

**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 : **3006** ) **SHRI B L GURJAR**  
Officer and ID No.
- (ii) Designation : Regional Controller Mines
- (iii) Accompanying mine : Shri R Vinchurkar, Mine Manager  
Official with  
Designation
- (iv) Date of Inspection : 16/10/2022
- (v) Prev.inspection date : 03/09/2021

**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 : PANCHAPATAMALI (SOUTH BLOCK) BAUXITE MINE  
correspondance M/S NALCO, PO-DAMANJODI  
DIST- KORAPUT, PIN- 763008
3. (a) Lease Number :
- (b) Lease area : 528.262 Hect
- (c) Period of lease : 30 years
- (d) Date of Expiry : 19.07.2029
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 : MR RASHEED WARIS, GGM  
 PANCHAPATMALI BAUXITE MINES  
 M/S NALCO KORAPUT ORISSA  
 Phone:  
 FAX :

## Mining Engineer

Name : MR KSHITISH R BEHERA,Full Time  
 Qualification : BE MINING  
 Appointment/ : 25/05/2021  
 Termination date

## Geologist

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

## Geologist

Name : MR P T SAHOO,Full Time  
 Qualification : MSC (GEOLOGY)  
 Appointment/ : 03/05/2021  
 Termination date

## Manager

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

## Manager

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

6. Date of approval of Mining Plan/Scheme of Mining : MP review under 17(1) MCR 2016 14/11/2018  
 Modif.approved Mining Scheme 03/03/2021

## PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	NIL	NIL	ARE FULLY EXPLORED
1b	Exploration over lease area for geological axis 1 or 2	NIL	NIL	AREA FULLY EXPLORED UNDER G1
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	NIL	NIL	AREA ALREADY FULLY EXPLORED.
1f	General remarks of inspecting officers on geology, exploration etc		AREA FULLY EXPLORED UNDER GI HENCE NO PRPOSAL AND NO OWORK CARRIED.	AREA FULLY EXPLORED UNDER GI

## Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	ONE PIT	ONE PIT	WORKING AS PER PROPOSAL
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Top Soil: 1 bench Laterite: 1 bench Bauxite: 2 benches (8 mtrs and 6 mtrs height)	Top Soil: 1 bench Laterite: 1 bench Bauxite: 2 benches (8 mtrs and 6 mtrs height)	
2c	Stripping ratio or ore to OB ratio	1:0.11	1:0.08	
2d	Quantity of topsoil generation in m3	NIL	NIL	

2e	Quantity of overburden generation in m3	206425 m <sup>3</sup>	82500 m <sup>3</sup>	LESS PRODUCTION ACHIVED SO LESS PRODUCTIONOF OB.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	NO EXPLORATION PROPODSAL	AREA FULLY EXPLORED. 82500 M3 OB GENERATED.	AREA FULLY EXPLORED.

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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	ONE	ONE	ONLY ONE PIT FOUND TO BE IN OPERATION.
3b	Quantity of ROM mineral production proposed	2000000 TONNE	1035600 TONNE	
3c	Recovery of sailable/usable mineral from ROM production	NIL	NIL	
3d	Quantity of mineral reject generation	NIL	NIL	
3e	Grade of mineral rejects generation and threshold value declared.	NIL	NIL	
3f	Quantity of sub grade mineral generation.	NIL	NIL	
3g	Grade of sub grade mineral generation	NO SUB GRADE MINERAL	NIL	NO SUB GRADE MINERAL
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised.	Mechanised.	

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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	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	NO BLASTING IS CARRIED IN MINERAL BENCH AFTER 1ST APRIL 2022.
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	63.921 ha at the end of plan period i.e. year 2023-24.	20.220 HA	
3n	Ore to OB ratio for the pit/mine during the year.	1:0.11	1:0.08	
3o	Total area put in use under different heads at the end of year	139.165 ha at the end of plan period. i.e. year 2023-24	(i) Covered under current (O/C) Workings- 20.220 HA (ii) Reclaimed/Rehabilitated 1.520 HA (iii) Occupied by plant, buildings, residential, welfare buildings & roads : 52.340 HA	

3p	Production of ROM mineral during the last five year period as applicable	2019-20: 1000100 tonnes 2020-21: 2000000 tonnes 2021-22: 1000100 tonnes	2017-18: 258750 tonnes. 2018-19: 589100 tonnes 2019-20: 456900 tonnes 2020-21: 804450 tonnes 2021-22: 1035600 tonnes	PRODUCTION WITHIN THE APPROVED QUANTITY.
3q	General remarks of inspecting officers on method of mining etc.	Production is carried out by opencast mining mechanised method as proposed.		

