

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

Inspection under SDF for star rating of mines REPORT

Kolkata regional office

Mine file No : CAL/BH/SB/FE(N-1)

Mine code : 30BHR27031

- (i) Name of the Inspecting : **E025**) **NAMAN EKKA**
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : Shri. B. D Pandey, Mines Manager
Official with
Designation
- (iv) Date of Inspection : 16/09/2019
- (v) Prev.inspection date :

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **BALAJI**
- (b) **Registration NO.** : **IBM/6896/2011**
- (c) Category : A Other Mechanised
- (d) Type of Working : Opencast
- (e) Postal address :
State : JHARKHAND
District : SINGHBHUM (WEST)
Village : NOAMUNDI
Taluka : CHAIBASA
Post office : NOAMUNDI BAZAR
Pin Code : 833217
FAX No. :
E-mail : ankit.khirwal@gmail.com
Phone : 06582-255157
- (f) Police Station : NOAMUNDI
- (g) First opening date : 01/05/1972
- (h) Weekly day of rest : SUN
2. Address for : AT & PO: CHAIBASA -833201.
correspondance : DIST: SINGHBHUM WEST.
JHARKHAND .
3. (a) Lease Number : BHR0054
- (b) Lease area : 22.66
- (c) Period of lease : 30
- (d) Date of Expiry : 30/04/2002
4. Mineral worked : IRON ORE Main

5. Name and Address of the

Lessee : ANIL KHIRWAL
 KHIRWAL MARKET, SADAR BAZAR
 AT & PO. CHAIBASA SINGHBHUM
 (WEST), JHARKHAND SINGHBHUM
 (WEST) JHARKHAND
 Phone: 09431300407
 FAX : 06582-258357/257157

Owner : ANIL KHIRWAL
 KHIRWAL MARKET PO. CHAIBASA
 . SINGHBHUM (WEST),
 JHARKHAND SINGHBHUM (WEST)
 JHARKHAND
 Phone: 9431300407
 FAX : NIL

Agent : ANIL KHIRWAL
 M/S MARUTI MINERALS
 INDUSTRIES KHIRWAL MARKET,
 AT & PO. CHAIBASA
 SINGHBHUM(W) SINGHBHUM
 (WEST) JHARKHAND
 Phone: 06582-258357, 259157
 FAX : NIL

Mining Engineer

Name : B. D. PANDEY, Full Time
 Qualification : AMIE(MIN. ENGG.)
 Appointment/ : 08/01/2014
 Termination date

Geologist

Name : CHOWDHURY SABIR AHAMAD, Full Time
 Qualification : M. Sc.(Geo)
 Appointment/ : 16/06/2014
 Termination date

Manager

Name : BHISMA DEO PANDEY
 Qualification : AMIE(Min. Engg.)
 Appointment/ : 08/01/2014
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining	:	Renewal under rule 24 MCR1960	25/10/2004
		Mining Scheme rule 12 MCDR1988	16/04/2010
		MP modif under 17(3) MCR 2016	19/12/2016
		MP review under 17(1) MCR 2016	05/12/2018

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	During 2017-18 there was proposal for drilling 07 BH and during 2018-19 there was no proposal to drill BH.	During 2017-18 no BH have been drilled and during 2018-19 only 04 Bh have been drilled.	
1b	Exploration over lease area for geological axis 1 or 2	There was propasal to explore the entire in G1 Level upto 2021-22	During 2018-19 only 04 Bh have been drilled.	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No Proposal.	During 2018-19 Rs. 371848.00 have been spent on Exploration	
1d	Balance area to be explored to bring Geological axis in 1 or 2	0.665 Ha. in G1 axis	0.665 Ha. in G1 Axis	
1e	Balance reserve as on 01/04/20	1280208 M.T. Proved (111,122).	Proved (111) - 1249548 Tons Probable (122) - 30660 Tons	
1f	General remarks of inspecting officers on geology, exploration etc		0.665 Ha area has not been explored, the lease area lies in the forest land.	0.665 Ha area has not been explored, the lease area lies in the forest land.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Puja Pit. & Ganesh Pit.	Puja Pit only.	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Overburden: 0 Mineral : 4	Overburden: 0 Mineral: 4 nos. of benches.	
2c	Stripping ratio or ore to OB ratio	1:0	1:0	

