

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

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/CR/JJP/MCDR-4/BBS14/03/2K

Mine code : 11ORI19005

- (i) Name of the Inspecting : **SRM**) **SHRI SUDIP RANJAN MAZUMDAR**
Officer and ID No.
- (ii) Designation : Senior Mining Geologist
- (iii) Accompanying mine : Shri. A.K.Patra, Mines Manager
Official with
Designation
- (iv) Date of Inspection : 14/08/2018
- (v) Prev.inspection date : 13/03/2016

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **OSTAPAL**
- (b) **Registration NO.** : **IBM/173/2011**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : JAJPUR
- Village : GURUJANG
- Taluka : SUKINDA
- Post office : KALIAPANI
- Pin Code :
- FAX No. : 06784 - 251782
- E-mail : facormines@facor.in
- Phone : 06726- 268755
- (f) Police Station : Kaliapani
- (g) First opening date : 01/12/1985
- (h) Weekly day of rest : SUN
2. Address for : OATAPAL CHROMITE MINE, M/S FACOR LTD
correspondance P.O.KALIAPANI, DIST: JAJPUR
ORISSA-755047
3. (a) Lease Number : ORI0233
- (b) Lease area : 72.84
- (c) Period of lease : 50
- (d) Date of Expiry : 12/08/2035
4. Mineral worked : CHROMITE Main

5. Name and Address of the

Lessee : M/s.Ferro Alloys Corporation Limited
 Laxmi Bhawan,Kuans PO &
 Dist : Bhadrak Odisha
 BHADRAK ORISSA
 Phone:06784 - 250598
 FAX :06784 - 251782

Owner : SHRI ROHIT SARAF
 M/s Ferro Alloys
 Corporation Ltd Laxmi
 Bhawan, Kuans, Bhadrak
 Odisha-756100 BHADRAK
 ORISSA
 Phone: 06784 - 250598
 FAX : 06784 - 251782

Agent : RAJESH KUMAR SINGH
 Gurujang, Kaliapani
 Sukinda, Jajpur Odisha
 BHADRAK ORISSA
 Phone: 06784 -251312
 FAX : 06726-201009

Mining Engineer

Name : SARASWATA NANDA,Full Time
 Qualification : B.E Mining Engineering
 Appointment/ : 01/07/2016
 Termination date

Geologist

Name : I. RAMA RAO,Full Time
 Qualification : MSC Geology
 Appointment/ : 14/12/2009
 Termination date

Manager

Name : AJAYA KUMAR PATRA
 Qualification : AMIE Mining Engineering, FCC
 Appointment/ : 21/08/2017
 Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	17/01/2001
Plan/Scheme of Mining	:	Renewal under rule 24 MCR1960	03/01/2005
	:	Mining Scheme rule 12 MCDR1988	25/04/2011
	:	Mining Scheme rule 12 MCDR1988	30/03/2016

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Number of boreholes proposed for drilling in 2017-18 was 6 Nos. with 210.00 meterage of drilling	Number of boreholes drilled in 2017-18 was 6 nos. with 212.00 meterage of drilling	No backlog of previous year 2017-18
1b	Exploration over lease area for geological axis 1 or 2	Not Specified	Area explored under G1 level of UNFC is 72.843 Ha	Nil
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No proposal	Exploration carried out by in-house. Expenditure incurred is approximately Rs 32224.00	Nil
1d	Balance area to be explored to bring Geological axis in 1 or 2	Not Proposed	The entire lease area has been explored under G1 level of exploration	Nil
1e	Balance reserve as on 01/04/20	Reserve as on 01.04.2017 under UNFC categories: 111-395312 tonnes, 121-2327100 tonnes, 122-593300 tonnes Resources as on 01.04.2017 under UNFC categories: 333-1240500	Production during 2017-18 was 106244.297 tonnes. Reserve as on 01.04.2018 under UNFC categories: 111-289068 tonnes, 121-2327100 tonnes, 122-593300 tonnes Resources as on 01.04.2017 under UNFC categories: 333-1240500	Nil
1f	General remarks of inspecting officers on geology, exploration etc	Not Proposed	There is no backlog in exploration and the entire lease area has been explored under G1 level of exploration.	Nil

