

MCDR INSPECTION REPORT**General**

S N	Particulars	Details
1	File no	
2	Name of the Inspecting Officer	Vikram Deshpande, ACOM, BBSR
3	Name of the Mine	Ostapal Chromite Mine
4	Total Lease Area (Ha) with breakup of Non-forest and forest land	72.843 Ha, Non Forest: 4.419 Ha, Forest: 68.424 Ha.
5	Mine code	11ORI19005
6	Date of Inspection	23.11.2023
7	Name of official accompanying inspection	S/Shri Vinod Saini, Mines Manager, Avijit Bhunia, Head Technical Services
8	IBM Registration Number under rule 45 of MCDR, 1988	IBM/173/2011
9	Name of the lessee, Address, phone, email and fax number	M/s. Ferro Alloys Corporation Ltd., Ostapal Chromite Mines.
10	Village	Gurujanga
11	Taluka/Mandal	Sukinda
12	District	Jajpur
13	Pin code	755047
14	State	Odisha
15	Post office	Kaliapani
16	Nearest police station	Kaliapani
17	Nearest Railway station	Jajpur- Keonjhar Road.
18	Date of Grant of Mining Lease	13.08.1985
19	Date of Execution	13.08.1985
20	Date of opening of Mine	03.12.1985
21	Date of first Renewal, if applicable and its period & expiry	13.08.2005 For the first period of 20 Years. As per Amendment Act, 2015 Section 8A Validity of lease period: 13.08.1985 to 12.08.2035(50 Years.)
22	Date of second Renewal, if applicable and its period & expiry	No Applicable
23	Date of submission of renewal application if Mining Operations are continuing under deemed extension	Not Applicable
24	Name of the Nominated Owner with Address, phone, email, fax number and date of appointment	Sri Pankaj Kumar Sharma (Nominated Owner & Director) M/s FACOR LTD Chrome Ore Mining Division, D.P.Nagar,Bhadrak-756135(ODISHA) 06784-242170
25	Name of the Mine Agent with Address, phone, email, fax number and date of appointment	Sri. Muthumari M Agent & Head O & M (Mines) Ferro Alloys Corporation Ltd D.P Nagar, Randia Post: Bhadrak, Odisha
26	Name of the Mines Manager with Address, phone, email, fax number and date of appointment in mines	Sri. Vinod Saini(B.E) Mining 14 years experience Ostapal Chromite Mines, M/s.Facor Ltd Post. Kaliapani,Dist.Jajpur-755028 Ph.no.943706935 Email: vinod.sainii@vedanta.co.in Date of appointment. 03.06.2022

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27	Name of the Mining Engineer & Geologist, Qualification and total experience	Mining engineer Qualification Date of appointment Address phone/email	Sri. Vinod Saini(B.E) Mining 14 years experience Ostapal Chromite Mines, M/s.Facor Ltd Post. Kaliapani,Dist.Jajpur-755028 Ph.no.943706935 Email: vinod.sainii@vedanta.co.in Date of appointment. 03.06.2022
		Geologist Qualification Date of appointment Address phone/email	Sri I. Rama Rao, M.Sc. (Geology) 24 years experience. Ostapal Chromite Mines, M/s Facor Ltd Post. Kaliapani,Dist.Jajpur-755028 Ph.no.9437528823 Email:imandirama.rao@vedanta.co.in Date of appointment. 14.12.2009
28	Whether Geologist and Mining Engineer appointed in mines satisfy the rule 42 & carrying out their duties as per rule 43 & 44.		Sri I. Rama Rao, M.Sc. (Geology) 24 years experience. Ostapal Chromite Mines, M/s Facor Ltd Post. Kaliapani,Dist.Jajpur-755028 Ph.no.9437528823 Email:imandirama.rao@vedanta.co.in Date of appointment. 14.12.2009
29	Date of Approval of Review of Mining Plan/Modified Mining Plan with five-year period and specific condition in approval letter, if any.		Modification of Review of Mining Plan Vide ltr no. MCDR-MiFLOCR/6/2023-BBS Dtd.14.06.2023
30	Date of Approval of Scheme of Mining/Modified Scheme of Mining with five-year period and specific condition in approval letter, if any.		Modified Mining Plan Vide ltr no.314 (3)/2005 – MCCM (C)/MP-11/758 dtd. 06.10.2005
31	Mineral(s) granted in lease and proved for mining		Chromite
32	Method of Mining(Open cast, Underground)		Open cast
33	Category (Fully Mechanized, Others or Manual)		'A' Fully Mechanized
34	Captive/Non Captive		Non-Captive
35	Environment Clearance grant date & limit of EC		04.04.2022, 240000 MT
36	CTO		28.06.2022, validity upto 31.03.2026, 240000 MT

