

Sl.N	PARTICULARS	DETAILS
1	File No.	
2	Name & Designation of the inspecting officer	Shri D. Dash, Regional Mining Geologist, Indian Bureau of Mines, Raipur
3	Date of Inspection	17.10.2023
4	Date of Last Inspection & Officer	22.12.2022, Shri Deepak Chinchkhede, Assistant Controller of Mines, Indian Bureau of Mines, Raipur
5	Accompanying mine personnel	Shri Saptarshi Sengupta (Geologist), Shri Amit Kumar Tiwari (Mines Manager)
6	Name of the Mine	Tatijharia Bauxite Mine.
7	Total Lease Area (Ha) with breakup of Non-forest and forest land	Total Lease Area -1218.762 Ha Under Revenue Forest-514.019Ha Non- forest-704.743 Ha
8	Mine code	07CHG16003
9	IBM Registration Number under rule 45 of MCDR, 1988	IBM/935/2011
10	Name of the lessee, Address, phone, email and fax number	M/S HINDALCO INDUSTRIES LIMITED Ahura Center ,1st Floor,B-Wing,Mahakali Caves Road, Andheri (East),Mumbai400093,India Ph No- 02266525000, Fax No- 02266525801 Email- Prateek.kumar@adityabirla.com
	Village	Tatijharia
	Taluka/Mandal	Kusmi
	District	Balrampur-Ramanujganj
	Pincode	497224
	State	Chhattisgarh
	Post office	Kusmi
11	Nearest police station	Samri
12	Nearest Railway station	Ambikapur
13	Date of Grant of Mining Lease	20/05/1998
14	Date of Execution	25/06/1998
15	Date of opening of Mine	01.04.2004
16	Weekly day of rest	Sunday
17	Date of first Renewal, if applicable and its period & expiry	Date of renewal: Expiry date: 24.6.2048
18	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Shri K.N Bhandari , 5, New Power House Road, Sector-7, Jodhpur – 342 004, Phone No. - No - (0291)2620061, Mail ID - knbhandari1942@gmail.com , Date of Appointment –10.11.2011

19	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri V.K.S Chauhan , Hindalco Colony, Post - Kusmi, District-Balrampur, Pin-497224, Mob-9921341888, Date of Appointment – 15.03.2021 Email-chauhan.vijaykumar@adityabirla.com
20	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	Shri Amit Kumar Tiwary , Hindalco Colony, Post -Kusmi, District-Balrampur, Pin-497224, Mob-7771007150, Date of Appointment -24.11.15 Email- amit.t@adityabirla.com
21	Name of the Mining Engineer & Geologist Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Shri Rishabh Gupta , B(Tech)- Mining Total Experience- 5 years, Hindalco Colony, Post - Kusmi, District-Balrampur, Pin-497224, Mob-8596051475, Date of Appointment -01.02.2022 Email- Rishabh.g@adityabirla.com Shri Saptarshi Sengupta , M.Sc -Applied Geology Total Experience- 5 years., Shri Rishabh Gupta Qualification: B(Tech)- Mining , Total Experience: 5 years, email: saptashri.s@adityabirla.com
22	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 42 & carrying out their duties as per rule 43 & 44.	Yes.
23	Date of Approval of Mining Plan/Modified Mining Plan with five-year period and specific condition in approval letter, if any.	Mining Plan approved vide letter vide letter no SRG/BX/MPLN-379/NGP dated 30.11.1994 for thew period from 1999-2000 to 2003-04
24	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five-year period and specific condition in approval letter, if any.	1 st Scheme of Mining was approved vide letter no SRG/BX/MPLN-379/NGP Nagpur dated 20.01.2004 for the period from 2004-05 to 2008-09. Modified Scheme of Mining was approved letter no. SRG/BXT/MPLN-379/NGP dated 29.06.2007 for the period from 2007-08 to 2008-09. 2 nd Scheme of Mining was approved vide letter no. 314(3)/2009-MCCM(CZ)/MS-20 Nagpur dated 31.08.2009 for the period from 2009-10 to 2013-14 3 rd Scheme of Mining was approved vide letter no. SRG/BX/MPLN-379/NGP dated 18.08.2015 for the period from 2014-15 to 2018-19 Modification of approved Mining plan was approved vide letter no. BLR/BX/MPLN-1134/2017-RPR dated 09.01.2018 4 th Scheme of Mining was approved vide letter no. Balrampur/Bx/KHAYO-1171/2018/Raipur/1210 dated 28/11/2018 for the Period from 2019-20 to 2023-2024.

