INDIAN BUREAU OF MINES

MINERALS DEVELOPMEMT AND REGULATION DIVISION

I/13736/2023

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/SNG/MCDR-5/BBS **Mine code : 30ORI13016**

(i) Name of the Inspecting Officer and ID No. : **VPD) VIKRAM DESHPANDE**

(ii) Designation : Assistant Controller Mine

(iii) Accompaning mine Official with Designation : S/Shri A.S. Mohapatra, AVP(Mines) Agent, Abhijeet Sen

(iv) Date of Inspection : 08/07/2023

(v) Prev.inspection date : 12/08/2022

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **ORAGHAT**

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

(c) Category : A Mechanised

(d) Type of Working : 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 correspondance : VILL: ORAGHAT AND SANINDPUR
PO: KOIRA
PIN: 770048

3. (a) Lease Number : ORI0146
(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/ Termination date : 10/05/2012

Geologist
Name : H Biswal,Full Time
Qualification : M.Sc Geology
Appointment/ Termination date : 01/11/2015

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

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
MP modif under 17(3) MCR 2016	28/04/2020
MS modif under MCR 1960	23/04/2021
MP review under 17(1) MCR 2016	10/01/2023

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Nil	4nos of non core boreholes holes .	
1b	Exploration over lease area for geological axis 1 or 2	Nil	The entire lease area (82.961 Ha) explored in G1 level	
1c	Exploration Agencies and Expenditure in lakh rupees during the year		1) VKS Mining Services. Exp-1.10 lakhs	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	The entire lease area (82.961 Ha) explored in G1 level .	
1e	Balance reserve as on 01/04/20	As per latest approved review of mining plan approved on 10.01.2023, the reserve as on date 01.09.2022 is 51.81 million tonne, Remaining Resources-10.43 million tonne total reserves & resources-62.24 million MT.	As per the annual return submitted to IBM the reserve as on 01.04.2023 is -47.31million tonne, Remaining Resources-10.43 million tonne total reserves & resources-57.74million MT.	

1f	General remarks of inspecting officers on geology, exploration etc	The major part of the area is occupied by Banded Iron Formation. The thickness of the bands vary from tenth of an inch to several inches. The entire formation is isoclinally folded with fold axes parallel to E-W plunging with varied degree towards N-W. All Mineralized zone has been explored in G1 level.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Kusum pit N 480 - S 210& E 236- E 1154	Kusum pit N 450 - S 200 & E 300- E 1120	The actual development is less than the proposal, due to less production.

2b	Separate benches in topsoil, overburden and minerals (Rule 15)	No Proposal for top soil generation. Separate benches were proposed for Ore & OB excavation. Kusum pit : In SE part - 1 nos bench in OB (RL-612) and 8 nos bench in ore (RL-639, 630, 621,603,576,567,558 &549 m) In SW part - 2 nos bench in OB (RL-558,567) and 10 nos bench in ore (RL-648,639, 630, 621 ,612,603,594,585,576 &549m) In NE part - 2 nos bench in OB (RL-549 and 603m) 6 nos bench in ore (RL-612,594,585,576,567 &558 m)	No top soil generated. Ore & OB benches are made separately. Kusum pit : In SE part - 1 nos bench in OB (RL-612) and 11 nos bench in ore (RL-623,614,605, 596,587,578,569,560,551, 542&540.5) In NE part - 2 nos bench in OB (RL-585 and 576m) 8 nos bench in ore(RL-621,612,603,594,567,558, 549,540.5) In North Side - 2 nos bench in OB (RL-612 and 603m) 8 nos bench in ore(RL-594,586,577,570,563,554, 549 &540.5)
2c	Stripping ratio or ore to OB ratio	1:0.13	1:0.25
2d	Quantity of topsoil generation in m3	No Proposal	None

2e	Quantity of overburden generation in m3	1300200 Cum	507301.79 Cum	Due to less production, less waste generated.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			There are a total of three pits within the lease viz. Kusum, Chattan and Kendu Pit. Out of these three pits kendu pit is already exhausted and backfilled while mining is confined to two remaining pits. Benches have height of 3m to 9 m and 9m to 20m width.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	01	01	Kusum Pit
3b	Quantity of ROM mineral production proposed	10.0 million tonne	5.24 million tonne	Actual production is less due to want of environmental clearance.
3c	Recovery of sailable/usable mineral from ROM production	10.0 million tonne	5.24 million tonne	Actual production is less due to want of environmental clearance.
3d	Quantity of mineral reject generation	No proposal for mineral rejects generation.	No mineral reject generated.	
3e	Grade of mineral rejects generation and threshold value declared.	Grade of mineral reject is 45-55% of Fe & threshold value is 45% of Fe content	Grade of mineral reject is 45-55% of Fe & threshold value is 45% of Fe content.	

