

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

MCDR INSPECTION REPORT

Nagpur regional office

Mine file No : MAH/CND/FL-1/NGP

Mine code : 24MSH08001

- (i) Name of the Inspecting : **M017**) **ASHISH MISHRA**
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : **SHRI VILAS V. JOGI, MINE MANAGER**
Official with
Designation
- (iv) Date of Inspection : 16/03/2019
- (v) Prev.inspection date : 17/03/2017

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **DONGARGAON**
- (b) **Registration NO.** : **IBM/5319/2011**
- (c) Category : B Manual
- (d) Type of Working : Opencast
- (e) Postal address :
State : MAHARASHTRA
District : CHANDRAPUR
Village : DONGARGAON
Taluka : WARORA
Post office : DONGARGAON(RLY)
Pin Code :
FAX No. : (0712)-234239
E-mail :
Phone : 232775(M. D.),233101,23341!
- (f) Police Station :
- (g) First opening date : 19/07/1989
- (h) Weekly day of rest : SUN
2. Address for : 3RD FLOOR, UDYOG BHAVAN,
correspondance : CIVIL LINES,
NAGPUR-440 001
3. (a) Lease Number : MSH0001
- (b) Lease area : 32.7
- (c) Period of lease : 50
- (d) Date of Expiry : 19/12/2038
4. Mineral worked : FLUORITE Main

5. Name and Address of the

Lessee : M/s Maharashtra State Mining Corporation
 5, Abhyankar Nagar Nagpur -
 10 NAGPUR MAHARASHTRA
 Phone:
 FAX :

Owner : SHRI S.A. TAGDE
 CHANDRAPUR MAHARASHTRA
 Phone:
 FAX :

Agent : SHRI P.P. SONI
 NAGPUR MAHARASHTRA
 Phone:
 FAX :

Mining Engineer

Name : SHRI S.L. TUPATE, Full Time
 Qualification : MINE FOREMAN'S CERTIFICATE
 Appointment/ : 04/06/2004
 Termination date

Geologist

Name : SHRI P.P. SONI, Full Time
 Qualification : MSc(Geo.)
 Appointment/ : 01/09/2003
 Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	15/02/2002
Plan/Scheme of Mining	:	Mining Scheme rule 12 MCDR1988	08/07/2008
	:	FMCP under 23C(1)	27/05/2013
	:	Modif.of approved Mining Plan	19/07/2016

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Last document approved was Modifications in the Approved Mining Plan for the period 2014-15 to 2018-19. In the years 2016-17 and 2017-18, exploration was proposed in form of 5 boreholes and 4 boreholes (total 9) respectively.	Nil. No exploration was carried out during the last approved proposal period.	Violation of Rule 11(2) of MCDR'2017
1b	Exploration over lease area for geological axis 1 or 2	G1 exploration in the area already held under surface rights (5.55 ha area out of total 31.22 ha)	Exploration done in the area is in form of identification of orezone pertaining to Fluorite ore upto 30 m in form of boreholes carried out by Directorate of Geology & Mining, Nagpur, Maharashtra in the year from 1982 to 1989. Further, exploration was carried out by M/s MSMC Ltd in the year 2003-04 in form of 7 DTH boreholes drilled within the working area of 5.55 ha. Rest of the area is not held under the surface rights and no exploration is proposed or carried out in that part.	Exploration is required to be carried out as per the provisions of Rule 12(4) of MCDR'2017.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Exploration in the year 2017-18 was proposed in form of 4 boreholes to be drilled by M/s MSMC Ltd. Proposed expenditure was not given.	Nil as no exploration was carried out.	

