

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

**MCDR INSPECTION REPORT**

**Bhubaneshwar regional office**

**Mine file No :** ORI/CR/JJP/MCDR-5/BBS

**Mine code :** 11ORI19006

- (i) Name of the Inspecting : **DJ03** ) **DILIP JAIN**  
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : Sri S.S. Mishra, Mines Manager, Sri Khageswar Naik, S  
Official with  
Designation
- (iv) Date of Inspection : 29/01/2018
- (v) Prev.inspection date : 02/10/2016

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **SARUABIL**
- (b) **Registration NO.** : **IBM/4197/2011**
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : JAJPUR
- Village : SARUABIL
- Taluka : JAJPUR SADAR SUBDIV.
- Post office : JAJPUR ROAD
- Pin Code : 755047
- FAX No. : 033-22878663
- E-mail : sjain@misrilalljaingroup.co
- Phone : 06726 - 268773(O), 268774(I
- (f) Police Station : Jajpur
- (g) First opening date : 15/05/1954
- (h) Weekly day of rest : SUN
2. Address for : SARUABIL CHROMITE MINES  
correspondance VILL-SARUABIL  
PO-JAJPUR ROAD
3. (a) Lease Number : ORI0235
- (b) Lease area : 246.86
- (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 Misrilall Mines Ltd  
 Post: J.K.Road JAJPUR  
 ORISSA  
 Phone:06726 - 68773 (O) , 68774 (R)  
 FAX :

Owner : Sri Shiv Kumar Jain, Managing Director  
 Mineral House 27A, CAMAC  
 Street Kolkata-700016  
 KOLKATA WEST BENGAL  
 Phone:  
 FAX : 033-22878663

Agent : SHRI U K SINHA  
 HIG-42 JAYDEV BIHAR  
 BHUBANESWAR JAJPUR ORISSA  
 Phone: 9238456001  
 FAX :

## Mining Engineer

Name : SHRI RUDRA MOHAN NAYAK, Full Time  
 Qualification : AMIE  
 Appointment/ : 05/05/2011  
 Termination date

## Geologist

Name : SHRI KHAGESWAR NAIK, Full Time  
 Qualification : MSC GEO  
 Appointment/ :  
 Termination date

## Manager

Name : SHRI SUDHANSU SEKHAR MISHRA  
 Qualification :  
 Appointment/ : 01/06/2015  
 Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	22/10/2000
Plan/Scheme of Mining	:	Mining Scheme rule 12 MCDR1988	22/10/2001
	:	Mining Scheme rule 12 MCDR1988	21/09/2005
	:	Modif.approved Mining Scheme	28/08/2007
	:	Mining Scheme rule 12 MCDR1988	31/05/2010
	:	Renewal under rule 24 MCR1960	15/04/2015

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	5 NOS. OF BORE HOLES PROPOSED DURING THE REPORTING YEAR 2016-17	A TOTAL OF 12 BH HAVE BEEN DRILL DURING 2017-18, INCLUDING 05 BH OF REPORTING YEAR. EXPLORATORY DRILLING IS CONTINUING.	NIL.
1b	Exploration over lease area for geological axis 1 or 2	No specific proposal for G1/G2 level of exploration.	A TOTAL OF 12 EXPLORATORY BH HAVE BEEN COMPLETED.	AS ON DATE OF INSPECTION.
1d	Balance area to be explored to bring Geological axis in 1 or 2	No specific proposal.	Balance unexplored area is 146.632 ha	NIL.
1e	Balance reserve as on 01/04/20	IN THE APPROVED SOM DATED 15/04/2015, THE RESERVE AND RESOURCE OF THE CHROMITE ORE FURNISHED WAS 2.237 AND 1.209 MILLION TONNES RESPECTIVELY.	THE BALANCE RESERVE IS 2.102 MILLION TONNES AND RESOURCE IS 1.209 MILLION TONNES AS ON 01.04.2017	AS PER ANNUAL RETURN 2016-17.
1f	General remarks of inspecting officers on geology, exploration etc	--	THE EXPLORATION PROPOSED FOR THE YEAR 2016-17 COULD NOT BE COMPLETED. HOWEVER, A TOTAL OF 12 BH HAVE BEEN DRILLED DURING 2017-18 TILL THE DATE OF INSPECTION INCLUDING THE REPORTING YEAR'S BACK LONG.	NIL.

## Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	QUARRY NO -A, B , C & D	QUARRY NO- B, C & D	NIL.

2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches proposed OB and Ore.	Separate benches being maintained in OB and Ore.	Mining operation started from 10.06.2016
2c	Stripping ratio or ore to OB ratio	1:5.21 T/CuM	1:10.07 T/CuM	The OB was proposed to 18.22 lakh Cum in anticipation of EC clearance of 3.5 lakh tonnes for the year 2016-17. Accordingly development work has been carried out. However, Chrome ore is produced based on the existing EC i.e. 1.36 lakh tonnes.
2d	Quantity of topsoil generation in m3	No specific proposal.	NIL.	NIL.
2e	Quantity of overburden generation in m3	1822505.00 CuM	1366724.00 CuM	Mining activity started from 10/06/2016.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	It was proposed to develop four pits during reporting year.	Only three pits could be developed due to having EC of enhance production. Development was observed within the approved limit.	NIL.

### Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Quarry No- A, B , C , D	Quarry No- B , C , D	Mining operation was started from 10.06.2016.
3b	Quantity of ROM mineral production proposed	349999.85 tonne	135650.00 tonne	Less production due to want of enhance EC. Current EC limit is 0.136 MT

3c	Recovery of sailable/usable mineral from ROM production	349999.85 tonne	135650.00 tonne	Less production due to want of enhance EC. Current EC limit is 0.136 MT
3d	Quantity of mineral reject generation	99999.85 tonnes	16500.00 tonnes	Less production of MR due to want of enhance EC. Current EC limit is 0.136 MT
3e	Grade of mineral rejects generation and threshold value declared.	10 to 40% Cr2O3	10 to 40% Cr2O3	NIL.
3f	Quantity of sub grade mineral generation.	99999.85 tonnes	16500.00 tonnes	Less production of SG due to want of enhance EC. Current EC limit is 0.136 MT
3g	Grade of sub grade mineral generation	10 to 40% Cr2O3	10 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.	NIL.	NIL.
3j	Provision of drilling and blasting in mineral benches	Hard patches of only 15% of required drilling & blasting.	As per requirement of drilling & blasting has been carried out.	NIL.
3k	Provision of mining machineries in mineral benches	Combination of excavator & dumper is proposed.	The same is used for excavation purpose.	NIL.

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Height- 6 meter Width - 12.00 meter	Height- 6 meter Width - 12.00 meter	NIL.
3m	Total area covered under excavation/pits	51.59 ha	51.75 ha	As per AR 2016-17.
3n	Ore to OB ratio for the pit/mine during the year.	1:5.21	1:10.07	The OB was proposed to 18.22 lakh Cum in anticipation of EC clearance of 3.5 lakh tonnes for the year 2016-17. Accordingly development work has been carried out. However, Chrome ore is produced based on the existing EC i.e. 1.36 lakh tonnes.
3o	Total area put in use under different heads at the end of year	178.77 ha at the end of the plan period i.e. 31/03/2019.	145.94 Ha as on 01/04/2017.	As per AR 2016-17.
3p	Production of ROM mineral during the last five year period as applicable	2012-13-348186 tonne 2013-14 - 357856 tonne 2014-15-349999 tonne 2015-16-349999 tonne 2016-17-349999 tonne	2012-13-- 78927.81 tonne 2013-14 -- 23150.00 tonne 2014-15-- Nil 2015-16-- Nil 2016-17--135650.00 tonne	NIL.
3q	General remarks of inspecting officers on method of mining etc.	Opencast mining method has been proposed.	Open cast mining is carried out with drilling and blasting.	NIL.

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Solid Waste Management - Dumping:

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Sl.No.	Item	Propasals	Actual work	Remarks
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4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	The OB dumping proposed to dump on waste dump no- 10, 11, 2 & 3. Nicle dump: C&D.	Dumping of waste is being carried out as per proposal.	NIL.
4b	Location of topsoil, OB and mineral reject dumps	Location of O B Dump Dump No- 2 & 3- N21 03.16.95"- E 85 48'50.89" Dump No- 11- N21 03.57.57"- E 85 49'14.64"	Location of O B Dump Dump No- 2 & 3- N21 03.16.95"- E 85 48'50.89" Dump No- 11- N21 03.57.57"- E 85 49'14.64"	NIL.
4c	Number of dumps within lease area and outside of lease area	There are 7 nos. of dumps inside the lease area out of which 3nos. are active dumps. No dump out side the lease area.	There are 7 nos. of dumps inside the lease area out of which 3nos. are active dumps. No dump out side the lease area.	NIL.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Proposed outside the ultimate pit limit.	All the dumps are outside the ultimate pit limit.	NIL.
4e	Number of active and alive dumps.	Three dumps i.e. dump no 10, 11 & 2/3	Three dumps i.e. dump no 10, 11 & 2/3	NIL.
4f	Number of dead dumps.	Four nos. of dead dump i.e. dump no. 1, 6, 7 & 8/9	Four nos. of dead dump i.e. dump no. 1, 6, 7 & 8/9	NIL
4g	Number of dumps established.	No specific proposal.	04 nos i.e. dump no. 1, 6, 8/9 and part of dump 2/3.	NIL.
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall proposed all along the waste dump.	Retaining wall and garland drain has been provided around the dump to arrest surface run-off.	NIL.
4i	Length of Retaining wall or garland drain all along dumps	2142 m of retaining wall.	Retaing wall work completed over diveretd area (around 525 m).	Remaining retaining wall observed to be under construction.

