

**INDIAN BUREAU OF MINES  
MINERALS DEVELOPEMMENT AND REGULATION DIVISION**

**MCDR inspection REPORT  
Ranchi regional office**

**Mine file No :** JHK/LOH/BX/255/RRO

**Mine code :** 07JHK12012

- (i) Name of the Inspecting : **E025** ) **NAMAN EKKA**  
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : SH. S.P.JHA, MINE MANAGER & N. PRAMANIK, GEOLOGIST  
Official with  
Designation
- (iv) Date of Inspection : 05/01/2017
- (v) Prev.inspection date : 01/10/2016

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **PAKHAR BAUXITE MINE109.50**
- (b) **Registration NO.** : **IBM/961/2011**
- (c) **Category** : **A Other than Fully Mech.**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **JHARKHAND**
- District : **LOHARDAGA**
- Village : **PAKHAR**
- Taluka : **KISKO**
- Post office : **NARI-NAWADIH**
- Pin Code : **835302**
- FAX No. : **06526-224118**
- E-mail :
- Phone : **06526-224112, 224015, 22311**
- (f) **Police Station** : **KISKO**
- (g) **First opening date** : **18/08/2011**
- (h) **Weekly day of rest** : **SUN**
2. **Address for correspondance** : **VILL.- PAKHAR**  
**P.O.- KISKO, DISTT.- LOHARDAGA,**  
**JHARKHAND-835302**
3. (a) **Lease Number** : **BHR0271**
- (b) **Lease area** : **109.51**
- (c) **Period of lease** : **20**
- (d) **Date of Expiry** : **25/07/2028**
4. **Mineral worked** : **BAUXITE** **Main**

## 5. Name and Address of the

Lessee : MINERALS & MINERALS LTD.  
 AT/PO-LOHARDAGA DIST-  
 LOHARDAGA JHARKHAND  
 LOHARDAGA JHARKHAND  
 Phone:06526-224016  
 FAX :06526-224118

Owner : I.J.JOSHI  
 MINERALS & MINERALS LTD. PO  
 & DIST-LOHARDAGA LOHARDAGA  
 JHARKHAND  
 Phone:  
 FAX :

Agent : B.K.JHA  
 M/s HINDALCO INDUSTRIES  
 Ltd. COURT ROAD PO& DIST -  
 LOHARDAGA (JHK) LOHARDAGA  
 JHARKHAND  
 Phone: Mob- 941708929, 06526-224112/224015  
 FAX : 06526-224118

Mining Engineer  
 Name : SHRI DEBANAND NAYAK,Full Time  
 Qualification : B. Tech, Mining  
 Appointment/ : 16/05/2015  
 Termination date

Geologist  
 Name : MIHIR BARAI,Full Time  
 Qualification : M.Sc.(GEO)  
 Appointment/ : 24/04/2013  
 Termination date

Manager  
 Name : SRI S S VASISTHA  
 Qualification : B.E(MIN)  
 Appointment/ : 16/05/2015  
 Termination date

6. Date of approval of Mining	:	Fresh under rule 22 MCR1960	23/04/2008
Plan/Scheme of Mining	:	MP modif under MCR 1960	23/05/2016

## PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	There was no proposal for BHs to be given during the approved plan period	No exploration was carried out during the period as no exploration was proposed. Hence no backlog of exploration existed as on date of inspection.	
1b	Exploration over lease area for geological axis 1 or 2	There was no proposal for BHs to be given	No exploration was carried out as no proposal was available	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No such proposal was there in the present approved Scheme of Mining.	No exploration agencies were assigned during the Year.	M/s Saturn Mining & Exploration Pvt. Ltd has done the exploration in the past.
1d	Balance area to be explored to bring Geological axis in 1 or 2	As per approved document dated 23.05.2016, no area remains unexplored.	Altogether 107 BH's has already been drilled in the entire lease area leaving 7.50 m safety barrier	
1e	Balance reserve as on 01/04/20	As per approved document the Reserve/Resource as on 01.04.2015 was as given below (in MT)	After depleting the production of 554570 MT during 2015-16 to 2016-17, the Reserve/Resource position as on 01.04.2017 is given below:- Reserve - (111) - 13498 (122) - 921337 Resources - (221) - 236394 (222) - 226902	
		Reserve - (111) - 568068 (122) - 921337 Resources - (221) - 236394 (222) - 226902		

