

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

MCDR INSPECTION REPORT

Bhubaneswar regional office

Mine file No : ORI/BXT/RGD/MCDR-1/BBS

Mine code : 07ORI27001

- (i) Name of the Inspecting : **RAM**) **RAMKISHAN R**
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri Mukhesh Jha, Mine Manager
Official with
Designation
- (iv) Date of Inspection : 17/01/2020
- (v) Prev.inspection date : 27/09/2019

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **BAPHLIMALI BAUXITE MINE**
- (b) **Registration NO.** : **IBM/75/2011**
- (c) **Category** : **A Fully Mechanised**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **ORISSA**
- District : **RAYGADA**
- Village : **PAIK-KUPAKHAL**
- Taluka : **KASHIPUR**
- Post office : **MAI KUNCH**
- Pin Code : **765015**
- FAX No. : **06865-287100**
- E-mail : **utkal.alumina@adityabirla.c**
- Phone : **06865-287040**
- (f) **Police Station** : **Andirakanch**
- (g) **First opening date** : **03/11/2012**
- (h) **Weekly day of rest** : **SUN**
2. **Address for correspondance** : **AT- DORAGUDA, PO- KUCHEIPADAR,
VIA- TIKIRI, DIST-RAYAGADA
ODISHA-765015**
3. (a) **Lease Number** : **ORI0676**
- (b) **Lease area** : **1388.74**
- (c) **Period of lease** : **30**
- (d) **Date of Expiry** : **16/02/2028**
4. **Mineral worked** : **BAUXITE** Main

5. Name and Address of the

Lessee : M/S UTKAL ALUMINA INTERNATIONAL LIMITED
 RANIGUDA FARM LANE RAYAGADA
 - 765001 ORISSA RAYGADA
 ORISSA
 Phone:06856-224193
 FAX :06856-223278

Owner : M/S UTKAL ALUMINA INTERNATIONAL LIMITED
 RANIGUDA FARM LANE RAYAGADA
 - 765001 ORISSA RAYGADA
 ORISSA
 Phone: 06856-224193
 FAX : 06856-223278

Agent : SHRI B.R.K. PADHI
 AT-DORAGUDA PO-KUCHEIPADAR
 DIST- RAYAGADA RAYGADA
 ORISSA
 Phone: 06865-287100
 FAX : 06865-287040

Mining Engineer

Name : SHRI B.R.K. PADHI, Full Time
 Qualification : B E MINING
 Appointment/ : 05/02/2014
 Termination date

Geologist

Name : SHRI K C JYOTISHI, Full Time
 Qualification : MSC GEOLOGY
 Appointment/ : 01/12/2018
 Termination date

Manager

Name : M.K. JHA
 Qualification : IST CLASS CERTIFICATE OF COMPETENCY
 Appointment/ : 01/01/2019
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining	:	Mining Scheme rule 12 MCDR1988	01/11/2012
		Modif. approved Mining Scheme	03/09/2014
		MP modif under 17(3) MCR 2016	11/11/2016
		MP modif under 17(3) MCR 2016	07/05/2018

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	No proposal. Lease area of 980.00 ha has been expored into G1 level. Unexplored lease area of 408.740 ha is Nonmineralized slope area.	Nil	The steeply sloping area is inaccessible for exploration and kept under unexplored category.
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	Lease area of 980.00 ha has been expored into G1 level. Unexplored lease area of 408.740 ha is Nonmineralized slope area.	Lease area of 980.00 ha has been expored into G1 level. Unexplored lease area of 408.740 ha is Nonmineralized slope area.	
1e	Balance reserve as on 01/04/20	In the Modification of review of mining plan, approved on 07.05.2018 the Bauxite reserves are 183.75 mil.t. and resources of 6.253 mil.t	Due to depletion/addition over the period of time the updated bauxite reserves as on 01.04.2019 are 178.45 Mil.t. and resources are 6.25 mil.t.	

