

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

**MCDR inspection REPORT
Jabalpur regional office**

Mine file No : MP/SATNA/BAUXITE/45

Mine code : 07MPR35114

- (i) Name of the Inspecting : **G007**) **RAGHUBIR SHARAN GARG**
Officer and ID No.
- (ii) Designation : Assistant Controller Mine
- (iii) Accompanying mine : Shri Shyam Gopal Saxena, Mining Engineer
Official with
Designation
- (iv) Date of Inspection : 17-OCT-22
- (v) Prev.inspection date :

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **JARIYARI BAUXITE MINE (4.**
- (b) **Registration NO.** : **IBM/21189/2017**
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address :
State : MADHYA PRADESH
District : SATNA
Village :
Taluka :
Post office :
Pin Code :
FAX No. :
E-mail : info@jiwanlime.com
Phone : 07622 223212
- (f) Police Station :
- (g) First opening date : 08-DEC-21
- (h) Weekly day of rest : SUN
2. Address for : Village: Jariyar, P.O. Maihar,
correspondance District: Satna (M.P.) - 485010
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 : JIWAN LIME CHEMICALS PVT. LTD.
INDUSTRIAL AREA, KATAYGHAT
ROAD, KATNI (M.P.) 483501
KATNI MADHYA PRADESH
Phone:07622-223212
FAX :

6. Date of approval of Mining : MP review under 17(1) MCR 2016 20-JUL-21
Plan/Scheme of Mining

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Twenty three borehole of 25meter each	Exploration was not done as per the proposal. Against 23 no. of boreholes only evidence of 12 no. of boreholes were found during inspection of mines. 11 number of more boreholes were supposed to be done in the light of approved proposals.	Violation of rule 11(1) pointed out against above deviation.
1b	Exploration over lease area for geological axis 1 or 2	Entire lease area explored upto G2 level. Accordingly 23 no. of boreholes were proposed to drill in 2021-22 so that G2 level of reserves may be converted into G1 level.	12. no. of boreholes have been drilled .	Bauxite is well exposed through working as well as bore holes already drilled. Based on exposures of bauxite in mine working as well as borehole data overall in large extent mineralised area may be considered into G1 level.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not proposed.	Engeotech Consultant and Expenditure Rs. 343050/- only.	-
1d	Balance area to be explored to bring Geological axis in 1 or 2	Already under G2 level of mineralised area explored. For conversion into G1 level of entire lease area 23 boreholes were proposed.	Bauxite is well exposed through working as well as 12 no. of bore holes already drilled during 2021-22. Based on exposures of bauxite in mine working as well as borehole data overall in large extent mineralised area may be considered into G1 level.	-
1e	Balance reserve as on 01/04/20	as on 01/04/2021 111-197583 211-36417 331-234000	as on 01/04/2022 111-194773.5 211-36417 331-23119050	

1f	General remarks of inspecting officers on geology, exploration etc	Bauxite is well exposed through working as well as 12 no. of bore holes already drilled during 2021-22. Based on exposures of bauxite in mine working as well as borehole data overall in large extent mineralised area may be considered into G1 leve
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Stating from southern statutory barrier zone about 40m advancement towards North.	Practically mining operations had also been noticed between grid line N2677442 & N2677530 and E495265 & E495305 by following the bottom contour of about 605mRL	Deviation pointed out through violation of rule 11(1).
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Top Soil bench with 0.5m height	Top soil already removed from the proposed site as well as other area under current working.	-
2c	Stripping ratio or ore to OB ratio	1:0.35	Bauxite is also found with top soil as a outcrops. Therefore entire mineral produced from the mine have kept separately with an intension of sreening of the entire produce of excavation.	Refractory grade mineral dispatched fromthe mineafter sorting.

