

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

MCDR INSPECTION REPORT

Ajmer regional office

Mine file No : RAJ/KOTA-1/LST-1

Mine code : 38RAJ19001

- (i) Name of the Inspecting : **J003**) **Jangid G.K.**
Officer and ID No.
- (ii) Designation : Regional Controller Mines
- (iii) Accompanying mine : Sh. Bajrang Lal, AVP (Mines) and Shri Vivek Rawat, DG
Official with
Designation
- (iv) Date of Inspection : 14-DEC-22
- (v) Prev.inspection date : 16-SEP-21

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **MCL**
- (b) **Registration NO.** : **IBM/7378/2011**
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
State : RAJASTHAN
District : KOTA
Village : MORAK
Taluka : RAMGANJ MANDI
Post office : ADITYA NAGAR
Pin Code : 326520
FAX No. : 07459232231
E-mail : mines@mangalamcement.com
Phone : 07459232146
- (f) Police Station : Morak
- (g) First opening date : 21-DEC-77
- (h) Weekly day of rest : SUN
2. Address for : MANGALAM CEMENT LTD, ADITYA NAGAR,
correspondance PO MORAK, TEHSIL RAMGANJMANDI
DISTT- KOTA 326520
3. (a) Lease Number : RAJ0013
- (b) Lease area : 895.42
- (c) Period of lease : 20
- (d) Date of Expiry : 31-MAR-30
4. Mineral worked : LIMESTONE Main

5. Name and Address of the

Lessee : MANGLAM CEMENTS LIMITED
 ADITYA NAGER -326517 PO-
 MORAK DISTT-KOTA KOTA
 RAJASTHAN
 Phone: 7459) 44237, 44262
 FAX :

Owner : K. C. Jain
 Mangalam Cement Ltd. P. O.
 Adityanagar, Morak, Distt.
 Kota KOTA RAJASTHAN
 Phone:
 FAX : 07459232156

Agent : S.B.Sharma
 Mangalam cement Ltd Aditya
 Nagar Morak KOTA RAJASTHAN
 Phone: 07459232262
 FAX : 07459232231

Mining Engineer

Name : S. B. Sharma, Full Time
 Qualification : B. E. (Mining)
 Appointment/ : 08-MAR-91
 Termination date

Geologist

Name : Vivek Rawat, Full Time
 Qualification : M Tech (Applied Geology), FCC (R)
 Appointment/ : 13-JAN-95
 Termination date

Manager

Name : Ramesh Chaudhry
 Qualification : B. E. (Mining), FCC (R)
 Appointment/ : 31-MAR-15
 Termination date

6. Date of approval of Mining	:	Existing rule 11 MCDR1988	03-FEB-93
Plan/Scheme of Mining	:	Existing rule 11 MCDR1988	18-AUG-97
	:	Mining Scheme rule 12 MCDR1988	22-FEB-99
	:	Mining Scheme rule 12 MCDR1988	25-SEP-03
	:	Modif.of approved Mining Plan	18-AUG-06
	:	Mining Scheme rule 12 MCDR1988	04-NOV-11
	:	Modif.approved Mining Scheme	13-FEB-13
	:	MP modif under MCR 1960	10-JUN-16
	:	MP review under 17(1) MCR 2016	07-DEC-20

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No proposal during the previous year.	Not applicable as no proposal.	
1b	Exploration over lease area for geological axis 1 or 2	No proposal during the year 2021-22.	Not applicable as no proposal and complete area is explored under G-1 category.	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No proposal during the year 2020-21.	Not applicable.	
1d	Balance area to be explored to bring Geological axis in 1 or 2	No proposal during the year 2020-21.	Entire mineralised area has already been explored under G1 level.	
1e	Balance reserve as on 01/04/20	No proposal specified in this regard.	Balance reserves as on 01.04.2022 are 139.22 million Tonnes	
1f	General remarks of inspecting officers on geology, exploration etc		Entire mineralised area has been explored up to G1 level. No issue observed related to geology & exploration.	

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Block-I, Block-II &Block-III	Block-I, Block-II &Block-III	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in top soil, OB and Mineral was proposed	Separate benches in top soil, OB and Mineral are maintained.	
2c	Stripping ratio or ore to OB ratio	1:1.2	1: 0.75	
2d	Quantity of topsoil generation in m3	183528 m3	100984 m3	
2e	Quantity of overburden generation in m3	3002816m3	1628777m3	

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Mine development has been carried out as per proposal and validated as Five Star Mine.
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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Block-I, Block-II & III	Block-I, Block-II & III	
3b	Quantity of ROM mineral production proposed	4000630t	3462290t	
3c	Recovery of sailable/usable mineral from ROM production	90% Recovery	91.44% Recovery	
3d	Quantity of mineral reject generation	400063t	222418t	
3e	Grade of mineral rejects generation and threshold value declared.	CaO =32.48%, Fe2O3=2.74%, Al2O3=5.26%, SiO2==28.37%, & MgO=1.26%	CaO =32.48%, Fe2O3=2.74%, Al2O3=5.26%, SiO2==28.37%, & MgO=1.26%	
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	Dry beneficiation by two stage double deck vibrating screen.	Dry beneficiation by two stage double deck vibrating screen.	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal	Nil	Previously carried out at H.O. IBM Nagpur.
3j	Provision of drilling and blasting in mineral benches	Yes, Deep hole drilling & blasting with deck charging.	Yes, Deep hole drilling & blasting with deck charging.	

