

**INDIAN BUREAU OF MINES
MINES CONTROL AND CONSERVATION OF MINERAL DIVISION**

MCDR INSPECTION REPORT

Goa regional office

Mine file No : MAH/SDG/FE-1/GOA

Mine code : 30MSH28017

- (i) Name of the Inspecting : **J003**) **JANGID G K**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : MR.D R Vaze G.M.(Mines) & Mine Agent
Official with
Designation
- (iv) Date of Inspection : 18/05/2014
- (v) Prev.inspection date : 14/03/2013

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **TIRODA (34-48-12 HECTRS**
- (b) Category : A Fully Mechanised
- (c) Type of Working : Opencast
- (d) Postal address
- State : MAHARASHTRA
- District : SINDHUDURG
- Village : TIRODA
- Taluka : SAWANTWADI
- Post office : TIRODA
- Pin Code : 590006
- FAX No. : 0831-2426487
- E-mail : gogte.minerals@gmail.com
- Phone : 0831-2407756
- (e) Police Station : SIRODA
- (f) First opening date : 02/10/1980
2. Address for : VILLAGE - TIRODA,
correspondance : TALUKA - SAWANTWADI,
DISTRICT - SINDHUDURG.
3. (a) Lease Number : MSH0052
- (b) Lease area : 34.48
- (c) Period of lease : 10
- (d) Date of Expiry : 03/04/2010
4. Mineral worked : IRON ORE Main

5. Name and Address of the

Lessee : GOGTE MINERALS
 Arvind B. Gogte GOGTE
 MINERALS 146, TILAKWADI,
 BELGAUM KARNATAKA
 Phone:0831-2426487
 FAX :0831-2426487

Owner : ARVIND B. GOGTE
 GOGTE MINERALS 146,
 TILAKWADI, BELGAUM
 KARNATAKA
 Phone: 0831-2426487
 FAX : 0831-2426487

Agent : D. R. VAZE
 Cidade de Goa, Dona Paula,
 Goa NORTH GOA GOA
 Phone: 0832-2454575, 9850477966
 FAX : 0832-2454575

Manager Name : S.P.LINGAYAT Qualification : DIPLOMA IN MINING, FCMM Appointment/ : 01/02/2013 Termination date
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6. Date of approval of Mining : 12/04/2011
 Plan/Scheme of Mining

PART - II : TECHNICAL DETAILS/COMMENTS

1. Details about Average employment :

Maximum number of persons employed on any day during the year

Employment category	No.of employment	Av. yearly working days
DIRECT		
Plant	0	0
Supervisory	6	88
Managerial	3	88
Ministrial	0	0
CONTRACT		
Others	45	88
Workers	23	88

2. Community Development Plan (in and around the mines) : Proposed action and expenditure towards socio-economic development.

Action during the year	Expenditure in Rs. Lakhs for				Remarks
	previous year		current year		
	Proposed	Incurred	Proposed	Incurred	
General					
Medical facility	2.00	1.00	2.00	4.00	
Sanitation	0.00	0.00	0.00	0.00	
Health	5.00	2.28	5.00	15.25	
Safety	3.00	1.29	3.00	8.22	
Housing	0.00	0.00	0.00	0.00	
Water supply	0.00	0.00	0.00	0.00	
Sub total	10.00	4.57	10.00	27.47	
Infrastructure					
Communication	0.00	0.00	0.00	0.00	
Electricity	0.00	0.00	0.00	0.00	
Public transport	0.00	0.00	0.00	0.00	
Roads	0.00	0.00	0.00	0.00	
Sub total	0.00	0.00	4.57	0.00	
Sports activities	0.00	0.00	0.00	0.00	
Recreation	0.00	0.00	0.58	0.70	
Training	20.00	20.00	5.90	30.78	
Others	0.00	0.00	0.00	32.23	
Environment management	5.00	5.00	12.47	36.71	
Employment	0.00	0.00	27.83	96.99	
Total	35.00	35.00	51.35	224.88	

3. Status of compliance of MCDR, 1988, including therewith the rectification of the outstanding violation of rules.

Mine was last inspected on 12.02.2013 and no violation was issued. Violation of rule 13(1) was issued after current inspection. Lessee replied to violation letter by assuring to complete exploration during 2014-15 and rule 13(1) has been taken as complied.

