

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

**MCDR INSPECTION REPORT**

**Ranchi regional office**

**Mine file No :** BIH/GUM/BX/216/RRO

**Mine code :** 07BHR32014

- (i) Name of the Inspecting : **C001** ) **N.K.CHATERJI**  
Officer and ID No.
- (ii) Designation : Assistant Mining Geologis
- (iii) Accompanying mine : **SRI G.D.TEWARI, MINES MANAGER**  
Official with  
Designation
- (iv) Date of Inspection : 01/12/2015
- (v) Prev.inspection date : 03/03/2015

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **NEW AMPTIPANI (49.27)**
- (b) **Registration NO.** : **IBM/5041/2011**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address :  
State : JHARKHAND  
District : GUMLA  
Village : AMPTIPANI  
Taluka : BISHUNPUR  
Post office : JOBHIPAT  
Pin Code :  
FAX No. : N.A.  
E-mail : N.A.  
Phone : 06565-226016
- (f) Police Station : BISHUNPUR
- (g) First opening date : 15/07/1985
- (h) Weekly day of rest : THU
2. Address for : VILL-KARKAPAT  
correspondance : BISHUNPUR  
DIST-GUMLA
3. (a) Lease Number : BHR0252
- (b) Lease area : 49.07
- (c) Period of lease : 20
- (d) Date of Expiry : 26/05/2005
4. Mineral worked : BAUXITE Main

## 5. Name and Address of the

Lessee : AWADHESH KUMAR SINGH  
 AT -CHANDWA LATEHAR  
 JHARKHAND  
 Phone:06565226016 & 9431390666  
 FAX :

Owner : AWADHES KUMAR SINGH  
 AT/PO-CHIRKUNDA DIST-  
 DHANBAD JHARKHAND DHANBAD  
 JHARKHAND  
 Phone: 06552-23005,220  
 FAX :

## Mining Engineer

Name : SRI G.D.TEWARY,Full Time  
 Qualification : B.Tech (Min)  
 Appointment/ :  
 Termination date

## Geologist

Name : ARBIND RANJAN,Full Time  
 Qualification : M. Sc. (Applied Geolgy)  
 Appointment/ :  
 Termination date

## Manager

Name : SRI GANGADHAR TEWARY  
 Qualification : B.Tech (Min)  
 Appointment/ :  
 Termination date

6. Date of approval of Mining	:	Existing rule 11 MCDR1988	31/01/1997
Plan/Scheme of Mining	:	Renewal under rule 24 MCR1960	22/03/2013
	:	Mining Scheme rule 12 MCDR1988	22/03/2013

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	As per approved Scheme of Mining, dated 22.03.2013, valid for the plan period 2011-12 to 2014-15 (2010-11 was lapse period), there was proposal for 07 nos. of boreholes to be given during the year 2013-14 at a grid interval of 10mm X 100m.	No exploration was carried out during the year 2013-14 as the mine was not in operation during 2013-14. Backlog of 07 boreholes still existsted.	The mine was not in operation during July, 2012 to April, 2014. The mine re-opened on 01.05.2014.
1b	Exploration over lease area for geological axis 1 or 2	As per approved Scheme of Mining, valid for the plan period 2011-12 to 2014-15 (2010-11 was lapse period), there was proposal for 07 nos. of boreholes to be given during the year 2013-14 to cover 4.0 Ha on the Southern part of lease area for G1 and G2 level.	Previously 13 nos. of DTH were given at a grid interval of 100m X 100m with total metrage of 132.8 m having maximum and minimum depth of hole at 10.5 m and 10.0 m respectively. During 2013-14, no exploration was carried out as per proposal, since the mine was not in operation during 2013-14.	The mine had not reported production during July, 2012 to April, 2014.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No such proposal was there in the approved Scheme of Mining.	Lessee had explored the area earlier by hiring drilling rig. About Rs. 100000/- (One lakh only) was incurred twards drilling of total 132.8m in 13 nos. of boteholes within the lease area at the rate of about Rs. 755/- per meter of drilling.	--

