

MCDR INSPECTION Format

General

SL. No.	Particulars	Details
1	Name of the Mine	Unchabali Iron & Mn. Mines
2	Total Lease Area (Ha) with breakup of Non-forest and forest land	106.1127 Ha, Out of which 103.432Ha is DLC forest and remaining 2.6807Ha is Non Forest.
3	Minecode	30ORI08100
4	IBM Registration Number under rule 45 of MCDR, 2017	IBM/5175/2011
5	Name of the lessee, Address, phone, email and fax number	Smt. Indrani Patnaik, A/6, Commercial Estate, civil town ship, Dist.- Sundargarh-769 004, email:- uimm.ip@gmail.com,Ph-9937090007
6	Village	Unchabali
7	Taluka/Mandal	Barbil
8	District	Keonjhar
9	Pincode	758034
10	State	Odisha
11	Post office	Bamebari
12	Nearest police station	Bamebari
13	Nearest Railway station	Nayagarh
14	Date of Grant of Mining Lease	15.09.1998
15	Date of Execution	05.02.1999
16	Date of opening of Mine	25.04.2008
17	Date of expiry	04.02.2029
18	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Not Applicable
19	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Mr. Banshidhar Sahoo, Bonaikela, Via-Joda, Dist-Keonjhar, Odisha Email: banshidharsahoo@altradegroup.com Date of Appointment:-25.03.2008,Ph-9437072304
20	Name of the Mines Manager with Address, mobile no, email, fax number and date of appointment in mine	Mr. A.Gurubalasubramaniam, Phone- 9437062184, email:- ags@altradegroup.com Unchabali Iron & Mn. Ore Mines, At: Unchabali, Po-Bamebari, Dist- Keonjhar, Orissa. Date of Appointment:- 28.02.2010
21	Name of the Mining Engineer , Qualification and total experience with Address, mobile no, email, fax/phone number and date of appointment in mine	Mr. Utpal Jena(Mining Engineer) B.E Mining with 1st class Mines Manager certificate, 18 years Exp. At-Unchabali, Po-Bamebari, Dist-Keonjhar Phone:-9474357860 Date of Appointment:-01.03.2023,Ph-9474357860
22	Name of the Geologist , Qualification and total experience with Address, mobile no, email, fax number and date of appointment in mine	No

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23	Date of Approval of Mining Plan/Review of Mining Plan/ their modifications with five-year period and specific condition in approval letter, if any.	<p>Mine Plan: - Vide letter No. CAL/KJ/Fe & Mn/MP-574 dated 01.01.99 under Rule 22 of MCR 1960.</p> <p>1st Modification: - Vide letter number 314 (3) /2009 / MCCM (CZ) / MP/ MS / PMCP / 21 dtd.21/10/2008 under Rule 10 of MCDR, 1988.</p> <p>2nd Modification:-Vide letter number 314(3)/2010/MCCM(CZ)/MP-27,dated 06.01.2011 under Rule 10 of MCDR, 1988.</p> <p>Scheme of Mining: -Vide letter No. 314(3)/2012-MCCM (CZ)/MS-47/129, Dt. 25.04.2013 under rule 12 of MCDR 1988.</p> <p>1st Modification:-Vide letter No. MSM/FM/06-ORI/BHU/2014-15/3857, Dt. 04.12.2014 under Rule 10 of MCDR, 1988.</p> <p>2nd Modification:-Vide letter No. MSM/FM/39-ORI/BHU/2015-16/256, Dt. 05.05.2016 under Rule 10 of MCDR, 1988.</p> <p>Review of Mining Plan:-MS/FM/25-ORI/BHU/2017-18,Dt-16.11.2017</p> <p>Modification of Review of mining plan:-MRMP/A/04-ORI/BHU/2020-21,Dated-18.06.2020</p> <p>Modification of Review of Mining Plan: MRMP/A/18-ORI/BHU/2021-22/904 dt-10.09.2021</p> <p>Review of Mining Plan: MCDR-MiFLOFE/20/2023-BBS-IBM_RO_BBS_30/03/2023</p>
24	Mineral (s) granted in lease and proved for mining	Iron
25	Method of Mining(Opencast, Underground)	Opencast
26	Category (Fully Mechanised, Others or Manual)	Fully Mechanized
27	Captive/Non Captive	Non Captive
28	Present EC Capacity	4 MTPA.

