INDIAN BUREAU OF MINES
MINERALS DEVELOPMEMT AND REGULATION DIVISION

MCDR INSPECTION REPORT

Ajmer regional office

Mine file No : RAJ/PAL-32/L.ST-1 **Mine code : 38RAJ21001**

(i) Name of the Inspecting Officer and ID No. : **JQ03) Jangid G.K.**

(ii) Designation : Regional Controller Mines

(iii) Accompaning mine Official with Designation : Sh. Sandeep Singh, Mines Agent

(iv) Date of Inspection : 03-AUG-22

(v) Prev.inspection date : 02-JUL-21

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **RAS (803.33 HA)**

(b) Registration NO. : **IBM/447/2011**

(c) Category : A Mechanised

(d) Type of Working : Opencast

(e) Postal address

State : RAJASTHAN
District : PALI
Village : RABRIYAWAS
Taluka : JAITARAN
Post office : RABRIYAWAS
Pin Code : 306709
FAX No. : 02939288030
E-mail : sandeep.singh@ambujacement
Phone : 02939-289209,288011,288012

(f) Police Station : Ras

(g) First opening date : 10-FEB-96

(h) Weekly day of rest : SUN

2. Address for correspondance : AMBUJA CEMENT LTD.
P.O:-RABRIYAWAS, TEH :- JAITARAN
DIST:-PALI, RAJASTHAN,306709

3. (a) Lease Number : RAJ1604
(b) Lease area : 803.43
(c) Period of lease : 50
(d) Date of Expiry : 29-DEC-45

4. Mineral worked : LIMESTONE Main

5. Name and Address of the

Lessee : AMBUJA CEMENT LTD
VILL.- RABARIYAWAS DIST- PALI PALI RAJASTHAN
Phone:02939-288011-18
FAX :02939-288030

Owner : Neeraj Akhoury
Elegant Business Park,MIDC Cross Road Boff Andheri Kurla Road Mumbai Andheri East,Maharastra-400059
MUMBAI (SUBURBAN)
MAHARASHTRA
Phone:
FAX :

Agent : Sandeep Singh
Ambuja Cement Limited
Rabadiyawas Jaitaran PALI
RAJASTHAN
Phone: 9001090758
FAX :

Mining Engineer
Name : Rajnish Bora,Full Time
Qualification : B.E.(Mining Engg)
Appointment/ Termination date : 11-AUG-16

Geologist
Name : Amit sharma,Full Time
Qualification : M.Sc(Geology)
Appointment/ Termination date : 01-AUG-20

Geologist
Name : Santanu Chatterjee,Full Time
Qualification : M Sc Geology(Integrated)
Appointment/ Termination date : 24-MAY-16 31-JUL-20

Manager
Name : Sandeep Singh
Qualification : B. E. (Mining Engg), FCC (R)
Appointment/ Termination date : 15-JUL-10 31-MAR-22

6. Date of approval of Mining Plan/Scheme of Mining :

Existing rule 11 MCDR1988	27-JUN-97
Mining Scheme rule 12 MCDR1988	05-SEP-02
Modif.approved Mining Scheme	10-JAN-05
Mining Scheme rule 12 MCDR1988	21-MAR-06
Modif.approved Mining Scheme	30-MAR-09
Mining Scheme rule 12 MCDR1988	04-NOV-11
Mining Scheme rule 12 MCDR1988	30-JUL-15
MP modif under 17(3) MCR 2016	25-JUL-18
MP review under 17(1) MCR 2016	30-DEC-19
MP modif under 17(3) MCR 2016	16-AUG-21

PART – II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Total 33 boreholes each with meterage of 3426m and 3181m were proposed during the year 2019–20 and 2020–21.	Total 20 and 33 boreholes were reported as completed during the year 2019–20 and 2020–21 with meterage of 1049m and 2271m respectively.	Backlog of 13 boreholes was proposed in the year 2021–22 and reported completed with meterage of 1225m.
1b	Exploration over lease area for geological axis 1 or 2	Area Under G1= 183.21hHa, G2= 31.38ha, Non Mineralized Zone: 588.84ha and Total Area: 803.43ha	Area Under G1= 183.21hHa, G2= 31.38ha, Non Mineralized Zone: 588.84ha and Total Area: 803.43ha. There is no change in area under G–1 and G–2 after exploration.	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Synergy Geotech, Nagpur and expenditure of Rs 28.68 Lakhs	Synergy Geotech, Nagpur and expenditure of Rs 28.68 Lakhs	
1d	Balance area to be explored to bring Geological axis in 1 or 2	There was no proposal to carry out exploration over G–2 area located in two Northern Ridges.	All the 13 boreholes during 2021–22 have been drilled in G–1 area only covering entire mineralized area. So change in G–1 and G–2 category for the area covered under exploration.	An Area of 31.38ha under G2 is yet to explore to convert into G–1 category and there is no proposal till 2024–25.
1e	Balance reserve as on 01/04/20	Opening balance as on 01.04.2021 was 94.75 million tonnes.	Balance reserves are 92.90 million tons as on 31.03.2022	
1f	General remarks of inspecting officers on geology, exploration etc	Nil	Exploration carried out during 2021–22 is not shown on updated plan as 31.03.2022 and therefore, violation letter issued in this regard.	

