

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

**MCDR inspection REPORT  
Jabalpur regional office**

**Mine file No :** MP/STN/LST-49

**Mine code :** 38MPR35071

- (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 : 13-JAN-20
- (v) Prev.inspection date : 18-FEB-19

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **SAGMANIA**
- (b) **Registration NO.** :
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address :  
State : MADHYA PRADESH  
District : SATNA  
Village : SAGMANIA  
Taluka : RAGHURAJ NAGAR  
Post office : SAGMANIA  
Pin Code : 485114  
FAX No. : N. A.  
E-mail : scwl@vsnl.com  
Phone : N. A.
- (f) Police Station :
- (g) First opening date :
- (h) Weekly day of rest : SUN
2. Address for : M/S SATNA CEMENTS WORKS  
correspondance : P.O.BIRLA VIKAS, SANTA (M.P.) 485005
3. (a) Lease Number : MPR0379  
(b) Lease area : 1000  
(c) Period of lease :  
(d) Date of Expiry :
4. Mineral worked : LIMESTONE Main

## 5. Name and Address of the

Lessee : SATNA CEMENTS WORKS  
UNIT OF M/S BIRLA COR. LT  
P.O.BIRLA VIKAS SATNA  
MADHYA PRADESH  
Phone:23581,23584  
FAX :7672-25396

Owner : Mr. Arvind Pathak  
M/s Birla Corporation  
Limited Add. 1, Shakespeare  
Sarani,Kolkata, West Bengal  
-700071 SATNA MADHYA  
PRADESH  
Phone: 033-66033379  
FAX : 033-66033379

Agent : Mr. Rajesh Chaubey  
M/s Birla Corporation  
Limited Birla Colony, Satna  
- 485005 SATNA MADHYA  
PRADESH  
Phone: 7272412774  
FAX : 7272412774

## Mining Engineer

Name : Mr. Kumar Rajan, Full Time  
Qualification : BE Mining  
Appointment/ :  
Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	21-AUG-01
Plan/Scheme of Mining	:	Modif.approved Mining Scheme	03-DEC-04
	:	Mining Scheme rule 12 MCDR1988	05-JUL-06
	:	Modif.approved Mining Scheme	31-OCT-08
	:	Modif.of approved Mining Plan	08-AUG-11
	:	Mining Scheme rule 12 MCDR1988	18-NOV-11
	:	MP modif under MCR 1960	01-APR-16

## PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No exploration was proposed during the year 2018-19	No exploration carried out during the year	Mineralised area was explored in G1 level
1b	Exploration over lease area for geological axis 1 or 2	Not Proposed	Not carried out	Mineralised area was explored in G1 level
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Exploration not proposed	Nil	Mineralised area was explored in G1 level
1d	Balance area to be explored to bring Geological axis in 1 or 2	No exploration was proposed during the year 2018-19	G1 level: 852.50 Ha 1st limestone band Area explored under For G1 by way core drilling working pits for 1st band of limestone.	174 core drilling borholes have been proposed in ROMP approved on dtd 24.12.2020 in compliance with Rule 12(4) of MCDR,17 to prove entire lease area for second limestone band in G1 level
1e	Balance reserve as on 01/04/20	Reserves (In Mill Tonne) Proved (111)- 25.00 Probable(22)- 25.21 Resources(In Mill Tonne) Feasibility(21) -: 24.75 Pre-Feasibility -: 5.6427 As per Modified Mining Plan for 2016-17 to 2020-21	Reserves (In Mill Tonne) Proved (111)- 15.37 Probable(22)- 25.21 Resources(In Mill Tonne) Feasibility(221) -: Nil Pre-Feasibility -: Nil As per annual return 2018-19 as on 01.04.2019	No additional reserves have been estimated

1f	General remarks of inspecting officers on geology, exploration etc	NA	NA	Entire mineralised lease area for 1st limestone band has not been explored fully as per UNFC/MEMC Guidelines by the lessee in past. Further, 174 core drilling borholes have been proposed in ROMP approved on dtd 24.12.2020 in compliance with Rule 12(4) of MCDR,17 to prove entire lease area/limestone 2nd bands in G1 level.
----	--	----	----	--

