INDIAN BUREAU OF MINES
MINERALS DEVELOPMEMT AND REGULATION DIVISION

MCDR inspection REPORT

Jabalpur regional office

Mine file No : MP/DAMOH/LST-5 **Mine code : 38MPR09005**

(i) Name of the Inspecting Officer and ID No. : **GQ05) SANJAY M. GIRHE**

(ii) Designation : Regional Mining Geologist

(iii) Accompaning mine Official with Designation :

(iv) Date of Inspection : 16-NOV-19

(v) Prev.inspection date : 18-MAR-16

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **DIAMOND (1247.267H)**

(b) Registration NO. :

(c) Category : A Fully Mechanised

(d) Type of Working : Opencast

(e) Postal address

State : MADHYA PRADESH
District : DAMOH
Village :
Taluka :
Post office :
Pin Code :
FAX No. : 07601-241235
E-mail : diam@sancharnet.in
Phone : 07601-241301 TO 304

(f) Police Station :

(g) First opening date : 02-DEC-99

(h) Weekly day of rest :

2. Address for correspondance : M/S HEIDELBERGCEMENT INDIAN LIMITED
BIRLAPUR, P.O. NARSINGHGARH
DISTT. DAMOH (M.P.) 470675

3. (a) Lease Number : MPR0608
(b) Lease area : 1247.27
(c) Period of lease : 50
(d) Date of Expiry : 10-NOV-42

4. Mineral worked : LIMESTONE Main

5. Name and Address of the

Lessee : HEIDELBERGCEMENT INDIAN LIMITED
BIRLAPUR, P.O. NARSINGHGARH
DAMOH MADHYA PRADESH
Phone:07601-241301 TO 304
FAX :07601-241235

Owner : HEIDELBERGCEMENT INDIAN LIMITED
BIRLAPUR, P.O.
NARSINMGHGARH, DAMOH
MADHYA PRADESH
Phone: 07601-241301 TO
FAX : 07601-241235

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

Mining Scheme rule 12 MCDR1988	15-OCT-04
Modif.of approved Mining Plan	15-OCT-04
Mining Scheme rule 12 MCDR1988	25-APR-08
Renewal under rule 24 MCR1960	21-NOV-12
Modif.of approved Mining Plan	28-MAY-15
MP review under 17(1) MCR 2016	01-FEB-17

PART – II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	During the year 2019-20 no proposals of exploration.	Nil	Mineralised area explored by detailed G1 level drilling
1b	Exploration over lease area for geological axis 1 or 2	During the year 2019-20 exploration was not proposed	For Geological G1 level detailed exploration carried out in ML area in phasewise manner & total 12067mts drilling carried out.	Detailed exploration carried out for G1 level
1c	Exploration Agencies and Expenditure in lakh rupees during the year	During 2019-20 no exploration was proposed	Detailed G1 level exploration was carried out by M/s HolTech previosuly. Approx. 2 crores were incurred on various exploration	Details of expenditure on exploration as given in approved MP dtd 01.02.2017
1d	Balance area to be explored to bring Geological axis in 1 or 2	No proposals for exploration during the year	Entire mineralised area have been explored in G1 level	No further exploration is required
1e	Balance reserve as on 01/04/20	Reserves in Million Tonnes Proved (111) -12.11 Probable (122)- 101.21 Resources in Million tonnes Feasibility (211): 1.21 Pre-feasibility (222): 9.89 Reserves position as per approved MP dtd 01.02.2017	Reserves in Million Tonnes Proved (111) -178 Resources in Million tonnes Pre-feasibility (221): 36 Reserves position as per AR as on 01.04.2020	

1f	General remarks of inspecting officers on geology, exploration etc	NA	NA	Total 550 nos. of borehole drilled (12067.07 Mtrs.) in ML area . Entire mineralised area has been explored in G1 category.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	It was proposed to work in Pit-5 & Pit-7 from 387mRL to 374mRL by formation separate benches in OB & mineral	Mine working was carried out as per the proposed locations.	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Top Soil-1 bench (0.5-0.75 m) Sub Soil 1 bench (3-6 m) Hard OB -1 bench (3-5 m) Limestone 2 bench (4-6 m)	Top Soil-1 bench (0.5-0.60 m) Sub Soil 1 bench (3-6 m) Hard OB -1 bench (3-5 m) Limestone 2 bench (4-6 m)	
2c	Stripping ratio or ore to OB ratio	Proposed as 1.089	Acheived as 1.020	
2d	Quantity of topsoil generation in m3	Proposed as 276887 CuM	Acheived as 177200 CuM	Entire quantity of Top soil generated has been utilized for spreading (thickness of 0.3 to 0.5 mtr from place to place) over backfilled area for carrying out plantation

