

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

**MCDR INSPECTION REPORT**

**Bhubaneshwar regional office**

**Mine file No :** ORI/CR/JJP/MCDR-16/BBS

**Mine code :** 11ORI19022

- (i) Name of the Inspecting : **RAM** ) **RAMKISHAN R**  
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri R N jena, Mines Manager  
Official with  
Designation
- (iv) Date of Inspection : 12/02/2021
- (v) Prev.inspection date : 04/03/2020

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **KALARANGIATTA**
- (b) **Registration NO.** : **173**
- (c) Category : A Other Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : JAJPUR
- Village : KALARANGIATTA
- Taluka : SUKINDA
- Post office : KALARANGIATTA
- Pin Code : 755028
- FAX No. : 06784-2517842
- E-mail : facormines@facor.in
- Phone : 06784-250598
- (f) Police Station : Sukinda
- (g) First opening date : 01/01/2012
- (h) Weekly day of rest : SUN
2. Address for : KALARANGITTA CHROMITE MINE  
correspondance FERRO ALLOYS CORPORATION LTD  
KALIAPANI, SUKINDA, DIST- JAJPUR
3. (a) Lease Number : ORI0846
- (b) Lease area : 23.8
- (c) Period of lease : 30
- (d) Date of Expiry : 17/04/2038
4. Mineral worked : CHROMITE Main

## 5. Name and Address of the

Lessee : FERRO ALLOYS CORPN. LTD  
 Shri Rohit Saraf, Joint  
 Managing Director & Nomited  
 Owner Ostapal, Kathpal &  
 Boula Chromite M BHADRAK  
 ORISSA  
 Phone:06784-251312, 250598, 250311  
 FAX :06784-251782

Owner : FERRO ALLOYS CORPORATION LTD  
 LAXMI BHAWAN, KUANS  
 BHADRAKH JAJPUR ORISSA  
 Phone:  
 FAX :

Agent : SHRI R K SINGH  
 JAJPUR ORISSA  
 Phone:  
 FAX :

## Mining Engineer

Name : SHRI A K PATRA, Full Time  
 Qualification : AMIE  
 Appointment/ : 05/04/2013  
 Termination date

## Geologist

Name : SHRI S K BISWAL, Full Time  
 Qualification : MSC GEOLOGY  
 Appointment/ : 25/04/2015  
 Termination date

## Manager

Name : R.N. Jena  
 Qualification : B.E (MINING)  
 Appointment/ : 21/08/2017  
 Termination date

6. Date of approval of Mining : Mining Scheme rule 12 MCDR1988 28/03/2013  
 Plan/Scheme of Mining : MP review under 17(1) MCR 2016 13/02/2018

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No such specific proposal.	However 5 nos of boreholes were proposed during the year 2019-20.	
1b	Exploration over lease area for geological axis 1 or 2	5 nos of boreholes were proposed during the year 2019-20 to brought area under G1/G2 level.	7 nos of boreholes were drilled.	
1c	Exploration Agencies and Expenditure in lakh rupees during the year		Not available	
1d	Balance area to be explored to bring Geological axis in 1 or 2	27 nos boreholes were proposed to brought the are under G1/G2 level during the plan period.	7 nos of boreholes were drilled during the year 2019-20.	
1e	Balance reserve as on 01/04/20	As per the approved document on 13/02/2018 the chromite ore reserves are 3.842 lakh tonnes and resources are 10.235 lakh tonnes.	due to addition/depletion over the period of time the chrome ore reserves as on 01.04.2020 are 2.64 lakh tonnes and resources are 10.235 lakh tonnes.	

1f	General remarks of inspecting officers on geology, exploration etc	There has been large scale ferruginization of the rocks and Chrome ore bodies and silicification of the rocks in the region. As a result ultramafics are highly limonised and at places clarified. In certain places talc-serpentine schist have been converted into sticky clay. Granitic rocks including granophyres are also exposed in many areas in this region. exploration has been carried out as proposed.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	One quarry is proposed for development during the year 2019-20 called as Pit-1.	Pit-1 is being developed.	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	The top soil capping is proposed to be scrapped. Seperate becnhes in OB and ore zone are envisaged.	Seperate becnhes in OB and ore zone are made. The top soil scrapped was used for saplings plantation.	
2c	Stripping ratio or ore to OB ratio	1:2.92 t/cu.m.	1:1.04 t/cu.m.	due to irregular nature of ore deposit.
2d	Quantity of topsoil generation in m3	1800 cu.m.	1843 cu.m.	
2e	Quantity of overburden generation in m3	144790 cu.m.	51240 cu.m.	due to irregular nature of ore deposit.

2f General remarks of inspecting officers on development of pit w.r.t. type of deposit etc development is carried out in the proposed pit as per approved mining plan.

