



Workshop on Threshold Value of Mineral at Ahmadabad, 7th Oct-2017

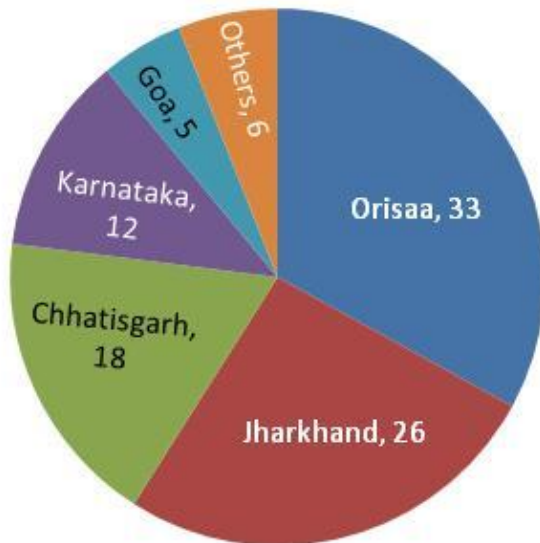
by IBM, Ministry of Mines, GOI



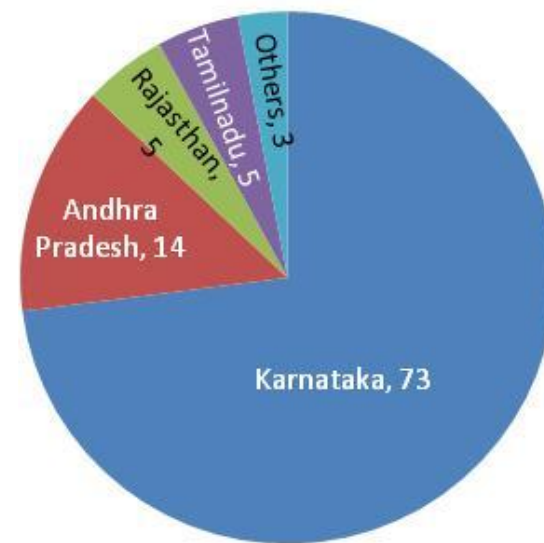
Indian Iron Ore Resource at a Glance

Total Resources of Hematite and Magnetite Ore as per UNFC system & as on 01.04.2010

Hematite
17,882 million tonnes



Magnetite
10,644 million tonnes



Iron Ore Resource and Mining in Rajasthan

Resource as per Department of Mines & Geology

- Total Resource in Rajasthan : 547 Million tons
- Pur-Banera Belt Bhilwara : 522 Million tons

Production in 2015 -16

- Total Mining : 4.134 Million tons
- JSAW Mining : 3.929 Million tons

Threshold Value of Iron Ore

“Threshold Value of Minerals” means limit prescribed by the Indian Bureau of Mines from time to time based on the beneficiability and or marketability of a mineral for a given region and a given time, below which a mineral obtained after mining can be discarded as waste.

As per Gazette notification 16th Oct’2009-

IRON ORE:

1. Hematitic iron ore : 45% Fe(Min)
2. Hematitic Siliceous Ore (For Ore of Goan Origin): 35% Fe (Min)

Grade of Iron reported as per MCDR' 2017

Iron Ore	ROM (Fe)	Lumps (Fe)	Fines (Fe)	CLO (Fe)	Concentrate
	Below 51 %	Below 51 %	Below 51 %	Below 62 % (any Size)	
	51-55%	51-55%	51-55%	62-65% (5-18 mm)	
	55-58 %	55-58 %	55-58 %	62-65% (10-40 mm)	
	58-60%	58-60%	58-60%	62-65% (others)	
	60-62%	60-62%	60-62%	65% and above (5-18 mm)	
	62-65%	62-65%	62-65%		
	65% and above	65% and above	65% and above		