1d	Balance area to be explored to bring Geological axis in 1 or 2	9 boreholes were proposed in the last approved proposal period of 2014-15 to 2018-19. These boreholes are located within 5.55 ha area which is already held under the surface rights.	At least 26 ha area is yet to be explored which is not under the Surface Rights held by the lessee.
1e	Balance reserve as on 01/04/20	Balance reserves as per the approved Modified Mining Plan as on 01/4/2016 are: 111- 2,31,131 T 121- 63,860 T 221- 1,00,000 T	As on 01/04/2018, Balance reserves are: 111- 2, 28, 046 T 121- 63, 860 T 221- 100000 T
1f	General remarks of inspecting officers on geology, exploration etc		In the lease area, the fluorite is seen associated with chert and is occurring as crystals, amorphous/cryptocrystalline form, sometime "Geodes". The exposed mineralized zone is in the N-W direction, showing a "Dumbel shape" i.e. swollen in center and tapering at both end. On top there is soil cover, and the host rocks are siliceous/chert shales and limestone patches are exposed prominently. Additional exploration is required to prove depth continuity and ascertaining grade of the ore occurring in the area while going deeper levels. However, due to not holding surface rights beyond 5.55 ha area, additional exploration could not be done in the area.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	Development is proposed in Pit I at location N 300 to N 500 and E 450 to E 700 (Local grid as per the Development Plan)	Location of the development is as per the proposals.	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Yes, separate excavation of top soil, Overburden and minerals is proposed through making separate benches wherever possible.	Top soil is occurring in a very thin layer and is being excavated separately. As mineral is associated with chert and occurs mostly in crystals, amorphous / cryptocrystalline form, it is not possible to maintain separate bench in overburden/ waste and mineral. There are 4 benches in OB/waste and mineral with approximately 3.0 m height for each bench.	
2c	Stripping ratio or ore to OB ratio	1:3.36 (Ore to Waste ratio)	1:1.21	Due to working area limitations, development and production are lower than the proposals.
2d	Quantity of topsoil generation in m3	Nil	Nil	No additional area has been broken for mining/excavation and working was limited to the existing pit.
2e	Quantity of overburden generation in m3	Nil. Incidental waste was proposed to be generated in form of intercalations associated with ROM and while development.	Overburden generation was Nil. Waste generation during 2017-18 was approximately 1593 T.	

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Development of the pit is adequate considering the type and formation of the deposit. Fluorite is occurring in pockets (discontinued vein) mostly which is being exposed and exploited. Further development of the pit is difficult due to limitation of area held under surface rights. Thus, additional land acquisition especially in the strike of orebody is essential for extending the existing pit to deeper horizons.
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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	One pit.	One pit is there with approximate depth of 12 m having 4 benches in all and one small sump at the lowest level. Pit is located at N 300 to N 500 and E 450 to E 700 (Local grid as per the Development Plan).	
3b	Quantity of ROM mineral production proposed	2017-18: 7084 T	2017-18: 1314.48 T	
3c	Recovery of sailable/usable mineral from ROM production	95% of the ROM shall be recovered as ore and rest shall be rejects.	Recovery is approximately 90-95% where rest of the material is mineral rejects.	This fact hasn't been reflected in the annual returns. Also, while field inspection, sub-grade/mineral rejects stacks were seen. Thus violation of Rule 45 was issued for suitable corrections.

3d	Quantity of mineral reject generation	2017-18: 1133 T	2017-18: Nil (as per the Annual Return)	Mineral rejects haven't been reflected in the annual returns. Also, while field inspection, sub-grade/mineral rejects stacks were seen. Thus violation of Rule 45 was issued for suitable corrections.
3e	Grade of mineral rejects generation and threshold value declared.	Not specified but threshold value is CaF ₂ : 5% (Minimum)	Mineral rejects are furnished as Nil.	Same as given under item 3d.
3f	Quantity of sub grade mineral generation.	Not applicable	Not applicable	
3g	Grade of sub grade mineral generation	Not applicable	Not applicable	
3h	Manual / Mechanised method adopted for segregating from ROM	Manual	Sorting Manual	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No such proposals	Nil	
3j	Provision of drilling and blasting in mineral benches	Fluorite occurs within shear zone therefore use of drilling and blasting would also be very limited. Small diameter drill holes (34mm) would be drilled by compressed air operated jack hammers, and small dia explosive 25mm would be used for blasting, if required.	As per the proposals, Jack Hammer drill with 34 mm dia and small dia Ammonium Nitrate explosive in cartridge form is being used for blasting as and when required.	

