INDIAN BUREAU OF MINES
MINERALS DEVELOPMEMT AND REGULATION DIVISION

Inspection under SDF for star rating of mines REPORT

Ranchi regional office

Mine file No : JHK/GLA/BX/257/RRO. **Mine code : 07JHK09007**

(i) Name of the Inspecting Officer and ID No. : **KQ3) G. S. KANNAN**

(ii) Designation : Senior Mining Geologist

(iii) Accompaning mine Official with Designation : SHRI BASUDEV GANGULI, GM, GEOLOGY

(iv) Date of Inspection : 16/02/2021

(v) Prev.inspection date :

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **BIMARLA**

(b) Registration NO. : **IBM/961/2011**

(c) Category : A Other than Fully Mech.

(d) Type of Working : Opencast

(e) Postal address

State : JHARKHAND

District : GUMLA

Village : BIMARLA

Taluka : GHAGHRA

Post office : GHAGHRA

Pin Code :

FAX No. : 06526-224118

E-mail : bijesh.jha@adityabirla.com

Phone : 06526-224016 & 224112

(f) Police Station : GHAGHRA

(g) First opening date : 21/05/2015

(h) Weekly day of rest : SUN

2. Address for correspondance : VILL.- BIMARLA,
TAHSIL- GHAGHRA,
DISTT.- GUMLA (JHK)

3. (a) Lease Number : JHK0185

(b) Lease area : 134.37

(c) Period of lease : 50

(d) Date of Expiry : 17/07/2059

4. Mineral worked : BAUXITE Main

5. Name and Address of the

Lessee	:	M/S 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 :

Mining Engineer

Name	:	SRI JITENDER KUMAR,Full Time
Qualification	:	DIP-IN-MIN & MINE SURVEYING
Appointment/ Termination date	:	21/05/2015

Geologist

Name	:	MIHIR BARAI,Full Time
Qualification	:	M.Sc.(GEO)
Appointment/ Termination date	:	19/08/2015

6. Date of approval of Mining Plan/Scheme of Mining :

Fresh under rule 22 MCR1960	19/11/2008
MP modif under MCR 1960	19/05/2016
MP review under 17(1) MCR 2016	30/09/2020
MP modif under 17(3) MCR 2016	03/11/2020

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No Core Boreholes has been Proposed during 2018-2019 and 2019-2020.	As per proposal, No boreholes has been drilled during 2019-2020 & 2020-2021	
1b	Exploration over lease area for geological axis 1 or 2	No Additional exploration was proposed during 2019-2020 & 2020-2021 in the lease area for Geological axis - 1	No Additional exploration was carried out in the lease area for Geological axis - 1 during 2019-2020 & 2020-2021	Total 115 + 256 boreholes have been drilled in the lease area from 2012-2019.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No Proposal for Exploration during 2019-2020 & 2020-2021.	During 2012 to 2015, 115 boreholes with 1503 meterage has been drilled by Geocon and Exploration Corporation and 2018-19, 256 Boreholes with 3175 meterage by South west pinnacle Exploration Ltd	Expenditure incurred for exploration are 24 Lakhs for Geocon and Exploration Corporation and 62 Lakhs for South west pinnacle Exploration Ltd
1d	Balance area to be explored to bring Geological axis in 1 or 2	No Proposal during 2019-2020 & 2020-2021.	No Exploration was carried out at during 2019-2020 & 2020-2021.	115 + 256 boreholes have been drilled so far in the lease area and 73.85 hectares has explored to G-1.
1e	Balance reserve as on 01/04/20	Reserves & Resources as on 01.04.2020 Proved Mineral Reserves (111) = 1622729 tons Prefeasibility Mineral Resources (221) = 247262 tons Measured Mineral Resources(331) = 2563551 tons	Reserves & Resources as on 01.04.2020 Proved Mineral Reserves (111) = 1759698 tons Prefeasibility Mineral Resources (221) = 247262 tons Measured Mineral Resources(331) = 2563551 tons	Reserves and Resources are updated based approved Review of Mining plan.

