

**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, SHRI A MISHRA, SHRI A MISHR**
Official with
Designation
- (iv) Date of Inspection : 06/01/2018
- (v) Prev.inspection date : 02/11/2015

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 ENGINEERING)
 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

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	2016-17: 08 BH	NIL.	Violation issued vide letter number dated 18/08/2017. Which is compiled by party on 14/09/2017.
1b	Exploration over lease area for geological axis 1 or 2	A total of 41 BH have been proposed till the end of scheme period.	68 BH completed.	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	No specific proposal.	Around 48.525 Ha area is yet to explore which is mainly consist of non-mineralized area.	
1e	Balance reserve as on 01/04/20	In tha 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: Reserve: 1.728 million tonnes. resource: 0.521 million tonnes.	NIL

1f General remarks --- Most of the mineralised area i.e. chrome band of inspecting officers on geology, exploration etc area has been explored by the core drilling. However, an area of around 48.525 ha is yet to explore, which is mainly of non-mineralised nature.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Location for the year 2016-17: Quarry 2: 00NS-350S/100E-320E Quarry 3&4:130N-560N/450W-100E	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	1:12.02 CuM/CuM	1:14.58 CuM/CuM	For the year 2016-17.
2d	Quantity of topsoil generation in m3	No proposal.	NIL.	NIL.
2e	Quantity of overburden generation in m3	800795.00 CuM	427154.71 CuM	The Less Ob generation was due to not obtaining the EC of enhance production i.e. around 2.0 lakh tonnes/year. The development was restricted for only 88000 tonnes of chrome production.

2f General remarks -- The development was well of inspecting officers on development of pit w.r.t. type of deposit etc within the approved limit of the development. Less development was due to not obtaining the enhanced EC.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	2	2	NIL.
3b	Quantity of ROM mineral production proposed	199860.00 tonnes.	87895.87 tonnes.	Less production as EC of enhance production not obtain.
3c	Recovery of sailable/usable mineral from ROM production	25920 tonnes.	44955.996 tonnes.	NIL.
3d	Quantity of mineral reject generation	173940 tonnes	42939.874 tonnes.	The MR generation was less, due to not obtaining the EC of enhance production i.e. around 2.0 lakh tonnes/year. The development was restricted for only 88000 tonnes of chrome production.
3e	Grade of mineral rejects generation and threshold value declared.	Threshold value: +10% Cr2O3 Mineeral Reject: Between 10 to 40% Cr2O3	Threshold value: +10% Cr2O3 Mineeral Reject: Between 20 to 40% Cr2O3	NIL.

3f	Quantity of sub grade mineral generation.	173940 tonnes	42939.874 tonnes.	The SG generation was less, due to not obtaining the EC of enhance production i.e. around 2.0 lakh tonnes/year. The development was restricted for only 88000 tonnes of chrome production.
3g	Grade of sub grade mineral generation	Mineeral Reject: Between 10 to 40% Cr2O3	Mineeral Reject: Between 20 to 40% Cr2O3	NIL.
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.	Beneficiation of MR being carried out.
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.	Drilling of 100 mm dia holes of length 6.6 m and blasting by SME and slurry explosives with initiation of NONEL.	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	Height: 06 mts Width: 10 to 12 mts.	Height: 06 mts Width: 10 to 12 mts.	NIL.

3m	Total area covered under excavation/pits	27.880 Ha at the ned of plan period.	26.80 as on 01.04.2017	As per AR 2016-17.
3n	Ore to OB ratio for the pit/mine during the year.	1:12.02 CuM/CuM	1:14.57 CuM/CuM	
3o	Total area put in use under different heads at the end of year	As per approved document 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 27.837ha, Plant, building, roads 7.24ha, Topsoil 1.061ha ETP .129ha, Tailing pond 0.934ha, Safety zone 8.31ha Mineral storage 2.636ha. Total 75.241 Ha	NIL.
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	2013-14 : 87891.72 MT 2014-15: 41300.00 MT 2015-16 : 87912.00 MT 2016-17: 87895.87 MT	
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.	As per proposal.

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 MR and OB is proposed.	OB and MR being dumped separately.	NIL.

4b	Location of topsoil, OB and mineral reject dumps	Top soil dump: NW part of the quarry 3&4. Waste dump A&B: 86N-600S/17E-637E Waste Dump D: 00N-365N/117W-515W	No proposal for top soil generation. One existing dump of top soil is lying at NW part of the quarry 3&4. 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.	01 partly established.	NIL.
4h	Whether Retaining wall or garland drain all along dumps are there.	Garland drain and retaining wall of 677.00 mts proposed along the dumps.	Completed at the tow of the waste dumps.	
4j	Number of settling ponds	01	01	NIL.
4k	Specific comments of inspecting officer on waste dump management	--	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.	NIL.

Solid Waste Management - Backfilling:

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 Proposal.	NIL.	NIL.
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 of top soil generation.	NIL.	NIL.
5d	Total area fully reclaimed and rehabilitated	No Proposal.	NIL.	NIL.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	--	There are two quarries in operation; none of the quarry is completely exhausted. No proposal of backfilling.	NIL.

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.	PMCP report for the year 2016-17 submitted.	NIL.
6b	Area available for rehabilitation (ha) .	No proposal.	NIL.	NIL.
6c	afforestation done (ha).	0.295 Ha	Around 0.50 Ha	As reported by Mine manager.
6e	Cumulative no .of plants	92024	92024	As reported by Mine Manager.
6f	Any other method of rehabilitation	No Proposal.	NIL.	NIL.

6g	Cost incurred on watch and care during the year	16.0 lacs.	2.36 lacs.	As reported by Lessee.
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 on waste land.	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.	--	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.	

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 means i.e. screening.	
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.

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	--	MR/Sub-grade material is being stacked separately for future use or beneficiation. A wet beneficiation plan is within the lease area for beneficiation of MR/sub-grade mineral.	NIL.

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 overburden, waste rock, mineral reject and fines has been proposed.	Separate dumping is 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.	Mineral is not exhausted from any of the pit.

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	No specific proposal.	Cumulative plantation number is 96024.	NIL.
8g	Survival rate	No specific proposal.	80%	As per AR 2016-17.
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 normal. Number of plantation needs to improve.	

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly and annual return to be submitted as per rule 45 of MCDR, 2017.	Monthly and Annual return submitted for the year 2016-17.	NIL.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Graduate Mining engineer: 02 Diploma Mining Engineer: 02 Geologist: 1 Surveyor:02	Mining engineer and Geologist are apponited.	NIL.

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Open cast mining 26.806ha Reclaimed 0.284ha Ob dump 27.837ha Plant, building, roads 7.237ha Topsoil 1.061ha ETP 0.129ha Tailing pond .934ha Safety zone 8.31ha Mineral storage 2.636ha	The land use pattern is found to be in order.	NIL.
9d	Scrutiny of Annual return on afforestation	1500 no.	1500 no.	Within lease area only.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	42939.874 tonnes	42939.874 tonnes	NIL.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM produced is 87895.870 tonnes.	The production figures furnished in the annual return of the year 2016-17 found to be correct.	NIL.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Cost of production- 6525.83	Seems to be in order.	NIL.
9h	Scrutiny of Annual return on fixed assets	Rs 143155000	Seems to be in order.	Not verified.
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.

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

Date :

(DILIP JAIN)

Indian Bureau of Mines