

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

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/MN/SNG/MCDR-2/BBS

Mine code : 40ORI13008

- (i) Name of the Inspecting : **U11**) **DAYANAND UPADHYAY**
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri A. S. Mohapatra , Agent
Official with
Designation
- (iv) Date of Inspection : 15/04/2018
- (v) Prev.inspection date : 07/11/2015

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **KANTHER-KOIRA**
- (b) **Registration NO.** : **IBM/4562/2011**
- (c) Category : B Manual
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : SUNDARGARH
- Village : KANTHER-KOIRA
- Taluka : BONAI
- Post office : KOIRA
- Pin Code :
- FAX No. : 06767-276651
- E-mail : bbloffice@rungtamines.com
- Phone : 06767-276651
- (f) Police Station : Koira
- (g) First opening date : 15/12/1945
- (h) Weekly day of rest : SUN
2. Address for : PO:KOIRA, DIST: SUNDERGARH
correspondance ORISSA
PIN-770048
3. (a) Lease Number : ORI0206
- (b) Lease area : 73.65
- (c) Period of lease : 20
- (d) Date of Expiry : 31/12/1999
4. Mineral worked : MANGANESE 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 : A.S.MAHAPATRA
 Rungta Office, Main Road,
 Barbil Keonjhar, Orissa
 KEONJHAR ORISSA
 Phone: 06767-276651
 FAX : 06767-276651

Geologist

Name : Rajesh Roy, Full Time
 Qualification : Msc.(Geology)
 Appointment/ : 21/06/2010
 Termination date

Manager

Name : A.K.BEHERA
 Qualification : AMIE MINING
 Appointment/ : 01/07/2017
 Termination date

6. Date of approval of Mining	:	Renewal under rule 22 MCR1960	19/09/2000
Plan/Scheme of Mining		Mining Scheme rule 12 MCDR1988	18/05/2007
		Mining Scheme rule 12 MCDR1988	01/04/2010
		Mining Scheme rule 12 MCDR1988	25/02/2015
		MS modif under MCR 1960	01/08/2017

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	38 number of bore holes in 43.6102 ha of area.	In 2017-18, total 38 number of bore holes have been drilled by lessee covering area of 43.6102ha..	There is no backlog.
1b	Exploration over lease area for geological axis 1 or 2	G1/G2 Level of exploration.	In 2017-18, total 38 number of bore holes have been drilled by lessee under G1/G2 Level of exploration.	In 2017-18, total 38 number of bore holes have been drilled by lessee under G1/G2 Level of exploration.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not specified.	In 2017-18, total total cost incurred in drilling was Rs 3714270/-. Exploration agency involved in drilling was M/s Geovision Pvt Ltd and M/s V.K.S Mining Services.	Exploration agency involved in drilling was M/s Geovision Pvt Ltd and M/s V.K.S Mining Services.
1d	Balance area to be explored to bring Geological axis in 1 or 2	About 25.57 ha under G2 level of exploration upto the end 2018-19.	In 2017-18, total 38 number of bore holes have been drilled by lessee. About 48.07 ha area has been explored under G1/G2 level of exploration and rest area has been proposed to explored upto the end of 2018-19.	About 48.07 ha area has been explored under G1/G2 level of exploration and rest area has been proposed to explored upto the end of 2018-19.
1e	Balance reserve as on 01/04/20	Balance reserve as per Modified mining plan approved on 01/08/2017 was 417930T under proved (111) category and 14971T was under feasibility resources (211) category.	Balance reserve as on 01/04/2018 under 111 category was 408612.717T of Mn ore and feasibility resources under (211) category was 14971 MT.	Balance reserve as on 01/04/2018 under 111 category was 408612.717T of Mn ore and feasibility resources under (211) category was 14971 MT.

