

INDIAN BUREAU OF MINES
MINERALS DEVELOPMENT AND REGULATION DIVISION
MCDR Inspection REPORT
Jabalpur Regional office

Mine code: 40MPR01017

(i)	Name of Inspecting officer	:	Shri Sudip Ranjan Mazumdar
(ii)	Designation	:	Regional Mining Geologist
(iii)	Accompanying mine official with Designation	:	Shri Rajesh Bhattacharya, Jt. G.M.
(iv)	Date of Inspection	:	02/10/2024
(v)	Previous Inspection date	:	10/06/2023

PART-I: GENERAL INFORMATION

1	(a)	Mine Name	:	TIRODI MINE
	(b)	Registration Number	:	IBM/5711/40MPR01017
	(c)	Category	:	Category A
	(d)	Type of Working	:	Opencast
	(e)	Postal address	:	
		State	:	Madhya Pradesh
		District	:	Balaghat
		Village	:	Tirodi
		Taluka	:	Tirodi
		Post Office	:	Tirodi
		Pin code	:	481449
		Fax	:	NA
		email	:	moilindia_ngp@sancharnet.in
		Phone No	:	7410084445
	(f)	Police Station	:	Tirodi
	(g)	First Opening date	:	NA
	(h)	Weekly day of rest	:	Sunday
2	Address for Correspondence		:	
3	(a)	Lease Area	:	254.593 Ha
	(b)	Period of lease	:	70 Years
	(c)	Date of Expiry	:	30.06.2032
4	Mineral Worked (Main)		:	Manganese
5	Name of address of the Lessee with Phone, email and fax number		:	M/s MOIL LIMITED, (A Government of India Enterprise) MOIL Bhawan, 1A, Katol Road, Nagpur-440013 Email: moilindia_ngp@sancharnet.in Telephone: 0712-2590775, Fax: 0712-2592073
	Name and address of the Owner/Nominated Owner with 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: mma@moil.nic.in Date of Appointment: 10/01/2022

	Name and address of the Agent with 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: rajesh_rajikhushi@rediffmail.com Date of Appointment: 26/10/2021
	Name of address of the Manager with Phone, email, fax number and Date of appointment :	Shri Manish Madhav Dhoke, Mine Manager, MOIL LIMITED, Tirodi Mine, District – Balaghat (M.P.) 481449 Phone: 9424664731 Fax: NA Email: mm.td@moil.nic.in Date of Appointment: 30.01.2024
	Mining Engineer Name Qualification Date of Appointment :	Shri Nishad Nikose, B.Tech. (Mining) Date of Appointment – 01/05/2022
	Geologist Name Qualification, Date of Appointment :	Smt. Akanksha Sahu Qualification: M.Sc. (Geology) Date of Appointment – 01.07.2023
6	Date of approval of Mining Plan/Review of Mining Plan etc. :	Modification of Mining Plan approved vide letter no MP/Balaghat/Manganese/RMP-79/2021-22 Jabalpur dated 11/03/2022 for the proposal period 2022-23 to 2026-27

PART III-MCDR Report details.

1. **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.No	Item	Proposals	Actual Work	Remarks
1a	Backlog of previous year	2022-23: 30 Nos	2022-23: 35 Nos	Nil
1b	Exploration over lease area for Geological axis 1 or 2.	Not Proposed	Nil	Nil
1c	Exploration Agency & Expenditure in Lakh Rupees during the year	Not Proposed	Nil	Nil
1d	Balance area to be explored to bring the Geological axis in 1 or 2.	Not Specified	Balance area to be proved under G1 is 218.78 Ha	Nil
1e	Balance reserves as on 01.04.2024	At the beginning of the year 01.04.2023, reserve was 798,964.00 tones	Production from pit mining during 2023-24 was 26766 tones. The remaining Reserves estimated as on 31.03.2024 is 772,198.00 tones	Data as per annual return 2023-24
1f	General remarks of Inspecting officer on geology, exploration etc.	There is no backlog in exploration proposal.		

Development

S.No	Item	Proposals	Actual Work	Remarks
2a	Location of Development w.r.t. lease area	Proposal in Pit No. 6C, 7, 8, 9 and in mineralized dump ND-02, ND-03, ND-04 ND-05 and in South Dump	Development carried out as per proposal	Nil

2b	Separate benches in topsoil overburden and mineral (Rule 15)	Separate benches in overburden and mineral proposed	Separate benches in overburden and mineral maintained	Nil
2c	Stripping ratio or ore to OB ratio	1:5	1:5	Nil
2d	Quantity of topsoil generation in m ³	Not Proposed	Nil	Nil
2e	Quantity of overburden generation in m ³	405520 cum	146564 cum	The deviation has been reviewed in the Modification of Mining Plan approved dated 07/02/2025 for the proposal period 2024-25 to 2026-27
2f	General remarks of Inspecting officer on development of pit w.r.t type of deposit etc.	Insitu and Dump Mining carried out as proposed.		

