

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

MCDR INSPECTION REPORT

Ranchi regional office

Mine file No : BIH/GLA/BX/221/RRO

Mine code : 07BHR32008

- (i) Name of the Inspecting : **S001**) **B K SINGH**
Officer and ID No.
- (ii) Designation : Assistant Mining Geologis
- (iii) Accompanying mine : Sri K S Singh,ME:Sri A K Behra Geologist
Official with
Designation
- (iv) Date of Inspection : 11/01/2017
- (v) Prev.inspection date : 23/08/2016

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **GURDARI (1039.5)**
- (b) **Registration NO.** : **IBM/935/2011**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address :
State : JHARKHAND
District : GUMLA
Village : GURDARI AMBAKONA
Taluka : BISHUNPUR
Post office : DUMBERPAT
Pin Code :
FAX No. : 06526-24118
E-mail : bijesh.jha@adityabirla.com
Phone : 06526-24016
- (f) Police Station : BISHUNPUR
- (g) First opening date : 01/02/1985
- (h) Weekly day of rest : SUN
2. Address for : VILL-GURDARI
correspondance : BISHNPUR
DIST-GUMLA
3. (a) Lease Number : BHR0249
- (b) Lease area : 584.19
- (c) Period of lease : 20
- (d) Date of Expiry : 22/03/2005
4. Mineral worked : BAUXITE Main

5. Name and Address of the

Lessee : HINDALCO INDUSTRIES LTD.,
 AT & PO - COURT ROAD,
 LOHARDAGA LOHARDAGA
 JHARKHAND
 Phone:06526- 224015/224112/223113
 FAX :06526- 224118

Owner : S.S.KOTHARI
 M/s HINDALCO INDUSTRIES
 Ltd., CENTURY BHAWAN,Dr.
 ANNIE BESANT Rd. MUMBAI
 (SUBURBAN) MAHARASHTRA
 Phone: 022- 24227586
 FAX : 022- 24308491

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 : ARUN KUMAR BEHERA,Full Time
 Qualification : M.Sc(Geo)
 Appointment/ : 16/02/2016
 Termination date

Manager
 Name : KIRAN SHANKAR SINGH
 Qualification : B.E (MINING ENGINEER)
 Appointment/ : 01/01/2014
 Termination date

6. Date of approval of Mining	:	Existing rule 11 MCDR1988	12/02/1992
Plan/Scheme of Mining		Mining Scheme rule 12 MCDR1988	25/09/1998
		Renewal under rule 24 MCR1960	12/05/2005
		Mining Scheme rule 12 MCDR1988	19/01/2012
		FMCP under 23C(1)	02/05/2013
		Mining Scheme rule 12 MCDR1988	17/04/2015

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	There was proposal for 35 boreholes to convert (122) reserve to (111).during the plan period 2011-12 to 2013-14 valid up to 31.03.2014.	No exploration was carried out during the period due to non-availability of land.	Proposed exploration in 2011-12 to 2013-14 was not carried..
1b	Exploration over lease area for geological axis 1 or 2	Exploration was done on a grid of 50x50m and placed entire reserve under 111 &122.	Entire lease area already been explored under111 &122.	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No such proposal was there in the present approved Scheme of Mining. In the last approved Mining Plan dated 25.04.2011, valid for the plan period 2010-11 to 2014-15, no such proposal was there.	The "Geosolution Proservices Pvt. Ltd." of Kolkata Was the exploration agency. With the rate of drilling @ Rs. 480/- per meter a total of about Rs. One lakh only (Rs. 100000/-) was total expenditure incurred for exploration.	
1d	Balance area to be explored to bring Geological axis in 1 or 2	As per approved Scheme of Mining dated 19.01.2012, valid for the plan period 2011-12 to 2013-14, no area was remained unexplored.	Entire lease area was explored during the year 2014-15 for G1 and G2 level.	