2d	Quantity of topsoil generation in m3	No topsoil.	NIL	
2e	Quantity of overburden generation in m3	No overburden.	NIL	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc		Pit is being developed as per proposal.	Pit is being developed as per proposal.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Two nos. of Pit(Puja & Ganesh Pit)	Puja Pit only.	
3b	Quantity of ROM mineral production proposed	3,00,000.00 M.T but EC Limit is 74,000MT.	39,030 M.T.	74000 MTPA is the EC limit.
3c	Recovery of sailable/usable mineral from ROM production	85% recovery form ROM.	99.56% recovery from ROM.	Reject Waste generation 169 M.T.
3d	Quantity of mineral reject generation	NIL	NIL	
3e	Grade of mineral rejects generation and threshold value declared.	Cut off grade is +50% Fe and threshold value is 45%.	All are blended with high grade.	
3f	Quantity of sub grade mineral generation.	NIL	Generated and kept as separate for blending purpose.	
3g	Grade of sub grade mineral generation	NIL	All are blended with high grade.	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized as well as Manual Method.	Mechanized as well as Manual Method.	

3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not proposed	Lessee has got the market for High Siliceous Ore (BHQ) and selling it to Tata Metallic Ltd.	Analysis of BHQ by Fe 36.59% & Silica 18.79% by Superintendence Co. of India (Private) Limited.
3j	Provision of drilling and blasting in mineral benches	Shot hole drilling & blasting.	Shot hole drilling & blasting.	
3k	Provision of mining machineries in mineral benches	Yes	Two(2) nos. of excavator and three(03) nos. of Front end loader, Six(06) nos. of Hyva dumper, three(03) nos. of Jack Hammer for drilling & one(01) no. of compressor.	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes, 6mtr. Height & 10 mtr. in width.	The height and width of benches in OB and Minerals are as per Mining Plan.	The height and width of benches in OB and Minerals are as per Mining Plan.
3m	Total area covered under excavation/pits	4.642 Ha. (Pit broken area).	4.642 Ha. (Pit broken area).	
3n	Ore to OB ratio for the pit/mine during the year.	1:0	1:0	
3o	Total area put in use under different heads at the end of year	Pit - 4.1448 ha. Dumps - 2.157 ha. Roads - 1.423 ha. Building - 0.02 ha. Reclamation - 0.4972 ha. Green belt Plantation- 0.10 ha. Rehabilitation -0.21 ha.	Pit - 4.1448 ha. Dumps - 2.157 ha. Roads - 1.423 ha. Building - 0.02 ha. Reclaimed - 0.4972 ha. Reclaimed & Rehabilitation - 0.1972 ha. Green belt Plantation- 0.10 ha.	Mahabir pit has been partly backfilled over an area of 0.2 Ha. in this year 2018-19.
3p	Production of ROM mineral during the last five year period as applicable	2018-19=3,00,000.00 2017-18=1,50,000.00 2016-17=73,998.60 2015-16=73,999.50 2014-15=73,998.84	2018-19= 39,030.00 2017-18= 71,740.00 2016-17= 26,670.00 2015-16= 59,373.00 2014-15= 73,996.00	

3q	General remarks of inspecting officers on method of mining etc.	Method of mining adopted is as per proposal. Mahabir pit has been partly backfilled over an area of 0.2 Ha. in this year 2018-19.	Method of mining adopted is as per proposal. Mahabir pit has been partly backfilled over an area of 0.2 Ha. in this year 2018-19.
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Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	No generation of OB & top soil. Only waste materials after screening are reclaimed in Mahabir pit as back filling.	No generation of top soil & OB. Only intercalated waste materials sorting from ROM and after screening are reclaimed in Mahabir pit as back filling.	
4b	Location of topsoil, OB and mineral reject dumps	OB 100N 50E BHQ 450N 275E OB 675N 250E OB 640N 180E ROM 625N 300E OB 675N 440E OB 640N 440E OB 310N 120E OB 475N 75E	OB 100N 50E BHQ 450N 275E OB 675N 250E OB 640N 180E ROM 625N 300E OB 675N 440E OB 640N 440E OB 310N 120E OB 475N 75E	
4c	Number of dumps within lease area and outside of lease area	Total 9 Nos. of Dumps and all are in within the lease area. There is no dump outside the lease area.	9 Nos. of Dumps. (All are within the lease area). There is no dump outside the lease area.	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Locations of dumps are given in point no. 4b. Since the total area is not explored, hence the ultimate pit limit is not calculated.	Locations of dumps are given in point no. 4b. and all the dumps shall be backfill after exhaustion of mineral in quarries.	