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t. lease area	Proposed: E-3270,W-2606 and N-3168,S-2580	Actual within the coordinates E-3270,W-2606 and N-3168,S-2580	Nil
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Not specified	Separate benches in ore and waste maintained	Nil
2c	Stripping ratio or ore to OB ratio	1:13.94 cum/cum	1:10.40 cum/cum	Lateral development was less than the proposal.
2d	Quantity of topsoil generation in m3	Not Proposed	Nil	Nil
2e	Quantity of overburden generation in m3	474174 cum	350841 cum	Lateral development was less than proposal.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Not Proposed	Location of development was within the proposal. Overburden generation was less than proposed.	Nil

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	One no. of pit	One no. of pit	Nil
3b	Quantity of ROM mineral production proposed	107100 tonnes	106244 tonnes	Nil
3c	Recovery of sailable/usable mineral from ROM production	64450 tonnes	Production of fines between 40% to below 52% Cr2O3 is 56846.915 tonnes	Production proposed from main grade ore for the year 2017-18

3d	Quantity of mineral reject generation	Production proposal under mineral reject was nil. However, 42650 tonnes of ROM production from low grade ore was proposed for the year 2017-18.	49397.382 tonnes	The low grade ROM stacked has been sent to COB plant for beneficiation.
3e	Grade of mineral rejects generation and threshold value declared.	Grade of Mineral reject is between +10% to below 40% Cr2O3 where as threshold value declared is +10% Cr2O3	Grade of Mineral reject generated is between +10% to below 40% Cr2O3 where as threshold value declared is +10% Cr2O3	Nil
3f	Quantity of sub grade mineral generation.	42650 tonnes of ROM production from low grade ore was proposed for the year 2017-18.	49397.382 tonnes	The low grade ROM stacked has been sent to COB plant for beneficiation.
3g	Grade of sub grade mineral generation	Low grade ore between 10% to 40% Cr2O3	Mineral Reject: 10% to 40% Cr2O3	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanical	Mechanical	Nil
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Processing of ROM and mineral reject by chrome ore beneficiation plant has been proposed for one year only.	Beneficiation done to produce chrome concentrate	The proposal has been modified in the modification of review of mining plan in which the C.O.B plant is planned to run till 2019-20.

3j	Provision of drilling and blasting in mineral benches	Not Proposed	Nil	Drilling & blasting is being carried out only in OB benches depending upon the nature of rocks as per proposal.
3k	Provision of mining machineries in mineral benches	Provision has been given	Carried out as per proposal.	Nil
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height proposed is 6m (average)	Not Maintained.	Violation was issued to lessee on 09.06.2018.
3m	Total area covered under excavation/pits	Area covered under mining at the end of scheme period is 29.98 Ha	Area covered under current (O/C) workings at the end of 2017-18 is 28.038 Ha.	Data as furnished in annual return for the year 2017-18
3n	Ore to OB ratio for the pit/mine during the year.	1:13.94 cum/cum	1:10.40 cum/cum	Lateral development was less than proposed.

3o	Total area put in use under different heads at the end of year	Lease area utilisation at the end of scheme period (in Hectares): 1. Area under mining: 29.98 Ha 2. Overburden/dump: 26.903 Ha 3. Mineral Storage: 3.016 Ha 4. Infrastructure : 0.061 Ha 5. Roads: 1.529 Ha 6. Green belt: 4.070 Ha 7. ETP: 0.434 Ha 8. Others: 6.85 Ha	Lease area (surface area) utilisation at the end of the year (in Hectares) 1. Covered under current (O/C) workings: 28.038 Ha 2. Used for waste disposal: 23.882 Ha 3. Occupied by plant, buildings, residential, welfare buildings & roads: 5.739 Ha 4. Other purpose : 11.009 Ha 6. Work done under PMCP during the year : 2.586 Ha	Data as furnished in annual return for 2017-18
3p	Production of ROM mineral during the last five year period as applicable	2013-14: 2.00 lakh ton 2014-15: 2.00 lakh ton 2015-16: 2.00 lakh ton 2016-17: 1.042 lakh ton 2017-18: 1.071 lakh ton	2013-14 :1.87 lakh ton 2014-15 : 1.55 lakh ton 2015-16 :0.79 lakh ton 2016-17 :1.020 lakh ton 2017-18: 1.062 lakh ton	Nil
3q	General remarks of inspecting officers on method of mining etc.	Not Proposed	Opencast method of mining has been practised. One number of pit has been put for production as per proposal.	Nil