1d	Balance area to be explored to bring Geological axis in 1 or 2	About 4.0 Ha area on the Southern part of lease was proposed to be explored under G1 and G2 level.	The proposed exploration was not carried out and the reason for the same has been mentioned at item no. 1(b).	--
1e	Balance reserve as on 01/04/20	As per approved Scheme of Mining, valid for the plan period 2011-12 to 2014-15 (2010-11 was lapse period) the Reserve/Resource as on 01.04.2011 was as given below:- Reserve(111): 1895983 MT; Probabale(122): 133826 MT; Resource(211+222): 94221 MT.	After depleting the production of 42280 MT, during the period 2011-12 to 2014-15, the Reserve/Resource position as on 01.04.2015 is given below:- Reserve(111): 1853703 MT (+40% Al2O3); Probable(122): 133826 MT (+40% Al2O3); Resource(211+222): 94221 MT.	The period of 2010-11 was lapse period.
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 maximum thickness of Bauxite horizon encountered in the DTH was around 6.0 m followed by lithomargic clay. The proposed exploration through 07 boreholes during 2013-14 could not be carried out by the lessee during as the mine was not in operation during the period.	The approved Scheme of Mining dated 22.03.2013, was valid for the plan period 2011-12 to 2014-15, the period 2010-11 was lapse period. The mine was not in operation during July, 2012 to April, 2014. The mine re-opened on 01.05.2014.

## Development :

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Sl.No.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	As per approved Scheme of Mining, During the year 2011-12 to 2014-15, development was proposed between Quarry no. 3 (on the Northern part of lease area) and Quarry no. 4 ( on the Western part of lease). During the plan period about 9.0 Ha area was proposed to be developed.	As per proposal, the development work was in progress around Quarry no. 4 on the Western part of the lease at the time of inspection.	The approved Scheme of Mining dated 22.03.2013, was valid for the plan period 2011-12 to 2014-15, the period 2010-11 was lapse period. The mine was not in operation during July, 2012 to April, 2014. The mine re-opened on 01.05.2014.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in Top Soil, Overburden and Bauxite were proposed. In Top soil and Overburden, bench dimension was proposed to be 3.5m X 6m while in Bauxite, the bench dimension was proposed to be 6m X 6m.	Separate benches in Overburden (maily consisting of top soil) and Bauxite were developed within stipulated dimension.The Top soil and OB bench was of 1.5m-2.5m thickness and Bauxite bench was of 2-2.5m thickness.	
2c	Stripping ratio or ore to OB ratio	As per approved Scheme of Mining, the overall stripping ratio during the period 2011-12 to 2014-15 was proposed to be 1: 0.47 Tes/cu.m. During 2014-15, the Ore to OB ratio was proposed to be 1: 0.45 Tes/cu.m.	During the period 2011-12 to 2014-15, the average Ore to OB ratio was calculated as 1: 0.7 Tes/cu.m and that during the year 2014-15, the average Ore to OB ratio was calculated as 1: 1.22 Tes/cu.m. During 2014-15, the production was 22910 MT and total OB generation was 28000 cu.m (~56000 MT).	

2d	Quantity of topsoil generation in m <sup>3</sup>	As per approved Scheme of Mining, the top soil generation during 2011-12 to 2014-15 (2010-11 was lapse period) was proposed to be as under:- 2011-12: 32654 MT; 2012-13: 32424 MT; 2013-14: 47450 MT; 2014-15: 42206 MT.	The Top soil generation figure was not available.	As per approved Scheme of Mining, 2010-11 was lapse period.
2e	Quantity of overburden generation in m <sup>3</sup>	As per approved Scheme of Mining, the Overburden generation during 2011-12 to 2014-15 was proposed to be as under:- 2011-12: 101229 MT (~ 50615 Cu.m); 2012-13: 116710 MT (~58355 Cu.m); 2013-14: 134783 MT (~ 67392 Cu.m); 2014-15: 155384 MT (~ 77692 Cu.m).	The quantity of OB generation during last five years is given below:- 2010-11: N.A; 2011-12: 3000 MT (~ 1500 Cu.m); 2012-13: 1000 MT (~ 500 Cu.m); 2013-14: Nil; 2014-15: 56000 MT (~ 28000 Cu.m); and 2015-16: 69637 MT (~ 34819 Cu.m).	

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Not applicable.	The lessee had previously developed five (05) quarraries within the lease area. As per proposal, the development work was in progress in Quarry no. 4 on the Western part of the lease area during the time of inspection. The mine was not in operation during July, 2012 to April, 2014. The mine re-opened on 01.05.2014. The Bauxite of the area is mixed type with predominantly Gibbsitic (Al <sub>2</sub> O <sub>3</sub> .3H <sub>2</sub> O) in the range of 70-75% and balance 30-25% is Bohemitic (Al <sub>2</sub> O <sub>3</sub> . H <sub>2</sub> O).
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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	As per approved Scheme of Mining, dated 22.03.2013, valid for the plan period 2011-12 to 2014-15(2010-11 was lapse period), production was proposed from Quarry no. 3 & 4 as envisaged in the Development Plan of the approved document.	During 2011-12 to 2014-15, Quarry no. 3 & 4 were worked for production. At the time of inspection, Southern side of Quarry no. 4 was being developed to merge with Quarry no. 2 located on further South of Quarry no. 4 and on SW part of lease area.	