Development :

Sl.No.	Item	Propasals	Actual work	Remarks

2a	Location of development w.r.t.lease area	W Ridge: + 402mRL from N6150-N6600/E4400-E4700, W Ridge: +370 mRL from N5500-N5700/E4100-E4600, SW Ridge: +370 mRL from N2600-N3100/E4500-E4600, SW Ridge: +362 mRL fromN2700-N3900/E4100-E4400 and Eastern Ridge.	W Ridge: + 402mRL from N6150-N6600/E4400-E4700, W Ridge: +370 mRL from N5500-N5700/E4100-E4600, SW Ridge: +370 mRL from N2600-N3100/E4500-E4600, SW Ridge: +378 mRL from N2700-N3900/E4100-E4400 Working in Eastern ridge is not carried out.	V/l for rule 11(1) issued.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Different hillocks are exposed with limestone with interburden waste without topsoil. So topsoil generation was not proposed.	Different hillocks are exposed with limestone with interburden waste without topsoil and backhoe excavator is used for better segregation of interburden inbetween the limestone band. Topsoil generation is not there.	
2c	Stripping ratio or ore to OB ratio	ROM to waste IB was proposed as 1:0.59	ROM to waste IB is 1:0.37	
2d	Quantity of topsoil generation in m3	Nil	Nil	
2e	Quantity of overburden generation in m3	Interburden generation of 843272m3 was proposed.	Interburden of 268650.8m3 generated during the year.	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Nil	Limestone mineralised ridges has Interburden waste in the deposit and needs careful segregation during loading in dumper.	

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks

3a	Number of pit proposed for production	Proposal was there to work at six different locations on four ridges.	Actual development and production carried out at five locations in three ridges.	V/l issued for deviation.
3b	Quantity of ROM mineral production proposed	3599705t ROM limestone.	2537074t ROM limestone.	
3c	Recovery of sailable/usable mineral from ROM production	80% receovery of salable/usable mineral from ROM production was proposed.	100% receovery of salable/usable mineral from ROM production is reported. Screen reject is also used by blending with purchased limestone sourced from nearby minor mineral leases through traders.	V/l is issued for purchasing minor mineral limestone.
3d	Quantity of mineral reject generation	Mineral reject of 719714t was proposed.	Mineral reject of 697867t was reported in the AR 2021-22.	Mechanical Screen & wobbler installed.
3e	Grade of mineral rejects generation and threshold value declared.	Proposed grade of MR was not mentioned.	Mineral reject grade is 70% SiO_2, 6% Al_2O_3, 7% CaO and 3% Fe_2O_3 as per AR 2021-22.	
3f	Quantity of sub grade mineral generation.	Nil	Nil	
3g	Grade of sub grade mineral generation	Nil	Nil	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised Screen & wobbler installed and continued to propose for use.	Mechanised Screen & wobbler installed.	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No	No	
3j	Provision of drilling and blasting in mineral benches	Yes, 115mm dia holes and its deephole blasting was proposed.	Yes, 115mm dia holes and its deephole blasting is carried out.	

