

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

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/CR/JJP/MCDR-6/BBS

Mine code : 11ORI19007

- (i) Name of the Inspecting : **DJ03**) **DILIP JAIN**
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : Sri A.K. Pradhan, Mines Manager, Sri B. C. Mallik, Mi
Official with
Designation
- (iv) Date of Inspection : 05/01/2018
- (v) Prev.inspection date : 24/11/2015

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **SOUTH KALIAPANI**
- (b) **Registration NO.** :
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
State : ORISSA
District : JAJPUR
Village : KALIAPANI
Taluka : SUKINDA
Post office : KALIAPANI
Pin Code :
FAX No. : 06767-230367
E-mail :
Phone : 06726-268722
- (f) Police Station : Kaliapanio
- (g) First opening date : 06/10/1980
- (h) Weekly day of rest : SUN
2. Address for : SOUTH KALIAPANI CHROMITE MINE
correspondance AT/PO: KALIAPANI, DIST: JAJPUR
ORISSA
3. (a) Lease Number : ORI0236
(b) Lease area : 552.46
(c) Period of lease :
(d) Date of Expiry : 31/03/2020
4. Mineral worked : CHROMITE Main

5. Name and Address of the

Lessee : M/S Orissa Mining Corporation Ltd
P.O.NO.34 OMC House
Bhubaneswar KHURDA ORISSA
Phone:
FAX :

Owner : Sri R. Vineel Krishna
The Odisha Mining
Corporation Ltd. OMC House
Post Box 34 Bhubaneshwar
BHUBNESHWAR ORISSA
Phone: 0674-2393431
FAX : 0674-2391629

Agent : L M Ghana
M/s OMC Jajpur JAJPUR
ORISSA
Phone:
FAX :

Mining Engineer

Name : B C Mallick, Full Time
Qualification : B E (Mining Engineer) 1977
Appointment/ : 20/05/2011
Termination date

Geologist

Name : Sri Kali Charan Rath, Full Time
Qualification : M. Sc> Geology
Appointment/ :
Termination date

Manager

Name : Sri B.K. Behera
Qualification : BE Mining
Appointment/ : 04/05/2015
Termination date

Manager

Name : Sri A. K. Pradhan
Qualification : BE Mining
Appointment/ : 03/04/2014
Termination date

6. Date of approval of Mining	:	Fresh under rule 22 MCR1960	21/02/2003
Plan/Scheme of Mining	:	Mining Scheme rule 12 MCDR1988	22/03/2007
	:	Mining Scheme rule 12 MCDR1988	22/03/2010
	:	Modif.approved Mining Scheme	22/08/2014
	:	Mining Scheme rule 12 MCDR1988	16/04/2015

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	10	12	No backlog.
1b	Exploration over lease area for geological axis 1 or 2	No specific proposal.	Around 10 ha area.	NIL.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Approx 120 lacs.	Approx 110.46 Lacs	As reported by Lessee.
1d	Balance area to be explored to bring Geological axis in 1 or 2	No specific proposal.	Around 222.00 ha. area.	NIL.
1e	Balance reserve as on 01/04/20	In the approved SOM dated 16/04/2015, the Reserve and Resource of the chromite ore furnished was 11.115 and 27.47 million tonnes respectively.	As on 01/04/2017 reserve is 8.80 million tonnes and resource is 27.47 million tonnes.	NIL.
1f	General remarks of inspecting officers on geology, exploration etc	--	Regionally all the chrome band within lease area has been established. However, entire lease area yet to explore.	

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Within chrome Band-I and IV.	Within chrome Band-I and IV.	NIL.

2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in OB and Ore. Bench height: 6 mts Bench width: 11 mts	Separate benches being maintained in OB and Ore.	NIL.
2c	Stripping ratio or ore to OB ratio	1:4.06 T/Cum 1:12.4 CuM/CuM	1:3.53 T/Cum 1:10.6 CuM/CuM	For the Yera 2016-17.
2d	Quantity of topsoil generation in m3	No Proposal.	2000 CuM	No soil generation form excavation. Soil collected from WD1 area & utilized for plantation.
2e	Quantity of overburden generation in m3	4.463 Million CumM	3.562 Million CumM	The quantity of OB generation was less due to not achieving the targeted production of chromite.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	--	Bench height and width have been maintained and Development was found to be in order.	NIL.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	02	02	NIL.
3b	Quantity of ROM mineral production proposed	1098524 tonnes.	1008820 tonnes.	NIL.
3c	Recovery of sailable/usable mineral from ROM production	1025696	907139.480	+40% Cr2O3

