INDIAN BUREAU OF MINES MINERALS DEVELOPMENT AND REGULATION DIVISION

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine code: 300RI10005 Mine file No : ORI/IRON/MB/MCDR- 11/BBS

Name of the Inspecting : DEY) NARENDRA MOHAN DEY

Officer and ID No.

: Assistant Mining Engineer (ii) Designation

: SHRI B R NAYAKM MINES MANAGER, A SAMANTA, MINING ENGI (iii) Accompaning mine

Official with

Designation

(iv) Date of Inspection : 27/09/2016

Prev.inspection date : 09/07/2016 (v)

PART-I : GENERAL INFORMATION

1. (a) Mine Name : GORUMAHISANI

(b) Registration NO.

(c) Category : A Other than Fully Mech.

Type of Working (d) : Opencast

(e) Postal address

> : ORISSA State

District : MAYURBHANJ : GORUMAHISANI Village : RAIRANGPUR Taluka Post office : GORUMAHISANI

: 757042 Pin Code

FAX No.

E-mail

Phone : 274219 (O),274204 (R)

(f) Police Station

(g) First opening date : 07/01/1970

Weekly day of rest : TUE

Address for : AT/PO.GORUMAHISANI

correspondance TALUK.BAMANGHATY

DIST.MAYURBHANJ, ORISSA, PIN.757042

(a) Lease Number : ORI0118

(b) Lease area : 1435.3

(c) Period of lease : 30

(d) Date of Expiry : 06/01/2000

4. Mineral worked : IRON ORE Main 5. Name and Address of the

GHANASYAM MISHRA &SONS Lessee

7-WATER COOL STREET CALCUTTA WEST BENGAL KOLKATA WEST BENGAL

Phone: FAX :

G.S.MISHRA & OTHERS Owner

AT/PO GORUMAHISANI MAYURBHANJ ORISSA

Phone: FAX :

Agent JAGADISH MISHRA

MAYURBHANJ ORISSA

Phone: FAX :

Mining Engineer

Name J.MISJHRA, Full Time

Qualification : AMIE MINING Appointment/ 26/06/2002

Termination date

Mining Engineer

Name K. BHATTACHARYA, Full Time

Qualification : B.E(MINING)

Appointment/ Termination date

Mining Engineer

Name H.N.DAS, Full Time

Qualification : AMIE

Appointment/ : 13/05/2001

Termination date

Geologist

Name ABHIJIT SEN, Part Time

Qualification : M.Sc(tech) APPLIED GEOLOGY

Appointment/ Termination date

Manager

Name G.P. PATNAIK

Qualification : DIPLOMA IN MINING

Appointment/ Termination date

. Date of approval of Mining Plan/Scheme of Mining

: Renewal under rule 22 MCR1960 Modif.of approved Mining Plan Mining Scheme rule 12 MCDR1988

FMCP under 23C(1)

Modif.of approved Mining Plan Mining Scheme rule 12 MCDR1988 FMCP under 23C(1)

