

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

Mining Plan inspection REPORT

Jabalpur regional office

Mine file No : MP/KATNI/LAT-38

Mine code : 75MPR47015

- (i) Name of the Inspecting : **G005**) **SANJAY M. GIRHE**
Officer and ID No.
- (ii) Designation : Regional Mining Geologist
- (iii) Accompanying mine :
Official with
Designation
- (iv) Date of Inspection : 08-FEB-20
- (v) Prev.inspection date :

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **TIKARIYA (27.02 HA)**
- (b) **Registration NO.** :
- (c) Category : A Other than Fully Mech.
- (d) Type of Working : Opencast
- (e) Postal address :
State : MADHYA PRADESH
District : KATNI
Village :
Taluka :
Post office :
Pin Code :
FAX No. : NA
E-mail : NA
Phone : NA
- (f) Police Station : NIWAR
- (g) First opening date :
- (h) Weekly day of rest :
2. Address for : SHRI SHANKAR LAL VISHWAKARMA
correspondance : JALPA DEVI WARD, KATNI (M.P.) 483501
3. (a) Lease Number :
(b) Lease area :
(c) Period of lease :
(d) Date of Expiry :
4. Mineral worked : LATERITE Main
BAUXITE Associated
FIRECLAY Associated

5. Name and Address of the

Lessee : SHANKAR LAL VISHWAKARMA
JALPA DEVI WARD KATNI
MADHYA PRADESH
Phone:N. A.
FAX :N. A.

Owner : SHANKAR LAL VISHWAKARMA
JALPA DEVI WARD KATNI
MADHYA PRADESH
Phone: N. A.
FAX : N. A.

6. Date of approval of Mining	:	Fresh under rule 22 MCR1960	03-JUN-04
Plan/Scheme of Mining	:	Modif.of approved Mining Plan	28-JUL-09
	:	Mining Scheme rule 12 MCDR1988	02-MAY-11
	:	Mining Scheme rule 12 MCDR1988	03-JUN-15

MCDR INSPECTION REPORT

1.0 Exploration

SN	Item	Proposals (2018-19)	Actual work (2018-19)	Remarks
1a	Backlog of previous year	No exploration was proposed during the year. But exploration was proposed in 2015-16	Exploration not carried out as per the proposals	Violation of rule 11(1) of MCDR,2017 pointed out & issued
1b	Exploration over lease area for Geological axis 1 or 2.	No exploration was proposed during the year	Nil.	
1c	Exploration Agency & Expenditure in lakh Rupees during the year	No exploration was proposed during the year	Not Applicable as no proposed exploration carried out.	Not available as no exploration carried out
1d	Balance area to be explored to bring Geological axis in 1 or 2	Entire lease area explored in G1 by working pit & previous 11 drilled boreholes	Entire lease area explored in G1 by working pit & previous 11 drilled boreholes	Bauxite ore mineralisation proved up to 28mts depth
1e	Balance reserves as on 01.04.2019	Reserves in Tonnes Proved (111)-3075208 Resources in tonnes Feasibility (211): 3225096 The balance reserves as on 1/4/2015 as per SOM approved on 03/06/2015	Reserves in Tonnes Proved (111)-1185396 Resources in tonnes Feasibility (211): 1382184 The balance reserves as on 1/4/2019 as per annual return 2018-19	No additional reserves estimation done.
1f	General remarks of inspecting officer on geology, exploration etc.	Exploration was carried out by 07 boreholes in ML area and mostly area is explored by way of working pit up to 28m and remaining area depth ward yet to be explored in G1 level.		

