

**INSPECTION REPORT CUM SCRUTINY COMMENTS ON REVIEW OF MINING PLAN OF SREE RAMAKRISHNA MINERALS IRON ORE MINE OF Smt T.VIJAY GOWRI SPEARD OVER AN AREA OF 31.16 HA IN COMPARTMENT NO-77 OF EMBOY RESERVE FOREST, VELDURTHY MANADAL KURNOOL DISTRICT OF ANDHRA PRADESH, DATE OF FIELD INSPECTION-30.05.2017**

**1.Cover Page-**

- a) In the cover page the working proposal period is given for only 4 years from 2017-18 to 2020-21 instead of 5 years. As the last scheme of mining was for the period 2011-12 to 2015-16, the proposal for lapse period 2016-17 is missing. Therefore mention the review of mining plan period 2016-17 to 2020-21 with working proposal period 2017-18 to 2020-21.
- b) Sy.No.-339, Ramallkota village is nowhere mentioned in the lease deed and as per the lease deed the lease area falls in Compartment No-77, Emboy RF, Sarparajpuram Village, Veldurthy Mandal, Kunool Dist, AP. As per lease deed the location details of the lease should be changed accordingly.

**2.General**

- a) Sy No.339 at Ramallkota village should be changed as mentioned above for the cover page.
- b) The lease period and its validity should be discussed as per new MMDR amendment 2015.
- c) The year 2016-17 should be mentioned as lapse period.
- d) Enclose state Govt. extension letter for grant of Mining lease for a period of 50 years if obtained.

**3.Location & Accessibility**

Enclose the lease boundary pillar co-ordinates certified by competent authority of state government.

**4.Review**

- a) Angle of BHs as observed in geological sections is not matching with that of Table-15 and should be corrected.
- b) In the table-6 production (Tonnes) should be replaced by Production of Iron Ore(In Tonnes)
- c) Mention year wise iron ore production proposed vs actual during last plan period with grade. Also mention the OB, mineral rejects and intercalated waste excavation proposed & actual with grade. Give justification for short fall. Give details of mineral rejects dump re-handling from 2011-12 to 2016-17.

- d) As per the annual return the production of iron ore in 2013-14 is 26733 tonnes where as it is mentioned as 26735 tonnes.
- e) Environmental protective measures undertaken for waste dump, Environmental monitoring.

## **Part-A**

### **5. Geology & Exploration**

- a) In topography the northern slope is shown as gentle but in actual it is steep and the highest –lowest elevation is not given in topography. Max & Min temperature is not mentioned in climate.
- b) Dimension of Central iron ore reef is mentioned but dimension of southern iron ore reef is not mentioned.
- c) Give description of Ferruginous Quartzite.
- d) As per the earlier approved document the exploration was carried out in the lease area by 3 no. of BHs and 23 no. of exploratory pitting which have not been taken into account in the present submission, needs to be justified and accordingly the geology of the lease area should be modified.
- e) Furnish the co-ordinates of all the exploratory Bore holes, trenching, pitting etc. done as on date with collar RL, depth, length, width, height as required.
- f) Recovery study, bulk density test & mineralogical test study report not enclosed.
- g) Enclose chemical analysis reports by NABL accredited Laboratory in respect of 57 nos exploratory pits and 5 nos trail pit done for recovery study, bulk density test & mineralogical test and BH-8.
- h) Enclose records in form-J as per rule 48 of MCDR,2017 in respect of 12 nos core BHs & 62nos exploratory trail pits carried out during the year 2016-17.
- i) Grid interval of exploratory BHs drilled, exploratory pitting done is not given.
- j) In the future programme of exploration all the proposed drill holes are vertical, but as the iron ore body is a steeply dipping, some of the BHs needs to be drilled angular for proper delineation of ore body.
- k) Area proposed for dumping should be proved for presence or absence of mineral as per provision of rule 14(4) of MCDR, 2017. Hence the dump location be corrected accordingly.
- l) The float iron ore deposit has been categorized as Startiform, bedded and tabular deposits of irregular habit as per MEMC Rules 2015. It should be corrected.
- m) **Geological Axis-G1**

