

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

**MCDR INSPECTION REPORT**

**Bhubaneshwar regional office**

**Mine file No :** ORI/DOL/SNG/MCDR-5/BBS-12/5/01

**Mine code :** 38ORI13014

- (i) Name of the Inspecting : **RAM** ) **RAMKISHAN R**  
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri Lokesh Shrimali, Manager & Shri Udayanath Sahoo,  
Official with  
Designation
- (iv) Date of Inspection : 17/07/2017
- (v) Prev.inspection date : 04/06/2015

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **LANJIBERNA (893.55 HA)**
- (b) **Registration NO.** : **IBM/393/2011**
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : SUNDARGARH
- Village : LANJIBERNA
- Taluka : RAJGANGPUR
- Post office : LANJIBERNA
- Pin Code : 770023
- FAX No. : 06624-220733/933
- E-mail : lq@dalmiacement.com
- Phone : 0661-2451419,2451417
- (f) Police Station : RAJGANGPUR
- (g) First opening date : 12/05/1951
- (h) Weekly day of rest : SUN
2. Address for : VILL/PO-LANJIBERNA  
correspondance DIST-SUNDERGARH  
ODISHA
3. (a) Lease Number : ORI0016
- (b) Lease area : 1002.01
- (c) Period of lease : 20
- (d) Date of Expiry : 20/08/1998
4. Mineral worked : DOLOMITE Associated  
LIMESTONE Main

## 5. Name and Address of the

Lessee : ORISSA CEMENT LIMITED  
 AT/PO RAJGANGPUR  
 SUNDARGARH ORISSA  
 Phone:20133,20733  
 FAX :20933, 20133

Owner : SHRI AMANDEEP  
 M/S OCL INDIA LIMITED  
 RAJGANGPUR ODISHA  
 SUNDARGARH ORISSA  
 Phone: 06624220933  
 FAX :

Agent : SAROJ KUMAR ROUT  
 LANJIBERNA RAJGANGPUR  
 ODISHA SUNDARGARH ORISSA  
 Phone: 06624676403  
 FAX :

## Mining Engineer

Name : B. JAGADEESH KUMAR,Full Time  
 Qualification : AMIE in Mining Engg  
 Appointment/ : 28/11/2015  
 Termination date

## Geologist

Name : DR. UDAYNATH SAHOO,Full Time  
 Qualification : M.Sc, M. Phil, Ph. D (Geology)  
 Appointment/ : 20/10/2010  
 Termination date

## Manager

Name : LOKESH SHRIMALI  
 Qualification : Degree in Mining Engineering  
 Appointment/ : 24/05/2017  
 Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	27/01/2005
Plan/Scheme of Mining	:	Mining Scheme rule 12 MCDR1988	27/11/2005
	:	Modif.approved Mining Scheme	01/02/2007
	:	Renewal under rule 24 MCR1960	07/05/2009
	:	FMCP under 23C(1)	08/02/2012
	:	Modif.of approved Mining Plan	11/01/2013
	:	Mining Scheme rule 12 MCDR1988	25/03/2015

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	36 Boreholes were proposed during the year 2015-16	No exploration work carried out	Exploration carried out in 2016-17 including the backlog of 36 nos.
1b	Exploration over lease area for geological axis 1 or 2	34 boreholes are proposed in the year 2016-17	72 boreholes are drilled	36 boreholes drilled of 2015-16 were also included as a backlog.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No Proposal	Expenditure incurred was Rs 68,79,000/-. Agency: SPS Geo Mining Solutions Pvt Ltd	Exploration was carried out by Exploration agency called SPS Geo Mining Solutions Pvt Ltd
1d	Balance area to be explored to bring Geological axis in 1 or 2	balance un explored area of 510.987 ha of which 65.33 ha is non mineralised. unexplored area of 445.657 ha needs to be explored.	Total of 176 nos of boreholes proposed during the scheme period from 2015-16 to 2019-20	exploration is proposed in the mining scheme
1e	Balance reserve as on 01/04/20	As per the approved document on 25/03/2015 the Reserve of Limestone 64.66 Million tonnes, resources: 81.04 Million tonnes as on 30.09.2014	After depletion of reserves over the period the left out Reserve of Limestone 52.46 Million tonnes, resources: 81.04 Million tonnes are as on 01.04.2017	Total reserves and resources of limestone as on 01.04.2017 are 133.5 Million tonnes

