

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

MCDR INSPECTION REPORT

Ranchi regional office

Mine file No : JHK/LTH/BX/251/RRO

Mine code : 07JHK19002

- (i) Name of the Inspecting : **S001**) **B K SINGH**
Officer and ID No.
- (ii) Designation : Assistant Mining Geologis
- (iii) Accompanying mine : Shri R. Ambastha, Mining Engineer and Shri Victor Bas
Official with
Designation
- (iv) Date of Inspection : 15/11/2018
- (v) Prev.inspection date : 09/11/2017

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **CHIRO KUKUD BAUXITE MINE**
- (b) **Registration NO.** : **IBM/935/2011**
- (c) Category : A Other than Fully Mech.
- (d) Type of Working : Opencast
- (e) Postal address
State : JHARKHAND
District : LATEHAR
Village : CHIRO AND KUKUD
Taluka : MAHUADANR
Post office : CHIRO AND KUKUD
Pin Code :
FAX No. : 06526- 224118
E-mail : bijesh.jha@adityabirla.com
Phone : 06526-224016, 224112
- (f) Police Station : MAHUADANR
- (g) First opening date : 29/01/1985
- (h) Weekly day of rest : SUN
2. Address for : VILL.-CHIRO & KUKUD
correspondance : TALUKA - MAHUADANR
DISTT.- LATEHAR (JHK)
3. (a) Lease Number : BHR0229
- (b) Lease area : 166.68
- (c) Period of lease : 20
- (d) Date of Expiry : 28/01/2005
4. Mineral worked : BAUXITE Main

5. Name and Address of the

Lessee : M/S HINDALCO INDUSTRIES LTD.
 COURT ROAD, LOHARDAGA,
 LOHARDAGA JHARKHAND
 Phone:06526 - 224012 & 224118
 FAX :06526-224112, 224016 & 0651- 2330782

Owner : K.N.BHANDARI
 M/s Hindalco Industries Ltd
 P.O. Renukoot Dist.
 Sonebhadra (UP) SONBHADRA
 UTTAR PRADESH
 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 : SRI R.R.P.AMBASTHA,Full Time
 Qualification : B.E(MIN)
 Appointment/ : 01/08/2006
 Termination date

Geologist

Name : SRI TAPAS GACHHAYAT,Full Time
 Qualification : M.Sc(GEOLOGY)
 Appointment/ : 01/04/2012
 Termination date

Manager

Name : Rajesh Ambashtha
 Qualification : AMIE(Mining) with FCC
 Appointment/ : 01/08/2006
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining	:	Renewal under rule 24 MCR1960	17/05/2006
		Mining Scheme rule 12 MCDR1988	17/08/2012
		FMCP under 23C(1)	20/11/2014
		MP modif under MCR 1960	20/05/2016

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	There was no proposal of exploration in the modification in approved mining plan approved on 20/05/2016 for the period from 2015-16 to 2019-20.	No backlog of previous year exploration exist in the mine.	Lease area is fully explored.
1b	Exploration over lease area for geological axis 1 or 2	There was no proposal of exploration over lease area in the modification in approved mining plan approved on 20/05/2016 for the period from 2015-16 to 2019-20.	No exploration done during 2017-18	No proposal for exploration during the plan period was there.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	There was no proposal of exploration over lease area in the modification in approved mining plan approved on 20/05/2016 for the period from 2015-16 to 2019-20.	No exploration done during 2017-18	