1f	General remarks of inspecting officers on geology, exploration etc	Bauxite deposit of the area is mostly associated with laterite, occurs as irregular and discontinuous lenses or tabular bodies within the laterite capping. The thickness of different litho horizons observed in the quarry face was as given below:- i. Laterite: 1-5m; ii. Ore: 5-15m; iii. Lithomargic clay: 1-1.5m.
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## Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	As per approved Scheme of Mining, there was proposal to develop Quarry No K7, K7A and K8	As per proposal the development work was in progress in Quarry No K7, K7A and K8.	

2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in Overburden (Laterite) and Ore were proposed to be developed. During 2015-16 and 2016-17, it was proposed to develop 01 bench in Overburden with dimension of 5m X 6m while in Ore, 03 benches were proposed to be developed with dimension of 6m X 6m. There was no proposal for top soil removal during the present plan period.	Separate benches in Overburden (Laterite) and Bauxite were developed in Quarry no. K7, K7A, and K8 within stipulated bench dimension. 01 bench in OB (Laterite) and 03 benches in Ore.	
2c	Stripping ratio or ore to OB ratio	2016-17 - ROM / OB & Waste = 1:0.90	2016-17 - ROM / OB & Waste = 1:2.27	OB & waste has been generated more.
2d	Quantity of topsoil generation in m3	2016-17 - Soil & Morum - 204191 m3	2016-17 - Soil & Morum - 48260 m3	
2e	Quantity of overburden generation in m3	2016-17 - OB/SB/IB - 104998 m3	2016-17 - OB/SB/IB - 271761 m3	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			The bench dimension was maintained as per proposal.

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### Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	2016-17 - 02 pit proposed for production - K3NEW & K7	During 2016-17 ; 02 pits were in operation K3NEW & K7	

3b	Quantity of ROM mineral production proposed	2016-17 - 346886 tons	2016- 17 - 277220 tons
3c	Recovery of sailable/usable mineral from ROM production	The proposed recovery of saleable/useable mineral from ROM production was 80%.	The average recovery of mineral from ROM was around 20%
3d	Quantity of mineral reject generation	No proposal available for mineral rejects generation during 2016-17	No mineral reject generation was reported from the mine
3e	Grade of mineral rejects generation and threshold value declared.	Since no mineral reject generation was proposed hence its grade is irrelevant. The Threshold value of Bauxite has been kept at 30% Al <sub>2</sub> O <sub>3</sub> (Min) and <5% SiO <sub>2</sub> .	The threshold value of Bauxite was maintained with stringent specification.
3f	Quantity of sub grade mineral generation.	No proposal for sub-grade mineral generation was available in the approved document	No sub-grade generation was reported from the mine.
3g	Grade of sub grade mineral generation	No proposal available.	Not applicable.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No analysis or beneficiation study was proposed for sub-grade mineral and reject material since no sub-grade and reject material was proposed to be generated from the mine as per approved document	No analysis or beneficiation study was carried out for subgrade mineral and reject material as no sub-grade mineral and reject material was reported to be generated from the mine.

- 3j Provision of drilling and blasting in mineral benches
- Provision of drilling and blasting in harder formation (Laterite and Bauxite). Drilling was proposed by crawler mounted Rock Drill of 100mm dia upto the depth of 5.5m with Burden and Spacing at 2.5m X 3m. The holes were proposed to be charged with Slurry explosive and short firing was proposed with the help of OD and Safety fuse. About 10-20 holes were proposed to be blasted in a row of blasting.
- Drilling with Rock drill (100 mm dia) and blasting were done as per proposal in the mine.

