# INDIAN BUREAU OF MINES MINERALS DEVELOPMENT AND REGULATION DIVISION

#### MCDR INSPECTION REPORT

### Nagpur regional office

Mine file No : MAH/BHD/MN-33/NGP Mine code: 40MSH05001

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

Officer and ID No.

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

(iii) Accompaning mine : Shri R. Bhattacharya, Agent, Shri A. K. Chauksey, Min

Official with

Designation

(iv) Date of Inspection : 18-DEC-20 Prev.inspection date : 20-NOV-19 (v)

PART-I : GENERAL INFORMATION

(a) Mine Name : CHIKLA

(b) Registration NO. : IBM/5711/2011

(C) Category : A Other than Fully Mech.

(d) Type of Working Underground

(e) Postal address

> State : MAHARASHTRA District BHANDARA Village SITASAONGI Taluka TUMSAR Post office : SITASAUNGI

Pin Code

07122592073 FAX No.

E-mail : mm.ch@moil.nic.in 07183 - 220231 Phone

:

Police Station (f) : Chikla First opening date : 01-JUL-62 (g)

Weekly day of rest (h) : FRI

Address for : AT - SITASAONGI,

correspondance TAH.: TUMSAR

DISTT.: BHANDARA (MS) - 441 920

3. (a) Lease Number : MSH0062 (b) Lease area : 150.64

> Period of lease : 60 (C)

: 30-JUN-22 (d) Date of Expiry

Mineral worked 4. : MANGANESE ORE Main 5. Name and Address of the

Lessee M/S MANGANESE ORE (INDIA) LTD.

> 3, MOUNT ROAD EXTENSION POST BOX NO. 34, NAGPUR (MP) 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 :

Mining Engineer

Name PRASHANT DAKRE, Full Time

Qualification : Appointment/ Termination date

Geologist

Name SUDHANSHU CHAVAN, Full Time

Qualification : Appointment/ Termination date

Manager

A. K. CHAUKSEY Name

Qualification : Appointment/ Termination date

6. Date of approval of Mining : Renewal under rule 22 MCR1960 30-MAY-03 Plan/Scheme of Mining Mining Scheme rule 12 MCDR1988 22-JUL-08 Mining Scheme rule 12 MCDR1988 02-MAY-13

MP review under 17(1) MCR 2016 30-JUN-17

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PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

# Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
la	Backlog of previous year	2017-18: 2 Boreholes with 520 m meterage 2018-19: 2 Boreholes with 500 m meterage 2019-20: 2 Boreholes with 480 m meterage	2017-18: 2 Boreholes with 763 m meterage 2018-19: 2 Boreholes with 1069 m meterage 2019-20: 4 Boreholes with 1203 m meterage	Last approved document is Review of Mining Plan for 2017-18 to 2021-22 period. In the last approved SOM for 2012-13 to 2016-17, 17 Nos. of boreholes were proposed to be drilled with 4730 m meterage while actual achievement was 22 Nos. of boreholes with 3287 m meterage. As per the exploration carried out by the lessee in the period 2017-18 to 2019-20, against 6 boreholes having 1500 m meterage, actual achievement is 8 boreholes with 3035 m meterage. Thus, there is no backlog of exploration.

1b Exploration over G-1 & G-2 lease area for geological axis 1 or 2

G-1 & G-2

Lease area is divided into three parts Chikhla A, Chikhla Main and Chikhla B. Entire area has been covered under G-1 as per the exploration carried out in the area. In Chikhla A and Chikhla Main, resources lying below -470'L and in Chikhla B section, resources lying below -270'L are classified under G-2 category which are proposed to be converted under G-1 with underground exploration as surface exploration isn't possible below such limits.

Exploration 1c Agencies and Expenditure in lakh rupees during the year For 2019-20, exploration proposed is in form of 2 boreholes having 480 m meterage. this exploration is proposed to be done by MOIL Ltd. (lessee).

