

MCDR INSPECTION REPORT

Name of the Mine: Thakurani Iron Ore Mine, of M/s ArcelorMittal India Pvt.Ltd
30ORI08121

Name of the Inspecting Officer : Shri B L Gurjar, RCOM &
Shri Sanjay Kumar Mahapatra, AME

Name of the accompanying official: Sri Sharanappa Kambalii, Agent & Sri Promod
Kumar Mishra, Mines Manager

Date of Inspection: 21.06.2023.

S. N.	Particulars	Details
1	Name of the Mine	Thakurani Iron Ore Mine
2	Total Lease Area (Ha) with breakup of Non-forest and forest land	Total Lease area =228.744 Hectares Forest Area= 228.744 Hectares, Non- Forest Area= Nil
3	Mine code	30ORI08121
4	IBM Registration Number under rule 45 of MCDR, 1988	IBM/23053/2020
5	Name of the lessee, Address, phone, email and fax number	M/s ArcelorMittal India Pvt.Ltd Thakurani Iron Ore Mines At- Dalki, Po- Thakurani, P.S- Barbil , Dist- Keonjhar Odisha ,758035 Emial id :- Sharanappa.Kambalii@amns.in Phone=9302036382 Fax No-9437962975
6	Village	Dalki
7	Taluka/Mandal	Barbil
8	District	Keonjhar
9	Pin code	758035
10	State	Odisha
11	Post office	Thakurani
12	Nearest police station	Barbil
13	Nearest Railway station	Barbil
14	Date of Grant of Mining Lease	26.06.2020
15	Date of Execution	27.06.2020
16	Date of opening of Mine	01.07.2020
17	Date of first Renewal, if applicable and its period & expiry	
18	Date of second Renewal, if applicable and its period & expiry	
19	Date of submission of renewal application if Mining Operations are continuing under deemed extension	
20	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Mr. Dillip Oommen M/s ArcelorMittal India Pvt.Ltd (Lessee) Office No 126,101-104 GCP Business Centre Opposite Memnagar fire station Vijay Cross Road,Memnagar Ahmedabad, Gujarat Date of Appointment-

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- | | | |
|----|--|---|
| 21 | Name of the Mine Agent with Address, phone, email, fax number and date of appointment | 27.06.2020 (Since deed execution)
Sri Sharanappa Kambalii
Thakurani Iron Ore Mines
M/s ArcelorMittal India Pvt.Ltd
At- Dalki, Po- Thakurani,
P.S- Barbil , Dist- Keonjhar
Odisha ,758035
Date of Appointment:04.04.2023
Email Id :
Sharanappa.Kambalii@amns.in |
| 22 | Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines | Mr. Promod Kumar Mishra
Thakurani Iron Ore Mines
M/s ArcelorMittal India Pvt.Ltd
At- Dalki, Po- Thakurani,
P.S- Barbil , Dist- Keonjhar
Odisha ,758035
Mobile No=9437962975
Email id :-
promod.mishra@arcelormittal.com
Date of
Appointment:19.11.2021 |
| 23 | Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine | Mr. Sujit Kumar Dash
B.E Mining Engineering with 14 years of experience
Thakurani Iron Ore Mines
M/s ArcelorMittal India Pvt.Ltd
At- Dalki, Po- Thakurani,
P.S- Barbil , Dist- Keonjhar
Odisha ,758035
Mobile No=8260872481
Date of Appointment:-
18.05.2020 |
| 24 | Name of the Geologist, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine | Mr. Sushanta Kumar Mahanta
M.Sc Geology with 12 years of experience
Thakurani Iron Ore Mines
M/s ArcelorMittal India Pvt.Ltd
At- Dalki, Po- Thakurani,
P.S- Barbil , Dist- Keonjhar
Odisha ,758035
Mobile No=9090453527
Date of Appointment:-
01.03.2022 |
| 25 | Whether Geologist and Mining Engineer appointed in mines satisfy the rule 55& carrying out their duties as per rule 56 & 57. | Mr. Sushanta Kumar Mahanta(Geologist)
Date of Appointment=
01.03.2022 |
| 26 | Date of Approval of Mining Plan/Modified Mining Plan with five-year period and specific condition in approval letter, if any. | 1) Mining Plan Approved Letter No MP/A/25-ORI/BHU/2020-21 dated 19.11.2020 (Plan period 2020-21 to 2024-25).
Specification Condition- Nil |
| 27 | Mineral(s) granted in lease and proved for mining | Iron Ore |