3k	Provision of mining machineries in mineral benches	<p>The following machineries were proposed to be used in the mine as per approved document:-</p> <p>i. Rock drill: 03 nos.(100 mm dia);</p> <p>ii. Compressor: 04 nos. (400 CUM/MN);</p> <p>iii. Poclain Excavator: 03 nos. (0.9 cu.m);</p> <p>iv. Poclain Excavator: 02 nos. (1.85 cu.m);</p> <p>v. Terex: 02 nos. (1.5 cu.m);</p> <p>vi. Dumper: 16 nos. (10 MT);</p> <p>vii. Dozer: 01 no. (180 H.P) etc.</p> <p>viii. Tractor: 05 nos.;</p> <p>ix. Water Pump: 01 no.;</p> <p>x. Electric Generator: 01 no. (7.5KVA).</p>	<p>The list of machineries deployed in the mine during inspection (2016-17) were as given below:-</p> <p>i. Rock drill: 01 nos. (100 mm dia);</p> <p>ii. Air Compressor: 02 nos. (400 CUM/MN);</p> <p>iii. Shovel(0.9 cu.m): 1 no.;</p> <p>iv. Shovel(1.1 cu.m): 1 no.;</p> <p>v. Shovel(2.5 cu.m): 1 no.;</p> <p>vi. Wheel mounted Loader: 2 nos. (1.8 cu.m);</p> <p>vii. Dumper (7.5 MT): 10 nos.;</p> <p>viii. Dumper(25 MT): 3 nos.;</p> <p>ix. Water tanker (4500 lts): 01 no.;</p>
31	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	<p>In the Approved Document height of the benches- 06 m; width 06m</p>	<p>During the inspection height of the benches were found to be nearly 06 m and width nearly more than 06 m.</p>
3m	Total area covered under excavation/pits	<p>For the Plan period Total area to be covered under pits is- 37.15 Ha</p>	<p>During the inspection 33.26 Ha was covered under pits.</p>



3p	Production of ROM mineral during the last five year period as applicable	2012-13 - 115534 tons	2012-13 - 99822 tons
		2013-14 - 120767 tons	2013-14 - 234500 tons
		2014-15 - 212832 tons	2014-15 - 277855 tons
		2015-16 - 282171 tons	2015-16 - 277350 tons
		2016-17 - 277509 tons	2016-17 - 277220 tons

3q	General remarks of inspecting officers on method of mining etc.	'A'- OTFM category of opencast mining method was adopted in the mine. The bench height in Top soil was maintained between 1-2m, in OB(Laterite) it was maintained at 2-2.5m and in Bauxite it was maintained at 6m, which were within proposed limit.
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Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	There was no proposal for separate dumping for Top soil and OB (Morrum/Laterite) material.	There was no dump of Top soil, OB (Morrum/Laterite) within the lease area.	
4b	Location of topsoil, OB and mineral reject dumps	There was no proposal for Top soil, OB(Morrum/Laterite) and Mineral reject dumping during 2016-17	There was Top soil and OB(Morrum/Laterite) dump within the lease area.	
4c	Number of dumps within lease area and outside of lease area	There was no proposal for Waste dumping in 2016-17	There was no waste dump within or outside Lease during inspection	

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	There was no proposal of dumping in 2016-17	There was no dump hence it was not applicable.
4e	Number of active and alive dumps.	There was no proposal of active dump in 2016-17	No active dump was present within the lease area.
4f	Number of dead dumps.	No proposal of dead dump	No dead dump was present within the lease area.
4g	Number of dumps established.	There was no proposal of dump within the lease area in 2016-17 hence dump establishment was not relevant	There was no dump within the lease area hence its establishment was not relevant
4h	Whether Retaining wall or garland drain all along dumps are there.	Not applicable.	Not applicable.
4i	Length of Retaining wall or garland drain all along dumps	Not applicable.	Not applicable.
4j	Number of settling ponds	No such proposal was there for construction of settling pond.	No settling pond was created within the lease. Two Water harvesting point was created within the lease.
4k	Specific comments of inspecting officer on waste dump management	There was no proposal for external dump within the lease area.	Since no dump was there within the lease area hence no comment on the aspect can be given.