1f General remarks of inspecting officers on geology, exploration etc

This M.L area is a part of Baphlimali hill which is characterized by a NE-SW trending bauxite capping surrounded by Khondalite on the slopes.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	quarry-1 is proposed for development during the year 2018-19.	development is carried out in quarry-1	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	The thickness of topsoil is very thin i.e. 20cm in average. Therefore no separate topsoil bench has been proposed. Scrapping of topsoil separately is proposed. separate benches in overburden and mineral are proposed.	separate benches in overburden and mineral are maintained	
2c	Stripping ratio or ore to OB ratio	1:0.36 t/cu.m.	1:0.38 t/cu.m.	Nil
2d	Quantity of topsoil generation in m3	43609 cu.m.	24901 cu.m.	
2e	Quantity of overburden generation in m3	1913717 cu.m. during the year 2018-19.	2053595 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	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	1 no. during the year 2018-19.	1 no.	
3b	Quantity of ROM mineral production proposed	5315777 t during the year 2018-19.	5299501 t	Nil
3c	Recovery of sailable/usable mineral from ROM production	5037773 t	5012123 t	
3d	Quantity of mineral reject generation	278004 t	287419 t	blended with high grade to make it usable.
3e	Grade of mineral rejects generation and threshold value declared.	+30-40% Al ₂ O ₃ , -5% R.SiO ₂	+30-40% Al ₂ O ₃ , R.SiO ₂	-5%
3f	Quantity of sub grade mineral generation.	addressed in mineral rejects coloumn	Not applicable	
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 proposed.	Nil	

3j	Provision of drilling and blasting in mineral benches	drilling and blasting is proposed.	carried out.	
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	6 m	maintained.	
3m	Total area covered under excavation/pits	As per MPM approved on 07.05.2018 the total area in excavation upto the end of the plan period is 230.14. ha	114.15 ha	Nil
3n	Ore to OB ratio for the pit/mine during the year.	1:0.36 t/cu.m.	1:0.38 t/cu.m.	
3o	Total area put in use under different heads at the end of year	As per MPM approved on 07.05.2018 the total area in excavation upto the end of the plan period is 286.301 ha	211.926 ha	
3p	Production of ROM mineral during the last five year period as applicable	2014-15 : 4500270 t 2015-16 : 4500084 t 2016-17 : 5304846 t 2017-18 : 5299244 t 2018-19 : 5315777 t	2014-15 : 3436090 t 2015-16 : 4499400 t 2016-17 : 5089000 t 2017-18 : 4368000 t 2018-19 : 5299500 t	

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)	Proposal of stacking of Topsoil generated and use of the same in plantation purpose. No dumping proposal of OB generated. It is proposed to backfill the mined out area by using waste/OB generated. Proposal of blending of subgrade/mineral rejects generated.	The topsoil generated has been stached and used for plantation purpose. The waste/OB generated has been used for backfilling. The mineral rejects blended during excavation and no separete stacking.	
4b	Location of topsoil, OB and mineral reject dumps	There is no proposal of dmping of topsoil/OB/mineral reject during the year 2018-19.	The OB/ waste has been used for backfilling as per proposal.	
4c	Number of dumps within lease area and outside of lease area	Not applicable	Nil	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Not applicable	Nil	
4e	Number of active and alive dumps.	Not applicable	Nil	

4f	Number of dead dumps.	Not applicable	Nil	
4g	Number of dumps established.	Not applicable	Nil	
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall-1035 m Garland drain-1270 m	provided.	
4i	Length of Retaining wall or garland drain all along dumps	Retaining wall-1035 m Garland drain-1270 m	provided.	part of the work has carried out during the year 2019-20.
4j	Number of settling ponds	Not proposed.	Nil	
4k	Specific comments of inspecting officer on waste dump management		No separate waste dump has been proposed during the year 2018-19. The waste material generated has been used for backfilling purpose.	

