

INSPECTION REPORT CUM SCRUTINY COMMENTS ON REVIEW OF MINING PLAN OF GOLLAGHAT MANGANESE ORE MINE OF SRI SURESH AGARWAL SPEARD OVER AN AREA OF 43.43 HA IN SURVEY NO-18, 22, 26, 27 & 28 OF GOLLAGHAT VILLAGE, TAMSU MANADAL, ADILABAD DISTRICT OF TELANGANA, DATE OF FIELD INSPECTION-12.06.2017

1. Cover page-Mention the survey nos in which the mine falls.

2. Introduction-Mention previous approved plan with production capacity and proposed plan production capacity per year.

3. General-Attach the certified lease sketch showing Mining Lease boundary coordinates, authenticated by competent authority of state government.

4. Review

- a) Give justification for the lapse period 2012-13 to 2016-17.
- b) Exploration (Table No:3.3.1)- Achievement shown is not correct. Give justification for deviation.
- c) Mine Development (Table 3)- 2012-13 to 2016-17 should be shown as lapse period. Give justification for the lapse period. Production has been done from 2007-08 to 2011-12 but shown as nil, but in annual returns production has been shown. The year wise production details needs to be furnished. Deviation and its reason are not furnished.
- d) In 2007-08 the actual production has crossed the proposed production which should justified.
- e) OB & Waste Generation (Table No: 4) - Justify the deviation.
- f) Afforestation programme (Table No:5)-Justify the deviation.
- g) Status of Compliance of Violations –The status has been shown as nil, as no of violations had been issued, the status compliance of violations should be given.

Part-A

5. Geology & Exploration

- a) In the geology of the lease area, show the local lithological succession with thickness in metre.
- b) In the details of prospecting/exploration already carried out it has been mentioned that in pit P1 & P3 presence of manganese ore could not be established due to insufficient depth whereas during inspection the Pit -1 and Pit-3 are found to be manganese ore bearing.
- c) In total 6 nos exploratory pits have been drilled but only 5 nos pits have been mentioned. Clarify.
- d) The dimensions of the exploratory pits are shown less as compared to the actual and accordingly the thickness of different litho units should be corrected in table no.6. In table no 6 the year of exploration, coordinates and top / bottom collar of all the exploratory pits should be mentioned.
- e) The exploratory pits should be recorded once again as per actual and photographs be submitted with board displaying Pit no.
- f) The thickness of manganese ore bed as described in local geology is not matching with that of details given in table no. 6(A). Justify. Further the existence of trenches has not been found

during inspection where as mentioned in table no. 6(A), which should be clarified. Extreme end point coordinates needs to be mentioned in the table.

- g) Exploratory pits, working pits geological logs needs to be enclosed.
- h) In the geological plan the exploratory pits are not shown and the trenches which do not exist in the mine have been shown. The Geological plan needs to be modified and accordingly modify the G2 level exploration area. The strike and dip of Limestone bed needs to be shown.
- i) The Manganese ore of this mine is of low Fe content, where as chemical analysis as shown in table no.7 is showing high Fe%, which needs to be justified. The chemical analysis reports are showing different results for a same sample which needs to be clarified.
- j) NABL accreditation certificate needs to be enclosed.
- k) In the future programme of exploration by DTH bore holes only is not acceptable. The proposal needs to be modified and should include core bore holes for G2 level exploration and DTH bore hole, pits as infilling combinely with proper justification. The grid interval, depth of drilling, collar RL is not given in the proposal.
- l) The justification for category of deposit as per MEMC Rule-2015 has not been given.
- m) Attach study report for bulk density, recovery of ore and sub grade ore.
- n) In Geological axis (G2)- Level of exploration needs to be modified as per the location of exploratory pits & existing working pits location. Mention the grid interval of exploration work done.
- o) In the feasibility axis (F2) part give details of geology/exploration done with reserves / resource grade pertaining to the lease.
- p) In the Economic axis (E1)-the details of exploratory work like drilling should be deleted.
- q) Table no-12 grade of ore and sub grade is not mentioned.
- r) Table no.13 reserves / resources needs to be estimated based on +10% of Manganese ore.
- s) While estimating the reserves/ resources the mining restricted area due passing of village road through the leases should be taken in to account and should be categorized accordingly.

6.Mining-

- a) The bench height and width should be maintained at 1.5 m and 3m respectively.
- a) Pit slope and Bench slope parameters are not mentioned and which should be as per statute.
- b) Ultimate pit depth proposed is 275.6 m RL justify.
- c) Lessee is doing drilling and blasting for mining, further which was also shown in last approval to the modification. So the drilling and blasting needs o be added in the proposed method of mining. Accordingly purpose spacing burden and depth of drilling and the explosives to be used as per statute.
- d) In table no.14 (Details of existing quarries) give the extreme end coordinates of each pit with no of benches and bottom and top level of each bench.
- e) Mineral reject dump exists within the mine but not shown in the plan and text.
- f) In year wise Year and Development tables give no of benches to be developed.
- g) Area proposed for dumping should be proved for presence or absence of mineral. Hence dump location be corrected accordingly.

- h) In the conceptual mining the disposal of waste is not discussed. In the afforestation year wise location and site details are no given. Bonding of waste dump, garland drain and construction of retaining wall, siltation chamber not discussed.
- i) In Post mining land use pattern external waste dumps is shown which not allowed. Clarify.