2d	Quantity of topsoil generation in m3	2610cum	As with top soil occurances of bauxite were also observed and hece after sorting entire left out excavated material have been stacked with an intension to mechanised screening.	-
2e	Quantity of overburden generation in m3	2610cum	As with top soil occurances of bauxite were also observed and hece after sorting entire left out excavated material have been stacked with an intension to mechanised screening.	-
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			As with top soil occurances of bauxite / Laterite were also observed and hece after sorting entire left out excavated material have been stacked with an intension to mechanised screening.It appears that entire produced from the mine is marketable first in the name of bauxite and latter on as laterite.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	One	One	No deviation
3b	Quantity of ROM mineral production proposed	28028tonne	2809.5tonne	Mining operation commenced in the mine on 08/12/2021

3c	Recovery of sailable/usable mineral from ROM production	65%	100%	Bauxite deposit is of refractory grade particuylarly from where excavations had been carried out. There is possibilities that remains portion of mined excavated mineral have a market either in form of bauxite or as a laterite.
3d	Quantity of mineral reject generation	Nil	Not reported.	-
3e	Grade of mineral rejects generation and threshold value declared.	NA	NA	-
3f	Quantity of sub grade mineral generation.	Nil	Not reported	-
3g	Grade of sub grade mineral generation	Not applicable	NA	-
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.	Not Proposed	Not Applicable	-
3j	Provision of drilling and blasting in mineral benches	Not proposed	Not Applicable	-
3k	Provision of mining machineries in mineral benches	Hydraulic Shovel	Hydraulic Shovel with rock breaker facility.	-

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Hight of bench in top soil 0.5m and in Mineral 4.0m	Yes, there are oly mineral bench of 4.0m height for which mechnary deployed is most suitable.	-
3m	Total area covered under excavation/pits	5220sqm.	about 10000sqm	It appears the due to excavation of mineral carried out from hilly terian,so more area than the proposed one got affected by mining.
3n	Ore to OB ratio for the pit/mine during the year.	1:0.35	100%	Entire excavated mineral other than lumps have been kept stack for screening. After screening of refractory grade bauxite left out portion may have market as laterite which is granted as associated mineral.
3o	Total area put in use under different heads at the end of year	1.0	1.0hect	Total area put in use under different heads at the end of year does not exceed than the one for which financial assurance have bee given at the time of approvalm of mining plan. In the light of increase of rate of financial assurance violation of rule 27(2) have been pointed out.

3p	Production of ROM mineral during the last five year period as applicable	2017-18 42768 2018-19 42768 2019-20 42768 2020-21 42768 2021-22 28028	2017-18 2018-19 2019-20 2020-21 2021-22	0 0 0 0 2809.5	Mining Operation in the mine commenced on 08/12/2021.
3q	General remarks of inspecting officers on method of mining etc.				Open cast mechanised working proposed by using Excavator & dumper combination without drilling & blasting Single working pit is developed.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Top Soil- 2923cum, OB 7512cum and reject Nil	Top Soil, OB and reject Nil	Bauxite of the lease area is very high quality - Refractory Grad. At present lumps generated from the mining have been dispatched to their sister concerned Refractory Unit in the name of Mahakaushal Refractory Pvt. Ltd. Rest i.e. so called Top soil, OB (laterite) mixes with fines of refractory grade bauxite is stacked for screening purpose.

- 4b Location of topsoil, OB and mineral reject dumps
 Soil -On Southern 7.5m statutory boundry area, OB and mineral reject dumping were not priooposed as entire OB/ intercalated mine waste was envisaged for preparation of road and generation of Mineral reject is envisged as nil.
 As stated earlier there is no separate soil, only lateritic soil with laterite and outcrops of refractory grade bauxite were seen in the area salected for excavation. Lateric soil mixed with laterite and fines of high grade bauxite is found separately stacked on proposed site as well as area from where mineral is excavated.
- 4c Number of dumps within lease area and outside of lease area
 Only Soil dump with in lease area.
 As stated earlier there is no separate soil, only lateritic soil with laterite and outcrops of refractory grade bauxite were seen in the area salected for excavation. Lateric soil mixed with laterite and fines of high grade bauxite is found separately stacked on proposed site as well as area from where mineral is excavated.
- 4d Location of dumps w.r.t. ultimate pit limit (Rule 16)
 On selection of site for dumping ultimate pit limit have well considered.
 As stated earlier there is no separate soil, only lateritic soil with laterite and outcrops of refractory grade bauxite were seen in the area salected for excavation. Lateric soil mixed with laterite and fines of high grade bauxite is found separately stacked on proposed site as well as area from where mineral is excavated.

