

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

**MCDR INSPECTION REPORT**

**Bhubaneshwar regional office**

**Mine file No :** ORI/IRON/KJR/MCDR-88/BBS

**Mine code :** 30ORI08119

- (i) Name of the Inspecting : **U11** ) **DAYANAND UPADHYAY**  
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri Ram Shankar Sharma, Mines Manager  
Official with  
Designation
- (iv) Date of Inspection : 19/10/2021
- (v) Prev.inspection date : 24/03/2021

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **JAJANG IRON ORE BLOCK**
- (b) **Registration NO.** : **IBM/432/2011**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : KEONJHAR
- Village : Jajang
- Taluka : Barbil
- Post office : Barbil
- Pin Code : 758035
- FAX No. : 02242863000
- E-mail : ranjan.nayak@jsw.in
- Phone : 9773322308
- (f) Police Station : JODA
- (g) First opening date : 01/07/2020
- (h) Weekly day of rest : SUN
2. Address for : At+post-Barbil  
correspondance Dist-Keonjhar  
Odisha-758035
3. (a) Lease Number :
- (b) Lease area :
- (c) Period of lease :
- (d) Date of Expiry :
4. Mineral worked : IRON ORE Main

## 5. Name and Address of the

Lessee : M/S JSW STEEL LTD  
           KEONJHAR ORISSA  
           Phone:  
           FAX :

Owner : JSW Steel Ltd.  
           Plot no.-200, Forest Park  
           Bhubaneswar BHUBNESHWAR  
           ORISSA  
           Phone: 9437145415  
           FAX : 02242863000

Agent : SHRI B.R.K. PADHI  
           AT-DORAGUDA PO-KUCHEIPADAR  
           DIST- RAYAGADA RAYGADA  
           ORISSA  
           Phone: 06865-287100  
           FAX : 06865-287040

Geologist

Name : Shubhendu Shekhar, Full Time  
 Qualification : M. Sc  
 Appointment/ : 05/10/2021  
 Termination date

Manager

Name : Ram Shankar Sharma  
 Qualification : B Tech(Mining)  
 Appointment/ : 22/02/2021  
 Termination date

6. Date of approval of Mining	:	MP under 16(1) of MCR 2016	19/08/2020
Plan/Scheme of Mining	:	MP modif under 17(3) MCR 2016	20/04/2021

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	80 no's Boreholes	92 Boreholes Drilled	Potentially mineralised area is explored under G1/G2 level of exploration.
1b	Exploration over lease area for geological axis 1 or 2	G1 level of exploration.	G1 level of exploration carried out.	G1 level of exploration carried out.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not specified.	Exploration by M/s Mining Associates Pvt. Ltd. and M/s Thriveni Earthmovers Pvt. Ltd Expenditure - INR 4,75,93,700/-	Exploration by M/s Mining Associates Pvt. Ltd. and M/s Thriveni Earthmovers Pvt. Ltd Expenditure - INR 4,75,93,700/-
1d	Balance area to be explored to bring Geological axis in 1 or 2	Under G1 level 86.72 Ha area during plan period.	In 2020-21, Area under G1 level explored 6.88 Ha.	In 2020-21, Area under G1 level explored 6.88 Ha.
1e	Balance reserve as on 01/04/20	As per modification of mining plan approved on 20/04/2021, reserve is 55214818T	Balance reserve as on 01.04.2021: 54075473 Tonnes	Balance reserve as on 01.04.2021: 54075473 Tonnes
1f	General remarks of inspecting officers on geology, exploration etc	80 no's Boreholes in 2020-21	92 Boreholes Drilled.	Potentially mineralised area is explored under G1/G2 level of exploration.

## Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	B-Block: N 2425819 - 2427056 and E 336705 - 337946	B-Block: N 2425819 - 2427056 and E 336705 - 337946	Location of development carried out within approved proposal.

