

**MCDR INSPECTION REPORT****General**

<b>S N</b>	<b>Particulars</b>	<b>Details</b>
1	File no.	MCDR-MiFLOFE/23/2022-BBS-IBM_RO_BBS
2	Name of the Inspecting Officer	Shri Vikram Prakash Deshpande, ACOM
3	Name of the Mine	Kalta Iron Mine
4	Total Lease Area (Ha) with breakup of Non-forest and forest land	Kalta Iron Mine(ML-130) part is having an area of 336.470Ha (Forest land =336.47 Ha., Non-forest land = `Nil)
5	Mine code	30ORI 13006
6	Date of Inspection	11.06.2024
7	Name of official accompanying inspection	Sri A.K. Mishra, Mines Manager (KIM) Shri Kartikeya Shankar, Geologist, (KIM)
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	Kalta
11	Taluka/Mandal	Koira
12	District	Sundargarh
13	Pincode	770052
14	State	Odisha
15	Post office	Kalta
16	Nearest police station	Koira
17	Nearest Railway station	Barbil
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
20	Date of opening of Mine	19.05.1966
21	Date of first Renewal, if applicable and its period & expiry	06.01.1990, Period: 06.01.1990 to 05.01.2010
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 deemed	N.A.

	extension	
24	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Sri 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	Shri Tilak Patnaik, General Manager, I/C Kalta Iron Mine, SAIL AT- Kalta Iron Mine, PO- Kalta Dist- Sundargarh (Odisha) PIN- 770052 e-mail: gmofficebim@gmail.com kimkalta@rediffmail.com kaltasailrmd@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	Sri A.K. Mishra, B. Tech. in Mining engineering with MBA(HRM), Date of Appointment: 21.04.2021 Mob: 8986881502 Email: kimkalta@rediffmail.com	
27	Name of the Mining Engineer & Geologist, Qualification and total experience	Mining engineer Qualification Date of appointment Address phone/email	Sri A.K. Mishra, B. Tech. in Mining engineering with MBA (HRM), Date of Appointment: 12.01.2019 (M): 8986881502 Email: kimkalta@rediffmail.com
		Geologist Qualification Date of appointment Address phone/email	Shri Kartikeya Shankar, Integrated M/Tech Applied Geology (ISM Dhanbad) Dist.-Sundargarh(Odisha)-770052. Email-Id: kartikey.shankar@gmail.com Mob: 8895503595 D.O.A: 24.04.2021
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)	

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30	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five-year period and specific condition in approval letter, if any.	Modification of Mining Plan 2021-22 to 2024-25, Dt. 01.04.2021
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)	A-OTFM
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 Limit of EC- 4.50 MTPA Validity: 27.04.2053
36	CTO	No.19762/IND-I-CON-I(A) Date of Approval-14.12.2023 Limit of CTO - 4.50 MTPA Validity:13.12.2028

**Exploration**

S.N.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year (2021-22) & (2022-23)	Nil	Nil	All potentially mineralized area has been explored under G-1 category
1b	Exploration over lease area for Geological axis 1 or 2.	Nil	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: 77.663 121: 18.344 211: 21.082 221: 4.657 Total: 121.746	As on 01.04.2024 111: 66.956 121: 18.344 211: 21.082 221: 4.657 Total: 110.939	
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 N60°E - S60°W to N-S & N20°W - S20°E to E-W and dips 30° to 80° in western part and 10° to 50° in eastern part of the M.L area. The Mineralized		

	zone has been explored in G1 level.
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**Development**

S.N	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t. lease area	<b>Block-A:</b> 3165000E to 315850E 2430300 N to 2431450 N  <b>Block-C:</b> 316550 E to 317250 E, 2432450 N to 2433350 N	<b>Block-A:</b> 3165000E to 315800E 2430250 N to 2431400 N  <b>Block-C:</b> 316550 E to 317200 E, 2432400 N to 2433300 N	
2b	Separate benches in topsoil, overburden and mineral (Rule 15)	<b>Block-A:</b> 14 benches in OB & Mineral  <b>Block-C:</b> 9 benches in OB & Mineral	<b>Block-A:</b> 11 benches (1 in OB & 10 in Mineral)  <b>Block-C:</b> 9 benches in (1 in OB & 8 in Mineral)	Separate benches in OB and mineral maintained. Block A is worked manually whereas Block C is worked with Mechanized method.
2c	Stripping ratio or ore to OB ratio (T/CuM)	1:0.060	1:0.064	No Significant Change
2d	Quantity of topsoil generation in m <sup>3</sup>	18700 m <sup>3</sup>	17390m <sup>3</sup>	
2e	Quantity of overburden/waste generation in m <sup>3</sup>	238800 m <sup>3</sup>	202117 m <sup>3</sup>	
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	Mining in Kalta Mine is confined to two pit viz. A and C Blocks. Benches have height of 6m and width of 10m. Block A is worked manually whereas Block C is worked with Mechanized method.		

