INDIAN BUREAU OF MINES
MINERALS DEVELOPMEMT AND REGULATION DIVISION

MCDR inspection REPORT

Kolkata regional office

Mine file No : CAL/BH/SH/Mn(M-6) **Mine code : 40BHR27009**

(i) Name of the Inspecting Officer and ID No. : **K004) B.P KERKETTA**

(ii) Designation : Sr. Asst. Contrl. Mines

(iii) Accompaning mine Official with Designation : Shri Atal Bihari Barik,Agent & Shri Ashish kr.Panda ,

(iv) Date of Inspection : 07/02/2020

(v) Prev.inspection date : 30/07/2016

PART-I : GENERAL INFORMATION

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

(b) Registration NO. : **IBM/54082011**

(c) Category : A Other than Fully Mech.

(d) Type of Working : Opencast

(e) Postal address

State	:	JHARKHAND
District	:	SINGHBHUM (WEST)
Village	:	BARA BALJORI
Taluka	:	CHAIBASA
Post office	:	BARA BALJORI
Pin Code	:	
FAX No.	:	06582-262244
E-mail	:	vijay.ojha2010@gmail.com
Phone	:	06582-262244

(f) Police Station : BARAJAMDA

(g) First opening date : 04/10/1971

(h) Weekly day of rest : SUN

2. Address for correspondance : PO.BARAJAMDA. .
DIST .SINGHBHUM (W) .
JHARKHAND - 833221

3. (a) Lease Number : BHR0180
(b) Lease area : 21.25
(c) Period of lease : 20
(d) Date of Expiry : 21/01/1991

4. Mineral worked : MANGANESE ORE Main

5. Name and Address of the

Lessee : VIJAY KUMAR OJHA
AT/P.O - BARAJAMDA
SINGHBHUM (WEST) JHARKHAND
Phone:06596-262306,262244
FAX :NIL

Owner : VIJAY KUMAR OJHA
AT/P.O : BARAJAMDA
SINGHBHUM (WEST) JHARKHAND
Phone:
FAX :

Agent : SHRI A. BARIK
VILLAGE : BARA BALJORI
DISTT : SINGHBHUM WEST
JHARKHAND SINGHBHUM (WEST)
JHARKHAND
Phone: +919273507398
FAX :

Mining Engineer

Name : TRILOCHAN SINGH MUNDA,Full Time

Qualification : B.E.(MIN. ENGG.)

Appointment/ Termination date : 01/01/2014

Geologist

Name : AMIT KUMAR PRADHAN,Full Time

Qualification : M.TECH

Appointment/ Termination date : 01/01/2019

6. Date of approval of Mining Plan/Scheme of Mining :

Mining Scheme rule 12 MCDR1988	26/09/2005
Mining Scheme rule 12 MCDR1988	20/07/2010
Renewal under rule 24 MCR1960	15/02/2012
Mining Scheme rule 12 MCDR1988	04/09/2015
FMCP under 23C(1)	18/02/2019

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	05Nos	25Nos	It was proposed to carryout 05 Nos. of borehole every year from 2015-16 to 2019-20 But Lesse has achieved 25Nos. of Non coring type Borehole in 50mx50m Grid,total meterage 608m, in the year 2018-19.
1b	Exploration over lease area for geological axis 1 or 2	05nos.	25Nos	
1c	Exploration Agencies and Expenditure in lakh rupees during the year		M/s VKS Mining Services, Rs.2,50,000.00	
1d	Balance area to be explored to bring Geological axis in 1 or 2	G2 : 2.946ha(Non Forest Area)	G2 : 2.946ha(Non Forest Area)	
1e	Balance reserve as on 01/04/20		Balance reserve as on 01/04/2019:- Proved Mineral Reserve(111) 92551MT Probable Mineral Reserve(122) 5040MT Prefeasibility Mineral Resource(222) 1120MT	

