



GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES INSPECTION
REPORT

OF

PROSPECTING LICENCE GRANTED TO

M/S Jindal steel and Power Limited for Iron Ore
OVER AN AREA OF 1162.00 (HECTARES),

Located in Village : Near Kamalur,
Pandewar, Keshapur etc,
Tehsil: Dantewada, District: Dantewada,
State: Chhattisgarh

BY

Name: Rudra N.Mishra
Designation: Senior Mining Geologist.
Region: Indian Bureau of Mines, Raipur

INSPECTION REPORT

PART -I

1.0	INTRODUCTION	
1.1	Name of the Inspecting Officer & Designation	Rudra Narayan Mishra, Designation: SMG
	Region/Zone/GM& MM Cell	Raipur Region
	Date of Inspection and accompanying official of PL holder	02/11/2017, Shri U.P Singh, Associate Vice President- Mines Development.
	Date of previous Inspection if any and Name of Inspecting	No previous Inspection by IBM officer.
2.0	Details of PL area	
	Village (near by)	Kamalur,Pandewar,Keshapur etc
	Tehsil	Dantewada
	District	Dantewada
	State	Chhattisgarh
	Area (in Hectare)	1162.00ha
	Name of Mineral for which PL granted	Iron Ore
	Date of grant with period; first grant/Renewal/re-grant	22/08/2013 for period of 2 yr Renewal: 19/11/2015 to 19/11/2018 for 3 yrs
	Date of execution of the PL	29/02/2016
	Survey of India Toposheet Number	E44 J/1
	Coordinates Lat. And Long.	A. 18°54' 21" , 81°14' 24" B. 18°50' 49" , 81°14' 24" C. 18°50' 48" , 81°13' 21" D. 18°54' 13" , 81°13' 23"
3.0	Name and Address of PL Holder	
	Name	M/s Jindal Steel and Power Ltd Mr. Pankaj Goutam, Excutive Director
	House No:	P.B. No. 16,Kharsia Rd
	Village	Kharsia Rd
	Tehsil	Raigarh
	District	Raigarh
	State	Chhattisgarh
	Tel (Off)	0771-2471403,3054640
	Tel (Res)	
	Mobile:	
	Email Id:	crop.affairs@rpr.jspl.com
3.1	Land Use Details: (Forest, npn forest, grazing, agricultural, barren etc. with details of area in hectare.)	Forest area:1162.00 ha

PART-II

4.0	Status of compliance of Rules MCDR-2017	Date of submission	Action taken by IBM in case of non submission
4.1	Scheme of prospecting under rule 4 of MCDR	15/01/2014	Submitted on time
4.2	Submission Modification in Scheme of prospecting under Rule 5 if any	01/09/2016	
4.3	intimation about commencement of prospecting operations in Form-A under Rule 7	11/09/2015	
4.4	Appointment of Geologist under rule 55 (Please give name and other details)	Shri Uday Pratap Singh, M.Tech (Applied Geology),PG Diploma Remote sensing for Mineral Exploration. Date of Appointment : 25/12/2010 Permanent employee of M/S JSPL.	Details given in Form -B , Submitted Date : 2/12/2016
4.5	Form- I under rule 46 regarding certain appointment	1) 30.03.15 to 06.04.15-1 st vendor(M/s Silverline exploration pvt ltd). 2) 22.11.16-2 nd vendor(M/s Vimaldhri Mining Minerals & Developers). 3) 18.09.17-3 rd & 4 th vendor(M/s Orion Minerals, M/s Anna & Anna Group)	Vendor for Drilling Operation. Submitted on time
4.6	Notice of shaft sinking and bore holes in form-'J' under rule 47	Bore hole no. 107-27.02.17 Bore hole no. 241-18.09.17 Bore hole no.120- 18.09.17 Bore hole no.257- 11.10.17 Bore hole no. 258-30.10.17	Submitted on time for all 05 boreholes.
4.7	Records of shafts and bore holes under rule 48	Submitted during the visit.	
4.8	Preservation of cores under rule 59	Yes	Observed during the inspection.
4.9	Submission of yearly report/ final report in Form -B under rule 8	16.12.2014 16.12.2015 02.12.2016	Submitted on time. Submitted on time. Submitted on time.
4.10	Availability of boundary pillars in the PL area (Yes or No)	Yes.	
4.11	Does the PL area includes forest land (Yes or No)	Yes, Entire PL area is forest land.	
4.12	If yes then whether FC granted for exploration activities from MOEF with details of permission sought	Permission survey, mapping and demarcation and drilling of 25 bore hole for Phase 1.	
4.13	Permission sought	CCF Jagdalpur and DFO, Dantewada on 29.03.2016.	After PL renewal upto 19.11.2018.