- 3b Quantity of ROM mineral production proposed As per approved Scheme of Mining, the year wise proposed production schedule was as given below:-  
2010-11: 10070 MT (Actual);  
2011-12: 181094 MT;  
2012-13: 221093 MT;  
2013-14: 260952 MT;  
2014-15: 301742 MT.
- The quantity of ROM mineral production during last five years was as given below:-  
2010-11: 10070 MT;  
2011-12: 15280 MT;  
2012-13: 4090 MT;  
2013-14: Nil;  
2014-15: 22910 MT; and  
2015-16: 49741 MT.
- 3c Recovery of sailable/usable mineral from ROM production The proposed recovery of saleable/useable mineral from ROM production was 80%. During the period 2014-15, the average recovery of mineral from ROM was around 65-70%.
- 3d Quantity of mineral reject generation No proposal available for mineral rejects generation during the period 2011-12 to 2014-15. No mineral reject generation was reported from the mine.
- 3e Grade of mineral rejects generation and threshold value declared. Not applicable as there was no proposal of Mineral reject generation. Further, the threshold value for Bauxite has been fixed at 30% Al<sub>2</sub>O<sub>3</sub> & <5% SiO<sub>2</sub>. No Mineral Reject generation had been reported from the mine hence grade of mineral reject is irrelevant. The Threshold value of Bauxite is Al<sub>2</sub>O<sub>3</sub>- 30% with SiO<sub>2</sub>- < 5%. As the av. grade of ore produced was of >40% Al<sub>2</sub>O<sub>3</sub> and 4-4.5% SiO<sub>2</sub>.



- 3f Quantity of sub grade mineral generation. There was no proposal for Sub-grade mineral generation in the last approved Scheme of Mining valid for the plan period 2011-12 to 2014-15. Further, the period 2010-11 was lapse period. No sub-grade Bauxite production was reported from the mine. However, whatever sub-grade materials were generated from the mine were blended with high grade material before dispatch, maintaining the requisite grade. Thus mineral wastage was avoided and ascertaining mineral conservation aspect.
- 3g Grade of sub grade mineral generation There was no proposal for Sub-grade mineral generation during the plan period 2011-12 to 2014-15, hence grade of the same is not applicable. Not applicable as there was no sub-grade generation reported from the mine during 2011-12 to 2014-15.
- 3h Manual / Mechanised method adopted for segregating from ROM In the approved Scheme of Mining, manual method was proposed for segregating from ROM. Total ROM was proposed to be sorted out by hand picking at mine site. Only the large lumps of Bauxite of the lateritic contact zone was proposed to be broken into small pieces up to 10 cm in size to prevent Iron and Silica contamination of lateritic zone. The Bauxite ore after blasting was segregated manually from ROM. The large lumps of Bauxite were broken into small pieces(10 cm size). The mining operation was discontinued between July, 2012 to April, 2014. The mine re-opened on 01.05.2014 and the mining operation was in continuance during 2014-15.

- 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 valid for the plan period 2011-12 to 2014-15. 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 approved Scheme of Mining, valid for the plan period 2011-12 to 2014-15 (2010-11 was lapse period), there was provision of drilling and blasting in harder formation. Drilling with DTH (100 mm dia) and blasting were done in the mine during the period 2014-15. For OB, the Burden and Spacing were kept at 1m X 1.5m respectively and for Bauxite, the Burden and Spacing were kept at 3m X 3.5m respectively. For OB removal, the depth of hole was kept <3m (2.75m) and for Bauxite it was kept at 6.6m with 10% of SG drilling in both the cases.
- 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. DTH drill:  
03 nos.(100 mm dia);  
ii.  
Jackhammer: 04 nos.;  
iii.  
Compressor: 04 no. (300 cfm);  
iv. Excavatoe:  
03 nos. (0.9 cu.m);  
v. Tipper: 03 no. (10MT). The machineries proposed except Jackhammer were in use at the time of inspection. For blasting, DTH machine was used for making holes.

- 31 Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM
- It was proposed in the approved Scheme of Mining valid for the period 2011-12 to 2014-15 (2010-11 was lapse period), that the bench height and width in Top soil, OB and Ore will be restricted within 6.0 m. The proposed bench dimension as per approved Scheme of Mining has been found to be suitable with the proposed method of mining under 'A'-FM category.
- During 2011-12 to 2014-15 (except 2013-14), the mine was in operation under 'A'-OTFM category. In actual practice the height and width of benches in Top soil, OB and Bauxite were kept within 3.0 m in all the quarries. The height and width of benches were in conformity with the method of mining adopted under 'A'-OTFM category.
- 3m Total area covered under excavation/pits
- As per approved Scheme of Mining, dated 22.03.2013, valid for the plan period 2011-12 to 2014-15 (2010-11 was lapse period), there was proposal to excavate about 9.79 Ha area during the plan period under review.
- Upto 2014-15, a cumulative of about 5.536 Ha area (NF area- 5.506 Ha + F area- 0.03 Ha) was covered under excavation including 0.58 Ha of backfilled area.
- The mine was not in operation during 2013-14.

