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MCDR INSPECTION REPORT

General

S N	Particulars	Details
1	File no.	MCDR-MiFL0FE/25/2022-BBS-IBM_RO_BBS
2	Name of the Inspecting Officer	Shri Vikram Prakash Deshpande, ACOM
3	Name of the Mine	Taldih Iron Mine
4	Total Lease Area (Ha) with breakup of Non-forest and forest land	Taldih Iron Mine part is having an area of 1173.484 Ha. (Forest Land=1099.876 Ha., Non Forest Land=73.608 Ha.) out of the total Lease area of amalgamated lease of(ML-130 & ML-162), i.e. 2564.323 Ha. (Forest land =2425.613 Ha., Non-forest land = 138.710 Ha.)
5	Mine code	30 ORI 13053
6	Date of Inspection	12.06.2024
7	Name of official accompanying inspection	Shri A. K. Tiwary, Mines Manager Shri T Nayak, Mining Engineer Shri M K Majhi, Mining Geologist
8	IBM Registration Number under rule 45 of MCDR, 1988	IBM/5662/2011
9	Name of the lessee, Address, phone, email and fax number	M/s. Steel Authority of India Ltd. Sri Atanu Bhowmick Director-in-charge Rourkela Steel Plant, SAIL Rourkela, 769011. Email: rsp.coc@gmail.com Fax: 0661-2511072
10	Village	Tensa
11	Taluka/Mandal	Koira
12	District	Sundargarh
13	Pincode	770042
14	State	Odisha
15	Post office	Tensa
16	Nearest police station	Lahunipara
17	Nearest Railway station	Barsua
18	Date of Grant of Mining Lease	06.01.1960
19	Date of Execution	Original Lease Deed : 06.01.1960 Supplementary Lease Deed : 13.11.2014 Amalgamated Supplementary Lease Deed : 30.03.2021
20	Date of opening of Mine	01.07.2016
21	Date of first Renewal, if applicable and its period & expiry	06.01.1990
22	Date of second Renewal, if applicable and its period & expiry	06.01.2010; Period 06.01.2010 to 05.01.2030
23	Date of submission of renewal application if Mining Operations are continuing under	N.A.

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	deemed extension		
24	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment		Shri Atanu Bhowmick Director-in-charge Rourkela Steel Plant, SAIL Rourkela, 769011. Email: rsp.coc@gmail.com Fax: 0661-2511072 DoA: 11.02.2022
25	Name of the Mine Agent with Address, phone, email, fax number and date of appointment		Sri T Patnaik, General Manager I/c, Barsua Iron Mine, SAIL, At/PO- Tensa, Dist. Sundargarh, Odisha-770042. e-mail: gmofficebim@gmail.com Dt. of Appt.: 01.08.2022 Mob: 8895502365
26	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines		Shri A. K. Tiwary Taldih Iron Mine, SAIL, At/PO- Tensa, Dist. Sundargarh, Odisha 770042. B.E. (Mining), Mob. No. +918986881191 DoA: 23.03.2023
27	Name of the Mining Engineer & Geologist, Qualification and total experience	Mining engineer Qualification Date of appointment Address phone/email	Shri T Nayak B. Tech. (Mining) At/PO- Tensa, Dist. Sundargarh, Odisha-770042 Mob: 8895503592 Email: tapan0596@sail.in Date of Appointment: 27.04.2021
		Geologist Qualification Date of appointment Address phone/email	Shri M K Majhi, M. Sc. Tech. in Applied Geology At/PO- Tensa, Dist. Sundargarh, Odisha-770042 Mob. No.- 8895503593 Email: majhi.manojkumar@sail.in Date of Appointment: 29.03.2021
28	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 42 & carrying out their duties as per rule 43 & 44.		Yes
29	Date of Approval of Review of Mining Plan/Modified Mining Plan with five-year period and specific condition in approval letter, if any.		01.04.2021 (Modification of Mining plan for 2021-22 to 2024-25)
30	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 2020-21 to 2024-25: 08.11.2019 Modification of Review of Mining Plan 2020-21 to 2024-25: 03.02.2021
31	Mineral(s) granted in lease and proved for mining		Iron Ore (Hematite)
32	Method of Mining(Opencast, Underground)		Opencast
33	Category (Fully Mechanized, Others or Manual)		Fully Mechanized
34	Captive/Non Captive		Captive

35	Environment Clearance grant date & limit of EC	F.No.J-11015/351/2006-IAII(M) Date of Approval-28.04.2023 Valid up to: 27.04.2053 Limit of EC-8.5 MT
36	CTO	No.19762/IND-I-CON-I(A) Date of Approval-14.12.2023 Valid up to: 31.03.2025 Limit of EC-2.5 MT