1e	Balance reserve as on 01/04/20	As per approved Scheme of Mining the Reserve/ Resource as on 01.04.2015 was as given below:- i. Reserve(111): 2241593MT ii.(122) :1652703 MT	After depleting the production of 324590MT during 2015-16, the Reserve position as on 01.04.2016 was as given below:- Reserve(111): 1917003 MT (122) :1652703 MT
1f	General remarks of inspecting officers on geology, exploration etc	The Aluminium ore of the lease area was predominantly Gibbsite(Tri hydrate). The Ore is overlain by Laterite and underlain by Lithomargic clay.	Bauxite deposit of the area is mostly associated with laterite, occurs as irregular and discontinuous lenses or tabular bodies within the laterite capping.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	As per approved Scheme of Mining,dated17 .04.2015 there was proposal to develop Kekrang and PolPol quarries located on eastern and southeastern part of the lease area during 2016-17.	As per proposal the development work during 2016-17 was in progress in POLPOL located on the eastern portion of lease.	

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,	Separate benches in Overburden (Laterite) and Bauxite were developed in working quarries.	Mining Scheme was approved on 17.04.2015 for the plan period 2015-16 to 2018-19 in which 2014-15 was lapse period.
2c	Stripping ratio or ore to OB ratio	As per approved Scheme of Mining, the overall stripping ratio during the period 2015-16 to 2018-19 was proposed to be 1: 04.7	During the year 2015-16 ROM produced was 324590MT and OB removed 576357 MT with stripping ratio 1:1.77.	
2d	Quantity of topsoil generation in m3	As per approved Scheme of Mining, the top soil generation during 2015-16 was proposed to be 621759cum	The Top soil generation figure was not available	
2e	Quantity of overburden generation in m3	As per approved Scheme of Mining, the Overburden generation during 2015-16 was proposed to be 653670m3	The quantity of OB generation during 2015-16 was 1037442MT	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	NA	Bauxite deposits of Neterhat plateau are mostly associated with laterite. Bauxite occurs as Boulder, lenses, pocket type deposit overlain by Laterite	

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
--------	------	-----------	-------------	---------

3a	Number of pit proposed for production	As per Scheme of Mining approved dated 17.04.2015 for the plan period 2014-15 to 2018-19. Two quarries were proposed for mining i,e POLPOL and Kekrang.	During 2016-17 mine working in Polpol quarry.	
3b	Quantity of ROM mineral production proposed	As per Scheme of Mining approved dated 17.04.2015 for the plan period 2014-15 to 2018-19. the year wise proposed production schedule during 2015-16 to 2018-19 are given below: 2015-16:322911MT 2016-17:320294 MT 2017-18 : 322033 MT 2018-19 : 308424 MT	The quantity of ROM mineral production during previous years was as given below:- i. 2009-10: 310825 MT; ii.2010-11: 324950 MT; iii.2011-12: 323822 MT; iv.2012-13: 324648 MT; v.2013-14: 313975 MT; vi.2014-15: 323655 MT. vi.2015-16 :324590 MT	The Scheme of Mining dated 17.04.2015 was valid for the plan period 2015-16 to 2018-19 and 2014-15 was lapse period.
3c	Recovery of sailable/usable mineral from ROM production	The proposed recovery of saleable/useable mineral from ROM production was 80%.	During the period 2015-16 recovery was 80%	
3d	Quantity of mineral reject generation	No proposal available for mineral rejects generation during the period 2015-16 to 2018-19	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 ₂ O ₃ (Min) and <5% SiO ₂ .	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 Scheme of Mining .Blending of high grade ore with low grade ore was proposed.	No sub-grade generation was reported from the mine. Lower grade ore are hand sorted and suitably blended to ensure metal grade requirement of the plant.
3g	Grade of sub grade mineral generation	No proposal available.	No sub-grade generation was reported from the mine. Lower grade ore are hand sorted and suitably blended to ensure metal grade requirement of the plant.
3h	Manual / Mechanised method adopted for segregating from ROM	In the approved Scheme of Mining, manual method was proposed for segregating from ROM.	Manual sorting, sizing and screening were done at mine site for segregation of useable part from ROM.
		In the approved Scheme of Mining, manual method was proposed for segregating from ROM.	