2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Top Soil - Nil, Separate benches in overburden & mineral proposed	Separate benches in overburden & mineral maintained. Top Soil - Nil	Separate benches in overburden & mineral maintained.
2c	Stripping ratio or ore to OB ratio	1:0.96 cu.m:cu.m	1:0.98 cu.m:cu.m	Stripping ratio 1:0.98 cu.m:cu.m
2d	Quantity of topsoil generation in m3	Not proposed.	Nil.	Nil.
2e	Quantity of overburden generation in m3	4705725 cu.m	2722963 cu.m	Operation started late in July 2020 therefore generation of OB is less.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Location of development proposed B-Block: N 2425819 - 2427056 and E 336705 - 337946	Development carried out within B-Block: N 2425819 - 2427056 and E 336705 - 337946	Development carried out within approved proposal.

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### Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	One pit.	One pit.	One pit put for production as proposed.
3b	Quantity of ROM mineral production proposed	12747634T	7194569T	Operation started late in July 2020 therefore generation of ROM is less.
3c	Recovery of sailable/usable mineral from ROM production	12747634T	7090809T	Operation started late in July 2020 therefore generation of ROM is less.

3d	Quantity of mineral reject generation	45989 T	103760 T		Lessee is modified the mining plan due to more generation of mineral reject.
3e	Grade of mineral rejects generation and threshold value declared.	Mineral reject 45-55% , Threshold value:45%	Mineral reject 45-55%		Mineral reject 45-55%
3f	Quantity of sub grade mineral generation.	45989 T	103760 T		Lessee is modified the mining plan due to more generation of mineral reject.
3g	Grade of sub grade mineral generation	Mineral reject 45-55% , Threshold value:45%	Mineral reject 45-55%		Mineral reject 45-55%
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised	Mechanised		Mechanised
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not proposed.	Nil.		Only dry crushing and screening is proposed.
3j	Provision of drilling and blasting in mineral benches	Deep hole drilling and blasting.	Deep hole drilling of 110mm dia is done with 2.5m burden, 3.0m spacing. Blasting is done with Slurry explosives.		Deep hole drilling of 110mm dia is done with 2.5m burden, 3.0m spacing. Blasting is done with Slurry explosives .
3k	Provision of mining machineries in mineral benches	Shovel and dumper combination.	Shovel and dumper combination.		Shovel and dumper combination.

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	9m Bench height.	Height of benches in overburden and mineral are suitable for method of mining as proposed in approved plan.	Height of benches in overburden and mineral are suitable for method of mining as proposed in approved plan.
3m	Total area covered under excavation/pits	275.591Ha during plan period.	Area cover under pit is 243.862Ha	Area cover under pit is 243.862Ha
3n	Ore to OB ratio for the pit/mine during the year.	1:0.96 cu.m:cu.m	1:0.98 cu.m:cu.m	Stripping ratio 1:0.98 cu.m:cu.m
3o	Total area put in use under different heads at the end of year	Area under mining - 275.59ha, Waste Dump - 40.697ha, Others - 64.703ha etc	Area under mining - 243.862ha, Waste Dump - 40.697ha, Others - 64.703ha etc	Area under mining -243.862ha, Waste Dump -40.697ha, Others - 64.703ha etc
3p	Production of ROM mineral during the last five year period as applicable	2020-21: 12793624T	2020-21: 7194569T	Operation started late in July 2020 therefore production of ROM is less.
3q	General remarks of inspecting officers on method of mining etc.	One number of pits proposed for production	One number of pit is put for production as per proposal.	One number of pit is put for production as per proposal.

#### Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	OB is proposed for backfilling, mineral reject dumping proposed. No top soil proposed.	OB used for backfilling & mineral reject is blended with high grade ore.	OB used for backfilling & mineral reject is blended with high grade ore.