For 2019-20, actual exploration carried out was 4 boreholes with 1203 m meterage. Exploration was carried out by MOIL Ltd. at an expenditure of approximately Rs

1d Balance area to be explored to bring Geological axis in 1 or 2

Nil

extent has been proved under G-1, exploration proposals are incorporated only for proving depth continuity covered under G-1 of the deposit.

Nil, as complete lateral As furnished under item 1b, entire surface area (potentially mineralized) is level of exploration.

Balance reserve 1e as on 01/04/20

Balance reserves/reso urces as on 01.04.2020 is furnished under Actual Work Section.

Balance reserves/resources as on 01.04.2020 are: 111 1660193 T 121 434331 T 211 368355 T 222 2046970 T

332 111126 T

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

Exploration is being done continuously as per the geology of the area and in the last 5 years proposal period, total 22 bore holes with total meterage of approximately 3287 m have been drilled. In the next 5 years period, i.e., 2017-18 to 2021-22, total 8 boreholes with 1900 m meterage were proposed to be drilled to prove the area upto -770 mRL level out of which, upto 2019-20, 8 boreholes have been completed with 3035 m meterage.

### Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a		Underground development is proposed at - 170'L, -270'L, -370'L & -	Underground development work carried out at - 170'L, -270'L, -370'L &	
2b		as no opencast working is	Not applicable as no opencast working carried out.	
2c	Stripping ratio or ore to OB ratio		Not applicable as no opencast working carried out.	

generation in m3 working is out. proposed.	
Quantity of Not applicable Not applicable as no overburden as no opencast opencast working carried generation in m3 working is out. proposed.	
of inspecting officers on development of pit w.r.t. type of deposit etc  under explo deepe also propo carri Adjac lease MOIL grant area under and a ML, t be we for t orezo devel	rground, oration for er level is being osed and ied out. cent to this e area, M/s Ltd. has been ted additional which is r prospecting after grant of the area can ell developed the entire one. Opencast lopments is osed to be only after t of necessary rances by

# Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Not aplicable being underground workings only	Nil	For Underground, 2 Stopes at -170'L, 9 Stopes at - 270'L, 8 Stopes at -370'L in Chikla Main and Chikla A and 4 Stopes at + 60'L in Chikla B section are proposed and being worked.

For 2019-20, For 2019-20, Undergorund Quantity of ROM mineral Undergorund ROM: 179524 T, Dump production ROM: 187500 T, Working: Nil proposed Dump Working: 30000 T Recovery of 80% recovery Entire ROM has been Grade of Mineral 3с sailable/usable from graded and there is no rejects was mineral from ROM underground generation of mineral proposed to be 17production ROM is rejects 18% Mn which was blended and graded proposed as below 25% Mn. This grade being saleable as per the present market condition, hasn't been separately stacked as mineral rejects which was already proposed in the use of minerals and mineral rejects chapter in the last approved mining plan document. For 2019-20, 3d Quantity of For 2019-20, Mineral As given in item mineral reject Mineral rejects: Nil 3с Reject: 37500 generation Grade of mineral Threshold Nil as no mineral rejects value is 10% rejects stacked generation and Mn. separately. threshold value Grade of declared. Mineral rejects to be produced: 10-20% Mn 3f Quantity of sub Not applicable Nil grade mineral generation. 3g Grade of sub Not applicable Nil grade mineral generation 3h Manual / Mechanised As per the proposals Mechanised crushing/scree method adopted ning and for segregating manual sorting from ROM 3i Any analysis or NilNil beneficiation study proposed and carried out for sub grade mineral and

rejects.

