

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

**MCDR INSPECTION REPORT**

**Bhubaneshwar regional office**

**Mine file No :** ORI/CR/JJP/MCDR-8/BBS-16/3/2K

**Mine code :** 11ORI19008

- (i) Name of the Inspecting : **DJ03** ) **DILIP JAIN**  
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : Shri M. D. Patra, Mines Manager, Shri G. Bhuyan, M.E  
Official with  
Designation
- (iv) Date of Inspection : 19/12/2018
- (v) Prev.inspection date : 19/01/2018

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **SUKRANGI**
- (b) **Registration NO.** : **IBM/4269/2011**
- (c) Category : A Other than Fully Mech.
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : JAJPUR
- Village : SUKRANGI
- Taluka : SUKINDA
- Post office : KALIAPANI
- Pin Code : 755047
- FAX No. : 0674-461629
- E-mail : planningcellomc@gmail.com
- Phone : 0674-402220,404323,410169
- (f) Police Station : KALIAPANI
- (g) First opening date : 01/08/1989
- (h) Weekly day of rest : SUN
2. Address for : VILL: SUKRANGI, PO: KALIAPANI  
correspondance POLICE STATION: TOMKA  
DIST: JAJPUR, ORISSA, PIN 755047
3. (a) Lease Number : ORI0240
- (b) Lease area : 382.71
- (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  
BHUBNESHWAR ORISSA  
Phone: 0674-2377401  
FAX : 0674-2377400

Agent : SRI BIJAYABEHERA  
JAJPUR ORISSA  
Phone: 0674-2377401  
FAX : 0674-2377400

## Mining Engineer

Name : SHRI GANGESWAR BHUYAN, Full Time  
Qualification : B TECH MINING ENGG  
Appointment/ : 06/11/2015  
Termination date

## Geologist

Name : SHRI P K SAHA, Full Time  
Qualification : MSC GEOLOGY  
Appointment/ : 24/04/2018  
Termination date

## Manager

Name : SHRI MAYADHAR PATRA  
Qualification : DIPLOMA MINING  
Appointment/ : 01/04/2015  
Termination date

6. Date of approval of Mining	:	Renewal under rule 24 MCR1960	27/07/2006
Plan/Scheme of Mining	:	Mining Scheme rule 12 MCDR1988	28/07/2006
	:	Mining Scheme rule 12 MCDR1988	18/12/2009
	:	Mining Scheme rule 12 MCDR1988	22/08/2014
	:	MP modif under 17(3) MCR 2016	04/06/2018

## PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	14 Nos. of Bore Holes has been proposed for the year 2017-18	5 Nos. of Bore Holes has been drilled during the year 2017-18	Violation for non-compliance has been issued.
1b	Exploration over lease area for geological axis 1 or 2	As per approved document dated 22/08/2014 for the period from 2014-15 to 2018-19, a total of 66 BH have been proposed to explore lease.	As per approved document dated 23/01/2019 a total of 22 Bh have been drilled by the end of the year 2017-18. The area explored under G1 and G2 level of exploration is 85.41 Ha and 36.05 Ha respectively and an area of 261.249 Ha yet to explore.	NIL.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No specific proposal of exploration agency and expenditure.	Exploration Agency- M/s OMC Ltd.	NIL.
1d	Balance area to be explored to bring Geological axis in 1 or 2	As per approved document dated 04/06/2018 an area of around 235.476 has remains to explored.	As per approved document dated 04/06/2018 an area of around 235.476 has remains to explored.	NIL.
1e	Balance reserve as on 01/04/20	As per approved document dated 22/08/2014, the position of reserve and resources of the Chromite Ore was 5.41 and 9.50 million tonnes respectively.	Balance reserve and resource as on 01.04.2018 is 6.67 and 3.34 million tonnes.	As per approved document dated 04/06/2018.

