

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

**MCDR inspection REPORT**

**Kolkata regional office**

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

**Mine code :** 30BHR27010

- (i) Name of the Inspecting : **K004** ) **B.P KERKETTA**  
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : S/Shri S.P.Das, Mines Manager, Dr. T.C. Ananda, Sr. M  
Official with  
Designation
- (iv) Date of Inspection : 05/02/2020
- (v) Prev.inspection date : 06/11/2018

**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 : Amarendu Prakash  
 Steel Authority Of India  
 Limited Bokaro Steel Plant  
 Bokaro-827001 SINGHBHUM  
 (WEST) JHARKHAND  
 Phone: 05642240300,024  
 FAX : (06542)240/82

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
	:	MP modif under 17(3) MCR 2016	20/12/2019

## 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.	Awaiting for 2nd stage Forest Clearance. Therefore, exploration could not be carried out throughout plan period 2015-20
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	No Boreholes has drilled for want of statutory clearances.	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 since the Lessee is awaiting for Stage II Forest Clearance.
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	RL 710-810 (O.T. Hill) RL 730-810 ( Bai-Hill) Also removal of Overburden(O.B)/ Side burden(SB)/ Interburden(IB) from O.T. Hill,IInd Level and HD Buru.	RL 710-810 (O.T. Hill) RL 730-810 ( Bai-Hill) But removal of Overburden(O.B)/ Side burden(SB)/ Interburden(IB) from O.T. Hill,IInd Level and HD Buru not carried out.	A violation letter for violation of Rule 11(1)A has been issued on 24/02/2020.
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,Also removal of Overburden(O.B)/ Side burden(SB)/ Interburden(IB) from O.T. Hill,IInd Level and HD Buru.	As per proposal benches has been formed.But no top soil bench. Also removal of Overburden(O.B)/ Side burden(SB)/ Interburden(IB) from O.T. Hill,IInd Level and HD Buru not carried out.	No Topsoil available. A violation letter for violation of Rule 11(1)A has been issued on 24/02/2020.
2c	Stripping ratio or ore to OB ratio	1 : 0.52	1 : 0.36	

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. Removal of Overburden(O.B)/ Side burden(SB)/ Interburden(IB) from O.T. Hill, IInd Level and HD Buru .	1345070 tons of OB has been removed. But removal of Overburden(O.B)/ Side burden(SB)/ Interburden(IB) from O.T. Hill, IInd Level and HD Buru not carried out.	A violation letter for violation of Rule 11(1)A has been issued on 24/02/2020.
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. But removal of Overburden(O.B)/ Side burden(SB)/ Interburden(IB) from O.T. Hill, IInd Level and HD Buru not carried out as proposed.	Removal of Overburden(O.B)/ Side burden(SB)/ Interburden(IB) from O.T. Hill, IInd Level and HD Buru not carried out as proposed. Therefore, the Quantity of O.B removed is less. A violation letter for violation of Rule 11(1)A has been issued on 24/02/2020.

### 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 was carried out in OT Hill & Bai Hill.	
3b	Quantity of mineral production proposed	The total target of ROM Production was 6.10 million tons during 2018-2019.	3.70 million tons(3700740MT) 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 of Iron Ore 45%Fe	Mineral reject- No Proposal. Threshold Value of Iron Ore 45%Fe
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 for want of Forest Clearance.
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 used in the 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	
3n	Ore to OB ratio for the pit/mine during the year.	1 : 0.52	1 : 0.36	
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	
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(3700740MT) 2017-2018 = 4.0 mill tons 2016-2017 = 4.0 mill tons 2015-2016 = 3.5 mill tons 2014-2015 = 2.5 mill tons	2018-19 :3700740MT

3q General remarks of inspecting officers on method of mining etc. Mechanised Method is Proposed 3.70 million tons( 3700740MT)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).	
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	Within Lease area = 5 Outside Lease area = Nil	Within Lease area = 5 Outside 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).	In Ranichua Dump 6(six) no of Terraces of 10m Height and 10m Width have not been made.	A violation letter dated 24/02/2020 for Rule 11(1)A(ii) has been sent.
4e	Number of active and alive dumps.	Active and Alive Dump = 2	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. But in Ranichua Dump 6(six) no of Terraces of 10m Height and 10m Width have not been made as proposed in th approved Scheme of mining.	A violation letter dated 24/02/2020 for Rule 11(1)A(ii) has been sent.



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). 3 dumps have been established. But in Ranichua Dump 6(six) no of Terraces of 10m Height and 10m Width have not been made as proposed in th approved Scheme of mining. Therefore, a violation letter dated 24/02/2020 for violation of Rule 11(1)A(ii) has been sent.

#### 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.	No Back filling has proposed	No Backfilling has done	Ore is continuing on the quarry floor and no backfilling are proposed in the present plan period.
5b	Area under backfilling of mined out area	No Back filling has been proposed	No Backfilling has been 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 been proposed	Ore is still continuing at depth ,hence no backfilling was proposed and done.

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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.	Submitted for the year 2018-2019 after issuing of violation letter on the basis of earlier inspection on 14/11/2019.	
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.Survival rate was 55% & 50% for inside and outside the lease respectively.	
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 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)	Quarterly 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 (3700740MT) 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%	
7d	Any beneficiation process at mines .	Highly Mechanised Crushing & Screening plant has been installed.	Sorting and sizing is being done by Highly Mechanised Crushing & Screening plant	
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 (3700740MT) has been achieved during 2018-2019has been achieved during 2018-2019	Low grade are Blended with High grade ores to get the desired plant feed materials.

### Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
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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). But in Ranichua Dump 6(six) no of Terraces of 10m Height and 10m Width have not been made.	Violation has been issued under Rule 11(1)A(ii).
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%	55%	
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 green. The area is hilly terrain. The aesthetic beauty in and around the mines area is good.	Area is in Saranda forest and there is no agricultural land within the lease.

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	Mr Choudhary Niranjana Kumar, Full time Mining Engineer & Dr T.C.Ananda, Full time Geologist have been 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 ROM 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 as Rs 165,36,58,864/-	It seems to be correct.
9k	Scrutiny of Annual return on mining machineries	Machineries details given as follows: Shovel(Hydraulic) 7.5cum. 2nos. Shovel(Hydraulic) 9.5cum. 2nos. Dumper 50te cap. 3nos Dumper 100te cap. 6nos Water Tanker 28000ltrs. 2nos. Dozer 616HP 6nos. Blast Hole Drill 150mm 4nos. Back Hoe 1.2cum. 1no. Back Hoe 1.62cum. 1no. Motor Grader 280HP 2nos.	Machineries were available in field during inspection.

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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
MCDR17	Rule 11(1)	24/02/2020	18/05/2020				
MCDR17	Rule 35(2)	24/02/2020	18/05/2020				

**Date :**

**(B.P KERKETTA)**

Indian Bureau of Mines