

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

**MCDR INSPECTION REPORT**

**Bhubaneshwar regional office**

**Mine file No :** ORI/CR/JJP/MCDR-3/BBS

**Mine code :** 11ORI19004

- (i) Name of the Inspecting : **DJ03** ) **DILIP JAIN**  
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : **SHRI B K GIRI, MANAGER AND SHRI PL DAS, GEOLOGIST**  
Official with  
Designation
- (iv) Date of Inspection : 12/04/2018
- (v) Prev.inspection date : 06/01/2018

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **KAMARDA**
- (b) **Registration NO.** : **IBM /6143 /2011**
- (c) Category : A Other than Fully Mech.
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : JAJPUR
- Village : KAMARDA
- Taluka : SUKINDA
- Post office : KANSA
- Pin Code : 755028
- FAX No. : 0671-2620347
- E-mail : siddhartha\_cuttack@yahoo.co
- Phone : 0671-2349546
- (f) Police Station : Jajpur
- (g) First opening date : 22/02/1963
- (h) Weekly day of rest : SUN
2. Address for : VILLAGE: KALIAPANI, PO: KALIAPANI  
correspondance DIST: JAJPUR,ORISSA.  
PHONE:06726- 68722
3. (a) Lease Number : ORI0232
- (b) Lease area : 107.24
- (c) Period of lease :
- (d) Date of Expiry : 31/03/2020
4. Mineral worked : CHROMITE Main

## 5. Name and Address of the

Lessee : B.C.MOHANTY  
 AT/PO : RAJABAGICHA  
 CUTTACK ORISSA  
 Phone:620347, 621030  
 FAX :620347

Owner : B.C.MOHANTY  
 AT/PO:RAJABHAGICHA  
 CUTTACK ORISSA  
 Phone: 620347, 621030  
 FAX : 620347

## Mining Engineer

Name : Sri Gokulananda Sahoo,Full Time  
 Qualification : AMIE  
 Appointment/ : 01/01/2008  
 Termination date

## Geologist

Name : Sri Padmalochan Das,Full Time  
 Qualification : M.Sc. (Applied Geology)  
 Appointment/ : 02/01/2012  
 Termination date

## Manager

Name : SHRI B K GIRI  
 Qualification : AMIE (MINING ENGNIEERING)  
 Appointment/ : 16/09/2014  
 Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	03/01/2005
Plan/Scheme of Mining		Mining Scheme rule 12 MCDR1988	06/05/2007
		Renewal under rule 24 MCR1960	27/02/2008
		Modif.approved Mining Scheme	03/02/2011
		Modif.of approved Mining Plan	03/02/2011
		Modif.of approved Mining Plan	08/03/2013
		Mining Scheme rule 12 MCDR1988	26/03/2013
		Modif.approved Mining Scheme	04/02/2016
		MP review under 17(1) MCR 2016	07/02/2018

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	09 BH for reporting year i.e. 2017-18.	33 BH	NIL.
1b	Exploration over lease area for geological axis 1 or 2	As per approved document dated 04/02/2016, a total of 41 BH have been proposed.	68 Bh have been completed by 2017-18.	NIL.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No specific proposal.	Exploration carried out by SPS GeoMining Solution Private Limited and Geo Exploration India under the supervision of geology division of the company.	NIL.
1d	Balance area to be explored to bring Geological axis in 1 or 2	60.678 Ha area to be explored.	Around 48.525 Ha area is yet to explore which is mainly consist of nonmineralized area.	NIL.
1e	Balance reserve as on 01/04/20	In the approved Modification of the SOM dated 04/02/2016, the Reserve and Resource of the chromite ore furnished was 1903605.00 tonnes and 521865.00 tonnes respectively.	Balance reserve and resource as on 01/04/2018: Reserve: 1.273 million tonnes. resource: 0.073 million tonnes	As per approved document 10/07/2018.

1f	General remarks of inspecting officers on geology, exploration etc	From 2013-14 to 2017-18 a total of 41 BH have been proposed.	Most of the mineralised area i.e. chrome band area has been explored by the core drilling. A total of 68 Bh have been drilled during 2013-14 to 2017-18. However, an area of around 48.525 ha is yet to explore, which is mainly of nonmineralised nature.	NIL.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Two quarries namely Quarry 2 and Quarry 3&4.	Development carried out within the proposed area.	NIL.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	No proposal of top soil generation. Separate benches in OB and Ore.	Separate benches being maintained in OB and Ore.	NIL.
2c	Stripping ratio or ore to OB ratio	1:4.51 Tonnes/CuM	1:5.57 Tonnes/CuM	Due to encounter of waste zone in mineralised zone.
2d	Quantity of topsoil generation in m3	No proposal of top soil generation for reporting year.	NIL.	NIL.
2e	Quantity of overburden generation in m3	899730.00 CuM	488613.87 CuM	The waste generation was less due to not obtainingthe EC of enhance production i.e. around 2.0 lakh tonnes/year.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Development has been proposed in two quarries namely Quarry 2 and Quarry 3&4.	Development carried out within the proposed area.	NIL.

