

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

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/CR/JJP/MCDR-7/BBS

Mine code : 11ORI19001

- (i) Name of the Inspecting : S010) SHRI G.C. SETHI
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Shri S.Mishra, Mining Engineer & QP
Official with
Designation
- (iv) Date of Inspection : 07/04/2019
- (v) Prev.inspection date : 15/04/2018

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : BHIMTANGAR (SUKINDA)
- (b) **Registration NO.** : IBM/4376/2011
- (c) **Category** : A Mechanised
- (d) **Type of Working** : Opencast
- (e) **Postal address**
- State : ORISSA
- District : JAJPUR
- Village : BHIMTANGAR
- Taluka : SUKINDAGARH
- Post office : KALARINGATTA
- Pin Code : 755028
- FAX No. : 06726-268734
- E-mail : chiefoffice@tatasteel.com
- Phone : 06726-268763,268734
- (f) **Police Station** : Kaliapani
- (g) **First opening date** : 01/12/1960
- (h) **Weekly day of rest** : SUN
2. **Address for correspondence** : SUKINDA CHROMITE MINE (BHIMTANAGAR)
M/S TISCO LTD, P.O.KALARANGIATTA
DIST:JAJPUR, ORISSA-755028
3. (a) **Lease Number** : ORI0241
- (b) **Lease area** : 406
- (c) **Period of lease** : up to 31-03-2020 vide letter no. 7099 / IN(OR)SM-22/2013/SM
dated 30-07-2015 by the state govt.
- (d) **Date of Expiry** : 31/03/2020
4. **Mineral worked** : PYROXENITE Associated
CHROMITE Main

5. Name and Address of the

Lessee : TATA STEEL LTD.
KEONJHAR ORISSA
Phone:
FAX :

Owner : Sri T.V. Narendran
Managing Director, M/s TATA
Steel Jamshedpur, Dist-East
Singhbhum Jharkhand-831001
KEONJHAR ORISSA
Phone: 0657-2423298
FAX : 0657-2431818

Agent : Rajesh Patel
M/s Tata Steel Limited
Post-Kalarangiatta Dist-
Jajpur, Odisha JAJPUR ORISSA
Phone: 9238101084
FAX :

Mining Engineer

Name : Sabyasachy Mishra, Full Time
Qualification : BE Mining & FCC
Appointment/ : 01/03/2016
Termination date

Geologist

Name : Tarun Kumar Chakraborty, Full Time
Qualification : MSC App. Geology
Appointment/ : 01/02/2016
Termination date

Manager

Name : Awnish Kumar
Qualification : B Tech Mining & FCC
Appointment/ : 01/01/2018
Termination date

6. Date of approval of Mining	:	Modif. approved Mining Scheme	05/07/2007
Plan/Scheme of Mining		Mining Scheme rule 12 MCDR1988	02/02/2009
		Renewal under rule 24 MCR1960	22/05/2012
		Modif. of approved Mining Plan	19/07/2016
		MP review under 17(1) MCR 2016	09/11/2017
		FMCP under 23C(1)	28/09/2018
		MS modif under MCR 1960	14/02/2019

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No backlog.	No backlog.	Nil
1b	Exploration over lease area for geological axis 1 or 2	G1 level- 213.323 ha, out of which 29.257ha mineralised & 184.066ha non-mineralised. G2 level- 98.880ha non-mineralised and G3 level- 93.797ha non-mineralised as per the modification of review of minig plan approved on 14.02.2019.	G1 level- 213.323 ha, out of which 29.257ha mineralised & 184.066ha non-mineralised. G2 level- 98.880ha non-mineralised and G3 level- 93.797ha non-mineralised.	Nil
1c	Exploration Agencies and Expenditure in lakh rupees during the year	None	No explorarion carried out during 2018-19.	Nil
1d	Balance area to be explored to bring Geological axis in 1 or 2	G1 level- 213.323 ha, out of which 29.257ha mineralised & 184.066ha non-mineralised. G2 level- 98.880ha non-mineralised and G3 level- 93.797ha non-mineralised as per the modification of review of minig plan approved on 14.02.2019.	G1 level- 213.323 ha, out of which 29.257ha mineralised & 184.066ha non-mineralised. G2 level- 98.880ha non-mineralised and G3 level- 93.797ha non-mineralised.	Nil

