

MCDR INSPECTION REPORT

General

File No- CHG/BLR/BXT/07CHG16003

S.N.	Particulars	Details
1	Name of the Mine Date of Inspection: Name of Inspecting Officer Accompanying Mine Official with Designation:	Tatijhariya Bauxite Mine, M/s Hindalco Industries Ltd. 04/11/2020 Rudra N. Mishra (Senior Mining Geologist) Shri Amit Tiwari (Mines Manager)
2	Total Lease Area (Ha) with breakup of Non-forest and forest land	Lease area –1218.762 ha Non-Forest- 704.743 Hact Forest – 514.019 Hact.
3	Mine code	07CHG16003
4	IBM Registration Number under rule 45 of MCDR,2017	IBM/935/2011
5	Name of the Lease, Address, Phone, email and fax number	Hindalco Industries Ltd. Renukoot (231217) Dist: Sonbhadra, U.P Ph.No.(05446)52077-79 Fax No (05446)521017 Email: bijeh.jha@adityabirla.com
6	Village	Tatijhariya
7	Taluka/Mandal	Kusmi
8	District	Balrampur-Ramanujganj
9	Pincode	497224
10	State	Chhattisgarh
11	Post Office	Samri
12	Nearest Police Station	Samri
13	Nearest Railway Station	Ambikapur
14	Date of Grant of Mining Lease	20.05.1998
15	Date of Execution	25.05.1998
16	Date of opening of Mine	01.04.2004
17	Date of First Renewal, if applicable and its period & expiry	As per MMDR Amendment Act,2015 section 8A, Validity of the lease period: 20/05/1998 to 19/05/2048 (Fifty years)
18	Date of Second Renewal, if applicable and its period & expiry	Not Applicable
19	Date of submission of renewal application if Mining Operations are continuing under deemed extension	Lease period has been extended up to 19/05/2048
20	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Shri K N Bhandari Aditya Birla Centers K Ahira Marg, Worli, Mumbai (MS) PIN – 400030 Email: knbhandari1942@gmail.com

		Date of appointment: 10/11/2011 Fax No. – 02266525801 Phone No. - 02266525000
21	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri R R P Ambastha Hindalco Colony, Post -Kusmi, District-Balrampur, Pin-497224 Mob- 09617779285 Date of Appointment –10.08.2018 Email-rajesh.ambastha@adityabirla.com
22	Name of the Mine Manager with Address, phone, email, fax number and date of appointment in mines	Shri Amit Tiwary Manager (Mines) Hindalco Industries Ltd., Kusmi, Tahsil – Kusmi Distt. – Balrampur- Ramanujganj (CG) Phone No. – 07778 274325 Mobile No: 7771007150 Email – amit.t@adityabirla.com Date of appointment:24/11/2015 Qualification: BTech (Mining) Total Experience:10 years
23	Name of the Mining Engineer, Qualification and total experience with address, phone, email, fax number and date of appointment in the mine	Shri Amit Tiwary Manager (Mines) Hindalco Industries Ltd., Kusmi, Tahsil – Kusmi Distt. – Balrampur- Ramanujganj (CG) Phone No. – 07778 274325 Mobile No: 7771007150 Email – amit.t@adityabirla.com Date of appointment:24/11/2015 Qualification: BTech (Mining) Total Experience:10 years
24	Whether Geologist and Mining Engineer appointment in mines satisfy the rule 55 & carrying out their duties as per rule 56 & 57.	Shri Tapas Gachhayat Manager (Geology) Hindalco Industries Ltd., Kusmi, Tahsil – Kusmi Distt. – Balrampur- Ramanujganj (CG) Phone No. – 07778 274325 Mobile No: - 9926727762 Email – tapas.gachhayat@adityabirla.com Date of appointment:08/06/2009 Qualification: M.Sc. (Geology)
25	Date of Approval of Mine Plan/Modified Mine Plan with five- year period and specific condition in approval letter, if any.	Mining Plan approved vide letter no. SRG/BX/MPLN-379/NGP Nagpur Dated 30/11/1994, Period: 1999-2000 to 2003-04
26	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 approved vide letter no . SRG/BXT/MPLN-379/NGP Nagpur Dated 20/01/2004, Period 2004-05 to 2008-09. Modified Scheme of Mining approved vide letter no. SRG/BXT/MPLN-379/NGP Nagpur

