

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

**MCDR INSPECTION REPORT**

**Bhubaneshwar regional office**

**Mine file No :** ORI/LST/SNG/MCDR-12/BBS

**Mine code :** 38ORI13028

- (i) Name of the Inspecting : **S010** ) **SHRI G.C. SETHI**  
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Shri S.K.Pradhan, Mine Manager  
Official with  
Designation
- (iv) Date of Inspection : 09/09/2019
- (v) Prev.inspection date : 16/12/2018

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **KHATKURBAHAL (72.44 HA)**
- (b) **Registration NO.** : **IBM/4177/2011**
- (c) Category : B Manual
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : SUNDARGARH
- Village : KHATKURBAHAL
- Taluka : RAJGANGPUR
- Post office : KHATKURBAHAL
- Pin Code : 770018
- FAX No. : 0661-4400172
- E-mail : corporate@shivacement.com
- Phone : 0661-4400828,168,080, 42450
- (f) Police Station : KUTRA
- (g) First opening date : 01/04/1998
- (h) Weekly day of rest : SUN
2. Address for : KHATKURBAHAL LIMESTONE MINE,M/S SHIVA CEMENT LTD  
correspondance P.O.KHATKURBAHAL, DIST:SUNDERGRAH  
ORISSA-770018
3. (a) Lease Number : ORI0733
- (b) Lease area : 72.44
- (c) Period of lease :
- (d) Date of Expiry : 14/01/2042
4. Mineral worked : DOLOMITE Associated  
LIMESTONE Main

## 5. Name and Address of the

Lessee : SHIVA CEMENT LTD.  
 CIVIL TOWNSHIP ROURKELA  
 SUNDARGARH ORISSA  
 Phone:0661-4400828,168,080  
 FAX :0661-4400172

Owner : MANOJ RUSTAGI, Nominated Owner  
 PLOT NO. YY-5, CIVIL  
 TOWNSHIP 7&8 AREA, ROURKELA  
 ODISHA SUNDARGARH ORISSA  
 Phone: 0661-2664168  
 FAX :

Agent : Ajoy Chakravarty  
 Plot-YY-5, Civil town,  
 Rourkela SUNDARGARH ORISSA  
 Phone: 0661-2400172  
 FAX : 0661-2400172

## Mining Engineer

Name : ANIL KUMAR JHA, Full Time  
 Qualification : B.Tech (Mining)  
 Appointment/ : 16/10/2009  
 Termination date

## Geologist

Name : Toofan Singh, Full Time  
 Qualification : M.Phil (Geology)  
 Appointment/ : 27/07/2007  
 Termination date

## Manager

Name : GAJENDRA PRASAD SAHU  
 Qualification : B.Tech (Mining)  
 Appointment/ : 28/04/2017  
 Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	28/10/2004
Plan/Scheme of Mining	:	Mining Scheme rule 12 MCDR1988	24/03/2009
	:	Renewal under rule 24 MCR1960	20/12/2011
	:	MP modif under MCR 1960	11/07/2016
	:	MP review under 17(1) MCR 2016	24/04/2017
	:	MP modif under 17(3) MCR 2016	30/04/2019

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	26 nos. of bore holes.	During the year 2018-19, no borehole was drilled.	Violation under rule 11(1) pointed out to the party for lagging in the exploration proposed in the approved document.
1b	Exploration over lease area for geological axis 1 or 2	Within G1/G2 level of exploratrion.	During the year 2018-19, no borehole was drilled.	The proposed bore holes not drilled in 2018-19. Deviation is pointed out through violation letter.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not specified.	Nil	The proposed bore holes not drilled in 2018-19. Deviation is pointed out through violation letter.
1d	Balance area to be explored to bring Geological axis in 1 or 2	Within G1 level of exploratrion.	The total lease area 72.439 ha is explored under G1 level of exploration. However 26 nos. of bore holes was proposed in 2018-19 within G1 level of exploratrion was not drilled.	Nil
1e	Balance reserve as on 01/04/20	As per Review of Mining Plan, approved on 24.04.2017, the reserves under 111: 64,352,597 tonnes & resources: 97,744,259 tonnes.	As on 01.04.2019, mineral reserves under 111: 64,288,247 tonnes & resurces: 97,744,259 tonnes respectively.	Nil