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 2011-12 to 2014-15 (2010-11 was lapse period) was proposed to be 1: 0.68. During the year 2014-15, the average stripping ratio was proposed to be 1:0.65. During the year 2014-15, the average Ore to OB ratio was calculated to be 1:1.22. During 2014-15, the production was 22910 MT and OB generation was 56000 MT(~28000 cu.m).

3o	Total area put in use under different heads at the end of year	As per approved Scheme of Mining, valid for the plan period 2011-12 to 2014-15 (2010-11 was lapse period), the total area put to be used after completion of 5 years working i.e at the end of 2014-15, was as follow :- i. Quarry- 10.535 Ha (Including 4.96 Ha of backfilling area); ii. Road- 1.340 Ha; iii. Green belt- 0.33 Ha; iv. OB Dump: 0.489 Ha; Total area put to be used: 12.694 Ha; and Total unused area: 36.376 Ha out of total lease area of 49.069 Ha.	Upto 2014-15 the total area put to use as per Annual Return for the year 2014-15 submitted by the party, was as under:- i. Quarry- 3.937 Ha (including 0.014 Ha in Forest land); ii. Backfilled area: 0.58 Ha iii. Infrastructure & Road- 1.102 Ha (including 0.12 Ha in Forest land); iv. O.B Dump: 0.150 Ha; Total area put to use: 5.189 Ha; and Total unused area: 43.88 Ha out of total lease area of 49.069 Ha.
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3p	Production of ROM mineral during the last five year period as applicable	As per approved Scheme of Mining, the proposed production during the year 2014-15, was 301742 MT and during the period 2010-11 to 2014-15, the approved year wise proposal of production was as given below: 2010-11: Lapse period; 2011-12: 181094 MT; 2012-13: 221093 MT; 2013-14: 260952 MT; 2014-15: 301742 MT.	The quantity of ROM mineral production during last five years is given below:- 2010-11: 10070 MT; 2011-12: 15280 MT; 2012-13: 4090 MT; 2013-14: Nil; 2014-15: 22910 MT; and 2015-16: 49741 MT.	During the yaer 2013-14, the mine was not in operation.
3q	General remarks of inspecting officers on method of mining etc.	Not applicable.	During 2010-11 to 2014-15 the mine was in operation under 'A'-OTFM category with stipulated bench dimension. The mine was not in operation during 2013-14. As on date of inspection there was no valid approved document available for which violation was pointed out to the party. Party submitted a modification in approved Mining Plan under MCR on 28.07.2015 which was not approved and communicated to the party on 22.09.2015.	

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Solid Waste Management - Dumping:

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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 Scheme of Mining dated 22.03.2013, valid for the plan period 2011-12 to 2014-15 (2010-11 was lapse period), there was proposal for dumping of Top soil and OB material at the Western part of the lease area during initial part of plan period followed by backfilling of the excavated area at the later part of plan period. The OB consisted mainly of soil and at some places it is Morrum and Laterite. There was no proposal for Mineral Reject dump during the plan period.

Two (02) nos. of dumps existed in the lease area, one (01) was top soil dump measuring 62-65m X 25m X 5m and one (01) was Laterite/Morrum dump measuring 32-35m X 12-13m x 3m. There was no Mineral Reject dump within the lease area.

4b	Location of topsoil, OB and mineral reject dumps	As per approved Scheme of Mining dated 22.03.2013, there was proposal for dumping of Top soil and OB material at the Western part of the lease area during the plan period. The OB consisted mainly of soil and at some places it is Morrum and Laterite. There was no proposal for Mineral Reject dump.	The two dumps (Top soil dump- 01 no. and Morrum dump- 01 no.) were located on the Western part of the lease area. There was no Mineral Reject dump within the lease area.
4c	Number of dumps within lease area and outside of lease area	As per approved Scheme of Mining, there was proposal for one (01) Top soil dump and one (01) Morrum/Laterite dump on the Western part of the lease during 2011-12 to 2014-15. No dump was proposed outside lease area.	Two (02) nos. of dumps existed in the lease area, one (01) was top soil dump measuring 62-65m X 25m X 5m and one (01) was Laterite/Morrum dump measuring 32-35m X 12-13M x 3m. There was no Mineral Reject dump within the lease area. There was no dump outside the lease area.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	As per approved Scheme of Mining valid for the plan period 2011-12 to 2014-15 (2010-11 was lapse period), the dumps were proposed to be created outside Ultimate Pit Limit (UPL).	The existing dumps (02 nos.) were located outside the Ultimate Pit Limit (UPL).



