

# MCDR INSPECTION REPORT

## 1.0 GENERAL

SN	Particulars	Details
1	Name of inspecting office & designation	R.K. Das, Senior Assistant Controller of Mines
2	Date of inspection	14-10-2018
3	Name of the Mine	Tatijharia Bauxite Mine
4	Total Lease Area (Ha) with breakup of Non-forest and forest land	1218.762 Hact. ( Non-Forest- 704.743 Hact., Forest – 514.019 Hact.)
5	Mine Code	07CHG16003
6	IBM Registration Number under rule 45 of MCDR, 1988	IBM/935/2011
7	Name of the lessee, Address, phone, email and fax number	<b>M/s Hindalco Industries Ltd</b> Registered Office Address:- Ahura Centre, 1st Floor-Wing Mahakali Caves Road Andheri (east), Mumbai 400093, State: Maharashtra, India Phone +912266626666 Fax +912266917001. Mobile No.9617779285 Email ID: <a href="mailto:rajesh.ambastha@adityabirla.com">rajesh.ambastha@adityabirla.com</a>
8	Village	Tatijharia, Betpani, Gopatu etc.
8	Taluka / Mandal / District	Kusmi, Distt. – Balrampur-Ramanujganj
10	State	Chhattisgarh
11	Post office & PIN	Kusmi & 497224
12	Nearest police station	Samri (Kusmi)
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	NA
18	Date of second Renewal, if applicable and its period & expiry	NA
19	Date of submission of renewal application if Mining Operations are continuing under deemed extension	Lease period has been extended up to 24.06.2048
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 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 Amabstha Agent of Mines Hindalco Industries Ltd., Kusmi, Tahsil – Kusmi

		Distt. – Balrampur- Ramanujganj (CG) Phone No. – 07778 274326 Email – rajesh.ambastha@adityabirla.com
22	Name of the Mines 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 274326 Email- amit.t@adityabirla.com

23	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Shri Amit Tiwary Manager (Mines) Hindalco Industries Ltd., Kusmi, Tahsil – Kusmi Distt. – Balrampur- Ramanujganj (CG) Phone No. – 07778 274326 Email- amit.t@adityabirla.com
24	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 55 & carrying out their duties as per rule 56 & 57 of MCDR, 2017 during 2017-18	Shri Manoj Dixit Geologist Hindalco Industries Ltd., Kusmi, Tahsil – Kusmi Distt. – Balrampur- Ramanujganj (CG) Phone No. – 07778 274325 Email – manoj.dixit@adityabirla.com
25	Date of Approval of Mining Plan/Modified Mining Plan with five-year period and specific condition in approval letter, if any.	30.11.1994 SRG/BX/MPLN-379/NGP
26	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five-year period and specific condition in approval letter, if any.	Balrampur/baux/khayo-1134/2017/RPR ,Dated 09-01.2018
27	Mineral(s) granted in lease and proved for mining	Bauxite
28	Method of Mining(Opencast, Underground)	Opencast
29	Category (Fully Mechanised, Others or Manual)	Category A (OTFM)
30	Captive/Non Captive	Captive

### **1.0 Exploration**

SN	Item	Proposals (2017-18)	Actual Work (2017-18)	Remarks
1a	Backlog of previous year	Nil	Nil	
1b	Exploration over lease area for Geological axis 1 or 2.	45 Bore Hole	202 Bh drilled	
1c	Exploration Agency & Expenditure in lakh Rupees during the year	By lessee	By lessee ( Hindalco Industries Limited ) 2) M/s Southwest Pinnacle Exploration Private Limited 2.0cr ( expenditure of In houses exploration)	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Out of total Balance area of 544 hect., 11.59 hect to be explored during the plan period 2017-18.	70.0hect have been explored during the 2017-18 by M/s Southwest Pinnacle Exploration Private Limited.	
1e	Balance reserves as on 01.08.2018	Under 111: - 1087645MT Under 122: - 367988MT, Under 221: - 27711MT Under 222: -7223 MT Under 333: -1115872 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. 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% &amp; Al<sub>2</sub>O<sub>3</sub>: 31-58%. Exploration work will be continued and in phase manner entire lease area will be convert in G1 category</p>		