16/03/2012 09/11/2015

31/12/2001

09/11/2006

11/10/2007

27/01/2010

29/01/2010

Modif.approved Mining Scheme

10/03/2016

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

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Explo	oration:		Actual work	Remarks
51.No.	Item	Proposals	ACTUAL HOLE	
la	Backlog of previous year	55 NO OF BOREHOLE TO BE DRILLED 2015-16	NOT A SINGLE BH DRILLED DURING 2015-16. VIOLATION CUM SHOW-CAUS NOTICE ISSUED FOR DEVIATION OF THE PROPOSAL IN THE SCHEME OF MINING.	SE
lb	Exploration ove lease area for geological axis or 2	16 NUMBER OF	NO BH HAS BEEN DRILLED DURING 2015-16 AS PER PROPOSAL. HOWEVER LEASE AREA EXPLORED AS PER UNFC NORMS UNDER G1 LEVEL OVER HA 65 BH (32 CORE & 33 NON-CORE) AT A GRID INTERVAL 50 M X 50 M, METERAGE DRILLED 2433 UNDER G2 LEVEL 55 HA, UNDER G3 LEVEL 32.7 HA EXPLORED AND FOUND NON MINERALISED 106.3 HA UNEXPLORED AREA 90.5 H	65 M. A.
A E: la	xploration gencies and xpenditure in akh rupees uring the year	NOT MENTIONED	NOT A SINGLE BH DRILLI DURING 2015-16 AGAINS' THE PROPSAL OF 55 NO' BE DRILLED .	Т
be br	lance area to explored to ing Geological is in 1 or 2		DURING 2015-16 NO BH BEEN DRILLED DURING 2016-17 BH DRILLED 17 NOSAS ON DOF INSPECTION i.e 27.09.2016.	

of inspecting officers on geology, exploration etc

DURING 2015-16 AND 2016-17 NO OF BH TO BE DRILLED : 55 & 83 RESPECTIVELY

TONNE AS ON 01.04.2015 AS PER APPROVED MODIFICATION OF SCHEME OF MINING ON 10.03.2016.

NO BH DRILLED DURING 2015-16.

EXPLORATION
COMPLIANCE IS NOT
SATISFACTORY, SO
VIOLATION CUM
SHOW-CAUSE NOTICE
ISSUED TO THE MINE
OWNER.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	development	F-LEVEL	KOCHAR QUARRY, F-LEVEL QUARRY, KOCHAR TOP QUARRY AND KISUNTANKY QUARRY	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	BENCHES IN OB	SEPARATE BENCHES IN OB AND ORE	
2c	Stripping ratio or ore to OB ratio	1 : 0.28	1:0.28	
2d	Quantity of topsoil generation in m3	NIL	NIL HOWEVER CUMULATIVE GENERATED 19300 CUM	

148746 CUM 77723 CUM

Quantity of overburden generation in m3

Of inspecting DURING 20 officers on development of pit w.r.t. type QUARRY (of deposit etc X 28 M X

PROPOSAL F- LEVEL QUARRY (185 M DURING 2015-16 X 28 M X 18 M) KOCHAR QUARRY (315 M X F- LEVEL 33 M X 23 M)

development of F- LEVEL 33 M X 25 17
pit w.r.t. type QUARRY (190 M KOCHAR TOP QUARRY (235
of deposit etc X 28 M X 18 M0 M X 23 M X 14 M)

KOCHAR QUARRY
(322 M X 33 M
X 24 M) AND
KOCHAR TOP
QUARRY (252 M
X 23 M X 14 M)

WITH REFERENCE TO THE TYPE OF DEPOSIT DEVELOPMENT IS SATISFACTORY.

Exploitation:

S1	.No. Item	Propasals	Actual work	Remarks
	3a Number of pit proposed for production	THREE	THREE	
3	Sb Quantity of RO mineral production proposed	M 750190 MT	259078 MT	
30	Recovery of sailable/usable mineral from RC production	SALEABLE: M 656885 MT	SUB-GRADE: 13513 MT (MINERAL REJECT TREATED	
3d	Quantity of mineral reject generation	MINERAL REJECTS TREATED AS SUB-GRADE : 218609 CUM	MINERAL REJECTS TREATED AS SUB GRADE: 13513 .78 MT	
3e	Grade of mineral rejects generation and threshold value declared.	REJECT LESS THAN 45% FE	MINERAL REJECT LESS THAN 45% FE THRESHOLD VALUE MORE THAN 50% FE	
3f	Quantity of sub grade mineral generation.	328992 MT	13513.78 MT	

3g Grade of sub grade mineral generation ORE HAVING FE% +45% TO -58% FE FROM 45% TO 58% HAS BEEN TREATED AS SUB GRADE

