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

#### MCDR INSPECTION REPORT

#### Bhubaneshwar regional office

Mine file No : ORI/LST/BRG/MCDR-2/BBS Mine code : 380RI12002

Name of the Inspecting: SRM ) SHRI SUDIP RANJAN MAZUMDAR

Officer and ID No.

(ii) Designation : Senior Mining Geologist

(iii) Accompaning mine : Shri. Raj Gurung, Mines Manager

Official with Designation

(iv) Date of Inspection : 06/01/2018 (v) Prev.inspection date : 11/02/2014

PART-I : GENERAL INFORMATION

1. (a) Mine Name : DUNGRI

(b) Registration NO. : IBM/256/2011

(C) Category : A Fully Mechanised

(d) Type of Working : Opencast

Postal address (e)

> : ORISSA State District : BARGARH Village : DUNGRI Taluka : BHATLI

Post office : DLQ COLONY CAMPUS

Pin Code : 768052

FAX No. : 06646-264144

E-mail : raj.gurung@acclimited.com

Phone : 06646-264144 ,264130

(f) Police Station : Ambabhona : 04/04/1966 (g) First opening date

Weekly day of rest (h) : SUN

2. Address for : DUNGRI LIME STONE QUARRY correspondance

AT/PO-D.L.Q. COLONY CAMPUS

DIST-BARGARH

(a) Lease Number : ORI0002 3. (b) Lease area : 502.21

(c) Period of lease

(d) Date of Expiry : 31/03/2030

Mineral worked 4. : LIMESTONE Main 5. Name and Address of the

Lessee : M/S ACC LTD.

DUNGRI LIMESTONE QUARRY PO:

DUNGRI, DIST: BARGARH

BARGARH ORISSA Phone:06646-264144 FAX :06646-264130

Owner : Neeraj Akhoury, Nominated Owner

Cement House 121, M.K. Road, Mumbai Maharastra

MUMBAI (SUBURBAN)

MAHARASHTRA

Phone: 06646264130 FAX : 06646264130

Agent : ANIL GAJANANRAO SINGEWAR

BARGARH CEMENT LTD BARGARH

ODISHA BARGARH ORISSA

Phone: FAX:

Mining Engineer

Name : Sujoy Kundu, Full Time

Qualification : B.tech (Mining)

Appointment/ : 25/08/2015

Termination date

Geologist

Name : Jagannath Behera, Full Time

Qualification : M.Sc in Geology

Appointment/ : 26/10/2017

Termination date

Manager

Name : Raj Gurung
Qualification : B.Tech (Mining)
Appointment/ : 15/06/2016

Termination date

6. Date of approval of Mining Plan/Scheme of Mining

: Existing rule 11 MCDR1988 21/08/2002
Renewal under rule 24 MCR1960 29/12/2005
FMCP under 23C(1) 29/12/2005
Mining Scheme rule 12 MCDR1988 04/06/2010
Mining Scheme rule 12 MCDR1988 02/06/2015
FMCP under 23C(1) 04/05/2016
MP modif under MCR 1960 27/06/2016

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PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

### Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Number of boreholes proposed for drilling in 2016-17 was 27 nos.	Number of boreholes drilled in 2016-17 was 27 nos.	No back log for exploration for the year 2016-17.
1b	Exploration over lease area for geological axis 1 or 2	It is proposed to drill 27 nos. of boreholes at the boundary of the ML area at the interval of 400m to complete the exploration in the entire ML area	Lease area explored under UNFC level of G1 is 220.62 Ha and G2 is 17.008 Ha	Total area under G1 and G2 is 237.628 Ha
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No Proposal	Exploration Agency: M/s Synergy Geotech Pvt. Ltd. 51 Panchdeep Nagar, Wardha Road, Nagpur- 440025 Expenditure Incurred: Rs. 16.2 lakh	Exploration Agency: M/s Synergy Geotech Pvt. Ltd. 51 Panchdeep Nagar, Wardha Road, Nagpur- 440025 Expenditure Incurred: Rs. 16.2 lakh
1d	Balance area to be explored to bring Geological axis in 1 or 2	Unexplored area of 167.414 Ha	The potentially mineralized area has been proved under G1 and G2 level of UNFC and unexplored area has been proved by drilling for non-mineralization. The total area explored and found non-mineralized is 210.764 Ha.	ha. Explored in non- mineralized area - 210.764ha. Total area -

