

**INDIAN BUREAU OF MINES
MINERALS DEVELOPEMMENT AND REGULATION DIVISION**

MCDR inspection REPORT

Goa regional office

Mine file No : MAH/KLP/BX-14/GOA

Mine code : 07MSH13017

- (i) Name of the Inspecting : **SP01**) **SURESH PRASAD**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Mine Manger Mr S.K.Soni
Official with
Designation
- (iv) Date of Inspection : 17-MAR-21
- (v) Prev.inspection date : 27-NOV-19

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **DHANGARWADI**
- (b) **Registration NO.** : **IBM/935/2011**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address :
State : MAHARASHTRA
District : KOLHAPUR
Village : DHANGARWADI
Taluka : DHANGARWADI
Post office : SHAHUWADI
Pin Code : 416514
FAX No. : 02320-215301
E-mail : mainak_c@adityabirla.com
Phone : 02320-202072
- (f) Police Station : SHAHUWADI
- (g) First opening date : 27-APR-09
- (h) Weekly day of rest : SUN
2. Address for : HINDALCO INDUSTRIES LIMITED
correspondance : DHANGARWADI MINES, SHAHUWADI 416 212
KOLHAPUR DISTRICT, MAHARASHTRA
3. (a) Lease Number : MSH0371
- (b) Lease area : 41.8
- (c) Period of lease : 50
- (d) Date of Expiry : 04-MAY-58
4. Mineral worked : BAUXITE Main

5. Name and Address of the

Lessee : HINDALCO INDUSTRIES LIMITED
 Ahura Centre, 1st Floor, B
 wing, MC Rd Andheri
 (East), Mumbai MAHARASHTRA
 MUMBAI (SUBURBAN)
 MAHARASHTRA
 Phone: 022-66917000
 FAX : 022-66907001

Owner : A.K.AGARWALA
 AHURA CENTRE, 1ST FLOOR, B
 WING, MC ROAD, ANDHERI
 (EAST), MUMBAI MAHARASHTRA
 MUMBAI (SUBURBAN)
 MAHARASHTRA
 Phone: 022-66917000
 FAX : 022-66907001

Agent : MAINAK CHAKRABORTY
 HINDALCO INDUSTRIES LTD
 P.O. RADHANAGARI, KOLHAPUR-
 MAHARASHTRA KOLHAPUR
 MAHARASHTRA
 Phone: 02321-202133
 FAX :

Mining Engineer

Name : V.K.S. Chauhan, Full Time
 Qualification : B.Tech. Mining
 Appointment/ : 01-APR-13
 Termination date

Geologist

Name : U,V.PAWAR, Full Time
 Qualification : M.Sc. Geology
 Appointment/ : 26-MAR-12 01-JUL-19
 Termination date

Geologist

Name : Ramdas D. Patil, Full Time
 Qualification : M.Sc (Applied Geology)
 Appointment/ : 01-JUL-19
 Termination date

Manager

Name : VIJAYKUMAR SINGH CHAUHAN
 Qualification : B. Tech. Mining with FCC
 Appointment/ : 01-APR-13
 Termination date

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|-------------------------------|---|--------------------------------|-----------|
| 6. Date of approval of Mining | : | Modif.of approved Mining Plan | 25-MAR-09 |
| Plan/Scheme of Mining | | Mining Scheme rule 12 MCDR1988 | 02-DEC-13 |
| | | Modif.approved Mining Scheme | 12-MAR-15 |
| | | MP modif under 17(3) MCR 2016 | 08-JUL-16 |
| | | MP review under 17(1) MCR 2016 | 01-DEC-17 |
| | | MP modif under 17(3) MCR 2016 | 07-JUN-19 |

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

| Sl.No. | Item | Proposals | Actual work | Remarks |
|--------|---|-----------|------------------|---|
| 1a | Backlog of previous year | NIL | NIL | As informed, mining operations at Dhangarwadi Bauxite Mines has been stopped with effective from 14th February 2020 as per directives of MoEF&CC. and also the notice of temporary discontinuance of work in form É has been submitted to this office on 24th February 2020. |
| 1b | Exploration over lease area for geological axis 1 or 2 | NIL | NIL | |
| 1c | Exploration Agencies and 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 reserve as on 01/04/20 | | 0.164 Mio Tonnes | |
| 1f | General remarks of inspecting officers on geology, exploration etc | | | As informed, mining operations has been stopped with effective from 14th February 2020 as per directives of MoEF&CC. and The notice of temporary discontinuance of work in form É has been submitted to this office on 24th February 2020. However, the current inspection was made as per the direction of Controller General & CCOM to complete the validation process of 5 Star Rated Mines (year 2019-20) on or before 20th March 2021. |