4e	Number of active and alive dumps.	There was proposal of two nos. of active dumps in the approved Scheme of Mining valid for the plan period 2011-12 to 2014-15 (2010-11 was lapse period). Out of two dumps, one was of top soil and the other was of Laterite/Morrum material. There was no proposal of dead dump.	Both the dumps present within the lease area were active. There was no dead dump present within the lease area.	
4f	Number of dead dumps.	There was no proposal of dead dump in the approved Scheme of Mining.	There were no dead dumps present within the lease area.	--
4g	Number of dumps established.	There was no proposal of dump establishment.	No dump was established as both the dumps (02 nos.) were active.	
4h	Whether Retaining wall or garland drain all along dumps are there.	There was no proposal of construction of Retaining wall or Garland drain around the dump.	No such Retaining wall or Garland drain was constructed all along the existing dumps.	
4i	Length of Retaining wall or garland drain all along dumps	Not applicable as there was no proposal of construction of Retaining wall and Garland drain in the approved Scheme of Mining.	Not applicable.	

4j	Number of settling ponds	No such proposal was there for construction of settling pond in the approved Scheme of Mining.	No settling pond was created within the lease.
4k	Specific comments of inspecting officer on waste dump management	Not applicable.	Two (02) nos. of dumps existed on the Western part of the lease area, dimension of dumps were as given below:- i. Top soil dumps (01 no.): 62-65m X 25m X 5m and ii. Laterite/Morrum dump (01 no.): 32-35m X 12-13m x 3m. The height of the dumps were within manageable limit.

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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.	As per approved Scheme of Mining, there was proposal for part extraction of mineral from mined out area before starting backfilling i.e simultaneous backfilling along with top soil spreading were proposed in the approved document valid for the plan period 2011-12 to 2014-15 (2010-11 was lapse period).	Simultaneous backfilling was in practice in the mine on Northern part of lease area, South of quarry no. 3 and on the East of quarry no. 4, at the Central part of lease area. About 0.58 Ha area was backfilled and reclaimed.	The mine was not in operation during 2013-14.

- 5b Area under backfilling of mined out area
- As per approved Scheme of Mining, there was proposal for backfilling of about 4.96 Ha void area within the lease during the plan period 2011-12 to 2014-15 (2010-11 was lapse period).
- Upto 2014-15, about 0.58 Ha area was backfilled.
- 5c Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)
- As per approved Scheme of Mining, there was proposal for stacking of top soil on the Western part of the lease during initial part of plan period followed by backfilling and reclamation of the area at the later part of plan period.
- One top soil dump was present on Western part of the lease area. Concurrent top soil spreading was done on the Northern and Central part of lease area.

5d	Total area fully reclaimed and rehabilitated	During the approved plan period of 2011-12 to 2014-15, there was proposal for backfilling of about 4.96 Ha area out of 10.535 Ha of excavated area. There was no proposal for rehabilitation during the plan period. It was proposed that top soil will be spread over backfilled area at the later part of plan period.	As on date of inspection about 0.58 Ha area was backfilled and reclaimed. No rehabilitaion of the area was done as it was not proposed during the plan period.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Not applicable.	About 0.58 Ha area was backfilled and reclaimed. No rehabilitaion was done. As on date of inspection the mine was in operation. The proposed excavation and subsequent backfilling could not be achieved by the lessee due to lower production than targetted one.

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Progressive Mine Clousre Plan:

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Sl.No.	Item	Propasals	Actual work	Remarks
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6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	No such proposal was there in the approved Scheme of Mining, dated 22.03.2013, valid for the plan period 2011-12 to 2014-15 (2010-11 was lapse period).	The Annual Report on PMCP under Rule- 23E(2) was not submitted by the party for the period 2011-12 to 2014-15, for which Violation letter was issued to the party vide this office letter no. BIH/GUM/BX/216/RRO followed by Show Cause Notice dated 13.07.2016. The violation was rectified by the party on 12.09.2016.
6b	Area available for rehabilitation (ha) .	No proposal was available. Only backfilling proposal was available for 4.96 Ha area during the plan period 2011-12 to 2014-15 (2010-11 was lapse period).	Upto 2014-15, a cumulative of about 0.58 Ha area was backfilled and reclaimed. There was no rehabilitaion as there was no such proposal.
6c	afforestation done (ha).	As per proposal,528 nos. of plants were proposed to be planted covering an area of about 0.33 Ha during the plan period 2011-12 to 2014-15 (2010-11 was lapse period).	During the year 2010-11 to 2014-15 about 200 nos. of plantations were done by the lessee.