2.0 Development

SN	Item	Proposals (2019-20)	Actual work (2019-20)	Remarks
2a	Location of development w.r.t. lease area	It was proposed to work towards east from 407 to 380mRL	Mine working was not carried out as per the proposals	Violation of rule 11(1) of MCDR,17 pointed out & issued
2b	Separate benches in topsoil, overburden and mineral (Rule 15)	Separate bench of 2mts proposed for top soil/OB. For Bauxite bench of 5-6m proposed	Worked out as per the proposals	Most of the working lease is devoid of top soil. Sufficient development work carried out by removing top OB/lateritic soil.
2c	Stripping ratio or ore to OB ratio	1:0.19 tonne/CuM	1:0.13 tonne/CuM	7872 CuM OB generated during the year
2d	Quantity of topsoil generation in (cum)	No Proposed	Nil	Area mostly devoid of top soil
2e	Quantity of overburden generation in m ³	26240M ³ Proposed during the year	7872 CuM overburden generated during the year 2018-19. Because of less production OB is less	
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	Mining lease area worked out haphazardly by different pits and bauxite mineralisation proved up to 28mts. Systematic approach for scientific mining is required		

3.0 Exploitation

SN	Item	Proposals (2018-19)	Actual work (2018-19)	Remarks
3a	Number of pits proposed for production	There is excavation was proposed for production in 13120 m ² area in along the southeast boundary of the area up to 380mRL	Mine working was not carried out as per the given proposals	Violation of rule 11(1) of MCDR,17 pointed out & issued
3b	Quantity of ROM mineral production proposed	(2017-18)-: 490443MT (2018-19)-:349736MT	(2017-18)-: 120425MT (2018-19)-: 124400MT	Due to lack of demand in market production is less.
3c	Recovery of salable/usable mineral from ROM production	90% Salable Ore 10% Waste of ROM	Achieved as per the proposals	About 10% of ROM generated as inter-burden waste.
3d	Quantity of mineral reject generation	Not Proposed	Nil	No ore rejection, entire utilised
3e	Grade of mineral reject generation and threshold value declared	Not Proposed	No mineral reject generation was proposed	
3f	Quantity of sub-grade mineral generation	Not Proposed	Nil	Neither any proposals were given for subgrade limestone nor any generated during the year.
3g	Grade of sub-grade mineral generation	Not Proposed	Nil	Not Proposed during the year
3h	Manual / Mechanised method adopted for segregating from ROM	Manual sizing & sorting proposed	Manual sizing & sorting done	Screening within the lease area
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	Not Proposed	Nil	Lessee is not having any plan for beneficiation study.
3j	Provision of drilling & blasting in mineral benches	No drilling & blasting proposed	NA	Due to soft strata no need to drilling and blasting
3k	Provision of mining machineries in mineral benches	Excavator- EX100(5) Tippers-10MT(16) Water Tanker-4KL Dewatering pump-20HP	Excavator-EX350(1) Tippers-19MT(4) Water Tanker-4KL Dewatering pump-10HP	HEMM deployment proposed as per the capacity & targeted production.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	2.0m height for development bench & 5.0m in Ore proposed	1.0m height for development bench & 3.0m in Ore achieved.	2.0m height for development bench & 5.0m in Ore proposed
3m	Total area covered under excavation/pits	16.98 Ha.	16.7 Ha.	Less lateral excavation. Working carried out in already working pit.
3n	Ore to OB ratio for the pit/mine during the year	1:0.16	1:0.13	7872 CuM OB generated during the year
3o	Total area put in use under different heads at the end of year	Pit- 16.98 ha. OB dumps-3.88 ha. Infrastructure-0.1170Ha Road-0.36Ha	Pit- 16.7 ha. OB dumps-1.83ha Infrastructure-0.1170Ha Road-0.28Ha	No lateral excavation, production was carried out in already working pit.
3p	Production of ROM mineral during last five-year period, as applicable	2014-15: 145800MT	2014-15: 50500MT	Production details as per annual returns from 2014-15 to 2018-19
		2015-16: 100800MT	2015-16: 102000MT	
		2016-17: 198450MT	2016-17: 108000MT	
		2017-18: 307441MT	2017-18: 120425MT	
		2018-19: 219240MT	2018-19 :42700MT	
3q	General remarks of inspecting officer on method of mining etc.	Open cast mechanised working proposed by using Excavator & dumper combination without drilling & blasting. Bauxite Mineralisation proved up to depth of 28mts. by working pits.		