Exploration:---

SL.No.	Item	Proposals (FY 2022-23)	Actual work	Remarks
1a	Backlog of previous year	-	-	Cumulatively 185 boreholes were drilled with a total meterage of 7739 mts as per AR of 2022-23
1b	Exploration over lease area for Geological axis 1 or 2.	-	-	

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1c	Exploration Agency & Expenditure in lakh Rupees during the year	=	=	M/s Thriveni carried out exploration in past
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	Cumulative: G1 - 106.1127 Ha
1e	Balance reserves as on 01.04.2023		Balance Reserves as on 01.04.2023-7349280 tons	As per AR of 2022-23
General remarks of inspecting officers on geology, exploration etc		The M.L area discerns a fairly wide range of rock types of the iron ore group. The different lithological units present can be broadly categorized into three major groups, namely - (a) Basic volcanic rocks - Lavas - Dolerites. (b) Iron Ore formations (BIF), stratiform deposit such as BHJ/BHQ. (c) Argillaceous formations such as shale.		

Development:--

SL.No.	Item	Proposals (FY 2022-23)	Actual work	Remarks
2a	Location of development w.r.t. lease area	E 337062 to E337683 N 2419042 to N 2419500	E 337060 to E337680 N 2419042 to N 2419495	
2b	Separate benches in topsoil, overburden and mineral	Separate benches in overburden & mineral proposed	Separate benches maintained in overburden & mineral	TOP soil: NIL Overburden - 8 Mineral- 4
2c	Stripping ratio or ore to OB ratio	OB:ORE – 1:0.918	OB:ORE – 1:2.836	There is a significant change.
2d	Quantity of topsoil generation in m3	No Proposal	Nil	No top soil generated during the reporting year.
2e	Quantity of overburden generation in m3	1835340Cu.m	1495887 Cu.m	Less OB achieved vis-à-vis the production of ROM.
General remarks of inspecting officer on development of pit w.r.t. type of deposit etc		The mine workings are confined to a single pit. The work is being broadly carried out as per proposals in the approved modification of MP.		

Exploitation:--

SL.No.	Item	Proposals (FY 2022-23)	Actual work	Remarks
3a	Number of pits proposed for production	1 is proposed for production	Excavation done as proposed	Approximate dimension of the pit is (L) 926 x (W) 505 x (D)130
3b	Quantity of ROM mineral production proposed	3999752 T	10,54,740 T	Production done within EC limit however, violation of Rule 11(1) of MCDR 2017 pointed to the lessee for not achieving the target as per approved

				document
3c	Recovery of salable/usable mineral from ROM production	95% in ore zone of 55% Fe content & 90% in the ore zone of 45% to 55% Fe.	100% ROM	During mining operation mineral reject/sub grade were blended with salable ore.
3d	Quantity of mineral reject generation	531720 MT	632050 MT	As per AR submitted for 2022-23.
3e	Grade of mineral reject generation and threshold value declared	45 % Fe-55 % Fe threshold 45% Fe.	45 % Fe-55 % Fe threshold 45% Fe.	
3f	Quantity of sub-grade mineral generation	531720 MT	632050 MT	
3g	Grade of sub-grade mineral generation	+45 % to -55%	+45 % to -55%	
3h	Manual / Mechanized method adopted for segregating from ROM	Mechanised method proposed for segregating from ROM	Mechanised method adopted for segregating from ROM	Dry crushing & screening. Crusher 200 TPH=1
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	No Proposal	Nobeneficiation study carried out.	
3j	Provision of drilling & blasting in mineral benches	Drilling and Blasting proposed in mineral benches.	Drilling and blasting was carried out in mineral benches.	Yes Hole Dia-115 mm, Avg. Burden-3 m, Avg. spacing-3.25 m, Hole Depth-11m, Staggered drilling pattern Blasting:-Deep hole drilling & blasting using Bulk explosive & Nonel shock tubes
3k	Provision of mining machineries 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 Shovel (2.45 m3) Dumper (35 tonne) combination.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Height of the benches proposed to be maintained as 10 meter with width of 10 m.	The height and width of benches is 8-10m and 8-10 m.	It is suitable for method of mining proposed in MP for the height of the benches in overburden and mineral. However, violation of Rule 11(1) of MCDR 2017 pointed out to the lessee for not maintaining the bench height as per approved document
3m	Total area covered under excavation/pits	51.032 Ha.	34.974 Ha.	As per AR of 2022-23
3n	Ore to OB ratio for the pit/mine	1:0.918	1:2.836	There is