		Dated 29/06/2007, Period 2007-08 to 2008-09. 2 nd Scheme of Mining approved vide letter no. 314(3)/2009-MCCM(CZ)/MS-20 Nagpur Dated 31/08/2009, Period 2009-10 to 2013-14. 3 rd Scheme of Mining approved vide letter no. SRG/BX/MPLN-379/NGP Nagpur Dated 18/08/2015, Period 2014-15 to 2018-19. Modification of Mining Plan for the period 2017-18 to 2018-19 was approved on Dated 09.01.2018 vide letter no.-BLR/BX/MPLN-1134/2017-RPR. 4 th Scheme of Mining approved vide Approval Letter: Balrampur/BX/KHAYO-1171/2018/Raipur/1210, Period-(2019-20 to 2023-2024), Date- 28/11/2018
27	Mineral(s) granted in lease and approved for Mining	Bauxite
28	Method of Mining (Opencast, Underground)	Opencast
29	Category (Fully Mechanised, Others or Manual)	Category: A, Mechanised
30	Captive/Non-Captive	Captive mine
31	Environment Clearance	400000 tonnes (Dated: 09/08/2007)
32	Status of Financial Assurance as per rule 27 of MCDR,2017	Financial Assurance in the form of Bank Guarantee for Rs 5,34,79,500.00 /- (Rupees Five Crore Thirty-four lac seventy-nine thousand five hundred only) for the period of FY 2019-20 to 2023-24 submitted to IBM Raipur, BG No- 0544BGR0012518

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

Exploration

S.N.	Item	Proposals (2019-20)	Actual Work (2019-20)	Remarks
1a	Backlog of previous year	Nil	Nil	Exploration and Sampling work continued. 120 Bh proposed in 2018-19 approx 1800m
1b	Exploration over lease area for Geological axis 1 or 2.	Boreholes-941 Meterage: 11292m	Boreholes-1221 Meterage: 13192m	
1c	Exploration Agency & Expenditure in Lakh Rupees during the year	By Lessee (Hindalco Industries Limited)	By Lessee (Hindalco Industries Limited) & 2) M/s Southwest Pinnacle Exploration	

			Private Limited Rs. 33447575.8 (expenditure of in houses exploration)	drilling. Avg Bore Hole Length 15m.
1d	Balance area to be explored to bring Geological axis in 1 or 2.	Proposal not given in approved document	20.00 hect	
1e	Balance reserves as on 01.04.2020	Under 111: - 35826124 MT Under 122: - 367988 MT, Under 211: - 447200 MT Under 222: -7223 MT Under 333: -767472 MT		
1f	General remarks of Inspecting officer on geology, exploration etc.	<p>Laterite and accompanying Bauxite are exposed at places on plateau tops and slopes. Laterite and associated Bauxite are believed to be products of insitu chemical weathering of underlying basalts (Deccan traps) The Bauxite bearing laterite capping is found on the top of the basaltic plateau (Deccan traps). The Bauxite characteristics of this area is massive, sometimes pisolitic hard and compact, denser than the laterite vesicular and pitted, displays shades of light grey to pink colour.</p> <p>Tatijhariya blocks forms a part of Jamirapat region in Balrampur dist. Of Chhattisgarh. The area was investigated by the G.S. Lin in the year 1977-78.</p> <p>The arranges of compositions of laterite SiO₂: 6-12% and Al₂O₃: 20-30% Bauxite ranges of SiO₂: 1-5% & Al₂O₃: 31-58%. Exploration work will be continued and in phase manner entire lease area will be convert in G1 category</p>		

Development

S.N	Item	Proposals (2019-20)	Actual Work (2019-20)	Remarks
2a	Location of Development w.r.t. lease area	1) 2588108 to 2588389 N, 797996 to 798324 E 2) 2587517 to 2587769 N, 795922 to 796279 E 3) 2588948 to 2589161 N, 795850 to 796322 E 4) 2588532 to 2588652 N, 794000 to 794141 E 5) 258898 to 2589155 N, 793984 to 794244 E	1) 2588108 to 2588389 N, 797996 to 798324 E 2) 2587517 to 2587769 N, 795922 to 796279 E 3) 2588948 to 2589161 N, 795850 to 796322 E 4) 2588532 to 2588652 N, 794000 to 794141 E 5) 258898 to 2589155 N, 793984 to 794244 E	
2b	Separate benches in topsoil overburden and mineral (Rule 15)	O.B-1, Bauxite-1	O.B-1, Bauxite-1	

2c	Stripping ratio or ore to OB ratio	1: 2.22 For 2019-2020 year ORE= 393200 Tonne OB (Soft OB+ Hard OB) = 873347 Cum Stripping ratio= 873347/393200= 1: 2.22	1:1.3 For 2019-2020 year ORE= 383457 Tonne OB (Soft OB+ Hard OB) = 502749 Cum Stripping ratio= 502749/383457=1:1.3	
2d	Quantity of topsoil generation in m ³	599930 Cu.m	167583 Cum	
2e	Quantity of overburden generation in m ³	273417 Cu.m	335166 Cu.m	
2f	General remarks of Inspecting officer on development of pit w.r.t type of deposit etc.	Development is in order. The thickness of Bauxite occurs as lenses, bands or pockets of 0.5 to 3.5m, within laterite.		

