

**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 : **RAM**) **RAMKISHAN R**
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 : 24/09/2019
- (v) Prev.inspection date : 03/05/2019

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

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No such specific proposal.	During the year 2018-19, there are 16 boreholes drilled.	Nil
1b	Exploration over lease area for geological axis 1 or 2	Proposed to be explored by geophysical and geochemical prospecting, 2 nos boreholes during 2018-19.	Lease area explored as on 01.01.2017 under G1 was 27.73 Ha and remaining 46.047 Ha area was unexplored. Geophysical exploration has been done over unexplored area and 16 nos. of holes have been drilled on anamalous zone.	Nil
1c	Exploration Agencies and Expenditure in lakh rupees during the year		Agencies: M/s Maheswari Mining (P) Ltd for U/G Core drilling, M/s Drill King India Pvt Ltd for Surface Core drilling, M/s Coronation India Pvt Ltd for Surface non-core drilling and ISM Dhanbad for Geophysical prospecting. Expenditure: Rs. 4882463.00	Nil
1d	Balance area to be explored to bring Geological axis in 1 or 2	It has been proposed to drill 2 nos of boreholes in 2018-19 to convert G2 category to G1 category.	16 nos of boreholes have been drilled.	Nil
1e	Balance reserve as on 01/04/20	chromite ore reserves as on 01.04.2017 are 8.3 mil.tonnes and resources are 3.8 mil.t.	due to addition/depletion of period od time the reserves as on 01.04.2019 are 10.547 miltonnes and resources are 4.48 mil.t.	Nil
1f	General remarks of inspecting officers on geology, exploration etc		exploartion has been carried out by 16 nos of boreholes against the proposal of 2 nos. during the year 2018-19.	

Development :

Sl.No.	Item	Propasals	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.	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Development carried out by underground mining by decline, vertical shafts, slot raise, vent raise and xcuts etc. No top soil generation is proposed.	No top soil generated during 2018-19. Development carried out by underground mining by decline, vertical shafts, slot raise, vent raise and x-cuts etc.	
2c	Stripping ratio or ore to OB ratio	it is proposed to generate waste of 0.18 lakh cu.m. from underground mine workings during the year 2018-19.	0.18 lak cu.m. was produced from undergorund mine workings.	
2d	Quantity of topsoil generation in m3		There was no generation of top soil during the year 2018-19.	
2e	Quantity of overburden generation in m3	it is proposed to generate waste of 0.18 lakh cu.m. from underground mine workings during the year 2018-19.	0.18 lak cu.m. was produced from undergorund mine workings.	Nil
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc		Development is carried out by Underground mining method as proposed.	Nil

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Under ground mining is by blasthole stoping method.	Under ground mining is by blasthole stoping method is being practiced.	Nil
3b	Quantity of ROM mineral production proposed	210000 tonnes from underground mining.	201383.795 tonnes	Nil
3c	Recovery of sailable/usable mineral from ROM production	210000 tonnes of ROM production of +10% Cr2O3.	201383.795 tonnes of ROM production of +10% Cr2O3.	Nil
3d	Quantity of mineral reject generation	No subgrade/mineral reject production is proposed in 2018-19.	Not applicable	Nil
3e	Grade of mineral rejects generation and threshold value declared.	Not applicable	Nil	Nil
3f	Quantity of sub grade mineral generation.	Not applicable	Nil	Nil
3g	Grade of sub grade mineral generation	Not applicable	Nil	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Manual	Manual	Nil
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	In Underground carried out as proposed. mining for development faces Burn cut drilling pattern shall be followed. In development faces slurry explosive of 25mm & 40mm size of cartridge shall be used for effective blasting. In Stope drilling, 57mm dia. long hole and 115mm dia.DTH combination shall be used.The holess shall be drilled in ring pattern. Blasting shall be carried out by the explosive in cartridge form with electric delay detonators/Non el.	Nil
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 mining method of mining proposed. underground mining method is practised.	Nil

3m	Total area covered under excavation/pits	Total area covered under mining is 9.6ha till the end of modification to the mining plan 2019-2020.	9.6 ha	Nil
3n	Ore to OB ratio for the pit/mine during the year.	it is proposed to generate waste of 0.18 lakh cu.m. from underground mine workings during the year 2018-19.	0.18 lak cu.m. was produced from undergorund mine workings.	Nil
3o	Total area put in use under different heads at the end of year	Total area at the end of 2019-20 will be 47.874 ha	47.874 ha	Nil
3p	Production of ROM mineral during the last five year period as applicable	2014-15: 377866 MT 2015-16: 170656 MT 2016-17: 232000 MT 2017-18: 300000 MT 2018-19: 210000 MT	2014-15: 83581MT 2015-16: 74441 MT 2016-17: 207695.64 MT 2017-18 : 186613.46 MT 2018-19: 201383.795MT	Nil
3q	General remarks of inspecting officers on method of mining etc.		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 during the year 2018-19. 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.	Nil
4b	Location of topsoil, OB and mineral reject dumps	no generation of top soil and mineral rejects are proposed during the year 2018-19. 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.	Nil
4c	Number of dumps within lease area and outside of lease area	No waste dumping is proposed during the year 2018-19.	Not applicable.	Nil
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Not applicable.	Nil	Nil
4e	Number of active and alive dumps.	No waste dumping is proposed.	Not applicable.	Nil
4f	Number of dead dumps.	Nil	Nil	Nil
4g	Number of dumps established.	No such proposal.	Nil	Nil

4h	Whether Retaining wall or garland drain all along dumps are there.	Yes provided.	provided.	Nil
4i	Length of Retaining wall or garland drain all along dumps	provided.	provided.	Nil
4j	Number of settling ponds	Nil	Nil	Nil
4k	Specific comments of inspecting officer on waste dump management		There was no generation of top soil and mineral rejects. Waste generated has been utilised for backfilling.	