Solid Waste Management - Dumping:

Sl.No.	Item	Proposals	Actual work	Remarks
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4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	No generation of top soil and only separate dumping of overburden.	No generation of top soil and only separate dumping of overburden.	Nil
4b	Location of topsoil, OB and mineral reject dumps	No top soil stack proposed. Overburden dumping proposed in South Dump: W-2610 to E-2895 and S-2430 to N-2610 North Dump: Nil	No top soil stack. Overburden has been dumped both in North and South dump. South Dump: W-2640 to E-2815 and S-2468 to N-2598 North Dump: W-3152 to E-3432 and S-2895 to N-3145	Violation has been issue to lessee for dumping over north dump.
4c	Number of dumps within lease area and outside of lease area	Within Lease area: 02 nos.	Within Lease area: 02 nos.	Nil
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Beyond ultimate pit limit	Beyond ultimate pit limit	Nil
4e	Number of active and alive dumps.	Two nos. of overburden dumps	Two nos. of overburden dumps	Nil
4f	Number of dead dumps.	Not Proposed	Nil	Nil
4g	Number of dumps established.	Two Nos.	Two Nos.	Nil
4h	Whether Retaining wall or garland drain all along dumps are there.	Not Proposed	Retaining wall and garland drain are not present all along the dumps.	Violation has been issue under Rule 37 (2) of MCDR 2017
4i	Length of Retaining wall or garland drain all along dumps	In 2017-18, there was no proposal for construction of retaining wall and garland drain	Nil	Nil
4j	Number of settling ponds	Not Proposed	Nil	Nil

4k	Specific comments of inspecting officer on waste dump management	Nil	There are two number of dumps within the lease area. Violation has been issued for dumping in North dump which was not there in proposal for waste dumping in 2017-18. Violation has also been issued under Rule 37 (2) of MCDR 2017.	Nil
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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.	Not Proposed	Nil	Nil
5b	Area under backfilling of mined out area	Not Proposed	Nil	Nil
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not Proposed	Nil	Nil
5d	Total area fully reclaimed and rehabilitated			Nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Not Proposed	There was no proposal for reclamation and rehabilitation by backfilling.	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).	Not proposed	Annual return on PMCP for the year 2017-18 has been submitted.	Nil
6b	Area available for rehabilitation (ha) .	Not Proposed	Nil	Nil
6c	afforestation done (ha).	2.043	2.586	Data furnished in annual return for PMCP for 2017-18
6d	No. of saplings planted during the year	5110Nos	6465Nos of saplings planted within lease area	Data as furnished in annualreturn for 2017-18
6e	Cumulative no .of plants	Not Specified	143260Nos	Nil
6f	Any other method of rehabilitation	Not Proposed	Nil	Nil
6g	Cost incurred on watch and care during the year	Rs 1498508.00 for the year 2017-18	Rs 18.95 lakhs	Data as furnished in annual return for PMCP for 2017-18
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Not Proposed	Nil	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not Proposed	Nil	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	Not Proposed	Nil	Nil

6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not Proposed	Nil	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not Proposed	Nil	Nil
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not Proposed	Nil	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not Proposed	Nil	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not Proposed	Nil	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring of ambient air quality, water quality and noise	Quarterly monitory has been carried out.	Nil
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Not Proposed	Compliance on PMCP is more or less as per proposal	Nil