3h Manual /
Mechanised
method adopted
for segregating
from ROM

MANUAL AND MA MECHANISED

MANUAL AND MECHANISED

Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects. NO

IRON ORE DEPOSITS OF THIS MINE IS MAINLY MAGNETITE ORE. THE IRON ORE PRODUCED FROM WORKING QUARRIES ARE HIGHLY MAGNETITE. THE QUALITY OF MAGNETIC PROPERTY IS FOUND HIGHER IN HIGH GRADE ORE AND LOWER IN LOW GRADE ORE. IRON ORE BEING MAGNETITE IN NATURE IS NOT SUITABLE FOR SPONGE IRON MAKING. THIS ORE IS MAINLY USED IN BLAST FURNACE WHERE IT IS MAINLY BLENDED WITH HAEMATITE ORE IN PROPORTION NOT EXCEEDING MORE THAN 25% OF MAGNETITE ORE.MAIN REQUIREMENT OF IRON ORE IS 10TO 40 MM IN SIIZE.

AS THE RAISING OF IRON ORE WAS DONE MAINLY BY WORKERS THEY USED TO LEAVE LESS THAN 0-10 MM SIZE ORE IN DUMPS. THIS ORE IS NOT POSSIBLE TO RECOVER FROM OLD DUMPS AND ALSO FROM THE WORKING DUMPS. AS THE ORE IS MAGNETITE IN NATURE AFTER SEVERAL TRIAL BY DIFFERENT CAPACITY OF MAGNATE IT WAS OBSERVED THAT BY USING HIGH POWER MAGNATE HAVING MAGNETIC INTENSITY FROM 4000 TO 5000 GAUSS 0-10MM SIZE ORE CAN BE RECOVERED FROM THE OLD DUMPS. THUS FROM THE WASTE DUMPS RECOVERY OF 0-10 MM SIZE IRON ORE WILL

3j Provision of
 drilling and
 blasting in
 mineral benches

DRILLING AND BLASTING PROPOSED FOR HARD ROCK MASS. DRILLING IS DONE BY
WAGON DRILL MACHINE OF
100 MM DIA WITH BURDEN
2.5 M, SPACING 3.0 M
AND BLASTING
LENGTH/BENCH HEIGHT 6.0
M WITH SUB-GRADE
DRILLING 0.6 M

3k	Provision of mining machineries in mineral benches	IES	JCB EXCAVATOR CAPACITY 0.5 MT 3 NOS, HITACHI EX-100 OF CAPACITY 0.6 ONE NO., VOLVO -240 EXCAVATOR OF CAPACITY 0.9 NO.8., CATT-320 DL OF CAPACITY 0.9 ONE NO., LOADER -2021 (H) OF CAPACITY 1.17 ONE NO., LOADER JCB 432 OF CAPACITY 1.19 ONE NO., DUMPER OF CAPACITY 10 TONNE 24 NOS., ETC.
31	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	YES,	HEIGHT OF BENCHES IN OB AND IN ORE ARE 6 TO 7 M , SUITABLE FOR METHOD OF MINING AS PROPOSED IN THE SCHEME OF MINING.
3m	Total area covered under excavation/pits	61 HA	61 HA
3n	Ore to OB ratio for the pit/mine during the year.	1 : 0.28	1:0.28
30	Total area put in use under different heads at the end of year	COVERED UNDER CURRENT WORKING: 61 HA, WASTE DISPOSAL: 12.35 HA, OCCUPIED BY ROAD BUILDING ETC: 35.342 HA OTHERS (SUB-GRADE STACK, BREAKING YARD: 15.94 HA =124.63 HA	
3р	Production of ROM mineral during the last five year period as applicable	2012-13: 769819 MT, 2013-14:	2012-13: 461741 MT, 2013-14: 569811 MT, 2014-15: 663039 MT, 2015-16: 259078 MT, 2016-17: 251424 MT (AS ON DATE OF INSPECTION)

3q General remarks of inspecting officers on method of mining etc.

