

**MCDR INSPECTION REPORT, Tirodi Mine (37.09 Ha)**

1	Name of Inspecting officer:	<b>Shri Sudip Ranjan Mazumdar</b>
2	Designation	Senior Mining Geologist
3	Accompanying mine official with Designation	Shri R.U.Singh, Mines Agent Shri Deependra Pantawane, Mine Manager Shri Subhransu Pani, Manager (Geology) Shri Rajesh Manke, Surveyor
4	Date of Inspection	19.07.2023
5	Previous Inspection date	07.02.2020

**Part-I: General**

S.No	Particulars	Details
1	Name of the Mine	TIRODI MINE
2	Total Lease Area (Ha) with breakup of Non-forest and forest land	Total Lease area: 37.09 Ha. Forest Land: - Nil Non Forest Land: 37.09 Ha
3	Mine code	40MPR01069
4	IBM Registration Number under rule 45 of MCDR,1988	IBM/5711/40MPR01069
5	Name of the lessee, Address, Phone, email and fax number	M/s MOIL LIMITED, (A Government of India Enterprise) MOIL Bhawan, 1A, Katol Road, Nagpur-440013 Email: <a href="mailto:moilindia_ngp@sancharnet.in">moilindia_ngp@sancharnet.in</a> Telephone: 0712-2590775 Fax: 0712-2592073
6	Village	Tirodi
7	Taluka/Mandal	Tirodi
8	District	Balaghat
9	Pin code	481449
10	State	Madhya Pradesh
11	Post Office	Tirodi
12	Nearest Police Station	Tirodi
13	Nearest Railway Station	Tirodi
14	Date of opening of Mine	01.08.1973
15	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Shri M.M. Abdulla Director (Prod. & Planning), MOIL LIMITED, MOIL Bhawan, 1A, Katol Road, Nagpur-440013 Phone: 0712-2590775 Fax: NA; Email: <a href="mailto:mma@moil.nic.in">mma@moil.nic.in</a> Date of Appointment: 10/01/2022
16	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri Rajesh Kumar Singh, Agent & Joint General Manager (Mines) Gr.-I, MOIL LIMITED, Balaghat Mine (M.P.) 481002 Phone: 7410084445 Fax: NA Email: <a href="mailto:rajesh_rajikhushi@rediffmail.com">rajesh_rajikhushi@rediffmail.com</a> Date of Appointment: 26/10/2021

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17	Name of the Mine Manager with Address, phone, email, fax number and date of appointment in mines	Shri Deependra Pantawane Mine Manager, MOIL LIMITED, Tirodi Mine, District – Balaghat (M.P.) 481449 Phone: 9685477267 Fax: NA Email: mm.td@moil.nic.in Date of Appointment: 30.01.2022
18	Name of the Mining Engineer, Qualification and total experience with address, phone, email, fax number and date of appointment in the mine	Shri Yogesh Sampat Sindhe, MOIL LIMITED, Tirodi Mine, District – Balaghat (M.P.) 481449 Qualification: B.Tech. (Mining) Experience: 9+ years Phone: 7999578004 Fax: NA Email: yogesh027@gmail.com Date of Appointment: 04/05/2018
19	Whether Geologist and Mining Engineer appointment in mines satisfy the rule 42 & carrying out their duties as per rule 43 & 44.	Yes Appointed Smt. Akanksha Sahu MOIL LIMITED, Tirodi Mine, District – Balaghat (M.P.) 481449 Qualification: M.Sc. (Geology) Experience: 6+ years Phone: 9424062541 Fax: NA Email: sahu.akanksha3010@gmail.com Date of Appointment: 01.07.2023
20	Date of Approval of Mine Plan/Modified Mine Plan with five-year period and specific condition in approval letter, if any.	Review of Mining Plan approved dated 29.06.2020
21	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five- year period and specific condition in approval letter, if any.	Review of Mining Plan approved dated 29.06.2020
22	Mineral(s) granted in lease and approved for Mining	Manganese Ore
23	Method of Mining (Opencast, Underground)	Open cast
24	Category (Fully Mechanized, Others or Manual)	Category A
25	Captive/Non-Captive	Non-captive

#### Details about Mining Plan/ Mining Scheme

a) Letter No. and date of approval of mining plan	:	MP/Balaghat/Manganese/MPLN/MOD-29/2019-20 Dt. 29.06.2020
b) Letter No. and date of approval of mining scheme.	:	MP/Balaghat/Manganese/MPLN/MOD-29/2019-20 Dt. 29.06.2020
c) Condition while approving the MP/ MS/ modification	:	Nil
d) Period of mining plan/ mining scheme in force :	:	From 2020-21 to 2024-25

#### PART III-MCDR Report details.

- Scientific Mining:** Compliance of proposals of approved mining plan/scheme of mining. (Duplication of information in existing TMIS data sheets and draft write up has been avoided.)

