

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

**MCDR inspection REPORT
Ranchi regional office**

Mine file No : BIH/GLA/BX/211/RRO

Mine code : 07BHR32006

- (i) Name of the Inspecting : **K005**) **B.P. KERKETTA**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Sri Pradeep Kumar, Geologist
Official with
Designation
- (iv) Date of Inspection : 07/09/2019
- (v) Prev.inspection date : 12/01/2017

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **CHIRODIH (31.42)**
- (b) **Registration NO.** : **IBM/1266/2011**
- (c) Category : B Manual
- (d) Type of Working : Opencast
- (e) Postal address :
State : JHARKHAND
District : GUMLA
Village : CHIRODIH
Taluka : BISHUNPUR
Post office : JOBHIPAT
Pin Code :
FAX No. : NA
E-mail : mmppsingh_bauxite@yahoo.co.:
Phone : 06526-24017
- (f) Police Station : BISHUNPUR
- (g) First opening date : 10/04/1984
- (h) Weekly day of rest : SAT
2. Address for : AT-CHIRODIH
correspondance : VILLAGE- JAWADIH, P.O- JOBHIPAT
DIST.- GUMLA, JHARKHAND
3. (a) Lease Number : BHR0253
- (b) Lease area : 31.42
- (c) Period of lease : 50
- (d) Date of Expiry : 23/03/2034
4. Mineral worked : BAUXITE Main

5. Name and Address of the

Lessee : M.M.P. SINGH
 AT/P.O.- LOHARDAGA DIST.
 LOHARDAGA LOHARDAGA
 JHARKHAND
 Phone:06526-24017
 FAX :

Owner : M.M.P.SINGH
 AT-LOHARDAGA PO/DIST-
 LOHARDAGA JHARKHAND
 LOHARDAGA JHARKHAND
 Phone:
 FAX :

Mining Engineer

Name : KRISHNA KANT KAMAL,Full Time
 Qualification : B Tech (Mining)
 Appointment/ : 01/02/2017
 Termination date

Geologist

Name : PRADEEP KUMAR,Full Time
 Qualification : M Sc (Geology)
 Appointment/ : 01/02/2017
 Termination date

6. Date of approval of Mining	:	Existing rule 11 MCDR1988	10/07/1998
Plan/Scheme of Mining		Renewal under rule 24 MCR1960	18/07/2008
		Mining Scheme rule 12 MCDR1988	13/11/2014
		MP review under 17(1) MCR 2016	20/12/2018

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	nil	nil	
1b	Exploration over lease area for geological axis 1 or 2	nil	nil	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Nil	Nil	
1d	Balance area to be explored to bring Geological axis in 1 or 2	nil	nil	
1e	Balance reserve as on 01/04/20		Proved Mineral Reserve (111) 925853MT Probable Mineral Reserve(122) 366283MT	Mine is temporary closed from 01/07/2012 and reopened on 26/12/2016
1f	General remarks of inspecting officers on geology, exploration etc		The bauxite deposits are mostly associated with high level laterite, occurred as thin, irregular and discontinuous lenses or tabular bodies within the laterite capping. The ore is gibbsite (Al ₂ O ₃ , 3H ₂ O). 9 boreholes (coring type) as proposed during the year 2015-16 were not given as the mine was not in operation since July 2012 to 25/12/2016 for want of EC. So far lessee has carried out exploration in the leasehold in the form of 6 quarries and 4 pits.	