1e	Balance reserve as on 01/04/20	Reserve & Resources as on 01.04.2016 is Reserve- 17.305 million tone and Resources 22.419 million tone,	Resources: 22.419	
1f	General remarks of inspecting officers on geology, exploration etc	No Comments	Exploration proposal for the year 2016-17 has been completed. The potentially mineralized area has been explored under G1 and G2 level of UNFC. The remaining area of 210.764 ha has been proved for non-mineralization.	proposal for the year 2016-17 has been completed. The potentially mineralized area

# Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	6. Coordinate:	Quarry No.5 & 6 Coordinate: E 190-E720 and N4060- N4590	Quarry No.5 & 6 Coordinate: E 190- E720 and N4060- N4590
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	benches in OB and mineral	Separate benches in OB and mineral maintained	Separate benches in OB and mineral maintained
2c	Stripping ratio or ore to OB ratio	1:1.6 m3:m3	1:2.71 m3:m3	The waste generation was higher and ROM production was less leading to higher stripping ratio.
2d	Quantity of topsoil generation in m3	27,150 m3	25,110 m3	

2e	Quantity of overburden generation in m3	Total waste (top Soil + OB/IB) = 823000 m3	10,96,204 m3	Due to soil mixed Limestone at the outcrop area, the waste generation was higher.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	No Comments	The development of the Quarry has been done as per the proposal.  Separate benches in ore and OB maintained. The generation of waste was higher and ROM production was less than planned leading to higher stripping ratio.	The development of the Quarry has been done as per the proposal. Separate benches in ore and OB maintained. The generation of waste was higher and ROM production was less than planned leading to higher stripping ratio.

# Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	2	2	Quarry No. 5 & 6
3b	Quantity of ROM mineral production proposed	14,24,781 MT (Limestone) + 5,15,680MT (Sub-grade) Total = 1940461 MT	7,53,968MT (Limestone) + 3,90,742MT (Sub-grade) Total = 1144710 MT	7,53,968MT (Limestone) + 3,90,742MT (Sub-grade) Total = 1144710 MT
3c	Recovery of sailable/usable mineral from ROM production	73%	66%	
3d	Quantity of mineral reject generation	5,15,680MT	3,90,742MT	3,90,742MT
3e	Grade of mineral rejects generation and threshold value declared.	40%) SiO2 18%	CaO (+35% to -40%) SiO2 18%) Threshold value +35% Cao, 18% SiO2	CaO (+35% to -40%) SiO2 18%) Threshold value +35% Cao, 18% SiO2

3f	Quantity of sub grade mineral generation.	5,15,680MT	3,90,742MT	3,90,742MT
3g	Grade of sub grade mineral generation	CaO (+35% to -40%) , SiO2	CaO (+35% to -40%) , SiO2 18%	CaO (+35% to -40%) , SiO2 18%
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized	Mechanized	Mechanized
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	used to	Blasting is done by using ANFO and slurry explosive. The latest initiation i.e., NONEL is used to control ground vibration, noise and air blast. No secondary blasting is carried out to blast oversize boulder. Ecofriendly hydraulic rock breaker is used for the purpose.	Blasting is done by using ANFO and slurry explosive. The latest initiation i.e., NONEL is used to control ground vibration, noise and air blast. No secondary blasting is carried out to blast oversize boulder. Ecofriendly hydraulic rock breaker is used for the purpose.
3k	Provision of mining machineries in mineral benches	Yes	Yes	
31	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes	Yes	
3m	Total area covered under	9.05 Ha.	8.37 Ha.	

excavation/pits

Ore to OB ratio 1:1.6 m3: m3 1:2.71 m3: m3 for the pit/mine during the year.

