

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

**MCDR INSPECTION REPORT
Bhubaneshwar regional office**

Mine file No : ORI/BXT/KPT/MCDR-03/BBS

Mine code : 07ORI09004

- (i) Name of the Inspecting : **RAM**) **RAMKISHAN R**
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri Purusottam Mohanta, Mine Manager
Official with
Designation
- (iv) Date of Inspection : 15/01/2020
- (v) Prev.inspection date : 01/10/2019

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **PANCHPATMALI (S BLOCK)**
- (b) **Registration NO.** : **IBM/116/2011**
- (c) **Category** : **A Fully Mechanised**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **ORISSA**
- District : **KORAPUT**
- Village : **PANCHPATMALI**
- Taluka : **KORAPUT**
- Post office : **DAMANJODI**
- Pin Code : **763008**
- FAX No. : **0674-2300521**
- E-mail : **dirprod@nalcoindia.co.in**
- Phone : **0674-2301988**
- (f) **Police Station** : **Kakiriguma**
- (g) **First opening date** : **01/01/2017**
- (h) **Weekly day of rest** : **SUN**
2. **Address for correspondance** : **PANCHAPATMALI (SOUTH BLOCK) BAUXITE MINE**
M/S NALCO, PO-DAMANJODI
DIST- KORAPUT, PIN- 763008
3. (a) **Lease Number** :
- (b) **Lease area** : **528.262 ha**
- (c) **Period of lease** :
- (d) **Date of Expiry** : **31/3/2020**
4. **Mineral worked** : **BAUXITE** Main

5. Name and Address of the

Lessee : M/S NALCO LTD
 NALCO Bhavan P/1, Nayapalli
 BHUBANESWAR KHURDA ORISSA
 Phone:
 FAX :

Owner : M/S. Nalco
 P/1, Nayapalli Bhubaneswar
 KHURDA ORISSA
 Phone: 0674 442301, 2.3
 FAX : 06853 32214, 32

Agent : SHRI ARUN KUMAR DAS
 AT- PANCHPATMALI PO-
 DAMANJODI KORAPUT KORAPUT
 ORISSA
 Phone:
 FAX :

Mining Engineer

Name : Rajesh J. Vinchukar, Full Time
 Qualification : B.E. (Mining)
 Appointment/ : 22/05/2017
 Termination date

Geologist

Name : Shri G. Chaterjee, Full Time
 Qualification : M Tech
 Appointment/ : 13/10/2016
 Termination date

Manager

Name : Purosottam Mohanta
 Qualification : BE (Mining)
 Appointment/ : 26/06/2017
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining : MP review under 17(1) MCR 2016 14/11/2018

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

| Sl.No. | Item | Proposals | Actual work | Remarks |
|--------|---|--|--|---------|
| 1a | Backlog of previous year | No such specific proposal. | Nil | |
| 1b | Exploration over lease area for geological axis 1 or 2 | 326.54 ha has been explored as G1 level. The rest unexplored 201.722 ha is along the periphery of the deposit which are having high gradient and where drilling is not possible. | 326.54 ha has been explored as G1 level. The rest unexplored 201.722 ha is along the periphery of the deposit which are having high gradient and where drilling is not possible. | |
| 1c | Exploration Agencies and Expenditure in lakh rupees during the year | Not applicable | Nil | |
| 1d | Balance area to be explored to bring Geological axis in 1 or 2 | 326.54 ha has been explored as G1 level. The rest unexplored 201.722 ha is along the periphery of the deposit which are having high gradient and where drilling is not possible. | 326.54 ha has been explored as G1 level. The rest unexplored 201.722 ha is along the periphery of the deposit which are having high gradient and where drilling is not possible. | |

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|----|--|---|--|-----|
| 1e | Balance reserve as on 01/04/20 | As per Review of Mining Plan approved on 14.11.2018, the Reserves are 81.489 million tonnes and resources are 9.611 million tonnes. | due to depletion/addition over the period of time the updated bauxite ore reserves as on 01.04.2019 are 81.11 mil.t. and resources are 9.11 mil.t. | Nil |
| 1f | General remarks of inspecting officers on geology, exploration etc | | All the potentially mineralised area has been explored under G1 level. | |

Development :

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|--|--|---|---------|
| 2a | Location of development w.r.t.lease area | south block | south block | |
| 2b | Separate benches in topsoil, overburden and minerals (Rule 15) | The topsoil is proposed to be scraped. Separate benches in OB and Bauxite are envisaged. | The topsoil is scraped & stacked for future use. Separate benches in OB and Bauxite are made. | |
| 2c | Stripping ratio or ore to OB ratio | 1:0.082 t/cu.m. during the year 2018-19. | 1:0.088 t/cu.m. | |
| 2d | Quantity of topsoil generation in m3 | The thickness of topsoil is very thin and no separate generation. | topsoil generated during mining is used for plantation. | |
| 2e | Quantity of overburden generation in m3 | 49,888 cu.m in 2018-19. | 52350 cu.m. | |

2f General remarks of inspecting officers on development of pit w.r.t. type of deposit etc development is carried out by opencast mining method.

