

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.
2.1	Name of the Inspecting Officer	Mr Rajesh Kumar Das, DCOM, IBM, BBSR
2.2	Date of Inspection	09/01/2025
2.3	Name of official accompanying inspection	A Gurubala subramaniam(Mine Manager) & Shri Padmalochan Behera, Geologist
3	Mine code	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	Mr. A.Gurubalasubramaniam, Phone-

	Address, mobile no, email, fax number and date of appointment in mine	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. Purna Chandra Bagdi(Mining Engineer) B.E Mining with 1st class Mines Manager certificate, 18 years Exp. At-Unchabali, Po-Bamebari, Dist-Keonjhar Phone:-9474357860 ,Ph-9474357860 Date of Appointment-05.12.2023
22	Name of the Geologist , Qualification and total experience with Address, mobile no, email, fax number and date of appointment in mine	Mr.Padmalochoan Behera(Geologist) MSC Certificate, 5 year Exp. Mob-8908533675 Date of Appointment:- 01.04.2024
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.	Mine Plan: - Vide letter No. CAL/KJ/Fe & Mn/MP-574 dated 01.01.99 under Rule 22 of MCR 1960. 1st Modification: - Vide letter number 314 (3) / 2009 / MCCM (CZ) / MP/ MS / PMCP / 21 dtd.21/10/2008 under Rule 10 of MCDR, 1988. 2nd Modification:- Vide letter number 314(3)/2010/MCCM(CZ)/MP-27,dated 06.01.2011 under Rule 10 of MCDR, 1988. Scheme of Mining: -Vide letter No. 314(3)/2012-MCCM (CZ)/MS-47/129, Dt. 25.04.2013 under rule 12 of MCDR 1988. 1st Modification:- Vide letter No. MSM/FM/06-ORI/BHU/2014-15/3857, Dt. 04.12.2014 under Rule 10 of MCDR, 1988. 2nd Modification:- Vide letter No. MSM/FM/39-ORI/BHU/2015-16/256, Dt. 05.05.2016 under Rule 10 of MCDR, 1988. Review of Mining Plan:- MS/FM/25-ORI/BHU/2017-18,Dt-16.11.2017 Modification of Review of mining plan:- MRMP/A/04-ORI/BHU/2020-21,Dated-18.06.2020 Modification of Review of Mining Plan: MRMP/A/18-ORI/BHU/2021-22/904 dt-10.09.2021 Review of Mining Plan: MCDR-MiFLOFE/20/2023-BBS-IBM_RO_BBS_30/03/2023 UPDATED MINING PLAN-MCDR-MiFLOFE/20/2023-BBS-IBM_RO_BBS ON Dt : 30/03/2023 VALIDITY UP TO 1/4/2028.
24	Mineral (s) granted in lease and	Iron

	proved for mining	
25	Method of Mining(Open cast, Underground)	Open cast
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 2023-24)	Actual work	Remarks
1a	Backlog of previous year	3	Nil	
1b	Exploration over lease area for Geological axis 1 or 2.	Broadly mineralized area explored in G1	Broadly mineralized area explored in G1	
1c	Exploration Agency & Expenditure in lakh Rupees during the year	Not proposed specifically	NA	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	
1e	Balance reserves as on 01.04.2024(Tons)	4140396.80tons	4640396	
1f	General remarks of inspecting officer 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. In the ML area, iron ore found as mainly hard massive and laminated variety. The iron ore deposit within the lease is structurally folded. The strike of the formations is N150E S150W. The dip is generally westerly but varying from 200 to 400 and in few isolated locations the dip amount is 600. These normally conform to the regional trend of the rock i.e. BHJ/BHQ. The deposit stretches over a strike length of around 1000 m, the width of the ore body is about 600m and as per the bore hole data the depth of the ore body varies from 17m to 101.1m. The mineralized area in ML is broadly explored in G1.		