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28	Method of Mining(Open cast, Underground)	Open cast
29	Category (Fully Mechanised, Others or Manual)	Fully Mechanized
30	Captive/Non Captive	Captive

Exploration

S.N.	Item	Proposals for, 2022-23	Actual work during 2022-23	Remark
1a	Backlog of previous year	40	112	
1b	Exploration over lease area for Geological axis 1 or 2.	1	1	
1c	Exploration Agency & Expenditure in lakh Rupees during the year	South West Pinnacle & Mining Associate Pvt. Ltd. 40 no of hole proposed	South West Pinnacle & Mining Associate Pvt. Ltd. 1733 lakh	
1d	Balance area to be explored to bring Geological axis in 1 or 2	1		
1e	Balance reserves as per latest approved document		82.83 Million Tonne	
1f	General remarks of inspecting officer on geology, exploration etc.	More bore holes (Core drilling) carried than proposed.		

Development

S.N	Item	Proposals for, 2022-23	Actual work during 2022-23	Remark
2a	Location of development w.r.t. lease area	2445770N-2446910N 338342E - 338785E	2445852N-2446760N 338350E - 338775E & 2445850 -2446550 N 338600-338900E	Mine working is being carried at 2445850 - 2446550 N 338600-338900E Without approved proposal . Violation issued on 28.06.2023
2b	Separate benches in topsoil, overburden	NIL	NIL	

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	and mineral (Rule 15)		
2c	Stripping ratio or ore to OB ratio	1:0.3	1:0.17
2d	Quantity of topsoil generation in m3	20025	4764.7
2e	Quantity of overburden generation in m3	850000	856379
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc	<ol style="list-style-type: none"> 1. The mine is not developed systematically and bench parameters are not as per proposals and at many places (Quarry2) bench width is less than 12 meters as proposed and in some places it is less than 03 meters. It was observed that faces are not developed as per the proposal and selective mining has been carried. 2. The mine working is being carried at 2445850 -2446550 N 338600-338900E whereas no such approved proposal was there. 3. Bench sliding in some parts of the Quarry -02 is observed. This may cause further Slope failure during the raid rainy season. This defeats the purpose of systematic development of mineral deposits. 	

Violation letter was issued vide letter No : Violation letter was issued vide letter No : **MCDR-MiFLOFE/13/2022-BBS-IBM_RO_BBS** dated **28.06.2023** for above deficiencies.

EXPLOITATION

Sl No.	Item	Proposals for, 2022-23	Actual work during 2022-23	Remark
3a	Number of pits proposed for production	1	1	It was observed that faces are not developed as per the proposal and selective mining has been carried.
3b	Quantity of ROM mineral production proposed	7999000	4764600	
3c	Recovery of salable/usable mineral from ROM production	7401000	4510390	
3d	Quantity of mineral reject generation	598000	254210	
3e	Grade of mineral reject generation and threshold value declared	45 to 55% Fe	45 to 55% Fe	
3f	Quantity of sub-grade mineral generation	598000	254210	
3g	Grade of sub-grade mineral generation	45 to 55% Fe	45 to 55% Fe	
3h	Manual / Mechanised	Mechanised	Mechanised	

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	method adopted for segregating from ROM		
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	NIL	NIL
3j	Provision of drilling & blasting in mineral benches	Deep Hole Blasting	Deep Hole Blasting
3k	Provision of mining machineries in mineral benches	Shovel Dumper Combination	As per Proposal
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes	Yes
3m	Total area covered under excavation/pits	89.15	73.648
3n	Ore to OB ratio for the pit/mine during the year	1:0.3	1:0.17
3o	Total area put in use under different heads at the end of year	Mining-89.15Ha Mineral Storage-6.29ha OB Dump-13.19ha Infrastructure-4.05ha	Mining-87.6ha Mineral Storage-3.57ha OB Dump-13.06ha Infrastructure-3.61ha Total-108ha
3p	Production of ROM mineral during last six-year period, as applicable		
	2019-20 -NA		
	2020-21 -	5500000MT	4124810MT
	2021-22 -	5500000MT	5499765MT
	2022-23 -	7999000MT	4764600MT
3q	General remarks of inspecting officer on method of	<p>The mine is not developed systematically and bench parameters are not as per proposals and at many places (Quarry2) bench width is less than 12 meters as proposed and in some places it is less than 03 meters. It was observed that faces are not developed as per the proposal and selective mining has been carried. The mine working is being carried at 2445850 -2446550 N 338600-338900E whereas no such approved proposal was there. New OB dump created in the northern part of the Quarry -1 without any proposal.</p> <p>Violation letter was issued vide letter No : Violation letter was issued vide letter No :</p>	