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Exploration

S.N.	Item	Proposals(2022-23)	Actual work	Remarks
1a	Backlog of previous year	4Nos amounting 1777Mtrs	15Nos amounting to 8871Mtrs at a grid interval of 50mX50m	Cumulatively 306 boreholes were drilled with a total meterage of 42309 mts in the past as per the AR for 2022- 23
1b	Exploration over lease area for Geological axis 1 or 2.	G1	G1	G1: 40.519 Ha mineralized G1: 32.324 Ha non- mineralized Total: 72.843 Ha under G1 level.
1c	Exploration Agency & Expenditure in lakh Rupees during the year	Rs- 7770000/-	Rs 29136665/-	Drilled by Maheswari Mining Pvt Ltd.
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	Total area explored under G-1 category.
1e	Balance reserves as on 01.04.2023 (in MT)	As on 01.04.2022 (111) 1378514 Tons (121&122) -Nil- Total : 1378514 Tons		As on 31.03.2023 (111):1037963.62Ton s, (121&122): 18670850.81Tons Total : 19708814.43
1f	General remarks of inspecting officer on geology, exploration etc.	The Chromite deposits of Sukinda ultramafic field occurs as six more or less parallel bands in Serpentinite. These Chromite bands are locally named as Band 1,2,3,4,5 & 6 and are separated from each other by Serpentinite /Pyroxenite ranging in thickness 120 M to 600 M. The Chromite bands occur in Northern limb of the fold shows the strike E – W to ESE – WNW, dipping 100 – 500 towards south to SSW while those of Southern limb shows the strike NE – SW to WSW dipping 450 – 850 towards NW to NNW. However, Band No.6 of Southern limb show steep dip towards South from the disposition and characteristic of Chromite Ore bodies, it suggests that the ore body is a stratiform type of deposit.		

Development

S.N.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t. lease area	373750E-374415E 2329190N-2319785N	373750E-374415E 2329190N- 2319785N	Development done within the area as per proposal.
2b	Separate benches in topsoil, overburden and mineral (Rule 15)	Separate benches in, mineral and waste proposed.	Separate benches maintained in mineral and waste.	Ore / Mineral 13Nos. Waste 15 Nos.
2c	Stripping ratio or ore to OB ratio	1:2.06(Ton/M ³)	1:2.69(Ton/M ³)	No significant change.

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2d	Quantity of topsoil generation in m ³	No Proposal	Nil	No top soil generated during the reporting year.
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2e	Quantity of overburden/waste generation in m ³	4.95Lac M ³	6.46Lac M ³	Excess production of OB achieved vis-à-vis the production of ROM.
2f	General remarks of inspecting officer on development of pit w.r.t. type of deposit etc.	The mine working is confined to 1 pit only. The work is being broadly carried out as per proposals in the approved modification of MP.		