---

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Working proposed in different locations, development proposed at South-West, Production proposed in two benches in Quarry-1	Mine working was carried out as per the proposed locations during the year 2018-19	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in soil, OB & mineral proposed	Yes, maintained the proposals as per the proposals	
2c	Stripping ratio or ore to OB ratio	1: 0.58 tonne/CuM	1: 0.19 tonne/CuM	Ratio lowered down due to less production & less OB generation

---

2d	Quantity of topsoil generation in m3	252318 M3	65080 M3	Less OB generated due to less development
2e	Quantity of overburden generation in m3	623953 M3 proposed during the year 2018-19	620582 M3 acheived during the year 2018-19	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	NA	NA	Total 4 working pits/blocks of following dimensions Block-N-1 : 1050mx346mx13m (Surface RL-317m to Pit bottom RL-304m) Block-AQ : 1840mx1020mx16m (Surface RL-316m to Pit bottom RL-300m) Block-CQ : 2000mx731mx17m (Surface RL-320m to Pit bottom RL-303m) Block-BJ : 200mx175mx7m (Surface RL-325m to Pit bottom RL-318m)

---

### Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Working proposed in 10 pits	Working carried out in 09 pits	
3b	Quantity of ROM mineral production proposed	Proposed Production - 3.76 million Tonnes during the year 2018-19	Achived 3.1 million Tonnes during the year 2018-19	Acheived production on lower side during the year
3c	Recovery of sailable/usable mineral from ROM production	80% recovery of usable mineral from ROM	80% recovery of usable mineral from ROM	Rest 20% as interburden from entire ROM

---

3d	Quantity of mineral reject generation	Not proposed	Not proposed	But as per annual report it is reported as 85950 CuM during the year
3e	Grade of mineral rejects generation and threshold value declared.	Not Proposed	Below the Threshold value	
3f	Quantity of sub grade mineral generation.	Not Proposed	Nil	Neither any proposals were given for subgrade limestone nor any generated during the year, as entire 80% of ROM was utilised for cement manufacturing.
3g	Grade of sub grade mineral generation	Not Proposed	Nil	
3h	Manual / Mechanised method adopted for segregating from ROM	Not Proposed	Nil	Dedicated crusher is established for limestone sizing.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not Proposed	Nil	
3j	Provision of drilling and blasting in mineral benches	Proposed by Drill-IBH-10 (Atlas, 100mm dia drill)	Done by Drill-IBH-10 (Atlas, 100mm dia drill)	
3k	Provision of mining machineries in mineral benches	Excavator Tata Hitachi 3.4 cu.m Excavator Volvo 4.6 cu.m Excavator CAT 6.3 cu.m Drill IBH-10 (Atlas) Dumper-55Tonnes	Excavator Tata Hitachi 3.4 cu.m Excavator Volvo 4.6 cu.m CAT Loader 6.3 cu.m Drill IBH-10 (Atlas) Dumper-55Tonnes	HEMM deployed is of inhouse not outsourced.

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Height of 3.0mts in OB & 6m to 8m in mineral limestone were proposed	Maintained while acheiving the production/ROM excavation	
3m	Total area covered under excavation/pits	423 Ha proposed in approved MMP for 2016-17 to 2020-21	367 Ha during the year 2018-19	As per annual return 2018-19
3n	Ore to OB ratio for the pit/mine during the year.	1:0.58 tonne/CuM	1: 0.19 tonne/CuM	Due to less OB/inter-burden generation during the year
3o	Total area put in use under different heads at the end of year	Pit-423 Ha Top soil storage-8.0 Ha Waste dumps - 17.50 Ha Mineral Storage - 0.50 Ha Infrastructure - 2.0 Ha Road-2.03 Ha Township area-5.0 Ha Position as per MMP for the 2016-17 to 2020-21	Pit-367 Ha Reclaimed/Rehabilitated-102.42Ha Top soil storage-8.0 Ha Waste dumps - 17.50 Ha Infrastructure - 2.0 Ha Road-2.03 Ha Township area-5.0 Ha Position as per annual return 2018-19	Status as on 01.04.2019 as per annual return 2018-19
3p	Production of ROM mineral during the last five year period as applicable	Yr-2019-20 - 3,60,0000 Yr-2018-19 - 3,76,0000 Yr-2017-18 - 3,76,0000 Yr-2016-17 - 3,68,0000 Yr-2015-16 - 4,20,0000	Yr-2018-19 - 3,10,5737 Yr-2017-18 - 3,27,9147 Yr-2016-17 - 3,23,9755 Yr-2015-16 - 3,43,6131	Annual limestone production details as per annual return for the year 2018-19