1d	Balance area to be explored to bring Geological axis in 1 or 2	There was no proposal of exploration over lease area in the modification in approved mining plan approved on 20/05/2016 for the period from 2015-16 to 2019-20.	Out of total lease area of 166.68 ha, lease renewal was applied for 152.57 ha excluding 14.11 Ha of Forest area (FMCP approved on 20.11.2014). Total 80.87 ha of area has been covered under exploration through drilling and about 71.70 Ha area remained yet to be explored on the Northern, Eastern and Southern part of lease area. The Eastern part of the lease area was very steep and not approachable easily.
1e	Balance reserve as on 01/04/20	As per modification in approved mining Plan approved on 20/05/2016 for the period from 2015-16 to 2019-20, the Reserve/Resource as on 01.04.2015 was as given below:- i. Proved Reserve(111): 1151326 MT; ii. Probable Reserve(122): 1104813 MT; Avg. grade Al ₂ O ₃ -(+) 43.5% and SiO ₂ -(-) 3.69%.	After depleting the production of 271990 MT for the period from 2015-16 & 2017-18, the Reserve position as on 01.04.2018 is given below:- i. Proved Reserve (111): 879336 MT ii. Probable Reserve (122): 1104813 MT

1f	General remarks of inspecting officers on geology, exploration etc	Not applicable.	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 is:- i. OB, consisting of Soil, Morrum and Laterite: 5-6m; ii. Bauxite Ore: 3-5m; The Bauxite in the area was again underlain by a layer of Laterite followed by Lithomarge. Total 197 BHs were given in the area covering 80.87 Ha area for G1 and G2 level of exploration.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	During 2016-17 it was proposed to develop quarry noA3.	Mining was carried in quarry noA3.	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in Overburden (Top soil, Morrum and Laterite) and Ore were proposed to be developed., it was proposed to develop 01 bench each in Overburden and Bauxite Ore with dimension of 5m X 6m in OB and 6m X 6m in Ore.	Separate benches in Overburden (Top soil , Morrum and Laterite) and Bauxite were developed in both the Quarries.	Mining was stopped by MOEF vide letter dated 10.06.2018 as area lies within 10 kms of wild life sanctuary.

2c	Stripping ratio or ore to OB ratio	Proposed production was 99204 MT and waste generation was 10783 m3 and stripping ratio during 2017-18 was Not available	During 2017-18 Production of bauxite was 90130 MT and waste generation was 127590cum .
2d	Quantity of topsoil generation in m3	As per approved Document , Proposed top soil generation was 112046.5m3 cum during 2017-18.	The Top soil generation figure was not available.
2e	Quantity of overburden generation in m3	As per modification in approved Mining Plan proposed generation of OB during 2017-18 was 10783.01m3 cum	The quantity of OB generated during 2015-16 was NA.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	NA	During the plan period 2015-16 to 2019-20 it was proposed to develop quarry no-1 (A1-A5)

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	During the year 2017-18 it was planned to produce bauxite from Quarry no. A-3.	Minning was carried out in the quarry no. A3 as per the proposal in the approved document.	

- 3b Quantity of ROM mineral production proposed As per modification in approved Mining Plan on 20/5/2016, proposed production during the plan period from 2015-16 to 2019-20 is given below:
 2015-16: 95096 MT
 2016-17 : 99118 MT
 2017-18 : 99204 MT
 2018-19 :99433 MT
 2019-20 :99458 MT
- The quantity of ROM mineral production during previous years were given below:-
 2012-13: 64847 MT
 2013-14: 52929 MT
 2014-15: 75631 MT
 2015-16 : 94290 MT
 2016-17 : 87570 MT
 2017-18:99130 MT
- 3c Recovery of saleable/usable mineral from ROM production 80% recovery of saleable/useable mineral from ROM production was proposed during the year 2017-18. During the year2017-18, recovery of bauxite from ROM was 80%.
- 3d Quantity of mineral reject generation No proposal of mineral rejects generation was made in the approved document during the plan period from 2015-16 to 2019-20. No mineral reject generation was reported from the mine during the year2017-18. The entire bauxite ore produced from the mine is used for captive consumption.