1f	General remarks of inspecting officers on geology, exploration etc	It is part of Chotanagpur Granite gneiss. Laterite, Bauxite and Lithomerge occur in the plateau top as capping of Chotanagpur Granite gneiss.	Bauxite deposit is not extensive and continuous but found in limited area only.	Lease is having Same Geology.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Proposed to work in Quarry-5 during 2019-2020 and Quarry-GHR-A, BRG-A & B during 2020-2021.	Development has not been carried out as per the proposal	Mining plan has been modified for 2019-2020. Violation has been issued under Rule 11(1)
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	It is proposed to form separate Bench's in Topsoil, Overburden and Mineral.	Separate Benches are formed for Topsoil, Overburden and Mineral.	
2c	Stripping ratio or ore to OB ratio	1 : 0.20 for 2019-2020	1 : 0.37	
2d	Quantity of topsoil generation in m3	It is proposed to remove 13088 cu.m of topsoil during 2019-2020	30120 cu.m of topsoil has been generated.	
2e	Quantity of overburden generation in m3	It is proposed to remove 167495 cu.m of OB during 2019-2020	420099 cu.m of OB have been removed.	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Proposed to work in Quarry-1A, 1C & 8C during 2019-2020 and Quarry-GHR-A, BRG-A & B during 2020-2021.	Development has not been carried out as per the proposal	Violation has been issued under Rule 11(1)

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Proposed to work in Quarry-1A, 1C & 8C during 2019-2020 and Quarry-GHR-A, BRG-A & B during 2020-2021.	Production has not been carried out as per the proposal	Mining plan has been modified for 2019-2020. Violation has been issued under Rule 11(1)
3b	Quantity of ROM mineral production proposed	The total target of Production was 296512 tons during 2019-2020 and 292990 tons during 2020-2021	155000 tons of production has been achieved during 2019-2020	
3c	Recovery of sailable/usable mineral from ROM production	80% during 2019-2020	50%	
3d	Quantity of mineral reject generation	It is proposed to produced 74129 tons of mineral rejects during 2019-2020	38570 mineral rejects has been generated	
3e	Grade of mineral rejects generation and threshold value declared.	Mineral reject- below the threshold value and outside the ore zone. Al_2O_3<30% and SiO_2>10%	Mineral reject- below the threshold value and outside the ore zone. Al_2O_3<30% and SiO_2>10%	
3f	Quantity of sub grade mineral generation.	There is no proposal of sub grade during 2019-2020 in modified mining plan	43510 tons of Sub Grade has been generated during 2019-2020.	Violation has been issued under Rule 11(1)
3g	Grade of sub grade mineral generation	There is no proposal of sub grade during 2019-2020 in modified mining plan	Al_2O_3 = 30-38% and SiO_2<10%	43510 tons of Sub Grade has been generated during 2019-2020.

3h	Manual / Mechanised method adopted for segregating from ROM	Manual	Manual	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No Proposal	Nil	Only Manual Picking of Ore from Intercalated Waste.
3j	Provision of drilling and blasting in mineral benches	Spacing - 3m Burden - 2.5m Depth - 6m It is Proposed to drill by 115mm dia, crawler mounted down hole drill. Blasting is done by using slurry explosives.	Drilling & Blasting are done as per proposal.	
3k	Provision of mining machineries in mineral benches	Excavators Tippers Crawler Drill Air Compressor Water Tanker	As per proposal machineries are available in field.	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height of Soil/ morrum will be first bench with 5m thickness and 2-6m was proposed in Mineral.	Benches are formed as per proposal.	
3m	Total area covered under excavation/pits	23.48 hect area is under Pit during 2019-2020	25.00 hect area is under Pit	
3n	Ore to OB ratio for the pit/mine during the year.	1 : 0.20 for 2019-2020	1 : 0.37	

3o	Total area put in use under different heads at the end of year	Landuse Pattern as on 01.04.2020 Mining area=23.48 hect Reclaimed area = 18.58 hect Roads = 1.78 hect	Landuse Pattern as on 01.04.2020 Mining area= 25.00 hect Reclaimed area = 16.00 hect Roads = 1.78 hect
3p	Production of ROM mineral during the last five year period as applicable	2019-2020 = 296512 tons 2018-2019 = 292047 tons 2017-2018 = 298747 tons 2016-2017 = 299249 tons 2015-2016 = 218816 tons	2019-2020 = 155000 tons 2018-2019 = 185715 tons 2017-2018 = 156420 tons 2016-2017 = 112730 tons 2015-2016 = 43455 tons
3q	General remarks of inspecting officers on method of mining etc.	Mechanised Method is Proposed	155000 tons has been achieved during 2019-2020 against 296512 tons of proposal

