

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

MCDR INSPECTION REPORT

Ranchi regional office

Mine file No : BIH/GLA/BX/205/RRO

Mine code : 07BHR32015

- (i) Name of the Inspecting : **E025**) **NAMAN EKKA**
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : SHRI TATHAGAT DAS, GEOLOGIST; SHRI VIDYASAGAR SINGH,
Official with
Designation
- (iv) Date of Inspection : 24/10/2017
- (v) Prev.inspection date : 04/01/2017

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **SHRENGDAG (402.67)**
- (b) **Registration NO.** :
- (c) **Category** : A Other than Fully Mech.
- (d) **Type of Working** : Opencast
- (e) **Postal address**
- State : JHARKHAND
- District : GUMLA
- Village : SHRENGDAG, TUIMU, ETC
- Taluka : BISHUNPUR
- Post office : SARANGO
- Pin Code :
- FAX No. : 06526-224118
- E-mail :
- Phone : 06526-224016, 224112 & 224
- (f) **Police Station** :
- (g) **First opening date** : 25/05/1976
- (h) **Weekly day of rest** : SUN
2. **Address for correspondance** : VILL-SHRENDAG
BISHNUPUR
DIST-GUMLA
3. (a) **Lease Number** : BHR0247
- (b) **Lease area** : 155.8
- (c) **Period of lease** : 30
- (d) **Date of Expiry** : 15/10/2004
4. **Mineral worked** : BAUXITE Main

5. Name and Address of the

Lessee : HINDALCO INDUSTRIES Ltd.
M/s HINDALCO INDUSTRIES
Ltd. AT & PO - COURT ROAD,
LOHARDAGA LOHARDAGA
JHARKHAND
Phone:06526-224016 & 224112
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

Mining Engineer

Name : SRI A. ANBARASU,Full Time
Qualification : B.E (MINING ENGG)
Appointment/ : 01/01/2012
Termination date

Geologist

Name : ONKAR NATH TIWARI,Full Time
Qualification : M. Sc. (Geology)
Appointment/ : 22/05/2018
Termination date

Manager

Name : SRI A.ANBARASU
Qualification : B.E(MINING ENGG)
Appointment/ : 29/04/2011
Termination date

Manager

Name : SRI A. ANBARASU
Qualification : B.E (MINING ENGG)
Appointment/ : 04/03/2008 22/04/2011
Termination date

6. Date of approval of Mining Plan/Scheme of Mining : Existing rule 11 MCDR1988 26/05/1992
Renewal under rule 24 MCR1960 08/11/2004
Mining Scheme rule 12 MCDR1988 08/04/2011
FMCP under 23C(1) 09/05/2013
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	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 Scheme of Mining. In the last approved Mining Plan / SOM	No exploration was carried out as no proposal was available.	
1d	Balance area to be explored to bring Geological axis in 1 or 2	As per approved Modification in Approved MP ,no area was remained unexplored	Entire lease area was explored for G1 and G2 level.	
1e	Balance reserve as on 01/04/20	As per approved Modification in Approved MP the Reserve/ Resource as on 01.04.2015 was as given below:- i. Reserve(111): 1035732 MT; ii. Resource(221) : 480000 MT.	After depleting the production of 171961 MT during 2016-17, the Reserve/Resource position as on 01.04.2017 is as given below:- i. Reserve(111): 863411 MT; ii. Resource(221): 480000 MT.	

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 Modification in Approved MP, there was proposal to develop Quarry	As per proposal the development work was in progress in Quarry	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in Soil & Morrum and Laterite and Ore were proposed to be developed. During 2016-17, . There was no proposal for top soil removal during the present plan period.	Separate benches in Soil & Morrum and Laterite and Ore were developed. During 2016-17	
2c	Stripping ratio or ore to OB ratio	As per Modification in Approved MP, the overall stripping ratio during the period 2016-17 was proposed to be 1: 0.95	The overall stripping ratio during the period 2016-17 as reported is less than 1: 0.95	