6d	No. of saplings planted during the year	<p>As per approved Scheme of Mining, 528 nos. of saplings were proposed to be planted covering an area of 0.33 Ha during the plan period 2011-12 to 2014-15 (2010-11 was lapse period). During the year 2014-15, about 112 nos. of saplings were proposed to be planted covering 0.07 Ha area. The year wise proposed plantation schedule is given below:-</p> <p>2010-11: Lapse period;  2011-12: 144 nos.(0.09 Ha);;  2012-13: 144 nos.(0.09 Ha);  2013-14: 128 nos.(0.08 Ha);  2014-15: 112 nos. (0.07 Ha).</p>	<p>During the year 2010-11 to 2014-15 about 200 nos. of plantations were done by the lessee. During the year 2014-15, about 100 nos. of plantation were done by the lessee along the 7.5 m safety barrier.</p>
6e	Cumulative no .of plants	<p>There was no proposal for cumulative plantation. However, during the plan period 2011-12 to 2014-15, about 528 nos. of plantation were to be done.</p>	<p>No cumulative data on plantation is available.</p>

6f	Any other method of rehabilitation	No further proposal was available in the approved Scheme of Mining.	Not applicable.
6g	Cost incurred on watch and care during the year	No proposal was available in the approved Scheme of Mining.	No information available.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( L x B x D	About 4.96 Ha area was proposed to be backfilled and no proposal available regarding dimension of the void area to be backfilled.	About 0.58 Ha area was backfilled on the Northern part (South of Quarry no. 3) and Central part (West of Quarry no. 2 & 4) of lease area. On the Northern part i.e South of Quarry no. 3 about 85m X 32m area and at the Central part i.e West of Quarry no. 2 & 4 about 30m X 22m area was backfilled.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	There was proposal for 4.963 Ha of backfilling in the last approved Mining Plan valid for the plan period 2011-12 to 2014-15 (2010-11 was lapse period) by using about 904057 MT of OB/Waste material.	Upto 2014-15 about 0.58 Ha area has been backfilled. The quantum of material used for backfilling was not available.
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on backfilled area	There was no proposal of afforestation over backfilled area. However, there was proposal of afforestation along lease boundary.	No plantation has been done over backfilled area. However, during the year 2010-11 to 2014-15 about 200 nos. of plantations were done by the lessee and during the year 2014-15, about 100 nos. of plantation were done by the lessee along the 7.5 m safety barrier.

6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	There was no such proposal in the approved Scheme of Mining.	No water reservoir was constructed.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	There was no proposal in the approved Scheme of Mining.	Not applicable.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	There is 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 such proposal as no waste land exists in the lease area.	Not applicable.
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)	No specific proposal was available.	During the period 2010-11 to 2014-15, no information about environmental monitoring, carried out in and around the lease was available.



6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	It was proposed in the approved Scheme of Mining that, out of total cumulative excavated area of 10.535 Ha upto the plan period 2014-15, about 4.96 Ha area will be backfilled. Further, 0.33 Ha area was proposed to be covered under Green belt creation.	Upto the plan period 2014-15, about 3.937 Ha area was covered under excavation out of which 0.58 Ha was backfilled. About 200 nos. of plantation were done by the lessee along the safety barrier.
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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. There was proposal for grade wise sorting within the lease.	Bauxite of this mine was pre-dominantly Gibbsitic i.e tri-hydrate (Al <sub>2</sub> O <sub>3</sub> .3H <sub>2</sub> O). About 70-75% of the ore was Gibbsitic and rest 30-25% was Bohemitic i.e mono-hydrate (Al <sub>2</sub> O <sub>3</sub> .H <sub>2</sub> O). The year wise dispatch figure is given below:- 2010-11: 10035 MT (Al <sub>2</sub> O <sub>3</sub> : 40-45%); 2011-12: 3773.13 MT (Al <sub>2</sub> O <sub>3</sub> : 40-45%) & 12081.085 MT (Al <sub>2</sub> O <sub>3</sub> : 45-50%); 2012-13: 189.610 MT (Al <sub>2</sub> O <sub>3</sub> : 40-45%) & 2216.450 MT (Al <sub>2</sub> O <sub>3</sub> : 45-50%); 2013-14: Nil; 2014-15: 22499.795 MT (Al <sub>2</sub> O <sub>3</sub> : 45-50%); and 2015-16: 48431.030 MT (Al <sub>2</sub> O <sub>3</sub> : 40-45%).	

