# INDIAN BUREAU OF MINES MINERALS DEVELOPMENT AND REGULATION DIVISION

### MCDR INSPECTION REPORT

### Nagpur regional office

Mine file No : MAH/BHD/MN-42/NGP L-3 Mine code : 40MSH05006

(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 : 09/01/2020

(v) Prev.inspection date :

#### PART-I : GENERAL INFORMATION

1. (a) Mine Name : DONGRI BZ.BALAPUR (70.50 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 : 18/02/2001

(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

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

# Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	For 2017-18, 19 boreholes For 2018-19, 6 boreholes These boreholes were proposed for the entire mine comprising of 4 leases.	Actual exploration: 2017-18: Total 26 Nos. of boreholes were drilled in the area for which Form I and K have been examined. Out of 26 boreholes, 11 are falling in the instant lease area. Meterage drilling for the boreholes falling in the lease area is around 3393 m out of total drilling 6218 m. 2018-19: Total 6 boreholes were drilled in the composite area out of which 4 are falling within the instant area with 1676 m of drilling (total drilling 2297 m).	2
1b	Exploration over lease area for geological axis 1 or 2		G-1 reserves have been considered for 274 mRL and above (upto 334 mRL) at Ch 00 to Ch 400 in the western part of the lease area G-2 resources are considered for 334 mRL and below (upto 214 mRL) for Ch -500 to Ch 400 ir the western part & 94 mRL to 124 mRL in the central part at Ch 2800 to Ch 4000	category. Further, the area has mineralized dumps that are having 32868 T of reserves/resources
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Exploration was proposed to be carried out by MOIL itself with an approximate expanditure of Rs 6500/- per m	Exploration was carried out by MOIL.  Approximate expenditure for the year 2017-18 was Rs 8800/- per m (due to higher depth of boreholes)  Approximate expenditure for the year 2018-19 was around Rs 6500/- per m	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	Almost entire mineralized area has been proved upto at least G-2 level. Exploration is underway for conversion of G-2 level reserves into G-1 level.

1e Balance reserve Balance 111-14734 T Additionally, the as on 01/04/20reserves as 222-996490 T area has on 01.04.2019 332-1019653 T mineralized dumps are given in that are having the actual 32868 T of work details: reserves/resources General remarks 1f The area has of inspecting already been officers on explored upto G-1 geology, & G-2 level for exploration etc entire potentially mineralized part. Further, 11 boreholes were drilled in the area in 2017-18 & 4 boreholes in the year 2018-19. Orebody is occurring at deeper levels in the area and presently, the lease is under development phase so as to expose the orebody in the area thereby facilitating the exploitation of ore zone in the main lease of 46.25 ha in the Dongri Buzurg Mine having 4 leases.

## Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	2018-19: Location of Development is Ch 25 to Ch 35 over the benches 310 mRL, 320 mRL & 330 mRL in between grids N2383000 to N2383200 & E363200 to 363800	Location of development is as per the proposals	Apart from this, dump working for mineral recovery was proposed in between grids N 2382800 to N2383200 & E362400 to E362800 but the same couldn't be carried out.

2b Separate benches For in-situ, in topsoil, overburden and minerals (Rule 15)

only te removal is proposed in

There is no top soil in the proposed working overburden/was area. Further, Dongri Buzurg mine has 4 leases out of which, this lease the year 2018- is having ore zone at deeper levels for which development is required. Thus, presently only development activities are proposed in the area to expose the orebody within the area as well as 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 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: 91075 2018-19: Total

cum

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 and the same has been as per the proposals, though it was lower for other 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 in 310 mRL, 320 mRL & 330 mRL and being at higher levels, development was as per the proposals in the lease area. The deposit is mainly occuring in the contiguous 46.25ha lease area for which hangwall development work is being done in the instant lease area, however, mineral is occurring at very deeper level due to steep dip (except at Ch 00 in the extreme west part).

### 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 insitu, 3700 T from dump recovery		Dump working for mineral recovery was proposed in between grids N 2382800 to N2383200 & E362400 to E362800 but the same couldn't be carried out.