4b	Location of topsoil, OB and mineral reject dumps	OB is proposed for backfilling. Mineral Reject- N2426797 - 2426860 & E337996 - 338135	OB used for backfilling & Mineral Reject Blended with high grade ore.	OB used for backfilling & Mineral Reject Blended with high grade ore.
4c	Number of dumps within lease area and outside of lease area	OB is proposed for backfilling within lease area.	OB used for backfilling of mined out area.	OB used for backfilling of mined out area.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	OB is proposed for backfilling within lease area.	OB used for backfilling of mined out area.	OB used for backfilling of mined out area.
4e	Number of active and alive dumps.	OB is proposed for backfilling within lease area.	OB used for backfilling of mined out area.	OB used for backfilling of mined out area.
4f	Number of dead dumps.	Not proposed.	Nil.	Nil.
4g	Number of dumps established.	Not proposed.	Nil.	Nil.
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining Wall - 1633m, Garland Drain - 1052m	Nil.	Violation is pointed out to less for non compliance of Retaining Wall and Garland Drain.
4i	Length of Retaining wall or garland drain all along dumps	Retaining Wall - 1633m, Garland Drain - 1052m	Nil.	Violation is pointed out to less for non compliance of Retaining Wall and Garland Drain.
4j	Number of settling ponds	Not proposed.	Nil.	Nil.
4k	Specific comments of inspecting officer on waste dump management	OB is proposed for backfilling in mined out area.	OB used for backfilling of mined out area.	OB used for backfilling of mined out area.

## 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.	Backfilling of mined out area.	Backfilling of mined out area is continue.	Backfilling of mined out area is continue.
5b	Area under backfilling of mined out area	Backfilling of 15.07 ha	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.
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	Backfilling of 15.07 ha	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Backfilling of 15.07 ha	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.

## 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).	As per provision of MCDR 2017.	Annual return on PMCP has been submitted.	Annual return on PMCP has been submitted.
6b	Area available for rehabilitation (ha) .	Backfilling of 15.07 ha	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.
6c	afforestation done (ha).	5.60 ha	Proposed afforestation is not carried out,	Shortcoming is pointed out through violation letter.



6d	No. of saplings planted during the year	14000nos. of saplings.	Proposed afforestation is not carried out.	Shortcoming is pointed out through violation letter.
6e	Cumulative no .of plants	14000nos. of saplings.	Proposed afforestation is not carried out.	Shortcoming is pointed out through violation letter.
6f	Any other method of rehabilitation	Backfilling of 15.07 ha	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.
6g	Cost incurred on watch and care during the year	Rs1.575 lakhs	Rs1.58 lakhs	Around Rs 1.58 lakh cost incurred on watch and care.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	Backfilling of 15.07 ha	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Backfilling of 15.07 ha	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestati on on backfilled area	Backfilling of 15.07 ha	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Backfilling of 15.07 ha	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.

6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Backfilling of 15.07 ha	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.
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	Quarterly monitoring	Quarterly monitoring
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Backfilling of 15.07 ha	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.

#### Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade-wise sorting of mineral.	Grade-wise sorting of mineral.	Grade-wise sorting of mineral.

7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical	Mechanical	Mechanical
7c	Different grade of mineral sorted out at mines.	+45-55% Fe and +55% Fe	+45-55% Fe and +55% Fe	Grade-wise sorting of mineral is carried out at mine site.
7d	Any beneficiation process at mines .	Not proposed in 2020-21.	Only dry crushing and screening is practiced.	Only dry crushing and screening is practiced.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Grade-wise sorting of mineral	Grade-wise sorting of mineral is carried out at mine site. Only dry crushing and screening is practiced.	Grade-wise sorting of mineral is carried out at mine site. Only dry crushing and screening is practiced.

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**Environment:**

Sl.No.	Item	Propasals	Actual work	Remarks
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)	Separate dump for mineral reject OB is proposed for backfilling	OB used for backfilling of mined out area.	OB used for backfilling of mined out area.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Backfilling of 15.07 ha	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.	Area covered under Bcakfilling is 5.98 ha due to late starting of mining operation.