- 7b Method of grade-wise mineral sorting i.e. manual or mechanical. Manual sorting and blending to ensure the required grade was proposed in the last approved Scheme of Mining. Manual grade wise sorting, manual screening (for fraction above 1" size) followed by blending with suitable grade was practiced at the mine site during the year 2010-11 to 2014-15. Thus all possible efforts like hand sorting, hand screening, bulk sampling followed by time to time chemical analysis were systematically followed to ensure that ore is not being mixed with waste material.
- 7c Different grade of mineral sorted out at mines. No specific proposal was there in the last approved Mining Plan. Generally two types of ore stack were made within the mine site. One was of 40-45% Al<sub>2</sub>O<sub>3</sub> and the other of 45-50% Al<sub>2</sub>O<sub>3</sub> grade material. The low grade ore was blended with high grade material in appropriate calibrated proportion before dispatch to maintain the required grade to be dispatched to consignee.
- 7d Any beneficiation process at mines . No proposal of mineral beneficiation at mine site was made in the approved Scheme of Mining valid for the plan period 2011-12 to 2014-15 (2010-11 was lapse period). No mineral beneficiation was done, only manual sorting, screening and sizing were done at the mine site.

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	It was proposed in the approved Mining Plan that, low grade Bauxite will be hand sorted and suitably blended to meet the metal grade requirement. Mechanical screening of the fraction above 1" size was also proposed.	No mineral beneficiation was carried out at the mine site. For Mineral Conservation aspect, lessee had deployed suitable nos. of workers for grade wise sorting, blending etc to avoid mixing of ore with deleterious material. The year wise employment figure is given below:- 2010-11: 38nos.; 2011-12: 15 nos.; 2012-13:16; 2013-14: 03; 2014-15: 19.
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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	In the approved Scheme of Mining valid for the plan period 2011-12 to 2014-15 (2010-11 was lapse period), the top soil was proposed to be dumped on the Western part of the lease area. The top soil removal proposal was as under:- 2010-11: Lapse period; 2011-12: 32654 MT; 2012-13: 32424 MT; 2013-14: 47450 MT; 2014-15: 42206 MT.	The top soil removal figure is not available. The top soil so generated, was dumped on the Western part of lease area.	

8b	Concurrent use or storage of topsoil	As per approved Scheme of Mining, there was proposal for stacking of top soil on the Western part of the lease during initial part of plan period followed by backfilling and reclamation of the area at the later part of plan period.	One top soil dump was present on Western part of the lease area. Concurrent top soil spreading was done on the Northern and Central part of lease area.
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8c      Separate dumps for overburden, waste rock, rejects and fines (Rule 33)

As per approved Scheme of Mining dated 22.03.2013, valid for the plan period 2011-12 to 2014-15 (2010-11 was lapse period), there was proposal for dumping of Top soil and OB material at the Western part of the lease area during initial part of plan period followed by backfilling of the excavated area at the later part of plan period. The OB consisted mainly of soil and at some places it is Morrums and Laterite. There was no proposal for Mineral Reject and Fines dump during the plan period.

Two (02) nos. of dumps existed in the lease area, one (01) was top soil dump measuring 62-65m X 25m X 5m and one (01) was Laterite/Morrums dump measuring 32-35m X 12-13m X 3m. There was no Mineral Reject and Fines dump within the lease area.

8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	There was proposal for 4.96 Ha of backfilling in the last approved Scheme of Mining valid for the plan period 2011-12 to 2014-15 (2010-11 was lapse period) by using 904057 MT of OB/Waste material. During 2014-15, it was proposed to use 273026 MT of OB/Waste material.	The quantity of OB/Waste material used for backfilling was not available.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Phase wise restoration, reclamation and rehabilitation of land have not been proposed in the approved Scheme of Mining.	As per available record, about 0.58 Ha area was backfilled upto 2014-15. Phase wise restoration, reclamation and rehabilitation of land affected by mining operations is not available.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	No existing plantation was reported in the last approved Scheme of Mining. It was proposed that 528 nos. of plantation was to be done over an area of 0.33 Ha along the safety barrier of lease area during 2011-13 to 2014-15.	During the year 2010-11 to 2014-15 about 200 nos. of plantations were done by the lessee.

8g	Survival rate	No specific proposal was made in the approved Scheme of Mining regarding survival rate.	During the plan period of 2011-12 to 2014-15, the survival rate was around 30%
8h	Water sprinkling on roads to control airborne dust	There was no such proposal in the approved Scheme of Mining valid for the plan period 2011-12 to 2014-15.	No information was available in this context.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Not applicable.	The area was almost barren, devoid of thick vegetation. Only sparse vegetation was found within the lease area. There was very little amount of excavation within the lease area covering only 3.937 Ha out of total lease area of 49.069 Ha thus only about 8% area was covered under excavation. The general aesthetic beauty of the lease area was not disturbed as such.