1f	General remarks of inspecting officers on geology, exploration etc	As per approved document dated 22/08/2014 for the period from 2014-15 to 2018-19, a total of 66 BH have been proposed to explore lease.	As per approved document a total of 22 Bh have been drilled by the end of the year 2017-18. The area explored under G1 and G2 level of exploration is 71.813 Ha and 43.552 Ha respectively and an area around 235.476 yet to explore.	NIL.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	The quarry development is proposed bewtween -50N to 300N/600E to -500E.	Development found within approved limit of the proposal i.e. bewtween - 50N to 300N/600E to - 500E.	NIL.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	No proposal of top soil generation, as no fresh area has been proposed for development in year 2017-18. Separate benches in OB and Ore.	Separate benches being maintained in OB and Ore. No top soil generation during year 2017-18.	NIL.
2c	Stripping ratio or ore to OB ratio	1:3.25 Cum/Tonnes	1:4.53 Cum/Tonnes. The SR is in higher side due to generation more waste in comparison to proposal.	Violation for genretaion more waste has been issued.

2d	Quantity of topsoil generation in m3	No proposal of top soil generation, as no fresh area has been proposed for development in year 2017-18.	No top soil generation during year 2017-18.	NIL.
2e	Quantity of overburden generation in m3	670526 Cum	812555 Cum	Violation issued for more waste generation in comparison to proposal.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	As per approved document one pit in chrome band IV-S has been proposed for the development.	Development has been carried out within the approved limit.	NIL.

#### Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	One pit has been proposed for the development.	One pit has been developed as per proposal.	Nil
3b	Quantity of ROM mineral production proposed	ROM proposed for the Year 2017-18 is 206292 tonne	Actual produced - 179299 tonne	Less production due to not having EC for approved enhanced production.
3c	Recovery of sailable/usable mineral from ROM production	129953 tonne (2017-18)	129999 tonne ( 2017-18)	NIL.
3d	Quantity of mineral reject generation	Generation of 75686 tonnes of MR has been proposed.	Actual generation was 49300 tonnes.	Less genetaion due to restriction of EC.

3e	Grade of mineral rejects generation and threshold value declared.	Threshold value is 10%Cr2O3. Mineral reject grade was proposed between 10 to 40% Cr2O3.	Threshold value is 10%Cr2O3. Mineral reject grade was observed between 10 to 40% Cr2O3.	NIL.
3f	Quantity of sub grade mineral generation.	75686 tonne	49300 tonne	Less generation due to restriction of EC.
3g	Grade of sub grade mineral generation	10-40%Cr2O3	10-40%Cr2O3	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized	Mechanized	NIL.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No Proposal of any beneficiation study.	Beneficiation study has not been carried out during the year 2017-18.	NIL.
3j	Provision of drilling and blasting in mineral benches	Drilling is proposed with 115mm dia holes. Burden 2m and spacing 3m. Only 20% of the total wastes require drilling & blasting	Drilling and blasting found as per proposal.	Nil
3k	Provision of mining machineries in mineral benches	Mechanised mining is proposed with excavator dumper combination. The capacity of excavator is 2.5 to 4 Cum. and dumper 15 to 25 tonne.	Observed as per proposal.	NIL.

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	The bench height is proposed as 6m & width of 11m.	The bench height 6m & width of 11m has been maintained.	Nil
3m	Total area covered under excavation/pits	An area of 26.82 HA has been proposed under excavation at the end of the plan period i.e. 2018-19.	An area of 25.6 ha has been degraded under excavation as on 01/04/2018.	Nil
3n	Ore to OB ratio for the pit/mine during the year.	1:3.25 Cum/Tonnes	1:4.53 Cum/Tonnes. The SR is in higher side due to generation more waste in comparison to proposal.	Violation for more waste generation has been issued.
3o	Total area put in use under different heads at the end of year	As per approved document dated 22/0/2014, total area proposed to put under different heads i.e. excavation, waste dumping, infrastructure , road etc is 228.835 Ha.	As per approved document dated 04/06/2018 area degraded under different heads was 220.594 Ha.	NIL.
3p	Production of ROM mineral during the last five year period as applicable	2014-15- 199409 tonne 2015-16- 212528 tonne 2016-17- 151757 tonne 2017-18- 206292 tonne 2018-19- 209555 tonne	2014-15- 114080 tonne 2015-16- 129500 tonne 2016-17- 151616 tonne 2017-18- 179299.0 tonne	Less production in account of not having EC of enhanced production.
3q	General remarks of inspecting officers on method of mining etc.			

## Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Dumping of waste is proposed over waste dump - WD2.	812555 Cum waste generated during the year 2017-18 and dumped over waste dump WD-1.	Due to constraint of approach road and law and order problem dumping could not be carried out at proposed location. VIolation has been issued on 07/05/2018.
4b	Location of topsoil, OB and mineral reject dumps	Waste dumping was proposed over the waste dump WD-2.	Dumping was carried out over the waste dump WD-1.	VIolation has been issued on 07/05/2018.
4c	Number of dumps within lease area and outside of lease area	A total of 4 Waste dumps have been proposed namely WD-1, WD-1', WD-2 and WD-3 within the lease area. No proposal for outside of lease area dumping.	A total of three waste dumps have been observed namely WD-1, OB Dump-1 and OB Dump-3 within lease area. No dumping outside of lease area has been observed.	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.	During year 2017-18, only one dump has been proposed for waste dumping.	One	NIL.
4f	Number of dead dumps.	No specific proposal.	2	NIL.
4g	Number of dumps established.	No specific proposal.	2	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 the year 2017-18.	A total of 3170 mtrs retaining Wall & 3315 Mtrs Garland Drain has been constructed as on 30/11/2018.	NIL.
4j	Number of settling ponds	No Proposal during the reporting year.	A total of 17 number setting tank have been constructed around waste dumps and mineral reject dumps as pn 30/11/2018.	NIL.
4k	Specific comments of inspecting officer on waste dump management	Waste dumping was proposed over the waste dump WD-2.	Dumping was carried out over the waste dump WD-1. The retaining wall and garland drain around the waste dump has been constructed by lessee.	Due to constraint of approach road and law and order problem dumping could not be carried out at proposed location. VIolation has been issued on 07/05/2018.

#### 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 for reporting year.	NIL.	As the no pit area is matured for backfilling.
5b	Area under backfilling of mined out area	No proposal area is matured for backfillng.	NIL.	NIL.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposal of top soil generation, as no fresh area has been proposed for development in year 2017-18.	Entire top soil generated during past years have been utilized. Top soil has not been generated during the year 2017-18.	NIL.
5d	Total area fully reclaimed and rehabilitated	No Proposal reclamation and rehabilitation for reporting year.	NIL.	NIL.

5e	General remarks of inspecting officers on backfilling and reclamation etc.	No proposal of backfilling as observed. none of the pit area is matured for backfilling.	Backfilling has not been observed.	NIL.
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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 rule 26(2) of MCDR, 2017, PMCP report to be submitted for previous year by 1st July.	Annual PMCP report for reporting year i.e. 2017-18 has been submitted.	NIL.
6b	Area available for rehabilitation (ha) .	Plantation over waste dump has been proposed.	Plantation has been observed over the waste dump.	NIL.
6c	afforestation done (ha).	500 numbers of plants have been proposed for plantation over an area of approximate of 0.50 Ha.	1500 numbers of plants have been planted over an area of approximately 0.56 ha.	NIL.
6d	No. of saplings planted during the year	500	1500	NIL.
6e	Cumulative no .of plants	A total of 2000 number of plants have been proposed from 2014-15 to 2017-18.	3500 numbers of plants have been planted during 2014-15 to 2017-18.	NIL.
6f	Any other method of rehabilitation	No Proposal of any other method of rehabilitation other than plantation.	Plantation work has been carried out over the matured slope of the waste dumps.	NIL.

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6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	No proposal of backfilling as no pit area has been matured for the backfilling.	No backfilling work during the reporting year as no area/pit has been matured for the backfilling.	NIL.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No proposal of backfilling during the reporting year by waste/tailing material.	No backfilling has been observed as no pit area was matured for backfilling.	NIL.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	As no proposal of backfilling, hence, no proposal of afforestation on backfilled area.	No afforestation, as no proposal of backfilling.	NIL.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	As no pit area has been exhausted, hence no proposal of making reservoir.	None of the area has been matured for making reservoir.	NIL.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No proposal of backfilling as no pit area has been matured for the backfilling.	No backfilling work during the reporting year as no pit area has been matured for the backfilling.	NIL.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Waste land has not been proposed for any mining activity, hence no proposal in waste land.	Not applicable in view of no proposal of any mining activity in waste land.	NIL.

