

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

**MCDR INSPECTION REPORT**

**Ranchi regional office**

**Mine file No :** JHK/LOH/BX/255/RRO

**Mine code :** 07JHK12012

- (i) Name of the Inspecting : **S001** ) **B K SINGH**  
Officer and ID No.
- (ii) Designation : Assistant Mining Geologis
- (iii) Accompanying mine : Sri AMAR BHARTI,MANAGER & Sri B Ganguly DGM  
Official with  
Designation
- (iv) Date of Inspection : 12/09/2018
- (v) Prev.inspection date : 21/09/2017

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **PAKHAR BAUXITE MINE109.50**
- (b) **Registration NO.** : **IBM/961/2011**
- (c) **Category** : **A Other than Fully Mech.**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **JHARKHAND**
- District : **LOHARDAGA**
- Village : **PAKHAR**
- Taluka : **KISKO**
- Post office : **NARI-NAWADIH**
- Pin Code : **835302**
- FAX No. : **06526-224118**
- E-mail :
- Phone : **06526-224112, 224015,22311**
- (f) **Police Station** : **KISKO**
- (g) **First opening date** : **18/08/2011**
- (h) **Weekly day of rest** : **SUN**
2. **Address for correspondance** : **VILL.- PAKHAR**  
**P.O.- KISKO,DISTT.- LOHARDAGA,**  
**JHARKHAND-835302**
3. (a) **Lease Number** : **BHR0271**
- (b) **Lease area** : **109.51**
- (c) **Period of lease** : **20**
- (d) **Date of Expiry** : **25/07/2028**
4. **Mineral worked** : **BAUXITE** **Main**

## 5. Name and Address of the

Lessee : MINERALS & MINERALS LTD.  
 AT/PO-LOHARDAGA DIST-  
 LOHARDAGA JHARKHAND  
 LOHARDAGA JHARKHAND  
 Phone:06526-224016  
 FAX :06526-224118

Owner : I.J.JOSHI  
 MINERALS & MINERALS LTD. PO  
 & DIST-LOHARDAGA LOHARDAGA  
 JHARKHAND  
 Phone:  
 FAX :

Agent : MANOJ KUMAR NAYAK  
 HINDALCO INDUSRTIS LTD,  
 COURT ROAD, LOHARDAGA JHK  
 LOHARDAGA JHARKHAND  
 Phone: 9617779670  
 FAX :

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

Manager  
 Name : SRI AMAR BHARTI  
 Qualification : B.E(MIN)  
 Appointment/ :  
 Termination date

6. Date of approval of Mining	:	Fresh under rule 22 MCR1960	23/04/2008
Plan/Scheme of Mining	:	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	Proposed to carry detail exploration by 77DTH holes during the plan period. The avg depth of each holes 15m, total meterage will be 1155m at the grid interval of 100X100m. No proposal of exploration during 2015-16 to 2019-20 was there.	During 2011-12 of the plan period entire leasehold area has been explored by core drilling at a grid interval of 100x100-84 and 50x50-23 totaling 107 Boreholes were drilled with an average Depth 16.4m and total meterage-1782.3m drilled. NO exploration done during 2015-16.	Entire leasehold area has been drilled.
1b	Exploration over lease area for geological axis 1 or 2	NO, Entire leasehold area has been explored.	NIL	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	M/s Saturn Mining and Exploration Pvt ltd 6, Satya house , Indira nagar, kanke Road, Ranchi-834008	M/s Saturn Mining and Exploration Pvt ltd 6, Satya house , Indira nagar, kanke Road, Ranchi-834008 Expenditure incurred in various prospecting operation-Rs 2929905/-, at the rate of Rs 1600/meter	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Entire area already explored during 2011-12.	Entire area already explored during 2011-12.	
1e	Balance reserve as on 01/04/20	Reserve as on 01.04.2015 as per modification in approved Mining plan (111) : 85187568068 MT (122) 921337 MT	Reserve as on 01.04.2018 after depleting production of 2015-16 to 2017-18 =832175MT (111)-NIL (122)-657230 MT	

