

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

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/KJR/MCDR-22/BBS-5/2K

Mine code : 30ORI08028

- (i) Name of the Inspecting : **S010**) **SHRI G.C. SETHI**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Shri A.C.Biswal & D.K.Mahanta, Qualified Persons
Official with
Designation
- (iv) Date of Inspection : 07/12/2018
- (v) Prev.inspection date : 13/04/2018

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **JAJANG**
- (b) **Registration NO.** : **IBM/4562/2011**
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : KEONJHAR
- Village : JAJANG
- Taluka : CHAMPUA
- Post office : JAJANG
- Pin Code : 758052
- FAX No. : 91-6582-56442
- E-mail : rungtas@satyam.net.in
- Phone : 06582-56861,56761
- (f) Police Station : Bamebari
- (g) First opening date : 13/02/1957
- (h) Weekly day of rest : TUE
2. Address for : VILL& PO: JAJANG
correspondance POLICE STATION : JODA
DIST: KEONJHAR, ORISSA, PIN: 758052
3. (a) Lease Number : ORI0091
- (b) Lease area : 666.15
- (c) Period of lease :
- (d) Date of Expiry : 31/03/2020
4. Mineral worked : MANGANESE ORE Associated
IRON ORE Main

5. Name and Address of the

Lessee : Rungta Mines Ltd
 Rungta House P.O.Chaibasa
 SINGHBHUM (WEST) JHARKHAND
 Phone:06582-56461,56561,56661,56761
 FAX :91-6582-56442

Owner : M/S Rungta Mines Ltd
 M/S Rungta Mines Ltd Rungta
 House At P.O.Chaibasa
 SINGHBHUM (WEST) JHARKHAND
 Phone: 06582- 56461,56
 FAX : 91- 6582 - 5644

Agent : Shri D. N. Parida
 M/s Rungta Mines Limited
 Rungta House, At/Post-
 Chaibasa Singhbhum West,
 Jharkhand KEONJHAR ORISSA
 Phone: 06582-256861/761/861
 FAX : 06582-256442

Mining Engineer

Name : SHRI RAM RAJ YADAV,Full Time
 Qualification : A.M.I.E (IN 1989)
 Appointment/ : 25/07/2008
 Termination date

Geologist

Name : D.K.MOHANTA,Full Time
 Qualification : MSC GEOLOGY
 Appointment/ : 22/10/2003
 Termination date

Geologist

Name : S.SEKHAR,Full Time
 Qualification : MSC GEOLOGY
 Appointment/ : 21/08/2002
 Termination date

Manager

Name : A.C.BISWAL
 Qualification : A.M.I.E(MINING)
 Appointment/ : 01/09/2001
 Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	29/05/2003
Plan/Scheme of Mining	:	Modif.approved Mining Scheme	06/04/2005
	:	Mining Scheme rule 12 MCDR1988	07/03/2008
	:	Modif.approved Mining Scheme	08/05/2009
	:	Mining Scheme rule 12 MCDR1988	27/03/2012
	:	Modif.approved Mining Scheme	24/07/2015
	:	MP modif under 17(3) MCR 2016	16/09/2016
	:	MP modif under 17(3) MCR 2016	14/07/2017
	:	MP modif under 17(3) MCR 2016	13/07/2018
	:	FMCP under 23C(1)	27/09/2018

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No back log.	During the year 2017-18, there are 52 nos. of bore holes	There is no backlog.
1b	Exploration over lease area for geological axis 1 or 2	G1/G2 Level of exploration.	Total 406.95 ha area is explored under G1 category and 20.91ha under G2 level.	Nil
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Total 406.95 ha area is explored under G1 category and 20.91ha under G2 level.	In 2017-18 total 52 nos. of bore holes were drilled.	Nil
1d	Balance area to be explored to bring Geological axis in 1 or 2	Forest area: 189.30ha & non-forest area: 17.30ha to be explored.	Forest area: 189.30ha & non-forest area: 17.30ha to be explored for G1/G2 as on 01.04.2018.	Nil
1e	Balance reserve as on 01/04/20	Balance reserves as on 01.04.2018 as per modification of mining plan, dated 13.07.2018 is as given below: Proved (111) category 55307099 tonnes and total remaining mineral resources of 6954131 tonnes.	Balance reserves as on 01.04.2018. Proved (111) category 55307099 tonnes and total remaining mineral resources of 6954131 tonnes.	Nil

