INDIAN BUREAU OF MINES
MINERALS DEVELOPMEMT 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 Officer and ID No. : **127) Jitendriya Pradhan**

(ii) Designation : Assistant Mining Engineer

(iii) Accompaning mine Official with Designation : S.K.PRADHAN

(iv) Date of Inspection : 22/09/2021

(v) Prev.inspection date : 07/03/2021

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, 4245(

(f) Police Station : KUTRA

(g) First opening date : 01/04/1998

(h) Weekly day of rest : SUN

2. Address for correspondance : KHATKURBAHAL LIMESTONE MINE,M/S SHIVA CEMENT LTD
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/ Termination date : 16/10/2009

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

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

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

Mining Scheme rule 12 MCDR1988	28/10/2004
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	NIL	NA	
1b	Exploration over lease area for geological axis 1 or 2	2017-18=26 2018-19=26 2019-20=NIL 2020-21= NIL	NA	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	NIL	NIL	
1d	Balance area to be explored to bring Geological axis in 1 or 2	NIL	NIL	
1e	Balance reserve as on 01/04/20	PROVED RESERVE-64288247MT REMAINING RESOURCES-87965635MT	PROVED RESERVE-64288247MT REMAINING RESOURCES-87965635MT	
1f	General remarks of inspecting officers on geology, exploration etc			GOOD

Development :

Sl.No.	Item	Propasals	Actual work	Remarks

2a	Location of development w.r.t.lease area	2017-18 Section D3D4 2018-19 Section D1D2, D3D4 2019-20 Pit 1 Section D1D2, D3D4 and D5D6 Pit 2 Section D11D12, D13D14 2020-21 Pit 1 Section D1D2, D3D4 and D5D6 Pit 2 Section D11D12, D13D14	2017-18 Section D3D4 2018-19 Section D1D2, D3D4 2019-20 Pit 1 Section D1D2, D3D4 and D5D6 Pit 2 Not done 2020-21 Pit 1 Section D1D2, D3D4 and D5D6 Pit 2 Not done
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	2017-18 Section D3D4 2018-19 Section D1D2, D3D4 2019-20 Pit 1 Section D1D2, D3D4 and D5D6 Pit 2 Not done 2020-21 Pit 1 Section D1D2, D3D4 and D5D6 Pit 2 Not done	2017-18 Top soil = Nil Overburden = Nil Mineral = 2 2018-19 Top soil = Nil Overburden = Nil Mineral = 3 2019-20 Pit 1 Top soil = Nil Overburden = 3 Mineral =3 Pit 2 Top soil = Nil Overburden = Nil Mineral = Nil 2020-21 Pit 1 Top soil = 1 Overburden = 2 Mineral = 2 Pit 2 Top soil = Nil Overburden = Nil Mineral = Nil

2c	Stripping ratio or ore to OB ratio	2017-18 = 1:0.10 2018-19 = 1:0.10 2019-20 Pit 1 = 1:0.51 Pit 2 = NA 2020-21 Pit 1 = 1:0.99 Pit 2 = 1:1.10	2017-18 1:0.10 2018-19 1:0.10 2019-20 Pit 1 = 1:0.51 Pit 2 = Nil 2020-21 Pit 1 = 1:0.99 Pit 2 = Nil	
2d	Quantity of topsoil generation in m3	2017-18 = Nil 2018-19 = Nil 2019-20 Pit 1 = Nil Pit 2 = 10000 2020-21 Pit1 = 28000 Pit 2 = 30000	2017-18 = Nil 2018-19 = Nil 2019-20 Pit 1 = 21542.575 Pit 2 = Nil 2020-21 Pit1 = 24856.525 Pit 2 = Nil	
2e	Quantity of overburden generation in m3	2017-18 = 5380 2018-19 = 10630 2019-20 Pit 1 = 60000 Pit 2 = 20000 2020-21 Pit1 = 120000 Pit 2 = 80000	2017-18 = 1500 2018-19 = 10630.001 2019-20 Pit 1 = Nil Pit 2 = Nil 2020-21 Pit1 = Nil Pit 2 = Nil	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			VERY BAD PERFORMANCE