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	during the year			significant change.
3o	Total area put in use under different heads at the end of year	97.3107 Ha. Mining- 51.032 Dump- 28.097 Mineral Storage – 9.698 Roads- 1.974 Infrastructure – 1.972 Plantation – 1.0 Mineral Processing Unit-1.456, ETP-0.010 Margin with safety zone-0.643 Railway-1.4287	53.43Ha area has been put in use at the end of the year Covered under current (O/C) workings – 34.974Ha , Used for waste Disposal – 13.023. Ha. Occupied by plant, buildings, residential, welfare buildings & Roads –2.337Ha Other purpose (Stock yard, green belt, environment production work –3.100 Ha	
3p	Production of ROM(In Tonnes) mineral during last five-years period , as applicable	2017-18:4000000 2018-19 : 3799923 2019-20: 3799901 2020-21 : 3999982 2021-2022: 3160068 2022- 2023:3999752	2017-18:3990662 2018-19:3787130 2019-20:3773306 2020-21 : 3000660 2021-2022:1625310 2022-2023:1054740	All units in Metric Tonnes. Actual production is within the proposed limit.
General remarks of inspecting officers on method of mining etc.		Open-cast fully mechinsed mining method with Shovel-Dumper combination, with 10 m high and width up to 10m and deep drilling and blasting is being broadly carried as per approved modified MP.		

Solid Waste Management-Dumping:--

SL.No.	Item	Proposals (FY 2022-23)	Actual work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32, 33)	Separate waste dump proposed	Separate waste dump maintained	All Mineral reject generated blended
4b	Location of topsoil, OB & mineral reject dumps	Dump:1 N2419262 to 2419732 E336856 to 337000 Dump:2 N2419800 to 2420176 E336871 to 337300 Dump:3 N 2419000 – 2419100 E 337218-337525 Dump:4 N 2419000 – 2419390 E 337542 – 338026	Dump:1 N2419290 to 2419725 E336858 to 337005 Dump:2 N2419810 to 2420175 E336870 to 337310 Dump:3 N 2419000 – 2419105 E 337410-337720 Dump:4 N 2419000 – 2419220 E 337545 – 337820	Mineral reject is blended with high grade to make it saleable.
4c	Number of dumps within lease area and outside lease area	4 dumps for waste dumping are proposed within the lease area.	4 dumps for waste dumping are within the lease area.	
4d	Location of dumps w.r.t. ultimate pit limit	Dump:1 N2419262 to	Dump:1 N2419290 to 2419725	

		2419732 E336856 to 337000 Dump:2 N2419800 to 2420176 E336871 to 337300 Dump:3 N 2419000 – 2419100 E 337218-337525 Dump:4 N 2419000 – 2419390 E 337542 – 338026	E336858 to 337005 Dump:2 N2419810 to 2420175 E336870 to 337310 Dump:3 N 2419000 – 2419105 E 337410-337720 Dump:4 N 2419000 – 2419220 E 337545 – 337820	
4e	Number of active & alive dumps	1	1	
4f	Number of dead dumps	3	3	Dump:1 N2419290 to 2419725 E336858 to 337005 Dump:2 N2419810 to 2420175 E336870 to 337310 Dump:3 N 2419000 – 2419105 E 337410-337720
4g	Number of dumps stabilized	3	3	
4h	Whether Retaining wall or garland drain all along dumps are there	Maintenance of Retaining Wall proposed	Retaining Wall Maintained	
4i	Length of Retaining wall or garland drain all along dump	1500 meter retaining wall proposed	360 meter retaining wall has been done	
4j	Number of settling ponds	4 settling ponds proposed	None of settling pond constructed.	
Specific comments of inspecting Officer on waste dump management.		Overburden, mineral and mineral reject management is broadly as per proposal are being carried out as per the approved proposals.		