- | | | | |
|----|---|---|--|
| 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 Scheme of Mining. | 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 | As per Scheme of Mining approved dated 17.04.2015 for the plan period 2015-16 to 2018-19 Where 20154-15 was lapse period,there was 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. | Drilling with Rock drill (100 mm dia) and blasting were done as per proposal in the mine during the period 2015-16. |

3k	Provision of mining machineries in mineral benches	The following machineries were proposed to be used in the mine as per approved Scheme of Mining:- i. Rock drill: 03 nos.(100 mm dia); ii. Compressor: 04 nos. (400 CUM/MN); iii. Poclain Excavator: 03 nos. (0.9 cu.m); iv. Poclain Excavator: 02 nos. (1.85 cu.m); v. Terex: 02 nos. (1.5 cu.m); vi. Dumper: 16 nos. (10 MT); vii. Dozer: 01 no. (180 H.P) etc. viii. Tractor: 05 nos.; ix. Water Pump: 01 no.; x. Electric Generator: 01 no. (7.5KVA).	The list of machineries deployed in the mine during inspection (2015-16) were as given below:- i. Rock drill: 02 nos. (100 mm dia); ii. Air Compressor: 02 nos. (400 CUM/MN); iii. Shovel(0.9 cu.m): 1 no.; iv. Shovel(1.1 cu.m): 1 no.; v. Shovel(2.5 cu.m): 1 no.; vi. Wheel mounted Loader: 2 nos. (1.8 cu.m); vii. Dumper (7.5 MT): 10 nos.; viii. Dumper(25 MT): 3 nos.; ix. Water tanker (4500 lts): 01 no.;
----	--	--	---

- 31 Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM In the approved Scheme of Mining it was proposed to maintain the height of benches in OB and Mineral within 6m. Whereas the bench width was proposed to be maintained within 15m. 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 height 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 2015-16 was 123.23 Ha. Area covered under excavation during 2015-16 was 126.67ha..
- 3n Ore to OB ratio for the pit/mine during the year. As per approved Scheme of Mining, the overall stripping ratio during the period 2015-16 was proposed to be 1:4.16 During the year 2015-16 ROM produced was 324590MT and OB removed 576357 MT with stripping ratio 1:1.77.

- 3o Total area put in use under different heads at the end of year
- As per Scheme of Mining approved dated 17.04.2015 for the plan period 2015-16 to 2018-19 Where 2014-15 was lapse period area under different heads were as under:-
- The total area put to use during 2015-16 was as given below:-
- Excavated quarries: 126.67ha
- ii. Recalimed/Rehabilitated- 118.550ha
- iii. Plantation-8.5ha
- i. Excavated quarries: 123.23 ha
- ii. Road: 7.34ha;
- iii. Infrastructure : 1.0 Ha.
- iv. Green Belt-1.22
- 3p Production of ROM mineral during the last five year period as applicable
- As per approved Scheme of Mining, the year wise proposed production schedule of ROM was as given below:-
- The quantity of ROM mineral production during previous years are given below:-
- i.. 2011-12: 323822 MT;
- ii. 2012-13: 324648 MT;
- iii. 2013-14: 313975 MT;
- iv. 2014-15: 323655 MT;
- v.2015-16 :324590 MT
- i.2011-12: 314617 MT;
- ii..2012-13: 325251 MT;
- iii..2013-14: 320210 T.
- iv.2014-15 :323655 MT
- v.2015-16 :322911M T

3q	General remarks of inspecting officers on method of mining etc.	As per Scheme of Mining approved dated 17.04.2015 for the plan period 2015-16 to 2018-19 Where 2014-15 was lapse period, it was proposed to work under 'A'-FM category of opencast mining with bench dimension of 3-6m X 6-15m (h X w).	A'- FM 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 3-4m, which were within proposed limit.
----	---	---	--