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## Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Two Pits	Two Pits	NIL.
3b	Quantity of ROM mineral production proposed	199275 tonnes.	87748.12 tonnes	The Less ROM production was due to not obtaining the EC of enhance production i.e. around 2.0 lakh tonnes/year.
3c	Recovery of sailable/usable mineral from ROM production	32565 tonnes.	59240.033	Due to irregular behavior of Ore body, more salable ore was encountered/produced.
3d	Quantity of mineral reject generation	166710 tonnes.	28508 tonnes	The Less SG generation was due to not obtaining the EC of enhance production i.e. around 2.0 lakh tonnes/year. The development was restricted only for 88000 tonnes of chrome production.
3e	Grade of mineral rejects generation and threshold value declared.	Threshold value: +10% Cr2O3 Mineral Reject: Between 10 to 40% Cr2O3	Threshold value: +10% Cr2O3 Mineral Reject: Between 10 to 40% Cr2O3	NIL.
3f	Quantity of sub grade mineral generation.	NIL.	NIL.	Information mentioned in MR para 3d.
3g	Grade of sub grade mineral generation	NIL.	NIL.	Information mentioned in MR para 3e.
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised.	Mechanised.	NIL.

3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal for any study.	NIL>	NIL.
3j	Provision of drilling and blasting in mineral benches	Drilling of 100 mm dia holes of length 6.6 m and blasting by SME and slurry explosives with initiation of NONEL.	As per proposal.	NIL.
3k	Provision of mining machineries in mineral benches	Dumper and shovel combination	Dumper and shovel combination	NIL.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	06 mts of bench height has been proposed.	As per proposal.	NIL.
3m	Total area covered under excavation/pits	27.880 Ha at the end of plan period.	26.81 as on 01.04.2018	As per AR 2017-18.
3n	Ore to OB ratio for the pit/mine during the year.	1:4.51 Tonnes/CuM	1:5.57 Tonnes/CuM	NIL.
3o	Total area put in use under different heads at the end of year	As per approved document dated 04/02/2016 total area proposed to put under different heads i.e. excavation, waste dumping, infrastructure , road etc is 82.375 Ha.	Open cast mining 26.81ha, Reclaimed 0.284ha, OB dump 27.84ha, Plant, building, roads 7.24ha, Topsoil 1.061ha ETP 0.13ha, Tailing pond 0.93ha, Safety zone 8.31ha Mineral storage 2.64ha. Total 75.241 Ha	As per AR 2017-18.

3p	Production of ROM mineral during the last five year period as applicable	2013-14 :87900.00 MT 2014-15 :87750.00 MT 2015-16:87915.00 MT 2016-17:199860.00 MT 2017-18:199275.00 MT	2013-14 : 87891.72 MT 2014-15: 41300.00 MT 2015-16 : 87912.00 MT 2016-17: 87895.87 MT 2017-18: 87748.12 MT	The Less ROM production was due to not obtaining the EC of enhance production i.e. around 2.0 lakh tonnes/year.
3q	General remarks of inspecting officers on method of mining etc.	Opencast mining is proposed with two working pit.	Mining is being carried out as per proposal. Production is less in comparison to proposal for the reason that lessee could not obtained the enhance EC.	NIL.

#### Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	No proposal of top soil generation. Separate dumping of waste and mineral reject was envisaged.	OB and MR being dumped separately.	NIL.
4b	Location of topsoil, OB and mineral reject dumps	No proposal of top soil generation during reporting year. Waste dumping is proposed over existing wate dump D and A&B. the dump D is exists b/w grid 337N-20S/131W-520W and dump A&B exists b/w grid 68N-585S/27E-606E.	Waste material is being dumped as per proposal.	NIL.

