

BRIEF REPORT ON THE PL AREA INSPECTION IN RESPECT OF DHOBIL IRON ORE (UNDER SARANDA FOREST) DEPOSIT (450.72 HECT.) OF M/S VEDANTA LTD , W SIGBHUM , DISTRICT, JHARKHAND.

GENERAL INFORMATION:

The PL area of Dhobil Iron Ore deposit over an area of 7sqkm hecets was granted by Govt. of Jharkhand vide their letter no. Kha NI (W Singhum) in favour of M/s Vedanta ltd formerly Ms Sesa Goa ltd. Dated 17/12/2004. The Pl area is located in Dhobil falls under Ankua reserve forest of Saranda Forest Division. The lease was executed on 10./03./2005.

The scheme of prospecting was submitted on 8/04/2005 to IBM Kolkata office. Further lease was extended for 2 yrs up to 09/03/2010. A prospecting scheme was submitted on 04.06.2009 and modified scheme of prospecting on 22/04/2009.

Further modification in scheme of prospecting was submitted on 18/05/2017 in compliance to Govt of Jharkhand letter dated 13.01.2017 for submitting prospecting and feasibility report as per UNFC norms along with DGPS report for 450.72hect only..

The area was inspected by the undersigned on 25-27July,2017 accompanied by Mr Sanjay Shukla ,Cpmpany representative.

LOCATION AND ACCESSIBILITY:

The PL are of M/s Vedanta (Sesa Goa) is located at the village Dhobil, Taluka Manoharpur, W singhhum district of Jharkhand. The area coordinates are latitude :221549N & 221806N and 851701E & 851834E falls under survey of of India toposheet no-73F7. Nearest Town : Manoharpur State highway is 6-7 km away, Railway station Manoharpur- 25 kms ,Port-Paradip at 350 km and Haldia is at 400 km, Nearest airport Ranchi is at a distance of 120km.

Entire lease area comes under reserve forest. Forest -Ankua R.F , Sal is the main tree in this area. Another species are Mahua, Kusum, Tilai, Harinhara, Gular etc. Monkey , wild bear etc are the main fauna in the nearby area.

Koina river , HamsadaNadi , SarakoNadi are 3-4 kms from the applied area.

PHYSIOGARPHY:

Area is having highly undulating relief with steep slopes and valleys forming small and high hill. The highest RL of the applied ML area is 740 mt and lowest is 340 mts from MSL. Three seasonal nalas in the area formed dendritic pattern .

(ix)	No of samples drawn for chemical analysis								
	(a) Grab/channel/ chip/groove samples	115	--	--	--	--	--	115	115
	(b) Borehole samples	831	--	--	--	--	--	831	831
(x)	Number of samples for petrological/ mineralogical studies	4	--	--	--	--	--	4	4
(xi)	No of samples for bulk density studies	831	--	--	--	--	--	831	831

Regional Stratigraphy:

The stratigraphic succession has undergone evolutionary changes as per interpretation of MR H C Jones, Mr JA Dunn etc Regional Stratigraphy as per Sarkar & Saha (1983) is given below.

-----Unconformity-----
 Singhbhum Granite (3000 Ma)
 -----Iron Ore Orogeny-----
 Iron Ore Group Epidiorite
 Upper shale with sandstone and volcanic
 BHJ with iron ores Lower Shale, tuff and acid Volcanic
 Mafic lavas with tuffs
 Sand stone and conglomerates (Local)
 -----Unconformity-----
 Older metamorphic Tonalite Gneiss (OMTG 3800 MY)
 -----OLDER METAMORPHIC OROGENY----- Older metamorphic group (OMG)
 Mafic intrusive, calc magnesian
 Meta sediments, quartzite etc.

-----BASEMENT(3800MY)-----

Regional structure:

The Iron Ore Group outcrops between Manoharpur in the north to Gandhmardhan in the south. It has an elongated horse shoe shape, trending NNE-SSW, open to the NNE and spread over a surface area of 100x30km. The Budhuburu hill with Chiria Iron ore deposit, is located on the north western edge of the area. The regional structural configuration of the iron ore group has been interpreted as a NNE-SSW trending synclinorium plunging NNE. The northern periphery of the basin shows a buttal against the ENE – WSW Satpura-Mahanadi strike trend.

Local geological setting:

Dhobil PI Deposit, part of the Chiria Iron ore deposit is a banded limonite-goethite-hematite assemblage, capping the Budhaburu hill sloping down to 530MSL resting on shale and BHQ country rock of the Iron Ore Group, trending parallel to the major structure. Hematite and Goethite are the major ore forming minerals. The longest axis of the deposit is N25E-S25W, over a visible strike length of 6.5km and a variable width between 1.4 and 3.5km.

The following lithological outcrop within the PL area was observed.

Colluvium/Alluvium/Top Soil

Laterite

Lateritic Ore

Laminated Ore (including high grade laminated ore and lumpy ore)

Blue Dust

Banded Iron Quartzite, Predominantly of the BHQ type.

Shale.

Exploration

Since the entire lease area falls in Saranda Reserve Forest, the Forest division has permitted to drill only 9 boreholes. Reserve was estimated on the basis of 9 boreholes drilled and as per MEMC Rules 2015 as per reported by the lessee.

Level of Exploration	No of boreholes	Bore hole spacing	Area covered in ha	Avg Fe %
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G2	6	200x200	32.0	60.3
G3	3	300x300	129	57.8
G4			73.0	60.3

Total 234

Resource Estimation

Classification of Mineral reserve/Resource	Code	Quantity in million Tonne	Avg grade	Thresh Hold value
Proved	111	Nil		
Probable	121	Nil		
	122	29.38	60.36%	45% Fe
Total Reserve		29.38		
FeasibilityResource	211	Nil		
Prefeasibility Resource	221	NIL		
	222			
Measured Resource	331			
Indicated resource	332			
Inferred resource	333	58.44	52.21%	
Reconnaissance resource	334	70.83	61.89%	
Total Reserve & Resources	158.65			

Sample analysis:

The PL area was inspected on 25-27 July,2017 by the undersigned along with Sri Sanjay Shukla DGM m/s Vedanta ltd. During inspection four samples were collected from borehole cores and sent to IBM OD laboratory for analysis on 24.08.2017. Results of the of four XRF scan of iron ore samples are given below.

Sr no	Sample Code	Fe(T) %	MnO2 %	SiO2 %	Al2O3 %	P2O5 %	TiO2 %	Cr2O3 %	LOI %
1	IBM/DHPBIL/01	62.46	0.39	3.66	3.8	0.06	0.09	0.06	2.11
2	IBM/DHPBIL/02	61.86	0.04	0.97	4.82	0.15	1.11	0.01	5.04
3	IBM/DHPBIL/01	61.66	0.04	1.006	4.98	0.14	0.11	0.01	5.15
4	IBM/DHPBIL/01	53.77	0.05	3.94	9.86	0.30	1.03	0.03	7.50

Further , Submitted modified Report was scrutinized and shortcomings /discrepancies sent to the lessee for compliance. The lessee has submitted modified report covering compliance of discrepancies raised by this office on 18.12.2017.

Present Status:

. Director of mines, Govt of Jharkhand vide letter no 76 dated 09.01.2018 asked the comments/information on three valid saved cases under 10A2B for further action. This office sent reply in respect of all three pending cases on 09/02/2017.. Commissioner mines in the meeting held on 12.03.2018 recommended to issue LOI and ML will be granted subject to approval of Mining Plan by IBM and NOC from EC .FC and other statutory clearances

Sd/-
(B K Singh)
Asstt. Mining Geologist