

MCDR INSPECTION REPORT

Date of Inspection: 27/06/2024

General

S. N.	Particulars	Details
1	Name of the Mine	Gandhamardan-B Iron Ore Mines
2	Total Lease Area (Ha) with breakup of Non-forest and forest land	ML Area- 1590.8673 Ha Forest Area- 1409.650 Ha Non Forest -181.2184 Ha
3	Mine code	30ORI08017
4	IBM Registration Number under rule 45 of MCDR, 1988	IBM/4269/2011
5	Name of the lessee, Address, phone, email and fax number	M/s The Odisha Mining Corporation Limited, A Govt. of Odisha undertaking, OMC House, Unit 5, Post Box No.34, Bhubaneswar-751001, Odisha.
6	Village	Dunla, Upperjagar, Urmunda, Salarapentha,Upperkanisari,Nitigotha, Ichinda,Ambadahara and Gandhamardan PRF
7	Taluka/Mandal	Banspal
8	District	Keonjhar
9	Pincode	758018
10	State	Odisha
11	Post office	Suakati
12	Nearest police station	Keonjhar Sadar
13	Nearest Railway station	
14	Date of Grant of Mining Lease	11.07.1970 to 10.07.2000
15	Date of Execution	11.07.1970
16	Date of opening of Mine	
17	Date of first Renewal, if applicable and its period & expiry	11.07.2000 to 31.03.2020
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	Shri Balwant Singh, IAS OMC House, Post Box No.34, Bhubaneswar-751001, Odisha.
21	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Shri Anurag Ojha At/P.O. - Suakati, District - Keonjhar, State - Odisha, PIN - 758018 Date of Appointment :19/06/2020
22	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	Sri Priya Ranjan Rout B. Tech. in Mining Engineering 01.11.2022
23	Name of the Mining Engineer, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Sri Gokulananda Sahoo AMIE in Mining Engineering 01.06.2023
24	Name of the Geologist, Qualification and total experience with Address, phone, email, fax number and date of appointment in mine	Sri Chologangadev Nayak Msc. Tech. in Applied Geology 01.04.2021
25	Whether Geologist and Mining Engineer appointed in	<u>Mining Engineer:</u>

1/36905/2024

	mines satisfy the rule 55& carrying out their duties as per rule 56 & 57.	Sri Gokulananda Sahoo AMIE in Mining Engineering Date of Appointment: 01.06.2023 <u>Geologist:</u> Sri Cholagangadev Nayak Msc. Tech. in Applied Geology Date of Appointment: 01.04.2021
26	Date of Approval of Mining Plan/Modified Mining Plan with five-year period and specific condition in approval letter, if any.	
27	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five-year period and specific condition in approval letter, if any.	02/08/2021
28	Mineral(s) granted in lease and proved for mining	Iron Ore
29	Method of Mining(Open cast, Underground)	Open cast
30	Category (Fully Mechanised, Others or Manual)	Fully Mechanized
31	Captive/Non Captive	Non-Captive

Scientific Mining: Compliance of proposals of approved mining plan/scheme of mining. (Duplication of information in existing TMIS data sheets and draft write up has been avoided.)

Exploration

S.N.	Item	Proposals for, 2023-24	Actual work during 2023-24	Remark
1a	Backlog of previous year	Nil	Nil	No such proposal during the reporting year.
1b	Exploration over lease area for Geological axis 1 or 2.	Nil	Nil	No such proposal during the reporting year.
1c	Exploration Agency & Expenditure in lakh Rupees during the year	NA	NA	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	Entire mineralized area has been covered under G1 level of exploration.
1e	Balance reserves as per latest approved document		165.932 Million tonnes	As on 01.04.2024
1f	General remarks of inspecting officer on geology, exploration etc.	There was no proposal for exploration during the reporting year. As per the approved mining plan, the entire mineralized zone within the mining lease area has been explored under G1 level of exploration.		