2e	Quantity of overburden generation in m3	Clay generation proposed as 1001029 CuM & interburden as 1099796 CuM	Clay generated as 664649.784 CuM & interburden as 484234.362 CuM	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	NA	NA	Limestone deposit of ML area is of very complex in nature. Limestone mostly mixed with interbedded clay material whici significantly affects the limestone recovery.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	For production purpose 02 pit i.e. Pit-5 & 7 were proposed	Mine working were carried out in given two pits	
3b	Quantity of ROM mineral production proposed	5625000 MT proposed in 2019-20	4623313 MT achived during the year	
3c	Recovery of sailable/usable mineral from ROM production	Not Proposed	NA	
3d	Quantity of mineral reject generation	Proposed as 450000 tonnes	Acheived as 556660 tonnes	Screen rejects below 34% CaO
3e	Grade of mineral rejects generation and threshold value declared.	Proposed as above threshold & below cut off	Acheived as per proposals	
3f	Quantity of sub grade mineral generation.	Proposed as 1693510 tonnes	Acheived as 1365631 tonnes	Sub-grade mineral is blend with high grade mineral and utilized 100 percent.

3g	Grade of sub grade mineral generation	Proposed as CaO% 34-38%	Acheived as CaO% 34-38%	
3h	Manual / Mechanised method adopted for segregating from ROM	The crushing plant & ancillary facilities mainly consist of 1200TPH, impact crusher with screening system which can crush the limestone to (-75 mm) size. The crusher is preceded by a screening system (Wobbler feeder+vibrating screen combination) that will generate a screen rejects which shall be less than 20mm.	The crushing plant & ancillary facilities mainly consist of 1200TPH, impact crusher with screening system which can crush the limestone to (-75 mm) size. The crusher is preceded by a screening system (Wobbler feeder+vibrating screen combination) that will generate a screen rejects which shall be less than 20mm.	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not Proposed	Nil	
3j	Provision of drilling and blasting in mineral benches	Drilling & blsting proposed	Drilling & blasting carried out	
3k	Provision of mining machineries in mineral benches	Mining machneris proposed	Mining machineris used in operations	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	No OB or top soil bench height is proposed. Bench height of 6m proposed in limestone	Working carried out as per proposed height of benches	Proposed bench height is suitable as per the deposit

3m	Total area covered under excavation/pits	Proposed as 326Ha as per approved MP for year 2017-18 to 2021-22	Acheived as 264.20 Ha as AR for the year 2019-20	
3n	Ore to OB ratio for the pit/mine during the year.	Proposed as 1.0.89	Acheived as 1: 0.42	
3o	Total area put in use under different heads at the end of year	Proposed in approved MP	Already exploited & abandoned-271.71Ha Pit/Open cast working-124.530Ha Reclaimed/Rehabilitated-140.84Ha Infrastructure-14.50Ha Green Belt-9.30Ha	
3p	Production of ROM mineral during the last five year period as applicable	2015-16 -: 5582300 Tonnes 2016-17-: 5044800 Tonnes 2017-18-: 5625000 Tonnes 2018-19-: 5625000 Tonnes 2019-20-: 5625000 tonnes	2015-16 -: 4676976 Tonnes 2016-17-: 4010110 Tonnes 2017-18-: 4524086 Tonnes 2018-19-: 4636100 Tonnes 2019-20-: 4623313 tonnes	Production details retrieved from online submitted annual returns
3q	General remarks of inspecting officers on method of mining etc.	NA	NA	Open cast fully mechanised mining operations with drilling & blasting Proposed.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Not Proposed	Nil, Concurrent use OB for backfilllng is done	
4b	Location of topsoil, OB and mineral reject dumps	Not Proposed	Nil	No stacking & dumping proposed during the year

4c	Number of dumps within lease area and outside of lease area	No dumping of OB proposed	No dumps within the lease area.	No dumps outside mining lease
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Not Proposed	Not Applicable	No dumping proposed
4e	Number of active and alive dumps.	Nil	Nil	
4f	Number of dead dumps.	Nil	Nil	
4g	Number of dumps established.	Not proposed	Nil	
4h	Whether Retaining wall or garland drain all along dumps are there.	Not Proposed	Nil	
4i	Length of Retaining wall or garland drain all along dumps	Not Proposed	Nil	
4j	Number of settling ponds	Not Proposed	Nil	
4k	Specific comments of inspecting officer on waste dump management	NA	NA	OB & top soil generated being concurrently used for reclaimation/backfilling purpose. No dumping proposals have been given.