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	Southern extension of Q1 between grid line 19S to 110N & 25W to 135W	Southern extension of Q1 between grid line 19S to 110N & 25W to 135W
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Soil-1m Morrum-1m Laterite- 1m Bauxite-3m	Soil-1m Morrum-1m Laterite- 1m Bauxite-3m
2c	Stripping ratio or ore to OB ratio	1: 0.37	1: 0.36
2d	Quantity of topsoil generation in m3	7434cum	2141cum
2e	Quantity of overburden generation in m3	13466cum	3877cum
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc		The mine was not in operation since July 2012 for want of EC and re-opened on 26/12/2016. After re-opening of the mine the lessee could not develop the mine as proposed due to less demand of bauxite in the market.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Q1	As per proposal	
3b	Quantity of ROM mineral production proposed	65958MT	18992.77MT	
3c	Recovery of sailable/usable mineral from ROM production	80%	As per proposal	
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	N/A	N/A
3h	Manual / Mechanised method adopted for segregating from ROM	manual	manual
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	There was provision of drilling and blasting in mineral benches.	Drilling and blasting in mineral benches done.
3k	Provision of mining machineries in mineral benches	There is proposal for use of only compressor and jackhammer drill, crowbars, spades, sledgehammers etc. in the approved document. Tractors will be used for transportation of OB & waste. No other power equipment has been proposed.	The machineries proposed were in use during the period.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Soil-1m Laterite- 2m (Av.) Bauxite-3m	Soil-1m Laterite- 2m (Av.) Bauxite-3m

3m	Total area covered under excavation/pits	0.85ha.	0.60ha	As on date of inspection
3n	Ore to OB ratio for the pit/mine during the year.	1: 0.37	1: 0.36	
3o	Total area put in use under different heads at the end of year	Total area proposed to be covered under excavation was 6.4 ha during the plan period 2014-15 to 2018-19.	Total area put to use as on date of inspection was as given below: i.Excavated quarries 8.17 ha (including 0.881 ha backfilled, . Road: 0.48 ha, . OB dump: 1.36 ha.) ii.Covered under current (O/C) workings 0.51ha.iii. REclaimed /rehabilitated area 0.18ha.Total area put to use - 8.86 ha.	
3p	Production of ROM mineral during the last five year period as applicable	2014-15 54870MT 2015-16 66091MT 2016-17 65393MT 2017-18 65007MT 2018-19 65958MT	2014-15 nil 2015-16 nil 2016-17 1530MT 2017-18 36870MT 2018-19 18992.77MT	
3q	General remarks of inspecting officers on method of mining etc.		Manual method of mining as proposed using crow bars, picks spades, sledgehammers etc. and manual separation and sorting of bauxite is done in the mine. Bench height and width were maintained as stipulated.	

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
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4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Concurrent backfilling in previous work out area.No proposal for separate dumping of top soil, OB & mineral rejects have been made in the approved scheme of mining for the plan period 2014-15 to 2018-19. The soil, OB & mineral rejects generated during the mining will be	As per proposal. 7025 tonnes of waste was reported to be generated during the year. Two waste dumps are located in the lease area.
		simultaneously used for backfilling in the previous working areas.	
4b	Location of topsoil, OB and mineral reject dumps	Not applicable as there was no proposal for separate dumping of topsoil, OB and mineral reject.	Two old waste dumps are located in the southern and western side of the lease area.
4c	Number of dumps within lease area and outside of lease area	During the plan period no waste dump was proposed.	Two old waste dumps are located in the southern and western side of the lease area.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	During the plan period no waste dump was proposed.	Two waste dumps are located in the lease area. Waste dump no. 1 is located on the west of the quarry no. 1 and waste dump no. 2 is located in the south of quarry no. 1 and 6.

4e	Number of active and alive dumps.	No proposal for dumps during the plan period 2014-15 to 2018-19 in the approved document.	No active dump present within the lease. Two old waste dumps are located in the lease area. Waste dump no. 1 is located on the west of the quarry no. 1 and waste dump no. 2 is located in the south of quarry no. 1 and 6.
4f	Number of dead dumps.	No proposal for dumps during the plan period 2014-15 to 2018-19 in the approved document.	Two old waste dumps are located in the lease area. Waste dump no. 1 is located on the west of the quarry no. 1 and waste dump no. 2 is located in the south of quarry no. 1 and 6.
4g	Number of dumps established.	No proposal for dumps during the plan period 2014-15 to 2018-19 in the approved document.	The dumps have been inactive due to non operation of the mine since July 2012 to 25/12/2016 became stabilised naturally with the growth of vegetation.
4h	Whether Retaining wall or garland drain all along dumps are there.	There is no proposal for retaining wall or garland drain along dumps as the waste dumps are to be re-handled at a later period.	No retaining wall or garland drain have been made along the dumps.
4i	Length of Retaining wall or garland drain all along dumps	There is no proposal for retaining wall or garland drain in the approved document.	Nil
4j	Number of settling ponds	There is no proposal for settling ponds in the approved document.	No such settling ponds have been created.
4k	Specific comments of inspecting officer on waste dump management	Not applicable.	There are two old waste dumps located within the lease area on which thick vegetation has been grown. The dumps are non active at present.