Solid Waste Management-Backfilling:--

SL.No.	Item	Proposals (FY 2022-23)	Actual work	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	-	No Backfilling has been proposed during the reporting year.	
5b	Area under backfilling of mined out area	7.730 Ha	14.419 Ha	Backfilling carried out previously
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area	Not Proposed.	No top soil generated.	
5d	Total area fully reclaimed & rehabilitated	Nil	Nil	
General remarks of inspecting officers on backfilling and reclamation etc.		Backfilling is being carried out in the past. However, there is no proposal of Backfilling during the reporting year.		

Progressive Mine Closure Plan:---

SL.N.	Item	Proposals (FY 2022-23)	Actual work	Remarks
6a	Whether Annual report on	Annual report on	PMCP Report	

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	PMCP submitted on time and correctly - Rule 26(2). (Hard copy same provided)	PMCP to be submitted on 1 st July every year.	Submitted.	
6b	Management of worked/mined out benches i) Area available for rehabilitation (ha) ii) Afforestation done (ha) iii) No. of saplings planted during the year iv) Cumulative no. of plants v) Any other specific method of rehabilitation vi) Cost incurred on watch & care during the year	No proposal in mined out benches	Not done	-
6c	Compliance on reclamation and rehabilitation by backfilling 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	2705500 m3 3450000 m3 NA	NA	Na

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6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitated (ha) iii) Method of rehabilitation	2550 number of plants proposed for afforestation	6500 number of saplings planted	Inside:6500 Outside: Nil
6e	Compliance of Environmental monitoring (core zone & buffer zone)	Environmental monitoring in Core zone and buffer zone proposed as per MOEFCC and SPCB guidelines.	Monitoring of Noise, Water etc done.	Env. parameters were observed to be within the permissible limit. Monitoring is done by a third party called Globaltech Enviro Experts Pvt Ltd,
General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		The lessee has done adequate plantation and is regularly monitoring the Environmental Parameters.		

Mineral Conservation:---

SL.No.	Item	Proposals ((FY 2022-23)	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	ROM is proposed to be sorted out within lease area by screening & crushing	ROM is sorted out within lease area by screening & crushing	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Mechanical method of grade-wise Sorting Proposed	Mechanical method of grade-wise Sorting done	
7c	Different grade of mineral sorted out at mines	58% to below 60% Fe Lumps, 51% to below 55% Fe, 55% to below 58% Fe, 58% to below 60% Fe, 60% to below 62% Fe, Below 62% Fe (CLO any size)	58% to below 60% Fe Lumps, 51% to below 55% Fe, 55% to below 58% Fe, 58% to below 60% Fe, 60% to below 62% Fe, Below 62% Fe (CLO any size)	
7d	Any beneficiation process at mines	No Proposal	NA	
General remarks of inspecting officer on Mineral Conservation and Beneficiation issues.		No Beneficiation is carried out by the lessee except Grade wise sorting by screening and crushing within lease area .		

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Environment:--

SL.No.	Item	Proposals ((FY 2022-23)	Actual work	Remarks
8a	Separate removal and utilization of topsoil	No proposal for generation of top soil..	No top soil was generated during the reporting year.	
8b	Concurrent use or storage of topsoil	No top soil generation is proposed.	No top soil was generated during the reporting year.	
8c	Separate dumps for overburden, waste rock, rejects and fines	Dump:1 N2419262 to 2419732 E336856 to 337000 Dump:2 N2419800 to 2420176 E336871 to 337300 Dump:3 N 2419000 – 2419100 E 337218-337525 Dump:4 N 2419000 – 2419390 E 337542 – 338026	Dump:1 N2419290 to 2419725 E336858 to 337005 Dump:2 N2419810 to 2420175 E336870 to 337310 Dump:3 N 2419000 – 2419105 E 337410-337720 Dump:4 N 2419000 – 2419220 E 337545 – 337820	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal for Backfilling during reporting year	Not done.	Back filling done previously.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	7.73 Ha.	14.419 Ha.	
8f	Baseline information on existence of plantation & additional plantation done	2550 trees	6500 trees planted	All plantation done within the lease.
8g	Survival rate	65 %	75%	As per AR for 2022-23
8h	Water sprinkling on roads to control airborne dust	Water sprinkling proposed on haul roads to suppress the dust.	Water tankers are dedicated used for water sprinkling on roads to control airborne dust. Fixed water sprinkling system is also in operation.	3 number of water tankers having capacity of 10 KLD deployed for suppressing dust.
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