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	There is no proposal for dumping during 2019-2020. It is proposed to backfill the area simultaneously .	As per proposal the backfilling is done concurrently in unproposed area.	
4b	Location of topsoil, OB and mineral reject dumps	There is no proposal for dumping. It is proposed to backfill Quarry-5 during 2019-2020 and Ghaghra-A & Barang-C, during 2020-2021	As per proposal the backfilling is not carried out during 2018-2019 & 2019-2020.	Violation has been issued under Rule 11(1).

4c	Number of dumps within lease area and outside of lease area	Lease area = Nil Non Lease area = Nil	Lease area = Nil Non Lease area = Nil	There is no dumping and backfill the area simultaneously.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	There is no proposal of Dump.	Nil	
4e	Number of active and alive dumps.	Active Dump = Nil Alive Dump = Nil	There is no active dump within lease area for waste dumping.	Excavated area is backfilled simultaneously. So dumping is not proposed.
4f	Number of dead dumps.	Dead Dumps = Nil	Dead Dumps = Nil	
4g	Number of dumps established.	No dumps have been established.	No dumps have been established.	
4h	Whether Retaining wall or garland drain all along dumps are there.	No Proposal	Nil	
4i	Length of Retaining wall or garland drain all along dumps	No Proposal	Nil	
4j	Number of settling ponds	No Proposal	Nil	
4k	Specific comments of inspecting officer on waste dump management	There is no proposal for dumping during 2019-2020. It is proposed to backfill the area simultaneously.	As per proposal the backfilling is done concurrently in unproposed area.	Violation has been issued under Rule 11(1).

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.	Simultaneously Back filling has proposed to backfill Quarry-5 during 2019-2020 and Ghaghra-A & Barang-C, during 2020-2021	Simultaneously Back filling was in process and could not achieved as per proposal	Mining plan has been modified for the year 2019-2020. Violation has been issued under Rule 11(1).
5b	Area under backfilling of mined out area	It is proposed to backfill 3.53 hectares during 2019-2020	6.0 hectares has Backfilled against proposal	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Concurrent use	Concurrent use	
5d	Total area fully reclaimed and rehabilitated	Mining area=31.40 hect Reclaimed = 20.76 hect	Mining area=33.36 hect Reclaimed = 24.40 hect	
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Simultaneously Back filling has proposed to backfill Quarry-5 during 2019-2020 and Ghaghra-A & Barang-C, during 2020-2021	6.00 hectares has Backfilled against proposal of 3.53 hectares during 2019-2020	

Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	It should be on or before 1st July every year.	Submitted for the year 2019-2020	
6b	Area available for rehabilitation (ha) .	Proposed 3.53 hectares during 2019-2020	6.00 hectares has achieved during 2019-2020	Out of 33.36 hectares mined out area only 24.40 hectares has been Reclaimed

6c	afforestation done (ha).	Proposed 0.16 hect in 2019-2020	1.50 hectares has been afforested	
6d	No. of saplings planted during the year	500 saplings proposed in backfilled area for 2019-2020	3600 saplings have been achieved.	
6e	Cumulative no .of plants	1600 nos of saplings proposed from during the plan period 2015-2020 in the backfilled area	3650 saplings have been planted during 2015-2020 inside the backfilled area	
6f	Any other method of rehabilitation	No Proposal	Nil	
6g	Cost incurred on watch and care during the year	6.75 lakhs has been proposed	10 lakhs has spend	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Proposed 3.53 hect in 2019-2020	6.00 hectares has been afforested	Out of 33.36 hectares mined out area only 24.40 hectares has been Reclaimed
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No Proposal	Nil	
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Proposed 0.16 hect in 2019-2020	1.50 hectares has been afforested	
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No Proposal	Nil	

6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No Proposal	Nil	
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	500 saplings proposed in backfilled area for 2019-2020	3600 saplings have been achieved.	
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Proposed 0.16 hect in 2019-2020	1.50 hectares has been afforested	
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Simultaneously Back filling	Simultaneously Back filling	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Bi-Annually Survey	Environment monitoring is carried out through own as well as private agency.	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Environment monitoring is carried out through private agency.	3600 saplings have been achieved in 1.50 hectares during 2019-2020	3650 saplings have been planted during 2015-2020 inside the backfilled area

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	The total target of Production was 296512 tons during 2019-2020 and 292990 tons during 2020-2021	155000 tons of production has been achieved during 2019-2020	43510 tons of Sub Grade has been generated during 2019-2020.

