

| MCDR REPORT | | |
|-------------|--|--|
| 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 | 18.10.2023 |
| 4 | Date of Last Inspection & Officer | 21.12.2022, Shri Deepak Chinchkhede, Assistant Controller of Mines, Indian Bureau of Mines, Raipur |
| 5 | Accompanying mine personnel | Mr. Vipin Sharma (Mines Manager) Ms. Doyel Mukherjee (Geologist) |
| 6 | Name of the Mine | Kudag Bauxite Mine |
| 7 | Total Lease Area (Ha) with breakup of Non-forest and forest land | 377.116 Ha Under Non-forest-253.007 Ha Under forest-124.109 Ha |
| 8 | Mine code | 07MPR42004 |
| 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 ,1 st Floor,B-Wing,Mahakali Caves Road, Andheri (East),Mumbai400093,India, Ph No- 02266525000, Fax No- 02266525801, Email- Prateek.kumar@adityabirla.com |
| | Village | Kudag |
| | Taluka/Mandal | Balrampur |
| | District | Chhattisgarh |
| | Pincode | 497222 |
| | State | Chhattisgarh |
| | Post office | Samripat |
| 11 | Nearest police station | Samri |
| 12 | Nearest Railway station | Ambikapur |
| 13 | Date of Grant of Mining Lease | 23/10/1996 |
| 14 | Date of Execution | 24.12.1996 |
| 15 | Date of opening of Mine | 02.07.1997 |
| 16 | Weekly day of rest | Sunday |
| 17 | Date of first Renewal, if applicable and its period & expiry | Lease period Extended up to 23/12/2046 Date- 16/07/2016 |
| 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 | Shri V.K.S Chauhan, Hindalco Colony, Post - |

| | | |
|----|---|--|
| | Address, phone, email, fax number and date of appointment | 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 Vipin Sharma, BE in Mining, Hindalco Colony, Post -Kusmi, District-Balrampur, Pin-497224, Mob- 6262029369, Date of Appointment –02.05.2022, Total Experience: 10 Years Email- Vipin.m.sharma@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 Ashutosh Behera, B.Tech Mining Hindalco Colony, Post -Kusmi, District-Balrampur, Pin-497224, Mob- 9522234442, Date of Appointment –01.04.2022, Total Experience: 10 Years, Email- Ashutosh.behera@adityabirla.com Ms. Doyel Mukherjee Qualification: M.Sc in Applied Geology from NIT Rourkela Total Experience 5 years. |
| 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 was approved vide letter no. RG/BX/MPLN/383/NGP dated 29.11.1994 for the period from 1997-98 to 20001-02 |
| 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 letter no. SRG/BXT/MPLN-383/NGP Nagpur dated 10.02.2003 for the period from 2002-03 to 2006-07. Modified Scheme of Mining was approved letter no. SRG/BXT/MPLN-383/NGP Nagpur dated 17.08.2005 for the period from 2004-05 to 2006-07. 2 nd Scheme of Mining was approved letter no. SRG/BXT/MPLN-383/NGP Nagpur dated 17.08.2007 for the period from 2007-08 to 2011-12. 3 rd Scheme of Mining was approved letter no. SRG/BXT/MPLN-383/NGP Nagpur dated 30.01.2013 for the period from 2012-13 to 2016-17. 4 th Scheme of Mining was approved letter no. SRG/BXT/MPLN-383/NGP/2016/25-Raipur dated 31.08.2016 for the period from 2017-18 to 2021-22. 5 th Scheme of Mining was approved vide letter no. Balrampur/Baux/Khayo-1295/2021-Raipur dated 26.11.2021 for the period from,2022-23 to 2026-27. |
| 25 | Mineral(s) granted in lease and | Bauxite |

1/31925/2024

| | | |
|----|---|--|
| | proved for mining | |
| 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: | 60000 tonne DOI: 27.07.2007 |
| 30 | FA amount Rs Valid up to: | Rs-1,03,35,000/- Valid up to 31 st March 2028 |