4. A note on the justification in case of suspension of mining operation under rule 13(2) or prohibition of deployment of any person under rule 56 of MCDR, 1988, if recommended.

Suspension of mining operations under rule 13(2) or prohibition of deployment of any person under rule 56 of MCDR, 1988 is not recommended.

5. Scientific Mining

Items	Proposal	Actual work done	Remarks
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A. Exploration (Rule 13)

a.Type of prospecting and exploration i.e. pitting, drilling	: It was proposed to drill 6 boreholes each from 2010-11 to 2013-14.	Proposal of 6 boreholes each during 2010-11, 2011-12 and 2013-14 covering 18 boreholes are not yet commenced. Total 27 boreholes were drilled in the past.	Mining operations were suspended due to challenge of EC in NGT court from 24.09.2011 to 16.12.2013.
b.Total area covered	: Proposal was to complete exploration over 100m X 100m grid interval.	Additional exploration was not carried out.	

B. Working (Rule 13)

a.Number and size of each pit (LxWxH)	: Proposal was to develop pit over 7.25ha area with 6m height and 8m width in western block.	There is one working pit of 300m X 185m X 35m in western block.	
b.Bench size(LxWxH)length can be defined as regular/irregular	: Regular benches of 8m height & 8m width in OB and 6m height & 8m width in mineral were proposed.	Regular benches of 6m height & 8m width in OB and 6m height & 8m width in mineral are maintained. There are 4 benches in OB and 2 benches in mineral.	
c.Ore to waste ratio pit wise if possible otherwise for mine	: Proposed ore to waste ratio pit wise was 1:5.01.	Actual ore to waste ratio pit wise is 1:2.57 for the year 2013-14, as mining operations were recommenced in December 2013.	
d.Total area covered under excavation/pits	: Proposal was to develop pit over 7.25ha area at the end of year 2013-14.	Single pit is developed over 4.66ha area.	

C. Waste disposal (Rule 13)

a.Location of dumps	: Proposed was to dump the waste at a distance of 4kms over private land outside lease area in Ajsaon village.	The waste material is dumped towards north and north-east side of working pit within lease area as well as outside lease area in Ajsaon village.	
e.Yearly generation of waste quantity.	: Waste generation of 14,50,000t was proposed during the year 2013-14.	Waste generated during the year was 3,25,079t.	
b.Method of dumping whether advancing/retreat	: Advancing method of dumping was proposed.	Advancing method of dumping is followed.	

c.Total area covered : Dumping proposals were made outside the lease area over 4.19ha area. Dump within lease area is over 7.25ha.

d.No.and size of each : Dumping outside waste dump with No of steps/lift/bench lease area is just mentioned without specific dimension. Dump within lease area is over 7.25ha area having 480m length, 80-160m width and 10-30m height. There are three terraces.

D. Production

b.Year wise production of last five year. : Last four-year proposals for production were 232000t, 255000t, 261000t, 289000t and 368000t as per latest approved document. Production during last four years was 225246.96t, nil, nil and 126468.86t from 2010-11 to 2013-14. Mining operations commenced on 13.05.2009.

D. Reserve

a.Reserve position as per latest MP/MS and at the time of inspection. : Mineral Reserve - 6.646 million tonnes and Mineral Resource - 11.719 million tonnes as on 01.04.2010 as per approved MP . Mineral Reserve - 2.29 million tonnes and Mineral Resource - 0.287 million tonnes are there as on date of inspection.