1f	General remarks of inspecting officers on geology, exploration etc	The total lease area 72.439 ha is explored under G1 level of exploration. However 26 nos. of bore holes was proposed in 2018-19 within G1 level of exploratrion was not drilled.	Nil
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	In between E 0 to E 300 & N 100 to N 200.	In between E 0 to E 300 & N 100 to N 200.	Nil
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	No topsoil exists. No separate benches in over burden as the limestone exposed on the surface.	No topsoil exists. No separate benches in over burden as the limestone exposed on the surface.	Nil
2c	Stripping ratio or ore to OB ratio	1 : 0.10	1 : 0.027	Due to less production of limestone & presence of intercalated waste in the ore zone, stripping ratio varries.
2d	Quantity of topsoil generation in m3	No topsoil exists.	Nil	Nil
2e	Quantity of overburden generation in m3	Intercalated waste 5380 cu.m	1500 Cu.m of intercalated waste generated during 2018-19	Due to low production, the intercalated waste generation was also less.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc		The mine operation is confined to a single pit with proper benching and systematic manner.	Nil

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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Single pit.	Single pit.	Nil
3b	Quantity of ROM mineral production proposed	1,30,734 tonnes in 2018-19	64350 tonnes produced during 2018-19.	The limestone production is less due to lack of limestone requirement in the captive cement plant.
3c	Recovery of sailable/usable mineral from ROM production	90%.	90%.	Nil
3d	Quantity of mineral reject generation	Nil	Nil	Total limestone production is utilised in its captive plant.
3e	Grade of mineral rejects generation and threshold value declared.	Not applicable.	Not applicable.	Nil
3f	Quantity of sub grade mineral generation.	Nil	Nil	Total limestone production is utilised in its captive plant.
3g	Grade of sub grade mineral generation	Not applicable.	Not applicable.	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Not specified.	Total limestone is utilised in its captive plant.	Nil
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	None	Not applicable.	Nil

3j	Provision of drilling and blasting in mineral benches	32 mm dia jack hammers drill hole & blasting with slurry explosives.	Shot hole drilling and controll blasting technique is adopted, explosives used from own magazine. SDD from Ideal and Solar Explosive Ltd is in used for control blasting.	Nil
3k	Provision of mining machineries in mineral benches	IR Compressor - 08 nos., Jack Hammer - 12 nos., Tippers - 49 nos, Water Pump (Electrical) - 03, Water Tanker - 01 nos, Hydraulic shovel-3.	Hydraulic shovel- 3, Tractor compressor - 3 nos., IR Compressor - 2 nos., Jack Hammer - 6 nos., Water Tanker - 1 nos., D/W Pump-30HP each-03 Nos	Nil
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench Height - 6 Mtrs	Bench Height - 6 Mtrs	Nil
3m	Total area covered under excavation/pits	11.4 ha envisaged during the five year period upto 2018-19.	An extent of 6.6 ha area has been covered under excavation pits.	Nil
3n	Ore to OB ratio for the pit/mine during the year.	1 : 0.10	1 : 0.027	The variation is due to less production & intercalleted waste handling.
3o	Total area put in use under different heads at the end of year	Mining - 11.40 Ha, Dumping of overburden - 1.08 Ha, Storage of top soil - 0.23Ha, Construction of Road - 2.75 Ha, 11. Infrastructure - 011 Ha	Mining - 6.6 Ha, Dumping of overburden - 0.44 Ha, Storing of minerals - 0.15, Infrastructure (office, Rest shed etc.) - 0.11 Ha, Construction of Road - 2.50 Ha	Nil