3k	Provision of mining machineries in mineral benches	Manual working is proposed. Machinery to be used is limited to Jack Hammer drill machine, if required, jeep, tractor and 10 T tipper for material shifting. No excavator is proposed to be used.	As per the proposals.	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	3 m bench height is proposed as method of mining is manual.	4 Benches with maximum 3 m height are being maintained.	
3m	Total area covered under excavation/pits	Proposed area utilization under pits is 2.25 ha (including roads).	Actual area under pits is as per the proposals (2.25 ha) and no additional area has been broken.	
3n	Ore to OB ratio for the pit/mine during the year.	1:3.36 (Ore to Waste ratio)	1:1.21	
3o	Total area put in use under different heads at the end of year	Total area put to use at the end of year 2017-18 is given under actual work details.	As on 31.03.2018, Area under: Excavation/Pits: 2.25 ha Mineral Storage: 1.3 ha Waste/Top soil Dumps: 1.5 ha Occupied by Plant/Building/Roads: 0.5 ha Total: 5.55 ha	Apart from the above area, one old waste dump with 0.40 ha area (outside present surface rights held area) and 0.81 ha area under site office, colony and weigh bridge (outside the lease area) are there pertaining to the mine.

3p	Production of ROM mineral during the last five year period as applicable	2016-17: 6700 T 2015-16: No Proposals (Lapse Period) 2014-15: No Proposals (Lapse Period) 2013-14: No Proposals (Lapse Period) 2012-13: No Proposals (Lapse Period)	2016-17: 1175.32 T 2015-16: 2333.46 T 2014-15: 2946.43 T 2013-14: 2461.72 T 2012-13: 3363.54 T
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3q	General remarks of inspecting officers on method of mining etc.	Method of mining is manual as per the deposit occurring in the lease area. Benches are being maintained accordingly with 3 m height and minimum 3 m width. Lease area utilization suggests that complete area which is presently held under surface rights has been utilized and hence, further development may require acquisition of land in the adjoining areas.
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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)	Yes.	3 small old Top soil dumps, 1 old inactive and two active waste dump and several small mineral reject stacks were found separate at the site.	

4b	Location of topsoil, OB and mineral reject dumps	Top Soil: No proposals as nil top soil is proposed to be generated (all dumps are old) OB/Waste Dumps: One old inactive dump, One active dump and one additional dump proposed in the Eastern Part Mineral Rejects Stacks: Several small stacks near site office	Location of the dumps stacks are as below: Top Soil: 2 small dumps at N450 to N650 & E400 to E500, 1 dump N300 to N400 & E700 to E800 Waste Dumps: 1 inactive dump at N250 to N300 & E500 to E600, 1 active dump at N300 to N400 & E550 to E650, 1 small active dump at N300 to N350 & E450 to E500 Mineral rejects: Several small stacks at N300 to N400 & E450 to E800	
4c	Number of dumps within lease area and outside of lease area	All dumps/stacks are within the lease area.	As per the proposals	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Not applicable	Not applicable	
4e	Number of active and alive dumps.	Two dumps are active and alive	As per the proposals	
4f	Number of dead dumps.	One inactive dump	One inactive dump	
4g	Number of dumps established.	No such proposals	Nil	
4h	Whether Retaining wall or garland drain all along dumps are there.	Garland drains are proposed along the toe of the dumps.	Garland drains were found along part of the dumps and there was no retaining wall.	Violation of Rule 37(2) of MCDR'2017
4i	Length of Retaining wall or garland drain all along dumps	No such proposals for retaining wall. Garland drain: Nil for the year	Rtaining Wall: Nil Garland drain: around 400-500 m	
4j	Number of settling ponds	Nil	Nil	