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Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	SEPARATE DUMPINGFOR TOP SOIL AND OB PROPOSED	SEPARATE STACKING OF TOP SOIL AND DUMPING OF OB IS BEING CARRIED	OB IS BEING BACK FILLED CONCURRENTLY AND BEING USED FROM OB DUMP. TOP SOIL IS BEING USED FOR PLANTATION IN BACK FILLIED AREA.
4b	Location of topsoil, OB and mineral reject dumps	TEMPORARY OB DUMP 709600E & 2081500N	TEMPORARY DUMPING AT DESIGNATED PLACE AS PROPOSED.	Simultaneous backfilling with mining is being carried out in the area-1 Northern part but in the area-2, Southern part the excavated overburden (Laterite) is being stacked at designated places
4c	Number of dumps within lease area and outside of lease area	WITHIN LEASE AREA -01 TEMP DUMP, OUT SIDE - NIL	WITHIN LEASE AREA -01 TEMP DUMP, OUT SIDE - NIL	DUMPING AS PRPOPOSED.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	TEMPORARY DUMPING WITHIN THE ULTIMATE PIT LIMIT	TEMPORARY DUMPING WITHIN THE ULTIMATE PIT LIMIT	TEMPORARY DUMPING WITHIN THE ULTIMATE PIT LIMIT AND TO BE REHANDLED FOR BACK FILLING.
4e	Number of active and alive dumps.	01	01	01 TEMP OB DUMP

4f	Number of dead dumps.	NIL	NIL	
4g	Number of dumps established.	NIL	NIL	01 TEMP OB DUMP TO BE REHANDLED FOR BACK FILLING.
4h	Whether Retaining wall or garland drain all along dumps are there.	YES	281m along the dump	
4i	Length of Retaining wall or garland drain all along dumps	YES THERE IS PRPOSAL FOR RETAINING WALL AND GARLAND DRAIN ALONG THE DUMP.	281m along the dump.	
4j	Number of settling ponds	03	03	
4k	Specific comments of inspecting officer on waste dump management		TEMPORARY DUMPING WITHIN THE ULTIMATE PIT LIMIT AND TO BE REHANDLED FOR BACK FILLING.	Simultaneous backfilling with mining is being carried out in the area-1 Northern part but in the area-2, Southern part the excavated overburden (Laterite) is being stacked at designated places to be backfillied.

#### 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.	100% extraction of Bauxite before backfilling	100% extraction of Bauxite before backfilling	
5b	Area under backfilling of mined out area	2.22 ha	1.52 ha	Less production than proposal so the actual area of back filling is less.

5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Proposal for Concurrent use of topsoil for restoration or rehabilitation of mined out area.	Concurrent use of topsoil for restoration or rehabilitation of mined out area is being practiced.	
5d	Total area fully reclaimed and rehabilitated	2.22 ha	1.52 ha	
5e	General remarks of inspecting officers on backfilling and reclamation etc.		Concurrent back filling for restoration or rehabilitation of mined out area is being practiced.	Temporary OB Dumpis there and will be used for back filling.

#### 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	Submitted.	
6b	Area available for rehabilitation (ha) .	2.22 ha	1.52 ha	Les area available as production was less.
6c	afforestation done (ha).	2.2 ha	1.52 ha	
6d	No. of saplings planted during the year	3568	21675	
6e	Cumulative no .of plants		584003 saplings	
6f	Any other method of rehabilitation	NIL	NIL	
6g	Cost incurred on watch and care during the year	No such esimated cost proposed.	Cost incurred on watch & care during the year is Rs. 14,81,000.00	