Solid Waste management-Dumping

S.N	Item	Proposals for, 2022-23	Actual work during 2022-23	Remark
4a	Separate dumping of topsoil, OB & mineral reject (Rule 33, 37)	Separate dumping of topsoil, OB & mineral reject has been proposed	As per the proposal, separate dumping of topsoil, OB & mineral reject has been carried out	
4b	Location of topsoil, OB & mineral reject dumps	OB Dump No-5 2446594-2446887N 338269-338432E Top RL-795 m Mineral Reject 2445298-2445696N 337647-337970E Top RL-610 m Topsoil 2445956 N-2446022 N 338647 E-338743 E	OB Dump No-5 2446620- 2446881N 338273-338425E Top RL-795 m Mineral Reject 2445303- 2445689N 337651-337965E Top RL-610 m Topsoil 2445960-2446020 N 338650 E -338739 E New Dump 2446450- 2446650N to 338700-338850E,	New OB dump created in the northern part of the Quarry -1 without any proposal
4c	Number of dumps within lease area and outside lease area	Within lease 2022-23: OB Dump: 3nos Subgrade/MR stack: 1nos Outside lease 2022-23: No OB Dump	Within lease 2022-23: OB Dump: 3nos Subgrade/MR stack:1nos Temporary waste dump-2 nos. Outside lease 2022-23: No OB Dump	
4d	Location of dumps w.r.t. ultimate pit limit	Dump No-5 2446594-2446887N 338269-338432E Top RL-795 m	Dump No-5 2446620- 2446881N 338273-338425E Top RL-795 m	
4e	Number of active & alive dumps	In FY-2022-23: 1	2	

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4f	Number of dead dumps	2	2	
4g	Number of dumps stabilized	2	2	
4h	Whether Retaining wall or garland drain all along dumps are there	580m	02 numbers of inactive waste dump has been stabilized by proper terracing coir matting followed by plantation of native grass and saplings.	Retaining wall or garland drain all along dumps has not been constructed as proposed.
4i	Length of Retaining wall or garland drain all along dump	RT Wall- 580 m Garland Drain- 580m	RT Wall -384m Garland Drain-280m	Retaining wall or garland drain all along dumps has not been constructed as proposed.
4j	Number of settling ponds	01	01	
4k	Specific comments of inspecting officer on waste dump management	<p>1. New OB dump created in the northern part of the Quarry -1 without any proposal</p> <p>2. Retaining wall or garland drain all along dumps has not been constructed as proposed.</p> <p>Violation letter was issued vide letter No : Violation letter was issued vide letter No : MCDR-MiFLOFE/13/2022-BBS-IBM_RO_BBS dated 28.06.2023 for above deficiencies.</p>		

Solid Waste management-Backfilling

S.N	Item	Proposals for, 2022-23	Actual work during 2022-23	Remark
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	Not proposed	Not Applicable	
5b	Area under backfilling of mined out area	Not proposed	Not Applicable	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 36)	Proposed for plantation	Utilized for Plantation purpose and remaining stockpiled at top soil stock	It was proposed to generate 20025 CUM Top soil whereas only 4764 CUM of top soil generated. Further, the

generated Top soil has not been stacked properly.