Exploitation

S.N	Item	Proposals (2019-20)	Actual Work (2019-20)	Remarks
3a	Number of pits proposed for production	5	5	
3b	Quantity of Bauxite mineral production proposed (2019-20)	393200 Tonne	383457 Tonne	
3c	Recovery of Salable/usable mineral from ROM production	52%	51.24%	
3d	Quantity of mineral reject generation	157806 Cum	158663 Cum	
3e	Grade of mineral reject generation and threshold value declared	Al ₂ O ₃ – 30% SiO ₂ - >= 5%	Al ₂ O ₃ :24.59% SiO ₂ :12.61%, Fe ₂ O ₃ -41.72%, LOI-14.50% Threshold value: Al ₂ O ₃ :30.00 SiO ₂ >5.00	
3f	Quantity of sub-grade mineral generation	39320.0 Tonne	38345.7 Tonne	
3g	Grade of sub-grade mineral generation	Proposal not given in approved document	NIL	
3h	Manual/Mechanized method adopted for segregation from ROM	Manual	Manual	
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	NA	Characterization studies on Low grade Bauxite Ore to enhance Alumina Content by IMMT, Bhubaneswar	
3j	Provision of drilling & blasting in mineral benches	Yes	Yes	

3k	Provision of mining machineries in mineral benches	Yes	Yes		
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	21.16 Ha	11.314 Ha		
3n	Ore to OB ratio for the pit/mine during the year	1:2.22	1:1.3		
3o	Total area put in use under different heads at the end of year	153.895Ha	151.196 Ha		
3p	Production of Bauxite mineral during last five-years period, as Applicable (Tonns)	2015-16	743550	690729	
		2016-17	753282	565721.20	
		2017-18	752884	572898.50	
		2018-19	767637	385665.00	
		2019-20	393200	383457.50	
3q	General remarks of inspecting officer on method of mining etc	Bauxite is mined by Open cast with the help of Semi mechanized method. The Soil first removed by excavator having 0.9 cubic meter capacity. The morrum beneath the soil is if hard and laterite is drilled and blasted separately and removed by shovel dumper combination. There is no need for drilling in overburden as it is soft and easily lift out by excavator without blasting. Hence drilling is only required in Bauxite zone			

Solid Waste Management-Dumping

S.N.	Item	Proposals (2019-20)	Actual Work (2019-20)	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32,33)	Simultaneously reclamation of mined out area is practiced	Simultaneously reclamation of mined out area is practiced	
4b	Location of topsoil, OB & mineral reject dumps	Proposal not given in approved document	Proposal not given in approved document	
4c	Number of Dumps within lease area and outside lease area	Proposal not given in approved document	Proposal not given in approved document	
4d	Location of Dumps w.r.t. ultimate pit limit (Rule 16)	Proposal not given in approved document	Proposal not given in approved document	
4e	Number of Active & Alive dumps	Proposal not given in approved document	Proposal not given in approved document	
4f	Number of deed dumps	Proposal not given in approved document	1	

4g	Number of dumps established	Proposal not given in approved document	1	
4h	Whether Retaining wall or garland drain all along dumps are there	Proposal not given in approved plan	150x1x1(Retaining wall),20x1x1(garland drain)	
4i	Length of Retaining wall or garland drain all along dump	Proposal not given in approved document	NA	
4j	Number of settling ponds	Proposal not given in approved document	Proposal not given in approved document	
4k	Specific comments of inspecting officer on waste dump management	Waste is being back filled in Mined out Area. Concurrent backfilling system has been adopted and only top soil is dumped short period not kept more than six months to preserve its fertility		

Solid Waste Management-Backfilling

S.N.	Item	Proposals (2019-20)	Actual Work (2019-20)	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	full extraction of mineral	full extraction of mineral	
5b	Area under backfilling of mined out area	21.13Ha	10.662 Ha	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	Yes	Simultaneously carried out	
5d	Total area fully reclaimed & rehabilitated	147.166 Ha	133.894 Ha	
5e	General remarks of inspecting officer on backfilling, reclamation etc	It's a shallow depth mining. Full extraction of mineral and simultaneously backfilling carried out.		

