**REPORT ON CHECKUP INSPECTION OF NOAMUNDI IRON MINE of M/s TATA STEEL LTD IN WEST SINGHBUM DISTRICT OF JHARKHAND**

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

**Date of Inspection : 12.03.2019**

**1. General information of the mine:**

| | | |
|---|---|---|
| i) | Name of mine | : Noamundi Iron Mine |
| ii) | Owner | : M/S Tata Steel Limited |
| iii) | Nominated Owner | : Mr. T.V. Narendran |
| iv) | Mining Engineer | : Mr. Dipak Behera |
| v) | Agent | : Mr. R.P. Mali |
| vi) | Mine Manager | : Mr. Dipak Behera |
| vii) | Lease Area | : 1160.06 Hect. |
| viii) | Location | : Mahudi,Sarbil,Korta,balijore, Barabalijore Noamudi, West Singhbum Jharkhand |
| ix) | Lease Period | : 48 years |
| x) | Date of Expiry | : 31.03.2030 |
| xi) | Date of approval of Mining Plan | : 07.02.2017 |
| xii) | Date of approval of scheme | : |
| xiii) | Period of Mining Plan/ Scheme of Mining | : 1.04.2017 to 31.03.2022 |
| xiv) | ROM Production (2017-18 ) | : 6810333 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.

Noamundi iron ore deposit was discovered in the year 1917. Subsequently, a lease was obtained in the year 1923 and manual opencast mining operations started in the year 1925. The first dispatches were done in the year 1926. The mining operations were mechanized in 1953 to meet the increased demand of iron ore to Steel Works at Jamshedpur.

The lease covering an area of 1160.06 ha. is located in Noamundi at a distance of 130 km south west of Jamshedpur and is well connected by an all-weather metaled road. It is also well connected by an all-weather metaled road to Chaibasa around 65 km which is also the district headquarter of West Singhbhum district.

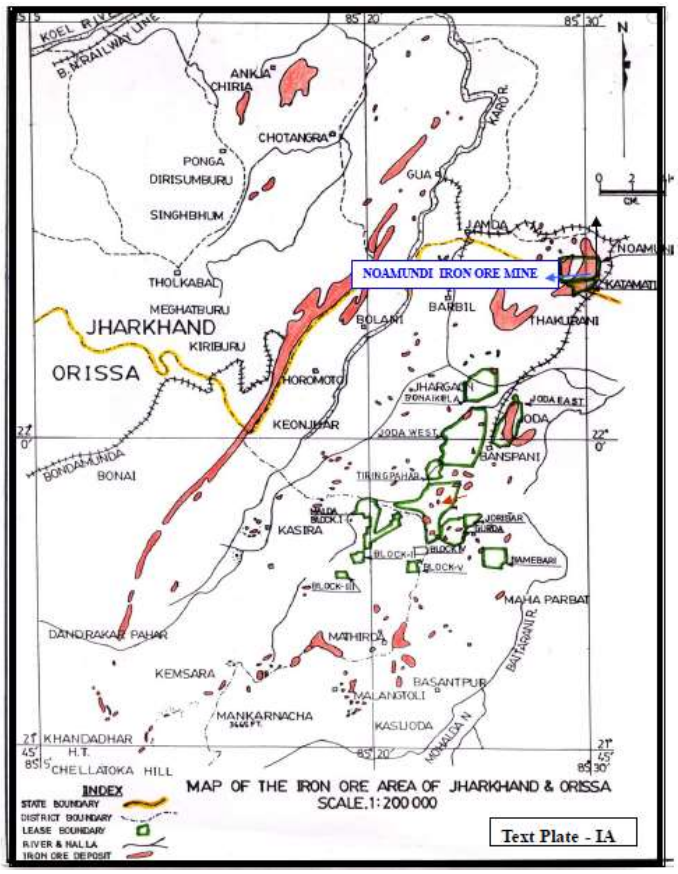
The area can also be approached from Noamundi Railway Station on Tatanagar – Gua /Barbil rail route of South Eastern Railways. The distance from Noamundi Iron mine to Noamundi railway station is about 5 km.