1f	General remarks of inspecting officers on geology, exploration etc	38 number of bore holes in 43.6102 ha of area.	In 2017-18, total 38 number of bore holes have been drilled by lessee. About 48.07 ha area has been explored under G1/G2 level of exploration and rest area has been proposed to explored upto the end of 2018-19.	In 2017-18, total 38 number of bore holes have been drilled by lessee. About 48.07 ha area has been explored under G1/G2 level of exploration and rest area has been proposed to explored upto the end of 2018-19.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Main pit- S 300/700 and E 200/550.	The development is concentrated in Main pit between grid S 300/700 and E 200/550.	The development is concentrated in Main pit between grid S 300/700 and E 200/550.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in OB and ore with 6m height, top soil bench- nil.	Separate benches in OB and ore of 6m height have been maintained.	Separate benches in OB and ore have been maintained. There is no top soil bench.
2c	Stripping ratio or ore to OB ratio	1:20.32 T/cu.m	1:24 T/cu.m	Average stripping ratio varries due to irregular & pocket nature of ore deposit.
2d	Quantity of topsoil generation in m3	Not proposed.	Not applicable.	There is no top soil generation.
2e	Quantity of overburden generation in m3	406923 cu.m	224872.16 cu.m	Less quantity of OB generated due to less production of ROM as proposed.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	The development is proposed in single pit i.e Main pit.	Development is concentrated in single pits i.e main pit as proposed.	Development is concentrated in single pits i.e main pit as proposed.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Single pit.	Working is concentrated in single pit i.e main pit as proposed.	Working is concentrated in single pit i.e main pit as proposed.
3b	Quantity of ROM mineral production proposed	20025 T	ROM production reported in 2017-18 is 9317.283T	ROM Production is less due to low market demand.
3c	Recovery of sailable/usable mineral from ROM production	18023T	The saleable Mn ore reported in 2017-18 is 9197.28T	The saleable Mn ore reported in 2017-18 is 9197.28T
3d	Quantity of mineral reject generation	2002T	Mineral reject/sub grade generated during 2017-18 is 120T.	Mineral reject/sub grade generated during 2017-18 is 120T.
3e	Grade of mineral rejects generation and threshold value declared.	10-25% Mn	Mineral reject/sub grade generated during 2017-18 is 120T of greade 10-25% Mn.	Mineral reject/sub grade generated during 2017-18 is 120T of greade 10-25% Mn.
3f	Quantity of sub grade mineral generation.	2002T	Mineral reject/sub grade generated during 2017-18 is 120T of greade 10-25% Mn.	Mineral reject/sub grade generated during 2017-18 is 120T of greade 10-25% Mn.
3g	Grade of sub grade mineral generation	10-25% Mn	Mineral reject/sub grade generated during 2017-18 is 120T of greade 10-25% Mn.	Mineral reject/sub grade generated during 2017-18 is 120T of greade 10-25% Mn.
3h	Manual / Mechanised method adopted for segregating from ROM	Manual.	Manual.	Manual method is being practiced.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not proposed.	Not applicable.	Nil.

3j	Provision of drilling and blasting in mineral benches	DTH drilling of 110mm dia. Blast hole with emulsion/slurry explosive as column charge and booster alongwith delay detonator.	Drilling and blasting is carried out with DTH drilling of 110mm dia. Blast hole with emulsion/slurry explosive as column charge and booster alongwith delay detonator.	DTH drilling of 110mm dia. Blast hole with emulsion/slurry explosive as column charge and booster alongwith delay detonator.
3k	Provision of mining machineries in mineral benches	SHOVEL (HYDRAULIC), 0.900 CUM-1, TIPPER, 10.0 CUM-5, Rock Breaker-1.	SHOVEL (HYDRAULIC), 0.900 CUM-1, TIPPER, 10.0 CUM-5, Rock Breaker-1.	SHOVEL (HYDRAULIC), 0.900 CUM-1, TIPPER, 10.0 CUM-5, Rock Breaker-1.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height- 6m	Bench height is suitably matched with the loading excavator.	Bench height is suitably matched with the loading excavator.
3m	Total area covered under excavation/pits	14.0 ha during approved plan period upto 2019-20.	About 12.818 ha. has been covered under excavation pits upto 2017-18.	About 12.818 ha. has been covered under excavation pits.
3n	Ore to OB ratio for the pit/mine during the year.	1:20.32 T/cu.m	1:24 T/cu.m	Average stripping ratio varies due to irregular & pocket nature of ore deposit.
3o	Total area put in use under different heads at the end of year	Total area proposed under different heads are Pit-12.818 ha, waste dump-6.229 ha, Plant, residential & building, roads-0.936ha & Mineral storage, plantation & others -2.170 ha.	Area covered under different heads are Pit-12.818 ha, waste dump-6.229 ha, Plant, residential & building, roads-0.936ha & others -2.170 ha.	Area covered under different heads are Pit-12.818 ha, waste dump-6.229 ha, Plant, residential & building, roads-0.936ha & others -2.170 ha.