4.14	Whether chemical analysis carried out in Govt. lab or NABL accredited lab	Yes, 1. 10 nos Samples to DGM, CG 2. 10 nos. to NMDC, Bacheli. 3. 10 nos. of sample collected during visit for analysis at OD Lab Nagpur	Results received of 10 nos. Results awaited
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PART-III

5.0	GEOLOGY	
5.1	Previous work	<p>The Bailadila hill range is famous for its rich and large Iron Deposits. PL area is northern extension of famous Bailadila iron ore bearing ridge which is being exploited by NMDC Ltd. Geological Survey of India has carried out regional Geological mapping in the Bailadila hill range.</p> <p>Presence of iron ore reported all along the strike length of hill. Pondewar hill is situated on the north of Bailadila hill that has N-S trend.</p> <p>The subject area is the northern extension of Bailadila hill ranges. The Ground elevation is around 450 mts. and highest elevation is around 1100 mts above MSL.</p>
5.2	Physiography	<p>The area is hilly topography surrounded by the forest. The area is covered with iron ore exposures with av. Rainfall pattern-1250mm. The area is a part of Shakni & Dankni river which is passing near the PL area in eastern foothills (flowing West to East).</p> <p>The max. Temp. of 38 degrees and minimum of 10 degrees.</p> <p>The flora consists of shal, shishim, soughan, bamboo tress forming a dense forest. The Fauna consists of field deer, beer, cheetah tiger etc.</p>
5.3	Regional Geology: Brief description to have an idea of the broad geological, structural frame work and pattern of mineralization. (Brief stratigraphy of the region to be given)	<p>A total of 14 different deposits have been identified and established in Bailadila area. These are confined within the Bailadila hill range stretching for about 40 Km along north- south and about 9 Km wide along east- west directions the deposits contain high grade iron ore (+ 64% fe) and are considered as one of the richest iron ore deposit in the country.</p> <p>The Pharaspal, Kamalur and Pandewar Iron ore deposit is North extensions of Bailadila iron ore series and having maximum elevation 900 mt from msl and 400 from normal ground level.</p>
5.4	Local Geology: Details of dip, strike, structural features lithology/rock types, controls of mineralization observed in the PL area, outcrops of mineralisation, surface elucidations seen with approximate strike length and width.	<p>Point B is almost 4 km. form Kamalur Railway station. From point B to Central part of the area is having majority of BHQ body with soil cover and BHQ float occurs. The dip amount of BHQ body is almost vertical (85 degree) towards dipping in eastern direction.</p> <p>Southern part of PL area between point C and B is also showing continuation two lithounits viz. BIF with Quartzite and meta-conglomerates which were earlier recorded in central part of PL area.</p> <p>These two units are separated out by presence of float iron in the middle part.</p> <p>In the western side of the block where Point “D “ is located, which is located on very steep escarpment is having BHQ body and very large amount of floats of BHQ . Toward the southern side from the point no D presence of float Iron ore and BHQ pieces were recorded.</p> <p>Two fracture / lineaments trending EW and NE-SW cut the central part of the area across the strike and another fracture / lineaments trending NE-SW cuts the southern part of the area. One fault trending NE-SW cuts the northern part of the area.</p>

5.5	Description of Exploratory workings (Brief description of dimension of exploratory pits/ old workings/ Observations made in the old pits, nala cuttings, escarpments etc.)	The main hump shape structure of OX is located in the middle of block, which is quartzite having very steep escarpment. Quartzite being hard and resistant to weathering exhibiting bolder topography, forms of residual hillocks.
5.6	Whether the proposals in the scheme are adequate to delineate the ore body in a way that mineral resources can be estimated partly under G1 and G2 categories of UNFC so as to enable the PL holder for preparing a systematic and scientific mining plan	Yes. On the basis of surface sampling and detailed mapping the scheme of prospecting can be further modified discarding the litho units of Quartzite, Ferruginous shale, dykes and steep escarpments to avoid unnecessary drilling holes.
5.7	If not then further measures suggested to be taken up for establishing the reserves/resources towards determination of grade of mineral/ore, mineralogical/ amenability to beneficiation studies	NA