Development:--

SL.No	Item	Proposals (FY 2023-24)	Actual work	Remarks
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2a	Location of development w.r.t. lease area	E 337007 to E337477 N 2418994 to N 2419397	Broadly within proposed area	
2b	Separate benches in topsoil, overburden and mineral	TOP soil :NIL In Overburden- 08 Mineral – 4	TOP soil: NIL Overburden - 8 Mineral – 4	
2c	Stripping ratio or ore to OB ratio	0.58	1.15	
2d	Quantity of topsoil generation in m3	NIL	NIL	
2e	Quantity of overburden generation in m3	865965.50 m ³	231238 m ³	
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	During mine visit it was observed that that bench parameters are not as per proposal. The benches not developed as per proposal. The maximum height of bench was proposed 10.0 meter but bench height in many places in both the pits is 15-20 meter(benches collapsed) and width also less than proposal. There are many places where undercuts in benches, benches not irregular, overhang boulder observed. The mineral also stacked at the edge of the benches.		

Exploitation:--

SL.No	Item	Proposals (FY 2023-24)	Actual work	Remarks
3a	Number of pits proposed for production	1	1	
3b	Quantity of ROM mineral production proposed	1000409.19 MT	532080 MT	
3c	Recovery of salable/usable mineral from ROM production	950286.40	100% ROM	During mining operation mineral reject/sub grade were blended with salable ore.
3d	Quantity of mineral reject generation	50122.00 MT	NIL MT	Blended with superior grade to make it salable, and there is no separate stocking

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	50122.00 MT	NIL MT	
3g	Grade of sub-grade mineral generation	+45 % to -50%	+45 % to -50%	
3h	Manual / Mechanized method adopted for segregating from ROM	Fully Mechanized Method	Fully Mechanized Method	
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	NA	NA	
3j	Provision of drilling & blasting in mineral benches	Yes Hole Dia-100mm, Bench Height-10 m, Avg. Burden-3 m, Avg. spacing- 3.25 m, Hole Depth-11m, Stemming-30 % of the depth of hole, Staggered drilling pattern Blasting:-Deep hole drilling & blasting using Bulk explosive& Nonel shock tubes	Yes Hole Dia-105 mm, Bench Height-10 m, Avg. Burden-3 m, Avg. spacing- 3.25 , Hole Depth-11m, Stemming-30 % of the depth of hole, Staggered drilling pattern Blasting:-Deep hole drilling & blasting using Bulk explosive & Nonel shock tubes	
3k	Provision of mining machineries in mineral benches	Drills-1no's Excavator-3no's Dumper-10no's Wheel Loader-1no's Dozer-3no's	Drills-1no's Excavator-3no's Dumper-5no's Wheel Loader-1no's Dozer-1no's	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes	Followed the mining plan condition, and there is a deviation at some places.	
3m	Total area covered under excavation/pits	46.77 Ha.	34.974 Ha.	
3n	Ore to OB ratio for the pit/ mine during the year	0.58	1.15	OB- 462476 MT ROM – 532080 MT

3o	Total area put in use under different heads at the end of year	97.38 Ha. Mining- 47.93 Dump- 28.097 Mineral Storage –5.83 Roads- 0.90 Infrastructure – 0 Plantation – 1.0 Mineral Processing Unit-1.456, ETP-0.010 Mazarin with safety zone- 0.643 Railway-1.4287	71.602 Ha Covered under current (O-C) Workings-32.709 Reclaimed-rehabilitated-14.419 Used for waste disposal-23.427 Occupied by plant, buildings, residential, welfare buildings and roads-2.337 Used for any other purpose (specify) Sub Grade Dump(Mineral Stacking)-0 Work done under progressive mine closure plan-3.749	
3p	Production of ROM mineral during last five-years period , as applicable (Tons)	2017-18:4000000 2018-19 : 3799923 2019-20:3799901 2020-21 : 3999982 2021-22:3160068 2022-23:3999752 2023-2024-1000409.20	2017-18:3990662 2018-19:3787130 2019-20:3773306 2020-21 : 3000660 2021-2022:1625310 2022-2023:1054740 2023-2024:532080	
3q	General remarks of inspecting officer on method of mining etc.	The method of mining is by opencast method by using HEMM and deep hole drilling and blasting. The mining activity by fully mechanized method with shovel and dumper combination. However, some where secondary blasting carried out to break boulders (BHJ). Spacing and burden for few places vary depend upon formation; otherwise we are doing as per the proposal.		