3e	Grade of mineral rejects generation and threshold value declared.	No proposal of mineral rejects generation was made in the approved document during the plan period from 2015-16 to 2019-20. The Threshold value of Bauxite is 30% Al ₂ O ₃ (Min) and <5% SiO ₂ .	Not applicable as no mineral reject generation was reported from the mine during the year 2017-18.
3f	Quantity of sub grade mineral generation.	No proposal of sub grade mineral generation was made in the approved document during the plan period from 2015-16 to 2019-20.	No generation of sub-grade mineral was reported from the mine during the year 2017-18. The entire bauxite ore produced from the mine is used for captive consumption.
3g	Grade of sub grade mineral generation	No proposal of sub grade mineral generation was made in the approved document during the plan period from 2015-16 to 2019-20.	Not applicable as no sub grade mineral generation was reported from the mine during the year 2017-18.
3h	Manual / Mechanised method adopted for segregating from ROM	As per modification in approved Mining Plan approved on 20/05/2016, manual method was proposed for segregating from ROM.	The bauxite is mined out manually from the blasted material. Manual sorting, sizing and screening were done at mine site for segregation of bauxite 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 modification in approved mining plan dated 20/05/2016. 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 modification in approved MP for 2015-16 to 2019-20 there was provision of drilling and blasting in hard surface of laterite and bauxite. Drilling was proposed by Wagon Drill of 100mm dia and depth ranges from 3 to 5m with burden and spacing at 2.5m X 3m and JH for secondary blasting. Explosive proposed are detonating fuse, ANFO, OD & safety fuse. Drilling with Wagon drill (100 mm dia) and blasting were done as per proposal in the approved document under the strict supervision of mine foreman. Detonating cord relays are used to minimise ground vibration, fly rock & air blast. Explosives are not stored in the magazine. Indent of explosives are done from supplier in advance. Received explosives are used in same day as the area is sensitive. blasting operation is conducted between 12.00 noon to 2.00 PM.

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| 3k | Provision of mining machineries in mineral benches | <p>The following machineries were proposed to be deployed in the mine as per approved Modification in Mining Plan:-</p> <p>i. Wagon drill (Crawler mounted): 01 no.(100 mm dia);</p> <p>ii. JH Drill: 01 no. (37mm dia);</p> <p>iii. Compressor: 01 no. (350 cfm);</p> <p>iv. Excavator: 01 no. (0.9 cu.m);</p> <p>v. Loader: 01 no. (2.6 cu.m);</p> <p>vi. Dumper: 04 nos. (4 cu.m)/10 tonnes;</p> <p>vii. Dumper: 04 nos. (6.5 cu.m)/16 tonnes;</p> <p>viii. Water tanker: 01 no. (10,000 Ltr).</p> <p>ix. Rock breaker (JCB): 01 no.</p> | <p>The list of machineries reported to be deployed in the mine during the inspection of the mine were given below:-</p> <p>No machinery was there as mining was not in operation.</p> | <p>Minng was stopped by MOEF as area lies within 10 km of wild life sanctuary.</p> |
| 31 | Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM | <p>As per approved Modification in Mining Plan, it was proposed to maintain the height of benches in OB at 5m and in mineral within 6m. Whereas the bench width was proposed to be maintained within 6m both in OB and Ore.</p> | <p>The height of the overburden benches varies from 3-4m while in bauxite, the bench height was maintained between 1.5-2m. The height and width of benches were in conformable with the 'A'-OTFM method of mining.</p> | |

3m	Total area covered under excavation/pits	As per approved Modification in Mining Plan, total area proposed to be covered under excavation during the plan period was 12.57 ha. The year wise proposal for area to be mined out was: 2015-16: 2.89 ha, 2016-17: 1.26 ha, 2017-18: 2.5ha, 2018-19: 2.04 ha and 2019-20: 3.88 ha.	As on 01.04.2018 total area under excavation was 19.84ha, current working- 1.63ha, Reclamation and rehabilitation-18.21ha and under progressive mine closure plan- 3.59ha.
3n	Ore to OB ratio for the pit/mine during the year.	As per the approved modification in mining plan, the proposed production during the year 2017-18 was 99204 MT and waste generation was 10783m ³ .	During the year 2017-18, the actual production of ore was 90130MT and waste generation was NA.
3o	Total area put in use under different heads at the end of year	As per approved Modification in Mining Plan for the period from 2015-16 to 2019-20, the area put in use under different heads was Quarry (including reclaimed area) 23.47 ha (20.44 ha), infrastructure: 0.45 ha, Road: 0.34 ha, Retaining wall/Garland drain: 0.52 ha.	As on 01.04.2018 total area under excavation was 19.84ha, current working- 1.63ha, Reclamation and rehabilitation-18.21ha and under progressive mine closure plan- 3.59ha.

