

**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 : **U11**) **DAYANAND UPADHYAY**
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri Gajendra Sahu, Sr. Manager (Mines)
Official with
Designation
- (iv) Date of Inspection : 16/12/2018
- (v) Prev.inspection date : 07/01/2018

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 : 50
- (d) Date of Expiry : 03/11/0047
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

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.	Nil.	The proposed bore holes not drilled in 2017-18. Deviation is pointed out through violation letter.
1b	Exploration over lease area for geological axis 1 or 2	Within G1/G2 level of exploratrion.	In 2017-18 proposed 26 nos. of bore holes have not been drilled.	The proposed bore holes not drilled in 2017-18. 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 2017-18. 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 2017-18 within G1 level of exploratrion was not drilled.	The total lease area 72.439 ha is explored under G1 level of exploration. However 26 nos. of bore holes was proposed in 2017-18 within G1 level of exploratrion was not drilled.
1e	Balance reserve as on 01/04/20	As per RMP approved on 24.04.2017 mineral reserves under 111: 64,352,597T & resurces: 97,744,259T	As on 01.04.2018, mineral reserves under 111: 64,288,247T & resurces: 97,744,259T	As on 01.04.2018, mineral reserves under 111: 64,288,247T & resurces: 97,744,259T

1f	General remarks of inspecting officers on geology, exploration etc	26 nos. of bore holes in 2018-18.	The total lease area 72.439 ha is explored under G1 level of exploration. However 26 nos. of bore holes was proposed in 2017-18 within G1 level of exploratrion was not drilled.	The proposed 26 nos. of bore holes not drilled in 2017-18. Deviation is pointed out through violation letter.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Location of development proposed between E 0 to E 300 & N 100 to N 200.	Location of development is between E 0 to E 300 & N 100 to N 200.	Development is as per proposal.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	No separate benches proposed for top soil and OB as the limestone exposed on surface.	There is no separate benches for top soil and OB as the limestone deposit exposed on surface and flat in nature.	There is no separate benches for top soil and OB as the limestone deposit exposed on surface and flat in nature.
2c	Stripping ratio or ore to OB ratio	1 : 0.10	1 : 0.027	Due to less production of ROM & nature of variation intercalleted waste stripping ratio varries.
2d	Quantity of topsoil generation in m3	Nil.	Limestone deposit is exposed on surface and working is concentrated in pre borken up area no top soil generated.	Limestone deposit is exposed on surface and working is concentrated in pre borken up area no top soil generated.
2e	Quantity of overburden generation in m3	Intercalated waste 5380 cu.m	1500 Cu.m	Due to less production of ROM waste generation is less.

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	The development is proposed in single pit.	The development is concentrated in single pit and bench height is maintained 6m as per proposal.	The development is concentrated in single pit and bench height is maintained 6m as per proposal.
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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Single pit.	Single pit.	The development is concentrated in single pit
3b	Quantity of ROM mineral production proposed	1,30,734 MT	64350 T	The ROM production is less due to sudden breakdown of its captive plant.
3c	Recovery of sailable/usable mineral from ROM production	90%	Recovery of salable/usable mineral from ROM is 90%.	Recovery of salable/usable mineral from ROM is 90%.
3d	Quantity of mineral reject generation	Nil.	Nil.	Total ROM is utilised in its captive plant.
3e	Grade of mineral rejects generation and threshold value declared.	Nil.	Nil.	Total ROM is utilised in its captive plant.
3f	Quantity of sub grade mineral generation.	Nil.	Nil.	Total ROM is utilised in its captive plant.
3g	Grade of sub grade mineral generation	Nil.	Nil.	Total ROM is utilised in its captive plant.
3h	Manual / Mechanised method adopted for segregating from ROM	Not proposed.	Total ROM is utilised in its captive plant.	Total ROM is utilised in its captive plant.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not proposed.	Nil.	Nil.

3j	Provision of drilling and blasting in mineral benches	32 mm dia jack hammers drill hole & blasting with slurry explosive.	Shot hole drilling and controll blasting technique is adopted, explosive used from own magazine. SDD from Ideal and Solar Explosive Ltd is in used for control blasting.	Shot hole drilling and controll blasting technique is adopted, explosive used from own magazine. SDD from Ideal and Solar Explosive Ltd is in used for control blasting.
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	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
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench Height - 6 Mtr	Bench height is suitably matched with the excavator.	Bench height is suitably matched with the excavator.
3m	Total area covered under excavation/pits	11.4 ha proposed during approved plan period.	About 6.6 ha area has been covered under excavation pits.	About 6.6 ha area has been covered under excavation pits.
3n	Ore to OB ratio for the pit/mine during the year.	1 : 0.10	1 : 0.027	Due to less production of ROM & nature of variation intercalleted waste stripping ratio varries.