1f	General remarks of inspecting officers on geology, exploration etc	balance un explored area of 510.987 Ha 65.33 Ha is non mineralised. unexplored area of 445.657 ha needs to be explored.	balance un explored area of 510.987 Ha 65.33 Ha is non mineralised. unexplored area of 445.657 ha needs to be explored.	balance un explored area of 510.987 Ha 65.33 Ha is non mineralised. unexplored area of 445.657 ha needs to be explored.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Quarry1-3: 4620N-5000N, 3900E-4800E, Quarry2-6: 4640N-5264N, 5906E-6920E, Quarry4-5 4970N-5435N, 4538E-5580E	Quarry1-3: 4620N-5000N, 3900E-4800E, Quarry2-6: 4640N-5264N, 5906E-6920E, Quarry4-5 4970N-5435N, 4538E-5580E	development carried out as per the proposal given location only.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	No generation of topsoil and overburden / waste generated is in the form of phyllite and dolomitic limestone	No generation of topsoil and overburden / waste generated is in the form of phyllite and dolomitic limestone	No genration of top soil and over burden. waste is genreated in the form of phyllite and dolomitic limestone which is separated during excvation.
2c	Stripping ratio or ore to OB ratio	1:0.85	1:0.63	Average stripping ratio is varied due to irregular nature of ore deposit.
2d	Quantity of topsoil generation in m3	Nil	Nil	No generation of top soil
2e	Quantity of overburden generation in m3	14,69,402 Cu.m. for 2016-17	9,68,664 Cu.m.	Less overburden generated due to less dvelopment and also irregular nature of ore deposit

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	mine developmenet is carried out in three no of quarries as proposed.	mine development is carried out in three no of quarries as proposed.	mine developmenet is carried out in three no of quarries as proposed.
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### Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Quarry 1-3, Quarry2-6, Quarry4-5	Quarry 1-3, Quarry2-6, Quarry4-5	Production carried out from all the quarries.
3b	Quantity of ROM mineral production proposed	43,58,710 tonnes of Limestone for 2016-17 55,479 toones of Dolomite	38,28,182.64 tonnes of Limestone 1,024 tonnes of Dolomite	Production variation due to the demand & supply of captive cement plant requirement.
3c	Recovery of sailable/usable mineral from ROM production	100%	100%	entire ROM production is utilised at cement plant
3d	Quantity of mineral reject generation	Nil	Nil	No generation of mineral reject.
3e	Grade of mineral rejects generation and threshold value declared.	+35 Cao% to - 35 Cao%	+35 Cao% to -35 Cao%	No variation in the grade of the mineral reject.
3f	Quantity of sub grade mineral generation.	2,09,020 tonnes of Limestone for 2016-17 which was proposed to be blended with ROM.	entire subgrade generated was utilised by blending with ROM. However the quantity blended is 2,92,220 tonnes.	entire subrgade generated was utilised by blending with ROM. variation oin production quantity is due to irregular nature of ore deposit.
3g	Grade of sub grade mineral generation	+35 Cao% to - 38 Cao%	+35 Cao% to -38 Cao%	No variation in the generation of subgrade material grade.