1f	General remarks of inspecting officers on geology, exploration etc	The lease area is undulating terrain with occasional hills within the area, studded with flat topped low ridges, reassembling a relict type of topography controlled by differential hardness of rocks. The maximum RL of the area is 660m & minimum RL at 498m. The Jajang iron & manganese ore deposit forms a part of precambrian sedimentary formation known as the iron ore series developed in Singhbhum-Keonjhar-Bonai area. During the year 2017-18, 52 nos. of bore holes	Nil
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	B-block & C-block	B-block & C- block	Nil
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in OB and ore with bench height varries from 3m to 9m. No topsoil in the area proposed for mining, thereby no benches formed in topsoil.	Separate benches in OB and ore have been maintained.	Separate benches in OB and ore have been maintained.
2c	Stripping ratio or ore to OB ratio	1:0.21	1:0.27	Variation in stripping ratio is due to less re-handling of dump and poor market condition of low grade iron ore.

2d	Quantity of topsoil generation in m3	None	Not applicable.	Nil
2e	Quantity of overburden generation in m3	3476457 cu.m in 2017-18	3577745 cu.m generated during 2017-18.	Nil
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc		The party has got approved modification of mining plan for completion of the exploration of the entire area before 31.03.25020.	Nil

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Two (B-block & C-block).	Two (B-block & C-block).	Nil
3b	Quantity of ROM mineral production proposed	ROM: 12.80 million tonnes & dump working 3.70 million tonnes in 2017-18.	ROM: 12.79 million tonnes & dump working 0.29 million tonnes produced during 2017-18.	Less dump working due to poor market for low grade iron ore.
3c	Recovery of sailable/usable mineral from ROM production	90% w.r.t total ROM.	90% of ROM during the year 2017-18.	Nil
3d	Quantity of mineral reject generation	None	Not generated during 2017-18	Nil
3e	Grade of mineral rejects generation and threshold value declared.	Nil	Not applicable.	Nil
3f	Quantity of sub grade mineral generation.	2.08 million tonnes in 2017-18.	0.242 million tonnes generated during 2017-18. The lower side generation of sub-grade is due to less dump re-handling and lack of market demand.	The lower side generation of sub-grade is due to less dump re-handling and lack of market demand.

3g	Grade of sub grade mineral generation	-55% to +45% Fe.	-55% to +45% Fe.	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised.	Mechanised.	Nil
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	None	Not applicable.	Nil
3j	Provision of drilling and blasting in mineral benches	Wagon drilling of 110mm dia. Blast hole with emulsion as coloumn charge and emulsion booster alongwith delay detonator.	Wagon drilling of 110mm dia. Blast hole with emulsion as coloumn charge and emulsion booster alongwith delay detonator.	Nil
3k	Provision of mining machineries in mineral benches	It is a fully mechanised mine & a fleet of mining machineries are proposed to be deployed in the mine.	A fleet of mining machineries were deployed in the mine.	Nil
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height 9m.	Same as proposed.	Nil
3m	Total area covered under excavation/pits	243.862 ha.	243.862 ha.	Nil
3n	Ore to OB ratio for the pit/mine during the year.	1:0.21	1:0.27	Nil

