

**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 : **S010**) **SHRI G.C. SETHI**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Shri S. K.Rout, Agent & Shri P.S. Acharya, Qualified
Official with
Designation
- (iv) Date of Inspection : 30/12/2017
- (v) Prev.inspection date : 17/07/2017

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	Nil	Not applicable.	Nil
1b	Exploration over lease area for geological axis 1 or 2	34nos. of boreholes are proposed in the year 2016-17	72 boreholes are drilled during 2016-17.	Nil
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No such specific proposal for 2016-17.	Expenditure incurred was Rs 68,79,000/ by engaging M/s SPS Geo Mining Solutions Pvt Ltd	Exploration was carried out by 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, out of which 65.33 ha is non mineralised and rest of 445.657 ha area has not been explored.	Total of 176 nos of boreholes proposed during the scheme period from 2015-16 to 2019-20	Nil
1e	Balance reserve as on 01/04/20	As per the approved document on 25/03/2015 the Reserves of Limestone 64.66 Million tonnes, resources: 81.04 Million tonnes as on 30.09.2014	After depletion of reserves, the Reserves of Limestone arrived at 52.46 Million tonnes, resources: 81.04 Million tonnes 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	No comments.	The Lanjoberna limestone deposit forms a part of Biramitrapur formation of Gangpur group and occupied the central part of the area. The north eastern part is a domain of overturned, doubly plunging folds, where the rocks are right way up. Bedding and schistosity dips low to moderate due north, while the eastern region is made up of upright to northerly overturned & easterly plunging folds. un-explored area of 510.987 ha should be explored before 01.03.2020.	Nil
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Development :

Sl.No.	Item	Proposals	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	There is no deviation in the proposed development sites during the year 2016-17.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	No proposal for generation of topsoil. The overburden / waste generated is in the form of phyllite and dolomitic limestone.	No generation of topsoil during 2016-17. The overburden / waste generated is in the form of phyllite and dolomitic limestone.	No generation of top soil. The waste is generated in the form of phyllite and dolomitic limestone which is separated during excavation.
2c	Stripping ratio or ore to OB ratio	1:0.85 proposed for 2016-17.	The achieved Ore: OB ratio is 1:0.63 during 2016-17.	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. generated during 2016-17.	Less overburden generated due to less development and irregular nature of ore deposit
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	No comments.	The mine development is carried out in three no of quarries as proposed.	Nil

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 during 2016-17.
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	55% as per the approved scheme of mining.	55%	Nil
3d	Quantity of mineral reject generation	Nil	Nil	No generation of mineral reject during 2016-17.
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.	The entire subgrade generated was utilised by blending with high grade. However the quantity blended was for 2,92,220 tonnes.	The entire subgrade generated was utilised by blending with high grade materials.
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 is in practice in the mine.	Entire ROM is utilised for cement making at captive cement plan.
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.	Nil
3k	Provision of mining machineries in mineral benches	Mining machineries are proposed for excvation like excavators and dumpers. shovel: 6.0 cu.m. dumper: 50 tonnes, dozer: 320 hp, grtader: 145 hp	Mining machineries are proposed for excvation like excavators and dumpers. shovel: 6.0 cu.m. dumper: 50 tonnes, dozer: 320 hp, grtader: 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	The height of teh benches are proposed for 8m both in overburden as well as in ore zone as envisaged in the approved scheme of mining.	No bench in overburden was advanced but the height of the benches in overburden & in mineral zone are about 8 m height.	Maintained 8 m height benches.
3m	Total area covered under excavation/pits	136.23 Ha for 2016-17	136.23 Ha	Nil
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	22.48 ha for plant, 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 captive cement plant.
3q	General remarks of inspecting officers on method of mining etc.	The opencast mining is proposed with development in 3 nos of quarries.	The opencast mining is in practice with development in 3 nos of quarries.	The development and exploitation is carried out in the proposed Quarries.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
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4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	No proposal for generation of top soil & no provisions for separate staking for the same. The OB/ waste and mineral rejects generated are dumped in the active dump in the proposed location.	No generation of top soil during 2016-17. The OB/waste and mineral rejects generated are dumped in the active dump designated for the purpose.	Nil
4b	Location of topsoil, OB and mineral reject dumps	5000N - 5400N 3843E - 4535E	5000N - 5400N 3843E - 4535E	The waste materials is being 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 within 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	Nil
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.	Nil