3h	Manual / Mechanised method adopted for segregating from ROM	mechanised	mechanised	by mechanical means ROM is segregated
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No beneficiation analysis was proposed	No beneficiation analysis carried out	Entire ROM is utilised at captive cement plant
3j	Provision of drilling and blasting in mineral benches	Drilling of 110 mm dia holes with length of hole 8.5 m and Blasting is carried out by slurry explosives with initiation of electric delay detonators or NONEL.	Drilling of 110 mm dia holes with length of hole 8.5 m and Blasting is carried out by slurry explosives with initiation of electric delay detonators or NONEL.	As per the proposal.
3k	Provision of mining machineries in mineral benches	Mining machineries are proposed for excavation like excavators and dumpers. shovel: 6.0 cu.m. dumper: 50 tonnes, dozer: 320 hp, grader: 145 hp	Mining machineries are proposed for excavation like excavators and dumpers. shovel: 6.0 cu.m. dumper: 50 tonnes, dozer: 320 hp, grader: 145 hp	the machinery deployed in the mine is adequate.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	there was no proposal of benches in overburden. mineral benches proposed are 8 m height.	there was no bench in overburden. mineral benches proposed are 8 m height.	maintained 8 m height benches.
3m	Total area covered under excavation/pits	136.23 Ha for 2016-17	136.23 Ha	area covered under excavation is 136.23 ha.

3n	Ore to OB ratio for the pit/mine during the year.	1:0.85 for 2016-17	1:0.63	varies due to irregular nature of ore deposit.
3o	Total area put in use under different heads at the end of year	210.52 Ha for 2016-17 136.23 ha for excavation pit 22.48 ha for plant, 22.48 ha for infrastructure 51.81 ha for waste disposal	210.52 Ha 136.23 ha for excavation pit 22.48 ha for plant, infrastructure 51.81 ha for waste disposal	Area put under differnt heads is as per the proposal.
3p	Production of ROM mineral during the last five year period as applicable	2016-17: Limestone: 43,58,710 tonnes, Dolomite: 55,479 tonnes 2015-16: Limestone: 41,69,650 tonnes, Dolomite: 65,535 tonnes 2014-15: Limestone: 42,00,000 tonnes, Dolomite: 79,200 tonnes 2013-14: Limestone: 42,00,000 tonnes, Dolomite: 72,000 tonnes 2012-13: Limestone: 42,00,000 tonnes, Dolomite: 74,700 tonnes	2016-17: Limestone: 38,28,182.64 tonnes, Dolomite: 1,024 tonnes 2015-16: Limestone: 41,69,650 tonnes, Dolomite: 1,457 tonnes 2014-15: Limestone: 27,89,670.5 tonnes, Dolomite: 34,488 tonnes 2013-14: Limestone: 26,40,415 tonnes, Dolomite: 52,936 tonnes 2012-13: Limestone: 28,29,234 tonnes, Dolomite: 840 tonnes	the production variation is due to less demand by capitive cement plant.
3q	General remarks of inspecting officers on method of mining etc.	opencast mining is proposed with development in 3 nos of quarries	opencast mining is proposed with development in 3 nos of quarries	development and exploitation is carried out in the proposed Quarries.