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

1.0 EXPLORATION

| S N | ITEM | PROPOSALS (2022-23) | ACTUAL WORK (2022-23) | REMARKS |
|--------|--|---|---|---|
| 1a | Backlog of previous year | Boreholes: 140 Meterage: 1680 | Boreholes: 143 Meterage: 1562 | .As per proposal. Balance area of 61.5 ha area is to covered under G1 scale of exploration during the period from 2022-23 to 2023-24. |
| 1b | Exploration over lease area for Geological axis 1 or 2. | G1 | G1 | |
| 1c | Exploration Agency & Expenditure in lakh Rupees during the year | Nil | M/s Hindalco Industries Ltd | |
| 1d | Balance area to be explored to bring Geological axis in 1 or 2 | Not specific | Nil | |
| 1e | Balance reserves as 01.04. 2023 | (111): (122): (222): (331): | 989560 Tonnes 1368169 Tonnes 697394 Tonnes 116905 Tonnes | |
| 1f | General remarks of inspecting officer on geology, exploration etc. | Total 210.88 ha area has been covered under G1 scale of exploration. About 166.23 ha of G2 scale of exploration area needs to be covered G1 scale of exploration. In the approved Review of Mining Plan, proposal for 99 hect area (existing G2 scale of exploration) is proposed for exploration under G1 scale of exploration by pitting during 2024-25 to 2026-27 and 61.5 ha area of G2 scale of exploration is proposed for exploration by drilling during the year 2022-23 to 2023-24. During the year 2022-23, exploration in form of 140 boreholes has been | | |

| | |
|--|--|
| | proposed, against which 143 boreholes have been drilled. |
|--|--|

2.0 DEVELOPMENT

| S N | ITEM | PROPOSALS (2022-23) | ACTUAL WORK (2022-23) | REMARKS |
|-----|---|---|--|--|
| 2a | Location of development w.r.t. lease area | 1. E804915-805079, N2599169-2599478 2. E805062-80534, N2599667-2600043 | 1. E804920-805060, N2599164-2599364 2. E805080-805199, N2599723-2599889 | Development of quarries are within the proposed quarry area. |
| 2b | Separate benches in topsoil, overburden and mineral (Rule 15) | Yes | Yes | As per the plan |
| 2c | Stripping ratio or ore to OB ratio | 1:3.68 | 1:3.80 | Indicates higher development. |
| 2d | Quantity of topsoil generation in Tonnes | 726951.64 | 28253.35 | Bulk density of Top soil- 1.22 |
| 2e | Quantity of overburden generation in MT | 540587.52 | 103750.02 | 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 is within the proposed area as per approved Mining Plan. | | |

3.0 EXPLOITATION

| S. N. | ITEM | PROPOSAL (2022-23) | ACTUAL WORK (2022-23) | REMARK |
|-------|---|--------------------|-----------------------|---|
| 3a | Number of pits proposed for production | 2 | 2 | As per proposal. |
| 3b | Quantity of mineral production proposed | 59831 Tonne | 43800 Tonne | Production is on lower side due to lack of land acquisition. |
| 3c | Recovery of saleable/usable mineral from production | 49.00% | 49 % | Recovery study done. |
| 3d | Quantity of mineral reject generation | 26386.44 Cu.m | 19802.08 Cu.m | Intercalated waste generated which are below threshold limit. |

1/31925/2024

| | | | | | | |
|----|---|---|---|------------------------------|---------------------|---------------------------------------|
| 3e | Grade of mineral reject generation and threshold value declared | Below threshold value Threshold Value: AL2O3-30% | Below threshold value Average grade- 22.67% Al2O3 Threshold Value: AL2O3-30% | | | |
| 3f | Quantity of sub-grade mineral generation | NIL | NIL | | | |
| 3g | Grade of sub-grade mineral generation | NA | NA | | | |
| 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 | 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 | Found in operations during the visit. |
| | | | SHOVEL (HYDRAULIC) | 0.9 CUM | 2 | |
| | | | AIR COMPRESSOR | 392 CUM/MIN | 1 | |
| | | | BLAST HOLE DRILL | 100 MM | 1 | |
| | | | DUMPER | 25 TONNES | 4 | |
| | | | WHEEL LOADER | 1.480 CUM | 1 | |
| | | | WATER | 12000 LITRE | 1 | |

