

**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 : **S010**) **SHRI G.C. SETHI**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Dr. G.Chatterjee, AGM(Geo)
Official with
Designation
- (iv) Date of Inspection : 01/10/2019
- (v) Prev.inspection date : 09/10/2018

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 :
- (c) Period of lease :
- (d) Date of Expiry :
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 : MP review under 17(1) MCR 2016 14/11/2018
 Plan/Scheme of Mining

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Nil	All the potentially mineralised area has been explored under G1 level.	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.	Nil
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No Proposal	Nil	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.	Nil

1e	Balance reserve as on 01/04/20	As per Review of Mining Plan approved on 14.11.2018, the Reserves under 111 is 81.489 million tonnes and resources under 221 is 9.611 million tonnes.	As per Review of Mining Plan approved on 14.11.2018, the Reserves under 111 is 81.489 million tonnes and resources under 221 is 9.611 million tonnes.	Nil
1f	General remarks of inspecting officers on geology, exploration etc	No exploration proposal envisaged.	All the potentially mineralised area has been explored under G1 level.	Nil

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	The development is proposed in between grid 15688N-15911N,16220E-16465E .	As per proposal.	Nil
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.	Nil
2c	Stripping ratio or ore to OB ratio	1:0.16 T/cu.m	1: 0.27 T/cu.	Average stripping ratio varies due to irregular nature of ore deposit.
2d	Quantity of topsoil generation in m3	The thickness of topsoil is very thin and no separate generation.	As per proposal	Top soil generated during mining is used for plantation.

2e	Quantity of overburden generation in m3	49,888 cu.m in 2018-19.	104700 tonne during 2018-19	The variation is due to irregular nature of the deposit.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc		Mine is a new mine just open on 01/01/2017. The mine development is started from north eastern end and advancing towards southern side of the lease area.	Nil

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	One	One	Nil
3b	Quantity of ROM mineral production proposed	6,07,500 tonne in 2018-19.	589100 tonnes during 2018-19.	Nil
3c	Recovery of sailable/usable mineral from ROM production	Utilisation total ROM bauxite is envisaged.	Total ROM bauxite is utilised.	Nil
3d	Quantity of mineral reject generation	Entire ROM is usable.	Nil.	Nil.
3e	Grade of mineral rejects generation and threshold value declared.	Not applicable.	Not applicable.	Nil
3f	Quantity of sub grade mineral generation.	Entire ROM is usable.	Nil.	Nil.
3g	Grade of sub grade mineral generation	Not applicable.	Not applicable.	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Not applicable	Total ROM bauxite produced from mine is disptched to its captive Alumina refinery plant located at Damanjodi.	Nil

3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	None	Not applicable.	Nil
3j	Provision of drilling and blasting in mineral benches	DTH drilling 150mm dia and Blasting with ANFO.	About 20% of aluminous laterite and 30% of the 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 technique using ANFO.	About 20% of aluminous laterite and 30% of the Bauxite are loosened by the use of ripping method in place of 100% conventional drilling and blasting method.
3k	Provision of mining machineries in mineral benches	Back hoe -2, Wheel Loader-1, Ripper Dozer-3, Motor Grader-2, Water Sprinkler 28KL-2	Back hoe -1, Wheel Loader-3, Ripper Dozer-2, Dumper-16, Water Sprinkler 28& 12KL-2	Nil
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Benches: Aluminous Laterite= 2.00 mtrs Bauxite= 8.00 Mtrs	Bench height is suitably matched with the excavator restricting the height of the benches proposed.	Nil
3m	Total area covered under excavation/pits	13.084 ha. in five year period of the approved document.	An extent of 9.06 ha area has been covered under excavation pit as on 31.03.2019.	Nil
3n	Ore to OB ratio for the pit/mine during the year.	1:0.16 T/cu.m	1: 0.27 T/cu.	Average stripping ratio varies due to irregular nature of ore deposit.

3o	Total area put in use under different heads at the end of year	Total area proposed under different heads is 87.37 ha at the end of plan period.	As on 31.03.2019, 61.40 ha used.	Nil
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	Mine is just open on 01/01/2017.
3q	General remarks of inspecting officers on method of mining etc.		The mine excavation is being done from north eastern side and advancing towards southern direction. In the mine excavation, about 20% of aluminous laterite and 30% of the Bauxite are loosened by the use of ripping method in place of 100% conventional drilling and blasting method.	Nil

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.	Nil
4b	Location of topsoil, OB and mineral reject dumps	north east side of the lease area.	north east side of the lease area.	Nil
4c	Number of dumps within lease area and outside of lease area	One temporay dump.	One temporay dump.	The dump is temporary by nature which has to be shifted for backfilling in near future.