**Geology**

**Regional Geology with Reference to Location of Lease Area.**

Noamundi iron deposit lies in the western portion of Singhbhum-Orissa craton. The Iron Ore Group (IOG) surrounds the batholithic complex and consists of low-grade meta-sediments, acid-intermediate and mafic volcanics and sills. The IOG rocks are exposed in three major basins around the Singhbhum granite batholith (Saha et. al., 1988). The eastern basin

extends from south of Jamshedpur through Gorumahisani-Badampahar and extends southward up to near Nausahi. The southern basin lies between Daitari – Tomka, while the northern-western basin is represented by the western Singhbhum-Bonai-Keonjhargarh Iron Ore basin which extends for about 100km in length and 20 to 30km width in NNE-SSW direction from Chakradharpur to south of Koira. The iron ore deposits of Noamundi, Katamati, Joda, Khondbond are located in this basin along with many other good quality iron ore deposits of varying dimensions.




**Geology Description of Lease Area**

Noamundi iron ore deposit belongs to Pre-Cambrian era of Dharwarian age. This deposit is a part of eastern limb of the major Bonai synclinorium and trends NNE-SSW with an overturned western limb. It consists of weakly metamorphosed sedimentary formations and lithology observed in this area comprises of shales, banded hematite jasper, iron ores with interbedded shales within BIF, laterite and limonite, canga and soil. The stratigraphic succession of this area is given below (Saha 1990):

Upper lavas (Local)

Upper shale Shale tuffaceous, ferruginous shale usually with fine laminations contain a few manganiferrous shale band

Banded Heamatite jasper with thin intercalations of tuffaceous shale and with supergene enrichment of iron ore bodies.

Lower shale, which is tuffaceous along the eastern flank and slaty in the west.

Mafic Lavas (local)

The iron ore bodies generally occupy the top portions of the hills and are elongated in the north-south direction. In Jamda Block-I, as mentioned above, they form two almost continuous strips one to the east and another to the west of the Balijor nala. Northern portions of these two ranges show preponderant occurrence of Soft Ore while towards the south Hard Ore is developed and forms prominent out crops. In Jamda Block-II of the lease area, forms the western most ore body within the lease area and is composed mostly of laminated and lateritic soft ore and friable ore with a few patches of the Hard Ore at the top. The ore is interbanded with reddish ocherous, material it is generally aluminous. Blocks-IV, V & VI show at the top of the hills discontinuous bouldery patches of iron ore with scattered scree at the slopes. The ore consists agglomerations of iron ore pieces containing high silica and alumina. Quartzites, phyllites and sandstone associated with the iron ores.

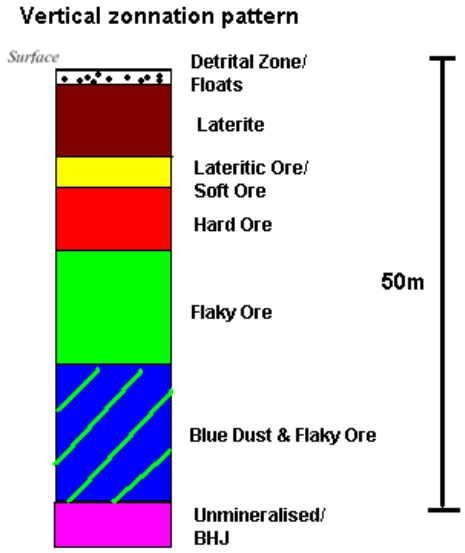



Fig. 1

The general range of quality of different varieties of ore in the area investigated is given in the table below.

**TABLE – 1.1 GENERAL RANGE IN QUALITY OF ORE**

| Type of Ore | Fe % | SiO2 % | Al2O3 % | Phos% |
|---|---|---|---|---|
| Hard Ore | 64.00 to 69.00 | 0.30 to 2.50 | 0.80 to 6.00 | 0.04 to 0.07 |
| Soft Ore | 58.00 to 67.00 | 0.30 to 5.00 | 2.60 to 7.00 | 0.07 to 0.11 |
| Flaky Ore | 59.00 to 66.00 | 0.80 to 5.00 | 2.70 to 7.00 | 0.05 to 0.09 |
| Blue Dust | 64.00 to 69.40 | 0.20 to 2.50 | 0.20 to 3.00 | 0.04 to 0.08 |