1e	Balance reserve as on 01/04/20	Reserves for chromite as on 01.10.2018 is 4.075 million tonnes and Remaining Resource of 91.745 million tonnes. The same for Pyroxinite is for 0.221 million tonnes & 9.911 million tonnes as envisahed in the modification of review of mining plan approved on 14.02.2019.	Reserves for chromite as Nil on 01.10.2018 is 4.075 million tonnes and Remaining Resource of 91.745 million tonnes. The same for Pyroxinite is for 0.221 million tonnes & 9.911 million tonnes respectively as per the modification of mining plan dated 14.02.2019.
1f	General remarks of inspecting officers on geology, exploration etc	The Sukinda chromite mine is located in southern part of funnel shaped Sukinda valley, which extends from east to west with the open end facing west. The topography of Sukinda valley is controlled by by lithology as the resistant quartzities from deep scrap faces and the yonger ultramafics from synclinal valley flat. The underground mining proposal envisaged in the earlier mining plans could not be excuted due to certain administrative issues.	Nil

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Development planned in two quarries: OB X Quarry (Friable Ore) & OB II Quarry (Lumpy Ore)	OB X Quarry (Friable Ore) & OB II Quarry (Lumpy Ore)	Nil
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in overburden and ore zone has been proposed but no benches in topsoil as no topsoil exists in the location proposed for excavation during 2018-19.	Separate benches in overburden and ore zone are made but no topsoil was generated during 2018-19.	Nil
2c	Stripping ratio or ore to OB ratio	1: 8.64 (cum/cum) for 2018-19.	1: 9.31(cum/cum) for 2018-19.	Nil
2d	Quantity of topsoil generation in m3	No topsoil exist.	Not applicable.	Nil
2e	Quantity of overburden generation in m3	OB generation planned for 6604402 cum during 2018-19.	During 2018-19, only 5318305 cum OB/waste was generated.	Nil
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc		Development of OB X Quarry (Friable ore) & OB II Quarry (Lumpy Ore) was proposed during 2018-19 and both the quarreus were under operation during the year 2018-19.	Nil

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	OB X Quuary & OB II Quarry.	OB X Quuary & OB II Quarry.	Nil

3b	Quantity of ROM mineral production proposed	Chromite: 2100000 tonnes, Pyroxenite- 110000 tonnes in 2018-19.	Chromite: 1604787 tonnes, Pyroxenite: Nil tonnes during 2018-19.	The actual production of chrome ore and pyroxenite was in lower side of the proposed quantities due to the intermitent stoppage of mining operations.
3c	Recovery of sailable/usable mineral from ROM production	95% of Friable ore & 85% of Lumpy Ore.	95% of Friable ore & 85% of Lumpy Ore.	Nil
3d	Quantity of mineral reject generation	540781 tonnes in 2018-19.	During 2017-18, only 312397 tonnes of mineral reject was generated.	Due to the less production during 2018-19.
3e	Grade of mineral rejects generation and threshold value declared.	MR: 6-10% of Cr2O3	MR:13.85% of Cr2O3	Nil
3f	Quantity of sub grade mineral generation.	No sub -grade.	No sub -grade.	Nil
3g	Grade of sub grade mineral generation	Not applicable.	Nil	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Both Manual & Mechanized	Both Manual & Mechanized	Segregation is being done by sorting manually and & sizing of boulders with machineries.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not applicable.	Nil	Nil
3j	Provision of drilling and blasting in mineral benches	Yes, Deep hole Drilling & Controlled blasting proposed.	Deep hole Drilling & Controlled blasting is in practice.	Nil