Development :

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---|--|--|---|
| 2a | Location of development w.r.t.lease area | Insitu) Easting:376698.5849 to 377330.1822 Northing:1869409.8814 to 1869421.2179 09.8814 to 1869421.2179 (Float) Easting:377436.4139 to 377722.0614 Northing: 1869468.9903 to 1869605.7835 377722.0614 Northing: 1869468.9903 to 1869605.7835 | (Insitu) Easting:376698.5849 to 377330.1822 Northing:1869409.8814 to 1869421.2179 (Float) Easting:377436.4139 to 377722.0614 Northing: 1869468.9903 to 1869605.7835 | |
| 2c | Stripping ratio or ore to OB ratio | 1 : 1.05 | 1 : 2.25 | |
| 2d | Quantity of topsoil generation in m3 | 11508 m3 | Nil | |
| 2e | Quantity of overburden generation in m3 | 33750 m3 | 9850 m3 | Back filled simultaneously directly into the mined out pits |
| 2f | General remarks of inspecting officers on development of pit w.r.t. type of deposit etc | | As informed, mining operations has been stopped with effective from 14th February 2020 as per directives of MoEF&CC. and The notice of temporary discontinuance of work in form E has been submitted to this office on 24th February 2020. | |

Exploitation:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---------------------------------------|----------------------|-----------------------------|---------|
| 3a | Number of pit proposed for production | mainly for float ore | mainly for float ore mining | |

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|----|---|-------------------|-------------------|---|
| 3b | Quantity of ROM mineral production proposed | 89483.31 T | 44501 T | Mining operations has been stopped with effective from 14th February 2020 as per directives of MoEF&CC. |
| 3c | Recovery of sailable/usable mineral from ROM production | Recovery % : 100% | Recovery % : 100% | |
| 3d | Quantity of mineral reject generation | NIL | NIL | |
| 3e | Grade of mineral rejects generation and threshold value declared. | Not Applicable | Not Applicable | |
| 3f | Quantity of sub grade mineral generation. | 5560.41 T | NIL | |
| 3h | Manual / Mechanised method adopted for segregating from ROM | Mechanised | Mechanised | |
| 3i | Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects. | Nil | Nil | |
| 3j | Provision of drilling and blasting in mineral benches | NIL | NIL | HEMM deployed in mineral Benches as per proposal. |
| 3k | Provision of mining machineries in mineral benches | Yes | Yes | HEMM deployed in mineral Benches as per proposal. |
| 3m | Total area covered under excavation/pits | 9.78 Ha. | 1 Ha. | |
| 3n | Ore to OB ratio for the pit/mine during the year. | 1 : 1.05 | 1: 2.25 | |

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|----|--|---|--|---|
| 3o | Total area put in use under different heads at the end of year | Road : 0.75 Others : 0.218 Untouched area : 11.203 Ha | Area of excavation: 30.127 Ha Waste Dump: 0.0 Ha Infrastructure: 0.5 Ha Road : 0.75 Others : 0.218 Ha Untouched area : 10.205 Ha | |
| 3p | Production of ROM mineral during the last five year period as applicable | 2015-16 - 501043 T 2016-17 - 382519 T 2017-18 - 303565 T 2018-19 - 305662 T 2019-20 - 89483 T | 2015-16 - 389737 T 2016-17 - 362270 T 2017-18 - 291705 T 2018-19 - 305469 T 2019-20 - 44501 T | Information as per the Approved MP & AR 2019-20 |
| 3q | General remarks of inspecting officers on method of mining etc. | | As informed, mining operations has been stopped with effective from 14th February 2020 as per directives of MoEF&CC. and The notice of temporary discontinuance of work in form É has been submitted to this office on 24th February 2020. | |