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	2017-18 = 1 2018-19 = 1 2019-20 = 2 2020-21 = 2	2017-18 = 1 2018-19 = 1 2019-20 = 1 2020-21 = 1	

3b	Quantity of ROM mineral production proposed	2017-18 = 130734 MT 2018-19 = 258309 MT 2019-20 = 315000 MT 2020-21 = 675000 MT	2017-18 = 64350 MT 2018-19 = 81750 MT 2019-20 = 79610 MT 2020-21 = 72712.44 MT
3c	Recovery of sailable/usable mineral from ROM production	90 %	90 %
3d	Quantity of mineral reject generation	2017-18 = Nil 2018-19 = Nil 2019-20 = 35000 2020-21 = 75000	2017-18 = Nil 2018-19 = Nil 2019-20 = Nil 2020-21 = Nil
3e	Grade of mineral rejects generation and threshold value declared.	2017-18 = Nil 2018-19 = Nil 2019-20 = 35%<CaO<40% Threshold value >35% as CaO 2020-21 = 35%<CaO<40% Threshold value >35% as CaO	2017-18 = Not generated 2018-19 = Not generated Threshold value >35% as CaO 2019-20 = Not generated 2020-21 = Not generated Threshold value >35% as CaO
3f	Quantity of sub grade mineral generation.	2017-18 = Nil 2018-19 = Nil 2019-20 = Nil 2020-21 = Nil	2017-18 = Nil 2018-19 = Nil 2019-20 = Nil 2020-21 = Nil
3g	Grade of sub grade mineral generation	2017-18 = Nil 2018-19 = Nil 2019-20 = Nil 2020-21 = Nil	2017-18 = Not generated 2018-19 = Not generated 2019-20 = Not generated 2020-21 = Not generated
3h	Manual / Mechanised method adopted for segregating from ROM	Manual / Mechanised	Manual / Mechanised

3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	NIL	NIL
3j	Provision of drilling and blasting in mineral benches	2017-18 = Drilling & blasting 2018-19 = Drilling & blasting 2019-20 = Drilling & blasting 2020-21 = Drilling & blasting	2017-18 = Drilling & blasting 2018-19 = Drilling & blasting 2019-20 = Drilling & blasting 2020-21 = Drilling & blasting
3k	Provision of mining machineries in mineral benches	2017-18 = Proposed 2018-19 = Proposed 2019-20 = Proposed 2020-21 = Proposed	2017-18 = Deployed 2018-19 = Deployed 2019-20 = Deployed 2020-21 = Deployed
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	2017-18 = Yes 2018-19 = Yes 2019-20 = Yes 2020-21 = Yes	2017-18 = Yes 2018-19 = Yes 2019-20 = Yes 2020-21 = Yes
3m	Total area covered under excavation/pits	2017-18 = 2018-19 = 2019-20 Pit 1 = Pit 2 = 2020-21 Pit1 = Pit 2 =	2017-18 = 6.6 Ha 2018-19 = 6.6 Ha 2019-20 Pit 1 = 6.6 Ha Pit 2 = Nil 2020-21 Pit1 = 6.5 Ha Pit 2 = Nil

3n	Ore to OB ratio for the pit/mine during the year.	2017-18 = 1:0.10 2018-19 = 1:0.10 2019-20 Pit 1 = 1:0.51 Pit 2 = NA 2020-21 Pit 1 = 1:0.99 Pit 2 = 1:1.10	2017-18 1:0.10 2018-19 1:0.10 2019-20 Pit 1 = 1:0.51 Pit 2 = Nil 2020-21 Pit 1= 1:0.99 Pit 2 = Nil