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.	Concurrent backfilling in previous work out area	As per proposal. Only 0.18 ha area is reclaimed in quarry no. 1.	
5b	Area under backfilling of mined out area	0.51ha.	0.120ha.	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Concurrent use of topsoil for restoration or rehabilitation of mined out area proposed.	Carried out as per proposal	
5d	Total area fully reclaimed and rehabilitated	0.51ha.	0.18ha	
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Not applicable.	The mining operation in the mine was discontinued since July 2012 to 25/12/2016 for want of EC. An area of about 0.18 ha has been reported to be backfilled out of 8.68 ha of excavated area during 2018-19.	

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).	No such proposal was there.	Annual report on PMCP submitted for the year 2018-19.	
6b	Area available for rehabilitation (ha) .	0.51	0.120	
6c	afforestation done (ha).	0.51ha, 375nos.	0.12ha, 100nos. with 50% survival rate.	
6d	No. of saplings planted during the year	375nos	100nos.	

6e	Cumulative no .of plants	As per approved document, 1875 no. of plants have been proposed to be planted during the plan period 2014-15 to 2018-19.	As reported 100nos. of plantation has been done during the year 2018-19, covering an area of about 0.12 ha. The mining operation was discontinued since July 2012 to 25/12/2016 for want of EC. After re-opening, lessee could not achieve the target due to unavailability of aquired land. Cumulative figure of plantation is not available.
6f	Any other method of rehabilitation	Green belt	Green belt
6g	Cost incurred on watch and care during the year	11250/-	3500/-
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	123mx42mx6m	43mx15mx6m
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	24144cum.	6952cum
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	As per approved document, 1875 no. of plants have been proposed to be planted during 2014-15 to 2018-19 covering an area of 2.76 ha. During 2018-19, 375 no. of plants proposed to be planted.	No plantation has been made over backfilled area.

6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not proposed.	nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No such proposal has been made.	Not applicable.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	375nos	100nos.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No such proposal has been made.	Not applicable.
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Green belt	Green belt
6p	Compliance of environmental monitoring (core zone and buffer zone)	Ambient air quality monitoring has been proposed during the plan period from 2014-15 to 2018-19.	No environment monitoring was carried out during the year.

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	The mining operation in the mine was discontinued since July 2012 for want of EC. The mine is re-opened on 26/12/1016. The lessee could not achieve the proposal made in the approved document for the period from 2014-15 to 2018-19 with regard to excavation schedule, production target, reclamation / backfilling proposal, environmental monitoring etc. due to less demand of bauxite in the market.
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Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	No proposal has been made in the approved document.	During the year, 18913.30 MT of bauxite of 45% to <50% Al ₂ O ₃ grade was dispatched from the mine.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual	Manual	
7c	Different grade of mineral sorted out at mines.	No such proposal has been made in the approved document.	No grade wise sorting of ore is done. The bauxite of the leasehold can be classified as high grade or refractory grade (+55% Al ₂ O ₃) and metal grade or low grade (+40% Al ₂ O ₃). Apart from these two grades, the less quantity ore generated is being blended with high grade to use as metal grade.	
7d	Any beneficiation process at mines .	No such proposal has been made in the approved document.	No mineral beneficiation is done in the mine. The total run-of-mine is sorted out by hand picking and sizing were done at the mine site.	