3d	Quantity of mineral reject generation	Sub grade- 72828.00	Sub grade: 101680.520	The production of MR was more due to encountering of MR patch during chrome excavation.
3e	Grade of mineral rejects generation and threshold value declared.	Between 10 to 40% Cr2O3	33.70 % Cr2O3	NIL.
3f	Quantity of sub grade mineral generation.	72828	101680.520	The production of Sub-grade material was more due to encountering of Sub-grade patch during chrome excavation.
3g	Grade of sub grade mineral generation	Between 10 to 40% Cr2O3	33.70 % Cr2O3	NIL.
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized in Qry-D Manually in Qry-F	As per proposal.	NIL.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal.	NIL.	NIL.
3j	Provision of drilling and blasting in mineral benches	Deep hole in Qry -D Short hole in Qry-F	Deep hole in Qry -D Short hole in Qry-F	NIL.
3k	Provision of mining machineries in mineral benches	Dumper Shovel combination.	Dumper Shovel combination.	NIL.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes.	Yes.	

3m	Total area covered under excavation/pits	136.320 (at end of scheme period)	123.642		As per AR 2016-17.
3n	Ore to OB ratio for the pit/mine during the year.	1:4.06 T/Cum 1:12.4 CuM/CuM	1:3.53 T/Cum 1:10.6 CuM/CuM		NIL.
3o	Total area put in use under different heads at the end of year	At the end of the plan period i.e. March 2020: 383.51 Ha area.	286.682 Ha		As per AR 2016-17.
3p	Production of ROM mineral during the last five year period as applicable	2012-13 =1371000 MT 2013-14 = 1374000MT 2014-15 = 1534808 MT 2015-16 = 1110319 MT 2016-17= 1098524 MT	2012-13 =521462.480 MT 2013-14 = 484489.360 MT 2014-15 =651215.000 MT 2015-16 = 830015.000 MT 2016-17 = 1008820.000 MT		NIL.
3q	General remarks of inspecting officers on method of mining etc.	--	At present, opencast method of mining is suitable for ore extraction. However, to extract the Ore in near future underground mining method to be adopted.		

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Proposed for separate dumping.	As per proposal.	NIL.
4b	Location of topsoil, OB and mineral reject dumps	OB Dump yard - WD1 X-100W-145E Y-900N-1750N	OB Dump yard -WD1	NIL.

4c	Number of dumps within lease area and outside of lease area	Within Lease area: 02 Outside lease area: NIL	Within Lease area: 02 Outside lease area: NIL	NIL.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside of the UPL.	Outside of the UPL.	NIL.
4e	Number of active and alive dumps.	01	01	NIL.
4f	Number of dead dumps.	01	01	NIL.
4g	Number of dumps established.	01	01	NIL.
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes.	Yes.	NIL.
4i	Length of Retaining wall or garland drain all along dumps	No proposal for 2016-17.	1400 mts.	NIL.
4j	Number of settling ponds	No proposal for 2016-17.	02	NIL.
4k	Specific comments of inspecting officer on waste dump management	--	Matured slope of the dumps are planted for stabilization. Retaining wall and garland drain has been provided along the waste dump.	NIL.

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.	No Proposal.	NIL.	Mineralisation is continue and pit is not matured for reclamation.
5b	Area under backfilling of mined out area	No Proposal.	NIL.	NIL.

5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No Proposal.	NIL.	NIL.
5d	Total area fully reclaimed and rehabilitated	No Proposal.	NIL.	NIL.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	--	Mineralisation is continue and pit is not matured for reclamation.	NIL.

Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	As per rule 26 of MCDR, 2017 PMCP report for previous to be submitted on or before 1st July.	PMCP Report Submitted.	For the yera 2016-17.
6b	Area available for rehabilitation (ha) .	No Proposal.	NIL.	Area not matured for reclamation & rehabilitation.
6c	afforestation done (ha).	Area wise no proposal.	1.57 Ha	As reported by Mine Manager. Plantation at OB dump.
6d	No. of saplings planted during the year	500	4993	At OB dump.
6e	Cumulative no .of plants	21000 no.	40773 No.	As reported by mines manager.
6f	Any other method of rehabilitation	No Proposal.	NIL.	NIL.
6g	Cost incurred on watch and care during the year	5 lacs.	Rs. 60127.00	As reported by mines manager.