3p	Production of ROM mineral during the last five year period as applicable	2013-14: 35000T 2014-15:20025T 2015-16: 20025T 2016-17: 20025T 2017-18: 20025T	2013-14: 5744.998T 2014-15: 584.538T 2015-16: 6767.73T 2016-17: 9306.27T 2017-18: 9317.283T	ROM Production is less due to low market demand.
3q	General remarks of inspecting officers on method of mining etc.	DTH drilling of 110mm dia. Blast hole with emulsion/slurry explosive as coloumn charge and booster alongwith delay detonator.	The ROM production has been carried out single pit i.e main pit. DTH drilling of 110mm dia. Blast hole with emulsion/ slurry explosive alongwith delay detonator is being practiced for drilling and blasting.	The ROM production has been carried out single pit i.e main pit. DTH drilling of 110mm dia. Blast hole 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)	Separate dumping for overburden and mineral reject.	Overburden is dumped on active dump-D2 between grid N220 to S200 and E750 to E1000.	There is no top soil generation. Overburden is dumped on active dump-D2 as proposed.
4b	Location of topsoil, OB and mineral reject dumps	Active dump-D2 between grid N220 to S200 and E750 to E1000 and MR dump between grid S250 to E825.	Overburden is dumped on active dump-D2 between grid N220 to S200 and E750 to E1000 and MR dump between grid S250 to E825.	There is no top soil generation. Overburden is dumped on active dump-D2 as proposed.
4c	Number of dumps within lease area and outside of lease area	One active dump-D2 within lease area.	Overburden is dumped on active dump-D2 between grid N220 to S200 and E750 to E1000 lies within lease area.	Overburden is dumped on active dump-D2 between grid N220 to S200 and E750 to E1000 lies within lease area.

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Active dump-D2 between grid N220 to S200 and E750 to E1000.	Dump D2 is located outside ultimate pit limit.	Dump D2 is located outside ultimate pit limit.
4e	Number of active and alive dumps.	One active dump.	There is one active dump-D2.	There is one active dump-D2.
4f	Number of dead dumps.	Not proposed.	Not applicable.	There is one dead dump D1 which is fully rehabilitated by plantation.
4g	Number of dumps established.	Not proposed.	There is one dead dump D1 which is fully rehabilitated by plantation.	There is one dead dump D1 which is fully rehabilitated by plantation.
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall of 600mX1.5mX1.0m and a garland drain of 600mX1.5mX1.0m around dump-D2.	Retaining wall and garland drain as proposed around dump-D2 has been completed.	Retaining wall and garland drain as proposed around dump-D2 has been completed.
4i	Length of Retaining wall or garland drain all along dumps	Retaining wall of 600mX1.5mX1.0m and a garland drain of 600mX1.5mX1.0m around dump-D2.	Retaining wall and garland drain as proposed around dump-D2 has been completed.	Retaining wall and garland drain as proposed around dump-D2 has been completed.
4j	Number of settling ponds	02 settling ponds.	02 settling ponds as proposed has been competed.	02 settling ponds as proposed has been competed.
4k	Specific comments of inspecting officer on waste dump management	Separate dumping for overburden and mineral reject.	Separate dumping for overburden and mineral reject have been maintained. Slope of the dead dump has been stabilised by plantation. The dead dump has been fully rehabilitated by plantation. The retaining wall and garland drain has been constructed around the dump.	Slope of the dead dump has been stabilised by plantation. The dead dump has been fully rehabilitated by plantation. The retaining wall and garland drain has been constructed around the dump.

