

MCDR INSPECTION REPORT**1.0 GENERAL**

SN	Particulars	Details
1	Name of inspecting office & designation & Accompanying officer	Rajesh Kumar Das, Sr ACOM Indian Bureau of Mines, Raipur & Shri Pankaj Mahanta, Mine Manager (Inspection done for processing Modification in approved Mining Plan)
2	Date of inspection	24-12-2019
3	Name of the Mine	Bodai-Daldali Bauxite Mines, Kawardha
4	Total Lease Area (Ha) with breakup of Non-forest and forest land	Total M.L. Area: 626.117 Ha. 592.551 Ha (Govt. and private lands) 33.566 Ha (Govt. revenue van nistar land)
5	Mine Code	07CHG09002
6	IBM Registration Number under rule 45 of MCDR, 1988	IBM/602/2011
7	Name of the lessee, Address, phone, email and fax number	M/s Bharat Aluminium Company Ltd. (BALCO) Shri Rajesh Mishra (Agent of Mines) Phone /Fax- 07759-242139 Mobile-09755000987 Email : rajesh.mishra@vedanta.co.in
8	Village	Mundadadar, Keshmarda, Rabda & Samseta
8	Taluka/Mandal / District	P.O : Baijalpur, Tahsil : Bodla, District: Kawardha
10	State	Chhattisgarh
11	Post office & PIN	Baijalpur
12	Nearest police station	Taregaon
13	Nearest Railway station	Raipur
14	Date of Grant of Mining Lease	07 th Oct 1996
15	Date of Execution	27 th March 1997
16	Date of opening of Mine	31 st March 2004
17	Date of first Renewal, if applicable and its period & expiry	Lease period from 27.03.1997 to 26.03.2047
18	Date of second Renewal, if applicable and its period & expiry	NA
19	Date of submission of renewal application if Mining Operations are continuing under deemed extension	NA
20	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Shri Abhijit Pati CEO office, Comprehensive Building Balco Nagar, Korba Email : Abhijit.Pati@vedanta.co.in Phone /Fax- 07759-242139 Date of Appointment : 19.08.2019
21	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri Rajesh Mishra (Agent of Mines) Raj Mahal Parisar, BALCO Office, Kawardha Phone /Fax- 07759-242139 Mobile-09755000987 Email : rajesh.mishra@vedanta.co.in Date of Appointment 01.02.2016
22	Name of the Mines Manager with Address, phone, email, fax number and	Shri Pankaj Mahanta Mines Manager

	date of appointment in mines	Bodai-Daldali Bauxite Mines. P.O.:- Baijalpur, Tahsil : Bodla District : Kawardha, Phone /Fax- 07759-242139 Mobile : 9981995991 Date of Appointment 15.07.2016
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23	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Shri. Pankaj Mahanta Mining Engineer, B.Tech Mining , Bodai-Daldali Bauxite Mines. P.O.:- Baijalpur Tahsil : Bodala, District : Kawardha Phone /Fax- 07759-242139 Mobile : 9981995991 Exp:- 15+ years Date of Appointment 15.07.2016
24	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 55& carrying out their duties as per rule 56&57.	YES
25	Date of Approval of Mining Plan/Modified Mining Plan with five-year period and specific condition in approval letter, if any.	17/11/2017 for the period 2017-18 to 2020-21
26	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five-year period and specific condition in approval letter, if any.	N/A
27	Mineral(s) granted in lease and proved for mining	Bauxite
28	Method of Mining (Opencast, Underground)	Opencast
29	Category (Fully Mechanised, Others or Manual)	Manual
30	Captive/Non Captive	Captive
31	Existing EC Limit and validity	12.50 LTPA valid up to March 26, 2047
32	Status of Financial Assurance	Rs.9,77,52,000/- (BG No.1637617BG0000270) Valid up to 31.03.2021.

Scientific Mining: Compliance of proposals of approved mining plan/scheme of mining. –

1.0 Exploration

SN	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No proposal	NIL	
1b	Exploration over lease area for Geological axis 1 or 2.	No exploration proposal	Nil	Broadly the area already explored in G1 category
1c	Exploration Agency & Expenditure in lakh Rupees	NA	NA	

	during the year			
1d	Balance area to be explored to bring Geological axis in 1 or 2	No such proposal	NA	Already explored entire lease hold area under G1 Category
1e	Balance reserves as on 01.04.2019 (in Million Tonnes)	1.257	2.41	Due to less production achieve
1f	General remarks of inspecting officer on geology, exploration etc.	The lease area broadly explored under G1 Category		