7. Mine Drainage

- a) Mention the max water table during rainy season & min water table during summer season in mRL also and the name of the village.
- b) Describe drainage pattern.

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

- a) Give year wise terrace wise dumping of waste to be carried out level wise in mRL.
- b) Dumping should be proposed in a retreating manner and accordingly propose the construction retaining wall, garland drain and settling pond and the necessary corrections should be made in the all the plans (year wise development plan).
- c) Top soil should be stacked and disposed for plantation purpose only accordingly shows the area for financial assurance calculation and in the financial assurance plan.
- d) Details of waste dump and sub grade dump with grade is not discussed and for which chemical analysis report from Government lab/ NABL accredited lab should be furnished. Existing sub grade and waste dumps location should be incorporated.
- e) Area proposed for dumping should be proved for presence or absence of mineral. Hence dump location be corrected accordingly.
- f) Area required to accommodate quantum of waste, mineral rejects generated during the plan period should be furnished in detail for easy reference. Give detail of computation for area required for dumping of waste in 0.095 Ha & Mineral rejects/sub grade in 0.032 Ha area.

9. Use of Mineral and Mineral Rejects

- a) Furnish chemical and physical range value of mineral rejects specific to the mine.
- b) Give precise physical and chemical specification stipulated by all the buyers.
- c) If sub grade is used then describe its use grade.

10. Processing of ROM & Mineral Rejects

During inspection it was reported that manual sorting and sizing is being carried out in the lease but details of the same should have been furnished

11. Progressive Mine Closure Plan

- a) In the existing land use pattern show the area utilized for exiting mineral rejects dump.
- b) Environmental monitoring reports are not furnished.
- c) Core and buffer zone environmental monitoring stations are not defined with frequency of sampling.

- d) The ambient and core air quality monitoring stations should be proposed with respect to prevalent wind direction.
- e) **Financial Assurance-** 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.

12. Feasibility study

The bench parameters, OMS mentioned in mining chapter and Mining method of feasibility study report is not matching. clarify.

13. Annexures-Annexure numbering is not proper.

14. Plates

- a) The grid coordinates are local. It should be in UTM (WGS 84 mode).
- b) **Plate-I (Key Plan)**-Incorporate the scale of at least 25cm length in key plan. Mention the name of the place to which the National high way/state high way/district road/village road is approaching.
- c) **Plate-II (Lease Sketch)**-The sketch submitted is not clear and not signed by anybody. Enclose the certified lease sketch along with boundary pillar co-ordinates certified by competent authority of state government.
- d) **Plate-III (Surface Plan)**- Show all the old working pits location and existing quarries. Give bottom and top level of the existing quarry in mRL. The exploratory pits existing in the mine should be shown. Existence of Trenches within the mine should be clarified and accordingly the plan may be modified. Village road passing through the lease should be shown and 50m area along both side of the road should be marked as mining restricted area. Existing mineral rejects stock yard not shown in the plan.
- e) **Plate-IV (Geological Plan)**-
The bore holes to be proposed for future exploration programme should be out of the safety zone area. Strike and dip are not shown in the geological plan. The trial exploratory pits existing in the mine should be shown. Trenches which are not existing in the mine are to be deleted. Working Pit / Exploratory pit bottom should be indexed for manganese wherever it is manganese bearing whereas the indexing of Limestone at pit bottom needs to be deleted.
- f) **Plate-V (Geological Sections)**-
Sections are to be corrected as the Limestone beds are missing above the Manganese bed which is not as per the lithology of exploratory pits. The geological section should be in 1:1000 scale.
- g) **Year Wise Development plan(VIA to VIE)**
The year wise development plans and sections are not clearly visible. The plan should be prepared in 1:1000 scale. The no of benches proposed should be planned keeping in view of 1.5m bench height & 3 m width and the section should be changed accordingly. Show proposed dumping, construction of retaining wall, garland drain and settling pond year wise.
- h) **Plate-VII (Reclamation & Rehabilitation Plan)**
The serial no of this plan needs to be mentioned as VIII. Noise and water monitoring station should be out of the safety zone area.

i) **Year Wise Development Sections (VIIA to VIIE)**

All the sections are to be corrected as the Limestone beds are missing above the Manganese bed which is not as per the lithology of exploratory pits. As the benches proposed to be developed is crunzy and the level in mRL is not clear, the year wise development sections should be made in 1:1000 scale. The indexing of year wise dumping in dump section from 2019-20 to 2021-22 needs to be corrected.

j) **Plate No-VIII (Environment Plan)**-Village road passing through the lease, existing quarry, core and buffer zone environmental monitoring stations are not shown.

k) **Plate No-IX (Conceptual Plan)**

Ultimate Pit depth should be modified considering average established depth of mineralised zone and pit slope as per statute should be considered. The conceptual plan and section should be modified accordingly.

l) **Plate-X (Progressive Mine Closure Plan)**

Existing Mineral reject dump is not shown.

15. Certificates

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

- i. Mention review of mining plan instead of modification of mining plan.
- ii. Mention rule as 17(2) of MCDR-2017 instead of 17(3) of MCDR-2017.
- iii. Mention the survey nos.

b) **Certificate from RQP-**

- i. Mention review of mining plan instead of modification of mining plan.
- ii. Mention the survey nos.