Exploration

S.N.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	NA	Nil	All the potentially, mineralized area has been explored under G-1 category
1b	Exploration over lease area for Geological axis 1 or 2.	NA	Nil	
1c	Exploration Agency & Expenditure in lakh Rupees during the year	NA	Nil	
1d	Balance area to be explored to bring Geological axis in 1 or 2	NA	Nil	
1e	Balance reserves as on 01.04.2024 (in MT)	As on 31.10.2020 111: 250.178 121: 78.084 211: 39.542 221: 19.520 Total: 387.324	As on 01.04.2024 111: 245.858 121: 78.036 211: 39.542 221: 19.520 Total: 382.956	
1f	General remarks of inspecting officer on geology, exploration etc.	M.L area exhibits 18 km long north-south trending ridge like hilly terrain. Banded Iron Formation is the host rock of the Iron ore deposits. Iron ore deposit strikes from N60ºE - S60ºW to N-S & N20ºW – S20ºE to E-W and dips 30^0 to 80^0 in western part and 10^0 to 50^0 in eastern part of the M.L area. The Mineralized zone has been explored in G1 level.		

Development

S.N	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t. lease area	**A Block:** 2423500N to 2423900N 309700 E to 309950 E **C Block:** 2423967N to 2424471N 309921E to 310292E	**A Block:** 2422986N to 2423361N 309398 E to 309707 E **C Block:** 2424129N to 2424608N 310071E to 310378E	Violation of Rule 11(1) of MCDR 2017 has been pointed out the lessee for not working as per proposed co-ordinates.
2b	Separate benches in topsoil, overburden and mineral (Rule 15)	Separate benches in overburden and mineral proposed.	Separate benches in overburden and mineral maintained.	**A Block:** Overburden-5 benches Mineral- 7 benches **C Block:**

				Overburden-3 benches Mineral- 5 benches
2c	Stripping ratio or ore to OB ratio (T/T)	1: 0.042	1: 0.380	No significant change. More intercalated waste encountered.
2d	Quantity of topsoil generation in m^3	30615	535.79	
2e	Quantity of overburden/waste generation in m^3	123060	515819.50	More intercalated waste encountered.
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	Taldih Mine is confined to two pit viz. A and C Blocks. Benches have height of 6m.		

Exploitation

S.N.	Item	Proposals	Actual work	Remarks
3a	Number of pits proposed for production	Two pits proposed for production	Production reported from two pits	2 (Block-A & C) Block-A:- 300X380X42m Block-C 250X560X30m
3b	Quantity of ROM production	2992862 T.	1351300 T.	Less production due to Less approved EC quantity.
3c	Recovery of salable/usable mineral from ROM production	100 %	100 %	
3d	Quantity of mineral reject generation	340490 M^3	58003.57 M^3	
3e	Grade of mineral reject generation and threshold value declared	Grade: Fe >45 to <57% Threshold: Fe 45%	Grade: Fe >45 to <57% Threshold: Fe 45%	
3f	Quantity of sub-grade mineral generation	340490 M^3	58003.57 M^3	
3g	Grade of sub-grade mineral generation	Grade: Fe >45 to <57%	Grade: Fe >45 to <57%	
3h	Manual / Mechanized method adopted for segregating from ROM	Mechanized proposed for segregating from ROM	Mechanized method for segregating from ROM	
		Physical and Chemical analysis	Physical and Chemical	Screening of subgrade

3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	proposed	analysis done	materials carried out in departmental laboratory. The +10mm lump recovery varying between 30 to 40% with a quality of 54 to 56% Fe.
3j	Provision of drilling & blasting in mineral benches	Drilling and blasting proposed in mineral benches.	Drilling and blasting carried out in mineral benches.	Blast hole diameter: 100mm Blasting is done by using ANFO and slurry explosives with NONEL. Burden: 2.5m Spacing: 3.5m
3k	Provision of mining machinery in mineral benches	Use of HEMMs is proposed in Mineral Benches.	Mechanized O/C mining is carried out with engaging HEMMs in mineral benches	Mining is carried out by mechanized open cast mining in combination of backhoe(2.5 Cu.m) and Dumper (35T tonne)with deep hole drilling and blasting.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	6 m Bench Height is proposed	Bench Height is broadly maintained as proposed.	
3m	Total area covered under excavation/pits	33.320 Ha.	27.900 Ha.	
3n	Ore to OB ratio for the pit/mine during the year(T/T)	1: 0.042	1: 0.380	More intercalated waste encountered.

3o	Total area put in use under different heads at the end of year	As per the proposal	Actual	
		Area under Excavation: 33.320 ha. Overburden Dump: 8.625 ha. Mineral storage: 6.412 ha. Others: 43.643 ha. Total area: 92.00 ha.	Area under Excavation: 27.900 ha. Overburden Dump: 8.387 ha. Top Soil storage: 4.0 ha. Others: 26.75 ha. Total area: 66.037 ha.	