Solid Waste Management - Dumping:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|--|-----------|--|---|
| 4a | Separate dumping of topsoil, OB and mineral rejects (Rule 32,33) | YES | YES | The top soil and OB stacked temporary in dumps was rehandled and used for mine restoration directly during mine was in operation. |
| 4b | Location of topsoil, OB and mineral reject dumps | Nil | There was no such dumps were made during the year, all the soil and reject or waste (after recovering sub grade by screening) were utilised for backfilling of mined out voids when mine was in operation. | |

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|----|--|-----|--|
| 4d | Location of dumps w.r.t. ultimate pit limit (Rule 16) | Nil | Nil |
| 4e | Number of active and alive dumps. | NIL | NIL |
| 4g | Number of dumps established. | NIL | NIL |
| 4h | Whether Retaining wall or garland drain all along dumps are there. | nil | NOT APPLICABLE |
| 4k | Specific comments of inspecting officer on waste dump management | | The run-off mine is channelised towards initially constructed settling tanks and silt check dams, when mine was in operation. Further, mines has been stopped with effective from 14th February 2020 as per directives of MoEF&CC. |

Solid Waste Management - Backfilling:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---|-------------------------------|---------------------------|--|
| 5a | Status of part or full extraction of mineral from mined out area before starting backfilling. | Yes | Yes | The area being taken up for restoration only after removal of entire bauxite in the specific area. |
| 5b | Area under backfilling of mined out area | 9.78 Ha | 6.0 Ha | During the year 2019-20, 12000 saplings have been reportedly planted to cover 6 Ha. |
| 5c | Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32) | Fully Utilization of top soil | Fully Utilization of soil | |
| 5d | Total area fully reclaimed and rehabilitated | 28.98 Ha | 24.00 Ha | As per the report submitted. |

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| 5e | General remarks of inspecting officers on backfilling and reclamation etc. | The backfilled areas were observed scientifically vegetated. |
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Progressive Mine Clousre Plan:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|--|--|---|---|
| 6a | Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2). | | filed | Filed on 25-05-2020 |
| 6b | Area available for rehabilitation (ha) . | 9.78 Ha | 6 Ha | |
| 6c | afforestation done (ha). |) 9.78 Ha | 6 Ha | |
| 6d | No. of saplings planted during the year | 10000 No.s | 12000 No.s | |
| 6e | Cumulative no .of plants | 37150 No.s | 49150 No.s | As per the information submitted by mine manager. |
| 6f | Any other method of rehabilitation |) Backfilling with subsequent plantation. |) Backfilling with subsequent plantation. | |
| 6g | Cost incurred on watch and care during the year | | Rs.6,00,000/= reported by mine manger. | |
| 6h | Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D | Insitu - (230m * 66.5m * 7m) Float - (750m * 110m * 0.1m) | Insitu - (175m * 11.42m * 6m) Float - (580m * 100m * 0.1m) | |
| 6i | Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings | OB -22500CUM Top Soil-4500CUM | OB - 9850 CUM Top Soil-NIL CUM | |

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|----|---|---------|---------|---|
| 6l | Compliance on reclamation and rehabilitation by backfilling (v)any other specific means. | 9.78 Ha | 6.00 Ha | |
| 6m | Compliance of rehabilitation of waste land within lease (i)afforestation | NIL | NIL | |
| 6n | Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha) | NIL | NIL | |
| 6p | Compliance of environmental monitoring (core zone and buffer zone) | | | The monitoring was carried out as per the schedule through MOEF approved third party and reports are maintained. |
| 6q | General remarks of inspecting officers on PMCP compliance and progressive closure operations etc. | | | PMCP compliance was observed satisfactory as per the report. Further, Mines has been stopped with effective from 14th February 2020 as per directives of MoEF&CC. |

Mineral Conservation:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---|---|---|--|
| 7a | ROM Mineral dispatch or grade-wise sorting within lease area | +44% Al ₂ O ₃ & > 10% SiO ₂ +30% Al ₂ O ₃ & +10% SiO ₂ | +44% Al ₂ O ₃ & > 10% SiO ₂ +30% Al ₂ O ₃ & +10% SiO ₂ | ROM has been sorted by crushing / screening. |
| 7b | Method of grade-wise mineral sorting i.e. manual or mechanical. | Mechanical | Mechanical | |
| 7c | Different grade of mineral sorted out at mines. | | Bauxite & Cement grade bauxite | |
| 7d | Any beneficiation process at mines | | Dry screening | |