Geological mapping scale and geological plan scale are not mentioned. 62 nos Exploratory pits and 12 core bore holes have been completed but the records in form-J has not been maintained and enclosed. Chemical analysis reports in respect of BH-8 and 62 nos exploratory pits are not enclosed. NABL accreditation certificate of the laboratory is

not enclosed. Bulk density, Mineralogical study and recovery study report conducted by Andhra University is not enclosed.

n) **Geological Axis-G2**

Geological mapping scale and geological plan scale are not mentioned. Bulk density, Mineralogical study and recovery study report conducted by Andhra University is not enclosed.

o) **Geological Axis-G3**

Geological mapping scale and geological plan scale are not mentioned. Chemical analysis reports in respect of BH-8 and 62 nos exploratory pits are not enclosed.

p) **Economic Axis-E1**

Specific use in Piping Industries not shown.

- q) In Detailed calculation of reserves /resources,it is mentioned that “the ore body is established depth wise upto 450m RL”.Justify.
- r) Mention level of exploration wise reserves/resources along with Fe%.
- s) Ultimate Pit depth proposed is 450m RL.Justify.
- t) Feasibility Mineral Resource(211) justification should be corrected.
- u) **Table-15** – Mention grade of remaining resources

In light of the above comments the total mineral resource, reserves need to be assessed along with grade and categorized correctly as per MEMC rules-2015.

## 6.Mining

- a) Pit slope and Bench slope should be designed as per statue.
- b) It is reported that dump re-handling will be carried out for recovery of mineral having Fe content +25% to -45% Fe whereas study from government institute in respect of recovery% of above grade mineral from dump should be carried out and submitted.
- c) Give details in respect of year wise proposal of dump re-handling with grade, recovery%, generation of waste and its dumping along with lay out should be submitted for easy reference.
- d) Summary of float ore and in-situ iron ore production proposal be provided.
- e) In 2(e) Layout of mine working it is mentioned that excavation is proposed in the existing mining pits up to 457m RL in reef ore zone. Justify.
- f) Enclose permission for deep hole drilling & blasting.
- g) Area proposed for dumping should be proved for presence or absence of mineral as per rule. Hence dump location be corrected accordingly.

- h) Mention RL (From To) in the table no-19A & 19B for proposal for backfilling and dumping respectively.
- i) The environmental protective measures should be changed as per the proposal of dumping of waste and accordingly mention location, co-ordinates and RL in tabular form. Propose year wise for construction of retaining wall, Garland drain, Siltation pond.
- j) **Conceptual Mining**-The life of mine should be calculated based on available reserves only and the ultimate pit slope angle should be 45 degree.

## **7. Mine Drainage**

- a) The environmental protective measures should be changed as per the proposal of dumping of waste and according mention location, co-ordinates and RL in tabular form. Propose year wise for construction of retaining wall, Garland drain, Siltation pond.

## **8. Stacking of mineral rejects /sub grade material and waste disposal**

- a) Give year wise level to be dumped in mRL in table no-30A.
- b) Refer table no.31, wherein details of waste dump and sub grade dump with grade of the same is reported for which chemical analysis report from Government lab/ NABL accredited lab should have been furnished for considering the same
- c) Refer Table-31, in the existing dumps, details of the location should be incorporated.
- d) Area required to accommodate quantum of waste, mineral rejects generated during the plan period should be furnish in detail for easy reference. Give detail of computation for area required for dumping of waste in 5 Ha & Mineral rejects in 2 Ha area.
- e) Give year wise terrace wise proposal for drainage pattern and settling pond.
- f) The proposed dump area for the period 2016-17 to 2020-21 is not matching with that of the land use area of financial assurance. Clarity for area requirement should be made in chapter 4.

