

**INDIAN BUREAU OF MINES
MINERALS DEVELOPEMMENT AND REGULATION DIVISION**

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/CR/JJP/MCDR-15/BBS

Mine code : 11ORI19017

- (i) Name of the Inspecting : **U11**) **DAYANAND UPADHYAY**
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri S Patni, Agent, Shri L Mohapatra, Manager
Official with
Designation
- (iv) Date of Inspection : 09/07/2021
- (v) Prev.inspection date : 05/10/2020

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **MAHAGIRI**
- (b) **Registration NO.** : **IBM/4200/2011**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : JAJPUR
- Village : KALIAPANI
- Taluka : SUKINDA
- Post office : KALIPANI
- Pin Code : 755047
- FAX No. : 06742580020
- E-mail : mineplanningcell@imfa.in
- Phone : 06742580100
- (f) Police Station : TOMKA
- (g) First opening date : 16/01/2006
- (h) Weekly day of rest : SUN
2. Address for : AT/ PO: KALIAPANI,
correspondance DIST: JAJPUR
ORISSA
3. (a) Lease Number : ORI0693
- (b) Lease area : 116.76
- (c) Period of lease : 30
- (d) Date of Expiry : 03/09/2029
4. Mineral worked : CHROMITE Main

5. Name and Address of the

Lessee : INDIAN CHARGE CHROME LIMITED.
BOMIKAL PO RASULGARH
BHUBNESHWAR ORISSA
Phone:580100,580125
FAX :580145/580020

Owner : C R RAY
IMFA BUILDIND, BOMIKHAL
RASULGARH, BHUBANESWAR
ODISHA JAJPUR ORISSA
Phone: 06742580100
FAX :

Agent : SUDHANSHU PATNI
M/S IMFA LIMITED, KALIAPANI
JAJPUR ODISHA JAJPUR ORISSA
Phone: 9937299495
FAX :

Mining Engineer

Name : SHRI JALANDHAR PATRA,Full Time
Qualification : M TECH MINING
Appointment/ : 26/10/2017
Termination date

Geologist

Name : KHIROD KUMAR MOHAPATRA,Full Time
Qualification : MSC (GEOLOGY)
Appointment/ : 02/03/2015
Termination date

Manager

Name : SHRI LALATENDU MAHAPATRA
Qualification : AMIE MINING
Appointment/ : 25/10/2017
Termination date

6. Date of approval of Mining Plan/Scheme of Mining	:	Modif.of approved Mining Plan	29/11/2007
		Mining Scheme rule 12 MCDR1988	22/03/2010
		Modif.approved Mining Scheme	11/11/2011
		Mining Scheme rule 12 MCDR1988	06/04/2015
		Modif.of approved Mining Plan	10/03/2017
		Modif.approved Mining Scheme	29/03/2019
		MP review under 17(1) MCR 2016	14/11/2019

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	5 nos. bore holes in 2020-21	11 nos. bore holes in 2020-21	11 nos. bore holes in 2020-21
1b	Exploration over lease area for geological axis 1 or 2	G1 Level	11 nos. bore holes in 2020-21 under G1 level.	11 nos. bore holes in 2020-21 under G1 level.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not specified.	Exploration agency involved in drilling was M/s Maheshwari Pvt Ltd and cost incurred in drilling was Rs 2070363/-.	Exploration agency involved in drilling was M/s Maheshwari Pvt Ltd and cost incurred in drilling was Rs 2070363/-.
1d	Balance area to be explored to bring Geological axis in 1 or 2	Within G1 level already explored area.	Within G1 level already explored area.	Totla lease area is explored under G1 level.
1e	Balance reserve as on 01/04/20	Reserve as per approved reviewof mining plan 109.67 Lah T	Balancr reserve as on 01/04/2021 is 105.527 Lakh T	Balancr reserve as on 01/04/2021 is 105.527 Lakh T
1f	General remarks of inspecting officers on geology, exploration etc	5 nos. bore holes in 2020-21	11 nos. bore holes in 2020-21 under G1 level.	11 nos. bore holes in 2020-21 under G1 level.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Development is proposed in underground mining method.	Development carried out by underground mining method.	Development carried out by underground mining method.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Development is proposed in underground mining method.	Development carried out by underground mining method.	Development carried out by underground mining method.

2c	Stripping ratio or ore to OB ratio	Development is proposed in underground mining method.	Development carried out by underground mining method.	Development carried out by underground mining method.
2d	Quantity of topsoil generation in m3	Development is proposed in underground mining method.	Development carried out by underground mining method.	Development carried out by underground mining method.
2e	Quantity of overburden generation in m3	Development is proposed in underground mining method.	Development carried out by underground mining method.	Development carried out by underground mining method.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Development is proposed in underground mining method.	Development carried out by underground mining method.	Development carried out by underground mining method.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Under ground mining is by blasthole stoping method. Stope Block 2P, 11P1, 6S1, 4S1,11S1, 2S1, 11P2, 6S2, AP7, AP8 and AP6.	Under ground mining is by blasthole stoping method. Stope Block 2P, 11P1, 6S1, 4S1,11S1, 2S1, 11P2, 6S2, AP7, AP8 and AP6.	Under ground mining is by blasthole stoping method. Stope Block 2P, 11P1, 6S1, 4S1,11S1, 2S1, 11P2, 6S2, AP7, AP8 and AP6.
3b	Quantity of ROM mineral production proposed	300000T	240899.685T	production in 2020-21: 240899.685T
3c	Recovery of sailable/usable mineral from ROM production	300000T	240899.685T	240899.685T
3d	Quantity of mineral reject generation	Not proposed.	Nil	Nil.