5d	Total area fully reclaimed & rehabilitated	NA	Nil
5e	General remarks of inspecting officer on backfilling, reclamation etc	The generated Top soil has not been stacked properly thus violation letter was issued vide letter No : MCDR-MiFLOFE/13/2022-BBS-IBM_RO_BBS dated 28.06.2023 for above deficiencies	

Progressive Mine Closure Plan

N.	Item	Proposals for, 2022-23	Actual work during 2022-23	Remark
6a	Whether Annual report on PMCP submitted on time and correctly - Rule 26(2).	Not due on the day of inspection. However it is already submitted before 30 th June,2023		
6b	Management of worked/mined out benches			
	i) Area available for rehabilitation (ha)	1.00 Ha	NA	
	ii) Afforestation done (ha)	2.05 ha	2.15Ha	
	iii) No. of saplings planted during the year	4500	8400	
	iv) Cumulative no. of plants	NA	121025	
	v) Any other specific method of rehabilitation	NA	NA	
	vi) Cost incurred on watch & care during the year			
6c	Compliance on reclamation and rehabilitation by backfilling	Not Proposed	Not applicable	
	i) Voids available for backfilling (L X B X D)			
	ii) Void filled by waste/tailings			
	iii) Afforestation on the backfilled area			
	iv) Rehabilitation by making water reservoir			
	v) Any other specific means			
6d	Compliance of Rehabilitation of waste land within lease	Not Proposed	Not applicable	
	i) Afforestation			
	ii) Area rehabilitated (ha)			
	iii) Method of rehabilitation			
6e	Compliance of Environmental monitoring (core zone & buffer zone)	Ambient Air Quality, Water Quality, Soil	Environmental monitoring being carried.	Environmenta l monitoring being carried

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6f	General remarks of inspecting officer on PMCP compliance & progressive closure operations	Quality, Water Level Monitoring has been been proposed in core zone. Environmental monitoring being carried. All parameters are within limit.
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Mineral Conservation

S.N.	Item	Proposals for, 2022-23	Actual work during 2022-23	Remark
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade-wise sorting for +55% Fe and 45 to 55% Fe has been proposed.	Grade-wise sorting for +55% Fe and 45 to 55% Fe has been carried out as per the proposal	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Mechanical	Mechanical	
7c	Different grade of mineral sorted out at mines	Grade-wise sorting for +55% Fe and 45 to 55% Fe has been proposed.	Grade-wise sorting for +55% Fe and 45 to 55% Fe has been carried out as per the proposal	
7d	Any beneficiation process at mines	Dry beneficiation by using crusher and screen plant	Ore processing by Crushing & screening plants	5 nos of Screen plant & 1 Crushing unit are in working condition
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	5 nos of Screen plant & 1 Crushing unit were found to be in working condition during the inspection.		

Environment

S.N.	Item	Proposals for, 2022-23	Actual work during 2022-23	Remark
8a	Separate removal and utilization of topsoil (Rule 36)	Separate removal of topsoil has been proposed for utilization during plantation	Separate removal of topsoil has been done for plantation.	The generated Top soil has not been stacked properly
8b	Concurrent use or storage of topsoil	Concurrent use or storage of topsoil has been proposed	Concurrent use and storage of topsoil has been carried	

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8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 37)	Separate dumps for overburden, waste rock, rejects and fines has been proposed	Separate dumps for overburden, waste rock, rejects and fines has been carried out .	OB dumping is also not as per proposal. It was proposed for dumping in two dumps but actual dumping is being carried n 4 dumps.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not Proposed	Not applicable	Not Proposed
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not Proposed	Not applicable	Not Proposed
8f	Baseline information on existence of plantation & additional Plantation done	Proposed	Carried out as per the proposal	
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on roads to control airborne dust has been proposed	Water sprinkling by means of fixed sprinkler & mobile water tanker are in place to control airborne dust.	Water sprinkling on roads to control airborne dust has been observed during inspection.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	The generated Top soil has not been stacked properly 1. OB dumping is also not as per proposal . 2. It was proposed for dumping in two dumps but actual dumping is being carried n 4 dumps, thus violation letter was issued vide letter No : MCDR-MiFLOFE/13/2022-BBS-IBM_RO_BBS dated 28.06.2023 for above deficiencies.		

Compliance of Rule 45

S.N.	Item	COMMENTS
9a	Status of submission of Monthly and Annual returns	M.R. Submitted up to May 2023 in time. A.R. for 2022-23 was not due for submission on date of inspection. Hence no scrutiny carried during inspection.

10. Drone Survey Information and data thereof.

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Drone data submitted in the on-line portal. To be scrutinized after 07.07.2023 after activation for downloading of the submitted drone data.

