

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

**MCDR inspection REPORT**

**Ranchi regional office**

**Mine file No :** BIH/LOH/BX/245/RRO

**Mine code :** 07JHK12007

- (i) Name of the Inspecting : **E025** ) **NAMAN EKKA**  
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : Ananda Sahu - Mines Manager  
Official with  
Designation
- (iv) Date of Inspection : 14/12/2018
- (v) Prev.inspection date : 22/09/2017

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **PAKHAR(115.13HCT[134.33])**
- (b) **Registration NO.** : **IBM/935/2011**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address :  
State : JHARKHAND  
District : LOHARDAGA  
Village : PAKHAR  
Taluka : KISKO  
Post office : NARI NAWADIH  
Pin Code :  
FAX No. : 06526-224118  
E-mail : N.A.  
Phone : 06526-224112, 224015,22311
- (f) Police Station : KISKO
- (g) First opening date : 23/04/1996
- (h) Weekly day of rest : FRI
2. Address for : VILL.- PAKHAR,  
correspondance : P.O.- KISKO - 835302, DISTT.- LOHARDAGA,  
JHARKHAND
3. (a) Lease Number : BHR0267
- (b) Lease area : 115.13
- (c) Period of lease : 15
- (d) Date of Expiry : 18/07/1996
4. Mineral worked : BAUXITE Main

## 5. Name and Address of the

Lessee : M/S HINDALCO INDUSTRIES LTD.  
 AT - COURT ROAD,  
 LOHARDAGA, LOHARDAGA  
 JHARKHAND  
 Phone:06526-22401112, 224446 & 224016.  
 FAX :06526-224112 & 224445

Owner : A.K. AGRAWAL  
 M/s HINDAL INDUSTRIES Ltd.,  
 PO - RENUKOOT, UTTAR  
 PRADESH- 231217 SONBHADRA  
 UTTAR PRADESH  
 Phone: 05446-252084, 2  
 FAX : 05446-252107

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

Geologist  
 Name : SRI TATHAGATA DAS, Full Time  
 Qualification : M.Sc (GEOLOGY)  
 Appointment/ : 22/05/2018  
 Termination date

6. Date of approval of Mining	:	Existing rule 11 MCDR1988	13/01/1994
Plan/Scheme of Mining		Renewal under rule 24 MCR1960	18/12/1995
		Mining Scheme rule 12 MCDR1988	31/01/2001
		Mining Scheme rule 12 MCDR1988	08/09/2006
		Modif.approved Mining Scheme	26/04/2007
		Modif.of approved Mining Plan	31/08/2010
		Mining Scheme rule 12 MCDR1988	31/08/2010
		Modif.approved Mining Scheme	30/06/2011
		MP modif under MCR 1960	26/02/2016

## 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.	Entire lease area leaving 7.5m safety barrier, was explored.
1b	Exploration over lease area for geological axis 1 or 2	There was no proposal for BHs to be given for G1 and G2 level during the approved plan period.	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 Document.	No proposal for exploration in 2017-18	
1d	Balance area to be explored to bring Geological axis in 1 or 2	No area was remained unexplored.	Entire lease area was explored.	Entire lease area leaving 7.5m safety barrier, has been explored
1e	Balance reserve as on 01/04/20		Balance reserve as on 01/04/2018 111 - 2166706 T 211 - 607322 T	A total of - 264505 T (ROM) were produced from the mine during 2017-18
1f	General remarks of inspecting officers on geology, exploration etc		The Aluminium ore of the lease area was predominantly Gibbsite(Trihydrate). The Ore is overlain by Laterite and underlain by Lithomargic clay. Both the Laterite and Ore body have variable thickness. The laterite of the area has become soft & fragile due to weathering and was mixed with Morrum. The Laterite of the area contained less Iron. There was no proposal of exploration during the valid approved plan period of 2015-16 to 2019-20.	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.

## Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Q4: 24S-43N to 30W-100E Q6: 9N-356N to 114E-274W	Q4: 24S-43N to 30W-100E Q6: 9N-356N to 114E-274W	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Seperate benches in Topsoil, overburden and minerals were proposed in the Mining Plan	Seperate benches in Topsoil, overburden and minerals as proposed were found during the inspection.	
2c	Stripping ratio or ore to OB ratio	1:2.02	1:3.33	
2d	Quantity of topsoil generation in m3	Topsoil - 248218 m3	No topsoil were generated in 2017-18	
2e	Quantity of overburden generation in m3	Overburden - 366012 m3	400330 m3 overburden were generated during 2017-18	
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.

## Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	2 (Two)	2 (Two) pits were in operation at the time of inspection.	
3b	Quantity of ROM mineral production proposed	299656 T (ROM)	264505 T (ROM)	
3c	Recovery of sailable/usable mineral from ROM production	80%	80%	
3d	Quantity of mineral reject generation	No proposal for mineral rejects	No mineral rejects were generated during 2017-18	

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	No sub-grade generation was reported from the mine.
3g	Grade of sub grade mineral generation	No proposal available.	Not applicable.
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized method was proposed for segregating from ROM.	At the time of inspection segregation from ROM was not in operation.
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	No analysis or beneficiation study was carried out for sub-grade 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	There is provision of drilling and blasting in harder formation (Laterite and Bauxite). Using DTH	Drilling and blasting in harder formation (Laterite and Bauxite). using DTH was practiced in the mine.
3k	Provision of mining machineries in mineral benches	Excavators Drills Dumpers Compressor Tippers	The following machines were available at the time of Inspection - Excavators Drills Dumpers Compressor

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Proposal to maintain the height of benches in OB and Mineral within 6m. Whereas the bench width was proposed to be maintained within 15m height. The height and width proposed was suitable for 'A'-FM method of mining.	The height of the benches in Top soil was maintained between 1-2m, in OB (Laterite), it was maintained between 2-2.5m while in Bauxite, the bench height was maintained between 3-4m. The heights of benches were in conformable with the 'A'-FM method of mining.	
3m	Total area covered under excavation/pits	Total cumulative area proposed to be covered under excavation up to the plan period 2017-18 was 30.64 Ha.	Total cumulative area covered under excavation up to the plan period 2017-18 was 21.370 Ha.	
3n	Ore to OB ratio for the pit/mine during the year.	1:2.02	1:3.33	
3o	Total area put in use under different heads at the end of year	Quarry Including Backfill - 30.64 Ha. Waste Dump - 0.75 HA Road - 1.55 HA Infrastructure -0.05 Ha.	Quarry - 21.370 Ha. Waste Dump - 1.990 HA Infrastructure & Road - 0.960 HA	
3p	Production of ROM mineral during the last five year period as applicable	2014-15 - 297654 T 2015-16 - 298185 T 2016-17 - 298752 T 2017-18 - 299656 T	2013-14 - 296950 T 2014-15 - 283210 T 2015-16 - 297265 T 2016-17 - 282190 T 2017-18 - 264505 T	
3q	General remarks of inspecting officers on method of mining etc.		Production was less than as proposed in Modification in Approved MP. and method of minig adopted was as per approved document.	

## Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	OB & waste Generation as proposed will be concurrently backfilled in the same quarry for reclamation of the area	OB & waste Generation as proposed was concurrently backfilled in the same quarry for reclamation of the area.	
4b	Location of topsoil, OB and mineral reject dumps	No such proposal as OB & waste Generation as proposed will be concurrently backfilled in the same quarry for reclamation of the area	There was Top soil and OB(Morrum/Laterite) dump within the lease area. Further, no Mineral reject dump also existed within the lease.	
4c	Number of dumps within lease area and outside of lease area	There was no proposal for Waste dumping within or outside the lease area during the plan period	There was no waste dump within or outside lease area as on date of inspection.	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	There was no proposal of dumping.	There was no dump hence it was not applicable.	
4e	Number of active and alive dumps.	There was no proposal of active dump	No active dump was present within the lease area.	
4f	Number of dead dumps.	There was no proposal of dead dump in the approved document.	No dead dump was present within the lease area.	
4g	Number of dumps established.	There was no proposal of dump within the lease area, 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.	There was no proposal of construction of Retaining wall or Garland drain.	Since there was no dump hence construction of Retaining wall and Garland drain were not relevant.	

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. water harvesting ponds was created within the lease.	
4k	Specific comments of inspecting officer on waste dump management			Since no dump was there within the lease area hence no comment on the aspect can be given.

#### Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	Concurrent backfilling in the same quarry for reclamation of the area is 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 was in practice at the time of inspection.	
5b	Area under backfilling of mined out area	Concurrent backfilling in the same quarry for reclamation of the area is 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 was in practice at the time of inspection.	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Concurrent backfilling in the same quarry for reclamation of the area is 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 was in practice at the time of inspection	

5d	Total area fully reclaimed and rehabilitated	Concurrent backfilling in the same quarry for reclamation of the area is 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 was in practice at the time of inspection
5e	General remarks of inspecting officers on backfilling and reclamation etc.		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 was in practice at the time of inspection

