

## MCDR INSPECTION REPORT

### General

File No – CHG/BLR/BXT/07MPR42005

S.N.	Particulars	Details
1	Name of the Mine Date of Inspection: Name of Inspecting Officer Accompanying Mine Official with Designation:	Samri Bauxite Mine, M/s Hindalco Industries Ltd. 26/11/2021 Shri B. L. Gurjar, Regional Controller of Mines & R. N Mishra (SMG) Shri Tapas Gachhayat (Geologist), Shri Amit Kumar Tiwari (Mines Manager)
2	Total Lease Area (Ha) with breakup of non-forest and forest land	Lease area –2146.746 ha Non-Forest- 1347.919 Hact Forest – 798.827 Hact.
3	Mine code	07MPR42005
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	Samri
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	24/06/1998
16	Date of opening of Mine	25/05/1999
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 1905/2048
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: <a href="mailto:knbhandari1942@gmail.com">knbhandari1942@gmail.com</a> 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 V.K.S Chauhan Hindalco Colony, Post -Kusmi, District-Balrampur, Pin-497224 Mob- 9921341888 Date of Appointment – 15.03.2021 <a href="mailto:Email-chauhan.vijaykumar@adityabirla.com">Email-chauhan.vijaykumar@adityabirla.com</a>
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 – <a href="mailto:amit.t@adityabirla.com">amit.t@adityabirla.com</a> Date of appointment:24/11/2015 Qualification: BTech (Mining) Total Experience:11 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 K K Singh Dy. Manager -Mines Hindalco Industries Ltd., Kusmi, Tahsil – Kusmi Distt. – Balrampur- Ramanujganj (CG) Phone No. – 07778 274325 Mobile No: -9285009634 Email – <a href="mailto:kamlesh.k.singh@adityabirla.com">kamlesh.k.singh@adityabirla.com</a> Date of appointment:29/07/2010 Qualification:BE (Mining) Total Experience:13years
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 Hindalco Colony, Post -Kusmi, District-Balrampur, Pin-497224 Email- <a href="mailto:tapas.gachhayat@adityabirla.com">tapas.gachhayat@adityabirla.com</a> Date of Appointment -08.06.2009
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-385/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 <sup>st</sup> Scheme of Mining approved vide letter no. SRG/BXT/MPLN-385/NGP Nagpur Dated 20/01/2004, Period 2004-05 to 2008-09. Modified Scheme of Mining approved vide letter no. SRG/BXT/MPLN-385/NGP Nagpur Dated 29/06/2007, Period 2007-08 to 2008-09. 2 <sup>nd</sup> 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 <sup>rd</sup> Scheme of Mining approved vide letter no. SRG/BX/MPLN-385/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 10.01.2018 vide letter no.-BLR/BX/MPLN-1135/2017-RPR.  4 <sup>th</sup> Scheme of Mining approved vide Approval Letter: Balrampur/BX/KHAYO-1170/2018/Raipur/1211, Period-(2019-20 to 2023-2024), Date- 27/11/2018
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, Fully Mechanised
30	Captive/Non-Captive	Captive mine
31	Environment Clearance	500000 tonnes (Dated: 27/07/2007)

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

**Exploration**

S.N.	Item	Proposals (2020-21)	Actual Work (2020-21)	Remarks
1a	Backlog of previous year	Nil	Nil	
1b	Exploration over lease area for Geological axis 1 or 2.	462  Meterage- 5544 mtrs	351  Actual Meterage- 4799 mtrs	Boreholes proposed from 2018-19 to 2020-21: 1914
1c	Exploration Agency & Expenditure in Lakh Rupees during the year	South West Pinnacle Pvt Limited and Hindalco Industries Limited.	South West Pinnacle Pvt Limited and Hindalco Industries Limited.  Expenditure incurred by in-house and outsource exploration- Rs. 7866255/-	Less bore hole drilled due to pandemic
1d	Balance area to be explored to bring Geological axis in 1 or 2.	Proposal not given in approved document	86.95 Ha in G3 Category	
1e	Balance reserves as on 01.04.2021	Under (111): 4850722 Tonnes Under (121): 0 Tonnes		