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.	Pit is not matured for reclamation.	Mineralisation is continue and pit is not matured for reclamation.
5b	Area under backfilling of mined out area	Not proposed.	Pit is not matured for reclamation.	Mineralisation is continue and pit is not matured for reclamation.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not proposed.	Pit is not matured for reclamation.	Mineralisation is continue and pit is not matured for reclamation.
5d	Total area fully reclaimed and rehabilitated	Not proposed.	Mineralisation is continue and pit is not matured for reclamation.	About 2.0 ha area of old dump-D1 has been fully rehabilitated by plantation.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Backfilling not proposed.	Mineralisation is continue and pit is not matured for reclamation. About 2.0 ha area of old dump-D1 has been fully rehabilitated by plantation.	Mineralisation is continue and pit is not matured for reclamation. About 2.0 ha area of old dump-D1 has been fully rehabilitated by plantation.

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).	Not spcefied.	Annual return on PMCP has been submitted.	Annual return on PMCP has been submitted.

6b	Area available for rehabilitation (ha) .	Not proposed.	Not applicable.	Area not matured for reclamation & rehabilitation.
6c	afforestation done (ha).	1.0 ha.	In 2017-18, total area cover under afforestation is about 1.0 ha.	In 2017-18, total area cover under afforestation is about 1.0 ha.
6d	No. of saplings planted during the year	1500 saplings.	In 2017-18, total 4900 nos. of saplings have been planted by lessee.	In 2017-18, total 4900 nos. of saplings have been planted by lessee.
6e	Cumulative no .of plants	Not specified.	Cumulative nos. of saplings planted in the lease area is about 107573.	Cumulative nos. of saplings planted in the lease area is about 107573.
6f	Any other method of rehabilitation	Not proposed.	Not applicable.	Nil.
6g	Cost incurred on watch and care during the year	Not specified.	Around Rs 2.10 lakh cost incurred on watch and care.	Around Rs 2.10 lakh cost incurred on watch and care.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Not proposed.	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not proposed.	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestati on on backfilled area	Not proposed.	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.

6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not proposed.	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not proposed.	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not proposed.	Not applicable.	Nil.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not proposed.	Not applicable.	Nil.
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not proposed.	Not applicable.	Nil.
6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring.	Quarterly monitoring of air, water and noise level are being carried out.	Quarterly monitoring of air, water and noise level are being carried out.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	In 2017-18, total 1500 nos. of saplings have been proposed.	In 2017-18, total 4900 nos. of saplings have been planted by lessee. Area has not been matured for reclamation & rehabilitation and afforestation has been carried out along slope of waste dump & safety zone.	Area has not been matured for reclamation & rehabilitation and afforestation has been carried out along slope of waste dump & safety zone.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Gradewise sorting.	Gradewise sorting.	Gradewise sorting is being practiced.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual.	Manual sorting is practiced.	Manual sorting is practiced.
7c	Different grade of mineral sorted out at mines.	25% to 46% Mn and +46% dioxide grade.	25% to 46% Mn and +46% dioxide grade.	25% to 46% Mn and +46% dioxide grade.
7d	Any beneficiation process at mines .	Not proposed.	Not applicable.	Nil.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Gradewise Sorting of 25% to 46% Mn and +46% dioxide grade.	Cut off grade of Mn ore for the mine is +25%. Different grades of minerals sorted out at mines are +10% to 46% & above of Mn .	Cut off grade of Mn ore for the mine is +25%. Different grades of minerals sorted out at mines are +10% to 46% & above of Mn .