6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	2.2 ha prposed for reclamation by back filling	1.52 ha back filling carried.	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Reclamation and rehabilitation by backfilling prposed	Reclamation and rehabilitation by backfilling being carried.	Reclamation and rehabilitation by backfilling being carried.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	Yes	Being carried.	
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No such proposal	NIL	
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	NIL	NIL	
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not applicable.	NIL	
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)	Air monitoring- 5 stations Stream monitoring- 17 locations Ground water monitoring- 15 locations.	Air monitoring- 5 stations Stream monitoring- 17 locations Ground water monitoring- 15 locations. Periodical Monitoring as stipulated in Environment Clearance granted by MoEF & CC and Consent to Operate granted by SPCB is carried out.	Periodical Monitoring as stipulated in Environment Clearance granted by MoEF & CC and Consent to Operate granted by SPCB is being carried out.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Periodical Monitoring as stipulated in Environment Clearance granted by MoEF & CC and Consent to Operate granted by SPCB is being carried out.		PMCP measures were carried out as proposed.

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#### 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. Grade wise sorting is proposed.	Grade wise sorting is practiced.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical.	Mechanical.	
7c	Different grade of mineral sorted out at mines.	Below 40%Al <sub>2</sub> O <sub>3</sub> and above 40 Al <sub>2</sub> O <sub>3</sub> .	Below 40%Al <sub>2</sub> O <sub>3</sub> and above 40 Al <sub>2</sub> O <sub>3</sub> .	
7d	Any beneficiation process at mines	NIL	NIL	

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	The entire ROM produced from the mining operations are supplied to the Alumina plant.	The entire ROM produced from the mining operations are supplied to the Alumina plant.
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**Environment:**

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Separate removal and utilization of topsoil proposal is there.	Top soil is stacked separately and being used for plantation.	Top soil is stacked separately and being used for plantation.
8b	Concurrent use or storage of topsoil	yes	Concurrent use or storage of topsoil Being practiced.	A very thin layer of top soil is present as patches within the leasehold. This top soil will be scrapped by the wheel loaders and transported by dumpers to the mined out area for stacking and concurrent use for plantation.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Temporary dumping of OB and stacking of Top soil proposed.	Temporary dumping of OB and stacking of Top soil is practiced.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Concurrent back filling is proposed.	Concurrent back filling is is being practiced.	

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8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Phased restoration, reclamation and rehabilitation of lands affected by mining operations proposed.	Phased restoration, reclamation and rehabilitation of lands affected by mining operations being practiced.	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	No vegetation existed initially. Plantation proposed.	Plantation in backfilled area and safety zone carried.	
8g	Survival rate		70-80%	
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on haul roads for dust suppression is proposed	Water sprinkling on haul roads for dust suppression carried.	Water sprinkling on haul roads for dust suppression carried.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area		Aesthetic beauty in and around the mine is well maintained.	

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Compliance of Rule 45:

Sl.No.	Item	Propasals	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	Monthly and annual returns submitted in time.	Monthly and annual returns submitted in time.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Graduate Mining Engineer 5, Geologist 2	Found in order.	

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9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Covered under current (O/C) Workings : 20.220 ha Reclaimed/Rehabilitated: 1.52 ha Occupied by plant, buildings, residential, welfare buildings & roads: 52.34	Found in order.
9d	Scrutiny of Annual return on afforestation	Number of trees planted during the year 21675	Found in order.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil	No mineral rejected generated.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Closing stock 62040.836 tonne 40% to below 45% Al2O3	Closing stock 62040.836 tonne 40% to below 45% Al2O3
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	COST OF PRODUCTION : Rs 1300.79 per tonne	Found in order.
9h	Scrutiny of Annual return on fixed assets	Value of Fixed Assets : Rs 475031399	Value of Fixed Assets : Rs 475031399
9k	Scrutiny of Annual return on mining machineries	DUMPER 55 Tonne-04 nos Tipper 25 tonne -18 nos FRONT END LOADER 8.7 CUM - 02 nos DOZER-01 no BACK HOE- 03 nos.	DUMPER 55 Tonne-04 nos Tipper 25 tonne -18 nos FRONT END LOADER 8.7 CUM - 02 nos DOZER-01 no



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

Violation observed : Nil		Show cause position	
Rule NO.	Issued on Compliance on	Rule NO.	Issued on Compliance on

NO VIOLATION.

**Date :**

(SHRI B L GURJAR)

Indian Bureau of Mines