		Under (122): 1577028 Tonnes Under (211): 779745Tonne Under (221): 0 Tonnes Under (222): 280433 Tonnes Under (331): 0 Tonnes Under (332): 0 Tonnes Under (332): 1396027Tonne Under (334): 0 Tonnes	
1f	General remarks of Inspecting officer on geology, exploration etc.	Laterite and accompanying Bauxite are exposed at places on plateau tops and slopes. Laterite and associated Bauxite are belived 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. Samari blocks forms a part of Jamirapat region in Balrampur dist. Of chhattisgarh. Samri area was investigated by the G.S. Lin in the year 1977-78. The aranges of compositions of laterite SiO <sub>2</sub> : 6-12% and AL <sub>2</sub> O <sub>3</sub> : 20-30% Bauxite ranges of SiO <sub>2</sub> : 1-5% & Al <sub>2</sub> O <sub>3</sub> : 31-58%.	

### Development

S.N	Item	Proposals (2020-21)	Actual Work (2020-21)	Remarks
2a	Location of Development w.r.t. lease area	1) N 2596390-2596620, E 798447-798663 2) N2596180-2596360, E 798638-798926 3) N 2593640-2593890, E 801274-801524 4) N 2592480-2592840, E 801570-801859	1) N 2596390-2596620, E 798447-798663 2) N2596180-2596360, E 798638-798926 3) N 2593640-2593890, E 801274-801524 4) N 2592480-2592840, E 801570-801859	
2b	Separate benches in topsoil overburden and mineral (Rule 15)	Top Soil-1, O.B-1, Bauxite-1	Top Soil-1, O.B-1, Bauxite-1	
2c	Stripping ratio or ore to OB ratio	1: 2.85	1: 2.82	
2d	Quantity of topsoil generation in m <sup>3</sup>	1124433 Cu.m	121907.135 Cu.m	
2e	Quantity of overburden generation in m <sup>3</sup>	303135 Cu.m	284449.982 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. Samri mines are shallow in nature therefore maximum depth of 12.5m from surface level.		

## Exploitation

S.N	Item	Proposals (2020-21)	Actual Work (2020-21)	Remarks
3a	Number of pits proposed for production	4	4	
3b	Quantity of ROM mineral production proposed (2020-21)	499874 MT	331775 MT	
3c	Recovery of Salable/usable mineral from ROM production	52%	51.16%	
3d	Quantity of mineral reject generation	200618 Cu.m	137710.675 cu.m	
3e	Grade of mineral reject generation and threshold value declared	Al <sub>2</sub> O <sub>3</sub> – 30% SiO <sub>2</sub> - >= 5%	Al <sub>2</sub> O <sub>3</sub> :26.86% SiO <sub>2</sub> :14.73 %, Fe <sub>2</sub> O <sub>3</sub> -37.70%, LOI-13.97% Threshold value: Al <sub>2</sub> O <sub>3</sub> :30.00 SiO <sub>2</sub> >5.00	
3f	Quantity of sub-grade mineral generation	Proposal not given in approved document	33177 MT	
3g	Grade of sub-grade mineral generation	Below Cut of grade	Below Cut of grade	
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	27.2 Ha	10.411 Ha	
3n	Ore to OB ratio for the pit/mine during the year	1: 2.85	1: 2.82	
3o	Total area put in use under different heads at the end of year	Proposal not given in approved document	Open Cast Mining: 224.643 ha, Area Under current working pit: 38.272 ha Reclaimed area:	

				189.121 ha Occupied by plant, building residential, welfare building and roads:3.352ha Other purpose:4.182 ha, Waste disposal: 0.750ha, work done under PMCP during the year: 22.472 ha.	
3p	Production of Bauxite mineral during last five-years period, as Applicable (Tones)	2016-17	1184388	716846	
		2017-18	956954	683056	
		2018-19	499561	418555	
		2019-20	493686	425293	
		2020-21	499874	331775	
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 ans 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 (2020-21)	Actual Work (2020-21)	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	Proposal not	Proposal not given	

	dumps	given in approved document	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 document	Proposal not given in approved document	
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 (2020-21)	Actual Work (2020-21)	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	Fully reclaimed and plantation done over there	Fully reclaimed and plantation done over there	Due to thick zone of Bauxite pockets less area excavated so less area backfilled as per proposal.
5b	Area under backfilling of mined out area	27.12 Hect	10.604 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	Proposal not given in approved document	189.122 Ha.	
5e	General remarks of inspecting officer on backfilling, reclamation etc	Its a shallow depth mining. Due to thick zone of Bauxite pockets less area excavated so less area backfilled.		