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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 2014-15 covers 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.	Party had submitted the Annual Return for the year 2014-15 within stipulated time. The lessee had not submitted the Monthly return for the month of November, 2015 for which violation was issued to the party vide letter no. BIH/GUM/BX/216/RRO, dated 11.12.2015 followed by Show Cause Notice dated 13.07.2016. The violation of provisions were rectified by the party on 12.09.2016.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	In Part-I of the Annual Return, information regarding Full time Mining Engineer and Full time Geologist are to be submitted under item no. 8 & 9 since it is a 'A'-FM category mine.	Name of full time Mining Engineer and Geologist were submitted in the Annual return for the year 2014-15.



- 9c Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. The land use pattern given in the Annual Return for the year 2014-15 was as under:-  
 i. Area under excavation: 3.937 Ha;  
 ii. Reclaimed: Nil;  
 iii. Dump are: 0.150 Ha.  
 iv. Road & Infrastructure : 1.102 Ha.
- Upto 2014-15 the total area put to use was as under:-  
 i. Quarry- 3.937 Ha (including 0.014 Ha in Forest land);  
 ii. Backfilled area: 0.58 Ha  
 iii. Infrastructure & Road- 1.102 Ha (including 0.12 Ha in Forest land);  
 iv. O.B Dump: 0.150 Ha;  
 Total area put to use: 5.189 Ha; and  
 Total unused area: 43.88 Ha out of total lease area of 49.069 Ha.
- 9d Scrutiny of Annual return on afforestation In Part-V, item no. 4.4 of the Annual Return for the year 2014-15, the plantation made was given as 100 nos. During the year 2014-15, 100 nos. of plantation was done by the party.
- 9e Scrutiny of Annual return on mineral reject generation (Grade and quantity) In Part-V, Sec 4 of the Annual Return 2014-15, the information on Mineral Reject generation was Nil. No Mineral Reject generation from the mine was reported.
- 9f Scrutiny of Annual return on ROM stock and/or graded ore In Part VI, item no. 1 & 2(A), of the Annual Return (2014-15), the ROM stock (opening balance) and Closing stock were shown as below:-  
 Opening stock- 45-50% Al<sub>2</sub>O<sub>3</sub>: 83.079 MT;  
 Closing Stock- 45-50% Al<sub>2</sub>O<sub>3</sub>: 493.284 MT.
- The figure given for Opening stock and Closing stock were in conformable with the figure furnished through Monthly 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 Part-VI and VII of the Annual Return for the year 2014-15.	In Part-VI, item no. 2 of the Annual Return 2014-15, the Ex-Mine price was shown as Rs. 400/-, in Part-VI, item no. 4, the Sale value was shown as Rs. 400/- and cost of production during `2014-15 was shown as s. 431.70/- in Part-VII of the Annual Return.	
9h	Scrutiny of Annual return on fixed assets	The value of Fixed Assets of the lessee was given in Part-IIA of the A.R for the year 2014-15 as Nil.	The value of Fixed Assets of the lessee for the year 2014-15 was shown as Nil in Part-IIA of the A.R, under Capital structure.	
9k	Scrutiny of Annual return on mining machineries	In Part-V, Sec 5/6/8/9 of the Annual Return 2014-15, the machinery used was given.	During 2014-15, the machineries used were as given below:- i. DTH drill: 01 no. (100mm); ii. Excavator: 01 no. (0.9 cu.m); iii. Dumper: 02 nos. (10 MT).	The mine was not in operation during the year 2013-14.

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**Details of violations observed during current inspection and compliance position of violation pointed out**

Violation observed			Show cause position		
Rule NO.	Issued on	Compliance on	Rule NO.	Issued on	Compliance on
Rule 13(1)	11/12/2015		Rule 13(1)	11/12/2015	12/09/2016
Rule 23B(2)	11/12/2015		Rule 23B(2)	11/12/2015	12/09/2016
Rule 23E(2)	11/12/2015		Rule 23E(2)	11/12/2015	12/09/2016
Rule 27(4)	11/12/2015		Rule 27(4)	11/12/2015	12/09/2016
Rule 28(1)	11/12/2015		Rule 28(1)	11/12/2015	12/09/2016
Rule 29	11/12/2015		Rule 29	11/12/2015	12/09/2016
Rule 32(3)	11/12/2015		Rule 32(3)	11/12/2015	12/09/2016
Rule 44(2)	11/12/2015		Rule 44(2)	11/12/2015	12/09/2016
Rule 45(5)(a )	11/12/2015		Rule 45(5)(a )	11/12/2015	12/09/2016

**Date :**

**(N.K.CHATERJI)**

Indian Bureau of Mines