2.0 Development

SN	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t. lease area (Range in UTM/Local Coordinate/Plot No./Location)	N-450 TO N 500 & E 1650 TO E1900	NOT DONE	
		N-725 TO N-800 & E-175 TO 1925	NOT DONE	
		N-1675 TO N-1950 & E-1500 TO E-1700	N-1750 TO N-1950 & E-1650 TO E-1700	
		N-2050 TO N-2100 & E 1775 TO E-1900	N-2050 TO N-2100 & E 1775 TO E-1900	
		N-2375 TO N-2575 & E-1750 TO E-2075	N-2375 TO N-2575 & E-1750 TO E-2075	
		N-4175 TO N-4400 & E-1700 TO E-2150	N-4200 TO N-4400 & E-2100 TO E-2150	
		N-4800 TO N-5200 & E-1775 TO E-2150	N-5000 TO N-5200 & E-1775 TO E-1900	
		N-6025 TO N-6375 & E-1725 TO E-2550	N-6075 TO N-6200 & E-1750 TO E-1850	
		N-7000 TO N-7100 & E-2050 TO E-2250		
2b	Separate benches in topsoil, overburden and mineral (Rule 13)	OB: 3.00 M ORE :1.68 M	OB:3.00 M ORE : 1.61 M	Slightly less due to less production in

				respective year
2c	Stripping ratio or ore to OB ratio	1:0.81	1:0.85	
2d	Quantity of topsoil generation in m3	188140 m3	101020 m3	
2e	Quantity of overburden generation in m3	1559430 m3	572453 m3	
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	Deviation mainly due to less production in respective Year against proposal in approved mining plan. There is deviation in working area as shown in above table.		

3.0 Exploitation

SN	Item	Proposals	Actual work	Remarks
3a	Number of pits proposed for production	09 Nos	05 Nos	Deviation mainly due to working in less area for quality reason, only working where quality is good
3b	Quantity of ROM mineral production proposed	1922893 T	640600 T	Less production against proposed due to R&R issue
3c	Recovery of saleable/usable mineral from ROM production	65%	72%	Increase due to utilisation of some stacked subgrade mineral by blending at Mines Site
3d	Quantity of mineral reject generation	209010 CUM	57652 CUM	Less against proposed due to less production during the year
3e	Grade of mineral reject generation and threshold value declared	Below 30% alumina Above (+) 5% Reactive silica	Below 30% Al ₂ O ₃ & more than to 6 % of RSio ₂	
3f	Quantity of sub-grade mineral generation	192289 T	32020 T	
3g	Grade of sub-grade mineral generation	+30% Al ₂ O ₃ to (-) 38% Al ₂ O ₃	+30% Al ₂ O ₃ to (-) 38% Al ₂ O ₃	Subgrade mineral also dispatch with blending.
3h	Manual / Mechanised method adopted for segregating from ROM	Manual	Manual sorting	
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	Nil	Nil	
3j	Provision of drilling & blasting in mineral benches	HEMM (Backhoe, Dumpers, DTH)	HEMM (Backhoe, Dumpers, DTH)	

3k	Provision of mining machineries in mineral benches	YES	YES	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	YES	Maintained and not exceeded of 6 meter	
3m	Total area covered under excavation/pits	Not mentioned specifically yearwise	Broadly 380 ha. area used till date	
3n	Ore to OB ratio for the pit/mine during the year	1:0.81	1:0.85	
3o	Total area put in use under different heads at the end of year	Pit- 15.29 Ha Waste/reject: Nil Others- 410.98 Ha.	Pit- 4.19 Ha Waste/reject: Nil Others- 366.81 Ha	
3p	Production of ROM mineral during last five-year period, as applicable (in Metric Tonnes)	Yr- 2014-15: 1921855 Metric Tonnes Yr- 2015-16: 1922940 Metric Tonnes Yr- 2016-17: 1922695 Metric Tonnes Yr- 2017-18: 1369570 Metric Tonnes Yr- 2018-19: 1922893 Metric Tonnes	Yr- 2013-14: 689630 Metric Tonnes Yr- 2014-15: 1263600 Metric Tonnes Yr- 2015-16: 1539900 Metric Tonnes Yr- 2016-17: 1571300 Tonnes Yr- 2017-18: 869000 Metric Tonnes Yr- 2018-19: 640600 Metric Tonnes	
3q	General remarks of inspecting officer on method of mining etc.	The method of mining is broadly as per proposal		

4.0 Solid Waste Management-Dumping

SN	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 36, 37)	NA	Nil	Concurrent backfilling system has been adopted and only top soil is dumped short period not kept more than six months.
4b	Location of topsoil, OB & mineral reject dumps (Range in UTM/Local Coordinate/Plot No./Location)	NA	Nil	
4c	Number of dumps within lease area and outside lease area	NA	Nil	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 14)	NA	Nil	
4e	Number of active & alive dumps	NA	Nil	
4f	Number of dead dumps	NA	Nil	
4g	Number of dumps stabilised	NA	Nil	
4h	Whether Retaining wall or garland drain all along dumps are there	NA	Nil	
4i	Length of Retaining wall or	NA	Nil	

	garland drain all along dump		
4j	Number of settling ponds	NA	Nil
4k	Specific comments of inspecting officer on waste dump management	No major dump therefore no such comments. The waste material and top soil is used for concurrent backfilling as mining is shallow depth 4-5 meter depth..	

5.0 Solid Waste Management-Backfilling

SN	Item	Proposals	Actual work	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	47.04 ha.	12.30 ha.	Due to Less production against proposed in approved mine plan
5b	Area under backfilling of mined out area	45 ha.	9.00 ha.	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 36)	Spread over backfilled area	Spread over backfilled area	
5d	Total area fully reclaimed & rehabilitated	286.08 ha.	211.04 ha.	
5e	General remarks of inspecting officer on backfilling, reclamation etc	The area is partially backfilled.		