THIS MINE IS CATEGIRISED AS A OTFM MINE DEPLOYMENT OF 100MM DIA DTH DRILLS, 05 CUM TO 0.9 CUM SHOVELS, 10 TO 30T CAPACITY DUMPER ETC. HEIGHT AND WIDTH OF BENCHES HAVE BEEN MAINTAINED AT 6 TO 9 M AND 6 TO 10 M RESPECTIVELY. MINING IS CAARIED OUT WITH DEPLOYMENT OF EARTHMOVING MACHINES AND SORTING AND SIZING IS DONE MANUALLY ON A SINGLE SHIFT BASIS. THE MOBILE SCREENING UNIT IS ONLY USED TO RECOVER FINES FROM THE WASTE , WHICH ARE NOT SUITABLE RECOVER MANUAL BY LABOUR.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals A	Actual work	Remarks
4 a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	DUMPING	TOP SOIL DUMP, OB DUMP AND MINERAL REJECT DUMP TREATED AS SUB-GRADE.	
4b	Location of topsoil, OB and mineral reject dumps	FOUR O B DUMPS	THE ENTIRE TOP SOIL FROM THE BROLKEN UP AREA HAS BEEN ROMOVED AND USED FOR PLANTATION, THE MEAGRE QUANTITIES OF TOP SOIL / SUB SOIL IS AVAILABLE IN THE PITS, KOCHAR DUMP, KOCHAR TOP DUMP, F-LEVEL DUMP AND RAJPAL DUMP	
4c	-	WITH IN LEASE AREA	ARE ON NON-MINERALISED	

PAGE .

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	OUTSIDE ULTIMATE PIT LIMIT	ALL DUMPS ARE NEAR THE QUARRY AND BEYOND ULTIMATE PIT LIMIT.
4e	Number of active and alive dumps.	FOUR	FOUR
4 f	Number of dead	1	8 INCLUDING PREVIOUSLY 7 DUMPS
4 g	Number of dumps established.	1	8 INCLUDING EARLIER STABILISED 7 NUMBER
4h	Whether Retaining wall or garland drain all along dumps are there.	YES	RETAINING WALLS AND GARLAND DRAIN S HAVE BEEN CONSTRUCTED.
41	Length of Retaining wall or garland drain all along dumps	PROPOSED	RETAINING WALL 1041 M X 3 M X 2 M AND GARLAND DRAINS 1100 M X 2 M X 2 M HAVE ALREADY BEEN CONSTRUCTEDAROUND THE EXISTING DUMPS.
4 j	Number of settling ponds		
4 k	Specific comments of inspecting officer on waste dump management		THE WASTE GENERATED IN VARIOUS PITS WAS SO FAR BEING DUMPED ON STEEP HILL SLOPES NEAR EACH WORKING PITS AS A RESULT SEVERAL DUMPS I TWO OR THREE TERRACES EACH TERRACE BEING 5-10 M IN HEIGHT HAVE BEEN CREATED. THERE ARE 18 DUMPS IN THE LEASE AREA. THESE DUMPS HAVE BEEN ERECTED NEAR THE QUARRIES.HOWEVER PRESENTLY FOUR DUMPS OF OB WHERE WASTE / OB ARE BEING DUMPED ARE ON THE NON MINERALSED ZONEOVER AN AREA 12.35 HA. METHOD OF DUMPING IS ADVANCING.

Solid Waste Management - Backfilling:

S1.No. Item

5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	AS NO QUARRY IS GOING TO BE EXHAUSTED IN THE ENSUING SCHEME PERIOD ON BACKFILLING PROPOSAL IS MADE.	NIL
5b	Area under backfilling of mined out area	NIL	NIL
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	THE ENTIRE TOP SOLI FROM THE BROKEN UP AREA HAS BEEN REMOVED AND USED FOR PLANTATION ON THE DEGRADED FOREST LAND THE MEAGRE QUANTITIES OF TOP SOIL/ SUB SOIL WHICH IS AVAILABLE IN THE PITS.	
5d	Total area fully reclaimed and rehabilitated	NIL	NIL