#### Exploration

S.N.	Item	Proposals	Actual Work	Remarks
1a	Backlog of previous year	2020-21: 5 Nos 2021-22: 20 Nos	2020-21: Nil 2021-22: 11 Nos	There is backlog of the previous year exploration. The

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				deviation has been pointed to the lessee through violation letter.
1b	Exploration over lease area for Geological axis 1 or 2.	In 2022-23, there was no exploration proposal	In 2022-23, 4 nos of boreholes drilled. The exploration proposal of previous years have not been complied till the date of inspection. Further, the boreholes have not been drilled as per their proposed location shown in the approved Surface Geological plan.	The deviation has been pointed to the lessee through violation letter.
1c	Exploration Agency & Expenditure in Lakh Rupees during the year	Not Proposed	Exploration Agency: M/s Central Drilling Associate Expenditure: Rs 12.88 Lakhs	Nil
1d	Balance area to be explored to bring the Geological axis in 1 or 2.	The lease area is covered by black dumps and insitu reserves are not proved in this lease area. Hence, the lease area is yet to be explored. Thus, the area under different level of exploration is not mentioned in the approved document.	2020-21: 05 Nos of BHs drilled 2021-22: 11 Nos of BHs drilled 2022-23: 04 Nos of BHs drilled	Nil
1e	Balance reserves as on 01.04.2023	Insitu Reserves estimated as on 01.04.2019 was Nil. Insitu reserves of dump estimated was 120000 tonnes. As per annual return submitted for 2022-23, proved reserves of dump as on 01.04.2022 was 115,624 tonnes	Production from dump mining during 2022-23 was 3595 tones. The remaining reserves for dump mining as on 01.04.23 under is 112029 tones.	Nil
1f	General remarks of Inspecting officer on geology, exploration etc.	The exploration proposal of previous years have not been complied till the date of inspection. Further, the boreholes have not been drilled as per their proposed location shown in the approved Surface Geological plan. The deviation has been pointed to the lessee through violation letter.		

## 2. Development

S.N.	Item	Proposals	Actual Work	Remarks
2a	Location of Development w.r.t. lease area	Dump mining proposed from existing mineralized dump BD1 and BD2.	Dump mining carried out from existing mineralized dump BD1 and BD2.	Nil
2b	Separate benches in topsoil overburden and mineral (Rule 15)	Not Proposed	Nil	Only dump mining carried out as per proposal
2c	Stripping ratio or ore to OB ratio	Not Proposed	Nil	Only dump mining carried out as per proposal

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2d	Quantity of topsoil generation in m <sup>3</sup>	Not Proposed	Nil	Only dump mining carried out as per proposal
2e	Quantity of overburden generation in m <sup>3</sup>	Not Proposed	Nil	Only dump mining carried out as per proposal
2f	General remarks of Inspecting officer on development of pit w.r.t type of deposit etc.	Dump Mining carried out as proposed.		

**3. Exploitation FY 2022-23**

S. N.	Item	Proposals	Actual Work	Remarks
3a	Number of pits proposed for production	Not Proposed	Nil	Only dump mining carried out as per proposal
3b	Quantity of ROM mineral production proposed	Proposed Production from Mineral reject dumps: 3600 tonnes	Actual Production from Mineral reject dumps: 3595 tonnes	Nil
3c	Recovery of Salable/usable minerals from ROM production	3600 tones	3595 tonnes	Nil
3d	Quantity of mineral reject generation	20400 tones	Not reported in Annual return	The deviation has been pointed to the lessee through violation letter.
3e	Grade of mineral reject generation and threshold value declared	10-15% Mn	Not Reported in Annual return	The deviation has been pointed to the lessee through violation letter.
3f	Quantity of sub-grade mineral generation	20400 tones	Not Reported in Annual return	The deviation has been pointed to the lessee through violation letter.
3g	Grade of sub-grade mineral generation	10-15% Mn	Not Reported in Annual return	The deviation has been pointed to the lessee through violation letter.
3h	Manual/Mechanized method adopted for segregation from ROM	Semi-Mechanized	Semi-Mechanized	Nil
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	Not Proposed	Nil	Nil
3j	Provision of drilling & blasting in mineral benches	Not Proposed	Nil	Nil
3k	Provision of mining machineries in mineral benches	Yes	Yes	Nil
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Not Proposed	Nil	Only dump mining is proposed and carried out.
3m	Total area covered under	Only dump mining is	Only dump mining is carried	Nil