Development

S.N.	Item	Proposals for, 2023-24	Actual work during 2023-24	Remark
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I/36905/2024

2a	Location of development w.r.t. lease area	Hilltop -2392910N-2393570N 344640E-345660E 940-1040 m Putulupani -2394860N -2395850N 344460E-344925E 910-1000 m	Hilltop -2392915N-2393533N 344655E-345647E 940-1040 m Putulupani -2394883N -2395850N 344483E-344922E 910-1000 m	Lessee has carried out the development and production well within the proposed area but could not achieved the proposed target due to delay in handed over the proposed land i.e. in part of the process of after obtaining FC.
2b	Separate benches in topsoil, overburden and mineral (Rule 15)	Hilltop - No of Benches. Top Soil- 0 Overburden-2 Mineral- 8 Putulupani - No of Benches. Top Soil- 0 Overburden-2 Mineral- 6	Hilltop - No of Benches. Top Soil- 0 Overburden-2 Mineral- 8 Putulupani - No of Benches. Top Soil- 0 Overburden-2 Mineral- 6	Lessee has carried out the development and production well within the proposed area but could not achieved the proposed target due to delay in handed over the proposed land i.e. in part of the process of after obtaining FC.
2c	Stripping ratio or ore to OB ratio	<u>Hilltop Quarry</u> 1:0.93 <u>Putulupani Quarry</u> 1:0.75	<u>Hilltop Quarry</u> 1:0.65 <u>Putulupani Quarry</u> 1:0.77	
2d	Quantity of topsoil generation in m3	0.060 Mil. Cum	0.026 Mil. Cum	Lessee has carried out the development and production well within the proposed area but could not achieved the proposed target due to delay in handed over the proposed land i.e. in part of the process of after obtaining FC.
2e	Quantity of overburden generation in m3	8144000 Cum.	5132768.282 Cum.	
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc	Lessee has carried out the development and production well within the proposed area but could not achieved the proposed target due to delay in handed over the proposed land i.e. in part of the process of after obtaining FC during the reporting year.		

Exploitation

S.N.	Item	Proposals for, 2023-24	Actual work during 2023-24	Remark
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1/36905/2024

3a	Number of pits proposed for production	02 nos	02 nos	
3b	Quantity of ROM mineral production proposed	<u>Hilltop Quarry</u> 7.12 Mill. Tonne <u>Putulupani Quarry</u> 2.00 Mill. Tonne	<u>Hilltop Quarry</u> 7.0 Mill Tonne <u>Putulupani Quarry</u> 0.75 Mill Tonne	
3c	Recovery of salable/usable mineral from ROM production	100 %	100 %	
3d	Quantity of mineral reject generation	Hilltop :0.524 Mill Tonne Putulpani: 0.083 Mill. Tonne	Hilltop :0.510 Mill Tonne Putulpani: 0.103 Mill. Tonne	
3e	Grade of mineral reject generation and threshold value declared	45-58% Fe	Hilltop: 55.45% Fe Putulpani: 55.61% Fe	
3f	Quantity of sub-grade mineral generation	Nil	Nil	
3g	Grade of sub-grade mineral generation	NA	NA	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized	Mechanized	
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	115mm dia deep hole drilling and blasting using NONEL	115mm dia deep hole drilling and blasting using NONEL	
3k	Provision of mining machineries in mineral benches	Excavator and Dumper combination.	Excavator and Dumper combination.	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	<u>Float Quarry</u> Height: 10Mtr Width: 15Mtr <u>Hill Top Quarry</u> Height: 10 Mtr Width: 15Mtr	<u>Float Quarry</u> Height: 10Mtr Width: 15Mtr <u>Hill Top Quarry</u> Height: 10 Mtr Width: 15Mtr	
3m	Total area covered under excavation/pits	252.6188 Ha	176.938	
3n	Ore to OB ratio for the pit/mine during the year	<u>Hilltop Quarry</u> 1:0.93 <u>Putulupani Quarry</u> 1:0.75	<u>Hilltop Quarry</u> 1:0.65 <u>Putulupani Quarry</u> 1:0.77	