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.	It is proposed for full extraction of mineral from 21.32 ha of area during the year 2018-19.	carried out.	
5b	Area under backfilling of mined out area	21.32 ha during the year 2018-19.	carried out.	part of the work has been carried out durnig the year 2019-20.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	It was proposed to use tposil during backfilling and plantation.	carried out	

5d	Total area fully reclaimed and rehabilitated	16 ha during the year 2018-19.	carried out	part of the work has been carried out durnig the year 2019-20.
5e	General remarks of inspecting officers on backfilling and reclamation etc.		backfilling is carried out in the mined out area as propsoed.	

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 submitted before 1 st July		
6b	Area available for rehabilitation (ha) .	Not applicable	Nil	
6c	afforestation done (ha).	16 ha	carried out	part of the work has been carried out durnig the year 2019-20.
6d	No. of saplings planted during the year	40000 nos	43700 nos	part of the work has been carried out durnig the year 2019-20.
6e	Cumulative no .of plants		167600 nos	
6f	Any other method of rehabilitation	Not proposed.	Nil	
6g	Cost incurred on watch and care during the year		Nil	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	21.32 ha	21.32 ha	part of the work has been carried out durnig the year 2019-20.

6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	21.32 ha	carried out as per the proposal.	part of the work has been carried out durnig the year 2019-20.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	16 ha	carried out as per the proposal.	part of the work has been carried out durnig the year 2019-20.
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	
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.		PMCP measures were carried out as proposed.	Nil

Mineral Conservation:

Sl.No.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	grade-wise sorting of mineral is proposed.	carried out	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	mechanical	mechanical	
7c	Different grade of mineral sorted out at mines.	+30-40% Al ₂ O ₃ and +40% Al ₂ O ₃	+30-40% Al ₂ O ₃ and +40% Al ₂ O ₃	
7d	Any beneficiation process at mines	Not proposed.	Nil	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues		The lowgrade mineral blended with high grade and used.	

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Separate removal by scraping of topsoil proposed and use for backfilling/plantation.	carried out	
8b	Concurrent use or storage of topsoil	concurrent use of topsoil is proposed.	carried out	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	No separate dumping proposal	The waste /OB has been used for backfilling and mineral reject used for blending.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	OB/waste is proposed for backfilling of mined out area.	carried out	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Concurrent backfilling and plantation has been proposed.	carried out	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	81023 nos	43700 nos	
8g	Survival rate		80%	
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 maintained.
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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 8, Diploma Mining Engineer 7, Geologist 4	Graduate Mining Engineer 8, Diploma Mining Engineer 7, Geologist 4	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under pit- 114.15 ha Reclaimed area- 44.099 ha Area under dump-25.575 ha	Area under pit- 114.15 ha Reclaimed area- 44.099 ha Area under dump-25.575 ha	
9d	Scrutiny of Annual return on afforestation	39200 nos within lease area and 4500 nos outside lease area	39200 nos within lease area and 4500 nos outside lease area	
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 81864 t	ROM closing stock is 81864 t	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	production cost Rs. 719.35	production cost Rs. 719.35	

9h	Scrutiny of Annual return on fixed assets	Rs. 9535642402	Rs. 9535642402
9k	Scrutiny of Annual return on mining machineries	DUMPER 55.000 TONNE 6, DUMPER 60.000 TONNE 9, WATER TANKER 28000.000 LITRE 2, BACK HOE 4.500 CUM 2, BACK HOE 4.850 CUM 2, BACK HOE 1.900 CUM 2, BACK HOE 1.100 CUM 3 etc.,	DUMPER 55.000 TONNE 6, DUMPER 60.000 TONNE 9, WATER TANKER 28000.000 LITRE 2, BACK HOE 4.500 CUM 2, BACK HOE 4.850 CUM 2, BACK HOE 1.900 CUM 2, BACK HOE 1.100 CUM 3 etc.,

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

Date : NO violation.

R. Ranjiv
(RAMKISHAN R)

Indian Bureau of Mines