Rule	Nature of Violation observed																	
11(1)	<p>Mining operations are not being undertaken in accordance with the Mining Plan/ Review of Mining Plan. The Mining Plan was approved vide letter no.MP/A/25-ORI/BHU/2020-21 dated 29.11.2020 and following deviation was observed during inspection</p> <p>The mine is not developed systematically and bench parameters are not as per proposals and at many places (Quarry2) bench width is less than 12 meters as proposed and in some places it is less than 03 meters. It was observed that faces are not developed as per the proposal and selective mining has been carried. New OB dump created in the northern part of the Quarry -1 without any proposal. The mine working is being carried at 2445850 -2446550 N 338600-338900E whereas no such approved proposal for the year 2023-24. The OB dumping is also not as per proposal and proposal is given in for dumping in two dumps but actual dumping is done in 4 dumps. The details given below:</p> <table border="1" data-bbox="320 891 1388 1301"> <thead> <tr> <th data-bbox="328 891 708 920">Proposal of waste Dumping</th> <th data-bbox="724 891 1380 920">Actual Dumping done</th> </tr> </thead> <tbody> <tr> <td data-bbox="328 972 708 1256"> Dump No-3 2445395-2445580N 338140- 338320 E, Dump No-5 2446594-2446887N 338269-338432E Top RL-795 m </td> <td data-bbox="724 972 1380 1256"> Dump No-3 2445395-2445580 N 338140- 338320 E, New Dump 2446450-2446650N to 338700-338850E, Dump No-5 2446620-2446881N to 338273-338425E, </td> </tr> </tbody> </table> <p>During the mine visit it was observed that the proposed environment protection measures not done as mentioned below:</p> <table border="1" data-bbox="320 1429 1388 1697"> <thead> <tr> <th data-bbox="328 1429 520 1458">Year</th> <th data-bbox="536 1429 922 1458">Garland drain</th> <th data-bbox="938 1429 1380 1458">Retaining wall</th> </tr> <tr> <td data-bbox="328 1469 520 1525"></td> <td data-bbox="536 1469 922 1525">L x W x H ,m</td> <td data-bbox="938 1469 1380 1525">L x W x H ,m</td> </tr> </thead> <tbody> <tr> <td data-bbox="328 1536 520 1615">Proposal for 2022-23</td> <td data-bbox="536 1536 922 1615">580mx1.2mx1m</td> <td data-bbox="938 1536 1380 1615">580m x 1.5m x 1.5m</td> </tr> <tr> <td data-bbox="328 1626 520 1682">Actual</td> <td data-bbox="536 1626 922 1682">280 mx1.2mx1m</td> <td data-bbox="938 1626 1380 1682">384m x1.5mx1.5m</td> </tr> </tbody> </table>		Proposal of waste Dumping	Actual Dumping done	Dump No-3 2445395-2445580N 338140- 338320 E, Dump No-5 2446594-2446887N 338269-338432E Top RL-795 m	Dump No-3 2445395-2445580 N 338140- 338320 E, New Dump 2446450-2446650N to 338700-338850E, Dump No-5 2446620-2446881N to 338273-338425E,	Year	Garland drain	Retaining wall		L x W x H ,m	L x W x H ,m	Proposal for 2022-23	580mx1.2mx1m	580m x 1.5m x 1.5m	Actual	280 mx1.2mx1m	384m x1.5mx1.5m
Proposal of waste Dumping	Actual Dumping done																	
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Year	Garland drain	Retaining wall																
	L x W x H ,m	L x W x H ,m																
Proposal for 2022-23	580mx1.2mx1m	580m x 1.5m x 1.5m																
Actual	280 mx1.2mx1m	384m x1.5mx1.5m																
12(1)	<p>During inspection bench sliding in some parts of the Quarry -02 is observed. This may cause further Slope failure during the raid rainy season. This defeats the purpose of systematic development of mineral deposits. Further, adequate precautionary safety measures have not been taken for safety of man and material.</p>																	
36(3)	<p>It was proposed to generate 20025 CUM Top soil whereas only 4764 CUM of top soil generated. Further, the generated Top soil has not been stacked properly.</p>																	

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(B L GURJAR)
Regional Controller of Mines