INDIAN BUREAU OF MINES MINERALS DEVELOPMENT AND REGULATION DIVISION

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/SNG/MCDR-5/BBS Mine code : 300RI13016

(i) Name of the Inspecting: SRM) SHRI SUDIP RANJAN MAZUMDAR

Officer and ID No.

(ii) Designation : Senior Mining Geologist

(iii) Accompaning mine : Shri A K Choudhary, Mine Manager

Official with Designation

(iv) Date of Inspection : 08/01/2018
(v) Prev.inspection date : 12/09/2017

PART-I : GENERAL INFORMATION

1. (a) Mine Name : ORAGHAT

(b) Registration NO. : IBM/4585/2011

(c) Category : A Mechanised

 $\text{(d)} \quad \text{Type of Working} \qquad \qquad \text{:} \quad \text{Opencast}$

(e) Postal address

State : ORISSA

District : SUNDARGARH
Village : ORGHAT
Taluka : BONAI
Post office : KOIRA

Pin Code :

FAX No. : 06767-275161

E-mail : rungtas@rungtamines.com
Phone : 06767-275221, 275481

(f) Police Station : Koira

(g) First opening date : 10/12/1986

(h) Weekly day of rest : SAT

2. Address for : VILL: ORAGHAT AND SANINDPUR

correspondance PO: KOIRA PIN: 770048

3. (a) Lease Number : ORIO146 (b) Lease area : 82.92 (c) Period of lease : 20

(d) Date of Expiry : 09/12/2002

4. Mineral worked : IRON ORE Main

5. Name and Address of the

Lessee : M/s Rungta Sons (P) Ltd

Rungta House P.O. Chaisabasa SINGHBHUM

(WEST) JHARKHAND

Phone: (06582) 56861/56761

FAX :91 6582 56442

Owner : M D RUSTAGI, NOMINATED OWNER

RUNGTA OFFICE, MAIN ROAD, BARBIL AT/PO- BARBIL, DIST-KEONJHAR SUNDARGARH ORISSA

Phone: FAX:

Agent : A. S. Mahapatra

Rungta office, Main Road Barbil Disr-Keonjhar

KEONJHAR ORISSA Phone: 06767-276441 FAX : 06767-275481

Mining Engineer

Name : AMITESH CHARAN, Full Time

Qualification : B.E MINING Appointment/ : 10/05/2012

Termination date

Geologist

Name : H Biswal, Full Time

Qualification : M.Sc Geology Appointment/ : 01/11/2015

Termination date

Manager

Name : A K CHOUDHURY
Qualification : B E MINING
Appointment/ : 25/05/2008

Termination date

6. Date of approval of Mining Plan/Scheme of Mining

: Mining Scheme rule 12 MCDR1988 05/10/2001 Modif.approved Mining Scheme 15/02/2008 Modif.approved Mining Scheme 17/08/2009 Mining Scheme rule 12 MCDR1988 28/05/2010 Renewal under rule 24 MCR1960 20/07/2012 MP modif under MCR 1960 20/07/2012 Modif.approved Mining Scheme 08/07/2015 Modif.of approved Mining Plan 02/06/2016 MP modif under 17(3) MCR 2016 28/12/2016 MP review under 17(1) MCR 2016 10/10/2017

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration:

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	23 nos. of boreholes have been proposed for drilling in 2016-17.	23 nos. of boreholes have been drilled in 2016-17.	No backlog for exploration for the year 2016-17.
1b	Exploration over lease area for geological axis 1 or 2	No Specific Proposal	Lease area explored as per UNFC norms (in Ha) as on dated 01.08.2017 under G1 is 72.31 Ha and G2 is 10.651 Ha.	Entire lease area of 82.961 Ha has been explored under G1 and G2 level of UNFC.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No Specific Proposal	Exploration Agency involvedin drilling was M/s Geotech India (P) Ltd and the total expenditure incurred in drilling was Rs. 2602286.00	Exploration Agency involvedin drilling was M/s Geotech India (P) Ltd and the total expenditure incurred in drilling was Rs. 2602286.00
1d	Balance area to be explored to bring Geological axis in 1 or 2	No Specific Proposal	Entire lease area of 82.961 Ha has been explored under G1 and G2 level of UNFC.	Entire lease area of 82.961 Ha has been explored under G1 and G2 level of UNFC.
1e	Balance reserve as on 01/04/20	Reserve as on 01.04.2017 is 36443614 MT and Resources at 7383927 MT.	Production during the year 2084891 MT. Reserve as on 01.04.2017 is 36443614 MT and Resources at 7383927 MT.	MT. Reserve as on 01.04.2017 is
1f	General remarks of inspecting officers on geology, exploration etc	No Comments	Exploration proposal for the year 2016-17 have been complied. The entire lease area has been explored under G1 and G2 level of UNFC.	Exploration proposal for the year 2016-17 have been complied. The entire lease area has been explored under G1 and G2 level of UNFC.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks

2a	Location of development w.r.t.lease area	Kusum pit- S100 - N400, E200- E1000. Chattan pit- S180 - N50, E1150-E1340. Kendu Pit- S150 -N100, E1480- E1660	Kusum Pit- S160 - N300, E200- E1000. Kendu Pit- S150 -N50, E1360- E1620.	Chattan Pit has not been developed as per approval.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	for top soil bench. Separate benches in OB and Ore have	Kusum Pit -02 benches in OB & 04 benches in Ore; Chattan Pit - 02 benches in OB& 01 benches in Ore; Kendu Pit- 02 nos. of benches in OB & 04 benches in Ore.	Separate benches in Ore and OB have been maintained. No top soil benches are there.
2c	Stripping ratio or ore to OB ratio	1:0.11	1:0.12	
2d	Quantity of topsoil generation in m3	Not poroposed	Not applicable	No top soil benches have been proposed.
2e	Quantity of overburden generation in m3	592201.830 Cum	263659.12 Cum	As the production was less, the development work as well as waste generation was less.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	No Comments	The development is concentrated in two pits i.e. Kusum Pit and Kendu Pit. Chattan Pit has not been developed as per proposal. As the production was less, the development work as well as waste generation was less.	The development is concentrated in two pits i.e. Kusum Pit and Kendu Pit. Chattan Pit has not been developed as per proposal. As the production was less, the development work as well as waste generation was less.

Actual work

Remarks

Exploitation:

Item

Propasals

Sl.No.

3a	Number of pit proposed for production	Kusum Pit- S100/N400 & E200/E1000 Chattan Pit- S180/N50 & E1150/E1660 Kendu Pit- S150/N100 & E1480 /E1660	Kusum Pit - S160/N300 & E200/E1000 Kendu Pit -S150/N50 & E1360 /E1620	Chattan pit has not been developed as per proposal.
3b	Quantity of ROM mineral production proposed	5021531.310 MT	In 2016-17, 2084891.990 MT of iron ore has been produced.	ROM from pit is 2.017 mmilion tonnes and from dump working is 0.067 million tonnes.
3с	Recovery of sailable/usable mineral from ROM production	Saleable ore 90% w.r.t total ROM	Saleable Ore 100%	All the mineral rejects have been blended with high grade ROM.
3d	Quantity of mineral reject generation	400000 MT	The mineral reject/subgrade generated during mining is blended with high grade.	The mineral reject/subgrade generated during mining is blended with high grade.
3e	Grade of mineral rejects generation and threshold value declared.		The mineral reject/subgrade generated during mining is blended with high grade.	The mineral reject/subgrade generated during mining is blended with high grade.
3f	Quantity of sub grade mineral generation.	400000 MT	The mineral reject/subgrade generated during mining is blended with high grade.	The mineral reject/subgrade generated during mining is blended with high grade.
3g	Grade of sub grade mineral generation	Grade of Mineral reject : 45% Fe to 55% Fe,	The mineral reject/subgrade generated during mining is blended with high grade.	The mineral reject/subgrade generated during mining is blended with high grade.
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized	Mechanized	Mechanized