3o	Total area put in use under different heads at the end of year	2017-18, 2018-19 1.Mining = 5.40 Ha 2.Dumping = 1.17 Ha 3.Storage of top soil = 0.08 Ha 4.Infrastructure = 0.11 Ha 5.Construction of road = 0.25 Ha 6.Un-used area = 52.123 Ha 2019-20,2020-21 1.Pit & Excavation = 14.75 Ha 2.Dumping site = 1.82 Ha 3.Storage of top soil = 0.96 Ha 4.Mineral & mineral reject storage = 0.56 5.Infrastructure (office, Rest shed etc.) = 0.36 Ha 6.Road = 2.50 Ha 7.Magazine = 0.30 Ha 8.Plantation & Green belt = 1.8 Ha 8.Other (undisturbed) = 49.389 Ha	2017-18, 2018-19 1.Mining = 6.5 Ha 2.Dumping = 0.7 Ha 3.Storage of top soil = 0.74 Ha 4.Infrastructure = 0.11 Ha 5.Construction of road = 1 Ha 6.Magazine = 0.02 Ha 7.Plantation & Green belt = 1 Ha 8.Other (undisturbed) = 62.109 2019-20,2020-21 1. Pit & Excavation = 6.5 Ha 2.Dumping site = 0.7 Ha 3.Storage of top soil = 0.74 Ha 4. Mineral & mineral reject storage = 0.26 5.Infrastructure (office, Rest shed etc.) = 0.11 Ha 6.Road = 1 Ha 7.Magazine = 0.02 Ha 8.Plantation & Green belt = 1 Ha 8.Other

3p	Production of ROM mineral during the last five year period as applicable	2015-16 = 305694 MT 2016-17 = 172627 MT 2017-18 = 130734 MT 2018-19 = 258309 MT 2019-20 = 315000 MT 2020-21 = 675000 MT	2015-16 = 67870 MT 2016-17 = 32541.414 MT 2017-18 = 64350 MT 2018-19 = 81750 MT 2019-20 = 79610 MT 2020-21 = 72712.44 MT
3q	General remarks of inspecting officers on method of mining etc.		Not Satisfactory

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Proposed	maintained	

4b	Location of topsoil, OB and mineral reject dumps	2017-18 = Topsoil = Northern part of the lease area OB = South eastern part of the lease area Mineral reject = NA 2018-19 = Topsoil = Northern part of the lease area OB = South eastern part of the lease area Mineral reject = NA 2019-20 = Topsoil = Stack 1 = N2465996 to N2466117 and E240070 to E240111 Stack 2 = N2465944 to N2466141 and E239538 to E239585 OB = N2465976 to N2466128 and E239351 to E239501 Mineral reject = N2465868 to N2465906 and E239623 to E239667 2020-21 = Topsoil = Stack 1 =	2017-18 = Topsoil = Northern part of the lease area OB = South eastern part of the lease area Mineral reject = NA 2018-19 = Topsoil = Northern part of the lease area OB = South eastern part of the lease area Mineral reject = NA 2019-20 = Topsoil = Not established OB = Not established Mineral reject = Not established 2020-21 = Topsoil = Not established OB = Not established Mineral reject = Not established

4c	Number of dumps within lease area and outside of lease area	2017-18 = 2, within lease area 2018-19 = 2, within lease area 2019-20 = 1, within lease area 2020-21 = 1, within lease area	2017-18 = 2, within lease area 2018-19 = 2, within lease area 2019-20 = Not implemented 2020-21 = Not implemented
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	2017-18 = As per Mining Plan 2018-19 = As per Mining Plan 2019-20 = As per Mining Plan 2020-21 = As per Mining Plan	2017-18 = As proposed 2018-19 = As proposed 2019-20 = Not established 2020-21 = Not established
4e	Number of active and alive dumps.	2017-18 = 1 2018-19 = 1 2019-20 = 1 2020-21 = 1	2017-18 = 1 2018-19 = 1 2019-20 = Not established 2020-21 = Not established
4f	Number of dead dumps.	2017-18 = 1 2018-19 = 1 2019-20 = Nil 2020-21 = Nil	2017-18 = 1 2018-19 = 1 2019-20 = NA 2020-21 = NA
4g	Number of dumps established.	2017-18 = Nil 2018-19 = Nil 2019-20 = Nil 2020-21 = Nil	2017-18 = NA 2018-19 = NA 2019-20 = NA 2020-21 = NA
4h	Whether Retaining wall or garland drain all along dumps are there.	2017-18 = Proposed 2018-19 = Proposed 2019-20 = Proposed 2020-21 = Proposed	2017-18 = Maintained 2018-19 = Maintained 2019-20 = Not implemented 2020-21 = Not implemented