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).	ANNUAL REPORT ON PMCP UNDER RULE 23E(2) HAS BEEN RECEIVED.	ANNUAL REPORT ON PMCP UNDER RULE 23E(2) HAS BEEN RECEIVED	
6b	Area available for rehabilitation (ha) .	NIL	NIL	
6c	afforestation done (ha).	1.5 HA	19.0 HA	

6d	No. of saplings	640	30310
бе	planted during the year Cumulative no	NOT MENTIONED	553576 NO OF PLANTS OVER AN ARA 238.64 HA INSIDE
	.of plants		MINING LEASE AND 145312 NO. OF PLANTS OVER AN AREA 62.98 HA . BOTH SURVIVAL RATE 65%.
6f	Any other method of rehabilitation	NIL	NIL
6g	Cost incurred on watch and care during the year		
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lz B x D	NIL	NIL
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	NIL	NIL
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestati on on backfilled area	NIL	NIL
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation	NIL	NIL

by making water reservoir

AGE

		NIL	NIL
61	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.		ALREADY AFFORESTED
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	NIL	
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	NIL	NIL
60	Compliance of rehabilitation of waste land within lease (iii) Method of rehabilitation	PLANTATION	PLANTATION
6 q	General remarks of inspecting officers on PMCP compliance and		AS PER PROPOSAL LESSEE HAS COMPLIED THE PROPOSAL MADE IN THE PMCP.
	progressive closure operations etc.		

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	ROM : 750190 MT	ROM : 259078 MT	
7b	Method of grade- wise mineral sorting i.e. manual or mechanical.	MANUAL AND MECHANICAL	MANUAL AND MECHANICAL	

7c Different grade of mineral sorted out at mines.

7d Any NO beneficiation process at mines

BELOW 55%, +55% TO -58% FE, +58%FE TO-60% FE, +60%FE TO -62%FE, +62%FE TO -65%FE AND ABOVE 65%FE BOTH LUMP & FINES THE IRON ORE RAISED FROM THE MINE MOSTLY BF GRADE HAVING REQUIRED SIZE 10TO-40 MM. THIS IS BEING PRODUCED BY MANUAL BREAKING AND SIZING TO HAVE LARGE SCALE LOCAL EMPLOYMENT. THE MOBILE SCREENING UNIT IS ONLY USED TO RECOVER FINES FROM THE WASTE WHICH ARE NOT DONE / SUITABLE BY MANUAL LABOUR. TWO NOS OF DRY MOBILE SCREENING UNIT ARE AVAILABLE IN THE MINE FOR SCREENING

OF IRON ORE FINES HAVING SIZE 0 TO 20 MM AND OVER SIZE FROM THE WASTE.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8 à	Separate removal and utilization of topsoil (Rule 32)		THE ENTIRE TOP SOIL FROM THE BROKEN UP AREA HAS BEEN REMOVED AND USED FOR PLANTATION ON THE DEGRADED FOREST LAND.	
d8	Concurrent use or storage of topsoil	NIL	NIL	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	PROPOSED SEPARATE DUMP FOR OB / WASTE, REJECT ETC	FOUR DUMP FOR OB / WASTE AND MINERAL REJECT DUMP TREATED AS SUB-GRADE	

NILNIL Use of 8d overburden, waste rock, rejects and fines dumps for restoring the land to its original use AS NO QUARRY NIL Phased 8e IS GOING TO BE restoration, reclamation and EXHAUSTED IN rehabilitation THE ENSUING SCHEME PERIOD of lands NO BACKFILLING affected by PROPOSAL IS mining MADE operations (Pits, dumps etc) SPARCE VEGETATION IS Baseline 8f FOUND IN THE LEASE. information on 553575 NO OF PLANTS HAVE existence of BEEN PLANTED INSIDE THE plantation and LEASE OVER ANAREA 238.64 additional HA AND 145312 NO OF plantation done PLANTS HAVE BEEN PLANTED (Rule 41) OVER AN AREA 62.98 HA OUT SIDE LEASE. 65 % Survival rate 100% 89 REGULARLY WATER IS BEING Water sprinkling 8h SPRINKLED ON HAUL ROADS on roads to AND OTHER ROADS TO control airborne CONTROL AIR BORNE DUST. dust AESTHETIC BEAUTY IN AND 8i General remarks AND AROUND THE MINE HAS of inspecting officer on BEEN ENHANCED BY aesthetic beauty PLANTING LARGE NO OF in and around TREES. mines area