3o	Total area put in use under different heads at the end of year	Total 407.771 ha. area put in use under different heads as per the modification of mining plan, dated 14.07.2017 for the modification period upto 31.03.2020.	Area covered under different heads are Current opencast working-215.745 ha, reclaimed/rehabilitated-28.117ha, waste disposal-44.495 ha, Plant, building & residential etc-45.061ha and Mineral storage etc.-37.629ha.	Nil
3p	Production of ROM mineral during the last five year period as applicable	Iron ore: 2013-14:9.67 mt 2014-15: 10.67mt 2015-16: 16.50mt 2016-17: 16.50mt 2017-18: 16.50mt	Iron ore 2013-14: 5.48mt 2014-15: 5.49mt 2015-16: 10.23mt 2016-17: 12.49mt 2017-18: 13.08 mt	Nil
3q	General remarks of inspecting officers on method of mining etc.		The ROM production has been received from B-block & C-block. Wagon drilling of 110mm dia. Blast hole with emulsion explosive alongwith delay detonator is being practiced for drilling and blasting.	Nil

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
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4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dumps for overburden/waste existing and no topsoil generation proposal in the modification of mining plan as as the area proposed for mining has no topsoil cover and the mining operations are proposed in quarry floor in depthward extension.	Overburden material is utilised in reclamation of mined out portion of the quarry. Besides, no top soil generated during 2017-18 as the mining operations are undertaken in depthward extension of the quarries.	Nil
4b	Location of topsoil, OB and mineral reject dumps	No topsoil dump. Dump-1 & 2 (B-block), Dump-3 & 4 (C-block)	No topsoil dump. Dump-1 & 2 (B-block), Dump-3 & 4 (C-block)	Nil
4c	Number of dumps within lease area and outside of lease area	4 no. of dumps within lease area.	4 no. of dumps within lease area.	Nil
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Dump-1 & 2 (B-block), Dump-3 & 4 (C-block)	Dump-1 & 2 (B-block), Dump-3 & 4 (C-block)	Nil
4e	Number of active and alive dumps.	No Active dump as the waste generated due to the mine operations is proposed for use in reclamation.	No Active dump as the waste generated due to the mine operations is used for reclamation.	Nil
4f	Number of dead dumps.	4 nos.of dead dumps.	4 nos. of dead dumps.	Nil
4g	Number of dumps established.	4 nos.	4 nos.	Nil

4h	Whether Retaining wall or garland drain all along dumps are there.	No fresh proposal as existing retaining wall and garland drains already constructed.	Retaining wall and garland drain around dumps are properly maintained.	Nil
4i	Length of Retaining wall or garland drain all along dumps	Length of retaining wall: D-1: 560m, D-2: 480m, D-3:1350m & D-4: 650m. Like wise the construction status of garland drains is as given below:- Length D-1: 580m, D-2: 520m, D-3: 1490m & D-4: 460m	Length of retaining wall: D-1: 560m, D-2: 480m, D-3:1350m & D-4: 650m. Like wise the construction status of garland drains is as given below:- Length D-1: 580m, D-2: 520m, D-3: 1490m & D-4: 460m	Nil
4j	Number of settling ponds	6 nos.	6 nos constructed in different locations.	Nil
4k	Specific comments of inspecting officer on waste dump management		To avoid the erosion and rain slides application of natural geotextiles such as coir matting has been undertaken. Slope of the dead dump has been stabilised by plantation.	Nil

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.	An extent of 9.20ha exhausted iron ore quarry was proposed to be reclaimed in 2017-18	An extent of 9.20ha of mined out quarry portion has been reclaimed during 2017-18.	Nil
5b	Area under backfilling of mined out area	9.20ha in 2017-18.	9.20ha in 2017-18	Nil