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	As per Scheme of Mining approved dated 17.04.2015 for the plan period 2015-16 to 2018-19 Where 2014-15 was lapse period, There was proposal for simultaneous backfilling in sequential manner. The hard laterite was proposed to be dumped at first in the void followed by Morrum and finally top soil spreading over backfilled area.	There was no dump of Top soil, OB (Morrum/Laterite) within the lease area. Also, there was no Mineral Reject dump 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 the plan period .	There was no 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 of 2015-16 to 2018-19	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 in the approved Scheme of Mining dated 17.04.2015	There was no dump hence it was not applicable.
4e	Number of active and alive dumps.	There was no proposal of active dump in the approved Scheme of Mining.	No active dump was present within the lease area.
4f	Number of dead dumps.	There was no proposal of dead dump in the approved Scheme of Mining.	No dead dump was present within the lease area.
4g	Number of dumps established.	There was no proposal of dump within the lease area as per approved Scheme of Mining.	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. one Water harvesting pond 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.

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.	Simultaneous backfilling was proposed inKujam & Dhobikutumb quarries during 2015-16.	Simultaneous backfilling was in practiced in Kujam & Dhobikutumb quarries during 2015-16.	
5b	Area under backfilling of mined out area	Proposed area to be backfilled during 2015-16 was in in Kujam & Dhobikutumb quarries covering 10.63 ha. during 2015-16.	Area e backfilled during 2015-16 was in in Kujam & Dhobikutumb quarries covering 10.6 ha. during 2015-16.	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	During the plan period 2015-16 to 2018-19 about 621759 Cu.M of Soil & Morrum were proposed to be used for spreading over backfilled area.	Simultaneous spreading of top soil was done over backfilled area and afforested over 8.5 ha.	2014-15 was lapse period

5d	Total area fully reclaimed and rehabilitated	Proposed area to be backfilled during 2015-16 was in in Kujam & Dhobikutumb quarries covering 10.63 ha. during 2015-16.	Area to be backfilled during 2015-16 was in in Kujam & Dhobikutumb quarries covering 10.6 ha. during 2015-16.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Simultaneous backfilling and spreading of top soil over backfilled area proposed in the approved scheme of mining.	Total broken area as on date of inspection was 130.31ha and total area reclaimed was 123.23ha, total area rehabilitated-75.6ha.

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).	Lessee has submitted Annual PMCP report in time.	Lessee has submitted Annual PMCP report in time.	
6b	Area available for rehabilitation (ha) .	Proposed area for rehabilitation was 10.63 ha during 2015-16.	Total area reclaimed 123.23ha and area rehabilitated-75.6ha and total plantation done on 8.5 ha.	
6c	afforestation done (ha).	About 5650 saplings was proposed to be planted during the plan period 2015-16 to 2018-19 over 2.26ha and 1450 plantatiion over 0.58 ha during 2015-16.	As on 01.04.2016 total plantation was 10865 trees over 5.1 ha and as on date of inspection total plantation was 18865 trees over 8.5 ha.	

6d	No. of saplings planted during the year	About 5650 saplings was proposed to be planted during the plan period 2015-16 to 2018-19 over 2.26ha and 1450 plantatiion over 0.58 ha during 2015-16.	As on 01.04.2016 total plantation was 10865 trees over 5.1 ha and as on date of inspection total plantation was 18865 trees over 8.5 ha.
6e	Cumulative no .of plants	About 5650 saplings was proposed to be planted during the plan period 2015-16 to 2018-19 over 2.26ha and 1450 plantatiion over 0.58 ha during 2015-16.	As on 01.04.2016 total plantation was 10865 trees over 5.1 ha and as on date of inspection total plantation was 18865 trees over 8.5 ha.
6f	Any other method of rehabilitation	No other proposal was available.	Only plantation has been reported over the backfilled area and no other method was adopted. One pond was also there for water harvesting covering an area of 0.7 ha.
6g	Cost incurred on watch and care during the year	No proposal available in the approved Scheme of Mining.	No information available
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Proposed area to be backfilled during 2015-16 was in in Kujam & Dhobikutumb quarries covering 10.63 ha. during 2015-16.	Area e backfilled during 2015-16 was in in Kujam & Dhobikutumb quarries covering 10.6 ha. during 2015-16.

