# INDIAN BUREAU OF MINES MINERALS DEVELOPMENT AND REGULATION DIVISION

#### MCDR INSPECTION REPORT

#### Nagpur regional office

Mine file No : MAH/BHD/MN-42/NGP L-2 Mine code : 40MSH05005

(i) Name of the Inspecting : M017 ) ASHISH MISHRA

Officer and ID No.

(ii) Designation : Sr. Asst. Contrl. Mines

(iii) Accompaning mine : Shri Rajesh Bhattacharya, Agent

Official with Designation

(iv) Date of Inspection : 08/01/2020

(v) Prev.inspection date :

PART-I : GENERAL INFORMATION

1. (a) Mine Name : DONGRI BUZURG (53.980 HA)

(b) Registration NO. : 5711

(c) Category : A Fully Mechanised

(d) Type of Working : Opencast

(e) Postal address

State : MAHARASHTRA
District : BHANDARA

Village :
Taluka :
Post office :
Pin Code :
FAX No. :
E-mail :
Phone :

(f) Police Station :

(g) First opening date : 01/10/2005

(h) Weekly day of rest :

2. Address for :

correspondance

3. (a) Lease Number :

(b) Lease area :

(c) Period of lease(d) Date of Expiry

4. Mineral worked : MANGANESE ORE Main

5. Name and Address of the

Lessee : M/S MOIL LIMITED

MOIL BHAWAN, 1-A, KATOL ROAD CHHAONI NAGPUR NAGPUR

MAHARASHTRA

Phone: FAX:

Owner : DEEPANKAR SHOME

1-A, MOIL BHAVAN KATOL ROAD NAGPUR NAGPUR MAHARASHTRA

Phone: FAX:

Agent : RAJESH BHATTACHARYA

DONGRI BUZURG MINE BHANDARA

BHANDARA BHANDARA

MAHARASHTRA

Phone: FAX:

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

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PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

# Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Nil proposals as the area is located in the footwall side of the orebody occurring in Dongri Buzurg mine comprising of 4 leases.	Nil	
1b	Exploration over lease area for geological axis 1 or 2	in the entire	Not applicable	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Nil for the lease area	Nil as no exploration was proposed or carried out in the lease area.	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	The area lies in the footwall side of the orebody. Hence, the information is nil.

1e Balance reserve as on 01/04/20

Balance reserves are in form of mineral lying in the mineralized dumps from old workings in the area. The same is furnished in the actual work details. As on 01.04.2017, total dump reserves were approximately 68250 T. Year-wise cleaned ore production proposed from dump working is 6000 T. However, in the year 2017-18, only 50 T of dump working was done and in the year 2018-19, no dump mining was carried out to develop the in-situ mineral deposit. Thus, balance Dump reserves aren't changed much and are approximately the same as reported in the last approved Mining Plan document (period 2017-18 to 2021-22).

1f General remarks
 of inspecting
 officers on
 geology,
 exploration etc

ore zone has been explored in the Dongri Buzurg with 58 Bore Holes. Of which 42 proved to be positive. Afterwards, additional 32 boreholes have been drilled in the years 2017-18 & 2018-19 and the exploration is underway in the mine. through this exploration, the area has been identified to be in the footwall side of the orebody.

As on 31.12.2016

Development :

Sl.No. Item Propasals Actual work Remarks

2a	Location of development w.r.t.lease area	Location of the proposed development for the year 2018-19: N1800 to N1900 & E500 to E1300 (local grids)- Footwall development	Location of development is as per the proposals	Apart from this, dump working for mineral recovery was proposed in between grids N1900 to N2100 & E1300 to E1500 but the same couldn't be carried out.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	only overburden/was te removal is proposed in	There is no top soil in the proposed working area. Further, Dongri Buzurg mine has 4 leases out of which, this lease is in the footwall and hence, for the development of mineral deposit in the area, only OB/Waste removal is proposed to be carried out to facilitate exploitation of ore body occurring in the adjoining main lease having 46.25 ha area.	
2c	Stripping ratio or ore to OB ratio	Not applicable as no ROM production is proposed	Not applicable as no ROM production is proposed	
2d	Quantity of topsoil generation in m3	Nil	Nil	
2e	Quantity of overburden generation in m3	2018-19: 24827 cum	2018-19: Total development from all 4 leases was proposed as 4406289 cum and actual OB/ waste removed was 9007338 T (return for all 4 leases is common). Applying B.D. as 2.5 Tpercum for waste as considered for the mine, actual development was 3602935 cum from all 4 leases.	Overburden removal was proposed from the higher benches in the area (315 mRL and above) and the same was as per the proposals, though it was lower for other leases.

leases.