Total area put 30 in use under different heads at the end of year

3р

Area under mining at the end of plan period: 152.15 Covered under current (O/C) Workings: 117.48 Covered under current (O/C) Workings: 117.48 На

Production of ROM mineral during the last five year period 14,69,820MT as applicable

2012-13 = 14,69,820MT 2013-14 =2014-15 = 14,69,820MT

2015-16 = 14,11,943MT 2016-17 = 1940461 MT

2012-13 = 9,89,401 MT2013-14 = 9,95,776 MT 2014-15 = 5,14,764 MT 2015-16 = 6,90,535 MT2016-17 = 1144710 MT

General remarks No Comments of inspecting officers on method of mining etc.

The exploitation of mineral has been done from the quarry within the development plan proposed for the year. The quantity of ROM produced is less than the proposal for the year 2016-17. The OB generation was higher and hence the stripping ratio was higher.

The exploitation of mineral has been done from the quarry within the development plan proposed for the year. The quantity of ROM produced is less than the proposal for the year 2016-17. The OB generation was higher and hence the stripping ratio was higher.

### Solid Waste Management - Dumping:

Sl.No. Item Propasals Actual work Remarks

4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	27,150 M3 Overburden- 7,95,850 M3 Total= 8,23,000M3	Top soil- 25,110 M3 Overburden -10,71,090M3 Total = 10,96,200 M3 (During mining operation overburden generated is dumping in back filled area and top soil spread over back filled area for plantation).	Top soil- 25,110 M3 Overburden - 10,71,090M3 Total = 10,96,200 M3 (During mining operation overburden generated is dumping in back filled area and top soil spread over back filled area for plantation).
4b	Location of topsoil, OB and mineral reject dumps	_	Top soil- Used for plantation purpose over back filling area Quarry no 0, 5 & 6 & Dump no-11 Sub grade- Stacking as per SOM (E 650 - E780 & N 4160 - 4440)	Top soil- Used for plantation purpose over back filling area Quarry no 0, 5 & 6 & Dump no-11 Sub grade- Stacking as per SOM (E 650 - E780 & N 4160 - 4440)
4c	Number of dumps within lease area and outside of lease area	10	Within Lease- 10 Outside Lease- Nil	Within Lease- 10 Outside Lease- Nil
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Location of dumps outside UPL.	Location of dumps outside UPL.	Location of dumps outside UPL.
4e	Number of active and alive dumps.	Nil	Nil	Nil
4f	Number of dead dumps.	10	10	

4g	Number of dumps established.	8 Nos. dumps fully rehabilitated & 2 Nos. dumps partly rehabilitated.	8 Nos. dumps fully rehabilitated & 2 Nos. dumps partly rehabilitated.	37.21ha dump area stabilized by means of plantation, out of which 34.86 ha fully rehabilitated & self sustained.
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes	Yes	
4i	Length of Retaining wall or garland drain all along dumps	-2687 m	Retaining wall - 3620 m Garland drain - 5410 m	Retaining wall - 3620 m Garland drain - 5410 m
4j	Number of settling ponds	Desilting of One Number of Settling Pond: 10,000M3		Desilting of One Number of Settling Pond: 97,00M3
4k	Specific comments of inspecting officer on waste dump management	No Comments	Solid waste management is done as per proposal	Solid waste management is done as per proposal

# 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.	is carried out after extraction of mineral from		Back filling is carried out after extraction of mineral from mined out area.
5b	Area under backfilling of mined out area	6.23ha	6.98ha	6.98ha

5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	As per proposal 27,150M3 top soil shall be used for plantation over backfilled area.	25,110M3 topsoil used for restoration or rehabilitation of mined out area.	25,110M3 topsoil used for restoration or rehabilitation of mined out area.
5d	Total area fully reclaimed and rehabilitated	Not Specified	Nil	The area reclaimed /rehabilitated till 31.03.2017 is 40.36 Ha.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	No Comments	Backfilling has been done as per proposal.	Backfilling has been done as per proposal.

### Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
ба	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	Not Proposed	Annual report on PMCP has been submitted for the year 2016-17.	Annual report on PMCP has been submitted for the year 2016-17.
6b	Area available for rehabilitation (ha) .	3.98ha	4.10ha	Afforestation of backfilled area
6c	afforestation done (ha).	3.98ha	3.98ha	3.98ha
6d	No. of saplings planted during the year	Number of saplings proposed for plantation was 24,625 Nos	Number of saplings planted was 21,350 Nos.	21,350Nos. plants planted back filled area & dump area.
бе	Cumulative no .of plants	Not Specified	3,28,068 Nos. plants planted within the lease area over an area of 91.33ha.	3,28,068 Nos. plants planted within the lease area over an area of 91.33ha.
6f	Any other method of rehabilitation	Not Specified	Not Applicable	Not Applicable

6g	Cost incurred on watch and care during the year	Not Specified	Rs. 10.05 Lakh	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	No.5&6 (480mX	6.98ha, Qry No.5&6, (490mX120mX 20m) and Qry No.0, (305mX35mX20m)	6.98ha, Qry No.5&6, (490mX120mX 20m) and Qry No.0, (305mX35mX20m)
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	6.23ha	6.98ha	6.98ha
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestati on on backfilled area	3.98ha	4.10ha	4.10ha
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Nil	Nil	Nil
61	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
60	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)	Quality and Noise level to	Quarterly monitoring of AAQ, Water Quality and Noise level are being carried out through a recognized Environmental consultant, M/S Mitra S K	Quarterly monitoring of AAQ, Water Quality and Noise level are being carried out through a recognized Environmental consultant, M/S Mitra S K
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	No Comments	Compliance on PMCP is as per proposal	Compliance on PMCP is as per proposal

### Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	dry crushing		The ROM will be fed to the dry crushing plant is reduced to the size of -50 mm and directly used in the factory for cement

7b	Method of grade- wise mineral sorting i.e. manual or mechanical.	Mechanically	Mechanically	Mechanically
7c	Different grade of mineral sorted out at mines.	+35% to -40% CaO and 18% SiO2 (Sub- grade mineral stacked separately for future use)	+35% to -40% CaO and 18% SiO2 (Sub-grade mineral stacked separately for future use)	+35% to -40% CaO and 18% SiO2 (Subgrade mineral stacked separately for future use)
7d	Any beneficiation process at mines .	Nil	Nil	Crusher is used for sizing only ROM to -50 mm and directly used in the factory for cement
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	No Comments	The ROM is fed to the dry crushing plant and is reduced to the size of -50 mm and directly used in the factory for cement manufacturing.	The ROM is fed to the dry crushing plant and is reduced to the size of -50 mm and directly used in the factory for cement manufacturing.

#### Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	soil will be	25,110 M3 topsoil is spread over back fill area for plantation.	25,110 M3 topsoil is spread over back fill area for plantation.
8b	Concurrent use or storage of topsoil	-	Generated top soil will is utilized for plantation over backfilled area and no storage top soil for future.	Generated top soil will is utilized for plantation over backfilled area and no storage top soil for future.