6.735 Ha

3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not Proposed	Not Applicable	Not Applicable
3j	Provision of drilling and blasting in mineral benches		DTH drilling of 110 mm dia. Blasthole with emulsion/slurry explosive as column charge and booster as base charge alongwith delay detonator is being practiced for drilling and blasting.	Depth of blasting -10m, single or multi row blasting with controlled blasting technique is practised.
3k	Provision of mining machineries in mineral benches	Yes	Yes	Yes
31	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes	Yes	Yes
3m	Total area covered under excavation/pits	57.919 ha at the end of plan period	About 56.312 ha. has been covered under excavation pits.	About 56.312 ha. has been covered under excavation pits.
3n	Ore to OB ratio for the pit/mine during the year.	1:0.11	1:0.12	
30	Total area put in use under different heads at the end of year	Total Area at the end of proposed plan period(ha): 79.12 Ha	Area covered under different heads are Pit-56.312 Ha, waste dump-9.53 Ha, Plant, residential & building, roads - 2.99 Ha & Mineral Storage- 2.04 Ha and Work done under progressive mine closure plan during the year -6.735 Ha	Area covered under different heads are Pit-56.312 Ha, waste dump-9.53 Ha, Plant, residential & building, roads - 2.99 Ha & Mineral Storage- 2.04 Ha and Work done under progressive mine closure plan during the year -

3p	Production of ROM mineral during the last five year period as applicable	2012-13- 4760520 MT 2013-14- 3000000 MT 2014-15- 5000000 MT 2015-16- 5000000 MT 2016-17- 5021531 MT	2012-13-695137.980 MT 2013-14-15457.580 MT 2014-15-2100646.300 MT 2015-16-1559386.340 MT 2016-17-2084891.990 MT	Against the approved proposal of iron ore less production is carried out by lessee based upon demand & supply.
3q	General remarks of inspecting officers on method of mining etc.	No Comments	The ROM production has been carried out from Kusum pit and Kendu pit. DTH drilling of 110 mm dia. Blasthole with emulsion/slurry explosive alongwith delay detonator is being practiced for drilling and blasting.	The ROM production has been carried out from Kusum pit and Kendu pit. DTH drilling of 110 mm dia. Blasthole with emulsion/slurry explosive alongwith delay detonator is being practiced for drilling and blasting.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	for OB. Topsoil not	The OB generated for the period 2016-17 has been dumped on dump-3. The sub grade generated is blended with high grade ore.	The OB generated for the period 2016-17 has been dumped on dump-3. The sub grade generated is blended with high grade ore.
4b	Location of topsoil, OB and mineral reject dumps	-	Dump-3 between coordinates S220-S385, E1400-E1570.	There is no top soil generation. Mineral reject generated during 2016-17 is not separately dumped and it has been blended with high grade ore.

4c	Number of dumps within lease area and outside of lease area	within the	There are 03 Nos of Dumps within Lease area namely dump-1, dump-2 & dump-3.	There are 03 Nos of Dumps within Lease area namely dump-1, dump-2 & dump-3.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	to E 1510, N 30 to N 380	Dump-1: E 960 - E 1510 & N 30 - N 380 Dump-2: E 970 - E 1145 & N 60 - S 215 Dump-3: E1400 -E1570 & S200 - S385	Existing Dump-3 is proposed for extension for the period 2016-17.
4e		of dump within	There are 03 dumps within lease area i.e dump-1, dump-2 & dump-3	There are 03 dumps within lease area i.e dump-1, dump-2 & dump-3
4f	Number of dead dumps.	Not Proposed	Not Applicable	Not Applicable
4g	Number of dumps established.	Not Proposed	Not Applicable	Not Applicable
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes	Yes	Yes
4i	Length of Retaining wall or garland drain all along dumps	of 486m &	Retaining Wall of 334m & Garland drain 170m length has been constructed during 2016-17.	Retaining wall and Garland drain have not have been fully completed as per approved proposal.
4j	Number of settling ponds	Not proposed	Not Applicable	Not Applicable

4k To avoid the erosion and To avoid the Specific No Comments comments of rain slides application erosion and rain slides application inspecting of natural geotextiles officer on waste such as coir matting in of natural dump management some part of waste dump geotextiles such has been undertaken. as coir matting in Slope of the dump has some part of waste been stabilised by dump has been plantation. undertaken. Slope of the dump has been stabilised by plantation.