Progressive Mine Closer Plan

S. N.	Item	Proposals (2019-20)	Actual Work (2019-20)	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	
6b	Management of worked/mined out benches	Proposal not given in approved document	Nil	
	Area available for rehabilitation (Ha)			
	Afforestation done (ha)			
	No. of saplings planted during the year			
	Cumulative no. of plants			

	Any other specific method of rehabilitation			
	Cost incurred on watch & care during the year			
6c	Compliance on reclamation and rehabilitation by backfilling i) Voids available for backfilling (L*B*D) ii) Void filled by waste/tailings iii) Afforestation on the backfilling iv) Rehabilitation by making water reservoir v) Any other specific means	i) 21.16 ha. ii) 21.13 ha iii) 14.26 ha iv) Nil v) Nil	i) 11.314ha ii) 10.662 ha iii) 18.97 ha iv) Nil v) Nil	
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitation iii) Method of rehabilitation	Nil	Nil	
6e	Compliance of Environment monitoring (core zone & buffer zone)	Proper Monitoring	Done in core-zone & buffer zone	
6f	General remarks of inspecting officer on PMCP compliance & progressive closer operations	PMCP proposal are implemented Less voids were backfilled because land owner's requested for reservoir for irrigation purpose.		

Mineral Conservation

S.N.	Item	Proposals (2019-20)	Actual Work (2019-20)	Remarks
7a	ROM mineral dispatch or grade wise sorting within lease area	Yes	Yes	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Manual Sorting	Manual Sorting	
7c	Different grade of mineral sort out at mine	Yes	Yes	
7d	Any beneficiation process at mines	No	No	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	Due to manual sorting of Bauxite its help to improve the grade. Screening will be good for the small size of ore.		

Environment

S.N.	Item	Proposals (2019-20)	Actual Work (2019-20)	Remarks
8a	Separate removal and utilization of topsoil (Rule32)	Spread on backfilled area for plantation	Spread on backfilled area for plantation	

8b	Concurrent use or storage of topsoil	Top soil used for restoration of Mined out Area	Top soil used for Restoration of Mined out Area	
8c	Separate dumps for overburden waste rock, rejects and fines (Rule 33)	Proposal not given in approved document	Proposal not given in approved document	
8d	Use of overburden, waste rock, rejects and fines dump for restoring the land to its original use	Reclaim by overburden, waste rock, rejects and fines	Reclaim by overburden, waste rock, rejects and fines	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Reclaim by overburden, waste rock, rejects and fines	Reclaim by overburden, waste rock, rejects and fines	
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	28520 Saplings (FY 2019-20)	32715 no. of Sapling covered 18.97 (Ha.) during the 2019-20	
8g	Survival rate	Not mentioned in approved document	75.21	
8h	Water sprinkling on roads to control airborne dust	yes	Proper Water sprinkling on Haul road	
8i	General remarks of inspecting officer on aesthetic beauty in and around mine area	EMP parameters are regularly being monitored. Top Soil spread the concurrent back filled area. Rate of survival is good because of best practices adopted by lessee; entire plantation area is fenced		

Compliance of Rule 45

S. N.	Item	Comments	Remarks
9a	Status of submission of monthly and Annual returns	M.R. Submitted up to–October -2020 A.R. submitted up to- 2019-20	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Yes, Mining Engineer: Shri Amit Tiwari Geologist: Shri Manoj Dixit Manager: Shri Amit Tiwari	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Open Cast Mining: 145.286 ha Area Under current working pit: 12.392 ha Reclaimed area: 133.894 ha Occupied by plant, building residential,	

		welfare building and roads:4.260ha Other purpose:0.00 ha Work done under progressive mine closure plan during the year: 26.150ha		
9d	Scrutiny of Annual return on afforestation	32715 no. of Sapling covered 18.97 (Ha.) during the 2019-20 , Survival Rate: 75.21%		
9e	Scrutiny of Annual return on mineral reject generation (Grade & Quantity)	215423 tone, Al ₂ O ₃ :24.59% SiO ₂ :12.61%, Fe ₂ O ₃ - 41.72%, LOI-14.50%		
9f	Scrutiny of Annual return on Bauxite stock and/or grade ore	Opening Stock: 00.00 tonne Bauxite Production: 383457.500 tonne Closing Stock: 0.00tonne		
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production costs	Ex- Mine Price i) 40% to below 45% Al ₂ O ₃ : Rs 950.98 Cost of Production: Rs 950.98		
9i	Scrutiny of Annual return on Fixed assets	Given		
9k	Scrutiny of Annual return on mining Machineris	Equipment	Nos	Capacity
Scrutiny of Annual return on mining Machineris	Shovel (Hydraulic)		3	0.900CUM
	Shovel (Hydraulic)		1	1.400CUM
	Air compressor		2	8.490CUM/MN
	Wheel Loader		2	1.480CUM
	Blast Host Drill		2	100.00MM
	Dumper		16	25.00Tonne
	Water Tanker		1	12000.00L

10.0 Details of Violations observed during current inspection

Compliance position of earlier violation pointed out: -. Earlier Violation has been considered as complied. During current inspection no serious violation observed. Star rating of mines evaluation also done.

Last Date of Inspection: 12/02/2020

Name of the Inspection Officer: Shri R K Das (Sr. ACOM), IBM Raipur

Date: 04/12/2020

Name: Rudra N Mishra

Designation: Senior Mining Geologist