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

**b)** Deployment of mining machinery: (2017-18)

| Sl no | Machineries Deployed | Capacity | Number of Units | In use | Ideal | Percentage of Utillization | Brief description | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | Shovel - Ex1100-3 | 5.7 cu.m | 1 | In Use | NIL | 58% | Make - Tata Hitachi | |
| 2 | Shovel - Ex1200-5 | 5.9 cu.m | 2 | In Use | NIL | 58% | Make - Tata Hitachi | |
| 3 | Front end Loader - WA900-3 | 9.5 cum | 1 | In Use | NIL | 54% | Make - Komatsu | |
| 4 | Rear Dump Truck - HD785-7 | 91 T | 8 | In Use | NIL | 71% | Make - Komatsu | |
| 5 | Drill - IDM45 | 1000 cfm<br>Bit -6.5 inch | 1 | In Use | NIL | 37% | Make - Atlas Copco | |
| 6 | Drill - ROCL8 | 1000 cfm<br>Bit -6.5 inch | 1 | In Use | NIL | | Make - Atlas Copco | |
| 7 | Dozer - D9R | 13.5 cum | 1 | In Use | NIL | 78% | Make - Komatsu | |
| 8 | Dozer - D275A-5 | 13.7 cum | 1 | In Use | NIL | | Make - Caterpillar | |
| 9 | Motor Grader - GD825-2 | 16 feet | 1 | In Use | NIL | 27% | Make - Komatsu | |
| 10 | Water Sprinkler - HD 465 | 50 KL | 2 | In Use | NIL | 25% | Make - Komatsu | |

## 3. Implementation of Mining Plan or scheme of Mining (2017-18)

| Sr. No. | Proposal in the approved Mining Plan or Scheme of mining (Period from 201718 to 2021- | Observations regarding implementation of proposals given in approved Mining Plan or Scheme of mining. | Remarks |
|---|---|---|---|
| **1.** | **CONSERVATION OF MINERALS** | | |
| a) | Exploration:<br>2017-18-54BH,2700m<br>2018-19-60BH,3000m | 25 exploratory bore holes were drilled with total meterage 1478.4m | |
| b) | Utilization of subgrade mineral: | 31% subgrade utilized. | |
| c) | Any other proposal for monitoring: | No | |
| **2.** | **SCIENTIFIC MINING** | | |
| a) | Mine Development and method of mining | Mechanised | |
| b) | Handling of Waste/subgrade material: | Waste Handled – 2346976 tonnes, Subgrade – 677025 tonnes | |
| c) | Area reclamation & restoration: | No reclamation,Restoration by plantation – Total 10478 saplings were planted. | |
| d) | Any other proposal for monitoring: | -- | |
| **3.** | **PROTECTION OF ENVIRONMENT** | | |
| a) | Afforestation: | Plantation of 10478 was done in the year 2017-18. | |
| b) | Quality of Air: | Regular Monitoring done | |
| c) | Quality of Water: | Regular Monitoring done | |
| d) | Noise Level: | Regular Monitoring done | |
| e) | Vibration: | Regular Monitoring done | |
| f) | Any other proposal for monitoring: | | |

**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,88 observed and Pointed out | Rectification of Violations | Remarks |
|---|---|---|---|---|---|
| 1. | 19.12.2018 | Shri B.P. Kerketta | Rule11(1) and 35(2) | Rule 35(2) complied and rule 11(1) under process. | |

**5. Socio-Economic Development Plan: (2017-18)**

| 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 | **97.69** | **81.18** | |
| | iii) Sanitation | **48.5** | **40.05** | |
| | iv) Health, Safety and Medical Facilities | **23.81** | **49.08** | |
| 2. | Education and Training | **279.07** | **296** | |
| 3. | Employment to local inhabitants | **200** | **165.99** | |
| 4. | Public Transportation and communication | | | |
| 5. | Recreation and other sports activities | **16.74** | **68.29** | |
| 6. | Expenditure for environment management | **2000** | **2027.38** | |
| 7. | Livelihood | **23** | **91.27** | |
| 8. | Other (Infrastructure) | **25.13** | **21.13** | |
| | **Total:** | **2741.32** | **2840.37** | |

**(Anupam Nandi)**

**Regional Controller of Mines**

**&Inspecting Officer**