RESERVE POSITION AS ON 01/04/2014

IRON ORE		
Category	Quantity in Tonnes	Grade
Proved	6646000	Grade of +55% to -58% Fe
Probable	0	
Possible	11719000	Grade of +55% to -58% Fe
Total	18365000	Grade of +55% to -58% Fe

PRODUCTION FOR THE PREVIOUS YEAR 2013 - 2014

Mineral	Production	Unit
IRON ORE	126468.86	TON

6. Conservation of Mineral - both quantitative and qualitative

Beneficiation (Rule 20 and 26)

- Efforts for improving low grade and sub grade mineral. : All efforts are made for recovering low grade and sub grade mineral. Recovery is 100% from ROM material.
- Efforts for improving percentage of recovery of ore. : Recovery of mineral is almost 100% without any reject generation.

Mineral Rule 15

- Percentage of recovery of ore pitwise w.r.t. ROM and total material : Percentage of recovery of ore pitwise w.r.t. ROM and total material is 100% & 28% respectively.
- Number of benches in ore and waste. : There are four benches in waste & two benches in ore.

Subgrade mineral/fines (Rule 16)

- Qty of yearly generation and total qty available during inspection with grade : Production of ROM was 126468.86t and grade-wise stock position was 92.18t of -55% Fe, 239.72t of +55 to -58% Fe (Lumps), 2311.36t of +58 to -60% Fe (Lumps), 535.84t of -55% Fe (Fines) and 40.02t of +55 to -58% (Fines).
- Number and size of each stack : Grade-wise stacks are made. Total number of stacks were five of -55%, +55 to -58%, +58 to -60% of lumps and fines material. Grade-wise stock position was 92.18t of -55% Fe, 239.72t of +55 to -58% Fe (Lumps), 2311.36t of +58 to -60% Fe (Lumps), 535.84t of -55% Fe (Fines) and 40.02t of +55 to -58% (Fines).
- Location of stacking. : Mineral is located outside the lease area at 3.0km distance.
- Separate stacking from waste : Mineral is separately stacked at surface level for screening & grade-wise stacking. It is located outside the lease area at 3.0km distance.
- Total area covered for stacking : Area covered under mineral stack is around 1.0ha located outside the lease.

Exploration data as on 31/03/ 2014

No. of Boreholes	No. of Pits	No. of Trenches
0	0	0

OVERBURDEN HANDLED DURING PREVIOUS YEAR 2013 - 2014

Overburden/waste removed (in m3) :	162540
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Utilisation of Sub Grade Mineral and Mineral Rejects

Generated	Utilised	Stacked	(In Ton.)

7. Environment Management - both quantitative and qualitativ

A. Land environment

- a. Landscape. : Maximum RL 45 and Minimum RL 23.
- b. Aesthetic environment : Area is having undulating topography and mining is carried out on top of hillock.
- c. Soil and land use pattern : The major Land Use pattern of the area includes pits, OB dumps, office, workshop, dry lands etc. Topsoil is not there. An area of 4.44ha under pit , 7.25ha under dumps, 0.62ha under office, workshop, roads etc.
- d. Agriculture : Agriculture is seasonal during monsoon period and Cashew is the main cultivation in surrounding area.
- e. Forest(flora and fauna) : No forest area within lease and surrounding area.
- f. Vegetation : Paddy Fields are there in the surrounding area.
- h. Public building, places and monuments (protected, historical), place of worship and places of tourist : There is no public building, places and monuments (protected, historical), places of worship and places of tourist interest within or surrounding area. Tiroda school building is adjoining to dump located within lease.

B Water environment.

- a. Surface water : The surface waters were monitored with neutral pH in the range 7.52-7.82, agreeable colour, taste and odour. The surface waters were having DO levels in the range 4.05-5.15 mg/l.
- b. Ground water : The general ground water table is around 10mts RL.This area receives copious amount of rainfall,hence the ground levels shows rise in their levels after monsoon.
- c. Quality of water : The ground water in the bore wells and dug wells, nearby ponds or lakes, were found to be good. pH values were around 7 & within limits.