I/31925/2024

| | | | TANK ER | S | | |
|----|--|--|--|---|---|--|
| 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 | 97.812 Ha | 78.476 Ha | | Dur to lack land area acquisition. | |
| 3n | Ore to OB ratio for the pit/mine during the year | 1:3.68 | 1:3.80 | | Indicates higher development. | |
| 3o | Total area put in use under different heads at the end of year | Not specific | 1. Area under current working pit: 2.544Ha 2. Reclaimed area: 71.307Ha 3. Occupied by plant, building and roads: 3 Ha 4. Other purpose: 0 Ha 5. Waste Disposal: 3 Ha 6. Work done under PMCP during the year: 3.419 Ha 7. Total area put to use- 81.857 Ha | | .As per Annual return for the year 2022-23 submitted. | |
| 3p | Production of mineral during last Three -year period, as applicable (tones) | 2018-19: 121177 2019-20: 55761 2020-21: 35476 2021-22: 58759 2022-23: 59831 | 108070 47832 17380 56100 43800 | | The production during last five years is on lower side than proposed due lack of land area acquisition. | |
| 3q | General remarks of inspecting officer on method of mining etc. | During the year 2022-23, 02 quarries were proposed in approved Plan, against quarry development has been developed in 02 quarries as proposed. | | | | |

4.0 SOLID WASTE MANAGEMENT-DUMPING

| S N | 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 | |
| 4c | Number of dumps within lease area and outside lease area | Nil | Nil | |
| 4d | Location of dumps w.r.t. ultimate pit limit (Rule 16) | Nil | Nil | |
| 4e | Number of active & alive dumps | Nil | Nil | |
| 4f | Number of dead dumps | Nil | Nil | |
| 4g | Number of dumps stabilized | Nil | Nil | |
| 4h | Whether Retaining wall or garland drain all along dumps are there | Nil | Nil | |
| 4i | Length of Retaining wall or garland drain all along dump | Nil | Nil | |
| 4j | Number of settling ponds | Nil | Nil | |
| 4k | Specific comments of inspecting officer | No waste dumps in the lease area since backfilling of mined out quarries are carried out simultaneously. | | |

5.0 SOLID WASTE MANAGEMENT-BACKFILLING

| S N | 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- 5.48 Ha Reclaimed- 3.63 Ha | Mined out- 2.544 Ha Reclaimed- 1.9 Ha | Less area mined out due to lack of land area acquisition. |
| 5b | Area under backfilling of | 3.63 Ha | 1.9 Ha | Less area |

I/31925/2024

| | | | | |
|----|---|---|---------------|--|
| | mined out 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 3.63 Ha | Yes 1.9 Ha | Concurrent use of top soil. During 2022-23 total 28253.35 MT quantity is being used. |
| 5d | Total area fully reclaimed & rehabilitated | 87.707 Ha | 71.307 Ha | |
| 5e | General remarks of inspecting officer on backfilling, reclamation etc | Simultaneous backfilling of mined quarry are carried out. Less area is mined out against the proposed area in approved plan due to lack of land area acquisition. | | |

6.0 PROGRESSIVE MINE CLOSURE PLAN

| S N | ITEM | PROPOSAL S (2022-23) | ACTUAL WORK (2022-23) | REMA RKS |
|----------------|--|-------------------------------------|--------------------------------------|--|
| 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 on dated 29.06.2023. |
| 6b | Management of worked/mined out benches i) Area available for rehabilitation (ha) | 3.63 | 1.9 | |
| | ii) Afforestation done (ha) | 1 | 1.519 | |
| | iii) No. of saplings planted during the year | 2500 | 6020 | |

| | | | | |
|----|--|--|--|----------|
| | iv) Cumulative no. of plants | NA | 142875 | |
| | v) Any other specific method of rehabilitation | Nil | Kudag Botanical garden developed on 1.4 Ha of reclaimed land | |
| | vi) Cost incurred on watch & care during the year | Nil | Rs. 12.22 Lac | |
| 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). Void available for Backfilling:- 3.63 Ha ii) Void filled by waste/tailings : NA iii)Afforestation on the backfilled area- 1 Ha iv)Rehabilitation by making water reservoir - Nil v)Any other specific means- Nil | i.Void available for Backfilling: 1.9 Ha ii) Void filled by waste/tailings: NA iii) Afforestation on the backfilled area- 1.519 Ha iv) Rehabilitation by making water reservoir - Nil v) Any other specific means- Nil | |
| 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) | Complied | Complied | Complied |

I/31925/2024

| | | | | |
|----|--|--|--|--|
| | | | | |
| 6f | General remarks of inspecting officer on PMCP compliance & progressive | Progressive Mine Closure plan are implemented as proposed. | | |