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	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
3p	Production of ROM mineral during the last five year period as applicable	2013-14 = 2,64,384 MT 2014-15 = 2,89,170 MT 2015-16 = 3,05,694 MT 2016-17= 1,72,627 MT 2017-18= 1,30,734MT	2013-14 = 53,090 MT 2014-15 =65,710 MT 2015-16 = 67,870 MT 2016-17 = 32,541 MT 2017-1 8= 64350MT	ROM production is less due to frequent break down of its captive plant.
3q	General remarks of inspecting officers on method of mining etc.	Excavation from single pit.	Exploitation has been done from single pit as per proposal. However, the ROM production is less than proposed.	ROM production is less due to frequent break down of its captive plant.

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/waste. No proposal of top soil & MR .	Separate dumping of OB/waste between coordinates E 200 to E 300 and N 0 to N 100. No top generation is proposed as excavation has been in broken up area. There is no mineral reject generation.	No top soil generation is proposed as excavation has been in broken up area.

4b	Location of topsoil, OB and mineral reject dumps	Location of OB dumps: E 200 to E 300 & N 0 to N 100	Separate dumping of OB/waste between coordinates E 200 to E 300 and N 0 to N 100. No top generation is proposed as excavation has been in broken up area. There is no mineral reject generation.	No top generation is proposed as excavation has been in broken up area.
4c	Number of dumps within lease area and outside of lease area	One dump.	There are 02 dumps within lease area. one is active and another is dead dump.	There are 02 dumps within lease area. one is active and another is dead dump.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Location of OB dump : E 200 to E 300 & N 0 to N 100	OB/waste dump lies between coordinates E 200 to E 300 and N 0 to N 100 outside ultimate pit limit as per proposal.	OB/waste dump lies outside ultimate pit limit as per proposal.
4e	Number of active and alive dumps.	One active dump.	One active dump.	There are 02 dumps within lease area. one is active and another is dead dump.
4f	Number of dead dumps.	Not proposed.	There are 01 dead dump within lease area.	Dead dump is stabilised by plantation.
4g	Number of dumps established.	Not proposed.	There are 01 dead dump within lease area. Dead dump is stabilised by plantation.	Dead dump is stabilised by plantation.
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall all along dump 50m X 1.5m X 1m & garland drain all along dump 50m X 1.5m X 1m	Length of Retaining wall all along dump 250m X 1.5m X 1m Length of garland drain all along dump 650m X 1.5m X 1m have been made by lessee.	Retaining wall & garland drain along the dump have been constructed by lessee.
4i	Length of Retaining wall or garland drain all along dumps	Retaining wall all along dump 50m X 1.5m X 1m & garland drain all along dump 50m X 1.5m X 1m	Length of Retaining wall all along dump 250m X 1.5m X 1m Length of garland drain all along dump 650m X 1.5m X 1m have been made by lessee.	Retaining wall & garland drain along the dump have been constructed by lessee.

4j	Number of settling ponds	Not proposed.	Nil.	There are two Nos of Settling pond exist in the lease area.
4k	Specific comments of inspecting officer on waste dump management	Location of OB dump :E 200 to E 300 & N 0 to N 100	Dumping is done at the proposed dumping site. It has been observed during inspection that the retaining wall and garland drain around the dump is constructed by lessee.	Dumping is done at the proposed dumping site. It has been observed during inspection that the retaining wall and garland drain around the dump is constructed by lessee.

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 as the pit is not exhausted.	Nil.	Mineralisation is continue and pit is not matured for backfilling.
5b	Area under backfilling of mined out area	Not Proposed as the pit is not exhausted.	Nil.	Mineralisation is continue and pit is not matured for backfilling.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not Proposed as the pit is not exhausted.	Nil.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
5d	Total area fully reclaimed and rehabilitated	Not Proposed as the pit is not exhausted.	Nil.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Not Proposed as the pit is not exhausted.	Nil.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.

Sl.No.	Item	Propasals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	Not specified.	Annual report on PMCP for the year 2017-18 has been submitted.	Annual report on PMCP for the year 2017-18 has been submitted.
6b	Area available for rehabilitation (ha) .	Not Proposed as the pit is not exhausted.	Nil.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
6c	afforestation done (ha).	0.04Ha	0.04Ha	Plantation is carried out in 0.04 ha area.
6d	No. of saplings planted during the year	400 nos of saplings.	545 nos of saplings.	Plantation is as per proposal.
6e	Cumulative no .of plants	Not specified.	Cumulative 7910 nos. saplings have been planted by lessee .	Cumulative 7910 nos. saplings have been planted by lessee .
6f	Any other method of rehabilitation	Not proposed.	Nil.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
6g	Cost incurred on watch and care during the year	Not specified.	Around Rs. 864000/- cost incurred on watch and care.	Around Rs. 864000/- cost incurred on watch and care.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Not Proposed as the pit is not exhausted.	Nil.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not Proposed as the pit is not exhausted.	Nil.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.