4e	Number of active and alive dumps.	No dumps are active at the end of FY 2018 - 2019.	No dumps are active at the end of FY 2018 - 2019.	
4f	Number of dead dumps.	All old 09 number dumps are dead.	All 9 Nos. dumps are stabilized which may be utilized in future as lessee is selling BHQ below 45% Fe in dump nos. 1& 2 etc.	
4g	Number of dumps established.	09	09	
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes	All dumps except Dump no 01, 02, 09 are old and negligible height. Hence Retaining wall & Garland drains are constructed in Dump no 01, 02, 09.	All are old dumps and done by manually, height is negligible in the year 2017-18.
4i	Length of Retaining wall or garland drain all along dumps	Yes	Retaining wall 1 & 9 no dump of a total length 337.5 mtrs. & garland drains 304 mts on dump no 1, 2 & 9.	Retaining and garland drain are done in the year 2017-18.
4j	Number of settling ponds	Not proposed	Settling ponds were constructed previously.	Settling ponds were constructed previously.
4k	Specific comments of inspecting officer on waste dump management		All old dumps are being stabilized by plantation of bushes & trees.	All old dumps are being stabilized by plantation of bushes & trees.

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.	Back filled in Mahabir pit.	Back filled in Mahabir pit.	
5b	Area under backfilling of mined out area	0.21 Ha.	0.20 Ha.	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No generation of top soil as work is restricted only in broken up area.	All the previously stock top soil are being used for plantation purpose.	

5d	Total area fully reclaimed and rehabilitated	0.21 Ha. area to be reclaimed & rehabilitated.	All Total 0.4972 ha. area has been reclaimed (northern side of Puja Pit, Mahabir pit & Hanuman pit - A) and from of which 0.1972 ha. area is rehabilitated (H.T. Barrier Zone of Hanuman Pit- A)	
5e	General remarks of inspecting officers on backfilling and reclamation etc.		All Total 0.4972 ha. area has been reclaimed (northern side of Puja Pit, Mahabir pit & Hanuman pit - A) and from of which 0.1972 ha. area is rehabilitated (H.T. Barrier Zone of Hanuman Pit- A)	All Total 0.4972 ha. area has been reclaimed (northern side of Puja Pit, Mahabir pit & Hanuman pit - A) and from of which 0.1972 ha. area is rehabilitated (H.T. Barrier Zone of Hanuman Pit- A)

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	Yes, lessee have submitted report on PMCP on time dated 31.03.2019 under Rule 23E(2)	
6b	Area available for rehabilitation (ha) .	0.2996 Hect. Back filled.	Total 0.4972 Hect. area is back filled, out of which 0.1972 Hect. area is rehabiliated by plantation.	
6c	afforestation done (ha).	0.1Hect.(Green belt) 0.21 Hect. (Reclaimed Hanuman Pit-A)	Total afforestation area done in ML is 0.4326 ha. till the end of 31st march 2019. (including safety zone)	
6d	No. of saplings planted during the year	775 nos. of sapling.	525 nos. of sapling are planted on the backfilled area of 0.21 hecets. Hanuman Pit-A & 223 Nos. of sapling planted near Rain Water Harvesting and 7.5 mt barrier zone, along with gap filling in the safety zone in the east of Hanuman pit-B.	

6e	Cumulative no .of plants	Cumulative nos. of plantation before this mining plan was 624 Nos. and from period 2014-15 to 18-19 is 1775 Nos. & all total 2399 Nos.	Cumulative nos. of sapling planted is 5474. WML - 3872 OML - 1602
6f	Any other method of rehabilitation	NIL	NIL
6g	Cost incurred on watch and care during the year	Rs. 60,000.00	Rs, 61,018.00 as reported.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	2600.00 Cum	2600.00 Cum
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Filled by waste Quantity - 15000 cum.	Filled by intercalated waste materials Quantity - 169cum
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Over reclaimed area of Hanuman Pit-A of an area of 0.21 Ha.	Over reclaimed area of Hanuman Pit-A of an area of 0.21 Ha done previously.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Water reservoir is not proposed	NIL
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	NIL	NIL