4k	Specific comments of inspecting officer on waste dump management	Waste dump management aspect need to be dealt cautiously as mineral occurring in the area is Fluorite that may cause damage to flora and fauna and also cause harm to general public health, if mixed with water. Thus violation was given so as to rectify the condition at the site.
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Solid Waste Management - Backfilling:

Sl.No.	Item	Proposals	Actual work	Remarks
5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	Backfilling is proposed after exhaustion of mineral i.e. after full extraction of mineral from the mined out area.	Backfilling is proposed to commence at conceptual stage. Presently, no backfilling is proposed or being carried out in the area.	
5b	Area under backfilling of mined out area	No such proposals	Nil	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No such proposals	Nil	
5d	Total area fully reclaimed and rehabilitated	No such proposals	Nil	

5e	General remarks of inspecting officers on backfilling and reclamation etc.	In post mining land use the dumps on the surface will be vacated and backfilled in vacated pits and remaining above benches will remain as a shallow syncline/ depression in the pit in which the lowermost part of Ultimate pit will remain as a water reservoir.
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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).	PMCP report is required to be submitted before 1st July of every years etting forth the extent of protective and rehabilitative works carried out as envisaged in the approved mine closure plan, and if there is any deviation, reasons thereof.	No such report was submitted.	Violation of Rule 26(2) of MCDR'17
6b	Area available for rehabilitation (ha) .	No such proposals	Nil	Lease area utilization suggests that complete area which is presently held under surface rights has been utilized.
6c	afforestation done (ha).	Approximately 1.15 ha	1.012 ha (both within and outside the lease area)	

6d	No. of saplings planted during the year	80 saplings	123 saplings (outside the lease area)	Plantation hasn't been carried out as per the proposals. hence violation of Rule 11(2) of MCDR'2017 was issued.
6e	Cumulative no .of plants	Not available.	1089 number of saplings (within and outside the lease area)	Outside lease area plantation is carried out near the mine office and along the approach road from mine office located outside the lease area to the mine.
6f	Any other method of rehabilitation	No such proposals	Nil	
6g	Cost incurred on watch and care during the year	Rs 74000/- per year	Very less as proper environment monitoring has not been done in the area. Expenditure incurred is mainly over plantation activities.	Violation of Rule 11(2) and 41 of MCDR'2017 was issued.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	No such proposals	Nil	Backfilling is proposed to commence at conceptual stage. Presently, no backfilling is proposed or being carried out in the area.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No such proposals	Nil	
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	No such proposals	Nil	
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No such proposals	Nil	

6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No such proposals	Nil	
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Afforestation over barren land available within the lease area in the 7.5 m non-mining zone was proposed to be carried out over an area of 0.067 ha with 80 saplings.	Nil	Violation of Rule 11(2) issued.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	0.067 ha per year	Nil	Violation of Rule 11(2) issued.
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Afforestation is proposed for green belt building over the waste land available within the lease area.	Nil	
6p	Compliance of environmental monitoring (core zone and buffer zone)	As per the schedule of monitoring for various Environmental Parameters, 8 samples for ambient air, 8 samples for water quality and ground vibration study for once in a year was proposed.	Nil as no reports were shown during the inspection.	Violation of Rule 11(2) issued.

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	PMCP activities and reporting were found unsatisfactory in the lease area and hence, corresponding violations were issued for furnishing compliance.
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Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Mineral is proposed to be dispatched after grade-wise sorting of ROM.	As per the proposals.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual sorting	Manual	
7c	Different grade of mineral sorted out at mines.	(i) 70% to below 85% CaF ₂ (ii) Above 30% and below 70% CaF ₂ (iii) Mineral Rejects	As per the proposals	
7d	Any beneficiation process at mines .	No such proposals or facility is available	Nil	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			Mineral conservation aspect is being dealt satisfacrily as apart from waste, complete ROM is being sorted into various grades and saleable grade is sold alongwith stacking of mineral rejects for future usage.