1/36905/2024

3o	Total area put in use under different heads at the end of year		363.624 Ha.	
3p	Production of ROM mineral during last five-year period, as applicable 2017-18 2018-19 2019-20 2020-21 2021-22 2022-23	2018-19 : 5.78 Mill. Tonne 2019-20: 7.619 Mill. Tonne 2020-21: 7.02 Mill. Tonne 2021-22: 9.12 Mill. Tonne 2022-23: 9.12 Mill. Tonne	2018-19 - 5.058 Mill. Tonne 2019-20: 6.8274 Mill. Tonne 2020-21: 6.4249 Mill. Tonne 2021-22: 7.278 Mill. Tonne 2022-23: 7.034 Mill. Tonne	
3q	General remarks of inspecting officer on method of	Lessee has carried out the development and production well within the proposed area but could not achieved the proposed target due to delay in handed over the proposed land i.e. in part of the process of after obtaining FC during the reporting year.		

Solid Waste Management-Dumping

S.N.	Item	Proposals for, 2023-24	Actual work during 2023-24	Remark
4a	Separate dumping of topsoil, OB & mineral reject (Rule 33, 37)	Separate dumps for overburden and mineral reject stacks, waste rocks are proposed. Waste Dump: 344940E - 346210 E / 2395730N - 2396780N Mineral Reject: <u>Upper Kainsari -1</u> 2395747N-2395821 N 345752 E – 345871 E <u>Upper Kainsari-2</u> 2396022N –2396145N 345564 E – 345688 E <u>Jagar-1</u> 2394840N –2394980N 343980 E – 344185 E <u>Jagar-2</u> 2394415N-2394570 N 344040 E – 344154 E <u>Jagar-3</u> 2394260N-2394300 N 344070 E – 344150 E	Separate dumps for Over-burden and mineral stacks and other waste rocks are being practiced and mineral rejects are being blended with high grade ore to make it suitable grade based on the requirement of buyers. Waste Dump: 344940E - 346210 E / 2395730N - 2396780N Mineral Reject: <u>Upper Kainsari -1</u> 2395747N-2395821 N 345752 E – 345871 E <u>Upper Kainsari-2</u> 2396022N –	

I/36905/2024

			2396145N 345564 E – 345688 E <u>Jagar-1</u> 2394840N – 2394980N 343980 E – 344185 E <u>Jagar-2</u> 2394415N– 2394570 N 344040 E – 344154 E <u>Jagar-3</u> 2394260N– 2394300 N 344070 E – 344150 E	
4b	Location of topsoil, OB & mineral reject dumps	Waste Dump: 344940E - 346210 E / 2395730N - 2396780N Mineral Reject: <u>Upper Kainsari -1</u> 2395747N–2395821 N 345752 E – 345871 E <u>Upper Kainsari-2</u> 2396022N –2396145N 345564 E – 345688 E <u>Jagar-1</u> 2394840N –2394980N 343980 E – 344185 E <u>Jagar-2</u> 2394415N–2394570 N 344040 E – 344154 E <u>Jagar-3</u> 2394260N–2394300 N 344070 E – 344150 E	Waste Dump: 344940E - 346210 E / 2395730N - 2396780N Mineral Reject: <u>Upper Kainsari -1</u> 2395747N– 2395821 N 345752 E – 345871 E <u>Upper Kainsari-2</u> 2396022N – 2396145N 345564 E – 345688 E <u>Jagar-1</u> 2394840N – 2394980N 343980 E – 344185 E <u>Jagar-2</u> 2394415N– 2394570 N 344040 E – 344154 E <u>Jagar-3</u> 2394260N– 2394300 N 344070 E – 344150 E	
4c	Number of dumps within lease area and outside lease	Within Lease: 05 Outside of Lease	Within Lease: 01 Outside of Lease	