6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No Proposal of any rehabilitation in waste land.	Not applicable.	NIL.
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No Proposal of any rehabilitation in waste land.	Not applicable.	NIL.
6p	Compliance of environmental monitoring (core zone and buffer zone)	Proposal has been given for environment monitoring in core and buffer zone.	Environment Monitoring was carried out in core and buffer zone for reporting year.	NIL.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Proposal of plantation over an area of approximately 0.50 ha by 500 numbers of saplings has been envisaged.	1500 numbers of plants have been planted over an area pf approximately of 0.56 ha.	NIL.

#### Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade-wise sorting within lease area ahs been proposed.	Grade-wise sorting within lease area has been observed.	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.	10-30% Cr2O3, 30-40% Cr2O3, +40% Cr2O3.	10-30% Cr2O3, 30-40% Cr2O3, +40% Cr2O3.	NIL.

7d	Any beneficiation process at mines	No Proposal of beneficiation in lease area.	No beneficiation has been observed.	NIL.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Separate stacking of sub-grade material has been envisaged. No Proposal of beneficiation in lease area.	Sub grade mineral generated during mining is stacked aeparately. No beneficiation has been observed.	NIL.

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**Environment:**

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal of top soil generation, as no fresh area has been proposed for development in year 2017-18.	No top soil generation during the year 2017-18.	NIL.
8b	Concurrent use or storage of topsoil	No proposal of top soil generation, as no fresh area has been proposed for development in year 2017-18.	No top soil generation during the year 2017-18.	NIL.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping of Waste, Mineral reject has been proposed.	Separate dumping of Waste, Mineral reject has been observed.	NIL.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal as none of the pit area was matured for use of OB, waste rock etc.	NIL.	NIL.

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	500 numbers of plants have been proposed for plantation over an area of approximate of 0.50 Ha.	1500 numbers of plants have been planted over an area pf approximately 0.56 ha.	NIL.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	500 number of saplings have been proposed to plant.	1500 numbers of plants have been planted.	NIL.
8g	Survival rate	No specific proposal.	60%	As per AR 2017-18.
8h	Water sprinkling on roads to control airborne dust	To control the airborne dust water sprinkling is proposed.	Water sprinkling observed over the haul road and in general.	NIL
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	To improve the aesthetic beauty, proposal of plantation has been given.	Aesthetic beauty in and aroun mines area was maintained by plantation.	NIL.

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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 , monthly and annual returns to be submitted.	Monthly and annual returns have been submitted for reporting year.	NIL.

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Information has been furnished about Mining Engineer, Geologist, and Manager.	Mining engineer and Geologist are appointed.	NIL.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under pit- 25.6 ha Reclaimed Area- NIL. Dump- 19.9 ha	Found to be in order.	NIL.
9d	Scrutiny of Annual return on afforestation	1500 Nos.	1500 Nos.	NIL.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	NIL.	49300 tonnes. of mineral reject has been generated.	Violation issued non reporting of mineral reject generation in AR 2017-18.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM Stock furnished was NIL.	The information furnished in respect of ROM stock was found to be satisfactory.	NIL.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	As per AR 2017-18, the cost of production furnished was RS. 3659.61/- per tonne. Ex-mine price: Below 40% Cr2O3- Rs 2292.00, 40% to below 52% Cr2O3- Rs 9148.84 and 52% Cr2O3 and above - Rs 10369.53	The cost of production and Ex-mine price furnished seems to be in order.	Price is fixed on the basis of E-auction of mineal by MSTC.
9h	Scrutiny of Annual return on fixed assets	Rs. 9377858.00	Seems to be in order.	NIL.

9k	Scrutiny of Annual return on mining machineries	Mechanical shovel, Hydraulic Shovel, Dozer, Dumper, Water tanker etc.	The information furnished is found to in order.	NIL.
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**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
MCDR17	Rule 11(1)	11/01/2019	27/03/2019		
	Rule 45(7)	11/01/2019	27/03/2019		

**Date :**

**(DILIP JAIN)**

Indian Bureau of Mines