1f	General remarks of inspecting officers on geology, exploration etc	NA	lease area has already been fully explored. No proposal for further exploration.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	During the plan period 2018-19,proposed development was to continue inK-9 and K9A	As per proposal Quarry no K-9and K9A during 2018-19were devloped.	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	2-3 benches in OB and 2 benches in Ore.	2-3 benches in OB and 2 benches in Ore were there.	
2c	Stripping ratio or ore to OB ratio	During 2017-18 proposed stripping ratio was 1:0.28 with production 277791 MT and OB generation 181519cum.	During 2017-18 production was277605 MT and waste generation was 662478,ore to OB ratio comes to 1:2.38	
2d	Quantity of topsoil generation in m3	Proposed quantity of top soil during 2017-18 was 109999 cum	Actual generation of top soil was 310535 MT	
2e	Quantity of overburden generation in m3	Quantity OB proposed to be generated during2017-18was 181519cum	Actual quantity of OB removed during 2017-18 was 662478MT.	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	NA	Production of Bauxite was as per approved plan during 2017-18.	

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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
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3a	Number of pit proposed for production	Two pits were proposed for production.K-5and K-7.during 2017-18.	K-5 and K-7were in productionduring 2017-18.
3b	Quantity of ROM mineral production proposed	Proposed production during 2017-18 was 277791 MT	Actual production during 2017-18 was approx 277605 MT
3c	Recovery of sailable/usable mineral from ROM production	Proposed recovery was about 80% fro ROM.	Actual recovery is about 80 %.
3d	Quantity of mineral reject generation	No proposal for reject generation.	NA
3e	Grade of mineral rejects generation and threshold value declared.	No proposal of reject generation.	High grade ore was blended with low grade ore to get feed grade for their Alumina plant.
3f	Quantity of sub grade mineral generation.	No proposal of subgrade generation.	High grade ore was blended with low grade ore to get feed grade for their Alumina plant.
3g	Grade of sub grade mineral generation	No proposal for subgrade generation.	NA
3h	Manual / Mechanised method adopted for segregating from ROM	Mannual method adopted for segregation from ROM.	Mannual method adopted for segregation from ROM.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No such proposal	only mannual hand sorting.
3j	Provision of drilling and blasting in mineral benches	Harder morrum and laterite are drilled by using 88mm dia drills and Bauxite benches are to be drilled by 100mm drills and lasted by slurry explosive. Burden-3m and spacing-3.5m	Harder morrum OB and laterite are drilled by using 88mm dia drills and Bauxite benches are drilled by 100mm drills and blasted by slurry explosive. Burden-3m and spacing-3.5m

3k	Provision of mining machineries in mineral benches	Proposed Mining machinery to be deployed in mineral benches are : DTH-2-88mm-Atlas capco-diesel-440 HP Excavators-7-0.9cum -diesel-124 HP Cmpressor-2-300cfm Jackhammer-4-, Trippers -8-10MT-Disel-98.5	Following machinery were deployed during mining of Bauxite. DTH-02-25m/hr Excavator -020.9cum Compressor-02-300cfm Loader-01-2.3cum Tippers-06-10MT
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Maximum height of the proposed benches will be 6m and avg thickness 2.9m	Height of the benches maintained between 4-6 m.
3m	Total area covered under excavation/pits	Proposed area covered under excavation during 2017-18 was-3.15ha	Total area under excavation was3.78 during 2017-18 ha.
3n	Ore to OB ratio for the pit/mine during the year.	Proposed Ore : OB ratio was 1:0.28 with production2777 91MT and OB generated 414049cum during2017-18.	Production during 2017-18 was 277605MT and OB generated 662478MT
3o	Total area put in use under different heads at the end of year	as per approved Modified Mining Plan area covered under mining including reclamation-26.5 ha Road-3.83 ha Infrastructure -0.16 ha soil dump-0.87 ha.	Total area put to use as perAnnual return 2017-18 Area under use for Mining -20.4ha Area reclaimed-15.9 ha Area covered for plantation-2.8ha Area under current working-4.5ha

3p	Production of ROM mineral during the last five year period as applicable	Proposed production of last five years was as follows: 2011-12 : 105355 MT 2012-13 : 115534 MT 2013-14 : 120767 MT 2014-15 : 212832 MT 2015-16 : 282171 MT 2016-17 : 277509 MT 2017-18 : 277791 MT	Actual production during last five years is as follows: 2011-12 : 203950 MT 2012-13 : 99822 MT 2013-14 : 234500 MT 2014-15 : 277855 MT 2015-16 : 277 350 MT 2016-17 : 277220 MT 2017-18 : 277605 MT
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3q	General remarks of inspecting officers on method of mining etc.	NA	Total area put to use as per Annual return 2017-18 Area under use for Mining -20.4ha Area reclaimed-15.9 ha Area covered for plantation-2.8ha Area under current working-4.5ha
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Solid Waste Management - Dumping:

Sl.No.	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	No such proposal.	Simultaneous backfilling of minedout quarries and spread of top soil over backfilled area.	
4b	Location of topsoil, OB and mineral reject dumps	No such proposal.	Simultaneous backfilling of mineout quarries and spread of top soil over backfilled area.No dumping of Top soil and No reject generation.	
4c	Number of dumps within lease area and outside of lease area	No such proposal	Two old dumps near the southern boundary of the lease area.	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	No proposal for dumps.	NA, Simultaneous backfilling of mineout quarries and spread of top soil over backfilled area.No dump.	
4e	Number of active and alive dumps.	NIL	NIL	

4f	Number of dead dumps.	No proposal	Two dead dumps are in the lease area.
4g	Number of dumps established.	NA	Two old dumps near the southern boundary of the lease area.
4h	Whether Retaining wall or garland drain all along dumps are there.	NO such proposal	Two old dumps with garland drain and retaining wall were there.
4i	Length of Retaining wall or garland drain all along dumps	No such proposal	Two old dumps with garland drain and retaining wall were there. Dimension of retaining wall were 170x2x2 and 130x2x2m
4j	Number of settling ponds	No such proposal	NIL
4k	Specific comments of inspecting officer on waste dump management	No such proposal	No proposal for dump. Simultaneous backfilling of the mineout quarriese and spread of top soil over backfilled area.

#### Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	Simultaneous backfilling of the minedout quarries and spread of top soil over backfilled areas.	Simultaneous backfilling of the minedout quarries and spread of top soil over backfilled areas.	
5b	Area under backfilling of mined out area	During 2017-18 proposed area for reclamation was 1.48 ha and 14.14 ha during the plan period.	Total backfilled area is about 15.9 ha	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Soil will be used concurrently to spread over backfilled quarry.	Soil is used concurrently for restoration or rehabilitation of minedout areas.	



5d	Total area fully reclaimed and rehabilitated	During plan period, 14.14ha area was proposed to be reclaimed.	Total area reclaimed was 15.9 ha.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Concurrent backfilling and reclamation of minedout areas was proposed.	Concurrent backfilling and reclamation of minedout areas were in progress.No dumping of Top soil or OB.Total reclaimed area 15.9ha.

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).	NA	Lessee has submitted annual Report on PMCP on time.	
6b	Area available for rehabilitation (ha) .	Proposed area for reclamation was 1.48ha hain quarry no K-7 & K5.	Actual area Reclaimed was 19.5ha.and during 2017--18, 2.84ha	
6c	afforestation done (ha).	Proposed afforestation during 2017-18 was 1000plantation on 0.40ha	No of sapling planted during 2017-18 was 4400 covering area of 0.92ha.	
6d	No. of saplings planted during the year	Proposed afforestation during 2017-18 was 1000plantation on 0.40ha	No of sapling planted during 2017-18 was 4400 covering area of 0.92ha.	
6e	Cumulative no .of plants	NA	Cummulative plantation as on date of inspection was 21230 plants.	
6f	Any other method of rehabilitation	No such proposal	Quarry no K-5 is used as part of rehabilitation programme for water reservoir.	
6g	Cost incurred on watch and care during the year	Proposed cost was Rs 790000/- during 2017-18	Not available.	

6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	Concurrent backfilling was proposed.	Concurrent backfilling was proposed.Total backfilled area 15.9ha.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Reclamation and Rehabilitation was proposed to be carried by backfilling.Area available for backfilling- 5.07ha	Reclamation and rehabilitation are carried by backfilling.5.07ha void is used for backfilling.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	Afforestation was proposed on Minedout quarries after backfilling.	Afforestation was done on Minedout quarries after backfilling.2.84ha area used for afforestation of 2330plants.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	one reservoir was proposed in quarry no K_5.	Quarry no K-5 was used as reservoir.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	NA	NA
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	NA,No waste land in the lease area.	NA,,No waste land in the lease area.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	NA	NA

6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	NA	NA
6p	Compliance of environmental monitoring (core zone and buffer zone)	Regular monitoring of Air,Water and Noise was proposed.	Regular monitoring of Air,Water and Noise is being carried.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	NA	Lessee used to provide all means to PMCP compliance of the lease.

#### Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	As per proposal in approved Modified Mining plan ROM to be despatched was-277791 MT during 2017-18.	Actual despatch during 2017-18 was 277605 MT.No grade wise sorting but higher grde ore blanded with lower grade to prepare feed grade for Alumina Plant.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual sorting was proposed.	manual sorting was in practice.	
7c	Different grade of mineral sorted out at mines.	No grading of ore was proposed at mine site.	Grading of ore not done at mine site.Low grade ore is blended with high grade ore and despatched as feed grade for Alumina plant.	
7d	Any beneficiation process at mines .	NO beneficiation only hand sorting was proposed	Ore was sorted manually,No beneficiation at mine site.	

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	NA	There is no such problem for Mineral conservation. Lower grade ore blended with highgrade ore to prepare feed grade and despatched to Alumina plant.
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## Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Proposal was there to remove top soil seprately and will be spread over backfilled minedout quarries.	Soil so removed was used to spread over backfilled minedout quarries. Total soil removed during 2017-18 was 310535cum.	
8b	Concurrent use or storage of topsoil	Concurrent spread of top soil over concurrent backfiilled minedout areas was proposed.	Soil so removed was used to spread over backfilled minedout quarries. 310535cum soil spread over 2.84ha area.	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	No dump was proposed as concurrent backfilling of minedout areas was proposed.	No dump was there except two old dumps.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Proposal was there that all excavated OB and waste will be used for concurrent backfilling and soil will be used for reclamation of backfilled areas to restore the land to its original use.	It was seen that all excavated O B and Waste used for concurrent backfilling and soil is used for reclamtion of the backfilled quarries by spreading soil over backfilled areas.	

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No such proposal	NA
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Plantation was proposed to be carried onreclaimed quarriese.	plantation was done on reclaimed quarries..4400plantaion was planted covering an area of 0.92ha and survival rate was 80%.
8g	Survival rate	No such proposal	Survival rate was 80%.
8h	Water sprinkling on roads to control airborne dust	Proposal was there to use sprinkler to control airborne dust.	Water sprinkler used to control airborne dust.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	NA	There is no issue of mineral conservation and asthetic beauty has been maintained by reclamation rehabilitation and afforestation.

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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Lessee has submitted Monthly and Annual returns regularly.	Lessee has submitted Monthly and Annual returns regularly.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	As per annual Return Sri Jitendra kumar is appointed as Mining Engineer and Sri Tathgat Das is working as geologist.	During the inspection Mr Amar Bharti as mines manager & Mining Engineer and Sri Tathgat Das as Geologist.	

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	As per latest Annual return available in the office, land use pattern during 2017-18 is given below: Area exploited 20.4 ha, Area under current working - 4.5ha, Area reclaimed /rehabilitated -15.9, Work done under progressive mine closure plan during the year-2.840 ha.	Information furnished in Annual return do not match with actuals in the field.
9d	Scrutiny of Annual return on afforestation	4400 sapplings planted with 80% survival rate.	4400 sapplings planted with 80% survival rate. information seems to be correct.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	No such proposal on reject generation in approve modified Mining plan.	NA.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	As per Annual return of 2017-18 total production of ROM was 27750 MT, Opening Stock-95.680mt closing stock-280.94MT and despatch during the year-277419.74MT	Seems to be correct.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	It is being Captive mine ,Cost of production furnished as Rs 901.77/-	Being captive mine Ex mine price is not available. Cost of production is Rs 618.77/-.
9h	Scrutiny of Annual return on fixed assets	Fixed assets shown in Annual Return is NA.	Depreciation on fixed assets Rs 2521703/-

9k	Scrutiny of Annual return on mining machineries	As per Annual Return following Mining machinery being used in mine. Shovel-hyd-1.9cum-1 Shovel -hyd-0.9cum-1 Wheel loader-2.3cum-1 Air Compressor-450cum/MN-1 Dumper-25 T-4 Dumper-10T-04	Above furnished mining machinery were used during mining.
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**Details of violations observed during current inspection and compliance position of violation pointed out**

Violation observed		Show couse position	
Rule NO.	Issued on Compliance on	Rule NO.	Issued on Compliance on

**Date :**

**(B K SINGH)**

Indian Bureau of Mines