**Exploitation**

S.N.	Item	Proposals	Actual work	Remarks
3a	Number of pits proposed for production	Two pits proposed for production.	Production carried out from proposed two pits	2 Nos. Block A 1550m(L)x500(B)x84m(D) & Block C 1100m(L)x300m(L)x54m(D)
3b	Quantity of ROM	3991110 MT	3151884 MT	For not achieving targeted ROM production Violation of Rule 11(1) pointed out to

	production			the lessee.
3c	Recovery of salable/usable mineral from ROM production	100%	100%	As Per Proposal
3d	Quantity of mineral reject generation	205620 m3	130189 m3	Generated mineral Reject Blended.
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%	Grade of mineral reject generation and threshold value as per proposal.
3f	Quantity of sub-grade mineral generation	205620 m3	130189 m3	Generated mineral Reject Blended.
3g	Grade of sub-grade mineral generation	+45-57% Fe	+45-57% Fe	
3h	Manual / Mechanized method adopted for segregating from ROM	Manual(Block-A) & Mechanised(Block C)	Manual(Block-A) & Mechanised (Block C)	
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	Physical and Chemical study proposed	Physical and Chemical study carried out	Screening of subgrade materials carried out in departmental laboratory.
3j	Provision of drilling & blasting in mineral benches	Drilling and Blasting proposed in mineral benches	Drilling and Blasting proposed in mineral benches	Blast hole diameter: 100mm Blasting is done by slurry explosives with NONEL. Burden: 2.5 m Spacing: 3.0 m
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 (2.45 Cu.m) and Dumper (35T tonne) with deep hole drilling and blasting.
	Whether	Height of the	Height of the	

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3l	height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	benches proposed to be maintained as 6m.	benches broadly maintained as proposed.	
3m	Total area covered under excavation/pits	125.16 ha.	125.16 ha.	
3n	Ore to OB ratio for the pit/mine during the year(T/CuM)	1:0.060	1:0.064	No Significant change.
3o	Total area put in use under different heads at the end of year	Area under Excavation: 125.16 ha. Overburden Dump: 12.08 ha. Mineral storage: 31.583 ha. Road: 9.486 Ha Infrastructure: 26.030 ha Total area: 204.339 ha.	Area under Excavation: 125.16 ha. Overburden Dump: 12.08 ha. Mineral storage: 31.583 ha. Road: 9.486 Ha Infrastructure: 26.030 ha Total area: 204.339 ha.	As per Proposal
3p	Production of ROM mineral during last 5-year period, as applicable	Proposals	Actual work	
	Year- 2019-20	2499950 T	1873300.00 T	For not achieving targeted production Violation of Rule 11(1) of MCDR 2017 pointed out to the lessee.
	Year- 2020-21	3178600 T	2496900.00 T	
	Year- 2021-22	3493254 T	3168400.00 T	
	Year-2022-23	3997656 T	3187048.49 T	
Year-2023-24	3991110 T	3151884.00 T		
3q	General remarks of inspecting officer on	The mining method adopted is opencast method by shovel-dumper combination in Block-C and Conventional Manual method in Block-A and is same as proposed.		

method of mining etc.
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### **Solid Waste Management-Dumping**

S.N	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32, 33)	Separate dumping proposed in topsoil, waste and mineral reject.	Separate dumping carried out in topsoil, waste and mineral reject.	Dumping of Waste in KWD-11 and KWD-12.  Topsoil :0.25 Ha
4b	Location of topsoil, OB & mineral reject dumps	<p><b>Waste Dump</b> KWD-11: KWD 11(From 316815E, 2432416N To 316621E, 2431972N)</p> <p><b>KWD-12</b> E 315225 to E 314864 N2430567 to N 2430945</p> <p><b>Mineral Reject Dumps</b> KSD-10; 314830E- 315140E;2430310N- 2430615N</p> <p><b>Topsoil</b> E 317081 to E 317166 N2432555 to N 2432501</p>	<p><b>Waste Dump</b> KWD-11: KWD 11(From 316800E, 2432389N To 316580E, 2431906N)</p> <p><b>KWD-12</b> E 315225 to E 314864 N2430567 to N 2430945</p> <p><b>Mineral Reject Dumps</b> KSD-10; 314830E- 315140E;2430310N- 2430615N</p> <p><b>Topsoil</b> E 317081 to E 317166 N2432555 to N 2432501</p>	