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
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7a	ROM Mineral dispatch or grade-wise sorting within lease area	ROM is subjected to sorting to remove the zero value rock pieces/threshold chromite/ROM reject for upgrading the ROM to suit the requirement of captive industry and the stacked ore after such mineral processing is 40% Cr2O3 minimum.	Gradewise production of fines: (a). Below 40% Cr2O3: 49397.382 tonnes and (b). 40% to below 52% Cr2O3 is 56846.915 tonnes	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% to -40% Cr2O3 and +40% to above	+10% to -40% Cr2O3 and +40% to below 52% Cr2O3	Nil
7d	Any beneficiation process at mines	Yes	Yes	Nil
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Not Proposed	The +10% to -40% Cr2O3 ROM is stacked separated and send to COB plant for beneficiation and +40% Cr2O3 is directly dispatched.	Nil

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
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8a	Separate removal and utilization of topsoil (Rule 32)	Not Proposed	Nil	Nil
8b	Concurrent use or storage of topsoil	Not Proposed	Nil	Nil
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	In 2017-18, waste dumping was proposed in Sothern dump.	During 2017-18, waste/overburden was dumped in both Southern and Northern dump. Violation was issued to lessee for non-compliance of proposal for waste dumping in 2017-18.	Nil
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not Proposed	Nil	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not Proposed	Nil	Nil
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Not Specified	6465 nos. of trees have been planted within the lease area	Data as furnished in annual return for 2017-18
8g	Survival rate	Not Proposed	Survival rate of 99.99% within lease area	Data as furnished in annual return for 2017-18
8h	Water sprinkling on roads to control airborne dust	Yes	Yes	

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Not Proposed	Aesthetic beauty is maintained	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	Not Proposed	Monthly returns and annual return for the year 2017-18 has been submitted.	Nil
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Graduate Mining Engineer: 4 Diploma Mining Engineer: 1 Geologist: 2	Mining Engineer, Manager and Geologist appointed	Nil
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Lease area (surface area) utilisation as at the end of year (in hectares): 1.Area covered under (O/C) workings: 28.038 Ha 2.Used for waste disposal: 23.882 Ha 3.Occupied by plant, building, residential, welfare buildings & roads: 5.739 Ha 4.Other purpose: 11.009 Ha 5.Work under PMCP: 2.586 Ha	Data as furnished in annual return for 2017-18	Nil

9d	Scrutiny of Annual return on afforestation	Number of trees planted during the year within the lease area was 6465 Nos.	Data as furnished in annual return for 2017-18	Nil
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Production of fines below 40% Cr2O3 content was 49397.382 tonnes	Data as furnished in annual return for 2017-18	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	1. Closing stock of ROM is Nil. 2. Closing stock of lumps is Nil. 3. Closing stock of fines at mines head below 40% Cr2O3 is 2606.494 tonnes 4. Closing stock of fines at mines head between 40% to below 52% Cr2O3 is 7732.68 tonnes 5. Closing stock of concentrates at mines head is 2157.878 tonnes	Data as furnished in annual return for 2017-18	Nil

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	1.Ex-mine price (in Rs per tonne) for fines below 40% Cr2O3: Rs 2019.50. 2.Ex-mine price (in Rs per tonne) for fines between 40% to below Cr2O3: Rs 11681.24. 3.Ex-mine price (in Rs per tonne) for concentrates : Rs 15857.05	Data as furnished in annual return for 2017-18	Nil
9h	Scrutiny of Annual return on fixed assets	Value of Fixed Assets:Rs 825006000 (in respect of mine, beneficiation plant, mine workshop, power and water installation)	Data as furnished in annual return for 2017-18	Nil
9k	Scrutiny of Annual return on mining machineries	Back hoe:3nos,Front end loader:1no Water tanker:5nos,Generator:8nos Dozer:3nos,Air Compressor:2 Rock drill:2nos,Pumps:6nos(non-electrical) & 4nos(electrical)Jeep & tractor:3nos,Explosive van:1no etc.	Data as furnished in annual return for 2017-18	Nil

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

Violation observed		Show cause position	
Rule NO.	Issued on Compliance on	Rule NO.	Issued on Compliance on

Date :

(**SHRI SUDIP RANJAN MAZUMDAR**)

Indian Bureau of Mines