6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	No Proposal.	NIL.	NIL.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No Proposal.	NIL.	NIL.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	No Proposal.	NIL.	NIL.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No Proposal.	NIL.	NIL.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No Proposal.	NIL.	NIL.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	No Proposal.	NIL.	NIL.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No Proposal.	NIL.	NIL.

6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No Proposal.	NIL.	NIL.
6p	Compliance of environmental monitoring (core zone and buffer zone)	Regular monitoring of environmental parameter like water quality, noise quality, air quality etc.	Complied for the year 2016-17.	NIL.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	---	Area has not been matured for reclamation & rehabilitation and afforestation has been carried out along slope of waste dump & safety zone. Regular monitoring of environmental parameter like water quality, noise quality, air quality etc. was carried out for the year 2016-17.	NIL.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Proposal for grade-wise Sorting.	-40% Cr2O3, 40% to 52% Cr2O3 and +52% Cr2O3.	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.	+40% : saleable 10 to 40%: beneficiable	-40% Cr2O3, 40% to 52% Cr2O3 and +52% Cr2O3.	NIL.

7d	Any beneficiation process at mines .	By existing COB Plant.	NIL.	COB is not in operation due to area constraint for tailing disposal.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	---	The Chrome mineral above threshold value and below cut-off grade is being stacked separately for beneficiation or future use. However, at present COB is not in operation due to area constraint for tailing disposal.	NIL.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal for topsoil generation.	2000 CuM	No soil generation form excavation. Soil collected from WD1 area & utilized for plantation.
8b	Concurrent use or storage of topsoil	No proposal for topsoil generation.	Utilized.	NIL.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping of overburden, waste rock, mineral reject and fines has been proposed.	All the material like overburden, waste rock, mineral reject and fines are being dumped separately.	NIL.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No Proposal.	NIL.	NIL.

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No Proposal.	NIL.	Area not matured for reclamation & rehabilitation.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Plantation have been carried out along the dump slope and proposed along the slope of waste dump.	Plantation has been carried out as per proposal.	NIL.
8g	Survival rate	No specific proposal.	80%	As reported by Mine Manager.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	--	Aesthetic beauty in and around mined area is maintained. In 2016-17, total 4993 nos of saplings have been planted by lessee. As reported cumulative no. of trees planted by lessee is about 40773 nos.	NIL.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	As per rule 45 of MCDR, 2017 monthly and annual returns to be submitted.	The Monthly and Annual return for the year 2016-17 has been submitted.	NIL.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mines Manager: 01, Mining Engineer incharge -01, Geologist-01	Mines Manager: 01, Mining Engineer incharge -01, Geologist-01	NIL.

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Total area under utilization mentiond is 286.682 Ha.	Found to be in order.	NIL.
9d	Scrutiny of Annual return on afforestation	4993	4993	As reported by Mine Manager.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	101680.520 MT	101680.520 MT	NIL.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Closing stock: 40 to above 52% Cr2O3: 683736.90 tonnes. 10 to below 40% Cr2O3: 919922.04 tonnes.	Closing stock: 40 to above 52% Cr2O3: 683736.90 tonnes. 10 to below 40% Cr2O3: 919922.04 tonnes.	NIL.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Costof production: Rs 3485.22/tonne	Seems to be in order.	NIL.
9h	Scrutiny of Annual return on fixed assets	Rs 39993176.12	Seems to be in order.	NIL.
9k	Scrutiny of Annual return on mining machineries	Excavator-4 nos Dozer-4 nos, drill-3 Loader-3 nos, W/tanker-2 Grader-1 nos,pump-6	Excavator-4 nos Dozer-4 nos, drill-3 Loader-3 nos, W/tanker-2 Grader-1 nos, pump-6	NIL.

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

Violation observed			Show couse position		
Rule NO.	Issued on	Compliance on	Rule NO.	Issued on	Compliance on
Rule 45(5)	12/01/2018	26/02/2018			

Date :

(DILIP JAIN)

Indian Bureau of Mines