4i	Length of Retaining wall or garland drain all along dumps	2017-18 = Nil 2018-19 =Nil 2019-20 = Retaining wall Length = 50m Height = 1.5m Width =1m Garland drain Length = 50m Height = 0.5m Width =0.75m 2020-21 = Retaining wall Length = 50m Height = 1.5m Width = 1m Garland drain Length = 50m Height = 0.5m Width = 0.75m	2017-18 = NA 2018-19 = NA 2019-20 = Not established 2020-21 = Not established
4j	Number of settling ponds	2017-18 = Nil 2018-19 = Nil 2019-20 = Nil 2020-21 = Nil	2017-18 = 2 2018-19 = 2 2019-20 = 2 2020-21 =Nil
4k	Specific comments of inspecting officer on waste dump management		Not Satisfactory

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.	NA	NA	
5b	Area under backfilling of mined out area	NA	NA	

5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	NA	NA	
5d	Total area fully reclaimed and rehabilitated	NA	NA	
5e	General remarks of inspecting officers on backfilling and reclamation etc.			NA

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	YES	
6b	Area available for rehabilitation (ha) .	NA	NA	
6c	afforestation done (ha).	NA	NA	
6d	No. of saplings planted during the year	NA	NA	
6e	Cumulative no .of plants	PROPOSED	COMPLIED	
6f	Any other method of rehabilitation	NA	NA	
6g	Cost incurred on watch and care during the year	NA	NA	

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

6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	NA	NA	
6p	Compliance of environmental monitoring (core zone and buffer zone)	NA	NA	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			NA

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	2017-18 = 130734 MT 2018-19 = 258309 MT 2019-20 = 315000 MT 2020-21 = 675000 MT	2017-18 = 62119.26 MT 2018-19 = 80515 MT 2019-20 = 79430.55 MT 2020-21 = 69805.31 MT	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	PROPOSED	NOT GENERATED	
7c	Different grade of mineral sorted out at mines.	PROPOSED	NOT GENERATED	
7d	Any beneficiation process at mines .	NIL	NA	

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Not Satisfactory

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Proposed	Maintained	
8b	Concurrent use or storage of topsoil	NA	NA	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	PROPOSED	MAINTAINED	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	NA	NA	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	NA	NA	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	2017-18 = 400 2018-19 = 400 2019-20 = 200 2020-21 = 300	2017-18 = 545 2018-19 = 400 2019-20 = 415 2020-21 = 300	

8g	Survival rate	70%	50%	
8h	Water sprinkling on roads to control airborne dust	Proposed	Maintained	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Good

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	2020-21	SUBMITTED ON TIME	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	YES	FOUND IN ORDER	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Proposed	Not achieved	
9d	Scrutiny of Annual return on afforestation	As Per Proposal	Found in Order	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Asper Proposal	Found in order	
9f	Scrutiny of Annual return on ROM stock and/or graded ore		Found in order	

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Found correct
9h	Scrutiny of Annual return on fixed assets	Found correct
9k	Scrutiny of Annual return on mining machineries	Found in order

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)	29/09/2021					

Date :

(**Jitendriya Pradhan**)

Indian Bureau of Mines