## 2.0 Development

SN	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t. lease area	BP1,PP1,PP2 ,PP3 ,TJ1 BP1:- 2588200N-2589400N&793600 E-794400E  PP2:-2587400N-2588200N &796000E-796400E  TJ1:-2588200N-2588600 & 798000E-798400E  PP1:-2589400N-2590200N & 794800E-795600E	BP1,PP1,PP2 ,TJ1  BP1:- 2588200N-2589400N&793600E-794400E  PP2:-2587400N-2588200N &796000E-796400E  TJ1:-2588200N-2588600 & 798000E-798400E  PP1:-2589400N-2590200N & 794800E-795600E	
2b	Separate benches in topsoil, overburden and mineral (Rule 13 of MCDR, 2017)	OB-1 Bauxite-1	OB-1 Bauxite-1	
2c	Stripping ratio or ore to OB ratio	1:2	1:2.68	
2d	Quantity of topsoil generation in m3	292540	104585	
2e	Quantity of overburden generation in m3	829021	417366	
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	Development is broadly in order.		

## 3.0 Exploitation

SN	Item	Proposals	Actual work	Remarks
3a	Number of pits proposed for production	5	4	
3b	Quantity of ROM mineral production proposed	752884 MT	572898.500 MT	
3c	Recovery of salable/usable mineral from ROM production	52.51%	62%	
3d	Quantity of Quarry waste ( below the Threshold value declared	357545 MT	215423 MT	
3e	Grade of Quarry waste 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> – 24.59 % SiO <sub>2</sub> – 12.61 %	
3f	Quantity of sub-grade mineral generation			
3g	Grade of sub-grade mineral generation		Al <sub>2</sub> O <sub>3</sub> %<35, SiO <sub>2</sub> %<5	

3h	Manual / Mechanised method adopted for segregating from ROM	Manual	Manual	
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	NA	Analysis & study carried out by IMMT	
3j	Provision of drilling & blasting in mineral benches	YES	YES ( Because of hard & compact formation)	
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	23.451Hect	11.863 Hect	
3n	Ore to OB ratio for the pit/mine during the year	1:2.0	1:2.68	
3o	Total area put in use under different heads at the end of year	35.718 hect to be put in use during the plan period 2017-18 & 2018-19	17.082 hect	
3p	Production of ROM mineral during last five-year period, as applicable (In Metric Tonnes)	Yr-2013-14: -  Yr-2014-15: 372160 MT  Yr-2015-16: 743550 MT  Yr-2016-17: 753282 MT  Yr. 2017-18 752884 MT	Yr-2013-14: 641984 MT  Yr-2014-15: 372160 MT  Yr-2015-16: 690729 MT  Yr-2016-17: 565721.200 MT  Yr.2017-18 572898.500MT	
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 0.9cubic 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		

#### **4.0 Solid Waste Management-Dumping**

SN	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 36, 37 of MCDR, 2017)	NA	Simultaneously reclamation done at mined out area.	
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 14 of MCDR, 2017)	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 dead dumps	Proposal not given in approved document	1	
4g	Number of dumps stabilised	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	150x1x1(Retaining wall) 20x1x1(garland drain)	
4i	Length of Retaining wall or garland drain all along dump	Proposal not given in approved document	Proposal not given in approved document	
4j	Number of settling ponds	Proposal not given in approved document	Proposal not given in approved document	
4k	Specific comments of inspecting officer	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 for preserving its fertility.		