C. Air environment

- a. Noise : It is within permissible limit. Workzone day noise levels was found to be 65.6 dB(A) and night noise level was found to be 63.5 dB(A).
- b. Air : Air quality is monitored by HVAS twice a week & found within limits.
- c. Climatic condition : The predominant winds were from NW to SE, wind velocity readings were recorded in the range 5.30-5.90 kmph with a mean value of 5.6 kmph; temperature readings were ranging from 24 deg C to 36 deg C and the mean temperature value was 31.9 C; the relative humidity values were ranging in between 59.00-80.00%.

D. Socio economic environment

- a. Social and demographic profile. : The nature of work is mainly agricultural of cashew trees and fishing.
- b. Recommending health and safety. : The noise and dust fall is within range. The quality of the water is within permissible limit, hence there is no any hazard to health. Environmental friendly Mining Machinery are maintained without any hazard. Effective dust suppressive inbuilt water sprinkling arrangement is there.
- c. Human settlement : The lease area is surrounded by 32 villages in buffer

zone. The house types found are both concrete and huts. The population is around 1055 at Tiroda village.

- d. Recreational facility. : There is recreational facility available at mines for residential colony. Nearby towns Siroda, Vengurla, Banda etc are having all facilities. Dish TV is available in nearby villages.

7.1 Comments on the steps taken by the lessee towards maintaining environment and monitoring of environmental parameters to ensure the qualitative improvement in the environment and ecology.

<u>Water Management</u>					
Season	Station type	Station name	Parameter	Value	
				Actual	Excess

<u>Air data for excess parameters</u>					
Season	Station name	Type of area	Parameter	Value	
				Actual	Excess

<u>PLANTATION DURING THE PREVIOUS YEAR</u>						<u>2013 - 2014</u>		Area in Hect.
Within lease area			Outside lease area					
Area	Trees planted	Survival rate	Area	Trees planted	Survival rate			
.5	1000	75	0	0	0			

<u>TOP SOIL MANAGEMENT</u>		
<u>Quantity as on 31/03/2014</u>		
Cumulative quantity in tonne		
Generated	Utilised	Balance
.01	.01	0

8. Scrutiny of annual returns on cost of production, reserve, production, pit mouth value, stock, land use pattern and fixed assets.

a) Land use pattern: 1. Exploited & abandoned by O/C mines-0 Ha, 2) Covered under O/C working - 4.44 Ha, 3) Reclaimed & Rehabilitated-0Ha, 4) Waste Disposal - 7.25Ha 5) Plants, blds, roads-0.62Ha,

b) Reserves: As per latest approved MP are Mineral Reserve - 6.646 million tonnes and Mineral Resource - 11.719 million tonnes as on 01.04.2010 and as on date of inspection are Mineral Reserve - 2.29 million tonnes and Mineral Resource - 0.287 million tonnes.

million tonnes.

c) Quantity of overburden / waste rock generation: 322078t and dumped within & outside lease.

d) Cost of production was Rs. 488.67/-

PART - III : PERFORMANCE OF MINE OWNER
(In case of lease expiring within 2 years - as per guidelines)

a. Compliance of terms and conditions of lease deed.

First renewal of Tiroda Mine over 34.4812ha for 10 years was expired on 04/09/2010, which was executed on 27.09.2001. Second renewal is pending.

b. Compliance of the provisions of MCDR, 88 and advise given.

Mining plan for renewal was approved vide letter No.MP/SIND/GOA(MAH)Fe-231-SZ/205 Dated 12/04/2011 for the period 2010-2015.

PART - IV : PROPOSALS FOR FURTHER ACTION FOR :

Indian Bureau of Mines (any issue related to CGPB, SGPB, Assistance, Consultancy, Annual Programme and studies, etc.)

None at present

State Government (Illegal mining, mining dispute, infrastructure, Mineral based industry, Mineral policy, etc.)

None at present

The Central Government (Infrastructure, Development, Mineral policy and Legislation, Mineral based industry, etc.)

None at present

Date :

(JANGID G K)

Indian Bureau of Mines