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	15% recovery from dump working was proposed, but no dump working could be carried out as thrust was given on in-situ developments and dump working with 15% recovery required huge generation of waste.
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	2018-19: Not Applicable as no ROM production is proposed	
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	2018-19: Not Applicable as no ROM production is proposed, however, for development work, drilling 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 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.

3m Total area covered under excavation/pits As per the approved modifications in the approved mining plan document for the period 2018-19 to 2021-22, Existing area under excavation/pit s: 4.828 ha Additional area requirements during the plan period: 1.00 ha Total area at the end of plan period: 5.828 ha

The development work was carried out within the excavation area and no further area has been broken in the year 2018-19. Thus, area under excavation is 4.828 ha

3n Ore to OB ratio for the pit/mine Applicable as during the year.

2018-19: Not no ROM production is proposed

2018-19: Not Applicable as no ROM production is proposed

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

3р

to use under various heads as on 31.03.2019 is given in actual work details.

Total area put Area under: Excavation/Pits: 4.828 Waste/OB Dumps: 18.42 ha Infrastructure: 5.0 ha

Roads: 1.42 ha

Township: 1.525 ha

Production of ROM mineral during the last

as applicable

2017-18: Nil from in-situ, 30000 T from five year period Dump working 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, 50 T from Dump working 2016-17: Nil from insitu, 4600 T from Dump working 2015-16: Nil from insitu, 8000 T from Dump working 2014-15: Nil from insitu, 17466 T from Dump working 2013-14: Nil from insitu, 9860 T from Dump working

General remarks 3q 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 exploit the orebody available in the area at deeper levels (below 214 mRL). In the western part, meagre quantum of ore is occurring in a patch at 274 mRL and above which have been considered as 111 reserves however, present working is limited to central part of the composite lease area.

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.		
4b	Location of topsoil, OB and mineral reject dumps	Waste Dump: Scattered small dumps at N2383200 to N2383850 & E362800 to E364000, One Waste dump proposed in continuity of these dumps at N2383800 to N2384000 & E364200 to E364400 Mineralized Dumps: One at N2382800 to N2383100 & E362200 to E362400	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	dumps in continuity for waste dump. One additional waste dump was also proposed as per the	Several scattered dump has formed a single line and it may be considered that one dump is there. Additionally one waste dump is being developed in the continuity of these dumps.  One mineralized dump is also there in the extreme western part of the lease area.  All dumps are within the lease area.	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Dumps are located outside the pit limits.	Dumps are located outside the pit limits.	
4e	Number of active and alive dumps.		As per the proposals	

25 m and 30 m are

proposed. Hence, waste management aspect is satisfactory for the lease area.

4f	Number of dead dumps.	Nil	Nil	Slopes of the old dumps have been stabilized through plantation, however, no dump has been established as dead dump.
4g	Number of dumps established.	Nil	Nil	Slopes of the old dumps have been stabilized through plantation, however, no dump has been established as dead dump.
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall and garland drains all along the dumps have already been constructed.	Yes	
4i	Length of Retaining wall or garland drain all along dumps	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,

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.	No backfilling is proposed	Nil	
5b	Area under backfilling of mined out area	No backfilling is proposed	Nil	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No backfilling is proposed	Nil	
5d	Total area fully reclaimed and rehabilitated	No backfilling is proposed	Nil	
5e	General remarks of inspecting officers on backfilling and reclamation etc.			The composite 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. 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.
	Progressive Mine C	lousre Plan:		
Sl.No.	Item	Propasals	Actual work	Remarks

6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	June every	Yes, the report was submitted for the composite lease area (4 leases) as well as individual leases
6b	Area available for rehabilitation (ha) .	No working area is available for reclamation or rehabilitation activities as it shall be under active mining or allied activities. Only available area is 7.5 m non-mining zone in the northern part of the lease area and slopes of the dumps.	As per the proposals
6c	afforestation done (ha).	Afforestation is proposed over 1.2 ha of land with 700 Nos. of saplings during approved proposal period of 2018-19 to 2021-22.	Afforestation carried out over 9.2 ha area at dump slopes with 20000 saplings
6d	No. of saplings planted during the year	Afforestation is proposed over 1.2 ha of land with 700 Nos. of saplings during approved proposal period of 2018-19 to 2021-22.	Afforestation carried out over 9.2 ha area at dump slopes with 20000 saplings

