

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

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/CR/JJP/MCDR-70/BBS

Mine code : 11ORI19028

- (i) Name of the Inspecting : **K013**) **KEWAL KRISHAN**
Officer and ID No.
- (ii) Designation : Regional Mining Geologist
- (iii) Accompanying mine : Mr. Awnish Kumar, Mine Manager & Mining Engineer
Official with
Designation
- (iv) Date of Inspection : 31/08/2021
- (v) Prev.inspection date :

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **SUKINDA CHROMITE BLOCK**
- (b) **Registration NO.** : **IBM/5765/2011**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : JAJPUR
- Village : Kalarangiatta
- Taluka : Kaliapani
- Post office : Kalarangiatta
- Pin Code : 755028
- FAX No. : 0674 2551045
- E-mail : mdtsalloysltd@tatasteel.cor
- Phone : 811 43 72964
- (f) Police Station : KALIAPANI
- (g) First opening date : 21/09/2020
- (h) Weekly day of rest : SUN
2. Address for : At/P.O.: Kalarangiatta
correspondance Dist : Jajpur
ODISHA- 755028
3. (a) Lease Number :
- (b) Lease area :
- (c) Period of lease :
- (d) Date of Expiry :
4. Mineral worked :

5. Name and Address of the

Lessee : TATA STEEL MINING LTD
 SUKINDA JAJPUR ORISSA
 Phone:
 FAX :

Owner : Tata Steel Mining Limited
 KALIAPANI JAJPUR ODISHA
 JAJPUR ORISSA
 Phone:
 FAX :

Agent : Shri Sushanta Kumar Mishra
 KALIAPANI JAJPUR ODISHA
 JAJPUR ORISSA
 Phone:
 FAX :

Geologist

Name : Shri Viraj A Verlekar, Full Time
 Qualification : MSC GEOLOGY
 Appointment/ : 29/07/2020
 Termination date

Manager

Name : Shri Awnish Kumar
 Qualification : B TECH (MINING)
 Appointment/ : 01/07/2020
 Termination date

6. Date of approval of Mining : MP under 16(1) of MCR 2016 10/09/2020
 Plan/Scheme of Mining

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No back log	no back log	This is a auction block and the lease has been executed on name of present lessee 23/7/2020
1b	Exploration over lease area for geological axis 1 or 2	no such proposal	no such proposal	area has been already explored under G1, 213.323 ha by 100mx100m grid spacing) G2- 98.880 has been proven by drilling in 200mx200m grid spacing) G3-93.797 has been proved through few widely based boreholes
1c	Exploration Agencies and Expenditure in lakh rupees during the year	no such proposal	no such proposal	
1d	Balance area to be explored to bring Geological axis in 1 or 2	no such proposal	resources within the open cast limit (above ultimate pit) have been classified in G1 level and therefore no further exploration has been proposed.	resources within the open cast limit (above ultimate pit) have been classified in G1 level and therefore no further exploration has been proposed.
1e	Balance reserve as on 01/04/20		reserves (under 111) as on 1/4/2021 4.44 MT	As per approved mining plan on reserves/resources as on 1.7.2020, under 111 -5.247 MT, under 221 - 4.261MT under 222 24.10MT and under 331 are 1.307MT

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	1999N - 2792N & 1856E - 4026E	: 2000N-2720N & 3360E-4026E	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	no such proposal	no such proposal	Development of vertical ore body.
2c	Stripping ratio or ore to OB ratio	1: 5.73	1: 3.84	
2d	Quantity of topsoil generation in m3	no such proposal	no such proposal	As the entire lease area is broken up, generation of top soil is not envisaged.
2e	Quantity of overburden generation in m3	4485811	3080263	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			The mine has been permitted to maintain the overall pit slope of 350 in OB-X Quarry. Piezometer holes have been drilled and ground water level are monitored at regular intervals to ensure stability of the soft over burden benches All the remaining reserve that can be mined by opencast method comes under OB-X quarry, dividing into two bands, i.e. Northern Band & Middle Band