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Temporay dumping within UPL.	Temporay dumping within UPL.	The Overburden dump and top soil stack is temporary, located in north east side of the lease area for the purpose of reclamation and rehabilitation.
4e	Number of active and alive dumps.	One temporay dump.	One temporay dump.	The Overburden dump and top soil stack is temporary, located in north east side of the lease area for the purpose of reclamation and rehabilitation.
4f	Number of dead dumps.	Nil	Nil	Nil
4g	Number of dumps established.	Nil	Nil	Nil
4h	Whether Retaining wall or garland drain all along dumps are there.	Nil	Nil	Nil
4i	Length of Retaining wall or garland drain all along dumps	Not applicable.	Not applicable.	Nil
4j	Number of settling ponds	Nil	Nil	The mine is new one.
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 for the purpose of reclamation and rehabilitation.	Nil

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 .	No area is matured for reclamation & reahbilitation.	Nil
5b	Area under backfilling of mined out area	1.00 ha	Nil	Violation pointedout
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No area is matured for reclamation & reahbilitation .	No area is matured for reclamation & reahbilitation.	Nil
5d	Total area fully reclaimed and rehabilitated	Nil	No area is matured for reclamation & reahbilitation.	Nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.		Concurrent backfilling is not proposed. Mine is just open on 01/01/2017 and it is under development stage.	Nil

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).	The annual report on PMCP has to be submitted before 1st July of every year for the preceeding financial year as per the Rule 26(2) of MCDR, 2017.	Annual report on PMCP for 2018-19 has been submitted.	Nil
6b	Area available for rehabilitation (ha) .	1.00 ha	Nil.	Violation pointed out.

6c	afforestation done (ha).	No specific proposal.	In 2018-19, an extent of 5.0 ha area has been covered under plantation.	Nil
6d	No. of saplings planted during the year	No proposal	In 2018-19, 24909 nos. of saplings were planted.	Nil
6e	Cumulative no .of plants	No specific proposal.	NA	Nil
6f	Any other method of rehabilitation	Not applicable.	Not applicable.	Nil
6g	Cost incurred on watch and care during the year	No specific proposal.	Not reported.	Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	No area is matured for reclamation & rehabilitation	No area is matured for reclamation & rehabilitation.	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not applicable.	Not applicable.	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	Nil.	Nil.	Nil.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not applicable.	Nil	Nil

6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No area is matured for reclamation & rehabilitation .	Not applicable.	Nil
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not applicable.	Not applicable.	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Nil	Nil	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not applicable.	Not applicable.	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring of air, water and noise level are envisaged.	Quarterly monitoring of air, water and noise level are being carried out.	Nil
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		No area matured for reclamation & rehabilitation . Quarterly monitoring of air, water and noise level are being carried out.	Nil

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 at Damanjodi.	Nil

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 at Damanjodi.	Nil
7c	Different grade of mineral sorted out at mines.	The entire ROM bauxite is usable irrespective of grade.	The entire ROM bauxite is consumed in the captive alumina refinery at Damanjodi.	Nil
7d	Any beneficiation process at mines .	No beneficiation facility at mine.	No beneficiation facility at mine.	Nil
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues		Total ROM bauxite is dispatched to its captive plant located at Damanjodi through 14.6km belt coveyor. There is no mineral conservation problem.	Nil

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.	Temporary stcks of top soil has been made for future utilisation	Nil
8b	Concurrent use or storage of topsoil	Scrapping of topsoil & stacking the same is envisaged.	Temporary stcks of top soil has been made for future utilisation	Nil
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/sub-grade 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.	Nil

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.	No area is matured for reclamation and rehabilitation.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Phased reclamation not 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.	No area is matured for reclamation and rehabilitation.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	5760 nos. of saplings plantation proposed in 2018-19.	Only 5760 nos. of saplings planted during 2018-19.	Nil
8g	Survival rate	Not specified.	Reportedly 85%	Nil
8h	Water sprinkling on roads to control airborne dust	Provisions for water sprinkling arrangements are envisaged.	Water sprinkling is being done on the haul roads on a regular basis to prevent the airborne dust from flying in air.	Nil
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area		As reported total 5760 nos. of saplings were planted in the lease area. Besides, water sprinkling is being done on the haul roads on a regular basis to prevent the airborne dust from flying in air. Aesthetic beauty in and around mined area is maintained.	Nil

Compliance of Rule 45:

Sl.No.	Item	Proposals	Actual work	Remarks
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9a	Status of submission of Monthly and Annual returns	Monthly & Annual returns are being regularly submitted by lessee to this office in time bound manner.	Submitted all the monthly and annual return for 2018-19.	Nil
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	The employment status of mining engineer, geologist & mine manager have been furnished in the annual return submitted for the year 2018-19.	Found to be in order.	Nil
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Pit-9.06 ha, Infrastructure, roads-52.340ha.	Pit-9.06 ha, Infrastructure, roads-52.340ha.	Nil
9d	Scrutiny of Annual return on afforestation	24909 nos of trees.	24909 nos of trees.	Found to be in order.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil.	Nil.	Nil.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM bauxite production reported in 2018-19 is 589100 Tonnes. Average grade 42.53% Al ₂ O ₃ .	Found to be in order.	Nil
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex mine price- Rs 845.94/-	Found to be in order.	Nil

9h	Scrutiny of Annual return on fixed assets	Rs. 351535000/-	Rs. 351535000/-	Nil
9k	Scrutiny of Annual return on mining machineries	Details of mining machinery deployed has been furnished.	The deployment status of mining machineries are found to be in order.	Nil

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
MCDR17	Rule 11(1)	10/10/2019			
MCDR17	Rule 45(5)(c)	10/10/2019			

Date :

(SHRI G.C. SETHI)

Indian Bureau of Mines