1f	General remarks of inspecting officers on geology, exploration etc	It was proposed to carryout 05 Nos. of borehole every year from 2015-16 to 2019-20 But Lesse has achieved 25Nos. of Non coring type Borehole in 50mx50m Grid,total meterage 608m in the year 2018-19. Manganese generally occurs as small pockets, lenses of ore bodies and floats of ore which are embeded in the surface of lease area.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	As per approved document, quarry no. 1,5,6 and new pit were proposed for development during the year 2018-19.	The development was in progress as per the proposal in the approved document.	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Proposal for manual Opencast mining with max bench height 4m and width 6-8m in the pit.	The development was in progress as per the proposal in the approved document.	
2c	Stripping ratio or ore to OB ratio	1:7.6 in quarry 1,5 & 6 and New pit during the year 2018-19.	During the year 3950MT OB was generated against ROM production of 509.50 MT. Stripping ratio or ore to OB ratio during the year was 1:7.7.	
2d	Quantity of topsoil generation in m3	No proposal of generation topsoil during 2018-19.	No generation of topsoil reported during the year.	

2e	Quantity of overburden generation in m3	65410cum	3950MT(1975cum)
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc		OTFM method of mining is in practice in the mine.Excavator of capacity 0.9 cum used for excavation of OB & waste.mining operation in manganese quarry is manual. Blasted ore transported to ore sorting and stack yard. Sorting and sizing of different grade ore is done manually. Sized ore manually loaded into trucks for transportation.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	As per approved document, quarry no. 1,5,6 and new pit were proposed for development during the year 2018-19.	The development was in progress as per the proposal in the approved document.	
3b	Quantity of ROM mineral production proposed	ROM Mineral production proposed during the year 2018-19 was 8512 MT of +10%Mn.	Production achievd during the year was 509.50 MT of +10% Mn.	
3c	Recovery of sailable/usable mineral from ROM production	The recovery of saleable ore was proposed to be around 20% of total ROM.	509.5 MT production was reported during the year.	
3d	Quantity of mineral reject generation	851te from quarry 1,5,& 6and new pit during 2018-19.	Nil	

3e	Grade of mineral rejects generation and threshold value declared.	Average grade of Reject 10% to 25 Mn.,Threshold value Mn 10% (min)	No mineral reject generation during 2018-19.
3f	Quantity of sub grade mineral generation.	851Te	Nil
3g	Grade of sub grade mineral generation	Average grade of Reject 10% to 25 Mn	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Proposal for manual method for segregating from ROM.	OTFM method of mining is in practice in the mine.Excavator of capacity 0.9 cum used for excavation of OB & waste. Mining operation in manganese quarry is manual. Blasted ore transported to ore sorting and stack yard. Breaking of manganese ore into small size done manually. Sorting and sizing of different grade ore is also done manually and sized ore manually loaded into trucks for transportation.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	There was no proposal in the approved document regarding analysis or beneficiation study for sub-grade mineral and reject.	Not applicable.
3j	Provision of drilling and blasting in mineral benches	There is proposal for drilling and blasting in the approved document.	Drilling and blasting is carried out as per requirement.

3k	Provision of mining machineries in mineral benches	There was proposal to use wagon drill, jack Hammer, Compressor, Poclain, Dumper etc. during the plan period 2015-16 to 2019-20.	At the time of inspection, one excavator of 0.9 cu.m capacity, one dumper (10Te capacity), jackhammer for drilling and compressor were in use.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	As per approved document the height of the benches proposed to be kept up to 4m.	The height and width of benches are maintained at about 4m and 6m respectively. The height of benches proposed, were suitable for method of mining.
3m	Total area covered under excavation/pits	Total area covered under excavation during the plan period 2015-16 to 2019-20 was proposed to be 8.5 ha as per approved document dated 4/9/2015.	As per Annual Return for the year 2018-19, lease area (surface area) utlisation is given below: - i) covered under current (O/C) workings is 6.50 ha,i ii) Occupied by plant, buildings, residential, welfare buildings & roads -1.12 Ha, iii) waste disposal - 3.70 ha. iv) Green belt 0.7ha.
3n	Ore to OB ratio for the pit/mine during the year.	1:7.6 in quarry 1,5 & 6 and New pit during the year 2018-19.	During the year 3950MT OB was generated against ROM production of 509.50 MT. Stripping ratio or ore to OB ratio during the year was 1:7.7.
3o	Total area put in use under different heads at the end of year	Total area covered under excavation during the plan period 2015-16 to 2019-20 was proposed to be 8.5 ha as per approved document dated 4/9/2015.	As per Annual Return for the year 2018-19, lease area (surface area) utlisation is given below: - i) covered under current (O/C) workings is 6.50 ha,i ii) Occupied by plant, buildings, residential, welfare buildings & roads -1.12 Ha, iii) waste disposal - 3.70 ha. iv) Green belt 0.7ha.