SL.No.	Item	COMMENTS		Remarks.
9a	Status of submission of Monthly and Annual returns	M.R. Submitted upto Oct-2023 A.R. submitted upto-2022-23		Annual return of 2022-23 submitted on 29/06/2023
S.N.	Item	Details GIVEN in A.R.	Actual in field	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer-Utpal Jana, Manager-A. Gurubalasubramaniam Mining Geologist: None	. Mining Engineer-Utpal Jana, Manager-A. Gurubalasubramaniam Mining Geologist: None	Y R Obalesh was up to 27.02.2023 & Mr Utpal Jana is appointed from

				01.03.2023. Violation of Rule 55 of MCDR 2017 pointed out to the lessee for not appointing a Mining Geologist as per statute
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Covered under current (O-C) Workings-45.46 Ha, Reclaimed-rehabilitated-16.03 Ha Used for waste disposal-19.26 Ha Occupied by plant, buildings, residential, welfare buildings and roads-1.97 Ha Used for any other purpose (specify)-2.11 Ha	Covered under current (O-C) Workings-34.974 Ha, Reclaimed-rehabilitated-14.419 Ha Used for waste disposal-13.023Ha Occupied by plant, buildings, residential, welfare buildings and roads-2.337 Ha Used for any other purpose (specify)-3.11 Ha Work done under progressive mine closure plan during the year-3.749.	As per AR for 2022-23
9d	Scrutiny of Annual return on afforestation	6500-Within ML	6500-Within ML	Survival rate 75%
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	531720 Mt. proposed product	632050 Mt. generated	Blended with High Grade
9f	Scrutiny of Annual return on ROM stock and/or graded ore	The following closing balance of material available at the end of March-2023 58% to below 60% Fe Lumps-15810, Fines 51% to below 55% Fe-12873.331, 55% to below 58% Fe-44936.621, 58% to below 60% Fe-27463.270, 60% to below 62% Fe-25508.331, 62% to below 65% Fe-3.408, Below 62% Fe (CLO any size)-57385.568, 62% to below 65% Fe (5-18 mm size CLO-0.003, 62% to below 65% Fe (10-40 mm size CLO-0.989 The following closing balance of material available at the end of March-2023 58% to below 60% Fe Lumps-15810, Fines 51% to below 55% Fe-12873.331, 55% to below 58% Fe-44936.621, 58% to below 60% Fe-27463.270, 60% to below 62% Fe-	Appears to be correct	

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		25508.331, 62% to below 65% Fe-3.408, Below 62% Fe (CLO any size)-57385.568, 62% to below 65% Fe (5-18 mm size CLO-0.003, 62% to below 65% Fe (10-40 mm size CLO-0.989		
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9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	<p>Lumps 58-60% Fe Ex mines price 214.67,</p> <p>Fines- 51-55% Fe- sale value-48692947.74,Ex-mines pr-1480,</p> <p>55-58% Fe sale value-1195810905.950,Ex-mines pr-1628,</p> <p>58-60% Fe- sale value-142325188,Exmines pr-3748,</p> <p>60-62% Fe- sale value-667008828,Exmines pr-2964,</p> <p>62-65% Fe- sale value-33852,Exmines pr-1139,</p> <p>Below 62% Fe (CLO any size) - sale value-353952139 Exmines price-3626,</p> <p>62% to below 65% Fe (5-18 mm size CLO-sale value-2869740.00Exmines price-3600,</p>	Appears to be correct	Violation of Rule 45(7) of MCDR 2017 for furnishing in-correct information.
9i	Scrutiny of Annual return on fixed assets	Fixed assets of Rs.260618493 including land, building, plant etc.	Appears to be correct.	
9k	Scrutiny of Annual return on mining machineries	<p>Backhoe-03</p> <p>Dumper-07</p> <p>Dozer-03</p> <p>Crusher-01</p>	<p>Crusher-01</p> <p>Backhoe-06</p> <p>Wheel Loader-03</p> <p>Truck-19</p> <p>Loader-01</p> <p>Blast hole Drill-01</p> <p>Explosive Van-01</p> <p>Others-03</p>	