3f	Quantity of sub grade mineral generation.	No Proposal	None	As mechanized mining operation has been done, the low grade ore as available in ROM is blended before dry screening & crushing to make it saleable.
3g	Grade of sub grade mineral generation	Nil	None	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized	Mechanized	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No Proposal	NA	
3j	Provision of drilling and blasting in mineral benches	Deep Hole drilling depth 10m, spacing 3 & burden 2.5m & blasting was proposed and rock breakers will be used for breaking of large boulders to avoid secondary blasting.	Controlled blasting technique with depth 10m, spacing 3 m & burden 2.5m has been adopted. The rock breakers have been used for breaking of large boulders to avoid secondary blasting..	
3k	Provision of mining machineries in mineral benches	Yes, provision made.	The width of mineral benches are kept upto 20m for movement of mining machineries	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes, proposed.	Yes, it is proposed to keep the bench height up to 9mtr for both Ore & OB benches.	

3m	Total area covered under excavation/pits	56.968 ha	56.312 ha	Excavation covered area is less than the proposal due to less development as well as production with due want of environmental clearance.
3n	Ore to OB ratio for the pit/mine during the year.	1:0.13	1:0.25	
3o	Total area put in use under different heads at the end of year	Area after plan period: Area under Mining - 56.968 Ha Waste Dump Site - 9.53 Ha Mineral Storage - 1.308 Ha Infrastructure , Workshop, Administrative building etc - 0.879 Ha Road - 1.819 Ha Mine camp township area- 0.951 Ha Other (Green belt) - 8.765 Ha. Total area proposed for utilization- 80.22 Ha	Quarry- 56.31 Ha., Dump- 9.53Ha, Mineral storage-2.04Ha., Infrastructure, Workshop, Administrative building etc - 0.22 Ha Road - 1.819 Ha Mine camp township area- 0.951 Ha Green belt-7.085 Ha.; Total area- 77.955Ha	
3p	Production of ROM mineral during the last five year period as applicable	Year- 2018-19- 5000000MT Year- 2019-20- 7350000 MT Year- 2020-21- 7350000 MT Year- 2021-22- 9000000MT Year-2022-23- 10.00 Million Tonnes	Year- 2018-19-3499981.63 MT Year- 2019-20-4389044.49 MT Year- 2020-21- 4241667.595 MT Year- 2021-22-5765983.91 MT Year-2022-23-5242760.86 MT	Production is less due to want of environmental clearance.

3q	General remarks of inspecting officers on method of mining etc.	The mining method adopted is opencast method by shovel-dumper combination and is same as proposed.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	No proposal for top soil & mineral reject generation . Separate dumping for OB is proposed.	No top soil & mineral reject generated. Separate dumping for OB is proposed to be done in pre selected area.	
4b	Location of topsoil, OB and mineral reject dumps	No proposal for top soil & generation of mineral reject. During the mining operation the waste generated is proposed to utilise for Backfilling of exhausted Chattan Pit & Kendu pit and dumping over the already backfilled area of Kendu pit (N51-S356 & E1270-E1520).	No proposal for top soil & generation of mineral reject. During the mining operation the waste generated is utilised for Backfilling of Kendu pit and dumping over the already backfilled area of Kendu pit (N51-S356 & E1270-E1520).	
4c	Number of dumps within lease area and outside of lease area	02 no of dumps within the lease area	02 no of dumps within the lease area	Rehandling of dump-1 is under progress.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside UPL	Outside UPL	