3k	Provision of mining machineries in mineral benches	1) Back Hoe – 4.50CuM, 2) Back Hoe– 3.60 CuM–, 3) Dumper – 50.00Ton, 4)Dozer – 303.00HP, 5)Front End Loader– 3.10CuM, 6)Tipper– 8.00CUM, 7) Motor Grader – 195.00HP, 8)Rock Drill(Non Elect)– 115.00MM, 9)Road Roller– 11.70Ton, 10) Crusher– 1200.00T/H, 11)Water Tanker– 14000LT, 12)Water Tanker– 20000LT, 13)Explosive Van– 2.97Tonne, 14)Explosive Van– 4.225Tonne	Above all machineries are in use.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Separate benches are not possible to propose in interburden benches having thin bands.	Separate benches are not maintained in interburden benches having thin verical bands inbetween usable limestone.
3m	Total area covered under excavation/pits	157.38 ha	155.74 ha
3n	Ore to OB ratio for the pit/mine during the year.	1:0.59	1:0.37
3o	Total area put in use under different heads at the end of year	162.48 ha including 2.36 ha plantation	159.10 ha including 2.36 ha plantation

3p	Production of ROM mineral during the last five year period as applicable	2021-2022: 3.60 million tons, 2020-2021: 3.60 million tons, 2019-20:3.33 million tons, 2018-19: 3.28 million tons and 2017-18: 3.30 million tons	2021-2022:~2.54 Mio ton, 2020-2021:~2.92 Mio ton, 2019-20: 1.88 Mio tons, 2018-19: 2.32 Mio tons and 2017-18: 2.16 Mio tons	Achieved production is always less than target due to purchase of limestone sourced from nearby minor mineral leases in Pali district.
3q	General remarks of inspecting officers on method of mining etc.	Opencast mechanised method of mining is being used since commencemnt of mining operations and same was proposed.	Opencast mechanised method of mining is being used since commencemnt of mining operations. Backhoe excavators are in use instead of front end for better visualization of waste material to the operators.	

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Topsoil generation is not there and separate dumps for interburden waste and mineral rejects is proposed.	Topsoil generation is not there and separate dumps for interburden waste and mineral rejects is maintained.	
4b	Location of topsoil, OB and mineral reject dumps	No topsoil generation and stacking. Total seven dumps for IB and one for MR are proposed over existing dumps.	No topsoil generation and stacking. Existing dumps for IB and one for MR are in use.	
4c	Number of dumps within lease area and outside of lease area	Total seven dumps for IB and one for MR are proposed and all are existing dumps within ML area.	All these dumps are in use and located near the pits/ridges.	

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	IR waste dumps are located in west side of the ridges and screen reject dumps are located in east side of the ridges. Apart from these, one pegmatite dump is there near eastern ridge. Proposal is to extend few dumps for next three years.	IR waste dumps are located in west side of the ridges and screen reject dumps are located in east side of the ridges. Western side IB dumps are not extended as per planning.	
4e	Number of active and alive dumps.	All eight dumps are active and alive dumps.	All eight dumps are active and alive dumps.	
4f	Number of dead dumps.	Nil	Nil	
4g	Number of dumps established.	Nil	Nil	
4h	Whether Retaining wall or garland drain all along dumps are there.	Proposed 440m and 425m garland drain during the year; whereas advancement of these dumps also proposed.	Reported as completed by constructing 450m retaining wall & 425m garland drain; however updated plans as on March 2022 are not showing these details.	V/l issued for the deviation.
4i	Length of Retaining wall or garland drain all along dumps	Proposed 440m and 425m garland drain during the year; whereas advancement of these dumps also proposed.	Construction of 450m retaining wall & 425m garland drain is reported; however updated plans as on March 2022 are not showing these details.	
4j	Number of settling ponds	One	One	
4k	Specific comments of inspecting officer on waste dump management	Nil	Dump W2 and W3 are not advanced at the proposed location; thereby proposed retaining wall and garland drain, as reported completed, not found during inspection.	

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.	NA	NA
5b	Area under backfilling of mined out area	NA	NA
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	NA	NA
5d	Total area fully reclaimed and rehabilitated	NA	NA and Nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Nil	Mineral is persisting in depth and pits are not matured, so backfilling is not applicable.

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).	Yes, it is submitted within due date.	The area covered under construction of 450m retaining wall & 425m garland drain is not reported and dumps are not advanced as per proposal. No retaining wall and garland drain found at proposed location.	
6b	Area available for rehabilitation (ha) .	Nil	Nil, although plantation has been carried out on active dumps as well on matured part.	
6c	afforestation done (ha).	Planned over 1.0ha area.	Reported over 2.36 ha area.	
6d	No. of saplings planted during the year	Proposed for 1000 saplings.	Actual reported as 3360 nos.	
6e	Cumulative no .of plants	Nil	50600 nos as on year end.	
6f	Any other method of rehabilitation	Nil	Nil	

6g	Cost incurred on watch and care during the year	1.60 lacs	3.36 lacs reported.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Nil	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Nil	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Nil	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Nil	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Nil	Nil
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Yes	Yes, it is carried out on active dumps matured part.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Nil	Nil