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	1 (OB X Quarry)	1 (OB X Quarry)	
3b	Quantity of ROM mineral production proposed	802603 MT	801853.738 MT	
3c	Recovery of sailable/usable mineral from ROM production	100%	100%	
3d	Quantity of mineral reject generation	no such proposal	no such proposal	
3e	Grade of mineral rejects generation and threshold value declared.	no such proposal	no such proposal	threshold 10% Cr2O3 (min)
3f	Quantity of sub grade mineral generation.	no such proposal	no such proposal	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized Method	Mechanized Method	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	no such proposal	no such proposal	
3j	Provision of drilling and blasting in mineral benches	Drilling by 150mm Dia. in both OB and Ore benches	Drilling by 150mm Dia. in both OB and Ore benches	
3k	Provision of mining machineries in mineral benches	Shovel & Dumper Combination	Shovel & Dumper Combination	

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	As the ore deposit in the OB X Quarry is nearly dipping vertical, the overburden and benches have been designed to the height of 10m.	As the ore deposit in the OB X Quarry is nearly dipping vertical, the overburden and benches have been designed to the height of 10m.
3m	Total area covered under excavation/pits	170.91 Ha	170.91 Ha
3n	Ore to OB ratio for the pit/mine during the year.	1: 5.73	1: 3.84
3o	Total area put in use under different heads at the end of year	<p>as per approved document area put to use under different heads in at the time of approving document</p> <p>Mining - 170.91 ha. Waste Dump - 82.64 ha. Mineral Storage - 28.620 ha. Infrastructure - 3.41 ha. Roads - 23.790 ha. Tailing Pond - 13.94ha ETP - 1.210 ha. mineral seperation 14.57 ha Township - 30.890 ha. Green Belt - 36.020 ha. Total - 406 ha.</p>	<p>area put to use as reported by lessee in AR</p> <p>1) Covered under current (O/C) Workings 170.910ha 2) Reclaimed/Rehabilitated 69.560ha 3) Used for waste disposal 82.640ha 4) Occupied by plant, buildings, residential, welfare buildings & roads 70.460ha 5) Other Purpose (Mineral Storage) 82.090ha</p>

3p	Production of ROM mineral during the last five year period as applicable	2020-21 802603 MT	2020-21	801853.738MT	This is a auction block and the lease has been executed on name of present lessee 23/7/2020
3q	General remarks of inspecting officers on method of mining etc.				The method of mining is category A and is fully mechanized. The ROM production is carried out by opencast mining methods in one quarry ie OB-X

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	seperate dumping of OB is envisaged	seperate dumping of OB	no top soil and mineral reject is generated.
4b	Location of topsoil, OB and mineral reject dumps	OB II proposed for OB disposal.	OB generated is disposed at OB II Quarry for back filling	
4c	Number of dumps within lease area and outside of lease area	OB Dumps - 3 Nos. (Dead dumps) & Back filling of OB II Quarry	OB Dumps - 3 Nos. (Dead dumps) & Back filling of OB II Quarry	all dumps are within lease area .
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside of UPL	Outside of UPL	
4e	Number of active and alive dumps.	one no, at Back filling of OB II quarry.	one no, at Back filling of OB II quarry.	
4f	Number of dead dumps.		three nos	three nos
4g	Number of dumps established.	no such proposal	no such proposal	

4h	Whether Retaining wall or garland drain all along dumps are there.	no such proposal	no such proposal	
4i	Length of Retaining wall or garland drain all along dumps	no such proposal	no such proposal	
4j	Number of settling ponds	no such proposal	no such proposal	
4k	Specific comments of inspecting officer on waste dump management			The waste dump generated during the year is backfilled in the OB II quarry. as per approved document, the volume of the overburden to be generated during the first 2 years of plan period will be accommodated within the OB II Quarry up to 215 mRL and from the mid of 3rd year i.e. 2022-23 backfilling will be carried out in the portion of OB X exhausted with the opencast mineable reserves till the end of this plan period.

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.	Mineral has been fully extracted from OB II Quarry within the opencast limit.	Mineral has been fully extracted from OB II Quarry within the opencast limit.	

5b	Area under backfilling of mined out area	28.57 ha	as per proposal approxi	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	no such proposal	no such proposal	
5d	Total area fully reclaimed and rehabilitated	28.57 ha	as per proposal approxi	
5e	General remarks of inspecting officers on backfilling and reclamation etc.		The lessee has carriedout backfilling in OB II quarry. a total of 28.57 ha area approx has been backfilled during the year 2020-21.	The lessee has carriedout backfilling in OB II quarry. a total of 28.57 ha area approx has been backfilled during the year 2020-21.

