

INSPECTION REPORT CUM SCRUTINY COMMENTS ON REVIEW OF MINING PLAN OF KUMBEZARY MANGANESE ORE MINE OF SRI SURESH AGARWAL SPEARD OVER AN AREA OF 25.65 HA IN SURVEY NO-5, 6, 60/P AND 61 OF KUMBEZARY VILLAGE, ADILABAD MANADAL, ADILABAD DISTRICT OF TELANGANA, DATE OF FIELD INSPECTION-12.06.2017

- 1. Cover page-**The plan period should be corrected based on date of notice of opening of mines and accordingly correction should be made at all other places. 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. Give details of lapse period.
- 3. Location & Accessibility** -Attach the lease sketch showing Mining Lease boundary coordinates, authenticated by competent authority of state government. Toposheet no is not correct.

4. Review

- a) Mention about the lapse period and justify for not having mining plan.
- b) Exploration (Table No: 2)- Achievement is not correctly shown and justification for deviation not given.
- c) Mine Development (Table 3)- Show the lapse period. Production has not been shown for all the years, but in annual returns production has been shown. The year wise production details needs to be furnished. Deviations and justification are to be furnished.
- d) OB & Waste Generation (Table No: 4) – Year wise production quantity of OB/waste is not shown. Justify the deviation.
- e) Afforestation programme (Table No:5)- Year wise achievement figure has not been given for some years and the deviations have not been justified.
- f) Status of Compliance of Violations (Table No.6)– The status is not complete as compliance status of all the active violations are not covered. All the active violations are not annexed.

Part-A

5. Geology & Exploration

- a) Maximum & lowest elevation in mRL of the mine should be mentioned.
- b) In the regional geology, mention about the lithological succession with age occurring below the Manganese ore bed.
- c) The dimensions of the exploratory pits are not matching with the actual and accordingly the dimensions & thickness of different litho units should be corrected in table no.7 and in the same table the year of exploration, coordinates and top / bottom collar of all the exploratory pits and should be mentioned. The exploratory pits should be recorded and photographed.
- d) Exploratory pits and working pits geological logs along with photographs needs to be annexed.
- e) During inspection only 3 working pits found to exist. The dimensions of the pits and thickness of manganese ore bed are not matching with details as given in the table 7(A).No trench found to exist as per the table-7(A).
- f) 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 area of Geological axis (G) pertaining to level exploration. The strike and dip of Limestone bed needs to be shown.

- g) The Manganese ore of the mine is of low Fe content as per the text mentioned in geology, where as the chemical analysis as shown in table no.8 and annexed chemical analysis reports are showing very high Fe%, which needs to be justified. Further the chemical analysis reports are showing different results for a same sample which needs to be clarified.
- h) NABL accreditation certificate needs to be enclosed.
- i) 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 and DTH bore holes, pits as infilling giving proper justification. The grid interval, depth of drilling, collar RL has not been furnished.
- j) The deposit category as per MEMC Rule-2015 with justification has not been given.
- k) Report for bulk density study, recovery of ore and sub grade ore should be annexed.
- l) In Geological axis (G1) pertaining to 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 and then Justify the Geological axis (G1) pertaining to level of exploration.
- m) In the feasibility axis (F1) part give details of geology/exploration done with category, quantity and grade of reserves / resource.
- n) In the Economic axis (E1)-As no drilling has been done, the exploration details should be modified accordingly.
- o) Table no-12 grade of ore and sub grade should be mentioned.
- p) Table-15 the reserves / resources needs to be estimated based on +10% of Manganese ore and justify for reserves shown in UNFC category 111 & 211.
- q) While estimating the reserves/ resources take into account of the mining restricted area within the mine and should be categorized accordingly.
- r) At places adjacent waste rock is mentioned as pegmatite, which should be corrected.

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

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 245.6 m RL and Ultimate Pit slope is furnished as 24 degrees. 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.16 (Details of existing quarries) correct the dimensions, furnish the extreme end coordinates of each pit with no of benches and bottom and top level of each bench.
- e) The proposed plan period needs to be corrected and accordingly propose for year wise development.
- f) Table no-17, mention all the plan periods. Show the plan period as lapse period for which production schedule is not given. Mention section wise grade.