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## Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	no generation of top soil. the OB/ waste and mineral rejects generated are dumped in the active dump.	no generation of top soil. The OB/waste and mineral rejects generated are dumped in the active dump.	waste generated from the mine is dumped in active dump.
4b	Location of topsoil, OB and mineral reject dumps	5000N - 5400N 3843E - 4535E	5000N - 5400N 3843E - 4535E	waste is dumped at the designated dump.
4c	Number of dumps within lease area and outside of lease area	13 (Within lease area), 1W&1S, 2S,3S, 4S, 5S, 3N&4N, 5N, 6N, 7N, 8N, Old Dump- 1, Old Dump-2, Active dump	13 (Within lease area), 13 (Within lease area), 1W&1S, 2S,3S, 4S, 5S, 3N&4N, 5N, 6N, 7N, 8N, Old Dump-1, Old Dump-2, Active dump	All dumps are with in the lease area.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Location of Waste dump is 5000N-5400N, 3843E - 4535E	Location of Waste dump is 5000N-5400N, 3843E - 4535E	Location of waste dump does not fall under ultimate pit limit.
4e	Number of active and alive dumps.	1, Active dump	1, Active dump	present waste generated from the mines are dumped in the active dump.
4f	Number of dead dumps.	12, with in lease area, 1W&1S, 2S,3S, 4S, 5S, 3N&4N, 5N, 6N, 7N, 8N, Old Dump- 1, Old Dump-2.	12, with in lease area, 1W&1S, 2S,3S, 4S, 5S, 3N&4N, 5N, 6N, 7N, 8N, Old Dump-1, Old Dump-2.	All the dumps are within the lease area only.
4g	Number of dumps established.	12, with in lease area, 1W&1S, 2S,3S, 4S, 5S, 3N&4N, 5N, 6N, 7N, 8N, Old Dump- 1, Old Dump-2.	12, with in lease area, 1W&1S, 2S,3S, 4S, 5S, 3N&4N, 5N, 6N, 7N, 8N, Old Dump-1, Old Dump-2.	6 dumps are stabilised.



4h	Whether Retaining wall or garland drain all along dumps are there.	Yes	Yes, except the active dump	violation issued for Protective Measures around dump letter no: ORI/LST&DOL/SNG/MC DR-5/BBS/932 date 26/07/2017.
4i	Length of Retaining wall or garland drain all along dumps	reataing wall & garland drain of 300 mtrs in 2016-17	reatingwall of 85 mtr & garland drain of 320 mtrs completed during 2016-17. however the retainingwall and garland drain has not been constructed as per the proposal.	violation issued for Protective Measures around dump letter no: ORI/LST&DOL/SNG/MC DR-5/BBS/932 date 26/07/2017.
4j	Number of settling ponds	Nil	Nil	Nil
4k	Specific comments of inspecting officer on waste dump management	part of the waste generated from mines is being sold to L&T for civil construction jobs and the rest is stored in dumps.	part of the waste generated from mines is sold to L&T for civil construction jobs and the rest is stored in dumps.	lessee got the permission from Department of Steel & Mines for selling waste to L&T and it is also proposed in Mining plan.

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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.	Yes	yes	As per proposal
5b	Area under backfilling of mined out area	Nil	Nil	No proposal
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Nil	Nil	No generation of top soil.

5d	Total area fully reclaimed and rehabilitated	Nil	Nil	No proposal
5e	General remarks of inspecting officers on backfilling and reclamation etc.	No proposal.	No Proposal.	No proposals on backfilling and reclamation.

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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).	yes, submitted	Submitted	Submitted with in the stipulated time frame.
6b	Area available for rehabilitation (ha) .	Nil	Nil	No area available for rehabilitation.
6c	afforestation done (ha).	Nil	1 ha and partly re-planted	Re-planattion carried out.
6d	No. of saplings planted during the year	Nil	5000	No proposal for planation but carried out.
6e	Cumulative no .of plants	3,18,934	3,18,934	cumulitaive plants are 3,18,934 nos
6f	Any other method of rehabilitation	Nil	Nil	No proposal
6g	Cost incurred on watch and care during the year	Rs 8,01,027	Rs 8,01,027	As per the proposal cost inccured.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	Nil	Nil	No proposal.

6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Nil	Nil	No proposal
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Nil	Nil	No proposal
6l	Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.	Nil	Nil	No Proposal
6m	Compliance of rehabilitation of waste land within lease (i) afforestation	Nil	Nil	No proposal.
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	Nil	Nil	No proposal.
6o	Compliance of rehabilitation of waste land within lease (iii) Method of rehabilitation	Nil	Nil	No proposal.
6p	Compliance of environmental monitoring (core zone and buffer zone)	Yes	carried out	Regular Environment Monitoring is carried out in the Core zone & buffer Zone of the mines.