Solid Waste Management-Dumping:--

SL.No	Item	Proposals (FY 2023-24)	Actual work	Remarks
4a	Separate dumping of topsoil, OB & mineral reject (Rule 32, 33)	Yes	As per proposal	
4b	Location of topsoil, OB	Top Soil Nil	Top Soil Nil	Mineral

	& mineral reject dumps	Dump: Latitude:21:52:03.71 to 21:52:10.43,Longitude : 85:25:35.78 to 85:25:46.32	The OB dumping was not as per proposal.	reject is not stocked. It is blended with high grade to make it saleable.
4c	Number of dumps within lease area and outside lease area	Within Lease Area:4 Outside lease area: Nil	Within Lease Area:4 Outside Lease Area:-Nil	
4d	Location of dumps w.r.t. ultimate pit limit	Dump:1 N2419262 to 2419732 E336856 to 337000 Dump:2 N2419800 to 2420176 E336871 to 337300 Dump:3 N 2419000 – 2419262 E 337444-337820	OB is used for backfilling in existing pit	
4e	Number of active & alive dumps	1	1	
4f	Number of dead dumps	3	3	
4g	Number of dumps stabilised	3	3	
4h	Whether Retaining wall or garland drain all along dumps are there	Yes Retaining Wall:- Maintenance	Yes Retaining Wall:- Maintained	
4i	Length of Retaining wall or garland drain all along dump	780 meter	345 meter	
4j	Number of settling ponds	2	NIL	
4k	Specific comments of inspecting officer on waste dump management	During mine visit it was observed that waste dumping was not done as per proposal and also Retaining wall and garland drain all along dump was not done as per proposal.		

Solid Waste Management-Backfilling:--

SL.No	Item	Proposals (FY 2023-24)	Actual work	Remarks
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	No proposal of backfilling	Backfilling done with 231238 m3 of OB in pit area to reduce the bench height.	
5b	Area under backfilling of mined out area	NA	NA	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area	NA	NA	

5d	Total area fully reclaimed & rehabilitated	No such specific proposal	NA	
5e	General remarks of inspecting officer on backfilling, reclamation etc	Backfilling done with 231238 m ³ of OB in existing pit area to reduce the bench height.		

Progressive Mine Closure Plan:---

SL.N.	Item	Proposals (FY 2023-24)	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly - Rule 26(2). (Hard copy same provided)	Yes	PMCP submitted within time	The PMCP report of FY. 2023-24 was 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	Mined out benches rehabilitation reclamation not proposed in 2023-24	-	-
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	NA	NA	Na
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitated (ha) iii) Method of rehabilitation	256 nos 0.16 ha. afforestation	As per proposal	

6e	Compliance of Environmental monitoring (core zone & buffer zone)	To be done as per MOEF & CC , Guide line.	Monitoring has been carried out as per the MOEF & CC Guidelines	The compliance is submitted to MOEF&CC and SPCB on a regular basis.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	The protective measures for dump i.e. garland drain, retaining wall & settling pond not constructed as per proposal.		

Mineral Conservation:---

SL.No.	Item	Proposals ((FY 2023-24))	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	ROM is 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	Mechanical	
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	NO	
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	The blending of low grade with high grade done to get the desire grade.		