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.	Not Proposed	Not Applicable	Pit is not matured for reclaimation.
5b	Area under backfilling of mined out area	Not Proposed	Not Applicable	Pit is not matured for reclaimation.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not Proposed	Not Applicable	Pit is not matured for reclaimation.
5d	Total area fully reclaimed and rehabilitated	Not Proposed	Not Applicable	Pit is not matured for reclaimation.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	No Comments	Pit is not matured for reclaimation.	Pit is not matured for reclaimation.

Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks

ба	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	No Specific proposal	Annual report on PMCP for the year 2016-17 has been submitted timely	Annual report on PMCP for the year 2016-17 has been submitted timely
6b	Area available for rehabilitation (ha) .	Not Proposed	Not Applicable	Not Applicable
6c	afforestation done (ha).	1.0 ha has been proposed for afforestation in 2016-17	About 1.5 ha area has been afforested in 2016- 17	About 1.5 ha area has been afforested in 2016-17
6d	No. of saplings planted during the year	1000 nos. of saplings for dump plantation and 2000 nos. of saplings for gap plantation.	Total 13940 nos. of saplings have planted during the year 2016-17.	Total 13940 nos. of saplings have planted during the year 2016-17.
6e	Cumulative no .of plants	Not Specified	So far total 88458 nos. saplings have been planted during the year 2016-17.	So far total 88458 nos. saplings have been planted during the year 2016-17.
6f	Any other method of rehabilitation	Not Proposed	Not applicable	Not Applicable
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Not Proposed	Not applicable	Not Applicable
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not Proposed	Not applicable	Not Applicable

6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestati on on backfilled area	Not Proposed	Not applicable	Not Applicable
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not Proposed	Not applicable	Not Applicable
61	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not Proposed	Not applicable	Not Applicable
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not Proposed	Not applicable	Not Applicable
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not Proposed	Not Applicable	Not Applicable
60	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not Proposed	Not Applicable	Not Applicable
бр	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring of ambient air quality, water quality, noise level		Quarterly monitoring of ambient air quality, water quality, noise level

General remarks No Comments Compliance on PMCP is Compliance on PMCP of inspecting done as per proposal is done as per proposal compliance and progressive closure operations etc.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sorting	Grade wise sorting	Grade wise sorting
7b	Method of grade- wise mineral sorting i.e. manual or mechanical.	Mechanised	Mechanised	Mechanised
7c	Different grade of mineral sorted out at mines.	45% Fe to 55% Fe and +55% Fe	45% Fe to 55% Fe and +55% Fe	Different grades of minerals sorted out at mines are 45% Fe to 55% Fe and +55% Fe
7d	Any beneficiation process at mines .	Not Proposed	Not Applicable	Not Applicable
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	No Comments	Cut off grade of iron ore for the mine is +55% Fe. Different grades of minerals sorted out at mines are - 65% Fe, 62 to 58% Fe and 58 to 55% Fe. In 2016-17, no subgrade has been reported by lesse. The sub grade generated during mining has been blended with high grade.	Cut off grade of iron ore for the mine is +55% Fe. Different grades of minerals sorted out at mines are -65% Fe, 62 to 58% Fe and 58 to 55% Fe. In 2016-17, no subgrade has been reported by lesse. The sub grade generated during mining has been blended with high grade.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Not proposed	Not applicable	Not applicable
d8	Concurrent use or storage of topsoil	Not proposed	Not applicable	Not applicable
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)		OB generated during the period has been dumped in dump-3	Separate dumps for overburden and mineral rejects are present.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not Proposed	Not Applicable	Not Applicable
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not Proposed	Not Applicable	Not Applicable
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	10100 nos. of saplings for dump plantation and 2000 nos. of saplings for gap plantation	planted during the year 2016-17 is 13940 Nos.	Number of saplings planted during the year 2016-17 is 13940 Nos.
8g	Survival rate	Not Specified	As reported the survival rate is 84.2%	As reported the survival rate is 84.2%
8h	Water sprinkling on roads to control airborne dust	sprinkler of 20 KL and 12	Water sprinkler of 20 KL and 12 KL capacities are utilised along with fixed water sprinkler to control airborne dust.	Water sprinkler of 20 KL and 12 KL capacities are utilised along with fixed water sprinkler to control airborne dust.

