

**REPORT ON CHECK INSPECTION OF HISRI NEW MINE OF HINDALCO  
MINES DIVISION IN LOHARDAGA DISTRICT**

**Name and designation of inspecting officer** : Shri. Anupam Nandi RCOM, IBM, Ranchi

**Date of Inspection** : 15/03/2018

**1. General information of the mine:**

- i) Name of mine : Bhusar Bauxite Mine (65.31 ha)
- ii) Owner : Shri.A. K Agarwala,  
M/s Hindalco industries Ltd.  
At & P.O. - Court Road, Lohardaga
- iii) Nominated Owner : Shri.A. K Agarwala,  
M/s Hindalco industries Ltd.  
At & P.O. - Court Road, Lohardaga
- iv) Mining Engineer : Shri Pradeep Kumar
- v) Agent : Shri B. K. Jha  
At & P.O. - Court Road, Lohardaga  
Dist. Lohardaga, Jharkhand -835 302  
Phone - 06526-224015, 224016, 224446  
Fax- 06526-24112
- vi) Mine Manager : Ajay Kumar Pandey
- vii) Lease Area : 65.31 Hect.
- viii) Location : Vill. Bhusar, Dist Lohardaga, State Jharkhand
- ix) Lease Period : Captive mines up to 2030
- x) Date of Expiry : As per MMDR Amendment Act 2015, the validity of  
the mine is up to 31.03.2030
- xi) Date of approval of Mining Plan: 31 May, 2016
- xii) Date of approval of scheme :
- xiii) Period of Mining Plan : 2015-16 to 2019-20  
Scheme of Mining
- xiv) Production (Year 2016-17) : 171961 tones

**2. Brief description of the mine:**

- a. A brief description of the mine covering location, geology, problems associated with mining of the deposit etc. may be given.

The bauxite deposits of Lohardaga occur on a Paleo paneplane. The Archean rock formations attained a mature topography with extensive paneplanation at a level of 1, 000-1, 150 m above MSL. Later rejuvenation of erosion cycle resulted in the dissection of the paneplanes by rivers, nullahs and gullies, and gave rise to numerous isolated flat-topped plateaus, as remnants of old paneplanes. The plateaus are mostly elongated in the N-S to NNW-SSE direction. Escarpment faces of the plateaus are scarred by numerous small nullahs in qua qua versal pattern. The seasonal flow of these small nullahs is collected by bigger streams, which in turn discharge into rivers .

The Bagru, Bhusar Hisri and pakhar plateaus occupy the eastern part of the highland .Bhusar leasehold of Hindalco occurs on the Bagu hill with NW-SE elongation has a maximum length of 2900m max width 1200m.

The lateritic profile is underlain by Chhotanagpur Granite Gneiss .laterite is exposed in the down slope of the Plateau particularly in escarpment faces .

Borehole lithologs and and quarry face reveals a variable thickness of laterite and is underlain by lithomargic clay.The maximum thickness of different units of the profiles proved by drilling and observed in mine faces,is tabulated below.

Soil & Morrum – max 15.24m

Laterite-max 19.05m

Bauxite -18.28m

The Bauxite of the area is light to buff colour, massive with botroidal texture. Mineralogically Gibbsite dominates over Bohemite in this mine.

Chemically bauxite is High Alumina( $Al_2O_3 > 45\%$ ) and high Titania( $TiO_2 .8\%$ ,  $SiO_2$  is max 10% in the residual part of the Bhusar lease.

Reactive silica as constituent of Kaolin is predominantly present in Bauxite and free silica in minor proportion. Fe<sub>2</sub>O<sub>3</sub> is mostly present in the form of Goethite & Hematite. Other minerals present are rutile and minor amount of kaolinite, quartz and muscovite.

**General Geology :**

The generalized geological succession of the area may be summarized as below :

<b>RECENT TO SUB-RECENT</b>	<b>Soil, laterite, Bauxite, lithomarge</b>	
<b>UPPER CRETACEOUS TO EOCENE</b>	<b>Deccan Trap</b>	<b>Basaltic flow with intertrapeans.</b>
<b>UNCONFORMITY</b>		
<b>Archaean</b>	<b>Chhotanagpur Granite Gneiss.</b>	<b>Pegmatite, aplite, quartz tourmaline rock, pseudo diorite, granite gneiss, diorite, ultrabasic igneous rocks.</b>
	<b>Iron Ore Series Older Metamorphics</b>	<b>Phyllite, mica-schist, quartzite, calcisilicate and basic rocks.</b>

- b. Description on deployment of mining machinery may be given in the following format.