3e	Grade of mineral rejects generation and threshold value declared.	Not proposed.	Nil.	Nil.
3f	Quantity of sub grade mineral generation.	Not proposed.	Nil	Nil
3g	Grade of sub grade mineral generation	Not proposed.	nil	nil.
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised/manual	Mechanised/manual	Mechanised/manual
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No such proposal.	Not applicable	Nil
3j	Provision of drilling and blasting in mineral benches	Burn cut and ring cut drilling and blasting.	In Underground mining for development faces Burn cut drilling pattern is followed. In development faces slurry explosive of 25mm & 40mm size of cartridge for effective blasting. In Stope drilling, 57mm dia. long hole and 115mm dia.DTH combination are used.The holes are drilled in ring pattern. Blasting is carried out by the explosive in cartridge form with electric delay detonators/Nonel.	In Underground mining for development faces Burn cut drilling pattern is followed. In development faces slurry explosive of 25mm & 40mm size of cartridge for effective blasting. In Stope drilling, 57mm dia. long hole and 115mm dia.DTH combination are used.The holes are drilled in ring pattern. Blasting is carried out by the explosive in cartridge form with electric delay detonators/Nonel.

3k	Provision of mining machineries in mineral benches	Not applicable	Nil	Nil
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Under ground method of mining proposed.	underground mining method is practised.	underground mining method is practised.
3m	Total area covered under excavation/pits	9.600ha during approved plan	9.600 ha	9.600 ha
3n	Ore to OB ratio for the pit/mine during the year.	undergorund mine workings.	undergorund mine workings.	undergorund mine workings.
3p	Production of ROM mineral during the last five year period as applicable	2015-16: 170656 MT 2016-17: 232000 MT 2017-18: 300000 MT 2018-19: 210000 MT 2019-20: 262000 MT 2020-21: 300000 MT	2015-16: 74441 MT 2016-17: 207695.64 MT 2017-18 : 186613.46 MT 2018-19: 201383.795MT 2019-20: 199178.598 MT 2020-21: 240899.685MT	
3q	General remarks of inspecting officers on method of mining etc.	Proposed underground minng.	Production is carried out by underground minng method.	Production is carried out by underground minng method.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
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4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	No generation of top soil and mineral rejects are proposed . Waste generated from underground workings is going to be backfilled in opencast workings.	Mineral rejects and top soil are not produced. Waste generated from underground workings is backfilled in opencast workings.	Mineral rejects and top soil are not produced. Waste generated from underground workings is backfilled in opencast workings.
4b	Location of topsoil, OB and mineral reject dumps	No generation of top soil and mineral rejects are proposed . Waste generated from underground workings is going to be backfilled in opencast workings.	Mineral rejects and top soil are not produced. Waste generated from underground workings is backfilled in opencast workings.	Mineral rejects and top soil are not produced. Waste generated from underground workings is backfilled in opencast workings.
4c	Number of dumps within lease area and outside of lease area	No waste dumping is proposed.	Nil.	Nil.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	No waste dumping is proposed.	Nil.	Nil.
4e	Number of active and alive dumps.	No waste dumping is proposed.	Nil.	Nil.
4f	Number of dead dumps.	Not proposed.	Nil.	Nil.
4g	Number of dumps established.	Not proposed.	Nil.	Nil.
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes	Yes provided.	Retaining wall and garland drain maintained along old dump.

4i	Length of Retaining wall or garland drain all along dumps	Maintainance of Retaining wall and garland drain.	Retaining wall and garland drain maintatined along old dump.	Retaining wall and garland drain maintatined along old dump.
4j	Number of settling ponds	Not proposed.	Nil	Nil.
4k	Specific comments of inspecting officer on waste dump management	No generation of top soil and mineral rejects are proposed . Waste generated from underground workings is going to be backfilled in opencast workings.	Mineral rejects and top soil are not produced. Waste genertaed from underground workings is backfilled in opencast workings.	Mineral rejects and top soil are not produced. Waste genertaed from underground workings is backfilled in opencast workings.

Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	Backfilling is proposed in the exhaust portion of the opencast workings where UPL has reached.	Backfilling is being carried out.	Backfilling is being carried out.
5b	Area under backfilling of mined out area	0.56 ha area	0.56 ha area	0.56 ha area
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not applicable.	Nil	Nil
5d	Total area fully reclaimed and rehabilitated	0.1 ha	0.1 ha	0.1 ha

5e	General remarks of inspecting officers on backfilling and reclamation etc.	Backfilling/reclamation proposed in the mined out area.	Backfilling/reclamation has been carried out in the mined out area.	Backfilling/reclamation has been carried out in the mined out area.
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Progressive Mine Closure Plan:

Sl.No.	Item	Proposals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	As per provision of MCDR.	Annual return on PMCP has been submitted.	Annual return on PMCP has been submitted.
6b	Area available for rehabilitation (ha) .	0.1 ha area	0.1 ha area	0.1 ha area
6c	afforestation done (ha).	0.1 ha area	0.1 ha area	0.1 ha area
6d	No. of saplings planted during the year	250 nos. of saplings.	575 nos. of saplings.	575 nos. of saplings.
6e	Cumulative no .of plants	Not specified.	27111 nos. of plantation.	27111 nos. of plantation.
6f	Any other method of rehabilitation	0.1 ha area by plantation.	0.1 ha area by plantation.	0.1 ha area by plantation.
6g	Cost incurred on watch and care during the year	Not specified	Around Rs 2.5 lakh cost incurred on watch and care.	Around Rs 2.5 lakh cost incurred on watch and care.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.

6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not proposed	Nil	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not proposed	Nil	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not proposed	Nil	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring	Quarterly monitoring	Quarterly monitoring

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.
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Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Gradewise sorting.	The ROM is crushed/screened to different size specification and grades before being dispatched to captive ferro chrome plants.	The ROM is crushed/screened to different size specification and grades before being dispatched to captive ferro chrome plants.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical.	Mechanical.	Mechanical.
7c	Different grade of mineral sorted out at mines.	ROM Grade +10% Cr2O3 and cut off grade of ore stipulated by captive ferro chrome plants is 30% Cr2O3%.	Grade wise production and dispatch of lump and fines carried out.	Grade wise production and dispatch of lump and fines carried out.
7d	Any beneficiation process at mines	Only crushing and screening proposed.	Only crushing and screening is practiced.	Only crushing and screening is practiced.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Gradewise sorting.	The ROM is crushed/screened to different size specification and grades before being dispatched to captive ferro chrome plants.	The ROM is crushed/screened to different size specification and grades before being dispatched to captive ferro chrome plants.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Not proposed.	Nil.	Nil.
8b	Concurrent use or storage of topsoil	Not proposed.	Nil	Nil
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Not proposed.	Nil	Nil
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	250 nos. of saplings.	575 nos. of saplings.	575 nos. of saplings.
8g	Survival rate	Not specified.	90.78%	90.78%
8h	Water sprinkling on roads to control airborne dust	water sprinkler	Water sprinklers are used to control air borne dust.	Water sprinklers are used to control air borne dust.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.	Backfilling 0.1 ha area reclaim and rehabilitate by plantation.	Aesthetic beauty in and aroun mines area is maintained.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly & Annual returns are being regularly submitted by lessee.	Monthly & Annual returns are being regularly submitted by lessee.	Monthly & Annual returns are being regularly submitted by lessee.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	The employment status of mining engineer, geologist & mine manager have been furnished in the annual return	Mining engineer, geologist & mine managers were employed in the mine.	Mining engineer, geologist & mine managers were employed in the mine.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area covered under different heads are Pit-9.6 ha, Reclaim-6.9ha, waste dump-5.09 ha, Plant, residential & building, roads-12.688ha & others - 20.496 ha.	Area covered under different heads are Pit-9.6 ha, Reclaim-6.9ha, waste dump-5.09 ha, Plant, residential & building, roads-12.688ha & others -20.496 ha.	Area covered under different heads are Pit-9.6 ha, Reclaim-6.9ha, waste dump-5.09 ha, Plant, residential & building, roads-12.688ha & others -20.496 ha.
9d	Scrutiny of Annual return on afforestation	575 nos.	575 nos.	575 nos.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil	Nil	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM Closing stock 14566.454T	ROM Closing stock 14566.454T	ROM Closing stock 14566.454T
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Cost of production Per Tonne Rs 4753.20	Cost of production Per Tonne Rs 4753.20	Cost of production Per Tonne Rs 4753.20

9h	Scrutiny of Annual return on fixed assets	Value of Fixed Assets in Rs 298996871	Value of Fixed Assets in Rs 298996871	Value of Fixed Assets in Rs 298996871
9k	Scrutiny of Annual return on mining machineries	Front end loader :8nos., Tippers: 9 nos, Load nos, Load Haul Dumper : 5 nos., Mine cars-8 nos.etc.,	Front end loader :8nos., Tippers: 9 nos, Load Haul Mine cars-8 nos.etc.,	Front end loader :8nos., Tippers: 9 nos, Load Haul Dumper : 5 nos., Mine cars-8 nos.etc.,

Details of violations observed during current inspection and compliance position of violation pointed out

Violation observed		Show cause position	
Rule NO.	Issued on Compliance on	Rule NO.	Issued on Compliance on

Date :

(DAYANAND UPADHYAY)

Indian Bureau of Mines