REPORT ON CHECK INSPECTION OF HISRI (N) MINE OF HINDALCO MINES DIVISION IN LOHARDAGA DISTRICT

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

Date of Inspection : 16/03/2018

1. General information of the mine:

i) Name of mine : Hisri New 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 Prakash Ranjan

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 : 14.55 Hect.

viii) Location : Vill. Hisri, 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 : 23 Dec, 2015

xii) Date of approval of scheme :--

xiii) Period of Mining Plan : 2015-16 to 2019-20

Scheme of Mining

xiv) Production (Year 2016-17) : 98608 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 Hisri(new) Plateau is a south-western extension of the Bagru Plateau. It is approachable through a narrow neck. The lenticular shaped Hisri new Plateau extends in the E-W direction. On the western end, there is a tongue-like extension towards south. The main plateau measures 600 m x 120 m. The elevation varies from 1, 025 MSL, the highest point being 1, 052 m above MSL.The plateau ends in steep scarps and ravines on all sides which act as outlets for the monsoon waters.

General Geology :

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

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

Local Geology :

The plateau with E-W elongation has a length of about 850 m (E-W), a width (N-S) of 650 m, and an elevation of 1,025 m to 1,052 m above Mean Sea Level.

The hill, composed of Chhota Nagpur granite gneiss, is covered by lateritic profile of variable thickness. The units of the profile and their sequence as observed on Hisri New Plateau and established by drilling, are as follows:

Red/ Black soil & Murrum	:	0.76 m to 5.33 m
Laterite	:	0 m to 12.44 m
Bauxite	:	1.5 m to 17.53 m
Clay	:	Bottom not drilled.

The aerial spread of different litho-units, projected below soil / murum cover of a maximum thickness of 0.91 m, has been presented in **Plate IIA.**

In this area, the bauxite is reported to have originated from the alternation of Deccan trap. However, no Deccan trap exposure is visible in the area. The bauxite layer generally underlines hard ferruginous laterite and directs overlies clay, which is underlain by granite gneiss. China-clay has not been found in any of the boreholes from the Hisri new Lease.

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
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 2017 to 2018)**	**Observations regarding implementation of proposals given in approved Mining Plan Or Scheme of mining.**	**Remarks**
1.	**CONSERVATION OF MINERALS:**		
a)	Exploration:	-Entire area is explored systematically by core drilling.	Exploration over entire area completed as per proposal**.**
b)	Utilization of sub grade mineral:	**-** 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 Lohardaga siding by ropeway. No Subgrade generated. Higher grade ore is blended with lower grade ore and sent captive Alumina plant.	Conservation is satisfactory.
c)	Any other proposal for monitoring:	-NA	
2.	**SCIENTIFIC MINING**		
a)	Mine Development and method of mining	-Mine development being done as per approved mine plan.Seprate benches made in OB and Ore.	No deviation in development proposals**.**
b)	Handling of Waste/sub grade material:	-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& rehabilitated 1.71ha up to 2016-17.	Total reclamation 1.71ha against the proposal of 2.39ha as mine
d)			

	Any other proposal for monitoring:	NA	was not in operation from 9.9.14 to 9.12.0215
3.	**PROTECTION OF ENVIRONMENT**		
a)	Afforestation:	Total plantation 3576, covering an area of 1.71ha with rate of survival 75%.	No of Planation exceeded the proposal.
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**	NIL

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 and Pointed out	Rectification of Violations	Remarks
	10.10.2017	**Shri. B. K Singh**	**Rule-26(2):** The yearly report of extent of protective and rehabilitative works carried out as envisaged in approved mine closure plan for the year 2016-17 has not been submitted to the Regional controller before 1st July 2017. **Rule-33:** The holder of a mining lease shall on or before 30th day of June every year submit to the authorized officer, as the case may be and the state Government, a digital copy along with a print copy of the Surface Geological Plan and Sections maintained under rule 32 of MCDR,2017 It was observed that no such plan and sections as required under the Rule have been submitted to this office. **Rule-55(3):** A Whole time Geologist has not been employed in your "A" category mines to carry out mining operations as required	**Rule 26(2):** The yearly report of extent of Protective and rehabilitative work carried out as envisaged in approved mine closure plan for the period 2016-17 has so far been submitted to your office. A copy of the same is enclosed for your reference. **Rule 33:** We have already submitted the surface geological plan along with sections maintained under rule 32 of MCDR 2017, at the time of submission of Annual Return. However, we are again sending the same along with a digital copy. **Rule 55(3):** Form-H for appointment of whole time Geologist has been enclosed	Complied Complied Complied

			under the rule.	herewith.	

5. Socio-Economic Development Plan: (FY2016-17)

Sl. No.	Proposed Action Plan towards Socio-Economic Development	Expenditure Proposed (In Rs. Lakh)	Expenditure Incurred (In Rs. Lakh)	Remarks
1.	General Development in the area			
	i) Housing		**0.250**	
	ii) Water Supply		**0.08**	
	iii) Sanitation		**0.702**	
	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		**0.18**	
6.	Expenditure for environment management			
7.	Other			
	Total:		**11.565**	

(Anupam Nandi)
Regional Controller of Mines
& Inspecting Officer