

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

Mining Plan Modification REPORT

Kolkata regional office

Mine file No : KOL/JHK/SB(W)/FE(G-1)

Mine code : 30BHR27010

- (i) Name of the Inspecting : **K03**) **G. S. KANNAN**
Officer and ID No.
- (ii) Designation : Senior Mining Geologist
- (iii) Accompanying mine : S/Shri.S.R.Virsen, QP & A.K.Sahu, QP
Official with
Designation
- (iv) Date of Inspection : 14/11/2019
- (v) Prev.inspection date :

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **GUA**
- (b) **Registration NO.** :
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
State : JHARKHAND
District : SINGHBHUM (WEST)
Village : GUA
Taluka : CHAIBASA
Post office : GUA
Pin Code : 833213
FAX No. : 06596 263714
E-mail : rmdsail@gmail.com
Phone : 06596 263713
- (f) Police Station : GUA
- (g) First opening date : 12/09/1919
- (h) Weekly day of rest : SUN
2. Address for : 50 CHOWRINGHEE ROAD .
correspondance : KOLKATA .
WEST BENGAL.
3. (a) Lease Number : BHR0057
- (b) Lease area : 1443.76
- (c) Period of lease : 30
- (d) Date of Expiry : 21/02/2029
4. Mineral worked : MANGANESE ORE Associated
IRON ORE Main

5. Name and Address of the

Lessee : STEEL AUTHORITY OF INDIA LTD.
 INDUSTRY HOUSE 5TH & 6TH
 FLOOR 10, CAMAC STREET
 KOLKATA WEST BENGAL
 Phone:033-22822316/0462/3385
 FAX :033-22822316/0462

Owner : Harinand Rai
 Steel Authority of India
 Ltd. Ispat Bhawan, Lodi
 road New Delhi-110003
 SINGHBHUM (WEST) JHARKHAND
 Phone: 011-24367481-86
 FAX : 011-24367015

Agent : MANASH BISWAS
 GUA IRON ORE MINE AT&P.O
 GUA, DIST. SINGHBHUM WEST
 JHARKHAND SINGHBHUM (WEST)
 JHARKHAND
 Phone: 8986881501
 FAX :

Mining Engineer

Name : B. N. SINGH, Full Time
 Qualification : AMIE(MINING)
 Appointment/ : 01/05/2008
 Termination date

Geologist

Name : Dr. T.C. Ananda, Full Time
 Qualification : M.Sc.(Geo)
 Appointment/ : 01/03/2008
 Termination date

Manager

Name : A. K. MISHRA
 Qualification : B.Tech. (MINING)
 Appointment/ : 08/08/2017
 Termination date

6. Date of approval of Mining	:	Existing rule 11 MCDR1988	20/06/2000
Plan/Scheme of Mining	:	Mining Scheme rule 12 MCDR1988	05/05/2006
	:	Renewal under rule 24 MCR1960	16/10/2009
	:	Modif.of approved Mining Plan	18/08/2010
	:	MP review under 17(1) MCR 2016	01/02/2019

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	34 Core Boreholes Proposed during 2018-2019	No Boreholes has drilled for want of statutory clearances.	No Violation has been issued and RMP has been approved for 2019-2020 to 2023-2024.
1b	Exploration over lease area for geological axis 1 or 2	34 - Additional exploration was proposed during 2018-2019 in the lease area for Geological axis - 1	Additional exploration was not carried out in the lease area for Geological axis - 1	No Exploration has been carry out.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Own drilling and/ or Contract drilling machines were proposed for Exploration.	No Boreholes has drilled	No Violation has been issued and RMP has been approved for 2019-2020 to 2023-2024.
1d	Balance area to be explored to bring Geological axis in 1 or 2	Exploration was proposed out at 200m X 200m grid interval. 193 Additional exploration was proposed in scheme period (2014-2019)	Exploration was not carried out at 200m X 200m grid interval. Entire outside the broken area has to be explored for availability of ore from G-2/3 to G-1.	296 boreholes have been drilled so far with 16659 meterage. 407 hectares has been proved under G-1.
1e	Balance reserve as on 01/04/20	Reserves & Resources as on 01.04.2019 Proved Mineral Reserves (111) = 83270000 Tons Feasibility Mineral Resources (211) = 104920000 Tons	Reserves & Resources as on 01.04.2019 Proved Mineral Reserves (111) = 83569260 Tons Feasibility Mineral Resources (211) = 104920000 Tons	Out of Feasibility Mineral Resources (211) = 104.92 million Tons, 17.76 million tons is inside diverted forest boundary and blocked, 87.16 million tons is outside diverted forest boundary.