5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No top soil exist and not applicable.	Not applicable.	Nil
5d	Total area fully reclaimed and rehabilitated	An extent of 1.50ha of reclaimed area was proposed for plantation of 4500 nos. of saplings in 2017-18.	An extent of 2.20ha reclaimed area has been planted by 9800 saplings during 2017-18 as envisaged in the modification of mining plan, dated 13.07.2018.	Nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.		Over the reclaimed area of 2.20ha, plantation of 9800 nos of saplings were carried out.	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).	The lessee has to submit the annual report on PMCP under Rule 23E(2) of MCDR,2017	Annual return on PMCP has been submitted within the stipulated time.	Nil
6b	Area available for rehabilitation (ha) .	Not applicable as no area is available for rehabilitation in 2017-18.	Not applicable.	Nil
6c	afforestation done (ha).	1.5 ha of reclaimed area was proposed under plantation in 2017-18.	In 2017-18, an extent of 2.20 ha area has been covered under afforestation.	Nil
6d	No. of saplings planted during the year	4500 saplings in 2017-18.	In 2017-18, 11900 nos. of saplings were planted in the lease area and 8064 nos. of saplings out side the lease area during 2017-18.	In 2017-18, total 19964nos. of saplings were planted during 2017-18, which is in higer side of the proposed plantation in the aforesaid year.

6e	Cumulative no .of plants	No such proposal.	Cumulative nos. of saplings planted in the lease area is about 193148 nos.	Nil
6f	Any other method of rehabilitation	Not applicable.	Dump plantation, coir mating and spreading of grass seeds is being practiced in the mine. Besides, plantation in the backfilled area as the rehabilitation measures.	Nil
6g	Cost incurred on watch and care during the year			
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	The waste generated in 2017-18 is proposed to be back filled in B1 & B2 area of blok B and C1 area of block C.	The waste generated during 2017-18 was backfilled in B1 & B2 area of the block B and C1 area of block C.	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	The waste generated in 2017-18 is proposed to be back filled in B1 & B2 area of blok B and C1 area of block C.	The waste generated in 2017-18 is proposed to be back filled in B1 & B2 area of blok B and C1 area of block C.	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	1.5 ha of reclaimed area was proposed under plantation in 2017-18.	In 2017-18, an extent of 2.20 ha area has been covered under afforestation.	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not applicable.	Not applicable.	Nil

6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not applicable.	Not applicable.	Nil
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not applicable. No waste land.	In 2017-18, afforestation in about 2.20 ha of backfilled area has been carried out.	In 2017-18, afforestation in about 2.20ha backfilled area has been carried out.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not applicable. No waste land.	In 2017-18, afforestation in 2.20ha of backfilled area has been carried out	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not applicable.	In 2017-18, afforestation in 2.20ha of reclaimed area has been carried out.	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	Monitoring of all environmental parameters are proposed.	Quarterly monitoring of air, water and noise level are being carried out.	Nil
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		An extent of 2.20ha of mined out area has been backfilled & rehabilitated by afforestation. Besides, afforestation also done along slope of existing waste dump & safety zone. Regular data on quarterly monitoring of air, water and noise level also submitted.	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	Gradewise sorting.	Gradewise sorting.	Nil
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanised	Mechanised	Nil
7c	Different grade of mineral sorted out at mines.	45% - 55% Fe and +55% Fe.	Different grades of minerals sorted out at mines are 45% - 55% Fe and +55% Fe.	Nil
7d	Any beneficiation process at mines	Not such proposal.	Not applicable.	Nil
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues		Cut off grade of iron ore for the mine is +55%. Different grades of minerals sorted out at mines are -65% Fe, 62 to 58% fe and 58 to 55% Fe. In 2017-18, cerian quantities of the mineral rejects generated during mining has blended with high grade and the rest quantities are stacked separately.	Nil

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Not applicable as no topsoil exists in the location proposed for mine excavation.	Not applicable.	Nil
8b	Concurrent use or storage of topsoil	None	No top soil generated during 2017-18.	Nil