4h	Whether Retaining wall or garland drain all along dumps are there.	Yes.	Yes.	Nil
4i	Length of Retaining wall or garland drain all along dumps	The reataing wall & garland drain of 300 mtrs was proposed in 2016-17	The reatingwall of 85 mtr & garland drain of 320 mtrs completed during 2016-17.	Nil.
4j	Number of settling ponds	Nil	Nil	Nil
4k	Specific comments of inspecting officer on waste dump management	No comments.	The part of the waste generated from mines is sold to L&T for civil construction work and the rest is stored in dumps.	The lessee got the permission from Department of Steel & Mines for selling waste to L&T.

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.	No specific proposal.	Nil	Nil
5b	Area under backfilling of mined out area	No such specific proposal for 2016-17.	Nil	Nil
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Nil	Nil	Nil
5d	Total area fully reclaimed and rehabilitated	Nil	Nil	Nil

5e	General remarks of inspecting officers on backfilling and reclamation etc.	No comments.	No backfilling and reclamation was undertaken during the year 2016-17..	Nil
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Progressive Mine Closure Plan:

Sl.No.	Item	Proposals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	yes, submitted	Submitted	Nil
6b	Area available for rehabilitation (ha) .	Nil	Nil	No area available for rehabilitation.
6c	afforestation done (ha).	Nil	1 ha and partly re-planted during 2016-17.	Nil
6d	No. of saplings planted during the year	Nil	5000 saplings planted during 2016-17.	Nil
6e	Cumulative no .of plants	No such specific proposal.	3,18,934 saplings.	Nil
6f	Any other method of rehabilitation	Nil	Nil	Nil
6g	Cost incurred on watch and care during the year	Rs 8,01,027	Rs 8,01,027	As per the proposal cost incurred.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Nil	Nil	Nil

6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Nil	Nil	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Nil	Nil	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Nil	Nil	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Nil	Nil	Nil
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Nil	Nil	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Nil	Nil	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Nil	Nil	Nil

6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring is proposed.	The same practice is being followed.	Nil
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	No comments.	The party has submitted the annual report on protective environmental measures for the year 2016-17 as per the statute.	Nil

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 proposed for 2016-17.	38,28,182.64 tonnes of Limestone and 1,024 tonnes of Dolomite was produced during 2016-17.	The variation of production is due to less requirement of limestone by the captive cement plant due to lack of market demand for cement..
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Only cement grade limestone was proposed to be produced by mechanically means.	Only cement grade limestone was produced during 2016-17.	Nil
7c	Different grade of mineral sorted out at mines.	Only cement grade limestone was proposed to be produced as envisaged during 2016-17.	Only cement grade limestone was produced during 2016-17.	Nil
7d	Any beneficiation process at mines	No such proposal.	Not in practice.	Nil

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	No comments.	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.	Nil
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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No such proposal for 2016-17.	No topsoil was generated during 2016-17.	Nil
8b	Concurrent use or storage of topsoil	Nil	Nil	Nil
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping of overburden and waste material was envisgade in the approved scheme of mining.	No waste was generated during the year 2016-17.	Mine is not in operation due to law and order problem.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No such specific proposal	Nil	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No such proposal	Nil	Nil

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Nil	Nil	Nil
8g	Survival rate	Nil	Nil	Nil
8h	Water sprinkling on roads to control airborne dust	Water sprinkling was proposed.	The same practice was followed.	Nil
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	No comments.	Mine is not in operation due to law and order problem.	Nil

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 has been submitted by the party.	. All the monthly returns for the year 2016-17 and Annual returns for the year 2016-17 has been submitted to this office within the stipulated time.	Nil
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	The information furnished in the annual return is found to be in order.	Nil
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	The land use pattern is found to be satisfactory.	Nil

9d	Scrutiny of Annual return on afforestation	5000 nos saplings were planted as per the annual return 2016-17.	The same is found to be satisfactory.	Nil
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil	Nil	No mineral reject was generated during 2016-17.
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.	Nil
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 for 2016-17.
9h	Scrutiny of Annual return on fixed assets	Fixed assests Rs. 1426194165/- as per AR 2016-17.	Found in order.	Nil

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	Verified and found 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

Date :

(SHRI G.C. SETHI)

Indian Bureau of Mines