3p	Production of ROM mineral during the last five year period as applicable	Proposed production schedule during last five years was given below:- i. 2012-13: 95181 MT; ii. 2013-14: 95277MT; iii. 2014-15: 95327 MT. iv. 2015-16 : 95056 MT v. 2016-17 : 99118 MT vi.2017-18:99204 MT	The quantity of ROM mineral production during the last five year period were as given below:- i. 2012-13: 64847 MT; ii. 2013-14: 52929 MT; iii. 2014-15: 75631 MT. iv. 2015-16 : 94290 MT v. 2016-17 : 87570 MT vi.2017-18 :90130 MT	
3q	General remarks of inspecting officers on method of mining etc.	Not applicable.	A'- OTFM category of opencast mining method was adopted in the mine. The bench height in OB was maintained at 3m to 4m and in Ore it was maintained at 1.5 to 2m, which were within the proposed limit. The bauxite is mined out manually from the blasted material. Manual sorting, sizing and screening were done at mine site for segregation of bauxite from ROM. The laterite/morrum and intercaleted waste are used for backfilling the mined out areas for reclamation.	Minng was stopped by MOEF as area lies within 10 km of wild life sanctuary.Mine was not working during inspecton.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
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4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	As per approved Modification in Mining Plan dated 20.05.2016, there was no proposal for separate dumping of top soil, OB (Morrum/Laterite) and reject material. There was proposal for simultaneous backfilling of OB (laterite / morrum) and the intercalated waste in the mined out areas and spreading top soil over the backfilled area for reclamation purpose.	There was no separate dump of top soil, OB (Morrum / Laterite) and mineral rejects within the lease area. The entire OB (laterite/morrum) and intercalated waste are used for backfilling the mined out areas for reclamation.
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4b	Location of topsoil, OB and mineral reject dumps	As per approved Modification in Mining Plan dated 20.05.2016, there was no separate dumping of top soil, OB (Morrum/Laterite) and reject material. There was proposal for simultaneous backfilling of OB (laterite / morrum) and the intercalated waste in the mined out areas and spreading top soil over the backfilled area for reclamation purpose.	There was no separate dump of top soil, OB (Morrum / Laterite) and mineral rejects within the lease area. The entire OB (laterite/morrum) and intercalated waste are used for backfilling the mined out areas for reclamation.
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4c	Number of dumps within lease area and outside of lease area	As per approved Modification in Mining Plan dated 20.05.2016, there was no proposal for separate dumping of top soil, OB (Morrum/Laterite) and reject material. There was proposal for simultaneous backfilling of OB (laterite / morrum) and the intercalated waste in the mined out areas and spreading top soil over the backfilled area for reclamation purpose.	Not applicable as there was no dump within or outside the lease area.
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- 4d Location of dumps w.r.t. ultimate pit limit (Rule 16) As per approved Modification in Mining Plan dated dated 20.05.2016, there was no proposal for separate dumping of top soil, OB (Morrum/Laterite) and reject material. There was proposal for simultaneous backfilling of OB (laterite / morrum) and the intercalated waste in the mined out areas and spreading top soil over the backfilled area for reclamation purpose. Not applicable as there was no dump within or outside the lease area.
- 4e Number of active and alive dumps. As per approved Modification in Mining Plan dated dated 20.05.2016, there was no proposal for separate dumping of top soil, OB (Morrum/Laterite) and reject material within the lease area. Not applicable as there was no active and alive dump within the lease area.