Exploitation:

| Sl.No. | Item | Proposals | Actual work | Remarks |
|--------|---|----------------------------|-------------|---------|
| 3a | Number of pit proposed for production | one | one | |
| 3b | Quantity of ROM mineral production proposed | 6,07,500 tonne in 2018-19. | 589100 t | |
| 3c | Recovery of sailable/usable mineral from ROM production | 6,07,500 tonne in 2018-19. | 589100 t | |
| 3d | Quantity of mineral reject generation | Not proposed. | Nil | |
| 3e | Grade of mineral rejects generation and threshold value declared. | Not applicable | Nil | |
| 3f | Quantity of sub grade mineral generation. | Not applicable | Nil | |
| 3g | Grade of sub grade mineral generation | Not applicable | 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. | Not propsoed. | Nil | |

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|----|--|--|---|
| 3j | Provision of drilling and blasting in mineral benches | drilling and blasting is proposed. | Bauxite are loosened by the use of ripping method in place of 100% conventional drilling and blasting method. Hard, compact and not amenable for ripping by ripper dozers will be loosened by using controlled blasting |
| 3k | Provision of mining machineries in mineral benches | shovel and dumper combination is proposed for excavation and hauling | shovel and dumper combination is deployed for excavation and hauling. |
| 3l | Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM | Aluminous Laterite 2.00 mtrs Bauxite 8.00 Mtrs | maintained. |
| 3m | Total area covered under excavation/pits | 13.084 ha. in five year period of the approved document. | 9.736 ha |
| 3n | Ore to OB ratio for the pit/mine during the year. | 1:0.082 t/cu.m. during the year 2018-19. | 1:0.088 t/cu.m. |
| 3o | Total area put in use under different heads at the end of year | 87.37 ha | 65.566 ha |
| 3p | Production of ROM mineral during the last five year period as applicable | 2017-18: 606450 tonnes 2018-19: 6,07,500 tonnes | 2017-18: 258750 tonnes. 2018-19: 589100 tonnes |
| 3q | General remarks of inspecting officers on method of mining etc. | | production is carried out by opencast mining method as proposed. |

Solid Waste Management - Dumping:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|--|---|---|---------|
| 4a | Separate dumping of topsoil, OB and mineral rejects (Rule 32,33) | Temporary dumping of waste and topsoil in north east side of the lease area is envisaged. | The Over burden and top soil are temporary dumped in north east side of the lease area. | |
| 4b | Location of topsoil, OB and mineral reject dumps | north east side of the lease area. | north east side of the lease area. | |
| 4c | Number of dumps within lease area and outside of lease area | one temporary dump | one temporary dump | |
| 4d | Location of dumps w.r.t. ultimate pit limit (Rule 16) | within UPL | within UPL | |
| 4e | Number of active and alive dumps. | one dump | one dump | |
| 4f | Number of dead dumps. | Not proposed. | Nil | |
| 4g | Number of dumps established. | Not proposed. | Nil | |
| 4h | Whether Retaining wall or garland drain all along dumps are there. | Not applicable | Nil | |
| 4i | Length of Retaining wall or garland drain all along dumps | Not propsoed. | Nil | |
| 4j | Number of settling ponds | Not proposed. | Nil | |
| 4k | Specific comments of inspecting officer on waste dump management | | The Overburden dump and top soil stack is temporary, located in north east side of the lease area | |

Solid Waste Management - Backfilling:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|------|-----------|-------------|---------|
|--------|------|-----------|-------------|---------|

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|----|---|---|---|
| 5a | Status of part or full extraction of mineral from mined out area before starting backfilling. | No area is matured for reclamation & reahbilitation | Nil |
| 5b | Area under backfilling of mined out area | Not applicable | Nil |
| 5c | Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32) | Not applicable | Nil |
| 5d | Total area fully reclaimed and rehabilitated | Not applicable | Nil |
| 5e | General remarks of inspecting officers on backfilling and reclamation etc. | | No area is matured for reclamation & reahbilitation |

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). | PMCP report to submitted before 1 st July | | Nil |
| 6b | Area available for rehabilitation (ha) . | Not proposed. | Nil | |
| 6c | afforestation done (ha). | Not proposed. | In 2018-19, an extent of 5.0 ha area has been covered under plantation. | |
| 6d | No. of saplings planted during the year | | 24909 nos | |

| | | |
|----|---|--------------------|
| 6e | Cumulative no .of plants | 24909 nos |
| 6f | Any other method of rehabilitation | Not applicable Nil |
| 6g | Cost incurred on watch and care during the year | Not applicable Nil |
| 6h | Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D | Not applicable Nil |
| 6i | Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings | Not applicable Nil |
| 6j | Compliance on reclamation and rehabilitation by backfilling (iii)Afforestati on on backfilled area | Not applicable Nil |
| 6k | Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir | Not applicable Nil |
| 6l | Compliance on reclamation and rehabilitation by backfilling (v)any other specific means. | Not applicable Nil |
| 6m | Compliance of rehabilitation of waste land within lease (i)afforestation | Not applicable Nil |