8i of inspecting officer on aesthetic beauty in and around mines area

General remarks No Comments Aesthetic beauty in and Aesthetic beauty around mines is maintained.

in and around mines is maintained.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Annual Return for the year 2016-17 has been submitted. Monthly Return till Jan'18 has been submitted.	Annual Return for the year 2016-17 has been submitted. Monthly Return till Jan'18 has been submitted.	Annual Return for the year 2016-17 has been submitted. Monthly Return till Jan'18 has been submitted.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Graduate Mining Engineer: 4 Geologist: 2	Graduate Mining Engineer: 4 Geologist: 2	Graduate Mining Engineer : 4 Geologist: 2
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Ha., Reclaimed and	rehabilitated-1.33Ha, Dump- 9.53Ha, Plant ,buildings, residential, welfare buildings and road-2.99Ha.Mineral storage-2.04Ha.,Work done under progressive	Quarry- 56.312 Ha., Reclaimed and rehabilitated- 1.33Ha, Dump- 9.53Ha, Plant ,buildings, residential, welfare buildings and road- 2.99Ha.Mineral storage- 2.04Ha.,Work done under progressive mine closure plan during the year - 6.735 Ha.

9d	Scrutiny of Annual return on afforestation	Total 13940 nos. of saplings have been planted during the year 2016-17	Total 13940 nos. of saplings have been planted during the year 2016-17	Total 13940 nos. of saplings have been planted during the year 2016-17
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil	Nil	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	at mine head :	Closing stock at mine head: Lump: (a) Below 55% Fe: 3702.89 MT (b) 55% to below 58%: 68.59 MT (c) 60% to below 62%: 7668.98 MT (d) 62% to below 65%: 56019.83 MT Fines: (a) 55% to below 58%: 129781.30 MT (b) 58% to below 60%: 2883.07 MT (c) 60% to below 62%: 299726.193 MT (d) 62% to below 65%: 299327.185 MT	Closing stock at mine head: Lump: (a) Below 55% Fe: 3702.89 MT (b) 55% to below 58%: 68.59 MT (c) 60% to below 62%: 7668.98 MT (d) 62% to below 65%: 56019.83 MT Fines: (a) 55% to below 58%: 129781.30 MT (b) 58% to below 60%: 2883.07 MT (c) 60% to below 62%: 299726.193 MT (d) 62% to below 65%: 299327.185 MT

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Lumps Gradewise (Exmine price) 55% to below 58% (Rs.800.00) 58% to below 60% (Rs. 961.02) 60% to below 62% (Rs. 1965.34) 62% to below 65% (Rs.2226.91) Fines Gradewise (Exmine Price) 62% to below 65% (Rs. 1557.56) 60% to below 62% (Rs. 932.51) 62% to below 65% (Rs.	55% to below 58% (Rs.800.00) 58% to below 60% (Rs. 961.02) 60% to below 62% (Rs. 1965.34) 62% to below 65% (Rs.2226.91) Fines Gradewise (Ex-mine Price) 62% to below 65% (Rs. 1557.56) 60% to below 62% (Rs. 932.51) 62% to below 65% (Rs.	Lumps Gradewise (Ex-mine price) 55% to below 58% (Rs.800.00) 58% to below 60% (Rs. 961.02) 60% to below 62% (Rs. 1965.34) 62% to below 65% (Rs.2226.91) Fines Gradewise (Ex-mine Price) 62% to below 65% (Rs. 1557.56) 60% to below 62% (Rs. 932.51) 62% to below 65% (Rs. 1026.43)
9k	Scrutiny of Annual return on mining machineries	14 Nos. Dumper (35 t) : 22 Nos. Dumper (10 t): 50 Nos.	Shovel (hydraulic): 14 Nos Dumper (35 t): 22 Nos Dumper (10 t): 50 Nos Dozer: 2 Nos Front end loader: 12 Nos Motor grader: 1 No	Shovel (hydraulic): 14 Nos Dumper (35 t): 22 Nos Dumper (10 t): 50 Nos Dozer: 2 Nos Front end loader: 12 Nos Motor grader: 1 No

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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	

Date:

(SHRI SUDIP RANJAN MAZUMDAR)

Indian Bureau of Mines