Definition of Concentrate

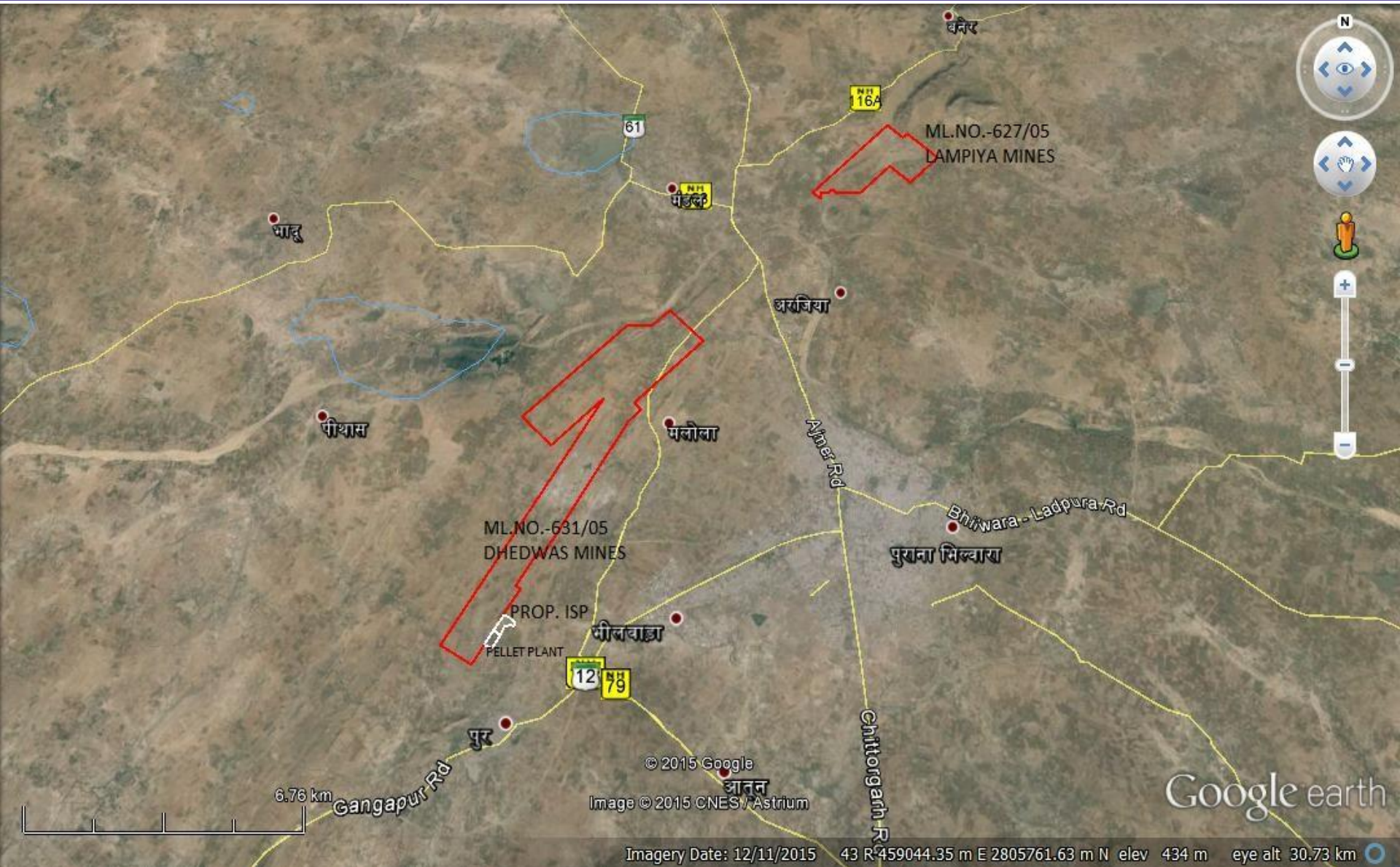
- The item “Concentrate” in the mining returns creates confusion and misunderstanding as there is no definition of concentrate therein.
- The 2nd schedule to the MMDR Act’1957 (prior to 2009) mentions about the item concentrate. As per Govt. of India Notification GSR No.677 (E) dated 14th Oct-2004

Item No. 23 of Second Schedule of MMDR Act.1957.	(ii) Royalty on Iron Ore Fines (a) With 65% Fe or above (b) With 62% Fe content or more but less than 65% Fe content, (c) With less than 62% Fe content,	Rs. 19/- per Tonne, Rs. 11/- per Tonne, Rs. 8/- per Tonne.
	(iii) Concentrate prepared by Beneficiation and / or Concentration of low grade ore Containing 40% Fe or less.	Rs. 4/- per Tonne.

Comparison of Hematite and Magnetite Ore -Raj

S. No	Particulars	Hematite Ore	Magnetite Ore	Reference
1.	Threshold Value	45% Fe	Not determined	Min. of Mines Notification No. T-45031/CGBM/2007 (PF) Dated 16.10.2009
2.	Actual Mining grade	+55 % Fe	10-40% Fe Average 25% Fe	
3.	Geological Formation	Superficial	Mostly Deep seated	GSI, Report on Pur-Banera Belt, 1969-70
4.	Nature of Deposit	Extensive	Lean	GSI, Report on Pur-Banera Belt, 1969-70
5.	Stripping Ratio (Ore: OB ratio)	Less than 1:1	More than 1: 4.5	
6.	Average Yield	85%	25%	
7.	Iron Ore / ton of Steel	1.7 to 2.0 tons	5.5 to 6.5 ton	Iron and Steel Vision 2020, IBM
9.	ROM Mining Cost	Low	Very High	
10.	Processing and Beneficiating Cost	Low	Very High	

Google Image of Mining Lease Area – Dhedwas & Lampiya



Unique Features

- First Large Scale Mechanized Mine of Iron Ore in Rajasthan
- The only Plant in India to utilize Very Low grade Iron Ore (Avg. Fe 25%, Low yield)
- High Stripping Ratio 1 : 4.5
- Requires about 18 ton Mining to produce 1 ton of Concentrate
- Mining and dumping of overburden on Hired land
- Use of Treated Sewage Water of Bhilwara from JSAW established STP for various processes.

Concerns

Most of the Magnetite deposits are below 40% Fe which is below Threshold value of the Hematite Iron Ore i.e. 45%. As per current grade of Magnetite Ore, it comes under waste category

- No Separate Category of Magnetite Iron Ore
- Currently, the Royalty on Iron Ore Concentrate is based on ad valorem basis of Hematite Iron Ore which is very high considering very low grade Magnetite Ore.
- High Processing Cost of Magnetite Iron Ore

Request for Consideration

- Introduction of Threshold value for Magnetite Ore, Fe 20%
- Introduction of separate grading structure of Low Grade Iron Ore i.e. Fe 20 to 40%.
- Re-introduction of separate grading structure of Concentrate produced from Low Grade Iron Ore containing Fe 40% or less as existed up till 2009.
- No Royalty for mining and processing below 20% Fe



Thank You

