

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

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

**Ranchi regional office**

**Mine file No :** JHK/GML/BX/254/RRO

**Mine code :** 07JHK09003

- (i) Name of the Inspecting : **E025** ) **NAMAN EKKA**  
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine :  
Official with  
Designation
- (iv) Date of Inspection : 13/02/2021
- (v) Prev.inspection date :

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **AMTIPANI (190.95 HA.) BXT**
- (b) **Registration NO.** : **IBM/935/2011**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address  
State : JHARKHAND  
District : GUMLA  
Village : AMTIPANI  
Taluka : BISHNUPUR  
Post office : BISHNUPUR  
Pin Code : 835302  
FAX No. : 06526-224118  
E-mail : bijesh.jha@adityabirla.com  
Phone : 06526-224016/224112
- (f) Police Station : BISHUNPUR
- (g) First opening date : 15/12/2007
- (h) Weekly day of rest : SUN
2. Address for : VILL.- AMTIPANI, GURDARI & CHIRODIH  
correspondance : P.S.- BISHUNPUR  
DISTT.- GUMLA (JHK)
3. (a) Lease Number : JHK0158
- (b) Lease area : 190.95
- (c) Period of lease : 50
- (d) Date of Expiry : 12/03/2056
4. Mineral worked : BAUXITE Main

## 5. Name and Address of the

Lessee : HINDALCO INDUSTRIES LTD.,  
 AT & PO - COURT ROAD,  
 LOHARDAGA LOHARDAGA  
 JHARKHAND  
 Phone:06526- 224015/224112/223113  
 FAX :06526- 224118

Owner : HINDALCO INDUSTRIES LTD.  
 HINDALCO INDUSTRIES LTD.  
 PO/DIST-LOHARDAGA JHARKHAND  
 LOHARDAGA JHARKHAND  
 Phone: (06526)- 224016  
 FAX : (06526)- 224118

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 : Anand Mishra, Full Time  
 Qualification : B.Tech (Mining)  
 Appointment/ : 01/11/2019  
 Termination date

Geologist  
 Name : SRI AVIJIT MANJHI, Full Time  
 Qualification : M.Sc(GEOLOGY)  
 Appointment/ : 01/08/2013  
 Termination date

Manager  
 Name : SANJAY KUMAR  
 Qualification : B.E. (MINING), 1st CLASS MANAGER'S CERTI  
 Appointment/ : 13/07/2017  
 Termination date

6. Date of approval of Mining	:	Fresh under rule 22 MCR1960	12/04/2005
Plan/Scheme of Mining	:	Modif.of approved Mining Plan	22/07/2011
	:	Mining Scheme rule 12 MCDR1988	11/08/2015
	:	MP modif under 17(3) MCR 2016	21/10/2020

## 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	105 Boreholes has been drilled during 2018-2019	Form -J has submitted
1b	Exploration over lease area for geological axis 1 or 2	No Additional exploration was proposed during 2018-2019 in the lease area for Geological axis - 1	105 - Additional exploration was carried out in the lease area for Geological axis - 1	Total 217 boreholes have been drilled during this pan period.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No Proposal for Exploration.	Contract drilling machines are used for drilled. M/s. South West Pinnacle Exploration Limited has carried out Exploration.	Rs. 10 Lakhs has been spend for exploration during 2018-2019
1d	Balance area to be explored to bring Geological axis in 1 or 2	No Exploration was proposed out at 50m X 50m grid interval. No Additional exploration was proposed in plan period (2015-2020)	Exploration was carried out at 50m X 50m grid interval. 170.25 hectares has explored to G-1. 10.35 hectares is under G-2.	190 + 217 boreholes have been drilled so far in the lease area and Reserves and Resources are re-estimating based on recent boreholes.
1e	Balance reserve as on 01/04/20	Reserves & Resources as on 01.04.2019 Proved Mineral Reserves (111) = 2.235 million tons Pre-Feasibility Mineral Resources (211) = 0.432 million tons	Reserves & Resources as on 01.04.2019 Proved Mineral Reserves (111) = 3.424 million tons Pre-Feasibility Mineral Resources (211) = 0.432 million tons	

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. Hence borehole has to be drilled at closer interval to get quantity and quality
----	--	---	---	---

---

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Proposed to work in Quarry-7A during 2018-2019 within Boreholes AGC-174 to 179, 181, 184, 185, 189 and 190 in Quarry-2	Development has been carried out as per the proposal	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	It is proposed to form separate Bench's in Topsoil, Overburden and Mineral	As per proposal benches are formed.	
2c	Stripping ratio or ore to OB ratio	1 : 0.65	1 : 3.06	
2d	Quantity of topsoil generation in m3	It is proposed to remove 70644 cu.m of topsoil during 2018-2019	110716 cu.m of topsoil has been generated.	
2e	Quantity of overburden generation in m3	During 2018-2019 it is proposed OB as 38686 Cu.m	166074 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-7A during 2018-2019 within Boreholes AGC-174 to 179, 181, 184, 185, 189 and 190 in Quarry-2 166074 cu.m of OB have been removed.

### Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Development and production was Proposed in Quarry-7A during 2018-2019 within Boreholes AGC-174 to 179, 181, 184, 185, 189 and 190 in Quarry-2	Production are not carried out as per proposal during 2018-2019	Violation has been issued under Rule 11(1)
3b	Quantity of ROM mineral production proposed	The total target of Production was 134830 cu.m/ 296626 tons during 2018-2019.	144670 tons of production have been achieved during 2018-2019	
3c	Recovery of sailable/usable mineral from ROM production	90%	85%	
3d	Quantity of mineral reject generation	It is proposed to produced 33708 cu.m of mineral rejects during 2017-2018	23868 cu.m of mineral rejects has been achieved	
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 - 3m Burden - 2.5m Depth - 5.5m 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	Hydraulic Excavators Dumpers Compressor Tractor Dozer Water Tanker Electric generator	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 3m was proposed in Mineral.	Benches are formed as per proposal.	
3m	Total area covered under excavation/pits	89.17 hect area is under Pit (66.10 hect under reclaimed area) during 2018-2019	71.42 hect area is under Pit (55.57 hect under reclaimed area) during 2018-2019	
3n	Ore to OB ratio for the pit/mine during the year.	1 : 0.65	1 : 3.06	

3o	Total area put in use under different heads at the end of year	Land use Pattern as on 01.04.2019. Mines = 89.17 hect Reclaimed = 66.10 hect Dump = 1.42 hect Roads = 2.79 hect Green Belt = 1.20 hect	Land use Pattern as on 01.04.2019. Mines = 71.42 hect Reclaimed = 55.57 hect Dump = 1.15 hect Roads = 2.82 hect Green Belt = 1.20 hect
3p	Production of ROM mineral during the last five year period as applicable	2018-2019 = 296626 tons 2017-2018 = 290293 tons 2016-2017 = 288416 tons 2015-2016 = 290281 tons 2014-2015 = 149515 tons	2018-2019 = 144670 tons 2017-2018 = 149560 tons 2016-2017 = 149450 tons 2015-2016 = 149880 tons 2014-2015 = 149515 tons
3q	General remarks of inspecting officers on method of mining etc.	Mechanised Method is Proposed	144670 tons has been achieved during 2018-2019 against 296626 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 2018-2019. It is proposed to backfill the area simultaneously	As per proposal the backfilling is done concurrently.	
4b	Location of topsoil, OB and mineral reject dumps	It is proposed to backfill during 2018-2019 nearer to Quarry-7A.	As per proposal the backfilling is not carried out nearer to Quarry-7A.	Violation has been issued under Rule 11(1) earlier by SMG
4c	Number of dumps within lease area and outside of lease area	Lease area = 4 Non Lease area = Nil	Lease area = 3 Non Lease area = Nil	Totally 4 dumps are present in the lease area. During 2019-2020, Dump-1 has been rehandled and backfilled.

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	There is no proposal of Dump.	Nil.	4 old dumps are present in non-mineralized area. During 2019-2020, Dump-1 has been rehandled and backfilled.
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 2018-2019. It is proposed to backfill the area simultaneously	As per proposal the backfilling is done concurrently.	

---

**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 in Quarry-7A	Simultaneously Back filling was in process and could not achieved as per proposal	
5b	Area under backfilling of mined out area	It is proposed to backfill 10.16 hectares during 2018-2019	3.91 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	Mines = 89.17 hect Reclaimed = 66.10 hect	Mines = 71.42 hect Reclaimed = 55.57 hect
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Simultaneously Back filling has proposed in Quarry-7A	3.91 hectares has Backfilled against proposal of 10.16 hectares during 2018-2019

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 2018-2019	
6b	Area available for rehabilitation (ha) .	10.16 hectares	3.91 hectares	Out of 71.42 hectares mined out area only 55.57 hectares has been Reclaimed
6c	afforestation done (ha).	Proposed 2.00 hect in 2018-2019	0.65 hectares has been afforested	
6d	No. of saplings planted during the year	5000 saplings proposed in backfilled area for 2018-2019	2000 saplings have been achieved.	
6e	Cumulative no .of plants	20000 nos of saplings proposed from during the scheme period 2015-2020 in the backfilled area.	20170 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	No Proposal	Nil	

6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	10.16 hectares	3.91 hectares	Out of 71.42 hectares mined out area only 55.57 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 2.00 hect in 2018-2019	0.65 hectares has been afforested	
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No Proposal	Quarry-3 has been converted into water reservoir/ pisciculture covering area of 1.2 hectares	
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	5000 saplings proposed in backfilled area for 2018-2019	2000 saplings have been achieved.	
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Proposed 2.00 hect in 2018-2019	0.65 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.	2000 saplings have been achieved in 0.65 hectares during 2018-2019	20170 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 296626 tons during 2018-2019.	144670 tons has been achieved during 2018-2019	
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:- Al2O3 = +30% Sio2 = 7%	Average Grade:- Al2O3 = +38% Sio2 = 5%  Cut Off Grade:- Al2O3 = +30% Sio2 = 7%	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 296626 tons during 2018-2019.	144670 tons has been achieved during 2018-2019	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 as per proposal and restoring the land to its original use.
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)	5000 saplings proposed in backfilled area for 2018-2019	2000 saplings have been achieved in 0.65 hectares during 2018-2019
8g	Survival rate	No such proposal in the approved document	60%
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	Scanty vegetation, agriculture are observed in lease area	Surrounding area beyond lease area is greenery. The area is hilly terrain.
----	--	---	--

---

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	MR Submitted up to = November 2019 AR Submitted up to = 2018-2019	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 01.04.2019. Exploited area = 63.240 hect Reclaimed = 50.35 hect Current working = 8.380 hect Dump = 2.150 hect	Landuse Pattern is filled as per approved Mining Plan	
9d	Scrutiny of Annual return on afforestation	2000 saplings have been achieved in 0.65 hectares during 2018-2019.	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	

9f	Scrutiny of Annual return on ROM stock and/or graded ore	Bauxite Stock as on 01.04.2019 ROM Closing stock = Nil Dispatches of Processed ore 40% to below 45% Al <sub>2</sub> O <sub>3</sub> = 144664 tons	Mine has produced 144670 tons of Production during 2018-2019
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

Date :

(**NAMAN EKKA**)

Indian Bureau of Mines