бе	Cumulative no .of plants	No specific proposals available	Total number of saplings planted were 132807 out of which 119321 are surviving with a percentage survival of 89.85%. This plantation is majorly done over the slopes of the dumps in northern part of the lease area.
6f	Any other method of rehabilitation	No such proposals	Nil
6g	Cost incurred on watch and care during the year	Approximately Rs 275000/-	Around Rs 500000/-
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	No such proposals	Nil
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) Afforestati 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
61	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	No such proposals	Nil	Plantation is mostly proposed and carried out over the slopes of the dumps.
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	
бр	Compliance of environmental monitoring (core zone and buffer zone)	carried out in the core and buffer zone of the composite lease area having 4 leases (one	water, noise and ground vibration as per the guidelines. The reports of the environment	
бq	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.

Propasals Actual work

Remarks

Mineral Conservation:

Sl.No. Item

7a	ROM Mineral dispatch or grade-wise sorting within lease area	2018-19: Not Applicable as no ROM production is proposed, Manual sorting from mineralized dumps was proposed.	-	as no dump during the	_
7b	Method of grade- wise mineral sorting i.e. manual or mechanical.	2018-19: Not Applicable as no ROM production is proposed, Manual sorting from mineralized dumps was proposed.		as no dump during the	
7c	Different grade of mineral sorted out at mines.	2018-19: Not Applicable as no ROM production is proposed, Manual sorting from mineralized dumps was proposed which shall generate below 25% Mn containing mineral		as no dump during the	
7d	Any beneficiation process at mines	No such proposals	Nil		

7e General remarks
of inspecting
officer on
Mineral
conservation and
beneficiation
issues

The orebody available in the area at deeper levels (below 214 mRL) and thus, present working in the area is in form of development only to facilitate the production in adjoining lease areas as well as to develop the mineral deposit so as to expose the orebody within the lease area. Dump working was proposed but could not be carried out as more thrust was given to in-situ workings.

### 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	
d8	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)	Baseline information given in the mining plan for the area. Additional plantation is proposed as 700 saplings over 1.2 ha area in the approved proposal period of 2018-19 to 2021-22.	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: 9.2 ha within the lease area with 20000 saplings
8g	Survival rate	80%	~89%
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 good in the area. Lessee has done remarkable plantation work for the composite lease area having 4 leases. In the 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		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		

9c Complete and correct Scrutiny of Land use Annual return on details are information provided land use pattern furnished for over land use. However, for area under for the lease area, land composite pits, reclaimed lease area (4 use is as below: area, dumps etc. leases) as-Area under: Covered under Excavation/Pits: 4.828 Excavation/Pit ha s: 36.983 ha Waste/OB Dumps: 18.42 ha Reclaimed/Reha Infrastructure: 5.0 ha bilitated: Roads: 1.42 ha 22.365 ha Township: 1.525 ha Used for Waste Disposal: 31.761 ha Occupied by plant, building, infrastructure etc: 24.703 ha Other Purposes (BDC/OCG): 12.31 ha 9d Scrutiny of Number of Complete and correct Annual return on saplings information furnished afforestation planted during for the composite area. the year: For the lease area under 21600 consideration, Survival rate: afforestation was 70% carried out over 9.2 ha area at dump slopes with 20000 saplings in the northern part of the lease area 90 Complete and correct Scrutiny of For the Annual return on composite area information furnished mineral reject (4 leases): for composite area. For the lease area under generation Mineral (Grade and Rejects consideration, the generated: section is not quantity) applicable as no ROM 45000 T Grade: 17-18% production was proposed Mn 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 lease area

Sale Value:

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

below 25% Mn-For 25-35% Mn- area under 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 information provided for composite leases (4 leases). Rs 71518854/-, However, for the lease consideration, the information is Nil as no For 35-46% Mn- ROM/graded ore production is proposed or carried out. Also, For Mn 46% and Dump working was 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							
Violat	cion observed	Show couse position					
Rule NO.	Issued on Compliance on	Rule NO.	Issued on Compliance on				

Date: (ASHISH MISHRA)

Indian Bureau of Mines