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|----|---|--|--|
| 6n | Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha) | Not applicable Nil | |
| 6o | Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation | Not applicable Nil | |
| 6p | Compliance of environmental monitoring (core zone and buffer zone) | Periodical Monitoring as stipulated in Environment Clearance granted by MoEF & CC and Consent to Operate granted by SPCB | Periodical Monitoring as stipulated in Environment Clearance granted by MoEF & CC and Consent to Operate granted by SPCB is carried out. |
| 6q | General remarks of inspecting officers on PMCP compliance and progressive closure operations etc. | | No area matured for reclamation & rehabilitation . |

Mineral Conservation:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---|-----------------------------------|--|---------|
| 7a | ROM Mineral dispatch or grade-wise sorting within lease area | The entire ROM bauxite is usable. | The entire ROM bauxite is consumed in the captive alumina refinery plant | |
| 7b | Method of grade-wise mineral sorting i.e. manual or mechanical. | The entire ROM bauxite is usable. | The entire ROM bauxite is consumed in the captive alumina refinery plant | |
| 7c | Different grade of mineral sorted out at mines. | The entire ROM bauxite is usable. | The entire ROM bauxite is consumed in the captive alumina refinery plant | |

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|----|--|---------------|--|
| 7d | Any beneficiation process at mines . | Not proposed. | Nil |
| 7e | General remarks of inspecting officer on Mineral conservation and beneficiation issues | | Total ROM bauxite is dispatched to its captive plant |

Environment:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---|--|---|---------|
| 8a | Separate removal and utilization of topsoil (Rule 32) | Scrapping of topsoil & stacking the same is proposed. | carried out. | |
| 8b | Concurrent use or storage of topsoil | Scrapping of topsoil & stacking the same is envisaged. | Temporary stacks of top soil has been made for future utilisation | |
| 8c | Separate dumps for overburden, waste rock, rejects and fines (Rule 33) | Temporary dumping OB and stacking of top soil is envisaged. No provisions for generation of mineral reject/subgrade materials. | The OB and top soil so generated are temporary dumped/stacked in north east side of the lease area for future reclamation and rehabilitation. | |
| 8d | Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use | Temporary dumping OB and stacking of top soil is envisaged. | The OB and top soil so generated are temporary dumped/stacked in north east side of the lease area for future reclamation and rehabilitation. | |

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|----|---|--|---|
| 8e | Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc) | Not proposed. | Nil |
| 8f | Baseline information on existence of plantation and additional plantation done (Rule 41) | | 24909 nos |
| 8g | Survival rate | | 75% |
| 8h | Water sprinkling on roads to control airborne dust | water sprinkling on haul roads for dust suppression is proposed. | carried out. |
| 8i | General remarks of inspecting officer on aesthetic beauty in and around mines area | | Aesthetic beauty in and around the mine is well maintained. |

Compliance of Rule 45:

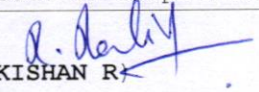
| Sl.No. | Item | Proposals | Actual work | Remarks |
|--------|---|---|---|---------|
| 9a | Status of submission of Monthly and Annual returns | Monthly and annual returns are to be submitted as per rule 45 of MCDR, 2017 | submitted. | |
| 9b | Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager | Graduate Mining Engineer 6, Geologist 1 | Graduate Mining Engineer 6, Geologist 1 | |

| | | | | |
|----|---|---|---------------------------------|-----|
| 9c | Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. | Pit-9.06 ha, roads- 52.340ha. | pit: 9.736 ha, roads- 52.340ha. | Nil |
| 9d | Scrutiny of Annual return on afforestation | 24909 nos | 24909 nos | |
| 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 closing stock is Nil | Rom closing stock is Nil | Nil |
| 9g | Scrutiny of Annual return on sale value, Ex. Mine price and production cost | Prodcution cost Rs.845.94 | Prodcution cost Rs.845.94 | |
| 9h | Scrutiny of Annual return on fixed assets | Rs. 351535000 | Rs. 351535000 | |
| 9k | Scrutiny of Annual return on mining machineries | DUMPER 55.000 TONNE 4, WHEEL LOADER 8.700 CUM 2, DOZER 850.000 HP 2, WATER TANKER 28000.000 LITRE 1 | found to be in order. | |

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

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

No violation


(RAMKISHAN R)

Date : 2/7/2020

Indian Bureau of Mines