3j	Provision of drilling and blasting in mineral benches	Yes (for underground levels not for benches)	Yes, drilling and blasting is proposed in the Underground Levels/stopes for ore extraction.
3k	Provision of mining machineries in mineral benches	For underground workings, 16 cft and 24 cft tubs are there which shall be loaded manually with the blasted muck. These tubs shall be hauled through Loco and hoisted through cage winding system at the mine.	As per the proposals.
31	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Not aplicable being underground workings only.	As per the geological conditions of the deposit in the area, method of mining and method of stoping are suitable and as per the approved MP/ SOM.
3m	Total area covered under excavation/pits	For 2019-20, Area already covered under excavation/pit s: 4.465 ha, no additional area is proposed to be put to use for opencast excavation	For 2019-20, Area covered under excavation/pits: 4.465 ha
3n	Ore to OB ratio for the pit/mine during the year.	Not aplicable being underground workings only.	Nil

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

Area put to use is furnished in actual work details.

As on 31.03.2020, Area under:

Excavation/ Pits: 4.465

Mineral Storage: 3.6045

Overburden/ Waste Dump: 2.80 Ha (2.50 ha area reclaimed this year, remaining active dumping over around 0.3 ha)

Infrastructure: 3.0 ha Roads: 3.50 ha

Township Area: 2.98 ha

Total: 20.3495 ha

Production of 2014-15: ROM mineral 262574 T during the last 2015-16: five year period 242552 T as applicable 2016-17: 241080 T 2017-18: 215000 T 2018-19: 215000 T 2014-15: 235393 T 2015-16: 213637 T 2016-17: 217168 T 2017-18: 179696 T 2018-19: 179951 T Approximately 17.3 ha area of waste dumps has already been reclaimed and rehabilitated by plantation with approximately 355083 nos. of trees.

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

3р

Method of mining is underground by cut and fill method and dump workings for exploitation of ore. For ore locked at upper levels while underground workings, and also for working of surficial deposit occuring at Chikla Main, opencast working proposals were made by mechanised method deploying dumper shovel combination but the same could not be done as clearance could not be obtained from MoEF for opencast workings.

Solid Waste Management - Dumping:

Sl.No. Actual work Remarks Tt.em Propasals

	of topsoil, OB and mineral rejects (Rule 32,33)	dumps for waste and mineral rejects/subgra de is proposed. As no top soil is proposed to be generated during the ensuing period, dumping for top soil is not commented upon.	and Mineral rejects/ Sub-grade are there at the site.	
4b	Location of topsoil, OB and mineral reject dumps	Waste dumping is proposed on WD-2 located in southern part of the lease area. Subgrade/ Mineral rejects are proposed to be dumped on the existing Mineralised dumps located in Chikla Main.	As per the proposals	
4c	Number of dumps within lease area and outside of lease area	Dumps and 3	As per the proposals	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)		All dumps are outside limits for underground workings. For opencast workings, dumps are within as well as outside the pit limits.	
4e	Number of active and alive dumps.		As per the proposals	WD-2 is under Active Waste dumping activities.
4 f	Number of dead dumps.	16 Waste dumps are dead and stabilized by reclamation and rehabilitation through plantation	As per the proposals.	

Separate dumping Yes, separate Separate dumps for Waste

4a

structures like garland drains and retaining walls at

the toe end.

4g	Number of dumps established.	16 dead waste dumps are stabilized	As per the proposals	
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes	Yes	Most of the small dumps are located within pit limts where no retaining wall is there but dumps located at / near the ML boundaries are surrounded by protective workings like garland drains and retaining walls
4i	Length of Retaining wall or garland drain all along dumps	and garland	Retaining wall: 1250 m Garland drains: 2170 m This is already constructed and in the year 2019-20, no additional developments made.	
4j	Number of settling ponds	Nil	Nil	
4k	Specific comments of inspecting officer on waste dump management			Waste dump management is an aspect that is required to looked into for the mine. There are total 17 dumps within the lease area out of which 16 dumps (except WD-2) were stabilized through plantation. Dumps are located within pit limits for open cast that will be shifted upon commencement of opencast operations. Dumps located at the ML boundary such as WD-1,2,8,9 etc are equipped with protective