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Not proposed.	Not applicable.	No top top soil generation is proposed.
8b	Concurrent use or storage of topsoil	Not proposed.	No top top soil generation is proposed.	No top top soil generation is proposed.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dump for overburden on dump-D2.	There is Separate dump for overburden and mineral rejects. Overburden is dumped on active dump-D2. The location of active dump-D2 is between grid N220 to S200 and E750 to E1000.	There is Separate dump for overburden and mineral rejects.

8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not proposed.	Not applicable.	Nil.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not proposed.	Not applicable.	Area is not matured for reclamation and rehabilitation.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Plantation proposed along the slope of waste dump & safety zone.	Total 107573 nos. saplings have been planted in 2017-18.	Total 107573 nos. saplings have been planted in 2017-18.
8g	Survival rate	Not specified.	As reported survival rate is 90%.	As reported survival rate is 90%.
8h	Water sprinkling on roads to control airborne dust	Two water sprinkler.	Two water sprinkler are used to control air borne dust.	Water sprinklers of 20 & 12 KL capacity are utilised to control air borne dust.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	In 2017-18, total 1500 nos. of saplings have been proposed.	Aesthetic beauty in and around mined area is maintained. In 2017-18, total 4900 nos of saplings have been planted by lessee. As reported cumulative no. of trees planted by lessee is about 107573 nos.	Aesthetic beauty in and around mined area is maintained. In 2017-18, total 4900 nos of saplings have been planted by lessee. As reported cumulative no. of trees planted by lessee is about 107573 nos.

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.	The annual return for the year 2017-18 has been submitted by lessee.	The annual return for the year 2017-18 has been submitted by lessee.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Graduate Mining Engineer-1, Diploma mining Engineer-1, Geologist-2, Other-3	Graduate Mining Engineer-1, Diploma mining Engineer-1, Geologist-2, Other-3	Graduate Mining Engineer-1, Diploma mining Engineer-1, Geologist-2, Other-3
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area covered under different heads are Pit-12.818 ha, waste dump-6.229 ha, Plant, residential & building, roads-0.936ha & others - 2.170 ha.	Area covered under different heads are Pit-12.818 ha, waste dump-6.229 ha, Plant, residential & building, roads-0.936ha & others -2.170 ha.	Area covered under different heads are Pit-12.818 ha, waste dump-6.229 ha, Plant, residential & building, roads-0.936ha & others -2.170 ha.
9d	Scrutiny of Annual return on afforestation	Total 4900 nos. saplings have been planted in 2017-18.	Total 4900 nos. saplings have been planted in 2017-18.	Total 4900 nos. saplings have been planted in 2017-18.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Mineral reject 120T, 17.2% Mn.	Mineral reject 120T, 17.2% Mn.	Mineral reject 120T, 17.2% Mn.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Closing stock maintained below 25% Mn, 25-46% Mn and above 46% and dioxide grade.	Closing stock maintained below 25% Mn, 25-46% Mn and above 46% and dioxide grade.	Closing stock maintained below 25% Mn, 25-46% Mn and above 46% and dioxide grade.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex mine price between grade 35% - 46% Mn is 14201.62.	Ex mine price between grade 35% - 46% Mn is 14201.62.	Ex mine price between grade 35% - 46% Mn is 14201.62.

9h	Scrutiny of Annual return on fixed assets	Net closing balance as furnished in AR is Rs 12640320/-	Net closing balance as furnished in AR is Rs 12640320/-	Net closing balance as furnished in AR is Rs 12640320/-
9k	Scrutiny of Annual return on mining machineries	SHOVEL (HYDRAULIC), 0.900 CUM-1, TIPPER, 10.0 CUM-5.	SHOVEL (HYDRAULIC), 0.90 CUM-1, TIPPER, 10.0 CUM-5.	SHOVEL (HYDRAULIC), 0.90 CUM-1, TIPPER, 10.0 CUM-5.

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 :

(DAYANAND UPADHYAY)

Indian Bureau of Mines