3q	General remarks of inspecting officers on method of mining etc.	NA	NA	Mining operations by opencast fully mechanised method being practised. Deployment of HEMM with deep hole drilling/blasting adopted to win ROM excavation and OB development.
----	---	----	----	--

### Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Concurrent use for protective bunds & road preparation proposed at block 1, 1A, 2, Quarry-A, & N-1 block	Concurrent bund formation & road preparation carried out	No separate dumping proposed for top soil & OB in approved document
4b	Location of topsoil, OB and mineral reject dumps	Not Proposed	Concurrent use for protective bunds & road preparation proposed at block 1, 1A, 2, Quarry-A, & N-1 block	Dumping was not proposed
4c	Number of dumps within lease area and outside of lease area	Existing 05 nos of dumps	Existing 05 nos of dumps within lease area	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Not Proposed	Outside the UPL area	
4e	Number of active and alive dumps.	Not Proposed	No active dumps existing in lease area	
4f	Number of dead dumps.	Not Proposed	There are 05 dead dumps in the lease area	
4g	Number of dumps established.	Not Proposed	05 dumps have been stabilised	



4h	Whether Retaining wall or garland drain all along dumps are there.	Not Proposed	Retaining wall 70M and Garland drain of 800M	
4i	Length of Retaining wall or garland drain all along dumps	Not Proposed	Retaining wall 70M Garland drain 800M	
4j	Number of settling ponds	Not Proposed	One settling pond existing in the lease area	
4k	Specific comments of inspecting officer on waste dump management	NA	NA	Significant amount of top soil and OB generation proposed in approved document and its concurrent use for backfilling over 1st limestone band exhausted pits were proposed.

---

#### 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.	Not Proposed	Backfilling was proposed previously over mined out areas	
5b	Area under backfilling of mined out area	Proposed as 6.40 ha.	Backfilling carried over mined out area of 2.0 ha	Entire reclaimed & rehabilitated area so far -102.42 Ha
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Top Soil proposed for restoration or rehabilitation in mined out area.	Top Soil proposed used for restoration or rehabilitation in mined out area.	
5d	Total area fully reclaimed and rehabilitated	102 Ha	102.42 ha till the end of year 2018-19	Reclaimed & rehabilitated by OB/inter-burden backfilling

---

5e	General remarks of inspecting officers on backfilling and reclamation etc.	NA	NA	Most of the mining lease area where top/first limestone band occurred has been fully mineral exhausted. These areas have been backfilled, reclaimed & rehabilitated.
----	--	----	----	--

#### 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).	To be submitted within prescribed time limit	Submitted within time limit	
6b	Area available for rehabilitation (ha) .	9.5 Ha	9.50Ha	
6c	afforestation done (ha).	Proposed as 9.50 ha	Acheived as 9.50 Ha	
6d	No. of saplings planted during the year	Total 19000 saplings proposed	Total 19000 saplings planted	
6e	Cumulative no .of plants	NA	Cumulative saplings planted so far are 201000 nos.	
6f	Any other method of rehabilitation	500 M Wire fencing proposed	Fencing done as per the proposals	
6g	Cost incurred on watch and care during the year	Not Proposed	15 Lakhs incurred	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	Voids of 10500x200x10 were proposed for backfilling	Backfilling carried over voids area available of 1220x80x12m	

6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Proposed as 6.4 Ha	Achieved as 3.20 Ha.
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on backfilled area	Proposed over 6.4 Ha	Carried out over 2.0 Ha
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.	Not Proposed	Nil
6m	Compliance of rehabilitation of waste land within lease (i) afforestation	Not Proposed	Plantation done over 4.0Ha waste land
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	Not Proposed	Plantation done over 4.0Ha waste land
6o	Compliance of rehabilitation of waste land within lease (iii) Method of rehabilitation	By plantation	By plantation

6p	Compliance of environmental monitoring (core zone and buffer zone)	Periodical Air, Water, Noise monitoring Proposed	Fortnightly monitoring done in core zone and quarterly monitoring done in buffer zone	Env. monitoring carried out in-hously. Env.management cell has formed.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	NA	NA	Due to limestone exhausted for first band in the working pits, the scope of backfilling/reclamation & rehabilitation is very well existed. Periodic monitoring is being carried out by outsourced by in-hously by Env.management team.