Environment :

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Yes	Separate removal of top soil was proposed and carried out in previous years that resulted in facilitation for carrying out plantation activities in and around the lease area. Further, remaining amount of top soil is stacked within the lease area for future utilization.	
8b	Concurrent use or storage of topsoil	No such proposals for the year.	Previously, concurrent use and storage, both activities has been carried out.	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Yes	Yes	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No such proposals	Nil	Backfilling is proposed to commence at conceptual stage. Presently, no backfilling is proposed or being carried out in the area.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No such proposals for the year	Nil	Previously, plantation over one inactive dump has been carried out. Backfilling is proposed to commence at conceptual stage.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Yes.	Yes, baseline information has been provided in the Mining Plan. Additional plantation done is being reported in the Annual Returns.	
8g	Survival rate	100%	75% (outside ML plantation)	

8h	Water sprinkling on roads to control airborne dust	Water sprinkling with the help of mobile tankers will be carried out on haul road in order to control dust emission.	As per the proposals.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area		Aesthetic beauty in and around the area is satisfactory as in total 1089 saplings have been planted by the lessee in and around the lease area and method of working is manual.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	AR to be submitted online on or before 30th June every year for the preceeding year MR to be submitted on or before 10th of every month for previous month	AR submitted online upto 2017-18 MR submitted online upto May'2019	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer: No Geologist: Nil Manager: Shri. V. V. JOGI	No information for Mining Engineer and Geologist was furnished.	Violation of Rule 45(7) of MCDR'2017 was issued.

- 9c Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. Covered under current (O/C) Workings: 2.25 ha Used for waste disposal: 1.5 ha Occupied by plant, buildings, residential, welfare buildings & roads: 0.5 ha Other Purpose (Sorting & Storage of minerals): 1.3 ha Correct information furnished as per the format
- 9d Scrutiny of Annual return on afforestation Number of trees planted during the year:
(a) Within lease area: 0
(b) Outside lease area: 123 Complete information furnished
- 9e Scrutiny of Annual return on mineral reject generation (Grade and quantity) Nil information furnished Mineral rejects stacks were observed during site inspection. Violation of Rule 45(7) of MCDR'2017 was issued.

9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM: Opening and closing stocks- Nil, Production- 1314.480 T Graded Ore: 70% to below 85% CaF2- Opening Stock- 443.570 T, Production- 67.210 T, Dispatched- 421.960 T, Closing Stock- 88.820 T Above 30% and below 70% CaF2- Opening Stock- 12979.200 T, Production- 1247.270 T, Dispatched- 327.580 T, Closing Stock- 13898.890 T	Complete information furnished.	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Sale Value: Rs 6466056/-, Ex-Mine Price: 70% to below 85% CaF2- Rs 10374.56/- per T, Above 30% and below 70% CaF2- Rs 6375.26/- per T Production Cost: Rs 9297.19/- per T	Complete information furnished.	In the monthly return for Feb'2019, there were observations pertaining to Ex-mine price reported in the returns for which violation was issued.
9h	Scrutiny of Annual return on fixed assets	Value of Fixed Assets: Rs 205568/- Details for Land, Building, Plant and Machinery has been furnished.	Complete information has been given.	

9k	Scrutiny of Annual return on mining machineries	As per the extent of mechanization, details of machinery deployed in the mine has been given in Part V section 5.	Complete and correct information furnished.
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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(2)	24/04/2019			
MCDR17	Rule 26(2)	24/04/2019			
MCDR17	Rule 33	24/04/2019			
MCDR17	Rule 37(2)	24/04/2019			
MCDR17	Rule 41(1)	24/04/2019			
MCDR17	Rule 45(7)(a)	24/04/2019			
MCDR17	Rule 45(7)(a)	24/04/2019			
MCDR17	Rule 45(7)(a)	24/04/2019			

Date :

(ASHISH MISHRA)

Indian Bureau of Mines