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of		I HAVE INSPECTED THE	
	Monthly and		MINE ON 27,09.2016 MONTHLY RETURN FOR THE	
	Annual returns		MONTH OF AUGUST 2016 AND	
			ANNUAL RETURN FOR THE	
			YEAR 2015-16 HAVE BEEN	
			RECEIVED.	

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9b Scrutiny of
Annual return
for information
on Mining
Engineer,
Geologist and
Manager

9c Scrutiny of
Annual return on
land use pattern
for area under
pits, reclaimed
area, dumps etc.

9d Scrutiny of Annual return on afforestation

Scrutiny of
Annual return on
mineral reject
generation
(Grade and
quantity)

9f Scrutiny of
Annual return on
ROM stock and/or
graded ore

9g Scrutiny of
Annual return on
sale value, Ex.
Mine price and
production cost

9h Scrutiny of Annual return on fixed assets ANNUAL RETURN
SCRUTINISED.
SHRI B R NAYAK,
MANAGER, SHRI A SAMANTA,
MINING ENGINEER AND SHRI
R MAHANTA, GEOLOGIST
HAVE BEEN POSTED.

COVERED UNDER WORKING:
61 HA, USED FOR WASTE
DISPOSAL: 12.35 HA,
OCCUPIED BY ROAD &
BUILDING ETC: 35.34 HA,
SUB-GRADE STACK
&BREAKING YARD: 15.94

NUMBER OF TREES PLANTED DURING THE YEAR 2015-16: 47401 INSIDE LEASE SURVIVAL RATE 65% AND 34325 OUTSIDE LEASE SURVIVAL RATE 70%.

13513.78 MT MINERAL REJECT GENERATED DURING 2015-16 OF GRADE 25% FE TO 30% FE, UTILISED / TREATED AS SUB-GRADE.

ROM CLOSING STOCK: 49016.330 MT GRADED ORE: 381147 MT LUMP OF ALL GRADE AND FINES 194276 MT OF ALL GRDE

PRODUCTION COST :Rs 2274.32 /-

FIXED ASSETS: Rs.42096000/-

9k Scrutiny of
Annual return on
mining
machineries

CAT-320 DL 0.9 CUM CAPACITY 1 NO, CAT -340 D OF CAPACITY 1.2 CUM ONE NO., PC-200 CAPACITY 0.9 CUM TWO NOS, HITACHI EX 100 OF CAPACITY 0.45 CM ONE NO., EX -60 0.30 CUM ONE NO. , LOADER VOLVO -120 F OF CAPACITY 2.6 CUM ONE NO. , LOADER HIN-2021 OF CAPACITY 1.07 CUM THREE NOS., LOADER JCB -432 ZX OF CAPACITY 1.09 CUM 1 NO, LOADER JCB 730 Z OF CAPACITY 1.09 CUM 1.09 CUM ONE NO. , DUMPER 32 NOS OF CAPACITY 10 TONNE, DUMPER MAN FORCE 6 NOS OF CAPACITY 25 TONNE ETC.

petails of violation points	ations observed o	during current i	nspection and	compliance position of
	ation observed		Show co	ouse position
Rule NO.		Compliance on	Rule NO.	Issued on Compliance on
Rule 13(1)	11/11/2016			WWX 12.16
ate :			(NA	RENDRA MOHAN DEY)

Date :

Indian Bureau of Mines