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Not applicable.	No mineral beneficiation was done except sorting of mineral by hand picking and sizing at the mine site. All possible efforts were taken by the lessee for conservation & beneficiation.
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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	There is proposal for separate removal of top soil and is to be utilised by spreading over the backfilled areas.	Separate removal of top soil was carried out and utilised by spreading over the backfilled areas.	
8b	Concurrent use or storage of topsoil	Concurrent use of topsoil for restoration or rehabilitation of mined out area.	Carried out as per proposal	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Concurrent backfilling in previous work out area	Carried out as per proposal	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Concurrent backfilling in previous work out area	Carried out as per proposal	

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Phased restoration, reclamation and rehabilitation of land has been proposed in the last approved document. Year wise details of the area to be backfilled are given below. 2014-15: 0.7 ha, 2015-16: 0.4 ha, 2016-17: 0.62 ha, 2017-18: 0.53 ha, 2018-19: 0.51 ha. Total 2,76 ha area to be backfilled and rehabilitated.	As per available record, about 1.06 ha area has been backfilled. Mining operation in the mine was discontinued since July 2012 for want of EC. The mine was re-opened on 26/12/2016.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Green belt Plantation-375	Green belt Plantation- 100
8g	Survival rate	No proposal of survival rate	50%
8h	Water sprinkling on roads to control airborne dust	No proposal of water sprinkling on road.	It was reported that water sprinkling arrangement done during dry season.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area		Mining operation in the mine was discontinued since July 2012 for want of EC. The mine is re-opened on 26/12/2016. Jungle jhari area of 9.494 ha lies within the lease area. Mining activity is being carried out in non-forest areas. Aesthetic beauty in and around the mine has not been disturbed by the mining activity.

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly return upto July' 2019 and Annual returns 2018-19 has been submitted giving information under employment of labour & wages paid, capital structure, consumption of materials, consumption of explosives, general geology & mining, production, dispatch & stock and cost of production.	Lessee has submitted Monthly Returns upto July'2019and Annual Return for the year 2018-19 within stipulated time.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Shri Krishna Kant Kamal, AMIE(Mining) Shri Pradeep Kumar, M.Sc. (Geology), Shri Sadanand Srivastava (Foreman)	Shri Krishna Kant Kamal, AMIE (Mining) Shri Pradeep Kumar, M.Sc. (Geology), Shri Sadanand Srivastava (Foreman)	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area exploited & abandoned by opencast mining 8.17 ha , Area covered under current (O/C) workings 0.51ha, and reclaimed / rehabilitated: 0.18 ha. Work done under progressive mine closure plan. 2.5ha. in forest land and 8.38ha. in non forest land.	Area exploited & abandoned by opencast mining 8.17 ha , Area covered under current (O/C) workings 0.51ha, and reclaimed / rehabilitated: 0.18 ha. Work done under progressive mine closure plan. 2.5ha. in forest land and 8.38ha. in non forest land.	
9d	Scrutiny of Annual return on afforestation	Plantation-100 Survival-50%	Plantation-100 Survival-50%	Safety zone plantation

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	The Opening stock & closing stock -Nil, Production - 18992.77MT were shown in the Annual return. The Grade is 45 % to below 50% Al2O3. Despatch of 45 % to below 50% Al2O3 grade Bauxite was 18913.30MT & Closing stock was 175.89MT	The figures furnished for opening & closing stocks are in conformable with the figures furnished in the return.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Sale value 2018-19 is Rs.500/MT, Ex. Mine price- Rs.500/MT, Production cost- Rs.451/MT	Sale value 2018-19 is Rs.500/MT, Ex. Mine price- Rs.500/MT, Production cost- Rs.451/MT
9h	Scrutiny of Annual return on fixed assets	Nil	Nil
9k	Scrutiny of Annual return on mining machineries	Information on mining machineries furnished in part-V, item 5 of annual return 2018-19 are: Tractor-1no. ,30HP	The machineries Air compressor- 1no., Tractor-1 & water tanker 1 were in use in the mine.

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

Violation observed				Show couse position		
Rule NO.		Issued on	Compliance on	Rule NO.	Issued on	Compliance on
MCDR17	Rule 11(1)	23/09/2019	02/12/2019			
MCDR17	Rule 35(2)	23/09/2019	02/12/2019			

Date :

(B.P. KERKETTA)

Indian Bureau of Mines