6.0 Progressive Mine Closure Plan

SN	Item	Proposals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly - Rule 23. Details should be given in the format as given in Annexure-20.	Complied	Complied	
6b	Management of worked/mined out benches i) Area available for rehabilitation (ha) ii) Afforestation done (ha) iii) No. of saplings planted during the year iv) Cumulative no. of plants v) Any other specific method of rehabilitation vi) Cost incurred on watch & care during the year	45.00 Ha 75.00 Ha 150000 Nos 957602 Nos By plantation 1.13 Crore	9.00 Ha Nil Ha Nil 812602 Nos By plantation Nil	
6c	Compliance on reclamation and rehabilitation by backfilling i) Voids available for backfilling (L X B X D) ii) Void filled by waste/tailings iii) Afforestation on the backfilled area iv) Rehabilitation by making water reservoir	45.00 Ha 45.00 Ha 75.00 Ha Nil	9.00 Ha 9.00 Ha Nil Ha Nil	

	v) Any other specific means	Nil	Nil	
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitated (ha) iii) Method of rehabilitation	75.00 Ha 75.00 Ha By Plantation	Nil Nil By Plantation	
6e	Compliance of Environmental monitoring (core zone & buffer zone)	Air, Water and Noise parameter will maintained up to permissible limit	Maintained	
6f	General remarks of inspecting officer on PMCP compliance & progressive	The deviation in PMCP work due to less production.		

7.0 Mineral Conservation

SN	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	1922893 T	640600 T	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Manual	Manual	
7c	Different grade of mineral sorted out at mines	NA	Nil	
7d	Any beneficiation process at mines	NA	Nil	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	During mine visit no subgrade mineral is observed and as reported that subgrade is also dispatch by blending.		

8.0 Environment

SN	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 36)	188140 m3	101020 m3	
8b	Concurrent use or storage of topsoil	188140 m3	101020 m3	Spreaded over the backfilled area
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 37)	NA	Nil	
8d	Use of overburden, waste rock, rejects and fines dumps for	1559430 m3	572453 m3	

	restoring the land to its original use			
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Reclamation :45.00 Ha Afforestation 75.00 Ha	Reclamation :9.00 Ha Afforestation Nil Ha	
8f	Baseline information on existence of plantation & additional plantation done (Rule 44)	150000 Nos	Nil	
8g	Survival rate	70%	Nil	
8h	Water sprinkling on roads to control airborne dust	Complied	Complied as proposed	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines are	No such adverse impact observed.		

9.0 Compliance of Rule 45

S. N.	Item	COMMENTS	Remarks
	Status of submission of Monthly and Annual returns	M.R. Submitted upto- Nov'19 A.R. submitted upto- 2018-19	

S. N.	Item	Details GIVEN in A.R.	Observation of I/Officer	Remarks
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Yes Given	Shri S C Sao, Mining Engineer, Shri Pankaj Mahanta, Manager & Md Shabaj Khan, Geologist	Shri Pankaj mahanta is also mining engineer
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Yes Given	The land use given is broadly as per field position	
9d	Scrutiny of Annual return on afforestation	Within lease 5000 nos saplings	NIL	
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	178700 below 30% Al ₂ O ₃		
9f	Scrutiny of Annual return on ROM stock and/or graded ore	3537	As reported	
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	Rs 1370.96/- Ex-mine price & cost of production of grade 40-45% Al ₂ O ₃		
9i	Scrutiny of Annual return on fixed assets	Yes Given	Rs 67153/-	
9k	Scrutiny of Annual return	Yes given	Backhoe excavator of	

	on mining machineries		bucket capacity 0.90 cum & Dumper 20 tons	
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10- Details of violations observed during current inspection and compliance position of earlier violation pointed out:-

The last inspection was carried out by Shri S.Kartikeye, Jr.Mining Geologist dated 12/03/2019 and the violation pointed out was taken compliance. During present inspection following violation pointed out:

<p>Mining operations should have been undertaken in accordance with the approved Mining Plan. The Modified Mining Plan was approved vide letter no कबीध / बॉक्स /खयो-1121201/7-रायपुर dated 17.11.2017 and following deviation was observed during inspection</p> <ol style="list-style-type: none"> 1. As the working is not as per designated area the backfilling is also not as per proposal and backfilling is done partially in 9 ha. area against the proposal of 45 ha.. 2. It is proposed to do afforestation in 75 ha. area of 150000 nos saplings but against that on ly 5000 nos sapling reported for the year 2018-19. <p>While scrutiny of Annual returns 2018-19 following deviation observed:</p> <ol style="list-style-type: none"> i.The name of Mining Engineer is given as Shri S C Sao whereas, as per record Mining Engineer is Shri Pankaj Mahanta. ii. total working day is mentioned 361 days. iii. Fixed Asset is given only Rs 67153/- which is very less.
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(Rajesh Kumar Das, Senior Assistant Controller of Mines, D.O.I. 24/12/2019)