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.	Total 14.38 ha area is fully mineral exhausted	Backfilling carried out over 17.84 Ha	
5b	Area under backfilling of mined out area	proposed as 18.9 Ha	Acheived as 14.17 Ha	

5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Proposed by 276887 CuM	Achieved by 177200 Cum quantity	
5d	Total area fully reclaimed and rehabilitated	Proposed 13.10 Ha	Achieved as 14.50 Ha	
5e	General remarks of inspecting officers on backfilling and reclamation etc.	NA	NA	Top soil, OB & inter-burden encountered in the lease area. Generated inter-burden/waste being utilized for reclaimation & rehabilitation purpose. Scope of backfilling very well exists in ML area due to shallow depth of limestone mineralisation.

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).	To be submitted before 1st July of every year	Submitted within time limit as per the provisions of Rule 26 of MCDR,2018	
6b	Area available for rehabilitation (ha) .	Not Proposed	Nil	
6c	afforestation done (ha).	Not Proposed	Nil	
6d	No. of saplings planted during the year	Not Proposed	Nil	
6e	Cumulative no .of plants	Not Proposed	Nil	

6f	Any other method of rehabilitation	Not Proposed	Nil
6g	Cost incurred on watch and care during the year	Not Proposed	Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Proposed as 14.38 Ha	Acheived as 17.84 Ha
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Proposed over 18.9 Ha	Acheived over 14.17 Ha
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Proposed over 13.1 Ha	Acheived over 14.5 Ha
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not Proposed	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not Proposed	Nil
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not Proposed	Nil

6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not Proposed	Nil	
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not Proposed	Nil	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Periodical Air, Water, Noise monitoring Proposed	Carried out as per the proposals	Analysis reports were provided during the inspection
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	NA	NA	Scope of PMCP work is very well existed in the lease area as most of pits areas have fully mineral exhausted for reclamation & rehabilitation purpose.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Proposals of crushing & Screening of Limestione for dispatched proposed	Carried out as per the proposals	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Crushed & Screened Limestione Dispatched	Crushing & Screening of Limestione carried out	
7c	Different grade of mineral sorted out at mines.	Crushing & screening proposed	After crushing & screening limestone fed to cement plant	

7d	Any beneficiation process at mines .	Not Proposed	Nil	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	NA	NA	Limestone is being conserved by adopting systematic crushing & screening of ROM for eleminating detroious clay material.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Separate removal & utilization propose	Done as per the proposals	
8b	Concurrent use or storage of topsoil	Concurrent use for plantation purpose over backfilled & other area proposed	Top soil utilized as per the given proposals	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Not Proposed	Nil	Concurrent use of OB for backfilling purposed in limestone exhausted pits proposed.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Proposed for reclaimation by backfilling	Backfilled as proposed	

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Phase wise reclaimation proposed	Reclaimation by backfilling carried out during the year	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Plantation proposed during the year	Total 8000 saplings within ML area & 1000 saplings outside ML planted	
8g	Survival rate	Proposed as 90%	Acheived as 94%	
8h	Water sprinkling on roads to control airborne dust	Water sprinkling is proposed by water tanker	Regular water sprinkling is done by water tanker	Water tanker of 5KL capacity is provided for the purpose
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	NA	NA	Aesthetic beauty in and around mine area is very good as mass plantation work have been carried. Further reclimation & rehabilitation of mined out pits also been carried out very systematically.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	M.R. Submitted upto october-2020 A.R. submitted upto 2019-20	Annual Return for the year 2019-20 submitted within time limit .	

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	The all information on Mining Engineer, Geologist and Manager given in annual returns.	Mr. C.P. Dadhich appointed as Mining Eng. & Mr. R. S. Shukla as Geologist	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Given	Already exploited & abandoned-271.71Ha Pit/Open cast working-124.530Ha Reclaimed/Rehabilitated-140.84Ha Infrastructure-14.50Ha Green Belt-9.30Ha	
9d	Scrutiny of Annual return on afforestation	Given	8000 saplings in ML & 1000 saplings outisde ML planted	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Given	834360 tonnes mineral rejects generation reported	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Given	Cement Grade: O/S-237312.000 tonnes Production -4623313.63 tonnes Despatch-4088269 tonnes C/S-118729.000 tonnes	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Given	Ex-mine price: Cement Grade limestone - Rs 236/MT	Captive use of limestone
9h	Scrutiny of Annual return on fixed assets	Given	No comments	
9k	Scrutiny of Annual return on mining machineries	Given	Nil	

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 :

(**SANJAY M. GIRHE**)

Indian Bureau of Mines