Environment:--

SL.No.	Item	Proposals ((FY 2023-24))	Actual work	Remarks
8a	Separate removal and utilization of topsoil	NIL	NIL	There is no generation of Top soil, the top soil generated while
8b	Concurrent use or storage of topsoil	NIL	NIL	

				starting of mine we have used it for plantation purpose.
8c	Separate dumps for overburden, waste rock, rejects and fines	OB dump Dump:4 N 2419000 – 2419390 E 337542 – 338026	Backfilling done with 231238 m3 of OB in existing pit area to reduce the bench height.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	865965.50 Cum	231238 Cum	Back fill done and dump stabilization , planatation done
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	NA	NA	
8f	Baseline information on existence of plantation & additional plantation done	256 PLANTS IN 0.16 HA.	8100 Plantation done	
8g	Survival rate	70 %	90%	
8h	Water sprinkling on roads to control airborne dust	Regular water spraying on haul roads, waste dumps and maintaining the approach road	Regular water spraying on haul roads, waste dumps and maintaining the approach road	Fixed of sprinkling system Exists and its maintenanc e work is being done on regular basis. Also 3 no's of mobile sprinkling water tankers are engaged for dust suppression.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	As the mine was working with very less production.During mine visit no adverse impact on aesthetic beauty within lease observed.		

Compliance of Rule 45

SL.No.	Item	COMMENTS	Remarks.
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9a	Status of submission of Monthly and Annual returns	M.R. Submitted upto DEC-2024 A.R. submitted upto-2023-24	As per rule 45(5) b&c. Of MCDR 2017 We are submitting the all the returns within the time limit. The monthly return of the DEC-2024 was submitted and the annual returns of 2023-24 submitted on	
S.N.	Item	Details GIVEN in A.R.	Actual in field	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	As per rule 46 of MCDR 2017, Mining Engineer- Purna Chandra Bagdi, Manager- A.Gurubalasubramania m, Geologist Padmalochan Behera	Mining engineer-Purna Chandra Bagdi, Manager- A.Gurubalasubramania m. Geologist Padmalochan Behera	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Covered under current (O-C) Workings- 34.974, Reclaimed-rehabilitated-14.419, Used for waste disposal-13.023, Occupied by plant, buildings, residential, welfare buildings and roads-2.337. Used for any other purpose (specify) Sub Grade Dump(Mineral Stacking-3.100, Work done under progressive mine closure plan during the year-3.749.	Covered under current (O-C) Workings- 34.974, Reclaimed-rehabilitated-14.419, Used for waste disposal-13.023, Occupied by plant, buildings, residential, welfare buildings and roads-2.337. Used for any other purpose (specify) Sub Grade Dump (Mineral Stacking-3.100, Work done under progressive mine closure plan during the year-3.749.	Area is in Ha.
9d	Scrutiny of Annual return on afforestation	-	Tree planted -8100, Survival rate 90%	-
9e	Scrutiny of Annual return on mineral reject	531720 Mt. proposed product	14700 Mt. generated	Blended with High Grade

	generation (Grade & quantity)			
9f	Scrutiny of Annual return on ROM stock and/or graded ore	The following closing balance of material available at the end of March-2024 58% to below 60% Fe Lumps-15810, Fines 51% to below 55% Fe-639.431, 55% to below 58% Fe-1268.647, 58% to below 60% Fe-15712.900, 60% to below 62% Fe-41754.151, 62% to below 65% Fe-13088.528, Below 62% Fe (CLO any size)-48963.358, 62% to below 65% Fe (5-18 mm size CLO-0.003, 62% to below 65% Fe (10-40 mm size CLO-0.989		-
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	Lumps 58-60% Fe Ex mines price 416.17, Fines- 51-55% Fe- sale value- 85396340.5,Exmines pr-3171, 55-58% Fe sale value- 632203709.58,Exmines pr- 2938, 58-60% Fe- sale value- 255194645.74,Exmines pr- 3084, 60-62% Fe- sale value- 500230855.5,Exmines pr- 5007, 62-65% Fe- sale value- 88163000,Exmines pr-4974, Below 62% Fe (CLO any size) -sale value- 88163000 Exmines price-4974, 62% to below 65% Fe (5-18 mm size CLO-sale value- 721236469.02Exmines price-4741,		
9i	Scrutiny of Annual return on fixed assets	Fixed assets of Rs. 217233218		
9k	Scrutiny of Annual return on mining machineries	Backhoe 3.5 cum, dozer ,truck 30 tons, explosive van, Drill m/c 102mm dia, wheel loader		

The violation under Rule 11(1) of MCDR, 2017 pointed out during present mine inspection.