3p	Production of ROM mineral during the last five year period as applicable	2014-15: 2,89,170 tonnes 2015-16: 3,05,694 tonnes 2016-17: 1,72,627 tonnes 2017-18: 1,30,734 tonnes 2018-19: tonnes	2014-15: 65,710 tonnes 2015-16: 67,870 tonnes 2016-17: 32,541 tonnes 2017-18: 64350 tonnes 2018-19: tonnes	Limestone production is less due to frequent break down of its captive plant.
3q	General remarks of inspecting officers on method of mining etc.		A single pit is under operation in the mine. The limestone production is less due to frequent break down of its captive plant.	Nil

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Solid Waste Management - Dumping:

Sl.No.	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dumping of waste/intercalated is envisaged. No topsoil exists. No proposal for generation of mineral rejects.	Separate dumping of waste /intercalated is being done. No top soil & mineral rejects generated during 2018-19	Nil

4b	Location of topsoil, OB and mineral reject dumps	Dumping of waste/intercalated is envisaged in between the grid lines E200 to E300 and N 0 to N 100. No topsoil exists. No proposal for generation of mineral rejects.	Dumping of waste/intercalated is done in between the grid lines E200 to E300 and N 0 to N 100. No top soil & mineral rejects generated during 2018-19	Nil
4c	Number of dumps within lease area and outside of lease area	One dump is envisaged in the approved document.	One dump as per the proposal. One more dead dump also seen in the lease area.	Nil
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	In between the grid lines E200 to E300 and N 0 to N 100.	In between the grid lines E200 to E300 and N 0 to N 100.	nIL
4e	Number of active and alive dumps.	One	One	Nil
4f	Number of dead dumps.	Not proposed.	There is one old dead dump exists within lease area.	There is one old dead dump exists within lease area.
4g	Number of dumps established.	Not specified.	Dead dump is stabilised by plantation.	Nil
4h	Whether Retaining wall or garland drain all along dumps are there.	No fresh proposal. However, the existing status of retaining wall & garland drains are 50m X 1.5m X 1m & 50m X 1.5m X 1m.	The existing status of retaining wall & garland drains are 50m X 1.5m X 1m & 50m X 1.5m X 1m respectively.	Nil



4i	Length of Retaining wall or garland drain all along dumps	No fresh proposal. The existing status of retaining wall & garland drains are 50m X 1.5m X 1m & 50m X 1.5m X 1m respectively.	The existing status of retaining wall & garland drains are 50m X 1.5m X 1m & 50m X 1.5m X 1m respectively.	Nil
4j	Number of settling ponds	No proposal.	There are two nos of settling ponds are existing in the lease area.	Nil
4k	Specific comments of inspecting officer on waste dump management	Location of dump in between the grid lines E200 to E300 & N 0 to N 100.	Dumping is done in the designated location.No fresh retaining wall & garland drains were constructed during 2018-19.	Nil

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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.	Mineralisation is continues and pit is not matured for backfilling.	Mineralisation is continues and pit is not matured for backfilling.	Nil
5b	Area under backfilling of mined out area	Mineralisation is continues and pit is not matured for backfilling.	Not applicable.	Nil
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No top soil exists. Moreover, mineralisation is continues and pit is not matured for backfilling.	Not applicable.	Nil

5d	Total area fully reclaimed and rehabilitated	Not applicable.	Not applicable.	Nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.		Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Nil

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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).	Annual report on PMCP has to be submitted in the prescribed format.	Annual report on PMCP for the year 2018-19 has been submitted.	Nil
6b	Area available for rehabilitation (ha) .	Mineralisation is continue and pit is not matured for reclamation and rehabilitation .	Not applicable.	Nil
6c	afforestation done (ha).	0.04Ha	0.04Ha	Nil
6d	No. of saplings planted during the year	400 nos of saplings.	545 nos of saplings.	Nil
6e	Cumulative no .of plants	Not specified.	Cumulatively 7910 nos. saplings were planted.	Nil
6f	Any other method of rehabilitation	Not applicable.	Not applicable.	Nil
6g	Cost incurred on watch and care during the year	Not specified.	Rs. 864000/- cost incurred on watch and care.	Nil