3k	Provision of mining machineries in mineral benches	HEMM deployment (Shovel Dumper combination)	HEMM deployment (Shovel Dumper combination)	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes	Yes	
3m	Total area covered under excavation/pits	12.95ha	5.04ha	
3n	Ore to OB ratio for the pit/mine during the year.	1:1.2	1:0.75	
3o	Total area put in use under different heads at the end of year	Working Pit=316.04 hect, O/B Dump=23.27hect . Others (Plantation)=133.65 hect	Working Pit=308.13 hect, O/B Dump =23.04 hect., Other(Plantation)=133.40 hect	
3p	Production of ROM mineral during the last five year period as applicable	2017-18 = 44,57,370 T, 2018-19 = 60,09,005 T, 2019-20 = 81,22,430 T, 2020-21 = 80,15,265 T, 2021-22 = 4000630 T	2017-18 = 28,57,453 T, 2018-19 = 25,60,228 T, 2019-20 = 25,62,308 T, 2020-21 = 27,59,894 T, 2021-22 = 3462290 T	
3q	General remarks of inspecting officers on method of mining etc.	Opencast Mining Method was proposed using HEMM.	Mechanised mining method is being used along with HEMM as per proposal.	Method of Mining is suitable to the type of deposit.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dumping of OB/IB & mineral reject were proposed.	Separate dumping of OB/IB & mineral reject were carried out as per proposal.	
4b	Location of topsoil, OB and mineral reject dumps	Block-I Grid - 800/800 & 600/990, Block - II Grid- 5200/800 & 5100/990	Block-I Grid - 800/800 & 600/990, Block - II Grid- 5200/800 & 5100/990	OB & Mineral reject dumps.

4c	Number of dumps within lease area and outside of lease area	Three - within lease area.	Three - within lease area.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Out of ultimate pit limit.	Out of ultimate pit limit.
4e	Number of active and alive dumps.	Two	Two
4f	Number of dead dumps.	One	One
4g	Number of dumps established.	Already established One	One
4h	Whether Retaining wall or garland drain all along dumps are there.	Not specify in the period	Already made Garland drain/retaining wall
4i	Length of Retaining wall or garland drain all along dumps	50m	50m
4j	Number of settling ponds	Provided in the past with no fresh proposal.	Provided in the past
4k	Specific comments of inspecting officer on waste dump management		Waste dump management is satisfactory.

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.	After full extraction of mineral backfilling proposed.	As per proposal Area after confirmation of drill hole cutting sample.	
5b	Area under backfilling of mined out area	9.54 ha	6.50ha	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	For Plantation	For Plantation	

5d	Total area fully reclaimed and rehabilitated	Reclaimed = 136.42 and Rehabilitated=69.78+41.39=111.17 Hect	Reclaimed = 133.38 hect. and Rehabilitated=69.81+45.97=115.78 Hect	Rehabilitated by backfilling & water reservoirs
5e	General remarks of inspecting officers on backfilling and reclamation etc.		During the year 2021-22 total backfilling was proposed over an area 9.54 hect. Whereas actual backfilling has been carried out over an area 6.50 ha.	

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).	As per rule 26(2) of MCDR,2017 holder of mining lease shall submit PMCP before 1st day of July every year.	PMCP report for the year 2020-21 has been submitted timely on 21.05.2022.	
6b	Area available for rehabilitation (ha) .	17.59	17.59	
6c	afforestation done (ha).	4.05ha	6.63ha	
6d	No. of saplings planted during the year	4050	6070	
6e	Cumulative no .of plants	163367	166893	
6f	Any other method of rehabilitation	By afforestation	By afforestation	
6g	Cost incurred on watch and care during the year	Rs 8,10,000	Rs12,14,000 @ Rs 200/- per plant	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	82,78,860 m3	20,20,000 m3 for the area 8.08ha with 25m(height)	

6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	19,09,800 m3	16,00,653 m3	25,61,044t Backfilled & converted into m3 by dividing 1.6 (Sp. Gr.)
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on backfilled area	3150 Nos. (3.15Hect)	5115 Nos. (5.59hect)	
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	41.39ha	45.97ha	
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	500nos	505nos	
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	0.5ha	0.55ha	
6o	Compliance of rehabilitation of waste land within lease (iii) Method of rehabilitation	By Afforestation	By Afforestation	
6p	Compliance of environmental monitoring (core zone and buffer zone)	As per E.C. & Consent condition noise and air quality - six monthly and water quality- quarterly	As per E.C. & Consent condition noise and air quality - six monthly and water quality- quarterly	