6m	Compliance of rehabilitation of waste land within lease (i)afforestation	NIL	NIL	
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	NIL	NIL	
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)	Yes	Quarterly done by Yugantar Bharati lab Accredited by NABL & JSPCB and all the reports are within the prescribed limit.	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		Lease is going to expire in 2022, and there is reserve in the mines to be mined out. Total 0.4972 Hect. area is back filled, out of which 0.1972 Hect. area is rehabilitated by plantation. 525 nos. of sapling are planted on the backfilled area of 0.21 hecets. Hanuman Pit-A & 223 Nos. of sapling planted near Rain Water Harvesting and 7.5 mt barrier zone, along with gap filling in the safety zone in the east of Hanuman pit-B.	Lease is going to expire in 2022, and there is reserve in the mines to be mined out. Total 0.4972 Hect. area is back filled, out of which 0.1972 Hect. area is rehabilitated by plantation. 525 nos. of sapling are planted on the backfilled area of 0.21 hecets. Hanuman Pit-A & 223 Nos. of sapling planted near Rain Water Harvesting and 7.5 mt barrier zone, along with gap filling in the safety zone in the east of Hanuman pit-B.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
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7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sorting within the lease area.	Grade wise sorting within the lease area.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual	Manual
7c	Different grade of mineral sorted out at mines.	1)58.20%Fe(size-10-40mm), 2)58.94% Fe(size-+40mm) 3)57.19%Fe(size-fines).	Below 55% Fe, 55% Fe to 58% Fe, 58% Fe to 60% Fe, 60% Fe to 62% Fe.
7d	Any beneficiation process at mines	NIL	Nil (manually sorting of minerals by hammering).

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	NIL	Top soil previously kept was used for plantation.	
8b	Concurrent use or storage of topsoil	NIL	NIL	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Yes	Separate dumps are made for waste rocks, rejects etc.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Waste rejects are backfilled in the Mahabir pit of an area of 0.20ha.	0.20 Ha. area of Mahabir pit was backfilled by intercalated waste.	Cumulative backfilled area upto 31st March 2019 is 0.4972 Ha.

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Waste material should be backfilled in Mahabir pit of an area of 0.20 Ha.	Waste material backfilled in Mahabir pit of an area of 0.20 Ha.	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Proposal was 500 & 250 plantation.	Up to the end of march 2019, 3872 & 1602 nos. of sapling were planted in WML & OML respectively.	This year 748 plants are planted WML & 62 numbers of plants OML.
8g	Survival rate	No Proposal	WML-93.31% OML-82.25%	
8h	Water sprinkling on roads to control airborne dust	Yes Proposed	Water sprinkling on roads to control airborne dust done.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area		Aesthetic beauty in and around mines aarea is good. The lease are lies in the forest land.	Aesthetic beauty in and around mines aarea is good. The lease are lies in the forest land.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns		MR & AR submitted on time	MR & AR submitted on time
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer in charge - Mr. B. D. Pandey Geologist in charge - Mr. Prasenjit Chatterjee	Mining Engineer in charge - Mr. B. D. Pandey Geologist in charge - Mr. Prasenjit Chatterjee	

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Covered under current (O/C) Workings - 4.144 Ha. Reclaimed/Rehabilitated - 0.497 Ha. Used for waste disposal - 2.157 Ha.	Covered under current (O/C) Workings - 4.144 Ha. Reclaimed/Rehabilitated - 0.497 Ha. Used for waste disposal - 2.157 Ha.
9d	Scrutiny of Annual return on afforestation	Number of trees planted during the year Within lease area - 748 Outside lease area - 62	Number of trees planted during the year Within lease area - 748 Outside lease area - 62
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	No mineral Rejects generated	No mineral Rejects generated
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM Stock - Opening stock - 22538.020 Tons Closing stock - 28573.420 Tons	ROM Stock - Opening stock - 22538.020 Tons Closing stock - 28573.420 Tons
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Exmine Price - Lumps - 55% to below 58% - 1441.50 60% to below 62% - 1486.37 Fines - Below 55% - 400.00 55% to below 58% - 912.22 58% - 912.22 58% to 60% - 1126.59 60% to 62% - 1517.00	Exmine Price - Lumps - 55% to below 58% - 1441.50 60% to below 62% - 1486.37 Fines - Below 55% - 400.00 55% to below 58% - 912.22 58% to 60% - 1126.59 60% to 62% - 1517.00
9h	Scrutiny of Annual return on fixed assets	Value of Fixed Assets (in Rs.) - 2966152	Value of Fixed Assets (in Rs.) - 2966152

9k Scrutiny of BACK HOE - 03 BACK HOE - 03
Annual return on FRONT END FRONT END LOADER - 03
mining LOADER - 03 DUMPER - 08
machineries DUMPER - 08 ROCK DRILL (NONELEC.) -
ROCK DRILL 03
(NONELEC.) - AIR COMPRESSOR - 01
03
AIR COMPRESSOR
- 01

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 :

(NAMAN EKKA)

Indian Bureau of Mines