4e	Number of active and alive dumps.	The waste generated is proposed to be utilized for backfilling of exhausted quarry.	The waste generated is utilized for backfilling of exhausted quarry.	
4f	Number of dead dumps.	2 nos. of non active dumps , out of which dump-1 is proposed to be rehandled.	2 nos. of non active dumps, out of which rehandling of dump-1 is continuing.	
4g	Number of dumps established.	01(Dump-3)	01(Dump-3)	01(Dump-3)
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes	As per proposal	Total 1602of retaining wall & 2378m of garland drain is constructed at the toe of waste Dump-1 & Dump-3.
4i	Length of Retaining wall or garland drain all along dumps	Retaining Wall of 694m proposed around Back filled area in Chattan Pit area.	Retaining Wall of only 90m has been constructed around Back filled area in Chattan Pit area.	The Chattan pit area could not be fully exhausted of ore, the backfilling was not done in that area. So the proposed retaining wall could not be completed.
4j	Number of settling ponds	No proposal	01	
4k	Specific comments of inspecting officer on waste dump management			The backfilling dump of Kendu Pit was not suitably terraced and stabilized. Violation of rule 37(5) has been pointed to the lessee on 11/07/2023.

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.	It is proposed to exhaust Chattan pit area before start of backfilling.	As the actual production is less than the target production, the Chattan pit area could not be fully exhausted of ore, the backfilling was not done that area.	The backfilling in Chattan pit area will be started after fully exhaustion of iron ore from pit .Currently the backfilling is done in already exhausted part of Kendu pit area.
5b	Area under backfilling of mined out area	8.148 Ha	2.658 Ha	The backfilling area is less than the proposal due to less waste generation as less production.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposal as no proposal for generation of top soil	No top soil is generated within the lease area.	
5d	Total area fully reclaimed and rehabilitated	15.376 Ha	6.966 Ha (2.658Ha new area+4.308 ha dumping over already backfilled area))	The backfilled area is less than the proposal as the waste generation as well as production is less due to want of environmental clearance.
5e	General remarks of inspecting officers on backfilling and reclamation etc.			The Kendu pit has exhausted and has already been backfilled. The Chattan pit was also proposed to be backfilled but due to presence of ore this pits has been proposed for production.

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).	Yes	Submitted	
6b	Area available for rehabilitation (ha) .	4.0	1.21 Ha	
6c	afforestation done (ha).	4.0	1.21 ha	Rehabilitation by Plantation was proposed to be done in backfilled area. The backfilling is done less area than proposal as the proposed pit could not be fully exhausted.
6d	No. of saplings planted during the year	12000 Nos.	12055 Nos.	
6e	Cumulative no .of plants	97459 Nos.	166967 Nos	
6f	Any other method of rehabilitation	No such proposal	NA	
6g	Cost incurred on watch and care during the year	4.5 lakh	7.53 lakh	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	i)(417x307x18) m	i)(256x150x16)m	The backfilling area is less than the proposal due to less waste generation.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	ii)1300200 m3	ii) 507301.79 m3	The backfilling area is less than the proposal due to less waste generation.

6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	4000 nos.	4000 nos.	
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No Proposal	None	
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Backfilling	Backfilling	
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	2000 Nos (casuality replacement)	2000 Nos (casuality replacement)	
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Casuality replacement	Casuality replacement	
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	By plantation	By plantation	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly Environmental monitoring for ambient air quality, water quality and Noise level.	Monthly Environmental monitoring at 6 locations for ambient air quality; 6 locations for water quality; Noise level survey at 6 locations	Monitoring of Environmental parameters in Core as well as buffer zone has been carried out.

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	The retaining wall and garland drain are well maintained along the dumps except backfilling dump of Kendu pit. The lessee carried out adequate plantation in the area. The Kendu pit has been already backfilled. The lessee is regularly monitoring the environmental parameters.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	100,00,000 MT (+55% Fe) (CLO+Fines)	The produced ROM iron ore (57,65,983.91 MT) is dispatched after necessary screening/crushing Different grades of ore dispatched after necessary processing are: Lumps 15751.870 (+65%) 258894.611 (62-65%) 1188.447 (60-62%) Fines 8811.130(+65%) 1004525.797 (62-65%) 1299087.237 (60-62%) 2370983.053 (55-58%)	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical	Mechanical	