1f	General remarks of inspecting officers on geology, exploration etc	It is part of Singhbhum, Bonai and Keonjhar group of Iron Ore deposit.	The terrain forms a part of the oldest metasedimentary formational of chottanagapur plateau.	Entire Lease is having Same Geology and Mineralogy is changes from place to place. Hence borehole has to be drilled at closer interval to get quantity and quality
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Proposed to work in 5 Blocks during 2019-2020. (OT Hill, IInd Level, HD Buru, Ranichua & Bai Hill)	Working has been not carried out as per the proposal	Violation has been issued under Rule 11(1)
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	It is proposed to form separate Bench's as Topsoil - 1 Overburden - 3 to 10 benches Mineral - 3 to 10 benches	As per proposal benches has been formed.	No of benches are differs in 5 Blocks
2c	Stripping ratio or ore to OB ratio	1 : 0.52	1 : 2.75	
2d	Quantity of topsoil generation in m3	No Proposal during 2018-2019	No topsoil has been generated as all mining was limited to the already broken area.	
2e	Quantity of overburden generation in m3	During 2018-2019 it is proposed OB as 11800000 tons	1345070 tons of OB has been removed.	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Proposed to work in 5 Blocks during 2019-2020. (OT Hill, IInd Level, HD Buru, Ranichua & Bai Hill) and proposed to generate 11800000 tons of OB	1345070 tons of OB has been removed.	

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Development and production was proposed in 5 different Blocks. (OT Hill, IInd Level, HD Buru, Ranichua & Bai Hill)	Development and production are not carried out as per proposal during 2019-2020	Violation has been issued under Rule 11(1)
3b	Quantity of ROM mineral production proposed	The total target of ROM Production was 6.10 million tons during 2018- 2019.	3.70 million tons has been achieved during 2018-2019	
3c	Recovery of sailable/usable mineral from ROM production	32% (+10-65mm) 68% (-10mm)	30% (+10-65mm) 70% (-10mm)	
3d	Quantity of mineral reject generation	No Proposal	Nil	
3e	Grade of mineral rejects generation and threshold value declared.	Mineral reject- No Proposal. Threshold Value for Mineral rejects is not Declared	Mineral reject- No Proposal. Threshold Value for Mineral rejects is not Declared	
3f	Quantity of sub grade mineral generation.	No Sub Grade Generation	No Sub Grade Generation	
3g	Grade of sub grade mineral generation	There is No Generation of Subgrade Mineral	There is No Generation of Subgrade Mineral	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised	Mechanised	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Proposed Beneficiation plant for 10 million tons.	Beneficiation plant is not installed as per proposal.	Only Manual Picking of Ore from Intercalated Waste.

3j	Provision of drilling and blasting in mineral benches	Spacing - 6m Burden - 4m Depth - 11m It is Proposed to drill by 110mm dia, crawler mounted down hole drill. Blasting is done by using slurry explosives and nonnel fuses.	Drilling & Blasting are done as per proposal.	
3k	Provision of mining machineries in mineral benches	Electric Shovels Hydraulic Excavators Dozer Drill Grader Dumper Water Sprinkler Tippers	As per proposal the machineries are available in field.	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height of 10m was proposed in Mineral.	Benches are formed 9-10m height.	
3m	Total area covered under excavation/pits	179.64 hect area is under Pit and additional 5.00 hect is required	179.64 hect area is under Pit	Due to working of existing Mines, additional area is not in use.
3n	Ore to OB ratio for the pit/mine during the year.	1 : 0.52	1 : 2.75	

