

**REPORT ON CHECK INSPECTION OF MERALGORA BARABALJORI IRON & MANGANESE MINE OF M/S
RUNGTA MINES LIMITED IN WEST SINGHBHUM DISTRICT, JHARKHAND**

Name and designation of inspecting officer : Anupam Nandi
Regional Controller of Mines, Ranchi

Date of Inspection : 03.12.2019

1. General information of the mine:

- i) Name of mine : Meralgora Barabaljori Iron and Manganese Mine
- ii) Owner : M/S. Runga Mines Ltd.
- iii) Nominated Owner : Mr. M.D.Rustagi
- iv) Mining Engineer : Mr. Kumar Dhananjay
- v) Agent : Mr. D.N Parida
- vi) Mine Manager : Mr. Kumar Dhananjay
- vii) Lease Area : 115.22 hectares
- viii) Location : Merelgara Iron & Mn mine
At- Merelgara, P.O- Noamundi
Dist- West Singhbhum, State- Jharkhand, PIN: 833213
- ix) Lease Period : valid upto 31.03.2020.
- x) Date of Expiry : 31.03.2020
- xi) Date of approval of Mining Plan : Review of Mining Plan approved on 07.01.2019
- xii) Date of approval of scheme :
- xiii) Period of Mining Plan/
Scheme of Mining : 2019-20
- xiv) Production (Year 2018-19) : 3487 Tonnes

2. Brief description of the mine:

- a. A brief description of the mine covering location, geology, problems associated with mining of the deposit etc. may be given.**

The Merelgora-Barabaljori Iron ore deposit forms a part of pre-cambrian sedimentary formation known as the Iron-ore series developed in Singhbhum-Keonjhar-Bonai area. The general strike of the formation in Northern Singhbhum is NNE-SSW, but gradually changing over to NW-SE in the eastern part and in the adjoining area of Mayurbhanj. This part of Singhbhum is marked by a shear zone along which rocks have been thrust towards the south and metamorphosed. The shear zone is marked with intrusions of soda-granophyre with which deposits of copper, apatite and magnetite are associated. Towards north of the shear zone the rocks consist of phyllites and tuffs with basic intrusive at the bottom which are overlain by ferruginous quartzite and phyllites. Above them appear a series of lava flows called the Dalma volcanic which occupy a fairly broad belt of country.

The Iron-ore series consist mainly of banded hematite quartzites and shales with intercalations of lava flows and tuffs. There are views that large part of the shale covered area may really consist of tuffaceous material. Dunn (1942) believes that certain phyllites and shales in Eastern and Southern Singhbhum were originally volcanic tuffs and that they have been either silicified or replaced by Iron to come extend, the later when in contact with banded ferruginous rocks. In some places the phyllites are manganiferous and have been partly replaced by manganese ores. Such manganese ore bodies are of small dimensions and are observed in several places of Keonjhar and Bonai.

Their formation has largely been determined by local topography and drainage in ancient times as they extend only to shallow depths and are mainly composed of pyrolusite, psilomelane and wad. The iron ore series is overlain by the Kolhap series of presumably Cuddapah age (Algonkian) and consists of basalt conglomerates and sandstones which are overlain by limestones and shales.

GENERAL GEOLOGY:

The area show a general NW-SE strike with shallow to moderate dips towards SW with local swings of strike in NNW-SSE directions. This NW-SE striking BHJ unit is assumed to be a one limb of large scale fold which bears minor folds. These minor folds are tight to open asymmetric folds showing moderate to steep dip on one side while shallow dip on the other side. Presence of both dextral and sinistral minor folds in the same limb of the major fold indicates that the minor folds are incongruous in nature and are formed as a result of later deformation after the formation of the major fold

Other than the minor folds, the BHJ unit shows open folds or kinks with their axis trending at high angle to the general strike and thus producing the NNW and SSW dipping planar fabric in the area. Due to the interference of the two planar fabric small scale dome and basin kind of structure has developed in the area. The minor folds within the NW-SE trending unit of BHJ suggest it to be the one limb of a large fold and we might get the hinge of an antiform moving towards NE. This conclusion is supported by the presence of M-shaped minor folds in two locations towards the north of the main pit. These field observations along with the provided borehole data suggest that the major fold is plunging towards north

The BHJ units also consist of three sets of joint planes of which one is parallel to the bedding plane (XY Plane), second is perpendicular to strike of the BHJ unit (exposing the XZ plane) while the last one is parallel to strike, exposing the YZ plane.