- g) The location coordinates, no of benches proposed to be developed with mRL, of the year wise proposed mining has not been furnished. Detailed lay out of mine workings, pit road layout, lay out of faces need to be given both in text & year wise development plan.
- h) Mineral stock yard exists within the mine which should be shown in the plan and text with details of location, dimension, quantity and grade.
- i) OMS is furnished as 5 tonnes which needs to be justified.
- j) The average employment has crossed 150, but the method of mining proposed is manual which needs to be justified.
- k) Area proposed for dumping should be proved for presence or absence of mineral. Hence dump location be corrected accordingly.
- l) 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.
- m) In Post mining land use pattern external waste dumps is shown which not allowed. Clarify.
- n) In Conceptual Land use pattern (Table no-24) area for storage of op soil should be proposed.
- o) Old workings pits are not shown in the land use pattern and plan.
- p) Mining retracted area as per the lease deed condition should be marked on the all the plans and no mining activity should be proposed within the same area.

7. Mine Drainage

Mention the max water table during rainy season & min water table during summer season in mRL also and the name of the village.

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 propose for dumping of top soil and show the area for financial assurance calculation and in the financial assurance plan.
- d) Details of existing waste dump and sub grade dump with location, quantity, grade, area and dimension are not discussed and for which chemical analysis report from Government lab/ NABL accredited lab should be furnished.
- e) Area required to accommodate quantum of waste, mineral rejects, top soil generated during the plan period should be furnished with details of calculation for area requirement.
- f) The height of waste dump mentioned as 30m should be corrected.

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) Use of sub grade and its detail specification should be shown.

10. Processing of ROM & Mineral Rejects

During inspection it was reported that manual sorting and sizing will be carried out in the lease which should have been furnished.

11. Progressive Mine Closure Plan

- a) In the existing land use pattern the area utilized for existing mineral stock yard has not been shown.
- b) Environmental monitoring reports are not furnished.
- c) Core and buffer zone environmental monitoring stations are not defined for their location, frequency and no of sampling.
- d) The prevalent wind direction and environmental monitoring stations have not been shown in the environmental plan. The river is shown along the SW of the mine but where as in the key plan it is shown as nala in the North part of the Mine. Clarify.
- e) In the additional requirement during plan period the area for top soil dumping, mineral stock yard has been shown as nil. Propose and give the above mentioned item wise area requirement.
- f) In the calculation for financial assurance table no-38, area for top soil dumping, mineral stock yard have been shown as nil further the old working pit has not been taken in to consideration. The 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.

13. Annexures- Some of the annexure have not been annexed and the 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. The width of water course shown should be checked and confirmed for whether it is nala or river.
- c) **Plate-II** (Lease Sketch) Enclose the copy of 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 and existing quarries. All the existing exploratory pits 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 with the name of village. 50m area along the both side of the public infrastructures should be marked as mining restricted area. Existing mineral 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. All the existing exploratory pits in the mine should be shown. Working Pit / Exploratory pit bottom should be indexed for manganese wherever it is manganese bearing whereas the disposition of Limestone at pit bottom needs to be corrected.
- f) **Plate-V** (Geological Sections)-
Sections are to be corrected as per the disposition of lithological units found. The geological section should be in 1:1000 scale. The mining restricted area should be clearly marked on all the sections. Show all the proposed bore holes in the geological sections.
- g) **Year Wise Development plan & Section{VI & VI(A)}**
In the year wise development plan the indexing of waste dump is not correct. The proposed year wise pit layout and bench layout have not been shown in the plan. The year wise development sections are not clearly visible. The plan & section should also be prepared in 1:2000 and 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. The disposition of lithological units should be corrected in the section. The mining restricted area should be clearly marked on the all the sections. Show all the proposed bore holes in the geological sections.

h) Plate-VII (Reclamation & Rehabilitation Plan)

The serial no of this plan needs to be mentioned as VIII and accordingly the rest plans and sections no should be corrected. Water monitoring station should be out of the safety zone area and air monitoring station should be within the working area. Dump index colour should be corrected.

i) Plate No-VIII (Environment Plan)- The prevalent wind direction and environmental monitoring stations have been shown in the environmental plan but the environmental monitoring stations shown in Reclamation and Rehabilitation plan(Plate-VII) are at different locations. The river is shown along the SW of the mine but where as in the key plan(Plate-I), it is shown as nala in the North part of the Mine. Clarify and show the water bodies with name correctly.

j) 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.

k) Plate-X(Progressive Mine Closure Plan)

Mineral stack yard, top soil dump, old working pits are not shown in the plan & the corresponding area in the table given in the plan.

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.