4e	Number of active and alive dumps.	One	Dump Nil and Mineral stack one	As stated earlier there is no separate soil, only lateritic soil with laterite and outcrops of refractory grade bauxite were seen in the area selected for excavation. Lateric soil mixed with laterite and fines of high grade bauxite is found separately stacked on proposed site as well as area from where mineral is excavated.
4f	Number of dead dumps.	Nil	Nil	-
4g	Number of dumps established.	Not proposed	Not Applicable.	-
		as mining operation commenced only in Dec,2021.		
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall proposed.	As per proposal.	-
4i	Length of Retaining wall or garland drain all along dumps	75m	75m	-
4j	Number of settling ponds	2	2	-

4k	Specific comments of inspecting officer on waste dump management	As stated earlier there is no separate soil, only lateritic soil with laterite and outcrops of refractory grade bauxite were seen in the area selected for excavation. Lateritic soil mixed with laterite and fines of high grade bauxite is found separately stacked on proposed site as well as area from where mineral is excavated. Thus there is no waste generation and thus waste dump management issues not there.
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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.	About 0.6hect	During the year under consideration only 1/10 of proposed prouction could be achieved as mining operation commenced in the lease area very late only on 08/12/2021. As on date of inspection about total area under mining and allied activities were found 1.0hect.	-
5b	Area under backfilling of mined out area	Not proposed	Not observed. it was found that other than lump all the generated ROM were stacked on mined out area with an intension of screening.	-

5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not proposed rather separate stacking proposed.	Top soil with laterite and fractions of high grade bauxite generated during mining operation separately stacked at mined out area.	-
5d	Total area fully reclaimed and rehabilitated	Not proposed	Not Applicable.	
5e	General remarks of inspecting officers on backfilling and reclamation etc.			Backfilling of mined out area not proposed in the light of deposit (Hilly blanket deposit).

Progressive Mine Closure Plan:

Sl.No.	Item	Proposals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	NA	PMCP report for 2021-22 has been submitted.	-
6b	Area available for rehabilitation (ha) .	Nil	NA	-
6c	afforestation done (ha).	Not proposed	Plantation over 7.5m statutory barrier zone (On Northern and western barrier zone) noticed.	-
6d	No. of saplings planted during the year	NA	100 no of saplings planted during current rainy season.	Health of plantation carried out by the lessee were found very good..
6e	Cumulative no .of plants	NA	100 no of saplings planted during current rainy season.	
6f	Any other method of rehabilitation	Not proposed	Not found.	

6g	Cost incurred on watch and care during the year	Not Proposed	108000/-	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L x B x D	0.6hect	0.06hect	Mining operation in the ine commenced very late i.e on 08/12/2021.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not proposed.	Not carried out. Only laterite with lateritic soil and fractions of refractory grade bauxite temporarily stacked in mined out area.	
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	ot proposed.	Not Applicable	
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not Proposed	Not carried out.	
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not Proposed	Not carried out.	
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not proposed	Not applicable	

6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not proposed	NA	
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not proposed	NA	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Proposed	Carried out.	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			Mining operation in the lease area commenced in the month of Decemeber,2021. Plantation carried out on statutory barrier zone were observed. Care of plantation appears very nice. Overall performance on PMCP may be reviewed in susiquent years.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	28028	2011.38 Refractory Grad3e	Entire mineral produced from the mine are refractory grade.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual	Manual	-

7c	Different grade of mineral sorted out at mines.	Refractory & metal Grade	Refractory	So far entire Bauxite produced from the mine supplied to Refractory unit.
7d	Any beneficiation process at mines .	Not Proposed except manual sorting.	As per proposal	No deviation
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			There is no issue regarding mineral conservation. At present manual sorting is in practice.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Proposed.	In lease area lateritic soil with laterite and bauxite outcrops are there. Although top soil was proposed to be removed separately but during mining operation it was noticed that entire excavated material have market either in form of refractory grade bauxite or in form of laterite. After sorting out of refractory grade bauxite entire produced from the mine are kept in mined out area with an intension of screening of entire material.	seeing the utility of mineral deviation may be acceptable.
8b	Concurrent use or storage of topsoil	Separate stacking on statutory barrier zone was proposed.	As stated earlier entire mineral produced from the mine have utility so whatever in little quantity of lateritic soil generated is kept with mineral stock.	-

