

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

**Inspection under SDF for star rating of mines REPORT**

**Ranchi regional office**

**Mine file No :** BIH/GLA/BX/204/RRO

**Mine code :** 07BHR32009

- (i) Name of the Inspecting : **K03** ) **G. S. KANNAN**  
Officer and ID No.
- (ii) Designation : Senior Mining Geologist
- (iii) Accompanying mine : SHRI BASUDEB GANGULI, GM, GEOLOGY  
Official with  
Designation
- (iv) Date of Inspection : 15/02/2021
- (v) Prev.inspection date :

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **JALIM AND SANAI (38.447)**
- (b) **Registration NO.** : **IBM/935/2011**
- (c) **Category** : **A Other than Fully Mech.**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **JHARKHAND**
- District : **GUMLA**
- Village : **JALIM & SANAI**
- Taluka : **BISHUNPUR**
- Post office : **BISHUNPUR**
- Pin Code :
- FAX No. : **06526-24118**
- E-mail : **N.A.**
- Phone : **06526-24016,24112,24446**
- (f) **Police Station** : **BISHUNPUR**
- (g) **First opening date** : **01/11/1983**
- (h) **Weekly day of rest** : **SUN**
2. **Address for** : **VILL-- JALIM & SANAI**  
**correspondance** **PO-BISHNPUR**  
**DIST-GUMLA**
3. (a) **Lease Number** : **BHR0248**
- (b) **Lease area** : **12.14**
- (c) **Period of lease** :
- (d) **Date of Expiry** : **31/03/2030**
4. **Mineral worked** : **BAUXITE** **Main**

## 5. Name and Address of the

Lessee : M/S HINDALCO INDUSTRIES LTD.  
 AT - COURT ROAD,  
 LOHARDAGA, LOHARDAGA  
 JHARKHAND  
 Phone:06526-22401112, 224446 & 224016.  
 FAX :06526-224112 & 224445

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 AKHILESH SINHA, Full Time  
 Qualification : B.E(Min)  
 Appointment/ : 17/05/2010 30/07/2019  
 Termination date

## Mining Engineer

Name : Pradeep Kumar, Full Time  
 Qualification : B.Tech (Mining)  
 Appointment/ : 01/08/2019  
 Termination date

## Geologist

Name : SHRI ABHISHEK KUMAR, Full Time  
 Qualification : M.Sc (GEOLOGY)  
 Appointment/ : 17/12/2008  
 Termination date

## Manager

Name : SRI TRIPURARI SINGH  
 Qualification : MINES FOREMAN CERTIFICATE  
 Appointment/ : 17/05/2010  
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining : Existing rule 11 MCDR1988 03/03/1993  
 Mining Scheme rule 12 MCDR1988 30/03/2000  
 Renewal under rule 24 MCR1960 03/12/2004  
 Mining Scheme rule 12 MCDR1988 10/04/2012  
 FMCP under 23C(1) 26/02/2013  
 Mining Scheme rule 12 MCDR1988 19/12/2014  
 MP review under 17(1) MCR 2016 30/11/2017

## 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	Original lease area is 38.45 hectares, out of which 20.46 hectares is forest land and 5.85 hectares is non-mineralized area.
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	17 boreholes have been drilled in the lease area during 1994 by MECL and 10 boreholes during 2017-2018 by Lessee.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No Proposal for Exploration during 2019-2020 & 2020-2021.	During 2017-2018, 10 boreholes with 167 meterage have been drilled by the Lessee. Having minimum depth of 15m and maximum of 18m.	Expenditure incurred for exploration during 2017-2018 is 2.6 lakhs
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.	17 + 10 boreholes have been drilled so far in the lease area and 5.0 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) = 102213 tons Probable Mineral Reserves (122) = 80947 tons	Reserves & Resources as on 01.04.2020 Proved Mineral Reserves (111) = 115610 tons Probable Mineral Reserves (122) = 80947 tons	Reserves and Resources are updated based on the revised threshold value.