2f General remarks of inspecting officers on development of pit w.r.t. type of deposit etc

Pit development work is being carried out in the lease area which is satisfactory. Working was proposed at higher levels (315 mRL and above) & development was as per the proposals in the lease area. The deposit is mainly occuring in the contiguous 46.25ha lease area for which footwall development work is being done in the instant lease area for systematic and scientific development of the deposit.

## Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Existing pit (One) is proposed for development work only. No production is proposed from the lease area.	As per the proposals	
3b	Quantity of ROM mineral production proposed	2018-19: Nil from in-situ, 6000 T from Dump working	2018-19: Nil	~20% recovery from dump working was proposed, but no dump working could be carried out as thrust was given on in-situ developments for the underlying mineral deposit and dump working with 20% recovery required huge generation of waste.

3c	Recovery of sailable/usable mineral from ROM production	2018-19: Not Applicable as no ROM production is proposed	2018-19: Not Applicable as no ROM production is proposed
3d	Quantity of mineral reject generation	2018-19: Not Applicable as no ROM production is proposed	2018-19: Not Applicable as no ROM production is proposed
3e	Grade of mineral rejects generation and threshold value declared.	2018-19: Not Applicable as no ROM production is proposed	2018-19: Not Applicable as no ROM production is proposed
3f	Quantity of sub grade mineral generation.	2018-19: Not Applicable as no ROM production is proposed	2018-19: Not Applicable as no ROM production is proposed
3g	Grade of sub grade mineral generation	2018-19: Not Applicable as no ROM production is proposed	2018-19: Not Applicable as no ROM production is proposed
3h	Manual / Mechanised method adopted for segregating from ROM	2018-19: Not Applicable as no ROM production is proposed, Manual sorting from dump working was proposed	2018-19: Not Applicable as no ROM production is proposed, No dump working was carried out.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	2018-19: Not Applicable as the area is in the footwall and is having no in-situ orebody. Further, no such proposals for dump working	2018-19: Not Applicable as the area is in the footwall and is having no in-situ orebody. Further, no such proposals for dump working

~20% recovery from dump working was proposed, but no dump working could be carried out as thrust was given on in-situ developments for the underlying mineral deposit and dump working with 20% recovery required huge generation of waste.

3 ј Provision of drilling and blasting in mineral benches

2018-19: Not Applicable as no ROM production is proposed, however, for development and blasting is proposed.

2018-19: Drilling and blasting were carried out only for development activities. Drilling is done by 110 mm dia drills and blasting is being done by detonating work, drilling fuse initiation with cord relay delay detonators and NONEL's using mainly slurry explosive.

3k Provision of mining machineries in mineral benches

2018-19: Not Applicable as no ROM production is proposed, however, for development work, mechanization is proposed.

2018-19: Being a Category A (Highly Mechanized) Mine, mechanization is proposed for development work in form of DTH drills of 110 mm dia, Dumpers of 35 T and 60 T capacity, Hydraulic excavators of 0.9 cum, 2.5 cum, 3 cum, 4.5 cum & 5.6 cum, Front end loader of 2 cum, Dozer of 335 HP, Water tanker of 28000 ltr capacity alongwith other auxilliary equipments.

31 Whether height of benches in overburden and mineral suitable m for method of mining proposed in MP/SOM

Bench Height proposed for

As the Category of the mine is 'A' (highly OB/waste is 10 mechanized mine), bench height proposed is as per the deployment of excavators. Height of bench which is kept at 10 m (maximum) is suitable for highly mechanized working as proposed in the mining plan document.