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	The waste generated in 2017-18 is proposed to be back filled in B1 & B2 area of blok B and C1 area of block C. Dumping of waste in the waste dump has not proposed.	The waste generated during 2017-18 was backfilled in B1 & B2 area of the block B and C1 area of block C.	Nil
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	The waste generated in 2017-18 is proposed to be back filled in B1 & B2 area of blok B and area C1 in block C.	The waste generated during 2017-18 was backfilled in B1 & B2 area of the block B and C1 area of block C.	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	The waste generated in 2017-18 is proposed to be back filled in B1 & B2 area of blok B and area C1 in block C.	The waste generated during 2017-18 was backfilled in B1 & B2 area of the block B and C1 area of block C.	Nil
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Plantation proposed along the slope of waste dump & safety zone.	Total 19964 nos. saplings have been planted in 2017-18.	Nil
8g	Survival rate	No commitment on survival rate of plantation.	The reported survival of plantation rate is about 92% in the lease area and 70% out side the lease area.	Nil
8h	Water sprinkling on roads to control airborne dust	Water sprinkling is on the haul road is proposed.	Water sprinkling is done on the haul road on day to day basis.	Nil

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Aesthetic beauty in and around mined area is maintained. In 2017-18, total 19964 nos of saplings have been planted by within and out side the lease area with survival rate of 92%. Besides, coir matting on the dump slope followed by plantation also enhances the greenery and an added advantage for environmental protection measuers.	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	Monthly & Annual returns are being regularly submitted by lessee.	Monthly in Form F-1 & the annual return in Form H-1 are being regularly submitted by lessee.	Nil
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Graduate Mining Engineer-7, Diploma mining Engineer-4 & Geologist-3. Besides, one of the mining engineer Shri A.C.Biswal is working as Mine Manager.	Graduate Mining Engineer-7, Diploma mining Engineer-4 & Geologist-3	Nil

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area covered under different heads such as current opencast working (Pits)- 215.745ha, Reclaimed/rehabilitated-28.117ha, waste disposal-44.495ha, plant, buildings etc.-45.061ha and storage of mineral, railways etc.-37.629ha.	The land degradation status furnished in the annual return is satisfactory.	Nil
9d	Scrutiny of Annual return on afforestation	19964 nos. saplings in 2017-18.	The plantation done during 2017-18 is in order.	Nil
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	The mineral reject generation status is indicated to be Nil.	No mineral reject was generated during 2017-18.	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Grdewise stock of below 55% Fe: 55% to 58% Fe: 58% to 60% Fe: 60% to 62% Fe: 62% to 65% Fe: 65% & above have been furnished.	Grdewise stock of 55% Fe: 55% to 58% Fe: 58% to 60% Fe: 60% to 62% Fe: 62% to 65% Fe: 65% & above have been furnished, which is in order.	Nil

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Lump: 58% - 60% Fe: Ex mine price Rs 1361.76 60% - 62% Fe: Ex mine price Rs 1998.82 62% - 65% Fe: Ex mine price Rs 3090.87 Fines: 55% - 58% Fe: Ex mine price Rs 857.00 60% - 62% Fe: Ex mine price Rs 857.00 62% - 65% Fe: Ex mine price Rs 1447.69	Lump: 58% - 60% Fe: Ex mine price Rs 1361.76 60% - 62% Fe: Ex mine price Rs 1998.82 62% - 65% Fe: Ex mine price Rs 3090.87 Fines: 55% - 58% Fe: Ex mine price Rs 857.00 60% - 62% Fe: Ex mine price Rs 856.74 62% - 65% Fe: Ex mine price Rs 1447.69	Nil
9h	Scrutiny of Annual return on fixed assets	Value of Fixed assets : Rs. 551130540.00	Value of Fixed assets : Rs. 551130540.00	Nil
9k	Scrutiny of Annual return on mining machineries	Shovel (hydraulic)-52 nos, Wheel Loaders-31nos, Dozers: 4 nos, Dumper-113 nos. , Water Tanker-5 nos, Motor grader: 01 nos, crane: 01 no of 20 tonne, Other HEM: 19nos, and other static and movable machineries and equipments are deployed in the mine.	The deployment status of mining machineries are found to be in order.	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 G.C. SETHI)

Indian Bureau of Mines