This sheared zone shows angular to sub-rounded BHJ fragments embedded within the matrix of hematitic material and are completely disoriented. At places quartz veins have intruded within the open spaces carrying jasper and hematite within them. A similar sheared zone was observed towards NE of the smaller pit trending 30° - 210° . Other than the above two, one zone was identified within the main pit, approximately 6 to 7 m in width and possibly can be traced for approximately 200 m along 20° - 200° direction. This zone shows highly crushed and friable material bounded on both side by the competent BHJ unit and might represent a fault gauge. However, no offset of any marker horizon was observed in the field and the exact nature of these sheared zones could not be deciphered clearly.

Present position of quarries and bore holes indicates that iron ore in this area is available in the form of small iron ore pockets instead of continuous iron ore deposit. BHQ is mainly present throughout

the area. Due to erratic nature of iron ore pockets within BHQ it is difficult to locate the position of proposed bore hole. In this beginning the lessee tried to explore the area through core drilling, but the presence of very hard BHQ/BHJ strata. The average penetration was only 0.5 to 1.0m/day. The above failure of ore drilling machine compels the lessee to do the exploration through noncore drilling only.

The general stratigraphical succession of this area is as under:

- Kolhan series (basal conglomerate and sandstone)
- Unconformity
- Phyllites and tuffs with manganese and dolomite.
- Banded hematite quartzite.
- Phyllites and tuffs conglomerate and basic igneous rocks.

b. Description on deployment of mining machinery may be given in the following format.

Type of machinery	Capacity of each unit	No of units	HP of each unit	Electrical/non-electrical (specify)
Compressor with wagon drill	450 Cfm	1	116	Non-electrical
Back hoe	1.4 Cum	1	180	Non-electrical
Houler	20MT	4	215	Non-electrical
Loader	1.7Cum	1	-	Non-electrical

3. Implementation of Mining Plan or scheme of Mining:

Sr. No.	Proposal in the approved Mining Plan or Review of mining plan (2018-19)	Observations regarding implementation of proposals given in approved Mining Plan or Scheme of mining.	Remarks
1.	CONSERVATION OF MINERALS		
a)	Exploration:	No exploration during the year. Lease area has already been explored by boreholes.	Entire area already explored as per proposal.
b)	Utilization of subgrade mineral:	The subgrade ore will be directly dispatched as per the buyers requirement otherwise	Conservation is satisfactory.

		will be stacked separately.	
c)	Any other proposal for monitoring:	NA	

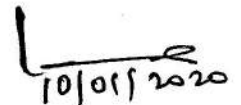
2.	SCIENTIFIC MINING		
a)	Mine Development and method of mining	Mine development being done as per approved mine plan. Separate benches made in OB and Ore.	Mine development is as per approved document, No deviation.
b)	Handling of Waste/subgrade material:	The OB/waste generated are dumped in pre-selected dumping area and subgrade ore are kept separately in the mineral stack.	
c)	Area reclamation & restoration:	During 2018-19, 1 hectare area reclaimed & rehabilitated.	
d)	Any other proposal for monitoring:	NA	
3.	PROTECTION OF ENVIRONMENT		
a)	Afforestation:	During 2018-19 Total 2300 trees planted within ML, survival rate 90%	
b)	Quality of Air:	Within permissible limit	NIL
c)	Quality of Water:	Within permissible limit	NIL
d)	Noise Level:	Within permissible limit	NIL
e)	Vibration:	Within permissible limit	NIL
f)	Any other proposal for monitoring:	NA	

4. History of Violations after approval of Mining Plan or Scheme of Mining:

Sl. No.	Date of Inspection	Name of Inspecting Officer	Violations of MCDR, 17 observed and Pointed out	Rectification of Violations	Remarks
1.	13.09.2019	Mr Naman Ekka	Rule-11(1) & Rule 26(2)	Complied on 02.12.2019	

5. Socio-Economic Development Plan: Total lakh spent for C S R activities during 2018-19.

Sl. No.	Proposed Action Plan towards Socio-Economic Development	Expenditure Proposed (In Rs. Lakh)	Expenditure Incurred (In Rs. Lakh)	Remarks
1.	General Development in the area			
	i) Housing	-	-	
	ii) Water Supply	0.1	0.28	
	iii) Sanitation	1.02	1.16	
	iv) Health, Safety and Medical Facilities	-	-	
2.	Education and Training	0.97	1.23	
3.	Employment to local inhabitants	-	-	
4.	Public Transportation and communication	-	-	
5.	Recreation and other sports activities	0.3	0.58	
6.	Expenditure for environment management	3.0	4.31	
7.	Other	-	-	
	Total:	5.39	7.56	CSR activities.


10/01/2020

(Anupam Nandi)
Regional Controller of Mines & Inspecting Officer