7.0 MINERAL CONSERVATION

| S N | ITEM | PROPOSAL S (2022-23) | ACTUAL WORK (2022-23) | REMARKS |
|--------|--|---|-----------------------------|---------|
| 7a | ROM Mineral dispatch or grade-wise sorting within lease area | Proposed | Done as proposed. | |
| 7b | Method of grade-wise mineral sorting i.e. manual or mechanical | Manual | Manual | |
| 7c | Different grade of mineral sorted out at mines | Yes | Yes | |
| 7d | Any beneficiation process at mines | Nil | Nil | |
| 7e | General remarks of inspecting officer on Mineral conservation & beneficiation issues | Manual sorting and screening of run of mine ore are carried out as proposed in approved Plan. | | |

8.0 ENVIRONMENT

| S N | ITEM | PROPOSALS (2022-23) | ACTUAL WORK (2022- 23) | REMARKS |
|--------|---|---|--|--|
| 8a | Separate removal and utilization of topsoil (Rule 32) | 726951.64 MT | 28253.35 MT | Top soi are spread over backfilled area. |
| 8b | Concurrent use or storage of topsoil | 726951.64 MT | 28253.35 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 | Simultaneousl y backfilling of the mined out area by the | Simultaneously backfilling of the mined out area by the use | |

| | | | | |
|----|---|--|---|---|
| | | use of overburden, rejects and fine dumps for restoring the land to its original use. | of overburden, rejects and fine dumps for restoring the land to its original use. | Restoration of the land is proportionate to mined out land available and quantity of top soil generated. 146 plants planted outside lease area |
| 8e | Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc) | 3.63 Ha | 1.9 Ha | |
| 8f | Baseline information on existence of plantation & additional plantation done (Rule 41) | Afforestation: 1 Ha Total plantation: 2500 | Afforestation: 1.519 Ha Total plantation: 6020 | |
| 8g | Survival rate | 85% | 87.1 % | |
| 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 | The generated Top soil are simultaneously spread over backfilled. The restored area during the year 2022-23 is on lower side than proposed due to lack of land area acquisition. | | |

9.0 COMPLIANCE OF RULE 45

| S. N. | Item | Details Given in A.R. | Observation of I/Officer | Remarks |
|-------|---|--|---|---------|
| 9a | Status of submission of monthly and Annual returns | Monthly Returns submitted up to – Sep 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 | Mining Engineer: Shri Ashutosh Behera Geologist: Ms. Doyel Mukherjee Manager: Shri Vipin | Officers were present during the mine inspection. | |

| | | Sharma | | | |
|----|---|---|---------------------|---------------|-------------------------------------|
| 9c | Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. | As per annual return 1. Area under current working pit: 2.544Ha 2. Reclaimed area: 71.307Ha 3. Occupied by plant, building and roads: 3 Ha 4. Other purpose: 0 Ha 5. Waste Disposal: 3 Ha 6. Work done under PMCP during the year: 3.419 Ha | | | Appears to be correct. |
| 9d | Scrutiny of Annual return on afforestation | As per annual return Number of Saplings: 6020 Survival rate: 87.1% | | | Appears to be correct. |
| 9e | Scrutiny of Annual return on mineral reject generation (Grade & quantity) | NIL | | | |
| 9f | Scrutiny of Annual return on ROM stock and/or graded ore | Opening Stock: 0 Tonne Bauxite Production: 43800 Tonnes Closing Stock: 0 Tonne | | | No stock observed during the visit. |
| 9g | Scrutiny of Annual return on sale value, Ex. Mine price & production cost | As per annual return Ex-Mine Price: Rs 1435.78/MT. Cost of Production: Rs. 1435.78 | | | Appears to be correct. |
| 9i | Scrutiny of Annual return on fixed assets | As per annual return the fixed asset is Rs 72654312/- | | | Appears to be correct. |
| 9k | Scrutiny of Annual | Type of machin | Capacit y of | No. of | Found |

I/31925/2024

| return on mining machineries | ery | each unit | units | operation during the visit. |
|------------------------------|--------------------|--------------|-------|-----------------------------|
| | SHOVEL (HYDRAULIC) | 0.9 CUM | 2 | |
| | AIR COMPRESSOR | 392 CUM/MIN | 1 | |
| | BLAST HOLE DRILL | 100 MM | 1 | |
| | DUMPER | 25 TONNES | 4 | |
| | WHEEL LOADER | 1.480 CUM | 1 | |
| | WATER TANKER | 12000 LITRES | 1 | |

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

During the previous inspection on 21.12.2022, no violation was pointed.

During the current inspection, no serious violation is pointed out.

Date:

(D.Dash)

Regional Mining Geologist