---

#### Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	3.6 million tonnes proposed as total ROM production for despatch. No grade wise sorting proposed within lease area	3.10 Million tonnes of production carried out & 3.14 million tonne limestone despatched	Grade wise sorting is not required. Entire ROM consumed in cement plant.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Not Proposed	Nil	No grade wise sorting is practised in lease area.
7c	Different grade of mineral sorted out at mines.	Not Proposed	Nil	Recovered 80% limestone being utilized in cement plant

---

7d	Any beneficiation process at mines .	Not Proposed	Nil	Beneficiation process for ROM is not required because entire ROM is being fed to cement plant
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	NA	NA	Mineral is being conserved in systematic manner. Entire ROM consumed in cement plant and there is no mineral reject generation.

---

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	To be used for restoration and Rehabilitation	Utilized for restoration and Rehabilitation	
8b	Concurrent use or storage of topsoil	To be used for restoration and Rehabilitation	Utilized for restoration and Rehabilitation	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Not Proposed	Nil	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Overburden proposed for restoring the land by backfilling (reclamation & rehabilitation method)	Overburden used for restoring the land by backfilling (reclamation & rehabilitation method)	

---

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Phase wise proposals were given	Every year reclamation and rehabilitation carried out by means of backfilling and plantation	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	19000 saplings proposed to be planted over backfilled & other areas within & outside lease area	Total 19000 saplings planted over backfilled area.	Mass plantation work have been carried out by the lessee covering different species of saplings
8g	Survival rate	Proposed 90%	Achieved 80%	
8h	Water sprinkling on roads to control airborne dust	Water spraying on mines haul road, loading, unloading points proposed.	Water sprinkling carried out on the haul road, unloading points regularly.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	NA	NA	Aesthetic beauty in and around mine area is very good and extensive plantation have been carried out by the lessee over backfilled area and within and outside ML area. Survival rate is also satisfactory.

---

Compliance of Rule 45:

Sl.No.	Item	Proposals	Actual work	Remarks
--------	------	-----------	-------------	---------

---

9a	Status of submission of Monthly and Annual returns	Monthly Return submitted online for January-20 Annual return submitted online for 2018-19	Monthly Return submitted online for January-2020 Annual return submitted online for 2018-19. In annual return of 2018-19 following discrepancies have been pointed out as marked in general remarks	i) Part-I under item-12, Area utilization marked under Reclaimed & Rehabilitated area as 102.420Ha, area used for waste disposal as 57.50Ha & area occupied by plant/building/etc as 30.0Ha are not matching with the area furnished in Modified Mining Plan approved on dtd 01.04.2016. ii) Part-IIA- Details furnished under capital structure is not related to the said mine entirely but also the costing of plant is also included. iii) Part-V, under item-3, Reserves under category (111) is furnished as 1
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Given	Shri Kumar Rajan appointed as whole time Mining Engineer Shri Anup Patidar appointed as whole time Geologist	Both the Mining Engineer & 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-367 Ha Reclaimed/Rehabilitated- 102.42Ha Top soil storage-8.0 Ha Waste dumps - 17.50 Ha Infrastructure - 2.0 Ha Road-2.03 Ha Township area-5.0 Ha	As per return details
9d	Scrutiny of Annual return on afforestation	Given	Total 19000 saplings planted in ML area. Mass plantation carried out in ML area	

9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Given	Total 85956 CuM mineral rejects generated during the year	Mineral rejection from crusher
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Given	Cement grade limestone Opening stock- 125794 tonnes Despatched -3140898 tonnes Closing stock -90633 tonnes	Inventory of production/despatch limestone is being maintained
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Given	Ex-Mine price of Rs-278.79 per tonne furnished	Captive mine cost of production is equal to ex-mine price
9h	Scrutiny of Annual return on fixed assets	Given	Nil	Nil
9k	Scrutiny of Annual return on mining machineries	Given	Nil	Nil

---



**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 14 (1)	17-MAR-20	05-AUG-20				
MCDR17	Rule 31 (4)	17-MAR-20	05-AUG-20				
MCDR17	Rule 45 (5) (a)	17-MAR-20	05-AUG-20				

**Date :**

**(SANJAY M. GIRHE)**

Indian Bureau of Mines