Exploitation

S.N.	Item	Proposals	Actual work	Remarks
3a	Number of pits proposed for production	1	1	
3b	Quantity of ROM production	2.4 Lac MT	2.399Lac MT	Production is within EC limit.
3c	Recovery of salable/usable mineral from ROM production	42%	42%	
3d	Quantity of mineral reject generation	139000Tons	139223.00Tons	As per AR submitted for 2022-23
3e	Grade of mineral reject generation and threshold value declared	26.9% 10% (Threshold value)	28% 10% (Threshold value)	
3f	Quantity of sub-grade mineral generation	No proposal	Nil	Nil
3g	Grade of sub-grade mineral generation	No proposal	Nil	Nil
3h	Manual / Mechanized method adopted for segregating from ROM	Mechanised and Manual method proposed for segregating from ROM	Mechanised and Manual method adopted for segregating from ROM	
3i	Any analysis or beneficiation study proposed & carried out for sub-grade mineral and reject	Feed Qty - 121000 Feed grade – 26.90 % of Recovery – 45 Con. Grade – 49.00	Feed Qty – 109823 Feed grade – 28Avg % of Recovery – 45 Con. Grade – 50.00	The lessee has a COB plant within the lease.
3j	Provision of drilling & blasting in mineral benches	Drilling and Blasting proposed in mineral benches.	Drilling and blasting was carried out in mineral benches.	Dia of DTH: 110 Mtrs. Spacing:2.5-3.0m Burden:2.5-3.0m Powder factor: 2.5 to 4.5 M ³ /Kg
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 mechanized open cast mining in combination of backhoe(2.40 Cu.m) and Dumper (32 tonne)with deep hole drilling and blasting

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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 8 meter with width of 8 m.	Height of the benches maintained as 8 meter with width of 8 m.	It is suitable for method of mining proposed in MP for the height of the benches in overburden and mineral. Benches not maintained properly in West and Eastern side of the pit for which violation of Rule 11(1) has been pointed out to the lessee.
3m	Total area covered under excavation/pits	30.670 Ha is proposed	30.670 Ha is used for mining	As per AR submitted for 2022-23.
3n	Ore to OB ratio for the pit/mine during the year	1:2.06	1:2.69	No Significant change
3o	Total area put in use under different heads at the end of year	Pit: 30.670 Ha Waste disposal: 28.723 Ha Others: 13.862 Ha	Pit: 30.670 Ha Waste disposal: 28.580 Others: 13.593 Ha	
3p	Production of ROM mineral during last five-year period, as applicable			All units in Metric Tonnes. Actual production is within the proposed limit.
	Year- 2018-19	1.351	1.059	
	Year- 2019-20	1.046	1.044	
	Year- 2020-21	0.976	0.975	
	Year- 2021-22	2.400	1.999	
Year-2022-23	2.400	2.399		
3q	General remarks of inspecting officer on method of mining etc.	Open-cast fully mechanised mining method with Backhoe-Dumper combination, with 8 m high and width up to 8m and deep drilling and blasting is being broadly carried as per approved modified MP.		

Solid Waste Management-Dumping

S.N	Item	Proposals	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	No top soil & mineral reject North Dump 373775E to 374581E 2329562N to 2330021N South Dump 373729E to 374201E 2328991N to 2329351N	North Dump 373775E to 374581E 2329562N to 2330021N South Dump 373729E to 374201E 2328991N to 2329351N	The entire generated mineral reject are being used for up-gradation in COB Plant.
4c	Number of dumps within lease area and outside lease area	02	02	All within lease area. North and South Dump

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4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Beyond ultimate pit limit	Beyond ultimate pit limit	
4e	Number of active & alive dumps	02	02	North and South Dump
4f	Number of dead dumps	No proposal	Not Done	
4g	Number of dumps stabilized	No proposal	Not Done	Dead Faces are stabilized
4h	Whether Retaining wall or garland drain all along dumps are there	No	No	Violation of Rule 37(2) of MCDR 2017 issued to lessee.
4i	Length of Retaining wall or garland drain all along dump	Retaining wall : NIL Garland drain : NIL	Retaining wall: 100Mtrs Garland drain :100Mtrs	
4j	Number of settling ponds	No proposal	Not Done	
4k	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

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 during the reporting year	Not Applicable	
5b	Area under backfilling of mined out area	Not Applicable	Not Applicable	
5c	Concurrent use of topsoil for restoration or rehabilitation of mined out area (Rule 32)	No proposal during the reporting year	Not Applicable	
5d	Total area fully reclaimed & rehabilitated	Not Applicable	Not Applicable	
5e	General remarks of inspecting officer on backfilling, reclamation etc	There is no proposal for Backfilling during the reporting year.		