3p	Production of ROM mineral during last five-year period, as applicable	Proposal	Actual	
	Year- 2019-20	2.05 MT	1.16 MT	
	Year- 2020-21	1.35 MT	1.24 MT	
	Year- 2021-22	2.05 MT	1.25 MT	
	Year-2022-23	2.99 MT	1.21 MT	
	Year-2023-24	2.99 MT	1.35 MT	
3q	General remarks of inspecting officer on method of mining etc.	Open-cast fully mechanised mining method with Backhoe-Dumper combination, with 6 m high benches and deep drilling and blasting is being carried out. The targeted production could not be achieved due to CTO.		

Solid Waste Management-Dumping

S.N	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32, 33)	Separate dumping for OB and Mineral Reject proposed.	Separate dumping for OB and Mineral Reject carried out.	Dumping of mineral reject in TSD- 1 and dumping of waste in TWD-2
4b	Location of topsoil, OB & mineral reject dumps	OB TWD-2 In 'C' Block 24224131N to 2424730N 310542E to 311070E Mineral Reject TSD-1 In 'A' Block 2422650N to 2423080N 309900E to 310070E	OB TWD-2 In 'C' Block 2424176N to 2424508N 310423E to 310904E Mineral Reject TSD-1 In 'A' Block 2422916N to 2423317N 309749E to 309971E	
4c	Number of dumps within lease area and outside the lease area	All waste dump and mineral reject dumps proposed within Lease area.	All waste dump and mineral reject dumps are within Lease area.	Waste Dump: 1 no. Mineral Reject Dump:1 no.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	TSD-1 within ultimate pit limit TWD-2 outside ultimate pit limit	TSD-1 within ultimate pit limit TWD-2 outside ultimate pit limit	TSD-1 is temporary dump
4e	Number of active & alive dumps	Waste Dump: 1 no. Mineral reject dump: 1 no.	Waste Dump: 1 no. Mineral reject dump: 1 no.	
4f	Number of dead dumps	Nil	Nil	
4g	Number of dumps stabilized	Nil	Nil	
4h	Whether Retaining wall or garland drain all along	Retaining wall and garland drain all along	Retaining wall and garland drain all along dumps is in	

	dumps are there	dumps proposed.	place.	
4i	Length of Retaining wall or garland drain all along the dump	No proposal during reporting year.	Nil	Retaining Wall 485 and Garland drain of 485m constructed in previous year and maintained.
4j	Number of settling ponds	No proposal during reporting year.	Nil	Two no. of settling tank constructed in previous year and maintained.
	Specific comments of inspecting officer on waste dump management	The waste is dumped on dump TWD-2 wherein proper terracing has been done secured adequately. However, graded over has been dumped all over the quarry “C” thus hindering further progress of work for which violation of 11(1) of MCDR 2017 has been pointed out to the lessee.		

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	No Proposal	Nil	Taldih mine has started in 2016-17, no pit exhausted completely.
5b	Area under backfilling of mined out area	No Proposal	Nil	Taldih mine has started in 2016-17, no pit exhausted completely for back filling.
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	Nil	Nil	Taldih mine has started in 2016-17, no pit exhausted completely for back filling.
5d	Total area fully reclaimed & rehabilitated	No Proposal	Nil	Taldih mine has started in 2016-17, no area matured for reclaimed & rehabilitation.
5e	General remarks of inspecting officer on backfilling, reclamation etc	Taldih mine was opened in the year 2016-17. No area is matured for reclaimed & rehabilitation hence no such proposal.		

Progressive Mine Closure Plan

Sl.N	Item	Proposals	Actual work	Remarks
		As per rule 23E(2) of MCDR, 2017, the	Submitted to IBM vide letter	

6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	holder of mining lease shall submit to the competent authority a yearly report as per the format specified by the IBM, before 1st day of July every year setting forth the extent of the protective and rehabilitative works carried out as envisaged in the approved mine closure plan, and if there is any deviation, reasons thereof.	dated 24.06.2024 for the year 2023-24.	
6b	Area available for rehabilitation (ha).	Nil	Nil	
6c	Afforestation done (ha).	Nil	Nil	
6d	No. of saplings planted during the year	Nil	Nil	
6e	Cumulative no. of plants	Nil	3000	
6f	Any other method of rehabilitation	Nil	Nil	
6g	Cost incurred on watch and care during the year	Nil	Nil	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Nil	Nil	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Nil	Nil	
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Nil	Nil	
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Nil	Nil	
	Compliance on			

6l	reclamation and rehabilitation by backfilling (v) any other specific means.	Nil	Nil	
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Nil	Nil	
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Nil	Nil	
6o	Compliance of rehabilitation of waste land within lease (iii) Method of rehabilitation	Nil	Nil	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Environmental monitoring in Core zone and buffer zone proposed as per MOEFCC and SPCB guidelines	Monthly and Quarterly monitoring of AAQ, Water Quality and Noise Level are being carried out by third party M/s Superintendence India.	All Environmental parameters found to be within permissible limits
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	The Taldih mine has opened in the year 2016. The area is not matured for backfilling hence no such proposal has been made. The lessee carried out no plantation in the area.		