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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 2017-18
6b	Area available for rehabilitation (ha) .			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 was in practice at the time of inspection, hence the area available for rehabilitation is not present.
6c	afforestation done (ha).	Area for Plantation Over Reclaimed Area - 0.40 Ha. Number of Plants - 1000 Location - Quarry Q1	Area for Plantation Over Reclaimed Area - 0.40 Ha. Number of Plants - 5400 (Cumulative) Location - Quarry Q1	

6d	No. of saplings planted during the year	Number of Plants - 1000	Number of Plants - 5400 (Cumulative)
6e	Cumulative no .of plants		Number of Plants - 5400 (Cumulative)
6f	Any other method of rehabilitation	No such Proposal	No work done
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	As per proposal 5.55 Ha. will be available for back filling	16.23 Ha of land has been back filled in 2017-18
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No such proposal	No work done.
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on backfilled area	As proposed 0.40 Ha. of backfilled area will be used for plantation during 2017-18	plantation work done in the back filled area as proposed.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No such proposal	No work done.
6l	Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.	No such proposal	No work done.
6m	Compliance of rehabilitation of waste land within lease (i) afforestation	No such proposal.	No waste land available for rehabilitation.

6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No such proposal	No work done.	
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Nosuch proposal	No work done	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Proposal for enviromental monitoring in core zone and buffer zone.	Enviromental monitoring is being done as per proposal and values observed are within limits	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			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 was in practice at the time of inspection.

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#### Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	There is no such proposal for ROM Mineral Dispatch or Grade wise Sorting within the lease area.	No mineral beneficiation is done in the lease area, manual sorting and sizing done. ROM produced and supplied to captive plants (+) 10 mm to (-) 200 mm	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	No grade wise sorting proposal.	No grade wise sorting done.	
7c	Different grade of mineral sorted out at mines.	No such proposal	No work done.	

7d	Any beneficiation process at mines	No such proposal	No work done.	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			No beneficiation was carried out at the mine site. For Mineral Conservation aspect, lessee had deployed suitable nos. of workers for manual sorting of ore from blasted material to avoid mixing of ore with deleterious material. The low grade ore (on visual perception) was blended with high grade material, before dispatch to the railway siding which was further transported to Plant Situated at Muri, Jharkhand.

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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	As per Modification in approved Mining Plan, separate removal and spreading of top soil and Morrum over backfilled area was proposed.	The top soil removal figure was not available. The top so generated was used for spreading over backfilled area up to 2017-18.	
8b	Concurrent use or storage of topsoil	No such proposal	No work done during 2017-18	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	No Proposal	No work done.	

8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal	No work done	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Phased resotration	Phased restoration is being practiced.	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	No such Information	No such Information	
8g	Survival rate	80%	68%	
8h	Water sprinkling on roads to control airborne dust	Proposal for water sprinkling to control airborne dust.	water sprinkling is done to control airborne dust.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			The top so generated was used for spreading over backfilled area.

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Compliance of Rule 45:

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Sl.No.	Item	Propasals	Actual work	Remarks
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9a	Status of submission of Monthly and Annual returns	The information furnished in Annual Return for the year 2013-14 covered Part-I of General information about mine and labour employment, Part-II about Employment & wages, Part-IIA about Capital Structure, Part-III consists of Consumption of materials, Part-IV about Consumption of explosives, Part-V consists of General Geology & Mining under various sections, Part-VI about Production, Dispatch & Stock and finally Part-VII consists of Cost of production.	Monthly & Annual returns of 2017-18 was filled by the lessee.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer in charge - Gaurang Agarwala Geologist in charge - Chandan Kumar	At the time of inspection Mining Engineer in charge - Gaurang Agarwala and Geologist in charge - Chandan Kumar were present.

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Already exploited & abandoned by opencast (O/C) mining - 37.600 Ha. Covered under current (O/C) Workings - 21.370 Ha. Reclaimed/Rehabilitated - 16.230 Ha. Used for waste disposal - 1.990 Ha.	Details furnished seems to be correct.
9d	Scrutiny of Annual return on afforestation	Number of trees planted during the year - 5400	Number of trees planted during the year - 5400
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	No minerals rejects reported	No mineral rejects generated.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM Stock - No opening stock Reported.	No ROM stock available in the mines
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex-mine price (in . Per Tonne) - 973.26	Seems to be correct.
9h	Scrutiny of Annual return on fixed assets	Value of fixed assets mentioned is 0 (Zero)	Value of Fixed assets cannot be Zero.
9k	Scrutiny of Annual return on mining machineries	SHOVEL (HYDRAULIC) - 02 WHEEL LOADER - 01 DUMPER - 06 AIR COMPRESSOR - 02	Mining machineries were present at the time of inspection.

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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