PART-IV

6.0	REVIEW OF PROSPECTING SCHEME				
6.1	Name of Exploration Agency (whether empaneled with IBM): No: M/s Silverline Exploration Agency & Jindal Steel & Power Limited.				
6.2	Work carried out v/s proposed in scheme of prospecting				
	Activities		Proposed	achieved	Remarks
i.	Geological Mapping (scale)	Scale & area covered	1. 1:50000 & entire area of 1162 hectares 2. 1:4000 & entire area of 1162.00 hectares	1. 1162 hectares completed. 2. 1:2000 & 669.01 hectares completed.	
ii.	Pitting	Nos	NA	NA	
iii.	Trenching	Nos	NA	NA	

iv.(a)	Drilling	Nos of holes	1. 25 in Phase-1(forest permission granted). 2. 243 in Phase-II(after forest permission)	04	Phase 1- Forest permission enclosed. File under process for Phase II forest permission.
iv.(b)	Type of drilling	Core/R C/DTH / metre	Core	Diamond Core drilling	
iv.(c)	Drilling	metre	1. 750 m 2. 7290m	1. 120m 2. Forest permission for phase-II awaited.	
v	Samples for chemical with check sample criteria(10%) /mineralogical analysis	Nos	1. Surface sampling during geological mapping in 1:50000 scale(268 samples). 2. Surface sampling during geological mapping in 1:2000scale 3. Drill core samples received after the TP from forest department. (06 core boxes)	1.268 samples. 2.207 samples. 3. Sample preparation is under progress	Samples collection by the Agency-M/s Silverline Exploration Pvt. Ltd. TP from forest department received shortly. Result Awaited. 10 samples during inspection dated 03.11.2017.
vi.	Any other (please specify)		Nil	Nil	
vii	Expenditureincurred in exploration activities 1. As per Prospecting Scheme dated 15.01.14. 2. As per modified Prospecting Scheme.		2.63 crores approx. <u>Split up details</u> 1 st year-0.70 crores 2 nd year-1.94 crores 7.77 crores approx. <u>Split up details</u> 1 st year-1.96 crores 2 nd year-3.88 crores 3 rd year-1.93 crores.	0.75 crores approx. 2.47 crores approx. 3.90 crores	

6.3	Critical analysis of prospecting pattern and data and maintenance of data/information, with a view to comment on adequacy of work done , vis-à-vis the scheme of prospecting under rule 4 & 5 of MCDR-2017.	Slow progress in drilling due to a) Delay in permission to enter upon the forest land. b) Intense tough terrain & extremely naxal effect.
6.4	Review of the status of the area not covered by prospecting.	Entire PL area was mapped for Geological and related features on 1:50000 scale. The detailed mapping of the rest of the area on 1:2000 is under progress followed by sub surface sampling. It is reported that area is structurally controlled, having vertical to sub vertical north south trending ore body. It is reported that western flank of entire PL area is comprises of quartzite dominating BHQ with very low low fe content .
6.5	Environment	
6.6	Extent of the area under Non-forest land and forest land	Totally forest land.
6.7	Environmental Details	The area is hilly topography surrounded by the forest. The area is covered with iron ore exposures with av. Rainfall pattern-1250mm. The area is a part of Shakni & Dankni river which is passing near the PL area in eastern foothills (flowing West to East).The max. Temp. of 38 degrees and minimum of 10 degrees. The flora consists of shal, shishim, soughan, bamboo tress forming a dense forest. The Fauna consists of field deer, beer, cheetah tiger etc.
6.8	Environmental Protection measures adopted and their efficiency	Yes, all protection masures adopted
6.9	Socioeconomic Concern	Supporting activity for the development of Socioeconomic condition a. child education through sponsorship in annual school function, school kit distribution, bag distribution b. Sport activities, sport kits distribution c. Drinking water facilities through solar pump installation d. Cement road construction through CSR. e. Safety issues through torch distribution. f. Beatification of Dantewada district head quarter through installation of fountain
6.10	Expenditure incurred in community development through employment /education/village development/housing in the vicinity area.	Rs 35.65 lakhs approx

PART-V

7.0	OBSERVATIONS OF INSPECTING OFFICER	
7.1	Conclusion	Slow progress in drilling due to forest clearance and area intense effected by extreamly naxal Sampling and analysis process is also effected by the forest dept without their permission drill core can't be move from drill site. Only 25 bore hole permitted by the forest dept.
7.2	Recommendations	Pit analysis can be done to determine the float ore density and flot ore reserve can be calculated.Stream sediment sampling can be done to check the occurence of Rare Earth Element.
7.3	Suggestions for further exploration work if any based on field inspection and follow up	Expedite the forest permission Phase II process. Establish the reseve and resource as per MEMC rule.

Date: 21/12/2017

Signature:

Place: Raipur

Rudra N.Mishra
Senior Mining Geologist