Mineral Conservation

S.N.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade-wise sorting proposed within lease area.	Grade-wise sorting done within lease area.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Mechanical Method of grade-wise mineral sorting proposed	Mechanical Method of grade-wise mineral sorting carried out.	Mechanical, >57% Fe feed to crusher and partly subgrade materials/mineral reject blended with high grade ore.
7c	Different grade of mineral sorted out at mines	(58-60% Fe , 60-62% Fe, 62-65%Fe)	(58-60% Fe , 60-62% Fe, 62-65%Fe)	
7d	Any beneficiation process at mines	No beneficiation proposed for the	No beneficiation carried out for	

		year 2023-24.	the year 2023-24.	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	No beneficiation of ore is done except grade-wise sorting which is carried out at the mine site itself. The grade-wise sorted material is transported via trucks to the Barsuan Railway siding of the lessee which is located at a distance of 15 km from the mine site.		

ironment

S.N.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Removal: 30615 M^3 Utilization:30615 M^3	Removal:535.79 M^3 Utilisation:655.79 M^3	Less quantity generated in the area.
8b	Concurrent use or storage of topsoil	Storage: Nil	Storage: 1290.08 M^3	Old Stack
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumps for OB and mineral reject proposed	Separate dumps for OB and mineral reject done.	Dumping of overburden in TWD-2 and Mineral Reject in TSD-1(Temporary Dump)
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal	Not done	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc.)	No proposal	Not done	
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	Nil	-	3000 Nos. of trees planted with 95% survival rate within lease area.
8g	Survival rate	-	95%	
8h	Water sprinkling on roads to control airborne dust	Water sprinkling tanker is routinely used in haulage road for dust control.	Regular water sprinkling is being done with one12 KL & one 20 KL mobile water tankers.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Aesthetic beauty in & around mines area is well maintained. The lessee is implementing the PMCP proposal and has carried out adequate plantation. Sprinkling of water on Haul roads and transport roads using water tanker is done to suppress the dust.		

Compliance of Rule 45

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S.N	Item	Observation of I/Officer		Remarks
9a	Status of submission of Monthly and Annual returns	M.R. Submitted upto June, 2024 A.R. of FY 2023-24 submitted on 24/06/2024.		
	Item	As per AR	As Observed	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mine Manager-A K Tiwary Mining Engineer-Tapan Nayak Mining Geologist- M K Majhi	Mine Manager-A K Tiwary Mining Engineer-Tapan Nayak Mining Geologist- M K Majhi	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under Excavation: 27.900 ha. Overburden Dump: 8.387 ha. Top Soil storage: 4.0 ha. Others: 26.75 ha. Total area: 66.037 ha.	Appears to be correct	
9d	Scrutiny of Annual return on afforestation	3000 number of saplings planted with 95% of survival rate.	Appears to be correct	
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	342275.33 tonnes, 55% Fe	Appears to be correct	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Fines: (i) 58% to below 60% Fe-20674.889 T (ii) 60% to below 62% Fe-27211.333 T (iii) 62% to below 65% Fe-38658.020 T CLO: (i) Below 62% Fe (CLO any size)-36238.917 T (ii)62% to below 65% Fe-38658.020 T	Appears to be correct	

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9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	Ex-Mine Price for Fines-Rs 1527 Ex-Mine Price for CLO-Rs 1933 Production cost for lump & fines Rs.1706.00/- per Tonne.	The Ex-Mine Price for fines and CLO is not correct as for captive consumption the cost of production is the Ex-Mine Price.	Violation of Rule 45(7) of MCDR 2017 has been pointed out the lessee for not furnishing correct Ex-Mine Price in the Annual Return for FY 2023-24.
9h	Scrutiny of Annual return on fixed assets	Value of fixed assets Rs. 424.9 Cr	Appears to be correct	This asset is common for Barsua & Taldih Iron Mine.
9i	Scrutiny of Annual return on mining machineries.	Drill-01 Back Hoe-10 Tipper -22 Crusher-02 Front End Loader-05 Water Tanker-03 Dozer-01 Motor Grader-01	Broadly as per proposal	

Signed by Vikram Prakash Deshpande
Date: 08-07-2024 17:19:32
Reason: Approved