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Progressive Mine Closure Plan

Sl.N	Item	Proposals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	Annual report on PMCP to be submitted on 1 st July every year.	PMCP Report Submitted.	Submitted on dated 13/06/2023
6b	Area available for rehabilitation (ha).	Nil	Nil	
6c	afforestation done (ha).	Nil	Nil	
6d	No. of saplings planted during the year	Number of plants proposed for afforestation 1430	Number of saplings planted 2502	Within Lease-502 Outside Lease 2000
6e	Cumulative no. of plants	3420	3826	
6f	Any other method of rehabilitation	Nil	Nil	
6g	Cost incurred on watch and care during the year	Rs 4,54,740	7, 95,636	
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	
6l	Compliance on 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	

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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.	Monitoring of Noise, Water etc done.	Env. parameters were observed to be within the permissible limit
6q	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

S.N.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise mineral sorting within lease area.	Grade wise mineral sorting within lease area.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical	Mechanical	Mechanical	
7c	Different grade of mineral sorted out at mines	10% to 40% +40% above	10% to 40% +40% above	10% to -40% used for upgradation. +40% to above : Direct dispatch.
7d	Any beneficiation process at mines	Beneficiation proposed.	Chrome Ore Beneficiation Plant	Situated within lease with a capacity of 20TPH
7e	General remarks of inspecting officer on Mineral conservation & beneficiation issues	Greater than 40% Cr ₂ O ₃ is directly usable at the charge chrome plant and less than 40% Cr ₂ O ₃ is usable after beneficiation through Chrome Ore Beneficiation Plant. At present the ore is being beneficiated through a 20TPH COB plant installed inside mine lease.		

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Environment

S.N.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	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 (Rule 33)	The waste generated during the mining plan will be disposed off over the earmarked waste dump in the non-mineralized area.	Waste generated disposed off over the earmarked area.	North Dump 373775E to 374581E 2329562N to 2330021N South Dump 373729E to 374201E 2328991N to 2329351N
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.)	Not proposed	Not done	
8f	Baseline information on existence of plantation & additional plantation done (Rule 41)		Number of saplings planted 3826	AR 2022-23
8g	Survival rate	85%	85%	
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.	4 number of water tankers having capacity of 8 KLD deployed for suppressing dust.
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.		

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Compliance of Rule 45

S.N.	Item		Observation of I/Officer	Remarks
9a	Status of submission of Monthly and Annual returns	MR to be submitted before 10 th every month. AR to be submitted before 1 st July.	M.R Submitted up to November-2023 A. R Submitted up to 2022-23	AR for 2022-23 submitted on 30/06/2023.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer:10 Geologist:09 Manager:1	Mining Engineer: Shri Vinod Saini Geologist: Shri I Rao Manager: Shri Vinod Saini	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Pit: 33.104 Ha Waste disposal: 28.723 Others: 13.862	Pit: 30.670 Ha Waste disposal: 28.580 Others: 13.593	AR 2022-23
9d	Scrutiny of Annual return on afforestation	Afforestation no.:1430 Nos. Afforestation area:0.572Ha.	Afforestation no.:2502Nos. Afforestation area:1.00Ha.	AR 2022-23
9e	Scrutiny of Annual return on mineral reject generation (Grade & quantity)	-	Quantity: 6363.030Tonne Grade: Cr2O3 : 10 to below 40%	AR 2022-23
9f	Scrutiny of Annual return on ROM stock and/or graded ore	-	28854.931 Tons	AR 2022-23
9g	Scrutiny of Annual return on sale value, Ex. Mine price & production cost	-	Sale value: Nil Cost of Production = 7151.84	AR 2022-23
9i	Scrutiny of Annual return on fixed assets	-	Value of Fixed asset : Rs. 4619256073	
9k	Scrutiny of Annual return on mining machineries	Back Hoe-06 Dozer-02 Dumper-24	Back Hoe-05 Front End Loader-01 Water Tanker-04 Generator-09 Dozer-01 Pumps-04 Explosive Van-01 Dumper-21 Other HEMM-06 Others-06	AR 2022-23