6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Proposed area to be backfilled during 2015-16 was in in Kujam & Dhobikutumb quarries covering 10.63 ha. during 2015-16.	Areae backfilled during 2015-16 was in in Kujam & Dhobikutumb quarries covering 10.6 ha. during 2015-16.
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on backfilled area	About 5650 saplings was proposed to be planted during the plan period 2015-16 to 2018-19 over 2.26ha and 1450 plantatiion over 0.58 ha during 2015-16.	As on 01.04.2016 total plantation was 10865 trees over 5.1 ha and as on date of inspection total plantation was 18865 trees over 8.5 ha.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	There was proposal for making Pond over an area of 0.7 Ha area in the approved Scheme of Mining.	One pond is also there covering an area of 0.7ha for water harvesting..
6l	Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.	There was no other proposal.	Not applicable.
6m	Compliance of rehabilitation of waste land within lease (i) afforestation	No such proposal	Not Applicable
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	There was no separate proposal for rehabilitation of waste land during the plan period 2015-16 to 2018-19.	No information was available.

6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No proposal available.	Not applicable.	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Proposal was there to quarterly monitoring of air,water and noise data.	Quarterly monitoring of air,water and noise data carried and found to be within permissible limit.	2014-15 was lapse period.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	No such proposal.	Lessee has made every effort to comply the provisions of PMCP as per approved document.	Outmost care taken for preserving environment and conservation of mineral resources.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	No such proposal for grade wise sorting within the lease area.	Only manual sorting done before dispatch.	The ore of 40-45% Al ₂ O ₃ & SiO ₂ -05% was dispatched to its captive plant at Renukoot.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual sorting of Bauxite ore from OB/Waste material after blasting was proposed in the approved Scheme of Mining. There was no proposal for grade wise sorting.	Manual sorting of Bauxite ore from OB/Waste material was done at the mine site. No grade-wise sorting of ore was done at the mine site as entire mined out material was of 40-45 % Al ₂ O ₃ grade.	
7c	Different grade of mineral sorted out at mines.	There was no proposal for grade wise sorting at the mine site, as only 40-45% Al ₂ O ₃ grade ore occurred within the lease area.	Grade wise sorting of ore was not done at the mine site.	

7d	Any beneficiation process at mines .	No proposal available in the approved Scheme of Mining.	No beneficiation was carried out at the mine site.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	As per approved Scheme of Mining, there was no proposal for mineral beneficiation. The Mineral conservation aspect was maintained skillfully by deploying suitable nos. of employee for manual sorting of ore from OB/Waste material after blasting.	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.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Proposal was there to remove top soil separately and spread over minedout backfilled area concurrently.	Concurrent backfilling and spread of top soil over backfilled area for rehabilitation/afforestation practiced.	
8b	Concurrent use or storage of topsoil	Proposal was there to remove top soil separately and spread over minedout backfilled area concurrently.	Top soil concurrently used to spreading over backfilled areas.	

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	No such proposal instead Concurrent backfilling and spread of top soil over backfilled area proposed.	OB and waste rock so removed is used to backfill mined out areas.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Proposal was there to remove top soil separately and spread over mined out backfilled area concurrently for restoring the land to its original use:	All waste rock, fines etc used concurrently for backfilling mined out areas and spreading of top soil for restoring the land for its original use.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Proposed area for rehabilitation was 10.63 ha during 2015-16.	Total area reclaimed 123.23ha and area rehabilitated-75.6ha and total plantation done on 8.5 ha.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	About 5650 saplings was proposed to be planted during the plan period 2015-16 to 2018-19 over 2.26ha and 1450 plantatiion over 0.58 ha during 2015-16.	As on 01.04.2016 total plantation was 10865 trees over 5.1 ha and as on date of inspection total plantation was 18865 trees over 8.5 ha.