3k	Provision of mining machineries in mineral benches	Yes	Yes	Nil
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height of 8-10m proposed.	Height of benches in overburden and mineral is suitable for the mine.	Nil
3m	Total area covered under excavation/pits	184.00ha	184.00ha	Nil
3n	Ore to OB ratio for the pit/mine during the year.	1: 8.64 (cum/cum).	1: 9.31 (cum/cum).	The deviation in Ore:OB ratio is due to low production during 2018-19.
3o	Total area put in use under different heads at the end of year			
3p	Production of ROM mineral during the last five year period as applicable	Chromite:- 2014-15: 1743152 tonnes, 2015-16: 1740492 tonnes, 2016-17: 1848095 tonnes, 2017-18: 1800000 tonnes & 2018-19: 2100000 tonnes, Pyroxene: ,2014-15: Nil, 2015-16: Nil, 2016-17:949620 tonnes, 2017-18: 93500 tonnes and 2018-19: 110000 tonnes	Chromite:- 2014-15: 275590 tonnes, 2015-16: 1019519 tonnes & 2016-17: 1640004 tonnes, 2017-18: 1550375 tonnes & 2018-19:1604787 tonnes Pyroxene: 2014-15; Nil, 2015-16: Nil, 2016-17:11053 tonnes, 2017-18: 7300 tonnes & 2018-19: Nil	Nil

3q	General remarks of inspecting officers on method of mining etc.	Both opencast & underground workings was proposed in the earlier documents, whereas only open cast method of mining is practised due to some internal issues. After wards the mining plans also modified for implementation of only for opencast mining methods.	Nil
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Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dumping of OB and stacks for Mineral Rejects proposed.	Separate dump of OB and separate stacks for mineral reject maintained.	Nil
4b	Location of topsoil, OB and mineral reject dumps	No dumping for topsoil. Separate dump for overburden has been proposed. The mineral reject is beneficiable.	No dumping for topsoil. Separate dump for overburden has been proposed. The mineral reject is beneficiable.	Nil
4c	Number of dumps within lease area and outside of lease area	Lone active waste dump.	Lone active waste dump.	Nil
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	E/W3000-E/W4150 & N/S1000-N/S1500.	E/W3550-E/W4150 & N/S1000-N/S1500.	Nil
4e	Number of active and alive dumps.	One.	One.	Nil
4f	Number of dead dumps.	One	One	Nil
4g	Number of dumps established.	One	One	Nil

4h	Whether Retaining wall or garland drain all along dumps are there.	Yes	Yes	Nil
4i	Length of Retaining wall or garland drain all along dumps			
4j	Number of settling ponds	No fresh proposal for settling tanks during 2018-19 as many existing settling tanks are already made.	No settling tanks made during 2018-19.	Nil
4k	Specific comments of inspecting officer on waste dump management		Scarcity of land for dumping and the party intends to acquire land for dumping beyond the lease area with the consent of competent authority of State Govt.	Nil

Solid Waste Management - Backfilling:

Sl.No.	Item	Proposals	Actual work	Remarks
5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	Part of the mined out area backfilled.	Part of the mined out area backfilled.	Nil
5b	Area under backfilling of mined out area	74.648ha	74.648ha	Nil
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No topsoil exists.	Nil	Nil

5d	Total area fully reclaimed and rehabilitated	74.648ha	74.648ha	Nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.		Backfilling has been done in OB II Quarry as per proposal.	Nil

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).	Annual return on PMCP for 2018-19 has not been submitted, unde r rule 26(2) of MCDR, 2017, which has to be submitted before 1st July 2019.	Annual return on PMCP is yet to be submitted, which is due for submission before 1st July 2019.	Nil
6b	Area available for rehabilitation (ha) .	Annual return on PMCP for 2018-19, yet to be submitted.	Not available.	Nil
6c	afforestation done (ha) .	11000 saplings proposed to be planted in 2018-19	During the period 2018-19, 14233 nos of saplings were planted.	Nil
6d	No. of saplings planted during the year	11000 saplings	During the period 2018-19, 14233 nos of saplings were planted.	Nil
6e	Cumulative no .of plants	720775 nos of saplings planted.	720775 nos of saplings planted.	Nil
6f	Any other method of rehabilitation	Not matured for rehabilitation . Hence, not applicable.	Not applicable.	Nil
6g	Cost incurred on watch and care during the year	Nil	Nil	

6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L x B x D	Not applicable.	Not applicable.	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	5.00ha back filling	5.00ha backfilling	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on on backfilled area	The progressive backfilling and not matured for afforestation.	Not applicable.	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	The land affected by mining operations are not proposed for rehabilitation by water reservoir. Hence not applicable.	Not applicable.	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.	Backfilling by Retreat method.	Backfilling by Retreat method.	Nil
6m	Compliance of rehabilitation of waste land within lease (i) afforestation	Not applicable.	Not applicable.	Nil