1/36905/2024

	area	Area: Nil	Area: Nil	
4d	Location of dumps w.r.t. ultimate pit limit	Outside UPL	Outside UPL	
4e	Number of active & alive dumps	01	01	
4f	Number of dead dumps	04	04	
4g	Number of dumps stabilized	04	04	
4h	Whether Retaining wall or garland drain all along dumps are there	Retaining wall of 1024 mtr. and garland drain of 1030 mtr. have been proposed.	Retaining wall of 1215 mtr. and garland drain of 1050 mtr. Have been carried out during the reporting year.	
4i	Length of Retaining wall or garland drain all along dump	Retaining wall of 1024 mtr. and garland drain of 1030 mtr. have been proposed.	Retaining wall of 1215 mtr. and garland drain of 1050 mtr. Have been carried out during the reporting year.	
4j	Number of settling ponds	Nil	Nil	
4k	Specific comments of inspecting officer on waste dump management	The lessee has carried out the waste management well within the proposed area but could not achieved the proposed target as the development and production target during the reporting year have not been achieved. The lessee has constructed about 1215 mtr of retaining wall and 1050 mtr of garland drain during the reporting year.		

Solid Waste Management-Backfilling

S.N.	Item	Proposals for, 2023-24	Actual work during 2023-24	Remark
5a	Status on part or full extraction of mineral from mined out area before starting backfilling	Nil	Nil	No such proposal during the reporting year.
5b	Area under backfilling of mined out area	Nil	Nil	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 36)	Nil	Nil	
5d	Total area fully reclaimed & rehabilitated	Nil	Nil	
5e	General remarks of inspecting officer on backfilling, reclamation etc	The mine is not mature for backfilling and there was no such proposal for back filling. The lessee has carried out as per the proposal during the reporting year.		

Progressive Mine Closure Plan

S.N.	Item	Proposals for, 2023-24	Actual work during	Remark
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I/36905/2024

			2023-24	
6a	Whether Annual report on PMCP submitted on time and correctly - Rule 26(2).	As per Rule 26(2) Annual PMCP report to be submitted before 1st day of July of every year.	As the reporting year is yet to be completed and schedule date for submission for annual return is awaited till the date of inspection i.e. 27.06.2024.	
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	i) No such Proposal ii) No such Proposal iii) No such Proposal iv) No such Proposal v) No such Proposal vi) No such Proposal	i) Nil ii) Nil iii) Nil iv) Nil v) Nil vi) Nil	
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	i) Nil ii) Nil iii) Nil iv) Nil v) Nil	i) Nil ii) Nil iii) Nil iv) Nil v) Nil	
6d	Compliance of Rehabilitation of waste land within lease i) Afforestation ii) Area rehabilitated (ha) iii) Method of rehabilitation	i) 20000 no of saplings ii) 8.00 Ha. iii) Plantation	i) 9000 no of saplings ii) 4.00 Ha. iii) Plantation with 95% survival rate	
6e	Compliance of Environmental monitoring (core zone & buffer zone)	Environmental monitoring in Core zone and buffer zone will be as per MOEFCC and SPCB guidelines.	Environmental monitoring in Core zone and buffer zone is carried out as per MOEFCC and SPCB guidelines.	
6f	General remarks of inspecting officer on PMCP compliance & progressive closure operations	The lessee has carried out environmental monitoring as per the proposal during the reporting year and the lessee has planted about 9000 no of saplings with a survival rate of about 95% carried out within the lease area. There was no such proposal of backfilling		

1/36905/2024

during the reporting year.

Mineral Conservation

S.N.	Item	Proposals for, 2023-24	Actual work during 2023-24	Remark
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Saleable Ore: +55 % Fe, Mineral Reject: - +45 to 55% Fe were proposed.	Saleable Ore: +55 % Fe, Mineral Reject: - +45 to 55% Fe were proposed.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Mechanized	Mechanized	
7c	Different grade of mineral sorted out at mines	Saleable Ore: +55 % Fe and grade of 62% to 64% Fe Lumps & 60% to 62% Fe fines were proposed.	Saleable Ore: +55 % Fe and grade of 62% to 64% Fe Lumps & 60% to 62% Fe fines are being dispatched from the mine head to different buyers as per the purchase order.	
7d	Any beneficiation process at mines	Nil	Nil	No Such proposal during the reporting year.
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	Saleable Ore: +55 % Fe and grade of 62% to 64% Fe Lumps & 60% to 62% Fe fines are being dispatched from the mine head to different buyers as per the purchase order are being practiced. Further no beneficiation process was proposed. Only crushing and screening are being carried out during the reporting year.		