6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Nil	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	Yes, on quarterly basis	Yes, on quarterly basis reported and submitted the report.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Nil	Reported retaining wall and garland drain in the PMCP report is not vsisble on updated plans, drone image and during inspection and therefore, violation letter issued in this regard.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	No grade wise sorting is proposed.	Total ROM is supplied for crushing and despatch.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Nil	Nil	
7c	Different grade of mineral sorted out at mines.	No sorting is proposed.	No sorting is required. Excavators are deployed on different faces/pits as per grade of limestone required to maintain the quality.	
7d	Any beneficiation process at mines .	Mechanical screening & Crushing is proposed with 80% recovery and 20% mineral reject.	Mechanical screening & Crushing is carried out with 100% utilization.	

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	No issue in grade and reject generation etc is proposed.	No issue in grade and reject generation etc is there. Mineral reject from screening plant is separately stacked in the dumps. Company is purchasing limestone from nearby minor mineral leases through dealers/traders to conserve and utilise low grade deposit.	

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Nil	Nil	
8b	Concurrent use or storage of topsoil	Nil	Nil	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Yes, two types of waste are there and separately dumped.	Separate dumps have been maintained for screen reject and waste rocks separately.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No, mineral is persisting in depth being metamorphosed deposit and so separately dumped over non-mineralised area.	No, it is not applicable at present.	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Nil	Nil	

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Yes, 21000 nos. plants was proposed.	Yes, 3360 nos. trees planted during the year with 87.5% survival rate.
8g	Survival rate	More than 80% survival was proposed.	Survival rate is 87.5%
8h	Water sprinkling on roads to control airborne dust	Yes, proposals are there.	3 Water tankers deployed for water sprinkling on roads.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Nil	Nil

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Annual and Monthly returns are submitted on time.	Yes, found complied.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Shri Rajnish Bora is Mining Engineer and Mines Manager; whereas Shri Amit Sharma is Geologist	Yes, Mines Manager was present during the inspection and Geologist was on tour to Jaipur to attend Rajasthan Mining Conclave.	

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	1) Covered Under Current (o/c)Workings: 155.74 Ha 2) Used for waste Disposal: 107.63Ha 3) Occupied by Plant, buildings, residential, welfare buildings & roads: 11.35Ha 4) Other Purpose (Green Belt,Top Soil Storage) 19.11Ha:	The details filled are found in order. However, area putin use for PMCP work is not reported.
9d	Scrutiny of Annual return on afforestation	Plantation carried out during the year over 1.0 ha with 1000 nos. and cummulative till date Afforestation done over 19.11 Ha.	i) Within Lease Area:3360 trees planted & Survival Rate : 86% ii) Outside Lease Area : 5840 trees planted & Survival rate : 85%
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	All the grades of mineral have been consumed by proper blending with 20% MR generation. Planned MR was 287976t.	Yes, mineral reject generation is there. It is reported 697867t during the year.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Closing Stock - 0.00 Tonnes	ROM stock is not maintained. Blasted material is directly loaded for crushing & despatch for use in the captive cement plant.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Reported Ex. Mine price and cost of production is Rs. 272.98 for captive use.	Found in order. However, cost of pulverization is not reported separately and intimated through violation letter.
9h	Scrutiny of Annual return on fixed assets	Total Value of Fixed Assets is Rs 235646186	Correct as per records.

9k	Scrutiny of Annual return on mining machineries	1) Back Hoe – 4.50CuM, 2) Back Hoe– 3.60 CuM–, 3) Dumper – 50.00Ton, 4)Dozer – 303.00HP, 5)Front End Loader– 3.10CuM, 6)Tipper– 8.00CUM, 7) Motor Grader – 195.00HP, 8)Rock Drill(Non Elect)– 115.00MM, 9)Road Roller– 11.70Ton, 10) Crusher– 1200.00T/H, 11)Water Tanker– 14000LT, 12)Water Tanker– 20000LT, 13)Explosive Van– 2.97Tonne, 14)Explosive Van– 4.225Tonne	Above machines are in operations in the mines.

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)	19-SEP-22				
MCDR17 Rule 32(1)(k	19-SEP-22				
MCDR17 Rule 32(5)(k	19-SEP-22				
MCDR17 Rule 45(5)(c	19-SEP-22				

Date :

(**Jangid G.K.**)

Indian Bureau of Mines