4c	Number of dumps within lease area and outside the lease area	All waste dump, mineral reject dumps and topsoil dump proposed within lease area Waste Dump: 1 no. Mineral Reject Dump: 8 nos. topsoil-1	All waste dump, mineral reject dumps and topsoil dump are within lease area Waste Dump: 1 no. Mineral Reject Dump: 8 nos. topsoil-1	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	KWD-11, topsoil and KSD 10 and KWD-12 proposed outside UPL.	KWD-11, topsoil and KSD 10 and KWD-12 are outside UPL.	
4e	Number of active & alive dumps	Waste Dump: 2no. (KWD-11& KWD-12), Mineral Reject: KSD-10	Waste Dump: 1 no. (KWD-11), Mineral Reject:-1(KSD 10)	
4f	Number of dead dumps	Nil	Nil	
4g	Number of dumps stabilized	Nil	Nil	

4h	Whether Retaining wall or garland drain all along dumps are there	Retaining wall and garland drain proposed all along dump proposed.	Retaining wall and garland drain made all along dumps except KWD-12.	Violation of Rule 37(2) of MCDR 2017 pointed out to the lessee.
4i	Length of Retaining wall or garland drain all along the dump	No proposal during reporting year.	Maintained for workdone during previous year	Garland drain constructed 775m in 2022-23.
4j	Number of settling ponds	No proposal during reporting year.	None	
	Specific comments of inspecting officer on waste dump management	The dump KWD-12 is not secured properly for which violation of 37(2) 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	No pit exhausted completely.
5b	Area under backfilling of mined out area	No Proposal	Nil	No pit exhausted completely.
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	No Proposal	Nil	No pit exhausted completely
5d	Total area fully reclaimed & rehabilitated	No Proposal	Nil	No pit exhausted completely.
5e	General remarks of inspecting officer on backfilling, reclamation etc	No area is matured for reclaimed & rehabilitation hence no such proposal		

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### **Progressive Mine Closure Plan**

S.N	Item	Proposals	Actual work	Remarks
		As per rule 26(2) of MCDR, 2017, the holder of mining lease shall submit to	Submitted to IBM vide letter dated 23.04.2024 for the year 2023-24.	



6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	the competent authority a yearly report as per the format specified by the IBM, before 1 <sup>st</sup> 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.		
6b	<ul style="list-style-type: none"> <li>i. Area available for rehabilitation (ha)</li> <li>ii. Afforestation done (ha)</li> <li>iii. No. of saplings planted during the year</li> <li>iv. Cumulative no. of plants</li> <li>v. Any other specific method of rehabilitation</li> </ul> Cost incurred on watch & care during the year	<ul style="list-style-type: none"> <li>Nil</li> <li>Nil</li> <li>Nil</li> <li>Nil</li> <li>Not Specified</li> <li>Not Specified</li> </ul>	<ul style="list-style-type: none"> <li>Nil</li> <li>Nil</li> <li>Nil</li> <li>Nil</li> <li>Not Specified</li> <li>Not Specified</li> </ul>	
6c	afforestation done (ha). <ul style="list-style-type: none"> <li>i. Voids available for backfilling (L *B * D)</li> <li>ii. Void filled by waste/tailings</li> <li>iii. Afforestation on the backfilled area</li> <li>iv. Rehabilitation by making water reservoir</li> </ul> Any other specific means	<ul style="list-style-type: none"> <li>Not Specified</li> <li>Not Specified</li> <li>Not Specified</li> <li>Not Specified</li> </ul>	<ul style="list-style-type: none"> <li>Not Specified</li> <li>Not Specified</li> <li>Not Specified</li> <li>Not Specified</li> </ul>	
	No. of saplings planted during the year i) Afforestation			

6d	ii) Area rehabilitated (ha) iii) Method of rehabilitation	Nil	Nil	
6e	Cumulative no. of plants	NA	NA	
6f	Any other method of rehabilitation	NA	NA	
6g	Cost incurred on watch and care during the year	NA	NA	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	NA	NA	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	NA	NA	
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	NA	NA	-
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	NA	NA	-
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	NA	NA	-
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	NA	NA	-
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	NA	NA	-
6o	Compliance of rehabilitation of waste land within lease (iii) Method of rehabilitation	NA	NA	-
		Environmental monitoring in Core	Monthly and Quarterly	All Environmental

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6p	Compliance of environmental monitoring (core zone and buffer zone)	zone and buffer zone proposed as per MOEFCC and SPCB guidelines	monitoring of AAQ, Water Quality and Noise Level are being carried out by third party M/s Superintendence India.	parameters found to be within permissible limits
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	The area is not matured for backfilling hence no such proposal has been made. The lessee carried out no plantation in the area. Regular monitoring of Environmental parameters is being carried out by a third party.		