4.0 Solid Waste Management-Dumping

SN	Item	Proposals (2018-19)	Actual work (2018-19)	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32, 33)	17400m ³ intercalated waste and 26240 m ³ OB proposed during in year	5532m ³ intercalated waste and 7872 m ³ OB generated during in year	
4b	Location of topsoil, OB & mineral reject dumps	OB dumping proposed along with southern part of the area	Not done	Waste used to maintenance in mine road
4c	Number of dumps within lease area and outside lease area	Five OB dumps within lease area located toward South-western side	Five OB dumps within lease area located toward South-western side	No dumping outside ML
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	OB/waste proposed outside ultimate pit limits	Existing OB dumps outside the UPL	Dumps locations duly marked on surface/working plan
4e	Number of active & alive dumps	At Present one OB dump in the lease area towards south-western part of ML	At Present one OB dump in the lease area towards south-western part of ML	
4f	Number of dead dumps	Four dead dumps in the lease area	Four dead dumps in the lease area	
4g	Number of dumps stabilised	Not Proposed	Nil	
4h	Whether Retaining wall or garland drain all along dumps are there	Not Proposed	Nil	
4i	Length of Retaining wall or garland drain all along dump	Not Proposed	Nil	
4j	Number of settling ponds	Not Proposed	Nil	
4k	Specific comments of inspecting officer	The mine waste is in the form of lateritic-bauxite mixed and some bauxite is being recovered from this waste.		

5.0 Solid Waste Management-Backfilling

SN	Item	Proposals (2018-19)	Actual work (2018-19)	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	Not Proposed	None of the quarry area is fully ore exhausted. Hence, scope doesn't exist.	Backfilling proposed on 7.5m barrier zone
5b	Area under backfilling of mined out area	Not Proposed	No working pit area backfilled so far now	7.5m barrier zone area backfilled at some locations
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	Not Proposed	Nil	No top soil generation was proposed during the year
5d	Total area fully reclaimed & rehabilitated	Not proposed during the year 2018-19	Backfilling not carried out during the year	
5e	General remarks of inspecting officer on backfilling, reclamation etc	As on date mineral not exhausted in any pits, hence this aspect is not applicable.		

6.0 Progressive Mine Closure Plan

SN	Item	Proposals (2018-19)	Actual work (2018-19)	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly - Rule 26(2). Details should be given in the format as given in Annexure-20.	To be submitted before 1st July of every year	Not submitted within time limit as per the provisions of Rule 26 of MCDR,2018	Violation under Rule 26(2) of MCDR,17 pointed out
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	Not Proposed	Not done	Mining operations are continued & no benches matured so far rehabilitation purpose so far.
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 v) Any other specific means	Not Proposed	Backfilling carried out as proposed over 7.5m barrier zone	Mining operations are continued & no benches matured so far rehabilitation purpose so far.
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitated (ha) iii) Method of rehabilitation	Not Proposed	Nil	Rehabilitation not proposed over waste land
6e	Compliance of Environmental monitoring (core zone & buffer zone)	Periodical Air, Water, Noise monitoring Proposed	Carried out as per the proposals	Analysis reports were provided during the inspection
6f	General remarks of inspecting officer on PMCP compliance & progressive	Scope of PMCP work is not very well existed in the lease area as none of the working pit fully ore exhausted. Backfilling was proposed at 7.5m barrier zone.		