6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Not Proposed as the pit is not exhausted.	Nil.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not Proposed as the pit is not exhausted.	Nil.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not Proposed as the pit is not exhausted.	Nil.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not Proposed.	Nil.	There is no proposal of waste land rehabilitation.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not Proposed.	Nil.	There is no proposal of waste land rehabilitation.
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not Proposed.	Nil.	There is no proposal of waste land rehabilitation.
6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring	Quarterly monitoring of air, water and noise level are being carried out.	Quarterly monitoring of air, water and noise level are being carried out.

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.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation. Quarterly monitoring of air, water and noise level are being carried out.
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Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	No proposal of grade wise sorting.	Total ROM production disptched to its captive plants.	Total ROM production disptched to its captive plants.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	No proposal of grade wise sorting.	Total ROM production disptched to its captive plants.	Total ROM production disptched to its captive plants.
7c	Different grade of mineral sorted out at mines.	No proposal of grade wise sorting.	Total ROM production disptched to its captive plants.	Total ROM production disptched to its captive plants.
7d	Any beneficiation process at mines	Not proposed.	Nil.	There is no any beneficiation process at mines.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	No proposal of grade wise sorting.	Total ROM production disptched to its captive plants.	Total ROM production disptched to its captive plants.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
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8a	Separate removal and utilization of topsoil (Rule 32)	Not proposed.	There is no top soil generation as the excavation is proposed in broken up arera.	There is no top soil generation as the excavation is proposed in broken up arera.
8b	Concurrent use or storage of topsoil	Not proposed.	There is no top soil generation as the excavation is proposed in broken up arera.	There is no top soil generation as the excavation is proposed in broken up arera.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping of OB/waste. No proposal of top soil & MR .	Separate dumping of OB/waste between coordinates E 200 to E 300 and N 0 to N 100. No top generation is proposed as excavation has been in broken up area. There is no mineral reject generation.	No top soil generation is proposed as excavation has been in broken up area.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not Proposed as the pit is not exhausted.	Nil.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not Proposed as the pit is not exhausted.	Nil.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	400 nos. saplings	Total 545 nos. saplings have been planted in 2017-18. Cumulative 7910 nos. saplings have been planted by lessee .	Cumulative 7910 nos. saplings have been planted by lessee .
8g	Survival rate	Not specified.	As reported survival rate is 60%.	As reported survival rate is 60%.

8h	Water sprinkling on roads to control airborne dust	Water tanker	One water tanker of 4 KL used for control of airborne dust.	One water tanker of 4 KL used for control of airborne dust.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	400 nos. saplings in 2017-18.	Total 545 nos. saplings have been planted in 2017-18. Cumulative 7910 nos. saplings have been planted by lessee .	Aesthetic beauty in and around mined area is maintained by plantation.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Annual report on PMCP for the year 2017-18 has been submitted.	Annual report on PMCP for the year 2017-18 has been submitted.	Annual report on PMCP for the year 2017-18 has been submitted.
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.	Mining engineer, geologist & mine managers were employed in the mine.
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.	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.
9d	Scrutiny of Annual return on afforestation	545 nos.f saplings	545 nos.f saplings	545 nos.f saplings

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 MT, Production = 64350 MT, Despatch = 62119.60 MT, Closing stock = 6863.434 MT	Opening stock = 4632.694 MT, Production = 64350 MT, Despatch = 62119.60 MT, Closing stock = 6863.434 MT	Closing stock = 6863.434 MT
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Production cost = Rs. 596.00	Production cost = Rs. 596.00	Production cost = Rs. 596.00
9h	Scrutiny of Annual return on fixed assets	Value of Fixed Assets Rs 167702/-	Value of Fixed Assets Rs 167702/-	Value of Fixed Assets Rs 167702/-
9k	Scrutiny of Annual return on mining machineries	AIR COMPRESSOR-2, BACK HOE-1, ROCKER SHOVEL LOADER-1, WATER TANKER-1, PUMPS (ELEC.)-3	AIR COMPRESSOR-2, BACK HOE-1, ROCKER SHOVEL LOADER-1, WATER TANKER-1, PUMPS (ELEC.)-3	AIR COMPRESSOR-2, BACK HOE-1, ROCKER SHOVEL LOADER-1, WATER TANKER-1, PUMPS (ELEC.)-3

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)	28/12/2018			

Date :

(DAYANAND UPADHYAY)

Indian Bureau of Mines