extent of Mechanization

All the major mining operations will be carried out with the help of heavy earth moving machines. However, sorting and sizing of iron ore and loading into dumpers will be done manually.

Hauling/Transport

The entire transport of ore from the area will be by road. The nearest railway loading point from the proposed area is Kusumkasa, which is located on Durg-Rajhara broad gauge line of SE Rly. The distance from the proposed mine and Kusumkasa railway station is about 30 km. At the user plant end there is no railway siding therefore, if ore were to be transported by rail, two additional lading and unloading points will be created.

1.15 Waste Generation & Management

The total waste generation during life of mine will be around 1.145 million tones. The applied ML area being the forest cover, great care and attention has been paid to waste rock disposal so that maximum reclamation of land can be done to as near its original form as possible. Waste generated from the area will be dumped at the waste dump located at suitable slopes of the hills to avoid wash out of pollutants. The areas selected are non-mineralised.

1.16 Stacking of Sub-grade Mineral

Sub-grade will be suitable blended with higher grade ore. Around 60% Fe content material is expected to be encountered during mining. This will be stacked separately. For disposal, the height of the stack will be maintained at 6m with a spread of 25m respectively.

The dumping will be done from top contour to lower contour following the ground contour.

1.17 Use of Mineral

The ore produced from this area will be utilized by M/s Godawari Power & Ispat Ltd for their steel project located at siltara industrial estate near Raipur.

1.18 Mineral Beneficiation

The average grade of ROM from the mine is 60% Fe and as such will be used for upgradation of high grade iron ore from other mines. Since sponge iron process require “Classified Lumpy Ore” (CLO) in the size fraction of +5mm to 18mm, size classification of the ore is being done at applying dry screen plant having plant capacity of 150 TPH and then material is shifted to the crushing site of applicant, which is situated at a distance of 35 km from the mines.

1.19 Site Services

Services required for mine shall be Mines Office, first aid stations, rest shelter, drinking water facility etc are proposed to construct at the northwestern.

1.20 Employment Potential

The strength of employees would be around 218.

1.21 Project Development and Execution

Resources Required

- **Man Power**

Mostly the labors will be recruited from local surrounding villages.

- **Water Requirement**

Water consumption is around 25 m³/day. The ground water will be drawn from bore well for water requirement.

- **Land Requirement & Land use pattern**

The land use pattern for the mine lease is given in Table-1.

Land utilisation pattern

(Area in ha)

S. No.	Particulars	Present	During plan period	Ultimate land use
1	Total area excavated (broken)	1.10	4.02	8.69
2	Area fully reclaimed (backfilled out of 2)	-	-	-
3	Area rehabilitated (out of 3) by afforestation	-	-	-
4	Total area under dumps	-	3.01	3.88
5	Area under roads	0.13	2.48	1.47
6	Area under green belt (other than dump and backfilled area)	-	0.65	1.11*
7	Area under infrastructure	-	0.30	0.30
8	Other area (vehide movement etc)	-	9.52	8.60
9	Area for future exploration	31.13	9.37	8.31
Total		32.36	32.36	32.36

1.22 The Next Steps

1. Terms of Reference Meeting for the proposed project
2. Preparation of Draft EIA & EMP report as per the TOR
3. Conducting Public Hearing
4. Preparation of Final EIA & EMP report after incorporating Public hearing proceedings
5. Environmental Clearance