4c	Number of dumps within lease area and outside of lease area	Within lease area: 03 Out side lease area: NIL.	Within lease area: 03 Out side lease area: NIL.	NIL.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside of UPL.	Outside of UPL.	NIL.
4e	Number of active and alive dumps.	02	02	NIL
4f	Number of dead dumps.	01	01	NIL.
4g	Number of dumps established.	No specific proposal.	Existing dump D partly established.	NIL.
4h	Whether Retaining wall or garland drain all along dumps are there.	Garland drain of 382.00 mts and retaining wall of 382.00 mts was proposed.	Completed as per proposal.	NIL.
4i	Length of Retaining wall or garland drain all along dumps	Garland drain of 382.00 mts and retaining wall of 382.00 mts was proposed.	Completed as per proposal.	NIL.
4j	Number of settling ponds	01	01	NIL.
4k	Specific comments of inspecting officer on waste dump management	Waste dumping was proposed over two dumps. Proposal of retaining wall and garland drain has also been given.	The dumping of waste is being carried out as per proposal. No proposal for top soil generation. MR is stacked separately for future use and beneficiation purpose. Retaining wall and garland drain has been constructed.	NIL.

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Solid Waste Management - Backfilling:

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Sl.No.	Item	Propasals	Actual work	Remarks
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5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	No area of pit is exhausted for backfilling. No proposal of backfilling for reporting year i.e. 2017-18.	Backfilling was not observed for reporting year i.e. 2017-18.	NIL.
5b	Area under backfilling of mined out area	No proposal for reporting year.	NIL.	NIL.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	NO proposal for top soil generation.	NIL.	NIL.
5d	Total area fully reclaimed and rehabilitated	No proposal for reporting year.	NIL.	NIL.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	No proposal of backfilling during reporting year.	There are two quarries in operation; none of the quarry is completely exhausted. No proposal of backfilling.	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(2) of MCDR, 2017, PMCP report to be submitted for previous year by 1st July.	PMCP report submitted for the year 2017-18.	NIL.
6b	Area available for rehabilitation (ha) .	No proposal for reporting year.	NIL.	NIL.
6c	afforestation done (ha).	0.50 Ha	As per proposal.	NIL.
6d	No. of saplings planted during the year	2000 no.	2000 No.	NIL.

6e	Cumulative no .of plants	No specific proposal.	92524.00	As per approved document dated 10/07/2018.
6f	Any other method of rehabilitation	No specific proposal.	NIL.	NIL.
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 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)	Proposal has been given for environment monitoring in core and buffer zone.	Being monitored as per proposal.	NIL.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Only plantation has been proposed.	Plantation has been carried out over the waste dump area and safety zone area. No proposal of backfilling and any other method rehabilitation and reclamation.	NIL.

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#### Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sorting proposed within lease area.	As per proposal.	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.	Sub grade 10-40% Cr2O3 Salable >40% Cr2O3	Sub grade 10-40% Cr2O3 Salable >40% Cr2O3	NIL.

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7d	Any beneficiation process at mines	Yes, wet gravity method.	Wet gravity method.	NIL.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Proposal of separate stacking of Sub grade material for future use or blending.	MR/Sub-grade material is being stacked separately or future use or beneficiation. A wet beneficiation plan is within the lease area for beneficiation of MR/sub-grade mineral.	NIL.

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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No Proposal.	NIL.	NIL.
8b	Concurrent use or storage of topsoil	No Proposal.	NIL.	NIL.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping of Waste, Mineral reject has been proposed.	Separate dumping was being carried out for overburden, waste rock, mineral reject and fines etc.	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.	NIL.

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	No specific proposal.	Cumulative plantation number is 92524.00	As per approved document dated 10/07/2018.
8g	Survival rate	No Proposal.	NIL.	NIL.
8h	Water sprinkling on roads to control airborne dust	To control the airborne dust water sprinkling is proposed on the road.	As per proposal.	NIL.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	---	Aesthetic butey of the mine is moderate. Number of plantation needs to improve.	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 apponited.	NIL.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	A total of 74.05 Ha area has been furnished.	The land use pattern is found to be in order.	NIL.
9d	Scrutiny of Annual return on afforestation	2000 no.	Found in order.	Within lease area.

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9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	28508.087 tonnes.	28508.087 tonnes.	NIL.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM produced is 87748.12 tonnes.	Seems to be in order.	NIL.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Cost of production- 8309.00/ MT	Seems to be in order.	NIL.
9h	Scrutiny of Annual return on fixed assets	Rs. 116371000/-	Found in Order.	NIL.
9k	Scrutiny of Annual return on mining machineries	Shovel, dumpers, loaders, water tanker, Compressor, drill machine etc.	Shovel, dumpers, loaders, water tanker, Compressor, drill machine etc.	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)	26/04/2018	28/06/2018	MCDR17	Rule 11(1)	26/04/2018	
	Rule 11(1)	26/04/2018	28/06/2018		Rule 11(1)	26/04/2018	

**Date :**

**(DILIP JAIN)**

Indian Bureau of Mines