### **5.0 Solid Waste Management-Backfilling**

SN	Item	Proposals	Actual work	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	16.937 (Ha.)	11.353 (Ha.)	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 36 of MCDR, 2017)	YES	Simultaneously carried out	
5d	Total area fully reclaimed & rehabilitated		108.467hect	

5e	General remarks of inspecting officer on backfilling, reclamation etc	It is shallow depth mining. Full extraction of mineral and simultaneously backfilling carried out.
----	---	--

### 6.0 Progressive Mine Closure Plan

SN	Item	Proposals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly - Rule 26(2) of MCDR, 2017. Details should be given in the format as given in Annexure-20.	Submitted	Submitted	
6b	Management of worked/mined out benches i) Area available for rehabilitation (ha) ii) Afforestation done (ha) iii) No. of saplings planted during the year iv) Cumulative no. of plants v) Any other specific method of rehabilitation vi) Cost incurred on watch & care during the year	Nil	Nil	
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	i) 23.451 (Ha) ii) 16.937 (Ha) iii) 3.540 (Ha)	i) 11.863(Ha) ii) 11.353(Ha) iii) 3.540 (Ha)	

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)	Air, Soil and Noise monitoring carried out by ANACON LABS certified by government.	Air, Soil and Noise monitoring carried out by ANACON LABS certified by government.	
6f	General remarks of inspecting officer on PMCP compliance & progressive	PMCP proposal are implemented		

--	--	--

## **7.0 Mineral Conservation**

SN	Item	Proposals	Actual work	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 sorted out at mines	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.		

## **8.0 Environment**

SN	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	YES	YES	
8b	Concurrent use or storage of topsoil	Top soil use for restoration of mined out area.	Top soil use for restoration of mined out area.	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	NO	NO	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Mined out area is reclaimed by OB, Reject & Soil.	Mined out area is reclaimed by OB, Reject & Soil	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Reclaim by overburden, rejects and fines	Mined out area simultaneously reclaimed by OB, Rejects, Waste and Soil.	
8f	Baseline information on existence of plantation & additional plantation done (Rule 44 of MCDR, 2017)		8868 no. of Sapling covered 3.540 (Ha.) during the 2017-18  Total no. of sampling 87793 covered total 35.600 hect since mine operation to	



			till date	
8g	Survival rate		84%	
8h	Water sprinkling on roads to control airborne dust	YES	YES	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines are	EMP parameters are regularly being monitored. Top Soil spread the concurrent back filled area.		

### **Compliance of Rule 45**

<b>S. N.</b>	<b>Item</b>	<b>Comments</b>			<b>Remarks</b>
9a	Status of submission of monthly and Annual returns	M.R. Submitted upto-June -2018 A.R. submitted upto- 2017-18			
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Yes, Mining Engineer: Shri Amit Tiwary Geologist: Shri Tapas 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: 120.732ha Area Under current working pit: 16.065ha Reclaimed area: 108.467ha 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: 10.678ha			
9d	Scrutiny of Annual return on afforestation	8868 nos, Servival Rate: 84%			
9e	Scrutiny of Annual return on mineral reject generation (Grade & Quantity)	215423 tone, Al <sub>2</sub> O <sub>3</sub> :24.59%SiO <sub>2</sub> :12.61%, Fe <sub>2</sub> O <sub>3</sub> -41.72%, LOI-14.50%			
9f	Scrutiny of Annual return on ROM stock and/or grade ore	Opening Stock: 00.00 tonne ROM Production: 572898.500 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 <sub>2</sub> O <sub>3</sub> : Rs 851.92 Cost of Production: Rs 854.32			
9i	Scrutiny of Annual return on Fixed assets	Given			
9k	Scrutiny of Annual return on mining Machinerics	Equipment	Nos	Capacity	

Scrutiny of Annual return on mining Machineries	Shovel (Hydraulic)	4	0.900CUM	
	Shovel (Hydraulic)	1	1.280CUM	
	Air compressor	1	8.490CUM/MN	
	Air compressor	1	12.700CUM/MN	
	Blast Host Drill	3	100.00MM	
	Dumper	16	25.00Tonne	
	Water Tanker	1	12000.00L	
	Wheel Loader	1	1.480CUM	

10- Details of violations observed during current inspection and compliance position of earlier violation pointed out:- The present inspection is done for Review of Mining Plan and during inspection no serious violation found.

During last inspection dated 05.07.2018 by Shri R.N.Mishra, SMG violation under Rule 45 pointed out and same considered as complied.

Name: Rajesh Kumar Das  
Designation: Senior Assistant Controller of Mines