4j	Number of settling ponds	Over 1350 m2 area.	Settling ponds provides at suitable places.	NIL.
4k	Specific comments of inspecting officer on waste dump management	Dumping has been proposed over three dumps within lease area.	At present three dumps are active. Other dumps are old ones and dead in nature. Planation has been carried out over the dumps. Retaining wall and garland drain has been provided.	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.	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.	NIL.	NIL.
5d	Total area fully reclaimed and rehabilitated	No Proposal.	NIL.	NIL.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	No proposal of bacfilling.	As none of the quarry area is fully exhausted. No proposal for backfilling and reclamation.	NIL.

#### Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
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6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	Yearly report of PMCP for the year 2016-17 has been submitted by party under rule 26(2) of MCDR, 2017.	Submitted for reporting year.	NIL.
6b	Area available for rehabilitation (ha) .	1.0 ha area of dump slope.	Plantation carried out over the dump area.	NIL.
6c	afforestation done (ha).	Dump- 1.0 ha	1.38 ha	NIL.
6d	No. of saplings planted during the year	4750 number of saplings.	4950 number of sapling have been planted during the reporting year.	NIL.
6e	Cumulative no .of plants	A toptal of 19000 number of saplings have been proposed from 2014-15 to 2017-18.	A total of 19554 number of saplings have been planted from 2014-15 to the date of inspection.	NIL.
6f	Any other method of rehabilitation	No Proposal.	NIL.	NIL.
6g	Cost incurred on watch and care during the year	No specific proposal.	Rs. 152000.00	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 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)	Proposed to monitor environmental parameter like water quality, noise quality, air quality etc .	Regular monitoring of environmental parameter like water quality, noise quality, air quality etc .	NIL.

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	only planation was proposed, no backfilling was proposed.	The proposed measures for progressive clouser of mine are being complied in the mine. Plantation has been done, no proposal for backfilling.	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	GProposed for grade wise shorting & dispatch within lease area.	Grade wise shorting & dispatch within lease area.	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% cr203 - saleable 10 to 40% Cr203-beneficiable	>52% Cr203: Salable 40 to 52% cr203 :saleable 10 to 40% Cr203: beneficiabile/bendable.	NIL.
7d	Any beneficiation process at mines .	A 30TPH beneficiation plant isexist in the lease area.	At present beneficiation plant is not in operation.	NIL.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	--	Sub grade material is being stacked separately and blended with high grade material as per requirement.	NIL.

#### Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
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8a	Separate removal and utilization of topsoil (Rule 32)	No specific proposal.	No top soil generated.	NIL.
8b	Concurrent use or storage of topsoil	No Proposal.	NIL.	NIL.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	proposed Separate dumping for OB & Nickel dump, Ore etc.	As per proposal.	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)	Dump will be rehabilitated by plantation.	Part of the Dumps area rehabilitated by plantation.	NIL.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	No specific proposal.	Total 198215 no. of plantation has been done till 29.01.2018	NIL.
8g	Survival rate	No specific proposal.	75%	NIL.
8h	Water sprinkling on roads to control airborne dust	To control the airborne dust water sprinkling is proposed.	5 Nos. of water tankres are deployed.	NIL.

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	No specific proposal.	The aesthetic beauty of the mine is moderate. None of the quarry is fully exhausted. Hence, reclamation could not be taken up. Matured slope of the dump is planted.	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, 2017, Monthly and annual returns to be submitted.	Monthly and annaul retun have been submitted for year 2016-17.	NIL.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Graduate Mining Engineer: 04 Deplo Mining Engineer: 04 Geologist: 01	Mining Engineer and geologist has been appointed as per MCDR, 2017.	NIL.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under mining- 51.75 ha Reclaimed area- 11.94 ha Area under Dump- 58.68 ha Infrastructure - 23.06 ha	The area furnished under different head appears to in order.	NIL.
9d	Scrutiny of Annual return on afforestation	Within lease area- 4975 Outside lease area - 2100	Appears to in order.	NIL.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	16500.00 tonnes.	Found to be in order.	NIL.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM stock: NIL, Total stock of the Ore: 144455.175 tonnes	The production figure furnished in aannual return appears to in order.	NIL.

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Cost of production Rs 3818.07/-	The cost of production appears to in order.	NIL.
9h	Scrutiny of Annual return on fixed assets	The total value of the fixed assets at the end of the year 2016-17 is mentioned is Rs. 58217000.00	The value of fixed assets furnished in annual return appears to be in order.	NIL.
9k	Scrutiny of Annual return on mining machineries	The mining machineries like hydraulic excavators, Dumpers, Air Compressor, Water tanker, etc. are given in the annual return submitted for the year 2016-17.	The deployment status of the mining machineries appears to be correct.	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

**Date :**

**(DILIP JAIN)**

Indian Bureau of Mines