8g	Survival rate	Proposed survival rate during the plan period 2015-16 to 2018-19 was 90% and proposa to plant 5650 trees over an area of 2.26 ha.	Cumulative Plantationn done as on 01.04.2016 was 10865 with survival rate -65% and plantation uo to date of inspection was 18865 trees and survival rate was also 65%.
8h	Water sprinkling on roads to control airborne dust	No specific proposal was there in the last approved Scheme of Mining.	It was reported that during dry season, water sprinkling arrangement was made on haul road.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	NA	As on 01.04.2016 total plantation was 10865 trees over 5.1 ha and as on date of inspection total plantation was 18865 trees over 8.5 ha. with survival rate 65%.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Lessee use to submit monthly and Annual Return regularly.	Lessee use to submit monthly and Annual Return regularly and furnished data in relevant items.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	As per Annual return 2015-16 Sri Kiran Shankar Singh is Mining Engineer cum Mines manager and Sri Arun kumar Behra is Geologist.	During inspection Sri Kiran Shankar Singh is Mining Engineer cum Mines manager and Sri Arun kumar Behra is Geologist..	

- 9c Scrutiny of land use pattern was furnished as given below:-
 Annual return on land use pattern for area under pits, reclaimed area, dumps etc.
- In actual practice the total area put to use as on date of inspection was as given below:-
 i. Excavated quarries: 126. 130.31 HA
 8.12ha- 123.23 ha area
 current working); reclaimed, 75.6 Ha of
 ii. Reclaimed/ Rehabilitated: plantation and 8.5&0.7ha
 118.550 Ha; Ha of rehabilitated
 iii. Plant & Pond); area through making
 building- .
 8.34ha
 iv. Area under PMCP-10.6ha
- 9d Scrutiny of Annual return on afforestation
- As per Annual Return for the year 2015-16, the plantation done within ML area was shown as 2500 nos. within the lease area with survival rate -80%.
- As per Annual Return for the year 2015-16, the plantation done within ML area was shown as 2500 nos. within the lease area with survival rate -80%.
- 9e Scrutiny of Annual return on mineral reject generation (Grade and quantity)
- As per Annual Return 2015-16 the information on Mineral Reject generation was shown as Nil.
- No Mineral Reject generation from the mine was reported during the period 2015-16
- 9f Scrutiny of Annual return on ROM stock and/or graded ore
- As per Annual Return for the year 2015-16, the ROM stock (opening balance) and Closing stock were shown as given below:-
 Year 2013-14:
 i. Opening stock: 40-45% Al2O3 grade: 1080.58 MT;
 ii. Closing stock: 40-45% Al2O3 grade: 95.2 MT.and dispatch- 325575 MT.
- The figures given for opening and closing stocks were in conformable with the figures furnished through Monthly returns.

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	It is a captive mine of Hindalco, Cost of production-626.46MT	It is a captive mine of Hindalco, Cost of production-626.46MT
9h	Scrutiny of Annual return on fixed assets	The value of Fixed Assets of the lessee was shown in Part-IIA of the Annual Return for the year 2015-16 was Rs 240254493/- and depreciation in fixed assets Rs13257708 MT	The value of Fixed Assets of the lessee was shown in Part-IIA of the Annual Return for the year 2015-16 was Rs 240254493/- and depreciation in fixed assets Rs13257708 MT
9k	Scrutiny of Annual return on mining machineries	As per Annual Return 2015-16 the machineries used were as given below:- i. Shovel: 3 nos.(0.9 cu,m + 1.12 cu.m + 1.7 cu.m); ii. Wheel Loader: 2 nos. (2.0 cu.m); iii. Dumper: 5 nos (10 MT); iv. Dumper: 8 nos. (7.5 MT); v. Air Compressor: 03 nos. (400 CUM/MN). vi. Rock drill 100.0MM-01 vii. Water Tanker-4500.0L	The list of machineries deployed in the mine during inspection (2015-16 below:- i. Rock drill: 02 nos. (100 mm dia); ii. Air Compressor: 02 nos. (400 CUM/MN); iii. Shovel(0.9 cu.m): 1 no.; iv. Shovel(1.1 cu.m): 1 no.; v. Shovel(2.5 cu.m): 1 no.; vi. Wheel mounted Loader: 2 nos. (1.8 cu.m); vii. Dumper (7.5 MT): 10 nos.; viii. Dumper(25 MT): 3 nos.; ix. Water tanker (4500 lts): 01 no.;

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 :

(B K SINGH)

Indian Bureau of Mines