6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Nil	Nil	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No waste land in the lease.	Not Applicable.	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly environmental monitoring in core zone & buffer zone.	Quarterly environmental monitoring in core zone & buffer zone is being done. Air, Water, Soil, Noise, Dust fall tests done in every quarter as per SPCB & CPCB guidelines)	Nil
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		The annual return on PMCP has not been submitted as on the date of inspection, which is due for submission on or before 1st July 2019.	Nil

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Dispatch of ROM after sorting and sizing in lump below 40% Cr2O3% .	Dispatch of ROM after sorting and sizing in lump below 40% Cr2O3% .	Nil
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual/Mechanical	Manual/Mechanical	Nil
7c	Different grade of mineral sorted out at mines.	Only 10 - 40 % Cr2O3 grade is sorted out.	Only 10 - 40 % Cr2O3 grade is sorted out.	Nil

7d	Any beneficiation process at mines	COB Plant at mines.	COB Plant at mines.	Nil
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues		There is no mineral conservation problem in the mine.	Nil

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No topsoil exists in the mine.	Not Applicable	Nil
8b	Concurrent use or storage of topsoil	Not applicable.	Not applicable.	Nil
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dump of OB has been proposed	Separate dump of OB has been maintained.	Nil
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Backfilling proposed.	Backfilling in progress as per the proposal.	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not applicable.	Nil	Nil

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Yearwise plantation proposed	33000 nos of sapling planted in 2018-19 within lease area.	Nil
8g	Survival rate	80 %	80 %	Nil
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on haul roads by water tanker in continuous manner.	Water sprinkling on haul roads made by water tanker & fixed sprinkler.	Nil
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area		Aesthetic beauty in and around mines has been maintained.	Nil

Compliance of Rule 45:

Sl.No.	Item	Proposals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	As per the Rule 45 of MCDR, 2017, the monthly and annual returns to be submitted to IBM.	The party has submitted all the monthly returns for the year 2018-19 but the annual return for the year 2018-19 was not due for submission as on the date of inspection, which has to be submitted on or before 1st July 2019.	The scrutiny of annual return for the year 2018-19 during the inspection dose not arise
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	The annual return for the year 2018-19 was not due for submission as on the date of inspection, which has to be submitted on or before 1st July 2019.	The scrutiny of annual return for the year 2018-19 during the inspection dose not arise	Nil

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	The annual return for the year 2018-19 was not due for submission as on the date of inspection, which has to be submitted on or before 1st July 2019.	The scrutiny of annual return for the year 2018-19 during the inspection dose not arise	Nil
9d	Scrutiny of Annual return on afforestation	The annual return for the year 2018-19 was not due for submission as on the date of inspection, which has to be submitted on or before 1st July 2019.	The scrutiny of annual return for the year 2018-19 during the inspection dose not arise	Nil
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	The annual return for the year 2018-19 was not due for submission as on the date of inspection, which has to be submitted on or before 1st July 2019.	The scrutiny of annual return for the year 2018-19 during the inspection dose not arise	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	The annual return for the year 2018-19 was not due for submission as on the date of inspection, which has to be submitted on or before 1st July 2019.	The scrutiny of annual return for the year 2018-19 during the inspection dose not arise	Nil


9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	The annual return for the year 2018-19 was not due for submission as on the date of inspection, which has to be submitted on or before 1st July 2019.	The scrutiny of annual return for the year 2018-19 during the inspection dose not arise	Nil
9h	Scrutiny of Annual return on fixed assets	The annual return for the year 2018-19 was not due for submission as on the date of inspection, which has to be submitted on or before 1st July 2019.	The scrutiny of annual return for the year 2018-19 during the inspection dose not arise	Nil
9k	Scrutiny of Annual return on mining machineries	The annual return for the year 2018-19 was not due for submission as on the date of inspection, which has to be submitted on or before 1st July 2019.	The scrutiny of annual return for the year 2018-19 during the inspection dose not arise	The scrutiny of annual return for the year 2018-19 during the inspection dose not arise

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 : 13-08-2019

NO violation.


(SHRI G.C. SETHI)

Indian Bureau of Mines