25	Mineral(s) granted in lease and proved for mining	Bauxite
26	Method of Mining (Opencast, Underground)	Open cast
27	Category (Fully Mechanized, Others or Manual)	Semi Mechanised
28	Captive/Non-Captive	Captive
29	EC for ROM Prod: Date of Issue:	400000 Tonne DOI- 09.08.2007
30	FA amount Rs Valid up to:	Rs-5,34,79,500/- Valid up to 31 st March 2024

Scientific Mining: Compliance of proposals of approved mining plan/scheme of mining. –

1.0 EXPLORATION

SN	ITEM	PROPOSALS (2022-23)	ACTUAL WORK (2022-23)	REMARKS
1a	Backlog of previous year	2022-23-Nil	Nil	Total 3259 boreholes have been drilled in the lease area at a grid interval of 50 x 50 m & 50 x 100 m covering 556.21 ha area under G1 scale & 58.15 ha area under G2 scale of exploration of total potentially mineralised area.
1b	Exploration over lease area for Geological axis 1 or 2.	NIL	NIL	
1c	Exploration Agency & Expenditure in lakh Rupees during the year	NIL	NIL	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	
1e	Balance reserves as 01.04.2023 (million tonnes)	N/A	(111): 2488427 Tonnes (121): 0 Tonnes (122): 367988 Tonnes (211): 447200 Tonne (221):0 Tonnes (222): 7223 Tonne (331):0 Tonnes (332):0 Tonnes (333): 767472 Tonne (334):0 Tonnes	
1f	General remarks of inspecting officer on geology, exploration etc.	Total 3259 boreholes have been drilled in the lease area at a grid interval of 50 x 50 m & 50 x 100 m covering 556.21 ha area under G1 scale & 58.15 ha area under G2 scale of exploration of total		

		potentially mineralised area.
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2.0 DEVELOPMENT

SN	ITEM	PROPOSALS (2022-23)	ACTUAL WORK (2022-23)	REMARKS
2a	Location of development w.r.t. lease area	1. E796575-796876 N2587517-2587713 2.E795424-795923 N2587258-2587416 3.E794574-794869 N2588138-2588343 4.E794021-794279 N2589660-2589935	1. E796469-796675 N2587565-2587716 2. E795411-795542 N2587245-2587379 3. E795637-795895 N2587357-2587575 4. E794580-794886 N2588043-2588372 5.E794166-794325 N2589683-2590006	The development of quarries are within the proposed area.
2b	Separate benches in topsoil, overburden and mineral (Rule 15)	Top Soil- 1 OB- 1 Bauxite- 1	Top Soil- 1 OB- 1 Bauxite- 1	As per the plan
2c	Stripping ratio or ore to OB ratio	1:3.84	1: 3.77	
2d	Quantity of topsoil generation in Tonnes	11,89,290	2,35,732	Bulk density of Top soil- 1.22
2e	Quantity of overburden generation in MT	509900.16	12,36,624	Bulk density of OB- 1.92
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	The quarry development are within the proposed area.		

3.0 EXPLOITATION

S.N.	ITEM	PROPOSAL (2022-23)	ACTUAL WORK (2022-23)	REMARK
3a	Number of pits proposed for production	06	05	Due to lack land acquisition
3b	Quantity of mineral production	390474 MT	390300 MT	99.95% of proposed production

	proposed			achieved.
3c	Recovery of saleable/usable mineral from production	52%	52%	As per Recovery study done
3d	Quantity of mineral reject generation	152727.796 m ³	164872.85 m ³	Intercalated Waste generated which are below threshold limit
3e	Grade of mineral reject generation and threshold value declared	Below threshold value Threshold value- 30% Al ₂ O ₃	Below threshold value Average grade: 24.2% Al ₂ O ₃ Threshold value- 30% Al ₂ O ₃	
3f	Quantity of sub-grade mineral generation	Nil	Nil	
3g	Grade of sub-grade mineral generation	Nil	Nil	
3h	Manual / Mechanised method adopted for segregating from ROM	Manual	Manual	Sorting & Sizing by miners
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	Nil	Nil	
3j	Provision of drilling & blasting in mineral benches	Yes	Yes	