Exploitation FY 2022-23

S. No	Item	Proposals	Actual Work	Remarks
3a	Number of pits proposed for production	04 nos	03 nos	Nil
3b	Quantity of ROM mineral production proposed	109000 tones	109000 tones	Nil
3c	Recovery of Salable/usable minerals from ROM production	109000 tones	109000 tones	Nil
3d	Quantity of mineral reject generation	Not Proposed	Nil	Nil
3e	Grade of mineral reject generation and threshold value declared	Not Proposed	Nil	Nil
3f	Quantity of sub-grade mineral generation	Not Proposed	Nil	Nil
3g	Grade of sub-grade mineral generation	Not Proposed	Nil	Nil
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	Yes	Yes	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	Yes	Maintained as per proposal	Nil
3m	Total area covered under excavation /pits (Ha.)	75.658 Ha	30.96 Ha	Nil
3n	Ore to OB ratio for the pit/mine during the year	1:5	1:5	Nil
3o	Total area put in use under different heads at the end of year	168.468 Ha	150.70 Ha	Nil

3p	Production of ROM mineral during last five-years period, as Applicable	2022-23 -109000 Tonnes 2023-24 -109000 Tonnes	2022-23 - 108911 Tonnes 2023-24 – 109000 Tonnes	Nil
3q	General remarks of inspecting officer on method of mining etc.	Insitu and Dump Mining carried out as proposed.		

Solid Waste Management-Dumping

S.No	Item	Proposals	Actual Work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32,33)	There was no proposal for top soil and mineral reject generation. The OB generated from pit mining will be stacked separately in earmarked area demarcated in surface plan.	There was no generation of top soil and mineral reject. The OB generated from Pit mining has been stacked in an area demarcated for OB.	Nil
4b	Location of topsoil, OB & mineral reject dumps	There was no proposal for top soil and mineral reject generation. The OB generated from pit mining will be stacked separately in earmarked area demarcated in surface plan.	There was no generation of top soil and mineral reject. The OB generated from Pit mining has been stacked in an area demarcated for OB.	Nil
4c	Number of Dumps within lease area and outside lease area	16 nos	16 nos	Nil
4d	Location of Dumps w.r.t. ultimate pit limit (Rule 16)	Outside UPL	Outside UPL	Nil
4e	Number of Active & Alive dumps	16 nos	16 nos	Nil
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	100 Meter Proposed	More than 100 Meter present around the dump	Nil
4j	Number of settling ponds	Not Proposed	Nil	Nil
4k	Specific comments of inspecting officer on waste dump management	There was no generation of top soil and mineral reject. The OB generated from Pit mining has been stacked in an area demarcated for OB.		

Solid Waste Management-Backfilling

S.No	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.
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Progressive Mine Closer Plan

S.No	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	2500 saplings	5000 saplings	Nil
6e	Cumulative no. of plants	Not Proposed	365916 Nos	Nil
6f	Any other specific method of rehabilitation	Not Proposed	Nil	Nil
6g	Cost incurred on watch & care during the year	270/- per plant	310/- per plant	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)	Proposed	Carried out	Nil
6q	General remarks of inspecting officer on PMCP compliance & progressive closer operations	PMCP has been submitted timely.		

Mineral Conservation

S.No	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	Below 25 % Mn, 25% to Below 35% Mn and 35 % to below 46% 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.		

Environment

S.No	Item	Proposals	Actual Work	Remarks
8a	Separate removal and utilization of topsoil (Rule32)	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)	Separate dumps for Mineral Reject is not in proposal. But for OB waste rock separate dump has been proposed.	As per proposal separate dumps for OB waste Rock.	Nil
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.		

Compliance of Rule 45 (2023-24)

S.N.	Item	Comments	Remarks
9a	Status of submission of monthly and Annual returns	Annual Return for 2023-24 have been submitted	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.	Already exploited and abandoned by opencast (O-C) mining: 19.72 Ha; Covered under current (O-C) Workings: 30.96 Ha; Used for waste disposal: 29.32 Ha; Occupied by plant, buildings, residential, welfare buildings and roads: 32.99 Ha; Work done under progressive mine closure plan during the year: 0.00 Ha. Any other purpose (Mineral Storage): 36.86 Ha	Nil
9d	Scrutiny of Annual return on afforestation	5000 nos of saplings planted	Nil
9e	Scrutiny of Annual return on mineral reject generation (Grade & Quantity)	Not in proposal	Nil

9f	Scrutiny of Annual return on ROM stock and/or grade ore	Closing stock of graded ore 20001.68 tonnes (<25% Mn), 29259.90 tonnes (25 to 35% Mn) as on 01.04.2024	Nil
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production costs	The ex-mine price: <25% Mn – Rs. 2426.68 25 to <35% Mn – Rs. 6023.78 35 to < 46 % Mn – Rs. 11688.23	Nil
9i	Scrutiny of Annual return on Fixed assets	Value of Fixed Assets furnished is Rs. 488909972.00/-.	Nil
9k	Scrutiny of Annual return on mining Machineries	Dumper 10 Nos., Shovel 5 Nos etc.	Nil

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

Violation observed		Show cause position	
Rule NO.	Issued on Compliance on	Rule NO.	Issued on Compliance on
Nil			

Date:

(SUDIP RANJAN MAZUMDAR)
Indian Bureau of Mines