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.
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Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Proposed to work in Quarry-2 & 3 during 2019-2020 and 2020-2021.	Development has not been carried out as per the proposal	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 : 0.28 for 2019-2020	1 : 0.73	
2d	Quantity of topsoil generation in m3	It is proposed to remove 35460 cu.m of topsoil during 2019-2020 and 27399 cu.m during 2020-2021	30000 cu.m of topsoil has been generated during 2019-2020	Cumulatively 60000 tons of OB and Topsoil has been generated during 2019-2020
2e	Quantity of overburden generation in m3	It is proposed to remove 4276 cu.m of OB during 2019-2020 and nil tons during 2020-2021	3350 cu.m of OB have been removed during 2019-2020	Cumulatively 60000 tons of OB and Topsoil has been generated during 2019-2020
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Proposed to work in Quarry-2 & 3 during 2019-2020 and 2020-2021.	30000 cu.m of topsoil and 3350 cu.m of OB have been removed. Cumulatively 60000 tons of OB and Topsoil has been generated	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-2 & 3 during 2019-2020 and 2020-2021.	Production has not been carried out as per the proposal	Violation has been issued under Rule 11(1)
3b	Quantity of ROM mineral production proposed	The total target of Production was 49439 tons during 2019-2020	45545 tons of production has been achieved during 2019-2020.	
3c	Recovery of sailable/usable mineral from ROM production	90% during 2019-2020	83%	
3d	Quantity of mineral reject generation	It is proposed to produced 2388 cu.m of mineral rejects during 2019-2020	3960 cu.m/ 9107 tons of 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.	Mineral reject- below the threshold value and outside the ore zone.	
3f	Quantity of sub grade mineral generation.	No Sub Grade Generation	No Sub Grade Generation	
3g	Grade of sub grade mineral generation	There is No Generation of Subgrade Mineral	There is No Generation of Subgrade Mineral	
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 - 1m Burden - 1m Depth - 3m 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 Tractor Jack Hammer 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 6m thickness and 2m was proposed in Mineral.	Benches are formed as per proposal.	
3m	Total area covered under excavation/pits	0.88 area is under Pit during 2019-2020	1.09 hect area is under Pit	
3n	Ore to OB ratio for the pit/mine during the year.	1 : 0.28 for 2019-2020	1 : 0.73	
3o	Total area put in use under different heads at the end of year	Landuse Pattern as on 01.04.2020 Quarry Face =0.88 hect Reclaimed area = 4.77 hect Reclaimed & planted area = 3.5 hect Roads = 0.02 hect	Landuse Pattern as on 01.04.2020 Quarry Face =7.09 hect Reclaimed area = 7.710 hect Reclaimed & planted area = 4.00 hect Roads = 0.02 hect	Quarry Face, Backfilled area is not tally with field and violation has issued

3p	Production of ROM mineral during the last five year period as applicable	2019-2020 = 49439 tons 2018-2019 = 49898 tons 2017-2018 = 36180 tons 2016-2017 = 44839 tons 2015-2016 = 46296 tons	2019-2020 = 45545 tons 2018-2019 = 40395 tons 2017-2018 = 36037 tons 2016-2017 = 44624 tons 2015-2016 = 43675 tons
3q	General remarks of inspecting officers on method of mining etc.	Mechanised Method is Proposed	45545 tons has been achieved during 2019-2020 against 49439 tons of proposed production

## 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 not done.	Violation has been issued under Rule 11(1).
4b	Location of topsoil, OB and mineral reject dumps	There is no proposal for dumping. It is proposed to backfill Quarry-2 & 3 during 2019-2020 and 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 not done concurrently. Violation has been issued under Rule 11(1).