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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	1 no.	1 no.	
3b	Quantity of ROM mineral production proposed	49566 t during the year 2019-20.	48920 t	
3c	Recovery of sailable/usable mineral from ROM production	production of 49566 tonnes of saleable ore was proposed with no generation of mineral rejects	48920 tonnes of saleable ore was proposed with nil generation of mineral rejects	
3d	Quantity of mineral reject generation	Not applicable	Nil	
3e	Grade of mineral rejects generation and threshold value declared.	Not applicable	Nil	All the grade above threshold value i.e also cut-off grade is being used by captive plant.
3f	Quantity of sub grade mineral generation.	Not applicable	Nil	
3g	Grade of sub grade mineral generation	Not applicable	Nil	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized and Manual Method	Mechanized and Manual Method	

3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not applicable	Nil
3j	Provision of drilling and blasting in mineral benches	no drilling and blasting is proposed. excavation is proposed by shovel dumper combination.	No drilling blasting is carried out. excavation is carried out by shopvel dumper combination.
3k	Provision of mining machineries in mineral benches	excavation is proposed by shovel dumper combination	excavation of mineral benches are carried out by shovel dumper combination.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	bench height proposed is 6 m.	maintained.
3m	Total area covered under excavation/pits	8.567 ha at the end of plan period i.e. 2022-23.	6.903 ha.
3n	Ore to OB ratio for the pit/mine during the year.	1:2.92 t/cu.m.	1:1.04 t/cu.m.
3o	Total area put in use under different heads at the end of year	total area put to use at the end of plan period is 23.8 ha	22.739 ha
3p	Production of ROM mineral during the last five year period as applicable	In lakh tonnes 2015-16 0.500 2016-17 0.500 2017-18 0.500 2018-19 0.498 2019-20 0.495	In lakh tonnes 2015-16 0.496 2016-17 0.493 2017-18 0.497 2018-19 0.498 2019-20 0.489

3q General remarks of inspecting officers on method of mining etc. production is carried out from the proposed pit.

#### Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate Dumps, OB and noi generation of mineral reject has been proposed. top soil will be used for plantation.	Separate Dumps, OB has been maintained. top soil was used for plantation.	
4b	Location of topsoil, OB and mineral reject dumps	waste dump is located in northernisde of the lease area. top soil is also northerinsde of the lease area near to OB dump are proposed.	waste dump is located in northernisde of the lease area. top soil is also northerinsde of the lease area near to OB dump are mainatined.	
4c	Number of dumps within lease area and outside of lease area	1 no of waste dump.	1 no of waste dump.	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Out side UPL	Out side UPL	
4e	Number of active and alive dumps.	one no of dump.	one no of dump.	
4f	Number of dead dumps.	Not applicable	Nil	
4g	Number of dumps established.	Not applicable	Nil	
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes.	Provided.	

4i	Length of Retaining wall or garland drain all along dumps	100 M	100 m	
4j	Number of settling ponds	Not applicable	Nil	
4k	Specific comments of inspecting officer on waste dump management			waste dumping is being carried out as per proposal.

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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.	Area not matured for reclamation.	Nil	
5b	Area under backfilling of mined out area	Not applicable	Nil	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not applicable	Nil	
5d	Total area fully reclaimed and rehabilitated	Not applicable	Nil	
5e	General remarks of inspecting officers on backfilling and reclamation etc.			Area not matured for reclamation.

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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).	PMCP report to submitted. submitted before 1 st July	
6b	Area available for rehabilitation (ha) .	Not applicable Nil	
6c	afforestation done (ha).	0.606 ha during the year 2019-20.	0.670 ha
6d	No. of saplings planted during the year	1520 nos	1674 nos
6e	Cumulative no .of plants		12547 nos
6f	Any other method of rehabilitation	Not applicable Nil	
6g	Cost incurred on watch and care during the year		Rs.8.86 lakh
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	Not applicable Nil	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not applicable Nil	
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	Not applicable Nil	

6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not applicable Nil		
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not applicable Nil		
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not applicable Nil		
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not applicable Nil		
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not applicable Nil		
6p	Compliance of environmental monitoring (core zone and buffer zone)	periodical environmental monitoring of core zone and buffer zone are proposed.	carried out	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		PMCP measures were carried out as proposed.	

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#### Mineral Conservation:

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Sl.No.	Item	Propasals	Actual work	Remarks
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7a	ROM Mineral dispatch or grade-wise sorting within lease area	grade wise sorting is proposed.	grade wise sorting carried out.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical & Manual	Mechanical & Manual
7c	Different grade of mineral sorted out at mines.	10% to +40% -40% to above	10% to +40% -40% to above
7d	Any beneficiation process at mines	Not applicable	Nil
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues		grade-wise sorting of mineral is carried out.

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**Environment:**

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No such specific proposal, however generated top soil is used for plantation purpose.	generated top soil is being used for plantation purpose.	
8b	Concurrent use or storage of topsoil	top soil generated will be used for plantation purpose.	top soil generated used for plantation purpose.	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate Dumps for Overburden is proposed.	maintained.	

8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not applicable	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	dump plantation is proposed for stabilisation.	carried out
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	1520 nos	1674 nos
8g	Survival rate		90%
8h	Water sprinkling on roads to control airborne dust	water sprinkling by mobile water sprinkler proposed.	carried out.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area		aesthetic beauty in and around the mines area is maintained.

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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly and annual returns are to be submitted as per rule 45 of MCDR, 2017	Submitted.	

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Graduate Mining Engineer 1, Diploma Mining Engineer 1, Geologist 1	found to be in order.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Covered under current (O/C) Workings: 6.903 ha, Used for waste disposal: 4.141 ha. etc.,	found to be in order.
9d	Scrutiny of Annual return on afforestation	1674 nos	1674 nos
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM lcosing stock is 11992.470	found to be in order.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	production cost is Rs. 2406.80	production cost is Rs. 2406.80
9h	Scrutiny of Annual return on fixed assets	Rs. 1721357000	Rs. 1721357000
9k	Scrutiny of Annual return on mining machineries	BACK HOE 1.500 CUM 1, FRONT END LOADER 1.700 CUM 1, DOZER 200.000 HP 1 etc.,	found to be in order.

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**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 :**

(RAMKISHAN R)

Indian Bureau of Mines