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	All the proposed works are carried out as per PMCP except construction of retaining wall.	All the proposed works are carried out as per PMCP except construction of retaining wall.	All the proposed works are carried out as per PMCP except construction of retaining wall.
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### Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	43,58,710 tonnes of Limestone, 55,479 tonnes of Dolomite	38,28,182.64 tonnes of Limestone and 1,024 tonnes of Dolomite	Variation of production is due to less demand of captive cement plant.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Only cement grade limestone is produced by mechanically means.	Only cement grade limestone is produced by mechanically means.	cement grade limestone is produced as per the requirement.
7c	Different grade of mineral sorted out at mines.	Not Proposed. Only cement grade limestone is produced by mechanically means.	Only cement grade limestone is produced by mechanically means.	cement grade limestone is only produced.
7d	Any beneficiation process at mines .	No proposal	Nil	Entire ROM is utilised at captive cement plant
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Entire ROM generated is being utilised in the cement plant. Reclaimer cum Stacker is being utilised for blending of ROM Limestone for achieving the desired quality.	Entire ROM generated is being utilised in the cement plant. Reclaimer cum Stacker is being utilised for blending of ROM Limestone for achieving the desired quality.	As per the proposal.

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## Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Nil	Nil	No top soil generated.
8b	Concurrent use or storage of topsoil	Nil	Nil	No generation of top soil.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Seperate dumps for waste rock proposed	Seperate dumps for waste rock designated.	Active dump is used for seperate dumping of waste genertaed.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Nil	Nil	No proposal
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Nil	Nil	No proposal
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	3,18,934 nos sapling planted cumulatively.	5000 nos planted during 2016-17	3,18,934 nos sapling planted cumulatively.
8g	Survival rate	80%	67.29% (As informed by lessee)	Survival rate of trees planted is needs to be improved.
8h	Water sprinkling on roads to control airborne dust	water sprinkling for dust suppression by fixed and water tankers	water sprinkling for dust suppression by fixed and water tankers is carried out.	fixed sprinkling and water tankers of 18 kl are used for sprinkling.

## Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly and Annual returns for the year 2016-17 submitted	Monthly and Annual returns for the year 2016-17 submitted	Submitted in the stipulated time.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Graduate Mining Engineer: 4, Diploma Mining Engineer: 8, geologist: 2, Surveyor: 2	Graduate Mining Engineer: 4, Diploma Mining Engineer: 8, geologist: 2, Surveyor: 2	Mining engineer, Geologist are appointed.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Opencast workings: 136.23 ha, used for waste disposal: 51.81 ha occupied by plant, biudlings etc: 22.48 ha Other purpose:	the land use pattern is found to be in order.	Nil.
9d	Scrutiny of Annual return on afforestation	5000 nos	5000 nos	plantation carried out of 5000 nos.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil	Nil	No mineral reject generated.

9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM Production: 3828182.64 tonnes of limestone and for the year 2016-17 clsoing stock at mie haed is 40115 tonnes of cement grade limestone. ROM production of 1024 tonnes of dolomite for the year 2016-17. clsoing stock of ROM dolomite is 169606.41 tonnes	verified and found to be in order.	Satisfactory.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	production cost: Rs 285.78	found in order.	It is a capitive mine and the production cost is Rs 285.78
9h	Scrutiny of Annual return on fixed assets	fixed assests Rs. 1426194165	fixed assests Rs. 1426194165	Fixed assests like land, building, plant and machinery etc.,
9k	Scrutiny of Annual return on mining machineries	Shovel: 10., dumper: 33, dozer: 3, Motor grader: 1 Rock drill: 4, compressor: 3, water tanker: 2, crusher: 4	All mining machineries furnished in the AR are in order.	all the machinery are required since it is a fully mechanised mine.

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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)	26/07/2017			
MCDR17	Rule 37(2)	26/07/2017			
	Rule 45(7)	26/07/2017			

**Date :**

(RAMKISHAN R)

Indian Bureau of Mines