Environment

S.N.	Item	Proposals for, 2023-24	Actual work during 2023-24	Remark
8a	Separate removal and utilization of topsoil (Rule 36)	About 0.060 M. Cum. of top soil generation was proposed.	About 0.026 M Cum. of top soil generated and concurrent utilized during the reporting year.	The lessee could not achieved the proposed topsoil generation due to less development and production during the reporting year.
8b	Concurrent use or storage of topsoil	About 0.060 M. Cum. of top soil generation was proposed.	About 0.026 M Cum. of top soil generated and concurrent utilized during the reporting year.	The lessee could not achieved the proposed topsoil generation due to less development and production during the reporting year.

1/36905/2024

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 37)	Separate dumps for overburden and mineral reject stacks, waste rocks are proposed.	Separate dumps for Over-burden and mineral stacks and other waste rocks are being practiced.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No such proposal	Nil	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No such proposal	Nil	
8f	Baseline information on existence of plantation & additional Plantation done	20000 No's of tree to be planted within the lease area over 8.00 Ha.	900 no's of tree has been planted within the lease area over 4.00 Ha. with 95% survival rate.	
8g	Survival rate	20000 No's of tree to be planted within the lease area over 8.00 Ha.	900 no's of tree has been planted within the lease area over 4.00 Ha. with 95% survival rate.	
8h	Water sprinkling on roads to control airborne dust	Regular sprinkling of water on Haul roads and transport roads using Water tanker to suppress the dust.	Regular sprinkling of water on Haul roads and transport roads using permanent water sprinkler and mobile water tanker (10 KL capacity: 4 nos. & 9 KL Capacity: 3 no.) to suppress the dust are in practice.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	The lessee has planted 9000 no of saplings over 4.0 Ha area with a survival rate of 95% within the lease area. The lessee could not achieve the proposed top soil generation during the reporting year due to less development and production. Water sprinkling by permanent water sprinkler and mobile water tanker over haul roads to control the airborne dust and to minimize the fugitive dust emission. This sustains the aesthetic beauty of the mine area.		

Compliance of Rule 45

S.N.	Item	COMMENTS		Remarks
9a	Status of submission of Monthly and Annual returns	M.R. Submitted up to May 2024. A.R. Submitted up to – 2022-23		
S.N.	Item	Details given in A.R. for the year 2023-24	Observation of I/Officer	Remarks

I/36905/2024

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	NA	NA	Although the reporting year has been completed, the lessee has not submitted the AR for the reporting year and schedule date for submission for annual return is awaited till the date of inspection i.e. 27.06.2024.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	NA	NA	Although the reporting year has been completed, the lessee has not submitted the AR for the reporting year and schedule date for submission for annual return is awaited till the date of inspection i.e. 27.06.2024.
9d	Scrutiny of Annual return on afforestation	NA	NA	Although the reporting year has been completed, the lessee has not submitted the AR for the reporting year and schedule date for submission for annual return is awaited till the date of inspection i.e. 27.06.2024.
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	NA	NA	Although the reporting year has been completed, the lessee has not submitted the AR for the reporting year and schedule date for submission for annual return is awaited till the date of inspection i.e. 27.06.2024.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	NA	NA	Although the reporting year has been completed, the lessee has not submitted the AR for the reporting year and schedule date for submission for

I/36905/2024

				annual return is awaited till the date of inspection i.e. 27.06.2024.
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	NA	NA	Although the reporting year has been completed, the lessee has not submitted the AR for the reporting year and schedule date for submission for annual return is awaited till the date of inspection i.e. 27.06.2024.
9i	Scrutiny of Annual return on fixed assets	NA	NA	Although the reporting year has been completed, the lessee has not submitted the AR for the reporting year and schedule date for submission for annual return is awaited till the date of inspection i.e. 27.06.2024.
9k	Scrutiny of Annual return on mining machineries	NA	NA	Although the reporting year has been completed, the lessee has not submitted the AR for the reporting year and schedule date for submission for annual return is awaited till the date of inspection i.e. 27.06.2024.