4f	Number of dead dumps.	As per approved Modification in Mining Plan dated dated 20.05.2016, there was no proposal for separate dumping of top soil, OB (Morrum/Laterite) and reject material.	Not applicable as there was no dead dump within the lease area.
4g	Number of dumps established.	As per approved Modification in Mining Plan dated dated 20.05.2016, there was no proposal for separate dumping of top soil, OB (Morrum/Laterite) and reject material within lease area.	Not applicable as there was no dump within the lease area.
4h	Whether Retaining wall or garland drain all along dumps are there.	As per approved Modification in Mining Plan dated dated 20.05.2016, there was no proposal for separate dumping of top soil, OB (Morrum/Laterite) and reject material within lease area.	Not applicable as there was no dump within the lease area.

4i	Length of Retaining wall or garland drain all along dumps	As per approved document, there was no proposal for separate dumping of top soil, OB (Morrum/Laterite) and reject material within lease area.	Not applicable as there was no dump within the lease area.
4j	Number of settling ponds	There was no such proposal for construction of settling pond.	No settling pond was created within the mining lease area as on date of inspection.
4k	Specific comments of inspecting officer on waste dump management	Not applicable.	There was no separate dump of top soil, OB (Morrum / Laterite) and mineral rejects within the lease area. The entire OB (laterite/morrum) and intercaleted waste are used for backfilling the mined out areas for reclamation. Hence no comments can be given.

Solid Waste Management - Backfilling:

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.	As per modification in approved mining plan dated 20.05.2016, there was proposal for full extraction of mineral from mined out area before starting backfilling i.e simultaneous backfilling of OB and waste material along with top soil spreading over the backfilled mined out areas for reclamation.	Simultaneous backfilling of OB and waste material and spreading of top soil over backfilled areas were in practice in the mine after complete extraction of mineral from the active mining part of the lease.
5b	Area under backfilling of mined out area	As per modification in approved mining plan dated 20.05.2016, there was proposal for backfilling of about 12.48 ha area. The proposed year wise area to be backfilled is given below:- 2015-16: 2.59 Ha 2016-17 : 1.676 Ha 2017-18 : 3.2 Ha 2018-19 : 2.01 Ha 2019-20 : 3.0 Ha	As on 01.04.2018, about 18.21 ha area was reported backfilled /reclaimed out of 19.84 ha of excavated area.

5c Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)

As per approved Modification in Mining Plan dated 20.05.2016, there was proposal for concurrent use of top soil for restoration / rehabilitation of the mined out areas. There was proposal for simultaneous backfilling of OB and intercalated waste in the mined out areas and spreading of top soil over the backfilled area for reclamation purpose. During the plan period 2015-16 to 2019-20, about 474510 Cu.m of top soil was proposed to be used for spreading over backfilled area.

Simultaneous backfilling of mined out areas with OB and waste and spreading of top soil over backfilled area was in practice. Quantity of top soil used during the year was not available.

5d	Total area fully reclaimed and rehabilitated	As per approved Modification in Mining Plan dated 20.05.2016, about 12.48 Ha area was proposed to be backfilled and reclaimed during the plan period 2015-16 to 2019-20. Out of 12.48 ha, about 4.66 ha was proposed to be rehabilitated through plantation.	As on 01.04.2018, about 18.21ha area was reclaimed and rehabilitated. As reported, about 5.19 ha area was reclaimed and afforested.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Not applicable.	Simultaneous backfilling of OB and waste material and spreading of top soil over backfilled areas were in practice in the mine after complete extraction of mineral from the active mining part of the lease. As on 01.04.2018, about 18.21 area reclaimed and rehabilitated. During 2017-18 total plantation was 1900 covering an area of 0.80ha.