3o	Total area put in use under different heads at the end of year	Land use Pattern as on 01.04.2019. Mines = 179.64 hect Dump = 25.00 hect Mineral Stock = 18.60 hect Infra = 2.962 hect Roads = 5.00 hect Township = 4.79 hect Green Belt = 35.17 hect	Land use Pattern as on 01.04.2019. Mines = 179.64 hect Dump = 25.00 hect Mineral Stock = 18.60 hect Infra = 2.962 hect Roads = 5.00 hect Township = 4.79 hect Green Belt = 35.17 hect	There are no Changes in land use Pattern during 2019 because of Working in existing pit.
3p	Production of ROM mineral during the last five year period as applicable	2018-2019 = 10 mill tons 2017-2018 = 6.1 mill tons 2016-2017 = 6.0 mill tons 2015-2016 = 6.0 mill tons 2014-2015 = 6.1 mill tons	2018-2019 = 3.7 mill tons 2017-2018 = 4.0 mill tons 2016-2017 = 4.0 mill tons 2015-2016 = 3.5 mill tons 2014-2015 = 2.5 mill tons	
3q	General remarks of inspecting officers on method of mining etc.	Mechanised Method is Proposed	3.70 million tons has been achieved during 2018-2019	

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Generated OB/ Intercalated waste will be dumping in Dump no-2 (Ranichua Block) & Dump No-5 (OT Hill Block).	As per proposal the dumping is carried out in Dump no-2 (Ranichua Block) & Dump No-5 (OT Hill Block).	Dumping has formed as per proposal and sloping benches has not maintained. Violation has been issued under Rule 11(1).
4b	Location of topsoil, OB and mineral reject dumps	Dump no-2 (Ranichua Block) & Dump No-5 (OT Hill Block).	Dump no-2 (Ranichua Block) & Dump No-5 (OT Hill Block).	

4c	Number of dumps within lease area and outside of lease area	Lease area = 5 Non Lease area = Nil	Lease area = 5 Non Lease area = Nil	Out of 5, only 2 dumps are active. Dump no-2 (Ranichua Block) & Dump No-5 (OT Hill Block).
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside the UPL, Dump no-2 (Ranichua Block) & Dump No-5 (OT Hill Block).	As per proposal dumps are formed.	
4e	Number of active and alive dumps.	Active Dump = 2 Alive Dump = 3	There are 2 active dumps within lease area for waste dumping. Dump no-2 (Ranichua Block) & Dump No-5 (OT Hill Block).	
4f	Number of dead dumps.	Dead Dumps = 3	Dead Dumps = 3	
4g	Number of dumps established.	3 dumps have been established.	3 dumps have been established.	
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes, Proposed around the dumps	As per proposal retaining wall has been formed around dumps.	
4i	Length of Retaining wall or garland drain all along dumps	Retaining wall = 30m Garland Drainage = 1200m	Retaining wall = 30m Garland Drainage = 1800m	
4j	Number of settling ponds	One Check dam has proposed.	One check dam has constructed.	
4k	Specific comments of inspecting officer on waste dump management	Generated OB/ Intercalated waste will be dumping in Dump no-2 (Ranichua Block) & Dump No-5 (OT Hill Block).	Retaining wall = 30m Garland Drainage = 1800m has been construed under dump.	Out of 5, only 2 dumps are active. Dump no-2 (Ranichua Block) & Dump No-5 (OT Hill Block).

Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
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5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	No Back filling has proposed	No Backfilling has done	Ore is not extracted upto the proved depth and no backfilling are proposed in the present plan period.
5b	Area under backfilling of mined out area	No Back filling has proposed	No Backfilling has done	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No Proposal	Nil	
5d	Total area fully reclaimed and rehabilitated	No Proposal	Nil	
5e	General remarks of inspecting officers on backfilling and reclamation etc.	No Back filling has proposed	The mine was not worked upto the proved depth and no backfilling was proposed.	

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).	It should be on or before 1st July every year.	Not Submitted for the year 2018-2019	Violation has pointed out under Rule 26 (2)
6b	Area available for rehabilitation (ha) .	No Proposal	Nil	
6c	afforestation done (ha).	Proposed 1.0 hect in 2018-2019	1.0 hect achieved for 2018-2019	
6d	No. of saplings planted during the year	500 saplings proposed for 2018-2019	500 saplings achieved during 2018-2019 inside the lease area and 2500 outside the lease area	