3p	Production of ROM mineral during the last five year period as applicable	As per approved document, the proposed five years production schedule for the period 2015-16 to 2019-20 was as given below:- i. 2015-16: 8500 MT; ii. 2016-17: 8500 MT; iii. 2017-18:8512 MT; iv. 2018-19: 8512 MT; v. 2019-20: 8512 MT.	The reported production since 2015-16 are as follows. 2015-16 : 509.4 MT; 2016-17 : 507 MT , 2017-18 : 507.5 MT.,2018-19: 509.5MT
3q	General remarks of inspecting officers on method of mining etc.		OTFM method of mining is in practice in the mine.Excavator of capacity 0.9 cum used for excavation of OB & waste. Mining operation in manganese quarry is manual. Blasted ore transported to ore sorting and stack yard. Breaking of manganese ore into small size done manually. Sorting and sizing of different grade ore is also done manually and sized ore manually loaded into trucks for transportation.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks

4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	In the last approved scheme of mining, there is proposal for separate dumping of OB and mineral rejects or low grade mn ore. No generation of topsoil during the plan period.	No generation of topsoil was reported during the year. 3950 MT of OB was generated during the year 2018-19 and No mineral rejects was generated during the year .
4b	Location of topsoil, OB and mineral reject dumps	In the last approved scheme of mining, there is proposal for separate dumping of OB and mineral rejects or low grade mn ore. No generation of topsoil during the plan period.	No generation of topsoil was reported during the year. 3950 MT of OB was generated during the year 2018-19 and dumped in the preselected dump no3. No mineral rejects was generated during the year .
4c	Number of dumps within lease area and outside of lease area	Proposal for dumping of waste material in new dump, dump no. 3.	Three dumps are located within the lease area.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Dumps are to be located outside the ultimate pit limit.	Dumps are located outside the ultimate pit limit.
4e	Number of active and alive dumps.	Proposal for dumping of waste material in new dump, dump no. 3.	Out of three waste dumps, dump no. 1 & 2 are old dumps and stabilised by plantation. Presently waste materials are dumped on dump no. 3.
4f	Number of dead dumps.	No such proposal in the approved document.	Out of three waste dumps, two waste dumps (dump no. 1 & 2) are old and already stabilised by plantation.
4g	Number of dumps established.	No such proposal in the approved document.	Out of three waste dumps in the lease area, two waste dumps (dump no. 1 & 2) are old and already stabilised by plantation.

4h	Whether Retaining wall or garland drain all along dumps are there.	Proposal for construction of retaining wall, garland drain etc.	Retaining wall has been constructed along the waste dump.
4i	Length of Retaining wall or garland drain all along dumps	Retaining wall 100mx1.5mx1.0m ,Garland Drain 100mx1.5mx1.0m	Retaining wall 100mx1.5mx1.0m,Garland Drain 100mx1.5mx1.0m have been constructed along the waste dump.
4j	Number of settling ponds	Not proposed.	NIL
4k	Specific comments of inspecting officer on waste dump management	Not applicable.	No generation of topsoil was reported. About 3950MT of OB generated during the year 2018-19. NO mineral rejects reported to be generated during the year. Out of three waste dumps in the lease area, dump no. 1 & 2 are old dumps and stabilised by plantation. Presently waste materials are dumped on dump no. 3.