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).	Submit before 1st July.	submitted	
6b	Area available for rehabilitation (ha) .	no such proposal	no such proposal	
6c	afforestation done (ha).	no such proposal	no such proposal	
6d	No. of saplings planted during the year	no such proposal	no such proposal	
6e	Cumulative no .of plants	no such proposal	no such proposal	834095 no's saplings plantation has been done earlier
6f	Any other method of rehabilitation	no such proposal	no such proposal	

6g	Cost incurred on watch and care during the year	no such proposal	no such proposal
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	28.57 ha	28.57 ha approx
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	34.9 L CuM	34.9 L CuM approxi
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	no such proposal	no such proposal
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	no such proposal	no such proposal
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	no such proposal	no such proposal
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	no such proposal	no such proposal

6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	no such proposal	no such proposal	
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	no such proposal	no such proposal	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Periodical monitoring of environmental parameters are proposed	Carried out as per proposal	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			Periodical monitoring of environmental parameters are being carried out as proposed. party has also carried out back filling of the area as proposed.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sizing & sorting envisaged	Grade wise sizing & sorting envisaged	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	mechanical	mechanical	
7c	Different grade of mineral sorted out at mines.	Grade-wise sorting of ROM > 40%, & 10-40% Cr2O3	Grade-wise sorting of ROM > 40%, & 10-40% Cr2O3	

7d	Any beneficiation process at mines .	no such proposal	no such proposal	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues		grade wise sorting is being carried out and as on date no beneficiation process is adopted by the lessee .	grade wise sorting is being carried out and as on date no beneficiation process is adopted by the lessee .

Environment :

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	no such proposal	no such proposal	
8b	Concurrent use or storage of topsoil	no such proposal	no such proposal	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumps for overburden, rejects and fines were proposed	Being complied for disposal at designated dumps	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	The overburden disposal over OB II Quarry for backfilling	The overburden disposal over OB II Quarry for backfilling	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	The overburden disposed over OB II Quarry for reclamation.	The overburden disposed over OB II Quarry for reclamation.	

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	no such proposal	no such proposal	about 834095 no's saplings plantation has been done by the earlier lessee.
8g	Survival rate	no such proposal	no such proposal	
8h	Water sprinkling on roads to control airborne dust	Regular water sprinkling to control the air borne dust	Regular water sprinkling to control the air borne dust	Water sprinkling by high capacity mobile water sprinklers on roads to control the air born dust
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Aesthetic beauty in and around the mines is good because of plantation carried out by the and by regular sprinkling of water on mine roads to control the dust.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	As per rule Monthly and Annual Returns are to be submitted to IBM	submitted	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	The employment status of mining Engineer , geologist and Mine manager is furnished in the annual return.	information furnished	

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Information has been furnished regarding the land use	information furnished	
9d	Scrutiny of Annual return on afforestation	no afforestation has been proposed by the party during the year 2020-21	information furnished	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Information furnished	wrongly reported	issued violation under rule 45(5) (c) of MCDR 2017
9f	Scrutiny of Annual return on ROM stock and/or graded ore	information furnished	wrongly reported	issued violation under rule 45(5) (c) of MCDR 2017
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Dumpers-30 Tippers-30 Drill-2 Dozer-5 Motor Garder-2 Water Tanker-7 etc	Ex-mine price Below 40% Cr2O3 3431.75 40% to below 52% Cr2O3 11249.22 52% Cr2O3 and above 13323.35	
9h	Scrutiny of Annual return on fixed assets	Value of Fixed Assets (inRs) 2096138116	Value of Fixed Assets (in Rs.) 2096138116	
9k	Scrutiny of Annual return on mining machineries	Dumpers-30 Tippers-30 Drill-2 Dozer-5 Motor Garder-2 Water Tanker-7 etc	Shovel -14 Dumpers-30 Tippers-30 Drill-2 Dozer-5 Motor Garder-2 Water Tanker-7 etc	

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 35(2)	10/09/2021			
MCDR17	Rule 45(5)(k	10/09/2021			

Date :

(KEWAL KRISHAN)

Indian Bureau of Mines