7c	Different grade of mineral sorted out at mines.	100,00,000 MT (+55% Fe) (CLO+Fines) and 10,00,000MT (+55% Fe) (from old dump/low grade stack)	Different grades of ore produced are: Lumps 23964.237 (62-65%) 396151.626 (60-62%) Fines 8228.097 (62-65%) 9103.775 (60-62%) 175135.516 (55-58%)	The ROM ore is an admixture of high grade & low grade ore. During ROM ore excavation, different ore type are blended before processing for getting +55% of Fe.
7d	Any beneficiation process at mines .	No Proposal	None.	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			ROM iron ore after generation from the mine is dry processed through screening plant for size separation of iron fines and sized ore. Then through combination of crushing and screening plant over size iron ore is crushed & separated according to the size. All the processing units are mobile in nature.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No Proposal	None	
8b	Concurrent use or storage of topsoil	No Proposal	None	

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumps for overburden and mineral reject stacks, waste rocks are proposed.	Separate dumps for overburden and mineral stacks and other waste rocks like BHJ/BHQ are stacked separately.	Waste /OB used in Back-filling.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	The waste generated is is proposed to use for Backfilling of exhausted Chattan Pit & Kendu pit area.	The waste generated is used for Backfilled of exhausted Kendu Pit area.	The backfilling in Chattan pit area will be started after fully exhaustion of iron ore from pit.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	The reclamation, rehabilitation of Pits & dumps are proposed to be done phase wise with respect to the partly of fully exhaustion of ore.	The reclamation, rehabilitation of Pits & dumps has been done phase wise with respect to the partly of fully exhaustion of ore.	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Cumulative 161912 nos. of plantation are proposed to be done . out of which 12000 nos of plantation has been proposed to be done during 2022-23.	12055 nos of plantation has been planted during 2022-23	
8g	Survival rate	60%	90%	
8h	Water sprinkling on roads to control airborne dust	13 nos of water tanker having Capacity-12 & 20 KL proposed for dust suppression on haul road.	3.5 km length of Fixed water splinkers and 6 nos of water tanker (12 Kl & 20 KL) has already been deployed to control dust on haul road.	

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	The lessee has carried out plantation in the safety zone. For dust suppression regular water sprinkling is being done. Due to these efforts there is no adverse impact on the aesthetic beauty in and around the mines is observed.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns		The annual return is submitted on 24.06.2023. And monthly return is submitted on 05.06.2023	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager		Sri S.C. Pradhan, (Mines manager) Mr. Ranjit Kumar, (Mining engineer) Mr.B.D.Sahu, (Geologist).	

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.		Already exploited & abandoned by opencast(O/C) mining 0.00 Covered under current working 56.312 Reclaimed / rehabilitated 6.966 Used for waste disposal 9.53 Occupied by plant buildings, residential, welfare buildings & roads 2.99 Other purpose(mineral storage) 2.04 Work done under progressive mine closure plan during this year 1.5
9d	Scrutiny of Annual return on afforestation	12000 nos	10255 nos
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil	None
9f	Scrutiny of Annual return on ROM stock and/or graded ore	188194.990MT	188194.990MT

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex. Mine price :- CLO:- (a) Below 62% Fe (CLO any size) 4560.24 (b) 62% to below 65%Fe (5-18 mm size CLO) 5740.03 (c) 62% to below 65%(10-40 mm size CLO) 5965.84 (d) 62% to below 65% Fe (CLO others) 0.000 (e) 65% and above Fe(5-18mm size CLO) 4950.00 (g) 65% and above Fe (10-40 mm size CLO) 6953.07 (g) 65% and above Fe (CLO Others) 0.000 Fines:- (a)45% to below 51% Fe 0.000 (b) 51% to below 55% Fe 0.000 (c) 55% to below 58% Fe 3248.30 (d) 58% to below 60% Fe 0.000
9h	Scrutiny of Annual return on fixed assets	Total-Rs. 447722145
9k	Scrutiny of Annual return on mining machineries	Excavator 30 Hyd.Excav. with Rock Breaker 4 Bull Dozer 4 Motor Grader 1 Soil Compactor- 0 Pay Loader 21 Dumper 45 Drill machine 1 Screen & Crusher Plant 1 Crusher Plant(PT) 9 Screen Plant 20 Weigh Bridge 8 Geneartor 1 Tractor Compressor 1

I/13736/2023

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)		11/07/2023				
MCDR17	Rule 37(5)		11/07/2023				
Rule 45(5)			11/07/2023				

Signed by Vikram Prakash Deshpande
Date: 24-07-2023 18:13:17
Reason: Approved

Date :

(**VIKRAM DESHPANDE**)

Indian Bureau of Mines