**Progressive Mine Closer Plan**

<b>S. N.</b>	<b>Item</b>	<b>Proposals (2020-21)</b>	<b>Actual Work (2020-21)</b>	<b>Remarks</b>
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	1.Void available for Backfilling: 27.2 Ha 2.Void filled by Waste/Tailing: 27.12 Ha 3.Afforestation on the backfilled area: 13.61 Ha 4.Rehabilitation by Making water reservoir: Nil 5.Any other Specific means: Nil	1.Void available for Backfilling: 10.411 Ha 2.Void filled by Waste/Tailing: 10.604 Ha 3.Afforestation on the backfilled area: 16.918 Ha 4.Rehabilitation by Making water reservoir: 2.17 Ha 5.Any other Specific means: 2.5 Ha area has been converted into a bio-park	
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 owners 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 (2020-21)	Actual Work (2020-21)	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	Rate of servival is because of good practices adopted by lessee, entire plantation area is fenced.
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)	Afforestation on the backfilled area: 13.61 Ha, Sapling: - 27220	Afforestation on the backfilled area: 16.918 Ha Number of Sapling: - 50622	

8g	Survival rate	Proposal not given in approved document.	84%	
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.		

### Compliance of Rule 45

S. N.	Item	Comments			Remarks
9a	Status of submission of monthly and Annual returns	M.R. Submitted upto– October -2021			
		A.R. submitted upto- 2020-21			
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Yes, Mining Engineer: Shri K K Singh Geologist: Shri Tapas Kumar Gachhayat Manager: Shri Amit Tiwary			
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Open Cast Mining: 224.643 ha, Area Under current working pit: 38.272 ha, Reclaimed area: 189.121 ha Occupied by plant, building residential, welfare building and roads:3.352ha Other purpose:4.182 ha, Waste disposal: 0.750ha, work done under PMCP during the year: 22.472 ha.			
9d	Scrutiny of Annual return on afforestation	Number of Sapling: - 50622, Survival Rate: 84%			
9e	Scrutiny of Annual return on mineral reject generation (Grade & Quantity)	Nil,			
9f	Scrutiny of Annual return on Bauxite stock and/or grade ore	Opening Stock: 00.00 tonne Bauxite Production: 331775.00 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 <sub>2</sub> O <sub>3</sub> : Rs 1048.20, i) 45% to below 50% Al <sub>2</sub> O <sub>3</sub> : Rs 1054.45 Cost of Production: Rs 1052.61			
9i	Scrutiny of Annual return on Fixed assets	Given			
9k	Scrutiny of Annual return on mining Machineris	Equipment	Nos	Capacity	
		Shovel (Hydraulic)	5	0.900CUM	

Scrutiny of Annual return on mining Machineries	Shovel (Hydraulic)	2	1.600CUM	
	Shovel (Hydraulic)	1	2.690CUM	
	Air compressor	1	9.06CUM/MN	
	Air compressor	2	8.490CUM/MN	
	Blast Host Drill	2	100.00MM	
	Dumper	16	25.00Tonne	
	Dumper	02	35.00Tonne	
	Wheel Loader	2	1.700CUM	
	Water Tanker	1	12000.00L	

### 10.0 Details of Violations observed during current inspection

No Serious violation pointed out.

Compliance position of earlier violation pointed out: -. Earlier Violation has been considered as complied.

Last Date of Inspection: 05/11/2020

Name of the Inspection Officer: Rudra N. Mishra (Senior Mining Geologist)

Date: 22/11/2021

Name: Shri B. L. Gurjar

Designation: Regional Controller of Mines