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	PMCP compliance of the mine is satisfactory. It is the noble mine in the region for reclamation & rehabilitation of mined our area and its compliance.
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Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	After grade wise sorting usable limestone feed to captive cement plant. 4000630t	Within proposal, it is 3462290t.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical excavation and machines are deployed on different faces/benches as per grade of limestone required for blending.	Mechanical Mechanical excavation and machines are deployed on different faces/benches as per grade of limestone required for blending.	
7c	Different grade of mineral sorted out at mines.	Cement grade and Mineral reject.	Cement grade and Mineral reject. Grade of the mineral is checked from the blast hole cuttings and accordingly, excavators are deployed on faces/benches for maintaining the grade.	
7d	Any beneficiation process at mines .	Dry Beneficiation through vibrating screens	Dry Beneficiation through vibrating screens	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues		No issue were observed related to mineral conservation. However, minor mineral limestone is purchased from Pali, Nagaur district to blend with low grade limestone.	

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
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8a	Separate removal and utilization of topsoil (Rule 32)	Yes, Removal 293644t and Utilization 264280t	Yes, within proposal Removal 161575t and utilization 161575t.
8b	Concurrent use or storage of topsoil	For Plantation	For Plantation
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	O/B dump 47870t, Backfilling 4083813t, Crusher Reject 400063t	O/B dump 45000t, Backfilling 2561044t and Crusher Reject 222418t
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Use of waste rock & crusher reject for backfilling	Use of waste rock & crusher reject for backfilling
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Reclamation 9.54ha and Rehabilitation 3.15ha	Reclamation 6.50ha and Rehabilitation 5.59ha
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Plantation of 4050 saplings & Area 4.05 hect.	6070 Nos. (6.63 Hect) saplings planted during the year. Existing Plantation as on 01.04.2022=166893 Nos. (133.40hect)
8g	Survival rate	83%	83.03%
8h	Water sprinkling on roads to control airborne dust	Wet drilling & water Spraying through water tankers.	Wet drilling & water Spraying through water tankers.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area		The general aesthetic beauty in and around mine area was satisfactory.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
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9a	Status of submission of Monthly and Annual returns	As per rule 45 of MCDR, monthly and annual returns to be submitted.	Monthly returns upto Nov, 2022 and Annual returns for the year 2021-22 have been submitted timely.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Information of Mining Engineer, Geologist and Manager have been furnished.	Details found to be correct for Agent, Mining Engineer, Geologist and Manager
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under Pit = 308.13 hect., Reclaimed Area =133.38 hect., Dump Area =23.04 hect., Occupied by Plant, Buildings, residential & Roads etc.- 20.10 hect.	The area mentioned under different heads found to be in order.
9d	Scrutiny of Annual return on afforestation	No. of Plants 6070 within lease area Survival 83.03%	Found to be in order.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Mineral Reject 222418t having CaO- 32.48%, Fe2O3- 2.74%, Al2O3- 5.26%, SiO2- 28.37% and MgO-1.26% (Crusher Screen Reject)	It is below threshold limit and found to be correct.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Opening ROM & Cement grade limestone Stock reported 111928.840t and 0; whereas closing stock was 384078.63t of ROM stock.	Details found to be correct
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex- Mine price / production cost Rs 249.44	Minor discrepancies observed in cost of production reported in annual return and there is no change in cost of production from previous year.

9h	Scrutiny of Annual return on fixed assets	Fixed Assets 34947439/-	Details seems to be correct	
9k	Scrutiny of Annual return on mining machineries	SHOVEL (HYDRAULIC) 3.10m3 1, SHOVEL (HYDRAULIC) 2.10m3 2, SHOVEL (HYDRAULIC) 2.0m3 3, SHOVEL (HYDRAULIC) 1.10m3 2, SHOVEL (HYDRAULIC) 0.90m3 2, DUMPER 40t 5, DUMPER 35.00t 2, AIR COMPRESSOR 550.00cmm 2, AIR COMPRESSOR 540.00cmm, AIR COMPRESSOR 450.00cmm 3	SHOVEL (HYDRAULIC) 3.100 CUM 1 Non Electrical Opencast SHOVEL (HYDRAULIC) 3.10m3 1, SHOVEL (HYDRAULIC) 2.10m3 2, SHOVEL (HYDRAULIC) 2.0m3 3, SHOVEL (HYDRAULIC) 1.10m3 2, SHOVEL (HYDRAULIC) 0.90m3 2, DUMPER 40t 5, DUMPER 35.00t 2, AIR COMPRESSOR 550.00cmm 2, AIR COMPRESSOR 540.00cmm, AIR COMPRESSOR 450.00cmm 3	All mining machineries are through contract

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

Date :

(Jangid G.K.)

Indian Bureau of Mines