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.	Nil
5b	Area under backfilling of mined out area	0.10 ha area for the year 2018-19	0.1 ha	Nil
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	Nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.		Backfilling/reclamation has been carried out in the mined out area as per the proposal.	Nil

Progressive Mine Closure Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	Yearly report as per the format specified by the Indian Bureau of Mines, before 1st day of July every year setting forth the extent of protective and rehabilitative works carried out as envisaged in the approved mine closure plan.	Submitted for the year 2018-19.	Nil
6b	Area available for rehabilitation (ha) .	Rehabilitation of 0.10ha proposed in 2018-19.	0.1 ha	Nil
6c	afforestation done (ha).	0.10 Ha	0.12 Ha	Nil
6d	No. of saplings planted during the year	250 number of plants during the year 2018-19.	320 numbers of plants during the year 2018-19	Nil
6e	Cumulative no .of plants	No specific proposal	26274 nos	Nil
6f	Any other method of rehabilitation	Not applicable	Nil	Nil
6g	Cost incurred on watch and care during the year			Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	1.7 lakh Cum in (O/C) & 1.17 lakh Cum in (U/G) of waste.	0.18 lakh Cum in (O/C) & 0.49 lakh Cum in (U/G) waste	Nil

6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	0.19 lakh Cum in (O/C) & 0.54 lakh Cum in (U/G) waste during the year 2018-19.	0.18 L Cum (O/C) & 0.49 L Cum. in (u/g).	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on backfilled area	250 nos.	320 nos	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not applicable	Nil	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.	Not applicable	Nil	Nil
6m	Compliance of rehabilitation of waste land within lease (i) afforestation	Not applicable	Nil	Nil
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	Not applicable	Nil	Nil
6o	Compliance of rehabilitation of waste land within lease (iii) Method of rehabilitation	Not applicable	Nil	Nil

6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring of air, water and noise levels are proposed.	Quarterly monitoring of air, water and noise levels are being monitored.	Nil
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		PMCP measures were implemented as proposed.	Nil

Mineral Conservation:

Sl.No.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	The ROM is crushed/screened to different size specification and grades before being dispatched to captive ferro chrome plants is proposed..	carried out.	Nil
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical	Mechanical	Nil
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 at (a) below 40% Cr2O3% and (b) 40% to below 52% Cr2O3%.	Nil
7d	Any beneficiation process at mines	Only crushing and screening proposed.	Only crushing and screening carried out.	Nil

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	No beneficiation is carried out. Only crushing and screening carried out. grade wise sorting of mineral is carried out. Entire ROM is utilised in captive chrome plant.	Nil
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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Not applicable	Nil	Nil
8b	Concurrent use or storage of topsoil	Not applicable	Nil	Nil
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Generated waste is proposed to be backfilled in the mined out area of opencast workings. No dumps proposed	Generated waste is backfilled in the mined out area of opencast workings.	Nil
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Generated waste is proposed to be backfilled in the mined out area of opencast workings.	Generated waste is backfilled in the mined out area of opencast workings.	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	0.1 ha	0.1 ha	Nil

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)		During the year 2018-19, 320 nos of saplings planted.	
8g	Survival rate		90.31%	Nil
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on haul roads for dust suppression.	carried out.	Nil
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area		Aesthetic beauty is maintained in and around mine.	Nil

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Annual and monthly returns for the year 2018-19 has been submitted.	Annual and monthly returns for the year 2018-19 has been submitted.	Nil
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Graduat Mining Engineer: 17 Diploma Mining Engineer: 13 Geologist: 6	Graduate Mining Engineer: 17 Diploma Mining Engineer: 13 Geologist: 6	found to be in order.

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Utilization of surface area (in ha.) A) O/C working - 9.60ha B) Reclaimed /Rehabilitated -6.310ha C) Used for waste disposal- 5.09ha D) Occupied by plant, buildings, residential, welfare buildings and roads - 12.688ha E) Mineral storage, top soil 7 safety zone-20.496ha F) Work done under Progressive closure- 0.120ha E) Other purpose - 5.46 F) Work done under progressive mine closure plan during the year -0.45 ha	Nil
9d	Scrutiny of Annual return on afforestation	320 nos 320 nos	Nil
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil Nil	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Closing stock of ROM as per annual return 2018-19 is 21320.041 tonnes.	Nil

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	production cost Rs. 6315.95 per tonne	production cost Rs. 6315.95 per tonne	Nil
9h	Scrutiny of Annual return on fixed assets	Value of fixed assets: Rs 84217499.00	Value of fixed assets: Rs 84217499.00	
9k	Scrutiny of Annual return on mining machineries	Front end loader : 10nos. Tippers: 8nos Load Haul Dumper : 7nos. etc.,	Front end loader : 10nos. Tippers: 8nos Load Haul Dumper : 7nos. etc.,	Nil

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 :

(RAMKISHAN R)

Indian Bureau of Mines