6e	Cumulative no .of plants	2500 nos of saplings proposed from during previous plan period 2014-2019 in dump 1, 3 & 4	11000 nos achieved from 2014-2019 in an area of 5.6 hect inside the lease area and 5500 saplings in 2.7 hect outside the lease area.	Cumulatively 16500 saplings have been planted in 8.3 hect during previous plan period both inside and outside the lease area.
6f	Any other method of rehabilitation	No Proposal	Nil	
6g	Cost incurred on watch and care during the year	No Proposal	Nil	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	No Proposal	Nil	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No Proposal	Nil	
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	No Proposal	Nil	
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No Proposal	Nil	
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No Proposal	Nil	
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	500 saplings proposed during 2018-2019	500 saplings achieved during 2018-2019 inside the lease area and 2500 outside the lease area	

6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Proposed 1.0 hect in 2018-2019	1.0 hect achieved for 2018-2019	Cumulatively 16500 saplings have been planted in 8.3 hect during previous plan period both inside and outside the lease area.
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Nil	Nil	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Bi-Annually Survey	Environment monitoring is carried out through own as well as private agency.	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Environment monitoring is carried out through own as well as private agency.	Cumulatively 16500 saplings have been planted in 8.3 hect during previous plan period both inside and outside the lease area.	

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	The total target of ROM Production was 6.10 million tons during 2018- 2019.	3.70 million tons has been achieved during 2018-2019	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical Process and Manual Picking of Ore from Intercalated Waste	Mechanical Process and Manual Picking of Ore from Intercalated Waste	
7c	Different grade of mineral sorted out at mines.	Fe= +57% Sio2 = 3% Al2O3 = 2.5%	Fe= +57% Sio2 = 3% Al2O3 = 2.5%	Low grade are Blended with High grade ores to get the desired plant feed materials.
7d	Any beneficiation process at mines .	Crushing & Screening has been installed.	sorting and sizing is being done	

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	The total target of ROM Production was 6.10 million tons during 2018- 2019.	3.70 million tons has been achieved during 2018-2019	Low grade are Blended with High grade ores to get the desired plant feed materials.
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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No Proposal	Nil	
8b	Concurrent use or storage of topsoil	No Proposal	Nil	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dump has been proposed for waste dump in Dump no-2 (Ranichua Block) & Dump No-5 (OT Hill Block).	As per proposal the dumping is carried out in Dump no-2 (Ranichua Block) & Dump No-5 (OT Hill Block).	Dumping has formed as per proposal and sloping benches has not maintained. Violation has been issued under Rule 11(1).
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No Proposal	Nil	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No Proposal	Nil	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	500 saplings/ year have proposed.	500 saplings achieved during 2018-2019 inside the lease area and 2500 outside the lease area	
8g	Survival rate	50%	50%	

8h	Water sprinkling on roads to control airborne dust	Yes, it is proposed for water sprinkling on haul roads.	Water sprinkling on road is observed during the inspection.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Scanty vegetation, bushes are observed in lease area	Surrounding area beyond lease area is greenery. The area is hilly terrain.	Area is in forest and there is no agricultural land within the lease.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	MR Submitted up to = September 2019 AR Submitted up to = 2018-2019	Both Annual & Monthly returns are submitting in online system. Submitted within the time limits	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Full time Mining Engineer, Geologist has appointed.	As per appointment they are present during inspection	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Land use Pattern as on 01.04.2019. Mines = 179.64 hect Dump = 25.00 hect Mineral Stock = 18.60 hect Infra = 2.962 hect Roads = 5.00 hect Township = 4.79 hect Green Belt = 35.17 hec	Landuse Pattern is filled as per approved Mining Plan	
9d	Scrutiny of Annual return on afforestation	Lessee has planted 500 saplings during 2018-2019	Lessee has planted 500 saplings during 2018-2019 inside the lease area and 2500 outside the lease area	

9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	There is no Mineral Rejects Generation	There is no Mineral Rejects Generation
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Iron Ore Stock as on 01.04.2019 ROM = 71570 tons Lumps = 97046 tons Fine = 33933142 tons	Mine has produced 3700740 tons of Production during 2018-2019
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Cost of Production & Ex. Mine Price has shown	Some invoice has been checked and matching
9h	Scrutiny of Annual return on fixed assets	Fixed Assets is given	Fixed Assets is filled
9k	Scrutiny of Annual return on mining machineries	Machineries details given	As available in field

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
MCDR17	Rule 11(1)	02/12/2019	30/01/2020				
MCDR17	Rule 26(2)	02/12/2019	30/01/2020				
MCDR17	Rule 33	02/12/2019	30/01/2020				

Date :

(G. S. KANNAN)

Indian Bureau of Mines