Sl.No.	Item	Propasals	Actual work	Remarks
5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	No proposals for backfilling as opencast mining is not being done.	Nil	Underground waste is being filled underground itself for around 30% of total waste generation. Other than this no backfilling is proposed or being done at the mine.
5b	Area under backfilling of mined out area	Nil	Nil	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No top soil is excavated for the year and also no rehabilitation is proposed for any mined out area.		Earlier excavated Top soil has already been used for stabilization of dumps through plantation.
5d	Total area fully reclaimed and rehabilitated	Nil	Nil	
5e	General remarks of inspecting officers on backfilling and reclamation etc.			Backfilling has not yet started as mineral is available in the ML area and opencast mining is yet to commence. Reclamation and rehabilitation works was done over the inactive dumps.

# Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
ба	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	Yes	Yes	

6b	Area available for rehabilitation (ha) .	Nil	Nil	17.30 ha area available for waste dumps have been reclaimed and rehabilitated. Out of 2.8 ha area under active dump, 2.5 ha area has been reclaimed by plantation. No mined out area available for rehabilitation activities.
6c	afforestation done (ha).	saplings to be	2019-20: 4000 saplings have been planted in the green belt in form of gap filling plantation covering approximately 2.5 ha area, to increase the density of existing plantation done in the area	
6d	No. of saplings planted during the year	2019-20: 2000 saplins	2019-20: 4000 Saplings	
6e	Cumulative no .of plants	Not available	Upto 2019-20: 355083 saplings	
6f	Any other method of rehabilitation	No such proposals	Nil	
6g	Cost incurred on watch and care during the year	2019-20: Rs 1,40,000/- approximately for plantation, environment monitoring & other PMCP activities	2019-20: Rs 4,32,000/- over plantation, environment monitoring & garland drain and retaining wall repairs etc.	
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	
бm	Compliance of rehabilitation of waste land within lease (i)afforestation	for green belt development: 2000 saplings	Afforestation done in form of 4000 saplings over 2.5 ha area	
бn	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	2019-20: 1 ha	2019-20: 2.5 ha	
60	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Afforestation	As per the proposals	
бр	Compliance of environmental monitoring (core zone and buffer zone)	Yes	Yes	Environment monitoring is being done in the core zone and buffer zone as per MoEF guidelines.

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

Progressive closure for available land/area is being done properly. Till permission for opencast wokings is not obtained, mined out area may not be available for any backfilling and reclamataion activities. Environment monitoring is also being done properly as per the guidelines in this regard. Expenditure on watch and care is well above the proposals and is evident of the fact that progressive closure is being practiced in true spirits.

### 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 gradewise sorting and ROM is not proposed to be dispatched from the lease area.	Mineral is being dispatched after gradewise sorting and ROM is not being dispatched from the lease area.	
7b	Method of grade- wise mineral sorting i.e. manual or mechanical.	Mechanical crushing/scree ning and manual sorting	As per the proposals	

7c	Different grade of mineral sorted out at mines.	<25% Mn, 25-35% Mn, 35-46% Mn and Mineral rejects 10-20% Mn	<25% Mn, 25-35% Mn, 35-46% Mn Mineral rejects have been blended and dispatched in the grade <25% Mn	
7d	Any beneficiation process at mines .	Nil	Nil	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			Mineral is being extracted from underground and dump working. Subgrade/ Mineral rejects having 10-20% Mn have been blended and dispatched for the year 2019-20. Opencast proposals for extraction of blocked ore in the underground pillars is in line with full extraction of ore body and thus in coherence with the objectives of Mineral Conservation. Beneficiation is in form of crushing and screening only for grade-wise sizewise dispatch of mineral.

#### Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	removal is	Nil	
8b	Concurrent use or storage of topsoil	Not applicable	Nil	

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Yes	Separate dumps for waste, mineral rejects/sub-grade and fines are there at the mine site.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Waste rock is being used for filling in underground itself.	Around 30% of the waste generated underground is being used for filling purposes in underground and rest 70% is brought to the surface for dumping. Other than this, no backfilling is proposed or practiced as opencast working operations are yet to commence.	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No such proposals	Nil	16 dead waste dumps are already stabilized through plantation. There is only one active dump for waste. Further, Phased restoration of pit could not be done due to existence of mineral at pit botton and also not having permission for opencast operations.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	plantation has been carried out in EIA study. Additional plantation proposed was 2000 saplings in the year 2019-20.	Additional plantaion carried out in the year 2019-20 was 4000 saplings. Cumulative additional plantation done in the area till 2019-20 is 355083 saplings.	
8g	Survival rate	2019-20: 75%	2019-20: 76.57%	
8h	Water sprinkling on roads to control airborne dust	Yes	Yes	For dump workings and for haulage roads, water sprinkling is being done.

8i General remarks
of inspecting
officer on
aesthetic beauty
in and around
mines area

Apart from degradation of the land due to mining operations, aesthetic beauty of the area is satisfactory as total saplings planted by the lessee in the area are in good numbers (355083 Nos.). Degradation and environment issues are well under control as opencast mining operations are yet to commence in the lease area.

# Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Annual Returns are required to be submitted before 1st July of every year for preceding year Monthly returns are required to be submitted on or before 10th of every month for preceding month		
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Manager: Shri A. K Chauksey Mining Engineer in charge: Shri Prashant Dakre Geologist in charge: Shri Sudhanshu Chavan	Complete and correct information furnished	

9с Area reclaimed Correct information Scrutiny of Annual return on and provided as per the land use pattern rehabilitated: available format. 17.30 ha for area under pits, reclaimed Area under area, dumps etc. waste Dump: 0.33 ha Area Occupied by plant, buildings, resi dential, welfare buildings & roads: 9.48 ha 9d Scrutiny of Number of Complete and correct Annual return on trees planted information provided afforestation during the year (a) Within lease area: 4000 sapling with survival rate as 76.57% (b) Outside lease area: Nil9e Scrutiny of NilComplete and correct Annual return on information provided mineral reject generation (Grade and quantity)

9f

Scrutiny of ROM:
Annual return on Underground
ROM stock and/or Workingsgraded ore Opening and

ROM: Complete and correct Underground information provided

Opening and closing Stocks-Nil (as complete ROM has been graded), Production: 179524 T Graded Ore: Below 25% Mn: Opening Stock: 2941 T, Production: 11428 Т, Dispatch: 3319.63 T, Closing Stock: 11049.37 T 25-35% Mn: Opening Stock-271.09 T/ Closing Stock-218.85 T/ Production-49664 T/ Dispatches-49716.24 T 35-46% Mn: Opening Stock-2895.16 T/ Closing Stock-2320.76 T/ Production-118432 T/Dispatches-119006.4 T

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9g
       Scrutiny of
                         Ex Mine Price: Complete and correct
       Annual return on for Below 25% information furnished
       sale value, Ex.
                         Mn-Rs
                         2439.05/- per
       Mine price and
       production cost
                         Τ,
                         for 25-35% Mn-
                         Rs 4230.74/-
                         per T, and
                         for 35-46% Mn-
                         Rs 9806.61/-
                         per T
                         Cost of
                         production- Rs
                         6006.66/- per
                         Sale value:
                         For Below 25%
                         Mn: Rs
                         8096738/-
                         For 25-35% Mn:
                         210336553.10/-
                         For 35-46% Mn:
                         1167167938/-
9h
       Scrutiny of
                         Value of Fixed Complete information
       Annual return on Assets
                                         furnished
       fixed assets
                         (in Rs):
                         1189947425/-
                         Apart from
                         this, capital
                         structure
                         details has
                         been given for
                         land, plant,
                         buildings etc.
9k
       Scrutiny of
                         Details
                                         Complete and correct
                                         information furnished
       Annual return on furnished as
                         per the extent
       mining
       machineries
                         of
                         mechanization
                         given in the
                         approved MP.
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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