2d	Quantity of topsoil generation in m3	As per Modification in approved Mining Plan, dated 31/05/2016, 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
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc		Pit was developed as proposed in the Modification in Approved MP.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	02 Pits proposed for production.	At the time of inspection 2 pits, were production quarries.	
3c	Recovery of sailable/usable mineral from ROM production	In 2016-17 no such proposal for Recovery of saleable / useble from ROM Production.	In 2016-17 no such recovery reported.	
3d	Quantity of mineral reject generation	No proposal available for mineral rejects generation during the period.	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	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	Manual 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 2016-17	As on date of inspection, about Ha area was covered under excavation.	
3q	General remarks of inspecting officers on method of mining etc.			Production was less than as proposed in Modification in Approved MP.

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 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, 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	Not applicable.	Not applicable.

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.
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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
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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 was no proposal for mineral dispatch in the approved Scheme of Mining. There was also no proposal for grade wise sorting within the lease.	In 2016-17 dispatch figure during the plan period	
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 39.27 % Al ₂ O ₃ grade	
7c	Different grade of mineral sorted out at mines.	No proposal available	No proposal available	
7d	Any beneficiation process at mines	No proposal available	No proposal available	

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
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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, dated 31/05/2016, 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 of 19.80 Ha area up to 2016-17.	
8b	Concurrent use or storage of topsoil	As per Modification in approved Mining Plan, dated 31/05/2016, separate removal and spreading of top soil and Morrum over backfilled area was proposed.	Simultaneous spreading of top soil was done over backfilled area of 19.80 Ha. The quantum of top soil used for concurrent spreading over backfilled area was not available.	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	There was no proposal for separate dumping of OB, Waste rock and Mineral Reject.	There was no dump of OB, Waste, Mineral Reject/Fines within the lease area, as entire OB/Waste material generated was used for simultaneous backfilling followed by spreading of top soil over it.	

8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	There was proposal for simultaneous backfilling for restoration of excavated area by using 68835 Cu.m of OB/Waste material and followed by 76686 Cu.m of Top soil spreading over backfilled area. In 2016-17	A total of 82472 Tons of material has been backfilled in 2016-17
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposal available.	No work done
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	No information available in the approved document. However, during the plan period 2016-17 about 3000 nos. of plantation were proposed to be done..	In 2016-17 as reported 1338 plants has been planted.
8g	Survival rate	Survival rate was proposed to be around 80%	The survival rate varied between 65-85 % during last few years.
8h	Water sprinkling on roads to control airborne dust	No specific proposal was there in the last approved document	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	The top so generated was used for spreading over backfilled area of 19.80 Ha area up to 2016-17. A total of 82472 Tons of material has been backfilled in 2016-17
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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
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 2016-17 was filled by the lessee.	

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	In Part-I of the Annual Return, for the year 2013-14, information regarding Mining Engineer and Geologist were to be submitted under item no. 8 & 9.	The name of Mining engineer and Geologist were submitted in the Annual Return for the year 2016-17.
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 2016-17 under Capital Structure.	The value of Fixed Assets of the lessee was shown as Rs. 231172773/- in the Annual Return of 2016-17 under Part-IIA of the Capital Structure.
9k	Scrutiny of Annual return on mining machineries	In Part-V, Sec 5/6/8/9 of the Annual Return, 2016-17, the machineries used were as given below:- i. Shovel: 3 nos.(0.9 cu,m + 1.50 cu.m + 1.7 cu.m); ii. Crusher : 2 nos. (120.0 T/H + 60 T/H); iii. Dumper: 3 nos (25 MT); iv. Dumper: 1 nos. (32 MT); v. Air Compressor: 01 nos. (365CUM/MN).	The machineries used at the time of inspection are:- i. Shovel: 2 nos.(0.9 cu,m + 1.7 cu.m); ii. Crusher : 2 nos. (120.0 T/H + 60 T/H); iii. Dumper: 3 nos (25 MT); iv. Dumper: 1 nos. (32 MT); v. Air Compressor: 01 nos. (365CUM/MN).

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