3k	Provision of mining machineries in mineral benches	Yes	Type of machinery	Capacity of each unit	No. of units	
			SHOVEL (HYDRAULIC)	0.9 CUM	4	
			SHOVEL (HYDRAULIC)	1.6 CUM	3	
			AIR COMPRESSOR	8.49 CUM/MIN	2	
			BLAST HOLE DRILL	100 MM	2	
			DUMPER	25 TONNES	16	
			WHEEL LOADER	1.48 CUM	2	
			WATER TANKER	12000 LITRES	1	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes	Yes			
3m	Total area covered under excavation/pits	223.43 Ha	183.956 Ha			
3n	Ore to OB ratio for the pit/mine during the year	1:3.84	1: 3.77			
3o	Total area put in use under different heads at the end of year	1. Mining- 246.94 Ha 2. Infrastructure- 4.26 Ha 3. OB/Waste Dump- 1.651 Ha 4. Total Area put to use- 252.851 Ha	1. Mining- 183.956 Ha 2. Infrastructure- 4.26 Ha 3. OB/Waste Dump- 1.651 Ha 4. Total Area put to use- 189.867 Ha			
3p	Production of mineral during last Three -year period, as applicable (tones)	2018-19:	399172	177975		Almost at par proposed production in recent years.
		2019-20:	393200	383457		
		2020-21:	395055	333105		
		2021-22:	399220	370780		
		2022-23:	390474	390300		
3q	General remarks of inspecting	During the year 2022-23, quarry development was proposed in 06 quarries, however, quarry development have been done 05 quarries due to lack of				

	officer on method of mining etc.	land area acquisition. Mineral rejects / intercalated waste are generated during the process of mining and manual sorting and screening. Although, less area have been mined out due to lack land area acquisition, stripping ratio is almost same as proposed indication proper development. The production rate is almost at par proposed production in recent year.
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4.0 SOLID WASTE MANAGEMENT-DUMPING

SN	ITEM	PROPOSALS (2022-23)	ACTUAL WORK (2022-23)	REMARKS
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32, 33)	Nil	Nil	Simultaneous backfilling done.
b	Location of topsoil, OB & mineral reject dumps	Nil	Nil	Pre-Existing Dumps
4c	Number of dumps within lease area and outside lease area	02	02	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Nil	1. N2589709-2589680, E795810-795852 2. N2589455-2589321, E794216-794029	
4e	Number of active & alive dumps	Nil	Nil	
4f	Number of dead dumps	02	02	
4g	Number of dumps stabilized	02	02	
4h	Whether Retaining wall or garland drain all along dumps are there	proposed	Yes	
4i	Length of Retaining wall or garland drain all along dump	Nil	380 mtr	
4j	Number of settling ponds	Nil	Nil	
4k	Specific comments of inspecting officer	All waste generated are concurrently backfilled. So separate waste dump are not maintained. However, there two pre-		

	existing waste dumps within the lease area.
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5.0 SOLID WASTE MANAGEMENT-BACKFILLING

SN	ITEM	PROPOSALS (2022-23)	ACTUAL WORK (2022-23)	REMARKS
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	Mined Out- 26.35 Ha Reclaimed- 37.57 Ha	Mined Out- 14.318 Ha Reclaimed- 13.397 Ha	Due to lack of land area acquisition less area mined out.
5b	Area under backfilling of mined out area	37.57 Ha	13.397 Ha	Less area backfilled due to less area being mined out.
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	Yes. 37.57 Ha	Simultaneous backfilling carried out 13.397 Ha	Concurrent use of top soil. During 2022-23 total 2,35,732 MT quantity is being used.
5d	Total area fully reclaimed & rehabilitated	Nil	Nil	
5e	General remarks of inspecting officer on backfilling, reclamation etc	Simulations backfilling of mined out land is carried out. Due to lack of land area acquisition less area is mined out and proportionately, the mined out area have been backfilled.		