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8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	5.60 ha area by 14000 nos. of saplings.	Proposed afforestation is not carried out.	Shortcoming is pointed out through violation letter.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	14000nos. of saplings.	Proposed afforestation is not carried out.	Shortcoming is pointed out through violation letter.
8g	Survival rate	Not specified.	Proposed afforestation is not carried out.	Proposed afforestation is not carried out.
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on roads	Water sprinkling on roads carried out.	Water sprinkling on roads carried out.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area		Aesthetic beauty is maintained	Aesthetic beauty 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 & Annual returns are being regularly submitted by lessee.	Monthly & Annual returns are being regularly submitted by lessee.	Monthly & Annual returns are being regularly submitted by lessee.

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	The employment status of mining engineer, geologist & mine manager have been furnished in the annual return	Mining engineer, geologist & mine managers were employed in the mine.	Mining engineer, geologist & mine managers were employed in the mine.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under pit - 243.862 Ha, Waste dumps - 44.495 Ha, Plant, Building etc.- 19.705 Ha, Other Purposes - 97.638 Ha	Found in order.	Found in order.
9d	Scrutiny of Annual return on afforestation	Nil	Nil	Nil
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	103760 Tonnes, Grade - 53.94%	103760 Tonnes, Grade - 53.94%	103760 Tonnes, Grade - 53.94%
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Lump Below 55% - 97460 T 55%- 58% - 24200 T 58%- 60% - 411909T 60%- 62% - 58852T Fines Below 55% - 6300 T 55%- 58% - 367487T 58%- 60% - 610839T 60%- 62% - 166243T	Lump Below 55% - 97460 T 55%- 58% - 24200 T 58%- 60% - 411909T 60%- 62% - 58852T Fines Below 55% - 6300 T 55%- 58% - 367487T 58%- 60% - 610839T 60%- 62% - 166243T	Lump Below 55% - 97460 T 55%- 58% - 24200 T 58%- 60% - 411909T 60%- 62% - 58852T Fines Below 55% - 6300 T 55%- 58% - 367487T 58%- 60% - 610839T 60%- 62% - 166243T

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex-mine Price Lump Below 55% - Rs. 2867 55%- 58% - Rs.4115 58%- 60% - Rs. 4141.47 60%- 62% - Rs.3515.19 Fines Below 55% - Rs.1679 55%- 58% - Rs.1935.59 58%- 60% - Rs. 2447.58 60%- 62% - Rs. 2141.90 Cost of Production - Rs. 4666.86/T	Ex-mine Price Lump Below 55% - Rs. 2867 55%- 58% - Rs.4115 58%- 60% - Rs. 4141.47 60%- 62% - Rs.3515.19 Fines Below 55% - Rs.1679 55%- 58% - Rs.1935.59 58%- 60% - Rs. 2447.58 60%- 62% - Rs. 2141.90 Cost of Production - Rs. 4666.86/T	Ex-mine Price Lump Below 55% - Rs. 2867 55%- 58% - Rs.4115 58%- 60% - Rs. 4141.47 60%- 62% - Rs.3515.19 Fines Below 55% - Rs.1679 55%- 58% - Rs.1935.59 58%- 60% - Rs. 2447.58 60%- 62% - Rs. 2141.90 Cost of Production - Rs. 4666.86/T
9h	Scrutiny of Annual return on fixed assets	Fixed Value of Assets Rs. 467,49,75,427/-	Fixed Value of Assets Rs. 467,49,75,427/-	Fixed Value of Assets Rs. 467,49,75,427/-
9k	Scrutiny of Annual return on mining machineries	Back Hoe Excavator-13, Dumper-90, Front End Loader-15, Wheel Loader-2, Motor Grader-2, Rock Drill-2 etc.	Back Hoe Excavator-13, Dumper-90, Front End Loader-15, Wheel Loader-2, Motor Grader-2, Rock Drill-2 etc.	Back Hoe Excavator-13, Dumper-90, Front End Loader-15, Wheel Loader-2, Motor Grader-2, Rock Drill-2 etc.

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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
MCDR17	Rule 11(1)	02/11/2021			

**Date :**

(DAYANAND UPADHYAY)

Indian Bureau of Mines