6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	The pit has not been exhausted of limestone, thereby not applicable..	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not applicable.	Not applicable.	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	Not applicable.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	The pit has not exhausted.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	The pit has not exhausted.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Nil
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	There is no proposal of waste land rehabilitation .	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not applicable.	Not applicable.	Nil

6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	There is no proposal of waste land rehabilitation .	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring of ambient air, water quality, noise level & vibration etc. are envisaged.	Quarterly monitoring of air, water and noise level are being done.	Nil
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	No proposal of reclamation and rehabilitation the pit is not exhausted.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation. Quarterly monitoring of air, water and noise level are being carried out.	Nil

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#### Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sorting not envisaged.	The enire limestone production is meant for captive consumption.	Nil
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Grade wise sorting not envisaged.	The enire limestone production is meant for captive consumption.	Nil
7c	Different grade of mineral sorted out at mines.	Grade wise sorting not envisaged.	The enire limestone production is meant for captive consumption.	Nil
7d	Any beneficiation process at mines	None	The enire limestone production is meant for captive consumption.	Nil

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	The entire limestone production is meant for captive consumption. No beneficiation practices in the mine.	Nil
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**Environment:**

Sl.No.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No topsoil exists.	There is no top soil generated during 2018-19, as the excavation is in the lower benches of the pit.	Nil
8b	Concurrent use or storage of topsoil	No top soil exists, thereby not applicable.	Not applicable.	Nil
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping of waste/intercalated waste. No top soil exists.	Separate dumping of waste/intercalated waste in between the grid coordinates E200 to E300 and N 0 to N 100. No top generated during 2018-19. There is no mineral reject generation as the entire limestone production is used for captive purpose.	Nil
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	The pit has not been exhausted.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Nil

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8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Phased restoration not envisaged.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Nil
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	400 nos. saplings envisaged in 2018-19.	Total 545 nos. saplings were planted during 2018-19. Cumulatively 7910 nos. saplings were planted.	Nil
8g	Survival rate	Not specified.	As reported, the survival rate is 60%.	Nil
8h	Water sprinkling on roads to control airborne dust	Water sprinkling arrangements are envisaged.	Sprinkling of water is done on the haul road on a regular basis to arrest the dust to fly in air.	Nil
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area		There are 545 nos. saplings were planted during 2018-19. Cumulatively, 7910 nos. saplings were planted in the mine. Sprinkling of water is done on the haul road on a regular basis to arrest the dust to fly in air.	Nil

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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly returns for the year 2018-19 from April 2018 to March 2019 and the annual return for the year 2018-19 also submitted.	Submitted.	Nil

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining engineer, geologist & mine managers were employed in the mine.	Mining engineer, geologist & mine managers were employed in the mine.	Nil
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Covered under current (O/C) workings = 6.6 Ha., Used for waste disposal = 1.17 Ha., Occupied by plant, buildings, residential, welfare buildings & roads = 3.26 Ha.	Covered under current (O/C) workings = 6.6 Ha., Used for waste disposal = 1.17 Ha., Occupied by plant, buildings, residential, welfare buildings & roads = 3.26 Ha.	Nil
9d	Scrutiny of Annual return on afforestation	545 nos.f saplings	Found to be in order.	Nil
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil.	Nil.	Nil.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Opening stock = 4632.694 tonnes, Production = 64350 tonnes, Despatch = 62119.60 tonnes, Closing stock = 6863.434 tonnes	Found to be in order.	Nil
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Production cost = Rs. 596.00	found to be in order.	Nil
9h	Scrutiny of Annual return on fixed assets	Value of Fixed Assets Rs 167702/-	Value of Fixed Assets Rs 167702/-	The value of fixed assets apperas to be not correct.

9k	Scrutiny of Annual return on mining machineries	AIR COMPRESSOR-2, BACK HOE-1, ROCKER SHOVEL LOADER-1, WATER TANKER- 1, PUMPS (ELEC.)-3	The deployment status of mining machineries are found to be in order.	Nil
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**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)	17/09/2019			
MCDR17	Rule 35(2)	17/09/2019			

**Date :**

**(SHRI G.C. SETHI)**

Indian Bureau of Mines