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	excavation /pits (Ha.)	proposed.	out	
3n	Ore to OB ratio for the pit/mine during the year	Not Proposed	Nil	Only dump mining is proposed and carried out.
3o	Total area put in use under different heads at the end of year	Total area put in use under different heads at the end of the plan period 2024-25 is 27.985 Ha	Total area put in use under different heads at the end of 2022-23 is 26.683 Ha	Nil
3p	Production of ROM mineral during last five-years period, as Applicable	2018-19 – 1000 Tonnes 2019-20 – 1000 Tonnes 2020-21 - 3600 Tonnes 2021-22 - 3600 Tonnes 2022-23 - 3600 Tonnes	2018-19 - 800 Tonnes 2019-20 - 800 Tonnes 2020-21 - 776 Tonnes 2021-22 - 2800 Tonnes 2022-23 - 3595 Tonnes	Nil
3q	General remarks of inspecting officer on method of mining etc.	The quantity of mineral reject generation has not been reported in the annual return submitted for 2022-23. The deviation has been pointed to the lessee through violation letter.		

#### **4. Solid Waste Management-Dumping**

S.N.	Item	Proposals	Actual Work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32,33)	There was no proposal for top soil and OB generation. The mineral reject generated from dump mining will be stacked separately in mineral reject area demarcated in surface plan.	There was no generation of top soil and OB. The mineral reject generated from dump mining has been stacked in an area demarcated for mineral reject stacking.	Nil
4b	Location of topsoil, OB & mineral reject dumps	There was no proposal for top soil and OB generation. Mineral Reject stacking was proposed between the coordinates: L1900 to L2080 and L(-) 160 to L(-) 40.	There was no generation of top soil and OB. Mineral Reject was stacked between the coordinates: N2397180 to N2397220 and E367650 to E367690 which is within the area demarcated for mineral reject stacking.	Nil
4c	Number of Dumps within lease area and outside lease area	Two waste dumps within the lease area as shown in Surface Plan	Four number of waste dumps are present within the lease area. Waste dump-2 (between the coordinates N2397732 to N2397810, E367825 to E367907) and waste dump-4 (between the coordinates N2397125 to N2397250, E367731 to E367817) have been created in previous years which was not in the proposal.	The deviation has been pointed to the lessee through violation letter.
4d	Location of Dumps w.r.t. ultimate pit limit (Rule 16)	Not proposed	Nil	Only dump mining is proposed and carried out.
4e	Number of Active & Alive dumps	Two waste dumps within the lease area as shown in Surface Plan	Four number of waste dumps are present within the lease area	Nil

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4f	Number of dead dumps	Not Proposed	Nil	Nil
4g	Number of dumps established	Not Proposed	Nil	Nil
4h	Whether Retaining wall or garland drain all along dumps are there	Garland drain present all along the dump	Garland drain present all along the dump	Nil
4i	Length of Retaining wall or garland drain all along dump	Not Proposed	Nil	Nil
4j	Number of settling ponds	Not Proposed	Nil	Nil
4k	Specific comments of inspecting officer on waste dump management	Waste dump-2 (between the coordinates N2397732 to N2397810, E367825 to E367907) and waste dump-4 (between the coordinates N2397125 to N2397250, E367731 to E367817) have been created in previous years which was not in the proposal. The deviation has been pointed to the lessee through violation letter.		

### **5. Solid Waste Management-Backfilling**

S.N.	Item	Proposals	Actual Work	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	Not Proposed	Nil	Nil
5b	Area under backfilling of mined out area	Not Proposed	Nil	Nil
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	Not Proposed	Nil	Nil
5d	Total area fully reclaimed & rehabilitated (Ha)	Not Proposed	Nil	Nil
5e	General remarks of inspecting officer on backfilling, reclamation etc	There was no proposal for backfilling.		

### **6. Progressive Mine Closer Plan**

S.N.	Item	Proposals	Actual Work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly-Rule 23E(2). Details should be given in the format as given in Annexure-20	The holder of a mining lease shall submit to the competent authority a yearly report as per the format specified by the Indian Bureau of Mines, before 1st day of July report every year	The annual return on PMCP has been submitted timely.	Nil
6b	Area available for rehabilitation (Ha)	Not Proposed	Nil	Nil
6c	Afforestation done (ha)	Not Specified	Nil	Nil
6d	No. of saplings planted during the year	100 saplings	During the year 2022-23, no plantation was done. However, in the PMCP return it is reported that 50 nos of saplings have been planted and area under plantation is 9.09 Ha.	The deviation has been pointed to the lessee through violation letter.
6e	Cumulative no. of plants	Not Proposed	200 Nos	Nil