Progressive Mine Closure Plan:

Sl.No.	Item	Proposals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	No such proposal was there in the modification in approved mining plan approved on 20/05/2016 for the period from 2015-16 to 2019-20.	Lessee has submitted annual report on PMCP for the year 2017-18.	

6b	Area available for rehabilitation (ha) .	There was proposal for rehabilitaion of 4.66 ha area through plantation over backfilled area during plan period 2015-16 to 2019-20.	As on 01.04.2018, out of 19.84 ha of broken area, about 18.21ha area has been reclaimed. and 5.19ha area rehabilitated by afforestation 1203 trees.
6c	afforestation done (ha).	There was proposal for plantation of 945 plants over an area of 0.423 ha area during the year 2017-18 as per the modification in approved mining plan for the year 2015-16 to 2019-20.	As reported during the inspection, total area covered under plantation was about 0.80ha by planting 1900 plants as on 2017-18.
6d	No. of saplings planted during the year	There was proposal for plantation of 945 plants over an area of 0.423 ha area during the year 2017-18 as per the modification in approved mining plan for the year 2015-16 to 2019-20.	As reported during the inspection, total area covered under plantation was about 0.80ha by planting 1900 plants as on 2017-18.
6e	Cumulative no .of plants	As per the approved modification in approved mining plan for the period from 2015-16 to 2019-20, there was proposal for plantation of about 9685 nos. of plants over an area of 4.66 ha.	cumulative plantation carried as on 01.04.2018 was 12203 covering an area of 5.19 ha.

6f	Any other method of rehabilitation	No other proposal was available in the approved document.	Only plantation has been reported over the backfilled area and no other method of rehabilitation was adopted.
6g	Cost incurred on watch and care during the year	No proposal of cost incurred on watch and care was available in the approved document.	No information available on the cost incurred on watch and care during the year.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L x B x D	As per modification in approved Mining plan for the year 2015-16 to 2019-20, there was proposal for reclamation of about 12.57 ha area during the plan period.	As on 01.04.2018, out of 19.84 ha of broken area, about 18.21ha area has been reclaimed. and 5.19ha area rehabilitated by afforestation 1203 trees.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	As per modification in approved Mining plan for the year 2015-16 to 2019-20, there was proposal for reclamation of about 12.57 ha area during the plan period.	As on 01.04.2018, out of 19.84 ha of broken area, about 18.21ha area has been reclaimed. and 5.19ha area rehabilitated by afforestation 1203 trees.
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on backfilled area	There was proposal for rehabilitation of 4.66 ha area through plantation over backfilled area by planting 9685 saplings during the plan period 2015-16 to 2019-20.	As reported during the inspection, total area covered under plantation was about 0.80ha by planting 1900 plants as on 2017-18.

6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	As per modification in approved Mining plan, there was no proposal for making water reservoir in the lease area.	No water reservoir was created within the lease area.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	There was no other proposal in the approved document.	Not applicable.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	There was no recorded waste land within the lease area.	Not applicable.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	There was no recorded waste land within the lease area.	Not applicable.
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	There was no recorded waste land within the lease area.	Not applicable.
6p	Compliance of environmental monitoring (core zone and buffer zone)	There was proposal for environmental monitoring during the plan period 2015-16 to 2019-20.	Environmental monitoring was carried out regularly within the core zone through consultant.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Not applicable.	As on 01.04.2018, out of 19.84 ha of broken area, about 18.21ha area has been reclaimed. and 5.19ha area rehabilitated by afforestation 1203 trees.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
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7a	ROM Mineral dispatch or grade-wise sorting within lease area	As per modification in approved mining plan dated 20.05.2016, there was no proposal for grade wise sorting within the lease.	There was no grade wise sorting within the lease area. However blending of high grade ore with low grade ore was done in the mine before material is despatched.
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 modification in approved mining plan dated 20/05/2016. There was no proposal for grade wise sorting of ore.	Manual sorting of Bauxite ore from OB/Waste material was done at the mine site. Grade-wise sorting of ore was done at the mine site. Two different grade of ore 40-45% Al ₂ O ₃ grade and the other of 45-50% Al ₂ O ₃ grade are properly blended at the mine site to meet the plant specification. There was no separate grade wise stacking of ore at the mine site.
7c	Different grade of mineral sorted out at mines.	Manual sorting of Bauxite ore from OB/Waste material after blasting was proposed in the modification in approved mining plan dated 20/05/2016. There was no proposal for grade wise sorting of ore.	Manual sorting of Bauxite ore from OB/Waste material was done at the mine site. Grade-wise sorting of ore was done at the mine site. Two different grade 40-45% Al ₂ O ₃ grade and the other 45-50% Al ₂ O ₃ grade are properly blended at the mine site to meet the plant specification. There was no separate grade wise stacking of ore at the mine site.
7d	Any beneficiation process at mines .	There was no proposal for beneficiation of ore proposed at the mine site.	No beneficiation of ore was carried out at the mine site. The ROM grade obtained at the mines is up graded by blending better quality bauxite at the siding before transport.