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.	Proposal for backfilling the quarry no. 2 during plan period 2017-18 to 2019-20 in the approved document.	A part of OB generated during the year 2018-19 was utilised for backfilling of quarry no. 2 .	
5b	Area under backfilling of mined out area	Proposal for backfilling of 3500 sqm area during the year 2018-19.	As proposed about 2000MT of OB generated during the year 2018-19 was utilised for backfilling of quarry no. 2 covering an area of about 2500 sqm.	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposal of concurrent use of topsoil in the approved document.	Not applicable.	

5d	Total area fully reclaimed and rehabilitated	No proposal in the approved document.	Not applicable.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Not applicable.	No generation of topsoil was reported. About 2000MT of OB generated during the year 2018-19 were utilised for backfilling of quarry no. 2 covering an area of about 2500sqm.

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).		Lessee has submitted Annual report on PMCP in time.	
6b	Area available for rehabilitation (ha) .	No proposal in the approved document.	Not applicable. presently all the quarries are active.	
6c	afforestation done (ha).	400 sapplings proposed for plantion during the year 2018-19 covering an area of 0.2 ha.	About 400 sapplings planted during the year over dump area and safety zone covering an area of about 0.2 ha.	
6d	No. of saplings planted during the year	400 sapplings proposed for plantion during the year 2018-19 covering an area of 0.2 ha.	About 400 sapplings planted during the year over dump area and safety zone covering an area of about 0.2 ha.	
6e	Cumulative no .of plants	Proposal for plantation of 2000 saplings during the approved plan period.	As reported as on date about 3027 nos of plantation has been done in dump slope areas and about 950 nos of plantation has been done in safety zone area.	
6f	Any other method of rehabilitation	No such proposal in the approved document.	Not applicable.	

6g	Cost incurred on watch and care during the year	No such proposal in the approved document.	Not available.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	70mx50mx4m	70mx50mx4m
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	8790cum.	2500cum.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Nil	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Nil	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	200nos	200nos
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	By plantation of 200nos of saplings	200nos of saplings planted.
6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly Environmental monitoring at 3 locations for ambient ar quality, 2 locations for water quality, Noise level survey at 3 locations.Cost 0.8Lakh.	Quarterly Environmental monitoring done at 3 locations for ambient ar quality, 2 locations for water quality, Noise level survey at 3 locations.Cost about 1Lakh.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		Efforts were made by the lessee to adhere the proposals made in the approved document. Care has also taken by the lessee for preserving environment and conservation of mineral resources.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Proposal for grade wise sorting and sizing within the lease area.	The blasted ore transported to the temporary ore sorting and stack yard near quarry. Manual breaking, sorting and sizing of manganese is done in the mine before dispatch.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual method of grade wise sorting and sizing was proposed	The blasted ore transported to the temporary ore sorting and stack yard near quarry. Manual breaking, sorting and sizing of manganese is done in the mine before dispatch. Low grade ore having 25-28% Mn supplied to the Steel plant, medium grade ore having 28-32% Mn supplied to the ferroalloys plant.	

7c	Different grade of mineral sorted out at mines.	Manual method of grade wise sorting and sizing was proposed in approved document.	The blasted ore transported to the temporary ore sorting and stack yard near quarry. Manual breaking, sorting and sizing of manganese is done in the mine before dispatch. Low grade ore having 25-28% Mn supplied to the Steel plant, medium grade ore having 28-32% Mn supplied to the ferroalloys plant.
7d	Any beneficiation process at mines .	No proposal of beneficiation at mines.	Except grade wise manual sorting and sizing, no beneficiation process is carried out at mines.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues		There is no mineral conservation problem in the mine. The entire blasted ore transported to the temporary ore sorting and stack yard near quarry. Manual breaking, sorting and sizing of manganese ore is done in the mine before dispatch. Low grade ore having 25-28% Mn supplied to the Steel plant, medium grade ore having 28-32% Mn supplied to the ferroalloys plant.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal of separate removal and utilisation of topsoil.	The present operational area is devoid of any topsoil. No topsoil generation was reported during the year.	
8b	Concurrent use or storage of topsoil	No proposal of separate removal and utilisation of topsoil.	Not applicable as the present operational area is devoid of any topsoil.	