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6f	Any other specific method of rehabilitation	Not Proposed	Nil	Nil
6g	Cost incurred on watch & care during the year	Not Proposed	Nil	Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L X B X D).	Not Proposed	Nil	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Void filled by waste/tailings.	Not Proposed	Nil	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on the backfilled area.	Not Proposed	Nil	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir.	Not Proposed	Nil	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v) Any other specific means	Not Proposed	Nil	Nil
6m	Compliance of Rehabilitation of waste land within lease (i) Afforestation	Not Proposed	Nil	Nil
6n	Compliance of Rehabilitation of waste land within lease (ii) Area rehabilitated (ha) Method of rehabilitation	Not Proposed	Nil	Nil
6o	Compliance of Rehabilitation of waste land within lease (iii) Method of rehabilitation	Not Proposed	Nil	Nil
6p	Compliance of Environment monitoring (core zone & buffer zone)	Within Permissible limits	Within Permissible limits	Nil
6q	General remarks of inspecting officer on PMCP compliance & progressive closer operations	The proposed plantation was not carried out and information furnished in PMCP return is incorrect. The deviation has been pointed to the lessee through violation letter.		

### 7. Mineral Conservation

S.N.	Item	Proposals	Actual Work	Remarks
7a	ROM mineral dispatch or grade wise sorting within lease area	Grade-wise sorting	Grade-wise sorting	Nil
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Semi-mechanized	Semi-mechanized	Nil
7c	Different grade of mineral sort out at mine	Not Specified	25% to Below 35% Mn	Nil
7d	Any beneficiation process at mines	Not Proposed	Nil	Nil
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	Grade wise sorting carried out as proposed.		

### 8. Environment

S.N.	Item	Proposals	Actual Work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Not Proposed	Nil	Nil
8b	Concurrent use or storage of topsoil	Not Proposed	Nil	Nil
8c	Separate dumps for overburden waste rock, rejects and fines (Rule 33)	The mineral reject generated from	The mineral reject generated from	Nil

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		dump mining will be stacked separately in mineral reject area demarcated in surface plan.	dump mining has been stacked in an area demarcated for mineral reject stacking.	
8d	Use of overburden, waste rock, rejects and fines dump for restoring the land to its original use	Not Proposed	Nil	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not Proposed	Nil	Nil
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	Not Proposed	Nil	Nil
8g	Survival rate	Not Proposed	Nil	Nil
8h	Water sprinkling on roads to control airborne dust	Proposed	Carried out	Nil
8i	General remarks of inspecting officer on aesthetic beauty in and around mine area	Aesthetic beauty in and around mines is maintained.		

### 9. Compliance of Rule 45 (2022-23)

S.N.	Item	Comments	Remarks
9a	Status of submission of monthly and Annual returns	Annual Return for 2022-23 have been submitted on 30.06.2023 and monthly return for June'23 have been submitted by 09.07.2023.	Nil
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer, Geologist and Manager have been employed in the mines.	Nil
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Used for waste disposal: 12.75 ha; Occupied by plant, buildings, residential, welfare buildings and roads: 0.621 etc.	Nil
9d	Scrutiny of Annual return on afforestation	Nil	Nil
9e	Scrutiny of Annual return on mineral reject generation (Grade & Quantity)	Mineral reject generated has not been reported in annual return submitted.	The deviation has been pointed to the lessee through violation letter.
9f	Scrutiny of Annual return on ROM stock and/or grade ore	Closing stock of graded ore 1202.60 tonnes	Nil
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production costs	The ex-mine price for cement-grade limestone is Rs 7100.2/tonne. Sale value reported is incorrect.	The deviation has been pointed to the lessee through violation letter.
9i	Scrutiny of Annual return on Fixed assets	Value of Fixed Assets furnished is Nil. Neither this information is furnished as combined information in another mine's return as its Mine Code is also not specified.	The deviation has been pointed to the lessee through violation letter.
9k	Scrutiny of Annual return on mining Machineries	Shovel (Hydraulic)- 1no; tipper: 2no	Nil

Details of violations observed during current inspection and compliance position of earlier violation pointed out:-

Compliance position of earlier violation pointed out	
Date of last Inspection	07.02.2020
Type of Inspection	Review of Mining Plan
Inspection Officer	Shri Naresh Kumar Katariya, DCOM
Violations Pointed Out	Violations for rule 11(1), 11(4), 26(2), 35(2), 33, 45(5), 55(1) was issued on 18.03.20220 and complied on 22.07.2020



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<b>Violations pointed out during Current Inspection</b>	
Date of Current Inspection	19.07.2023
Type of Inspection	MCDR Inspection
Inspection Officer	Shri Sudip Ranjan Mazumdar, SMG
Violations Pointed Out	Violations for rule 11(1), 12(4), 14(2), 14(4), 26(2) and 45(7) issued on 28.07.2023

(Sudip Ranjan Mazumdar)  
Senior Mining Geologist