### **neral Conservation**

S.N.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade-wise sorting within lease area proposed.	Grade-wise sorting within lease area carried out.	Kalta Iron Mine is a captive mine of M/s SAIL and the ore is used for extraction of Iron & Steel from different steel plants of SAIL.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Mechanical & Manual of grade-wise mineral sorting proposed.	Mechanical & Manual of grade-wise mineral sorting carried out.	>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	Yes (60-62% Fe, 62-65%Fe and 65+ %Fe)	Yes (60-62% Fe, 62-65%Fe and 65+ %Fe)	
7d	Any beneficiation process at mines	No beneficiation process proposed	No beneficiation process carried out	
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 Roxy siding of the lessee which is located at a distance of 12 km from the mine site.		

### **Environment**

S.N.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Removal: 18700 M <sup>3</sup> Utilization: 18700 M <sup>3</sup>	Removal: 17390 M <sup>3</sup> Utilisation: 17390 M <sup>3</sup>	As per proposal
8b	Concurrent use or storage of topsoil	Storage: Nil	Storage (Previous)	Stored in old stack and to be

			yr): 4230 M <sup>3</sup>	utilized for plantation
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Dumping of Overburden in KWD-11 & 12	Dumping of Overburden in KWD-11	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No such proposal	None	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc.)	No such proposal	None	
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)	Nil	Additional plantation done for 2320 Nos. of plants in 1.5Ha outside lease	
8g	Survival rate	-	90%	
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 12 KL, 16 KL mobile water tankers.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			

**Compliance of Rule 45**

S.N	Item	Observation of I/Officer		Remarks
9a	Status of submission of Monthly and Annual returns	M.R. Submitted upto May 2024 A.R. Submitted upto financial year 2023-24.	A.R. of FY 2023-24 submitted on /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 Mishra Mining Engineer- A K Mishra Mining Geologist- K Shankar	Mine Manager- A K Mishra Mining Engineer- A K Mishra Mining Geologist- K Shankar	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under Excavation: 125.16 ha. Overburden Dump: 12.08 ha. Mineral storage: 31.583 ha. Road: 9.486 Ha Infrastructure: 26.030 ha Total area: 204.339	Appears to be correct	

		ha.		
9d	Scrutiny of Annual return on afforestation	2320 Trees	Broadly as per furnished data	All outside mining lease.
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	364530 tonnes	Appears to be correct.	

9f	Scrutiny of Annual return on ROM stock and/or graded ore	<p>Fines:</p> <p>(i) 51% to 55% Fe-221310 T</p> <p>(ii) 55% to 58% Fe-42000</p> <p>(ii) 58% to below 60% Fe-192480 T</p> <p>(iii) 60% to below 62% Fe-356.695 T</p> <p>(iv) 62% to below 65% Fe- 145285.988 T</p> <p>(v) 65% Fe and above-139.920 T</p> <p>CLO:</p> <p>(i) Below 62% Fe (CLO any size)- 19.857 T</p> <p>(ii)62% to below 65% Fe-62564.305 T</p> <p>(iii) 65% and above Fe (10-40 mm size CLO)-1197.270 T</p>	Appears to be correct.	
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	<p>Ex-Mine Price for Fines-Rs 1785</p> <p>Ex-Mine Price for CLO-Rs 2594</p> <p>Production cost for lump &amp; fines Rs.2087.00/- per Tonne.</p>	The Ex-Mine Price for fines and CLO is not correct as for captive consumption the cost of production is the Ex-Mine Price.	For not furnishing correct Ex-Mine price Violation of Rule 45(7) of MCDR 2017 pointed out to the lessee.
9h	Scrutiny of Annual return on fixed assets	₹ 409061361	Appears to be correct.	
9i	Scrutiny of Annual return on mining	<p>Crusher-02</p> <p>Drill-01</p> <p>Wheel Loader-13</p> <p>Motor Grader-01</p> <p>Dumper-39</p> <p>Water Tanker-06</p>	Broadly as per proposal	

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	machineries	Dozer-01 Explosive Van-01 Back Hoe-13		
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