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|----|--|---|--|
| 7e | General remarks of inspecting officer on Mineral conservation and beneficiation issues | ROM has been sorted by crushing / screening. Further, Mines has been stopped with effective from 14th February 2020 as per directives of MoEF&CC. | Notice for temporary discontinuance of mine was received on 24.02.2020 |
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Environment:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---|--|--|---|
| 8a | Separate removal and utilization of topsoil (Rule 32) | YES | YES | Mining activities were restricted to float bearing area, where soil is leveled after exploitation of bauxite boulders simultaneously. |
| 8b | Concurrent use or storage of topsoil | Concurrent use | Concurrent use of soil | |
| 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 | Use of overburden, soil & waste for backfilling of mined out area. | All the OB, soil & waste being utilised for backfilling of mined out voids and The backfilled areas were scientifically vegetated through afforestation. | |
| 8e | Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc) | Phased restoration, reclamation and rehabilitation | Phased restoration, reclamation and rehabilitation | |

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|----|--|---|---|
| 8f | Baseline information on existence of plantation and additional plantation done (Rule 41) | The vegetation is generally limited to slopes that to strewed and stunted due to lack of plant nutrients in the soil. | Mined out area are scientifically afforested. For this soil, manure, vermi compost, bagasse and press-mud has procured to improve the condition of plantation base. We had engaged experts to implement afforestation activity. Care has been taken to plant mostly local flora along with some exotic species. |
| 8g | Survival rate | | 85% |
| 8h | Water sprinkling on roads to control airborne dust | | Water tanker mounted trucks were used for dust suppression, when mine was in operation. |
| 8i | General remarks of inspecting officer on aesthetic beauty in and around mines area | | Good aesthetic beauty observed in previous year inspection, However, now mining operations at Dhangarwadi Bauxite Mines has been stopped with effective from 14th February 2020 as per directives received from MoEF&CC. |

Compliance of Rule 45:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|--|-----------|--|--|
| 9a | Status of submission of Monthly and Annual returns | Yes | MR Submitted up to = March 2020 AR Submitted for the year 2019-20 | Mining operations has been stopped with effective from 14th February 2020 as per directives received from MoEF&CC. |

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|----|---|---|--|--|
| 9b | Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager | Mining Engineer - 1 Geologist - 1 Manager - 1 | Geologist - 1 Manager - 1 | Mining operations has been stopped with effective from 14th February 2020 as per directives received from MoEF&CC. The notice of temporary discontinuance of work in form É has been submitted to this office on 24th February 2020. |
| 9c | Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. | Covered on O/C working :30 Ha Reclaimed & rehabilitated:24.0 Ha Waste disposal:0 Ha | | |
| 9d | Scrutiny of Annual return on afforestation | | 12000 nos. of sapling planted in the year 2019-20 | |
| 9e | Scrutiny of Annual return on mineral reject generation (Grade and quantity) | NIL | NIL | |
| 9f | Scrutiny of Annual return on ROM stock and/or graded ore | | ROM stock - 15000 Garde wise Closing stock Below 40%Al2O3 - nil 40-45 %Al2O3- Nil, 45- 50 %Al2O3-Nil Cement Grade-18419.55T | |
| 9g | Scrutiny of Annual return on sale value, Ex. Mine price and production cost | 40-45 %Al2O3- 702.23 Rs/T, Cost of production - 702.23 Rs/T | Captive consumption | |
| 9h | Scrutiny of Annual return on fixed assets | Value of fixed Asset in Rs. 2490769/- | Value of fixed Asset in Rs. 2490769/- | |
| 9k | Scrutiny of Annual return on mining machineries | | Mining operations has been stopped with effective from 14th February 2020 as per directives received from MoEF&CC. | The notice of temporary discontinuance of work in form É has been submitted to this office on 24th February 2020. |

Details of violations observed during current inspection and compliance position of violation pointed out

| Violation observed | | Show couse position | |
|--------------------|-------------------------|---------------------|-------------------------|
| Rule NO. | Issued on Compliance on | Rule NO. | Issued on Compliance on |

Date :

(SURESH PRASAD)

Indian Bureau of Mines