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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.	Simultaneously Back filling has proposed to backfill Quarry-2 & 3 during 2019-2020 and 2020-2021	Simultaneously Back filling was in process and could not achieved as per proposal	Violation has been issued for 2019-2020 under Rule 11(1).
5b	Area under backfilling of mined out area	It is proposed to backfill 0.30 hectares in Quarry-2 and 0.38 hectares in Quarry-3 during 2019-2020	0.60 hectares has Backfilled against proposal but in unproposed area.	Violation has been issued for 2019-2020 under Rule 11(1).
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	Landuse Pattern as on 01.04.2020 Quarry Face =0.88 hect Reclaimed area = 4.77 hect Reclaimed & planted area = 3.5 hect Roads = 0.02 hect	Landuse Pattern as on 01.04.2020 Quarry Face =7.09 hect Reclaimed area = 7.710 hect Reclaimed & planted area = 4.00 hect Roads = 0.02 hect	Quarry Face, Backfilled area is not tally with field and violation has issued
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Simultaneously Back filling has proposed to backfill Quarry-2 & 3 during 2019-2020 and 2020-2021	0.60 hectares has Backfilled against proposal of 0.68 hectares during 2019-2020 but in unproposed area.	

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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 0.68 hectares during 2019-2020	0.60 hectares has achieved during 2019-2020	
6c	afforestation done (ha).	Proposed 0.78 hect in 2019-2020	0.80 hectares has been afforested	
6d	No. of saplings planted during the year	1248 saplings proposed in backfilled area for 2019-2020	1250 saplings have been achieved within lease area.	
6e	Cumulative no .of plants	800 nos of saplings proposed during the plan period 2014-2018 in the backfilled area and 2224 nos of saplings during 2018-2021	1100 saplings have been planted during 2014-2018 inside the backfilled area and 2050 Saplings during 2020-2021	

6f	Any other method of rehabilitation	No Proposal	Nil
6g	Cost incurred on watch and care during the year	8.67 lakhs has been proposed	10 lakhs
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	Proposed 0.68 hect in 2019-2020	0.60. hectares has been backfilled
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 on backfilled area	Proposed 0.78 hect in 2019-2020	0.80 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	1248 saplings proposed in backfilled area for 2019-2020	1250 saplings have been achieved.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Proposed 0.78 hect in 2019-2020	0.80 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.	1250 saplings have been achieved in 0.80 hectares during 2019-2020	1100 saplings have been planted during 2014-2018 inside the backfilled area and 2050 Saplings during 2020-2021

#### 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 49439 tons during 2019-2020 and 49236 tons during 2020-2021	45545 tons of production has been achieved 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 = 41.39% Sio2 = 4.21%  Cut Off Grade for Bauxite:- Al2O3 = +30% Sio2 = 5%	Average Grade:- Al2O3 = 41.39% Sio2 = 4.21%  Cut Off Grade for Bauxite:- Al2O3 = +30% Sio2 = 5%	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 49439 tons during 2019-2020	45545 tons of production has been achieved during 2019-2020	Low grade are Blended with High grade ores to get the desired plant feed materials.
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## 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 for 2019-2020 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)	800 nos of saplings proposed during the plan period 2014-2018 in the backfilled area and 2224 nos of saplings during 2018-2021	1100 saplings have been planted during 2014-2018 inside the backfilled area and 2050 Saplings during 2020-2021	
8g	Survival rate	No such proposal in the approved document	80%	
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.

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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	

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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 = 17.430 hect Current working = 7.090 hect Reclaimed = 7.710 hect Plant/ building/ Roads = 0.50 hect	Landuse Pattern is filled as per approved Mining Plan	Quarry Face, Backfilled area is not tally with field and violation has issued
9d	Scrutiny of Annual return on afforestation	1250 saplings have been achieved in 0.80 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)	Mineral Rejects Generation is not shown.	3960 cu.m/ 9107 tons of mineral rejects have been generated and same has shown under OB quantity.	Advice to show the mineral reject in particular column.
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 = 43070 tons and 45% to below 50% Al2O3 = 1486 tons	Mine has produced 45545 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	

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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
MCDR17	Rule 11(1)	22/02/2021			
MCDR17	Rule 33	22/02/2021			

**Date :**

**(G. S. KANNAN)**

Indian Bureau of Mines