7.0 Mineral Conservation

SN	Item	Proposals (2018-19)	Actual work (2018-19)	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	219240 tonnes proposed as total ROM production for despatch. Grade wise sorting proposed	42700 tonne ore produced & 44780 tonne cement grade bauxite dispatched	Production of only cement grade bauxite carried out during the year
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Manual sizing & sorting proposed	Manual sizing & sorting carried out	Sizing & sorting carried out within ML area
7c	Different grade of mineral sorted out at mines	Sizing & sorting proposed for cement & metallurgical grade	Sizing & sorting carried out for cement & metallurgical grade	
7d	Any beneficiation process at mines	No beneficiation proposed within ML area	Not done	Not proposed in approved MP
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	Bauxite ore is being conserved by suitable sizing & sorting by manual means. Mostly bauxite of cement grade being supplied to the nearby cement industries.		

8.0 Environment

SN	Item	Proposals (2018-19)	Actual work (2018-19)	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No top soil generation & utilization proposed	Nil	Top soil not encountered
8b	Concurrent use or storage of topsoil	Not Proposed	Nil	No generation of top soil proposed during the year.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	OB generated proposed for dumping & some quantity for backfilling at 7.5m barrier zone & maintenance of road .	Dumping & backfilling carried out as per the proposals	
8d	Use of overburden, waste rock, rejects and fines dump for restoring the land to its original use	Some quantity of overburden proposed for backfilling purpose at 7.5m barrier zone & rest for dumping purpose.	Dumping & backfilling carried out as per the proposals	None of the working pit fully ore exhausted, hence scope of backfilling doesn't exist presently
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not Proposed	Nil	Working pits not matured for the said purpose
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	80 saplings were proposed for plantation during the year	Total 25 saplings planted during the year	
8g	Survival rate	Proposed 80%	Achieved about 80%	
8h	Water sprinkling on roads to control airborne dust	Water sprinkling is proposed by water tanker	Regular water sprinkling is done by water tanker	Water tanker of 5KL capacity is provided for the purpose
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Aesthetic beauty in and around mine area is not good as sufficient numbers of saplings have not been planted.		

9.0 Compliance of Rule 45

S.N	Item	COMMENTS	Remarks
.	Status of submission of Monthly and Annual returns	M.R. submitted upto– January-2020 A.R. submitted upto- 2018-19	Annual Return for the year 2018-19 submitted within time limit

S.N	Item	Details GIVEN in A.R. 2018-19	Observation of I/Officer	Remarks
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Given	Shri Ramanad appointed as Mining Eng. & Mr Vivekanand Mishra as Geologist	Were present during mines inspection
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Given	Pit- 16.7 ha. OB dumps-1.83ha Infrastructure-0.1170Ha Road-0.28Ha	As per the monthly return submitted online for the month of January-2020, it is observed that closing stocks at mine head of Cement grade bauxite ore is
9d	Scrutiny of Annual return on afforestation	Given	Total 25 Saplings planted during the year with about 80% survival rate	
9e	Scrutiny of Annual return on mineral reject generation	Not Given	No mineral rejects generated during the year	

	(Grade & quantity)			reported as 31,363.881 Tonnes and for other grade of bauxite like Abrasive, Refractory & Violation of Rule 45(7) of MCDR,2017 pointed out for- Chemical grade no closing stock quantities were furnished. However, during inspection of the site, it is observed that the bauxite ore quantities of specified grades at site are appears to be mismatching with available stocks.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Given	<u>Cement grade bauxite:</u> O/S-21376 tonnes Despatch-44286 tonnes C/S-19249 tonne	
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	Given	<u>Cement grade bauxite:</u> Rs-198/Tonne	
9i	Scrutiny of Annual return on fixed assets	Not Given	NA	

- 10- Details of violations observed during current inspection and compliance position of earlier violation pointed out: - This inspection was carried out in connection with MCDR/Star Ratings inspection and during inspection violation of rules 11(1), 26(2), 31(4), 35(2), 45(7) of MCDR,2017 were pointed out and accordingly violation letter was issued.

Sanjay M. Girhe
Regional Mining Geologist
RO, Gandhinagar
Dt: 16.12.2021