6.0 PROGRESSIVE MINE CLOSURE PLAN

SN	ITEM	PROPOSALS (2022-23)	ACTUAL WORK (2022-23)	REMARKS
6a	Whether Annual report on PMCP submitted on time and correctly - Rule 23E (2). Details should be given in the format as given in Annexure-20.	Yes	Yes	Annual return submitted
6b	Management of worked/mined out benches i) Area available for rehabilitation (ha)	Area available for rehabilitation: 37.57 Ha	Area available for rehabilitation 13.397 Ha	Less area due to lack land area acquisition.

	ii) Afforestation done (ha)	Afforestation done: 19.47 Ha	Afforestation done: 5.628 Ha	
	iii) No. of saplings planted during the year	No. of saplings planted during the year: 38940	No. of saplings planted during the year: 17110	Less plantation due to lack of consent from land owners
	iv) Cumulative no. of plants	Nil	219118	
	v) Any other specific method of rehabilitation	Nil	Nil	
	vi) Cost incurred on watch & care during the year	Nil	Rs. 53.12 lakhs	
6c	Compliance on reclamation and rehabilitation by backfilling i) Voids available for backfilling (L X B X D) ii) Void filled by waste/tailings iii) Afforestation on the backfilled area iv) Rehabilitation by making water reservoir v) Any other specific means	1.Void available for Backfilling: 37.57 Ha 2.Void filled by Waste/Tailing: N/A 3. Afforestation on the backfilled area: 19.47 Ha 4.Rehabilitation by Making water reservoir: NIL 5.Any other Specific means: NIL	1.Void available for Backfilling: 13.397 Ha 2.Void filled by Waste/Tailing: N/A 3.Afforestation on the backfilled area: 5.628 Ha 4.Rehabilitation by Making water reservoir: NIL 5.Any other Specific means: NIL	Due to less area available due to lack of land area acquisition.

6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitated (ha) iii) Method of rehabilitation	Nil	Nil	
6e	Compliance of Environmental monitoring (core zone & buffer zone)	Proper Monitoring	Complied PM 10 and PM 2.5 is within permissible limit	M/s Anacon Labs, Nagpur is engaged for Monitoring of Air, Water and noise quality in core and buffer zone.
6f	General remarks of inspecting officer on PMCP compliance & progressive	The area to be available for rehabilitation is on lower side due to lack of land area acquisition. Proportionately, rehabilitation by backfilling followed by plantation have been carried out.		

7.0 MINERAL CONSERVATION

SN	ITEM	PROPOSALS (2022-23)	ACTUAL WORK (2022-23)	REMARKS
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Proposed	Manual sorting and screening done	As proposed.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Manual	Manual	As proposed
7c	Different grade of mineral sorted out at mines	NA	NA	
7d	Any beneficiation process at mines	Manual Sorting is being carried out.	Manual Sorting is being carried out.	As proposed.

7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	Run of mine are shifted to stackyard where they are manually sorted and screened and made saleable.
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8.0 ENVIRONMENT

SN	ITEM	PROPOSALS (2022-23)	ACTUAL WORK (2022-23)	REMARKS
8a	Separate removal and utilization of topsoil (Rule 32)	11,89,290 MT	2,35,732 MT	Concurrent use of top soil. Less area reclaimed due to less area available due to lack of land area acquisition.
8b	Concurrent use or storage of topsoil	11,89,290 MT	2,35,732 MT	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Nil	Nil	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Simultaneously backfilling of the mined out area by the use of overburden, rejects and fine dumps for restoring the land to its original use.	Simultaneously backfilling of the mined out area by the use of overburden, rejects and fine dumps for restoring the land to its original use.	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	37.57 Ha	13.397 Ha	
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	Afforestation on the backfilled area: 14.32 Ha Number of Sapling:- 38940	Afforestation on the backfilled area: 11.557 Ha Number of Sapling:- 17110 383 plants outside lease area	
8g	Survival rate	85%	86.4%	
8h	Water sprinkling on roads to control airborne dust	Yes	Yes	Dedicated tanker for water sprinkling.