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Solid Waste Management - Backfilling:

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Sl.No.	Item	Propasals	Actual work	Remarks
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5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	Proposal for full extraction of mineral from mined out area before starting backfilling of the mined out area i.e simultaneous backfilling along with top soil spreading were proposed.	Simultaneous backfilling and top soil spreading were in practice in the mine after complete extraction of mineral from the active mining part of the lease. As on date of inspection, about 17.46 Ha area was backfilled.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Soil & Morrum were proposed to be used for spreading over backfilled area. There was no proposal for top soil dump within the lease area.	Simultaneous spreading of top soil was done over backfilled area.
5d	Total area fully reclaimed and rehabilitated	There was no valid approved proposal for the year 2016-17	About 9.780 Ha of area ahs been reclaimed in 2016-17
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Proposal for 2016-17 - Backfilling of 2.30 Ha	About 9.780 Ha of area ahs been bach filled & reclaimed in 2016-17

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Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).		The Annual Report on PMCP under Rule- 23E(2) was submitted by the party for the period 2016-17	
6b	Area available for rehabilitation (ha) .	Proposal for 0.72 Ha. of Backfilled land to be rehabiliatted by planting 1800 trees in 2016-17.	Around 10.50 Ha of backfilled land ahs been rehabilitated by plantinmg trees.	

6c	afforestation done (ha).	1800 trees in 2016-17.	Nearly 2.0 Ha of land has been used for afforestation.
6d	No. of saplings planted during the year	NIL	2650 nos.
6e	Cumulative no .of plants		8300 No.
6f	Any other method of rehabilitation	--	By making water resrvoir.

### Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	As per proposal in approved Modified Mining plan ROM to be despatched was-279778 MT during 2016-17	Actual despatch during 2016-17 was 276820 MT.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual sorting was proposed.	manual sorting was in practice.	
7c	Different grade of mineral sorted out at mines.	No grading of ore was proposed at mine site.	Grading of ore not done at mine site.Low grade ore is blended with high grade ore and despatched as feed grade for Alumina plant.	
7d	Any beneficiation process at mines .	No beneficiation only hand sorting was proposed	Ore was sorted manually,No beneficiation at mine site.	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			There is no such problem for Mineral conservation.Lower grade ore blended with highgrade ore to prepare feed grade and despatched to Alumina plant.

## Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Proposal was there to remove top soil seprately and will be spread over backfilled minedout quarries.	Soil so removed was used to spread over backfilled minedout quarries.	
8b	Concurrent use or storage of topsoil	Concurrent spread of top soil over concurrent backfiilled minedout areas was proposed.	Soil so removed used to spread over backfilled minedout areas as proposed.	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	No dump was proposed as concurrent backfilling of minedout areas was proposed.	No dump was there except two old dumps.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Proposal was there that all excavated OB and waste will be used for concurrent backfilling and soil will be used for reclamation of backfilled areas to restore the land to its original use.	It was seen that all excavated O B and Waste used for concurrent backfilling and soil is used for reclamtion of the backfilled quarries by spreading soil over backfilled areas.	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No such proposal	NA	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Plantation was proposed to be carried onreclaimed quarries.	plantation was done on reclaimed quarries.	
8g	Survival rate		Survivalrate was 80%.	

8h	Water sprinkling on roads to control airborne dust	Proposal was there to use sprinkler to control airborne dust	Water sprinkler used to control airborne dust.
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## Compliance of Rule 45:

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Sl.No.	Item	Propasals	Actual work	Remarks
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**Details of violations observed during current inspection and compliance position of violation pointed out**

Violation observed		Show couse position	
Rule NO.	Issued on Compliance on	Rule NO.	Issued on Compliance on

**Date :**

**(NAMAN EKKA)**

Indian Bureau of Mines