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Not applicable.	No beneficiation was carried out at the mine site. For Mineral Conservation aspect, the lessee has 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 was blended with high grade material before dispatch to the railway siding.
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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 20.05.2016, separate removal and utilization of top soil was proposed.	The top soil removal figure was not available. The top so generated was not stored separately but utilized for spreading over backfilled area in the process of somultaneous reclamation.	
8b	Concurrent use or storage of topsoil	As per modification in approved mining plan dated 20.05.2016, the top soil was proposed to spread over backfilled area.	The quantity of top soil generated is utilised by spreading over the backfilled area in the process of simultaneous reclamation.	

- 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. Simultaneous backfilling and spreading of top soil was proposed during the approved plan period. There was no separate dump of OB, waste rock and mineral reject / fines within the lease area. The entire OB, waste material generated during the process of mining was used for simultaneous backfilling of the mined out areas 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 no proposal for separate dumping of OB, waste rock and mineral reject. Simultaneous backfilling and spreading of top soil over it was proposed in the approved document during the plan period. Simultaneous backfilling of OB, waste rock and mineral reject was done in the mine. As reported about 2,47,885 tonne of overburden removed during the year 2016-17 was utilised for simultaneous backfilling. During the year 2016-17 about 2.030 ha was backfilled. As on 01/04/2018, about 18.21 ha area has been rehabilitated out of 19.84 ha of excavated area.

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Year wise backfilling proposal as per modification in approved mining plan dated 20/05/2016 was as under:- 2015-16: 2.59 ha 2016-17 : 1.68 ha 2017-18 : 3.2 ha 2018-19 : 2.01 ha 2019-20 : 3.0 ha. Thus total 12.47 ha mined out area was proposed to be backfilled/restored during the plan period.	Simultaneous backfilling of OB, waste rock and mineral reject was done in the mine. As reported about 2,47,885 tonne of overburden removed during the year 2016-17 was utilised for simultaneous backfilling. During the year 2016-17 about 2.030 ha was backfilled. As on 01/04/2018, about 18.21 ha are reclaimed and 5.19ha have been rehabilitated out of 19.84ha of excavated area.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	During the plan period 2015-16 to 2019-20 it was proposed to plant 9685 no. of saplings over an area of 4.66 ha.	As on 01.04.2018, total 12203 no. of plantation in the mining lease area was done covering an area of 5.19ha.
8g	Survival rate	There was no specific proposal for survival rate during the plan period of 2015-16 to 2019-20. an area of 4.66 ha.	As on date of inspection, 80% survival rate was reported. area of 5.19 ha.