Total area As per the proposals, no As on covered under 01.04.2017, as additional area has been excavation/pits per the broken and the approved development was done Mining Plan within the existing pit. document for the period 2017-18 to 2021-22, Existing area under pits/excavatio n: 6.683 ha Net area after the completion of the proposal period: 6.683 Additional area proposed excavation/pit s: Nil Not applicable Not applicable as no ROM 3n Ore to OB ratio for the pit/mine as no ROM production is proposed during the year. production is proposed 30 Total area put Total area put Are under in use under to use under Excavation/Pits- 6.683 different heads different ha at the end of heads as on Area under dumps- 7.351 31.03.2019 is ha year furnished in Area under the actual infrastructure- 2 ha work details: Area under roads- 0.57 ha Area under Township-6.885 ha Area under Mineral Storage- 10.51 ha

3p Production of 2017-18: Nil ROM mineral from in-situ, during the last 30000 T from five year period Dump working as applicable 2016-17: Nil

2017-18: Nil from in-situ, 30000 T from 2016-17: Nil from in-situ, 30000 T from Dump working 2015-16: Nil from in-situ, 30000 T from Dump working 2014-15: Nil from in-situ, 30000 T from Dump working 2013-14: Nil from in-situ, 30000 T from Dump working

2017-18: Nil from insitu, 0 T from Dump working
2016-17: Nil from insitu, 0 T from Dump working
2015-16: Nil from insitu, 1563 T from Dump working
2014-15: Nil from insitu, 7802 T from Dump working
2013-14: Nil from insitu, 1702 T from Dump working

3q General remarks of inspecting officers on method of mining etc.

Method of mining is Category A mechanized and extent of mechanization is suitable as required for handling the development work that is required to facilitate exploitation of the orebody available in the adjoining area as the instatnt lease is falling in the footwall side of the orebody.

Solid Waste Management - Dumping:

Sl.No. Item Propasals Actual work Remarks

4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	No top soil available in the proposed working area. No ROM production or generation of mineral rejects is proposed. Only generation and dumping of OB/waste is proposed.	As per the proposals, only OB/Waste was generated which was dumped at non-mineralized land.
4b	Location of topsoil, OB and mineral reject dumps	Nil	Location of the existing dumps as per the proposals. Dumping has been done as per the proposals and additional waste dump as proposed is in initial stage of operation.
4c	Number of dumps within lease area and outside of lease area		As per the proposals, all dumps are within the lease area
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	as there is no underlying	Not applicable as there is no underlying deposit in the lease area. The lease is lying in footwall side.
4e	Number of active and alive dumps.		All dumps are active and alive. Plantation has been done on existing dumps but no dump is dead or rehabilitated.

Slopes of the old dumps have been stabilized through

plantation, however, no dump

established as dead dump.

has been

4f	Number of dead dumps.	Nil	Nil
4g	Number of dumps established.	Nil	Nil
4h	Whether Retaining wall or garland drain all along dumps are there.	drains all	Yes
4i	Length of Retaining wall or garland drain all along dumps	maintenance of existing	Total garland drain and retaining wall of more than 2000 m is existing all along the toe of the dumps in the area.
4j	Number of settling ponds	No such proposals.	Nil

4k Specific comments of inspecting officer on waste dump management

In the present plan period, one new waste dump is proposed and dumping was done within the lease area. Protective measures in form of bunds, garland drain alongwith retaining wall were extensively made along the toe of the dumps. Under management of waste dump, 3 terraces at 15 m, 25~m and 30~m are proposed and plantation over dump slopes has already been carried out alongwith further proposals (infilling/gap plantation). Hence, waste management aspect is satisfactory for the lease area.

## 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.	as the area is lying in footwall. Also, the pit	As per	the proposals.	
5b	Area under backfilling of mined out area		Nil		

5c Concurrent use of topsoil for restoration or rehabilitation of mineral out

Not applicable Nil as the area is lying in

footwall.
Also, the pit

area (Rule 32) for

development purpose isn't proposed for backfilling.

Not applicable Nil

5d Total area fully reclaimed and

as the area is lying in footwall.

rehabilitated footwall.
Also, the pit

for

development purpose isn't proposed for backfilling.

5e General remarks of inspecting officers on backfilling and reclamation etc.

lease area (4 leases) is having restrictions due to Railway and residential buildings. Thus, mining from deeper levels beyond 200 mRL shall not be possible through opencast workings due to the said reason as well as due to uneconomic operations. At conceptual stage, the area is proposed for working by underground methods after suitable studies and no backfilling or conversion of pit into water reservoir is proposed.