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	In the last approved scheme of mining, there is proposal for separate dumping of OB, waste and mineral rejects or low grade mn ore. No generation of topsoil during the plan period.	About 3950MT of OB was generated during the year 2018-19. About 2000MT was utilised for backfilling of quarry no. 2. No mineral rejects was generated during the year.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	In the last approved scheme of mining, there is proposal for separate dumping of OB, waste and mineral rejects or low grade mn ore. No generation of topsoil during the plan period.	About 3950MT of OB was generated during the year 2018-19. About 2000MT was utilised for backfilling of quarry no. 2. No mineral rejects was generated during the year.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposal was there for phased restoration ,reclamation and rehabilitation of land affected by mining operation.	Not applicable as at present all the quarries are very much active.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Proposal for plantation of 2000 saplings during the approved plan period.	As reported, as on date about 3027 nos of plantation has been done in dump slope areas and about 950 nos of plantation has been done in safety zone area.
8g	Survival rate	No such proposal in the approved document.	Survival rate during the year was reported to be about 65%.

8h	Water sprinkling on roads to control airborne dust	Proposal was there to deploy water sprinkler on roads to control airborne dust.	Water sprinkler is used regularly on roads to control airborne dust.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area		The aesthetic beauty in and around the mining area is not disturbed due to mining.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Lessee submitted monthly and Annual Return regularly.	Lessee use to submit monthly and Annual Return regularly and furnished data in relevent items.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	As per Annual return 2018-19, Mining Engineer: Shri Trilochan Singh Munda, Manager: Shri K.C Mahakud and Geologist: Shri Ritesh Kr.Sahoo.	During inspection, Mining Engineer: Shri Trilochan Singh Munda, Manager: Shri K.C Mahakud and Agent :Sri Atal Bihari Barik	

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	In part I, item 12 of the Annual Return 2018-19, information on land use pattern furnished by the lessee. Covered under current Working: 6.5 ha., Reclaimed/rehabilitated: NIL, Used for waste disposal: 3.7 ha, Occupied by plant, building, residential, welfare buildings & roads: 1.12 ha, Green belt: 0.7 ha.	The information furnished in the Annual Return 2018-19 apprears to be correct.
9d	Scrutiny of Annual return on afforestation	As per Annual return, 400 trees planted during 2018-19 with survival rate of 65%.	The information on afforestation seems to be correct.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	No mineral reject generation reported in the Annual Return.	No mineral reject generated during the year.

9f	Scrutiny of Annual return on ROM stock and/or graded ore	As per annual return 2018-19 information furnished on ROM stock and grade of ore: Below 25% Mn: Opening Stock -180.77 MT, Closing Stock-189.27 MT, ROM production-8.50 MT and despatch-nil. Grade 25% to below 35% Mn: Opening Stock -876.315 MT, Closing Stock-180.465 MT, ROM production-430.5 MT and despatch-1126.350 MT Grade 35% to 46% Mn:Opening Stock -130.620 MT, Closing Stock-1.03 MT, ROM production-70.50 MT and despatch-200.09. 46% Mn & above: Op & Cl stock 17.19MT Production&Despatch:nil	Information furnished on ROM stock, grade etc. seems to be correct.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	As information furnished in the Annual Return 2018-19: Sale Value: Rs 11347236/- Ex. Mine Price: Below 25% Mn-Rs 3080/-, 25 to 35% Mn-7550/- & 35 to 46% Mn-14210/-. Production cost: Rs. 5280/-	Information seems to be correct.

9h	Scrutiny of Annual return on fixed assets	The value of fixed assets of the lessee shown in Part II A of Annual Return 2018-19 under capital structure.	The Value of fixed assets furnished in the Annual Return Rs555475 /- seems to be correct.
9k	Scrutiny of Annual return on mining machineries	As per Annual return, machinery used during the year are given below. Dumper - capacity 10.000 mt : One Back hoe - 0.900 Cum : One	The machineries as furnished were in use in the mine during the year.

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 35(2)		24/02/2020	22/05/2020			

Date :

(**B.P KERKETTA**)

Indian Bureau of Mines