**b) Deployment of mining machinery:**

**Departmental**

Sl No	Machineries deployed	Capacity	Number of Units	In use	Idle	Percentage Of utilization	Brief description	Remarks
1	Back-Hoe Excavator/Rock-Breaker	0.9 cu.m.	1	no	yes	53.57	Model-EX-210 LCH Tata, 125 HP	Diesel Operated
2	Back-Hoe Excavator	1.7 cu.m.	1	yes	no	62.68	Model-EX-350 LCH Tata, 220 HP	Diesel Operated
3	Pay loader	2.0 cu.m.	1	yes	no	25.42	Model-WH 9020sx L& T, 133HP	Diesel Operated
4	Dumper # 1N	25 tonnes	3	no	yes	0	Model-Terex, 1025A HM, 303HP	Diesel Operated
5	Dumper # 2N	25 tonnes	1	yes	no	60.93	Model- Terex, 1025A HM, 303 HP	Diesel Operated
6	Dumper # 9	32 tonnes	1	yes	no	61.02	Model- CLA.25.300 MAN, 300HP	Diesel Operated
7	Dumper # 8	32 tonnes	1	yes	no	64.32	Model- TATA- PRIMA 2528 K, 250HP	Diesel Operated
8	Dumper # 7	25 tonnes	1	yes	no	65.71	Model- Terex, 1025A HM, 303 HP	Diesel Operated
9	Crusher - Large	120 TPH	1	yes	no	33.45	Model- Gruendler – USA double Jaw, 200 HP	Diesel and partly by Electric
10	Crusher - Small	60 TPH	1	yes	no	12.01	Model- Gruendler – USA double jaw, 180 HP	Diesel and partly by Electric
11	Air powered crawler drill	100 TO 110 mm dia.	1	yes	no	46.57	Model- ROC 203 PC Atlas Copco,	Pneumatically Operated
12	Air Compressor (Screw type)	450 cfm	1	yes	no	46.57	Model-XAH-210 Atlas Copco, 126 HP	Diesel Operated

**Contractual**

Sl No	Machineries deployed	Capacity	Number of Units	In use	Idle	Percentage Of utilization	Brief description	Remarks
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1	P.C - 210	0.9 cu.m.	1	yes	no	45.33	Model-PC-210 Kamatsu, 128 HP	Diesel Operated
2	VOLVO - 300	1.8 cu.m	1	yes	no	65.31	Model- Volvo- 300, 228 HP	Diesel Operated
3	Pay loader	2.5 cu.m	1	yes	no	40.13	Model- 9020 L& T, 126HP	Diesel Operated
4	Dumper	25 tonnes	6	yes	no	55.26	Model-2518 Tata, 180HP	Diesel Operated
5	Air powered crawler drill	100 TO 110 mm dia.	1	yes	no	40.63	Model- ROC 203 PC Atlas Copco,	Pneumatically Operated
6	Air Compressor (Screw type)	450 cfm	1	yes	no	40.63	Model-XAH-210 Atlas Copco, 126 HP	Diesel Operated

### 3. Implementation of Mining Plan or scheme of Mining:

Sr. No.	Proposal in the approved Mining Plan or Scheme of mining (Period from to )	Observations regarding implementation of proposals given in approved Mining Plan or Scheme of mining.	Remarks
1.	<b>CONSERVATION OF MINERALS</b>		
a)	Exploration:	No exploration during the year. Lease area has already been explored by boreholes. There is no such problem of conservation of Minerals in this mine. No grade wise sorting in the lease area.ROM is crushed by jaw crusher ,sent to Lohardaga siding by ropeway. No Subgrade generated. Higher grade ore is blended with lower grade ore and sent to captive Alumina plant.	Entire area a ready explored as per proposal.
b)	Utilization of subgrade mineral:		Conservation is satisfactory.
c)	Any other proposal for monitoring:		
2.	<b>SCIENTIFIC MINING</b>		
a)	Mine Development and method of mining	Mine development being done as per approved mine plan.Seprate benches made in OB and	Mine development is as per approved document, No deviation.

b)	Handling of Waste/subgrade material:	Ore. No proposal for separate dumping of OB and mineral waste. Concurrent backfilling by OB and waste in the mined out areas followed by spreading of top soil over it.	
c)	Area reclamation & restoration:	Total are reclaimed 32.05ha& rehabilitated -28.67ha by backfilling and plantation and 1.03ha by water harvesting.	1.38 ha area reclaimed during 2016-and rehabilitated 0.67ha against the proposal of 1.52ha for reclamation.
d)	Any other proposal for monitoring:	NA	
<b>3.</b>	<b>PROTECTION OF ENVIRONMENT</b>		
a)	Afforestation:	Total plantation was 92873 covering an area of 28.67ha within ML,survival rate-80% and 12710 plants covering an area of 5.72ha Outside ML area with survival rate-70%	Plantation carried more than proposed in approved plan.
b)	Quality of Air:	Within permissible limit	NIL
c)	Quality of Water:	Within permissible limit	NIL
d)	Noise Level:	Within permissible limit	NIL
e)	Vibration:	Within permissible limit	NIL
f)	Any other proposal for monitoring:	NA	

#### 4. History of Violations after approval of Mining Plan or Scheme of Mining:

Sl. No.	Date of Inspection	Name of Inspecting Officer	Violations of MCDR,88 observed andPointed out	Rectification of Violations	Remarks
1.	25/07/2016	Sri S Bodra AMG	NIL	NIL	Mining is being carried as per approved Mining Plan.
2.	11/01/2017	Sri J mohantha,AME	NIL	NIL	

**5. Socio-Economic Development Plan: Total 44.17lakh spent for C S R activities during 2016-17.**

<b>Sl. No.</b>	<b>Proposed Action Plan towards Socio-Economic Development</b>	<b>Expenditure Proposed (In Rs. Lakh)</b>	<b>Expenditure Incurred (In Rs. Lakh)</b>	<b>Remarks</b>
1.	General Development in the area			
	i) Housing			
	ii) Water Supply			
	iii) Sanitation			
	iv) Health, Safety and Medical Facilities			
2.	Education and Training			
3.	Employment to local inhabitants			
4.	Public Transportation and communication			
5.	Recreation and other sports activities			
6.	Expenditure for environment management			
7.	Other			
	<b>Total:</b>		<b>44.17</b>	<b>CSR activities.</b>

**(Anupam Nandi)**  
**Regional Controller of Mines**  
**& Inspecting Officer**