The composite

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 Yes, the report was submitted on submitted for the or before 30th composite lease area (4 June every leases) as well as year depicting individual leases work done

under PMCP in the preceding

No working

year

6b Area available for rehabilitation (ha).

area is available for reclamation or rehabilitation activities as it shall be under active mining or allied activities. Only available area is slopes of the dumps. 7.5 m nonmining zone shall also be under common boundary working or is having infrastructure in form of township/

residential buildings etc.

Nil

6c afforestation done (ha).

2018-19: 0.1 ha

As per the proposals

The area is lying in footwall and due to this, working in the lease area is only removal of OB/waste. Plantation proposals are to be made after maturity of these dumps. Despite no proposals, plantation has been carried out over the dump slopes. Overall around 22.365 ha area in all the leases has been reclaimed through plantation.

6d	No. of saplings planted during the year	2018-19: Nil	2018-19: 200 saplings over dump slopes (in-filling/gap plantation)	
6e	Cumulative no .of plants	No such proposals as pplantation to be done after maturity of the dumps	Total 10200 saplings have been planted over the dump slopes (northern part of the lease area) out of which around 8592 saplings are surviving with ~84% rate.	
6f	Any other method of rehabilitation	No such proposals	Nil	
6g	Cost incurred on watch and care during the year	Rs 250000/-	Approximately Rs 500000/-	Overall SDF expenditures for entire mine (4 leases) is around Rs 1.927 Cr majority of which which has been counted for main lease (area 46.25 ha)
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	Not applicable as the area is lying in footwall. Also, the pit for development purpose isn't proposed for backfilling.	Nil	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not applicable as the area is lying in footwall. Also, the pit for development purpose isn't proposed for backfilling.		
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestati on on backfilled area	<del>-</del>	Nil	

·	reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	as the area is lying in footwall. Also, the pit for development purpose isn't proposed for backfilling.	
61	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not applicable as the area is lying in footwall. Also, the pit for development purpose isn't proposed for backfilling.	Nil
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	No such proposals	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No such proposals	Nil
60	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No such proposals	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	monitoring is proposed to be carried out in the core and buffer zone of the composite lease area having 4 leases (one	Environment monitoring carried out for air, water, noise and ground vibration as per the guidelines. The reports of the environment monitoring were checked and found that all the parameters are within the permissible limits. Hydrological studies have also been carried out in the area.

Compliance on Not applicable Nil

бk

6q General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.

PMCP operations for the lease area are satisfactory. Extensive Plantation was carried out in the northern part of the lease area over the dump slopes. Dumps are also secured by protective measures such as garland drains and retaining walls. Environment monitoring is being carried out as per MOEF and CPCB guidelines in this regard.

#### Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area		Nil, as no dump working done during the year	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.		Nil, as no dump working done during the year	
7c	Different grade of mineral sorted out at mines.			

The General remarks of inspecting of inspecting of inspecting of inspecting officer on aspect is satisfactory as: conservation and beneficiation orebody is occurring in the lease area. hence, this aspect shall not be applicable for any in-situ working.  2. Only Dump mining is being carried out to recover mineralized content lying in old dumps available in the area which is in the interest of conservation of the mineral.  3. No dump mining could be carried out in the year 2018-19 due to thrust towards systematic development of insitu deposit.	7d	Any beneficiation process at mines	No such proposals	Nil	
	7e	of inspecting officer on Mineral conservation and beneficiation			conservation aspect is satisfactory as: 1. no in-situ orebody is occurring in the lease area. hence, this aspect shall not be applicable for any in-situ working. 2. Only Dump mining is being carried out to recover mineralized content lying in old dumps available in the area which is in the interest of conservation of the mineral. 3. No dump mining could be carried out in the year 2018-19 due to thrust towards systematic development of in-

### Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)		Nil, as no top soil available in the proposed working area	
8b	Concurrent use or storage of topsoil	No such proposals	Nil, as no top soil available in the proposed working area	

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	No top soil available in the proposed working area. No ROM production or generation of mineral rejects is proposed. Only generation and dumping of OB/waste is proposed.	As per the proposals, only OB/Waste was generated which was dumped at non-mineralized land.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No such proposals	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No such proposals	Nil
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	side and only in-situ working is in form of OB/waste removal. This waste is being	Baseline Information for the land within 10 km radius (1991): Total Area of the Land: 16649.11 ha Forest: 3782.56 ha Irrigated: 4072.5 ha Non-irrigated: 2666.24 Ha Cultivable waste land: 2512.97 ha Area not available for cultivation: 3498.29 ha Additional plantation carried out: 0.1 ha within the lease area with 200 saplings in 2018-19, 10200 saplings in total

80%

Survival rate

8g

~84%

8h	Water sprinkling on roads to control airborne dust	Yes	Yes, water sprinkling is being done through 28000 L water tanker deployed in the mine	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Apart from normal degradation due to mining, aesthetic beauty is satisfactory in the area. Lessee has done remarkable plantation work for the composite lease area having 4 leases. In this lease as well as adjoining leases, retaining walls, garland drains are there all along the dumps to avoid any degradation of land due to wash off.

# Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	are required to be submitted online before 1st July of	AR for the composite lease area of 4 leases was submitted online upto 2018-19 MR for the composite lease area of 4 leases was submitted online upto Nov'19	It was advised to file separate returns for all the leases so as to enable evaluation on individual basis.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer: Shri D. R. Pantawane Geologist: Shri Sudhanshu Chauhan Manager: Shri U. M. Bhujade	Complete information provided	

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	furnished for composite lease area (4 leases) as-Covered under Excavation/Pit s: 36.983 ha Reclaimed/Reha bilitated: 22.365 ha	Area under dumps- 7.351
9d	Scrutiny of Annual return on afforestation	planted during the year: 21600	Complete and correct information furnished for the composite area. For the lease area under consideration, afforestation was carried out over 0.1 ha area at dump slopes with 200 saplings in the northern part of the lease area
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	For the composite area (4 leases): Mineral Rejects generated: 45000 T Grade: 17-18% Mn	Complete and correct information furnished for composite area. For the lease area under consideration, the section is not applicable as no ROM production was proposed or carried out.

9£ Scrutiny of

Annual return on and Closing ROM stock and/or Stocks- Nil, graded ore

ROM: Opening Production: 409049 T Graded Ore: Opening & Closing Stocks, Production, dispatched have been furnished for composite

Complete and correct information furnished. However, for the lease

area under

consideration, the information is Nil as no

ROM/graded ore

production is proposed or carried out. Also,

Dump working was

Dispatches for proposed from this lease various grades but no dump working

activity for extraction from the mine of minerals was carried

out.

Scrutiny of Annual return on For grade sale value, Ex. Mine price and production cost

9g

Sale Value: Rs 71518854/-, area under

lease area

1092800621/-,

1142168337/-, above-Rs

23357338.83/-

For Dioxide Grade-Rs 456410107/-Ex mine Price

per T:

For grade below 25% Mn-

Rs 2200/-, For 25-35% Mn-

Rs 5526.72/-,

For 35-46% Mn-

Rs 15581.45/-,

For Mn 46% and

above-Rs

22820.15/- &

For Dioxide

Grade-Rs

28922.14/-

Cost of Prod.

per T: Rs

3894.23/-

Complete and correct information furnished. below 25% Mn- However, for the lease

For 25-35% Mn- consideration, the information is Nil as no

ROM/graded ore

For 35-46% Mn- production is proposed

or carried out. Also, Dump working was

For Mn 46% and proposed from this lease but no dump working activity for extraction

of minerals was carried

out.

Scrutiny of Value of fixed Complete and correct Annual return on assets: Rs information has been 756946970/fixed assets furnished for composite lease area (4 leases). Apart from this, value of land, machineries, plant and buildings etc. have been furnished alongwith depreciation. 9k Scrutiny of Hydraulic Complete information Annual return on Excavators: furnished as per the mining 0.9 cuM extent of mechanization. machineries capacity-2 The machineries are Nos., 4.5 cuM common to all 4 lease capacity-2 areas, hence correct Nos., 3.0 cuM information has been capacity-1No., furnished. 2.5 cuM capacity-2 Nos., 5.6 cuM capacity-2 Nos. Dozers: 3 dozers with 335 HP Drill machine: 110 mm dia, 6 Nos. Dumpers: 60 T-7Nos., 35 T-13 Water Tanker: 28000 Ltr-1 No. and Explosive Vans and Jeep/Tractor

9h

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Details of violations observed during current inspection and compliance position of violation pointed out				
Viola	tion observed	Show couse position		
Rule NO.	Issued on Compliance on	Rule NO.	Issued on Compliance on	

Date: (ASHISH MISHRA)

Indian Bureau of Mines