8h	Water sprinkling on roads to control airborne dust	There was proposal of water sprinkling regularly on the haul roads as per modification in the approved mining plan dated 20.05.2016.	It was reported that regular water sprinkling arrangement was made on haul road to control the airborne dust.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Not applicable.	As on date of inspection, about 14.620 ha area has been backfilled / rehabilitated out of 16.300 ha of excavated area. Simultaneous backfilling of OB, waste rock and mineral reject was done in the mine. During the year 2016-17 about 2.030 ha was backfilled. As of date of inspection about 5.19 ha area has been rehabilitated by planting 12203 plants. Thus the aesthetic beauty in and around the mines area has been maintained by the lessee.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
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9a	Status of submission of Monthly and Annual returns	The information furnished in the Annual Return for the year 2016-17 covering 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	The lessee submitted the Monthly return and Annual Return regularly for the period 2017-18 within stipulated time.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	In Part-I of the Annual Return, for the year 2016-17, information regarding Mining Engineer and Geologist has been submitted under item no. 8 & 9.	During inspection, the name of Mining engineer and Geologist, submitted in the Annual Return for the year 2016-17, were found to be correct. Sri Rajesh Ranjan Ambasta, Mining Engineer and Sri Tapas Gachhayat, Geologist of the mine were present during inspection.

- 9c Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. In Part-I, item no. 12 of the Annual Return for the year 2016-17, information on land use pattern was furnished as given below:-
 i. Exploited by O/C mining : 16.300 ha;
 ii. Reclaimed/Rehabilitated : 14.629 ha;
 iii. Current working : 1.680 ha;
 iv. Waste disposal: Nil;
 and
 v. Others: Nil.
- Total area put to use as on 01.04.2018 was as given below:-
 Total broken area : 19.84 ha;
 Area backfilled/reclaimed : 18.21 ha;
 Area rehabilitated through plantation : 5.19 ha;
- 9d Scrutiny of Annual return on afforestation As per Annual Return for the year 2017-18, the plantation was done within ML area as shown as 1900nos. with survival rate 80% . As on 01/04/2018, out of total broken area 19.84 ha, an area of 18.210 ha was reclaimed / rehabilitated and an area of 5.19 ha covered under afforestation with 12203 plants.
- 9e Scrutiny of Annual return on mineral reject generation (Grade and quantity) In Part-V, Sec 4 of the Annual Return 2017-18, the information on mineral reject generation was shown as Nil. No Mineral Reject generation from the mine was reported during the year 2017-18.

9f	Scrutiny of Annual return on ROM stock and/or graded ore	The ROM stock (opening balance) and Closing stock during the year 2017-178 was shown as given below:- i. Opening stock : 40-45% Al2O3 grade:93.190 MT; ii. Closing stock : 40-45% Al2O3 grade:17876.55 MT; Production :90130 MT Despatch:72346 .64 MT	The figures given for opening and closing stocks were in conformable with the figures furnished through Monthly / Annual returns.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	The sale value, ex-mine price and production cost were shown in Part-VI and VII respectively of the Annual Return for the year2017-18.	The sale value was shown as Nil and the cost of production was shown as Rs 921.29/- per MT.
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 not furnished in the Annual Return of 2017-18 under Part-IIA of the Capital Structure.Depreciation in fixed assets given as Rs 17258932/-.

9k	Scrutiny of Annual return on mining machineries	As per annual return 2017-18 mining machinery used was given below. Shovel hyd- 1.2cum-01unit Wheel loader- 1.48cum-01 Dumper-25T-03 Air Compressor- 450cum/mn-01 water Tanker- 12000ltr-01 Rock Drill-Non Elc--100mm-01	No machinery was there as mining was stopped by MOEF .	Mining has been stopped by MOEF as lease area lies within 10 kms of wild life sanctuary.
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Details of violations observed during current inspection and compliance position of violation pointed out

Violation observed			Show course position		
Rule NO.	Issued on	Compliance on	Rule NO.	Issued on	Compliance on
MCDR17	Rule 13(1)	14/01/2019			
MCDR17	Rule 14(3)	14/01/2019			
MCDR17	Rule 26(2)	14/01/2019		20/03/2019	

Date :

(B K SINGH)

Indian Bureau of Mines