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Overburden generated during mining operation is back filled in mined out pit	Overburden generated during mining operation is back filled in mined out pit	Overburden generated during mining operation is back filled in mined out pit	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Yes	Yes	Yes	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Afforestation on the backfilled area 3.98ha	Afforestation on the backfilled area 4.10 ha	Afforestation on the backfilled area 4.10 ha	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Not Specified	Number of saplings planted during the year was 21,350 Nos. Cumulatively 3,28,068 Nos. plants planted within the lease area.	Number of saplings planted during the year was 21,350 Nos. Cumulatively 3,28,068 Nos. plants planted within the lease area.	
8g	Survival rate	Not Propoposed	Survival rate within lease area is 82%	Survival rate within lease area is 82%	
8h	Water sprinkling on roads to control airborne dust	dust	15KL & 5KL water tanker provided to suppression the dust in haul road.	15KL & 5KL water tanker provided to suppression the dust in haul road.	

8i of inspecting officer on aesthetic beauty in and around mines area

General remarks No Comments Aesthetic beauty in and Aesthetic beauty around mines is maintained.

in and around mines is maintained.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Annual return for the year 2016-17 has been submitted. Monthly return till Jan'18 has been submitted.	Annual return for the year 2016-17 has been submitted. Monthly return till Jan'18 has been submitted.	Annual return for the year 2016-17 has been submitted. Monthly return till Jan'18 has been submitted.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Graduate Mining Engineer: 5 Diploma Mining Engineer: 3 Geologist: 1	Graduate Mining Engineer: 5 Diploma Mining Engineer: 3 Geologist: 1	Graduate Mining Engineer: 5 Diploma Mining Engineer: 3 Geologist: 1
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Workings: 117.48 Ha Reclaimed/Reha bilitated: 40.36 Ha	Covered under current (O/C) Workings: 117.48 Ha Reclaimed/Rehabilitated: 40.36 Ha Used for waste disposal: 57.94 Ha Occupied by plant, buildings, residential, welfare buildings & roads: 15.91 ha etc	Covered under current (O/C) Workings: 117.48 Ha Reclaimed/Rehabili tated: 40.36 Ha Used for waste disposal: 57.94 Ha Occupied by plant, buildings, residential, welfare buildings & roads: 15.91 ha etc
9d	Scrutiny of Annual return on afforestation		Number of saplings planted during the year was 21,350 Nos.	Number of saplings planted during the year was 21,350 Nos.

9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)		Quantity of Mineral Reject Generation was 390742 MT of Grade CaO%- 29.5,SiO2 %-33.3, MgO %- 1.1	Quantity of Mineral Reject Generation was 390742 MT of Grade Ca0%-29.5,Si02 %- 33.3, MgO %-1.1
9f	Scrutiny of Annual return on ROM stock and/or graded ore		Closing stock of cement grade limestone at mine head is 57783.051 MT	Closing stock of cement grade limestone at mine head is 57783.051 MT
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex-mine price (in Rs Per Tonne) of cement grade limestone is Rs 596.04	Ex-mine price (in Rs Per Tonne) of cement grade limestone is Rs 596.04	Ex-mine price (in Rs Per Tonne) of cement grade limestone is Rs 596.04
9h	Scrutiny of Annual return on fixed assets	Assets Rs 323600832 (in	Value of Fixed Assets Rs 323600832 (in respect of the mine, beneficiation plant, mine work-shop, power and water installation)	Value of Fixed Assets Rs 323600832 (in respect of the mine, beneficiation plant, mine work- shop, power and water installation)
9k	Scrutiny of Annual return on mining machineries	2 BACK HOE : 7 FRONT END LOADER: 3	SHOVEL (HYDRAULIC): 2 BACK HOE: 7 FRONT END LOADER: 3 DUMPER: 34 BLAST HOST DRILL: 2 DOZER: 2 GRADER: 1 etc.	SHOVEL (HYDRAULIC): 2 BACK HOE: 7 FRONT END LOADER: 3 DUMPER: 34 BLAST HOST DRILL: 2 DOZER: 2 GRADER: 1 etc.

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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		

#### Date:

(SHRI SUDIP RANJAN MAZUMDAR)

Indian Bureau of Mines