8i	General remarks of inspecting officer on aesthetic beauty in and around mines are	Concurrent use of top soil is done. Less area reclaimed due to less area available due to lack of land area acquisition. Consequently, the plantation area is on lower side.
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9.0 COMPLIANCE OF RULE 45

S. N.	Item	Details Given in A.R.	Observation of I/Officer	Remarks
9 a	Status of submission of monthly and Annual returns	Monthly Returns submitted up to – September 2023, Annual Return submitted up to - 2022-23 submitted on 29.06.2023.	Submitted on time.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Manager : Mr. Amit Kumar Tiwary, Mining Engineer : Mr. Rishabh Gupta, Geologist : Mr. Saptarshi Sengupta	Present during the visit of the mine.	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	As per annual return 1.Area exploited and abandoned by OC mining- 183.956 ha. 2.Reclaimed & rehabilitated- 170.334 ha. 3.Used for waste disposal- 1.651 ha. 4.Occupied by plant, buildings etc- 4.26 Ha. 5.Other purpose (mineral reject/subgrade stock)-0.4 Ha. 6.Work done under PMCP- 19.025 Ha.	Appears to be correct.	
9d	Scrutiny of Annual return on afforestation	As per annual return Total 17110 nos of sapling planted in 11.557 ha	Appears to be correct.	
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	NIL	Mineral rejects are not reported in Annual return.	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Opening Stock: 0 Tonne Bauxite Production: 390300 Tonnes Closing Stock: 0 Tonne	No stock observed during the visit.	
9g	Scrutiny of Annual return on sale value, Ex. Mine price &	As per annual return the Ex mine price is Rs 1233.87/- per	Appears to be	

	production cost	MT	correct.																									
9i	Scrutiny of Annual return on fixed assets	Value of Fixed assets: Rs. 72351843	-do-																									
9k	Scrutiny of Annual return on mining machineries	<table border="1"> <thead> <tr> <th>Type of machinery</th> <th>Capacity of each unit</th> <th>No. of units</th> </tr> </thead> <tbody> <tr> <td>SHOVEL (HYDRAULIC)</td> <td>0.9 CUM</td> <td>4</td> </tr> <tr> <td>SHOVEL (HYDRAULIC)</td> <td>1.6 CUM</td> <td>3</td> </tr> <tr> <td>AIR COMPRESSOR</td> <td>8.49 CUM/MIN</td> <td>2</td> </tr> <tr> <td>BLAST HOLE DRILL</td> <td>100 MM</td> <td>2</td> </tr> <tr> <td>DUMPER</td> <td>25 TONNES</td> <td>16</td> </tr> <tr> <td>WHEEL LOADER</td> <td>1.48 CUM</td> <td>2</td> </tr> <tr> <td>WATER TANKER</td> <td>12000 LITRES</td> <td>1</td> </tr> </tbody> </table>	Type of machinery	Capacity of each unit	No. of units	SHOVEL (HYDRAULIC)	0.9 CUM	4	SHOVEL (HYDRAULIC)	1.6 CUM	3	AIR COMPRESSOR	8.49 CUM/MIN	2	BLAST HOLE DRILL	100 MM	2	DUMPER	25 TONNES	16	WHEEL LOADER	1.48 CUM	2	WATER TANKER	12000 LITRES	1	Found in operation during the visit.	
Type of machinery	Capacity of each unit	No. of units																										
SHOVEL (HYDRAULIC)	0.9 CUM	4																										
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WATER TANKER	12000 LITRES	1																										

10- Details of violations observed during current inspection and compliance position of earlier violation-

During the previous inspection dated 22.12.2022 by Shri Deepak Chichkhede, ACOM no violation was pointed out.

During the current inspection, no serious violation was observed.

Date:

(D.Dash)

Regional Mining Geologist