7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical Process and Manual Picking of Ore from Intercalated Waste	Mechanical Process and Manual Picking of Ore from Intercalated Waste	
7c	Different grade of mineral sorted out at mines.	Average Grade:- Al2O3 = >38% Sio2 = <5% Cut Off Grade for Bauxite:- Al2O3 = +30% Sio2 = 10%	Average Grade:- Al2O3 = >38% Sio2 = <5% Cut Off Grade for Bauxite:- Al2O3 = +30% Sio2 = 10%	Sub Grade/ Low grade are Blended with High grade ores to get the desired plant feed materials.
7d	Any beneficiation process at mines .	Manually sizing and sorting are proposed	sorting and sizing is being done	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	The total target of Production was 296512 tons during 2019-2020 and 292990 tons during 2020-2021	155000 tons of production has been achieved during 2019-2020	Low grade are Blended with High grade ores to get the desired plant feed materials.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Proposal of removing topsoil separately and spreading over mined out area.	Concurrent backfilling and spreading of topsoil over backfilled areas is practiced for reclaimed and rehabilitation of mined out areas.	
8b	Concurrent use or storage of topsoil	Concurrent use	Concurrent use	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Proposal of removing topsoil/ OB separately and spreading over mined out area.	Concurrent backfilling and spreading of topsoil over backfilled areas is practiced for reclaimed and rehabilitation of mined out areas.	

8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	The OB and waste generated are to be proposed to backfilled simultaneously in the mined out areas	Backfilling has done in unproposed area and restoring the land to its original use.	Violation has been issued under Rule 11(1).
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No Proposal	Nil	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	1600 nos of saplings proposed from during the plan period 2015-2020 in the backfilled area and 1600 nos of saplings proposed during 2020-2021	3600 saplings have been planted during 2015-2020 inside the backfilled area	
8g	Survival rate	No such proposal in the approved document	70%	
8h	Water sprinkling on roads to control airborne dust	Yes, it is proposed for water sprinkling on haul roads.	Water sprinkling on road is observed during the inspection.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Cultivation depends mainly at the top of the plateau in monsoon.	Surrounding area beyond lease area is greenery. The area is hilly terrain.	Thin Vegetation and sal trees of varying height are available.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks

9a	Status of submission of Monthly and Annual returns	MR Submitted up to = January 2021 AR Submitted up to = 2019-2020	Both Annual & Monthly returns are submitting in online system. Submitted within the time limits	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer and Geologist has shown	As per record Mining Engineer and Geologist are present during Inspection	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Land use Pattern as on 01.04.2020. Exploited area = 33.360 hect Current working = 8.950 hect Reclaimed = 24.410 hect Plant/ building/ Roads = 4.080 hect	Landuse Pattern is filled as per approved Mining Plan	
9d	Scrutiny of Annual return on afforestation	3600 saplings have been achieved in 1.50 hectares during 2019-2020.	It is advised the lessee to plant the saplings as per the proposal.	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	There is no Mineral Rejects Generation	There is no Mineral Rejects Generation	It is proposed to produced 74129 tons of mineral rejects during 2019-2020
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Bauxite Stock as on 01.04.2020 ROM Closing stock = Nil Dispatches of Processed ore 40% to below 45% Al2O3 = 144022 tons	Mine has produced 155000 tons of Production during 2019-2020	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Cost of Production & Ex. Mine Price has shown	It is captive mine of Hindalco	

9h	Scrutiny of Annual return on fixed assets	Fixed Assets is given	Fixed Assets is filled
9k	Scrutiny of Annual return on mining machineries	Machineries details given	As available in field

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
MCDR17 Rule 11(1)	01/03/2021				

Date :

(**G. S. KANNAN**)

Indian Bureau of Mines