## **5. Use of Mineral and Mineral Rejects**

- a) Furnish chemical and physical range value of mineral rejects specific to the mine.
- b) It is reported that the ore is being utilized in piping industries, in this regard requirement of chemical and physical specifications should be furnished.
- c) Enclose supply order for all the different types of industries. Give precise physical and chemical specification stipulated by buyers.

## **6. Processing of ROM & Mineral Rejects**

- a) During field observation it was reported that manual sorting and sizing is being carried out in the lease but details of the same should have been furnished
- b) Flow chart in respect of proposed processing plant should be furnished incorporating quantity (100T), grade, recovery of ore at each stage.

## 7. Progressive Mine Closure Plan

Area put to use for mining and allied activities is on lower side which has to be recalculated as per field condition accordingly financial assurance amount should be suitably modified

## 8. Plates

- a) **Plate-1**-Incorporate the graphical scale of at least 25cm length in key plan.
- b) **Plate-2**-Enclose forest department certified lease sketch along with boundary pillar coordinates certified by competent authority of state government.
- c) **Plate-3**(Surface Plan)- working Pits on Eastern side and on southern side of the lease area was observed but the same has not been incorporated in plans.
- d) **Plate-4** (Geological Plan)-  
The bore holes proposed for future exploration programme should be shown in the Geological plan. Earlier drilled 3 nos BHs and 23 exploratory pits should be depicted.
- e) **Plate-5** (Geological Sections)-  
Longitudinal sections are not matching with the geological plan. The pit slope should be 45 degree. As per the plate Ultimate Pit depth is 450m which is not acceptable based on one BH data. The UPL depth should be modified accordingly. In section D-D' the BH positions are not correct. In E-E' section area of iron ore reef zone is shown more. On all the sections (J-J', L-L', N-N', O-O') without any BH in southern iron ore reef zone consider the resources in (G-3) 333. Proposed BHs, trenches/pits should be shown in Geological sections. Project BH-2 on section F-F'.
- f) **Pit Lay out plan(6A to 6D)**  
Show proposed terrace wise dumping, drainage, settling pond year wise.
- g) **Plate-7(Sections showing yearly workings)**  
Ultimate Pit depth should be modified considering average established depth of mineralised zone and 45 degree pit slope should be considered.
- h) **Plate-8(Environmental Plan)**- Incorporate the graphical scale of at least 25cm length in key plan.
- i) **Plate-9(Conceptual Plan & Sections)**  
Ultimate Pit Depth should be modified considering average established depth of mineralised zone and 45 degree pit slope should be considered. The conceptual plan and section should be modified accordingly.
- j) **Plate-10(Financial Area Assurance Plan)**  
The proposed dump area for the period 2016-17 to 2020-21 is not matching with the land use of financial assurance plan. Clarity should be made in chapter 4.
- k) **Plate-11 (Reclamation Plan)**  
Year wise backfilling proposal should be depicted in plan for easy reference and index should be shown properly.

## **9.Certificates**

### **a) Consent Letter /Undertaking/Certificate from the Lessee-**

i) Sy.No.-339, Ramallkota village is no where mentioned in the lease deed and as per the lease deed the lease area falls in Compartment No-77, Emboy RF, Sarparajpuram Village, Veldurthy Mandal, Kunool Dist, AP. As per lease deed the location details of the lease should be changed accordingly.

ii) The certiciate should be in Mining Lessee Letter head.

### **a) Cerificate from RQP-**

i) Year of Mineral Conservation and Development Rules should be changed.

ii) Sy.No.-339, Ramallkota village is no where mentioned in the lease deed and as per the lease deed the lease area falls in Compartment No-77, Emboy RF, Sarparajpuram Village, Veldurthy Mandal, Kunool Dist, AP. As per lease deed the location details of the lease should be changed accordingly.