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Proposed	Other than lump of refractory grade bauxite entire mineral produced is kept at mined out area of lease with an intensification of screening of refractory grade bauxite.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not proposed	Not applicable.	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not proposed	Not applicable as after mining top of the hill will be sliced upto mineralisation level.	-
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	The lease area devoids of big plants only shrubs were present within the lease area. about one hectare area covered under mining operation upto the date of inspection from where shrubs have been removed. 10 plants each year proposed to be planted.	2021--22 was the first year of the approved document presently valid. Plantation all along northern & western barrier zone of the lease area have been planted. About 160 saplings were found under healthy condition.	-
8g	Survival rate	80%	More or less 80%	-
8h	Water sprinkling on roads to control airborne dust	Yes, proposed	Evidences of water sprinkling noticed.	

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Overall aesthetic beauty in and around of lease area is very fine as it is located within forest area and lies in top of a hill. Green forest in a large span about kms on three directions i.e. North, South and East from the lease area have a very nice look. Efforts of lessee towards mitigation of adverse impact of mining on environment is appears very good.
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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 Returns due for October, 2022 and Annual Returns against 2021-22.	Received Monthly Returns upto October, 2022 and Annual Returns against 2021-22.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Information on Mining Engineer and Geologist not given appropriately.	A diploma in Mining & Mine Surveying with Ist class Mine Manager certificate holder had appointed as Full Time Mining Engineer and a part time Mining Geologist appointed in the mine.	Considering lease area, level of mining and category of mine appointed person as a Mining Engineer and Mining Geologist are acceptable.

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	<p>12. Lease area Information given in AR (surface area) 2021-22 is acceptable. utilisation as at the end of year (hectares)</p> <p>Under forest</p> <p>(i) Already exploited & abandoned by opencast (O/C) mining</p> <p style="padding-left: 40px;">0.000</p> <p>(ii) Covered under current (O/C) Workings</p> <p style="padding-left: 40px;">1.000</p> <p>(iii) Reclaimed/Rehabilitated</p> <p style="padding-left: 40px;">0.000</p> <p>(iv) Used for waste disposal</p> <p style="padding-left: 40px;">0.000</p> <p>(v) Occupied by plant, buildings, residential, welfare buildings & roads</p> <p style="padding-left: 40px;">0.250</p> <p>(vi) Other Purpose ()</p> <p style="padding-left: 40px;">0.000</p> <p>(vii) Work done under progressive mine closure plan during the year</p> <p style="padding-left: 40px;">0.000</p>	-
9d	Scrutiny of Annual return on afforestation	<p>(i) Number of trees planted during the year 200</p> <p>(ii) Survival rate in percentage</p> <p style="padding-left: 40px;">80.00</p>	<p>A good number of plantation particularly on Norther and Western statutory barrier zone were observed.</p> <p style="text-align: right;">OK</p>

9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Indicated as Nil	Furnished information is correct, there is no mineral reject generation in the mine.	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM stock Nil and Graded stock 798.12tonne of refractory grade	Yes, it is correct.	-
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Sales value and Ex Mine Price both are indicated as Rs. 4883.47 per tonne, Production cost Rs.4605.84per tonne	1.Payment against royalty and dead rent have been shown on the return. Royalty and Dead Rent both cannot be charged at a time. So information furnished in this regard needs correction. 2.i.Details of DMF paid to State Govt. indicated as nil, appears incorrect. Actual amount paid towards DMF need be mentioned. 3. 12 no. of boreholes drilled during the year. but in calculation of cost of production, cost of borehole drilling had not been taken into account.	
9h	Scrutiny of Annual return on fixed assets	Value of Fixed Assets (in ?) 38330290/-	Acceptable.	-
9k	Scrutiny of Annual return on mining machineries	Type of machinery Capacity of each unit No.of units BACK HOE 1.000 CUM 1 DUMPER 10.000 TONNE 1	Backhoe is also facilitate as rock breaker.	OK

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)	27-OCT-22			
MCDR17	Rule 27(1)	27-OCT-22			
MCDR17	Rule 33	27-OCT-22			
MCDR17	Rule 34(1)	27-OCT-22			
MCDR17	Rule 45(1)	27-OCT-22			

Date :

(RAGHUBIR SHARAN GARG)

Indian Bureau of Mines