

**Scrutiny Comments on draft ‘Review and Updation of Mining Plan’ in respect of Hullikatte Manganese Ore Mine of M/s Mineral Enterprises Ltd., ML No. 1992, covering 24.65 Ha of area in Hullikatte Village, Davangere Taluk & District of Karnataka State.**

All the **headings, subheadings and para nos.& format should be strictly replicated** as per the standard guidelines as given in “IBM Manual on Appraisal of Mining Plan 2014” and information’s to be given in order.

Only relevant information’s may be furnished as desired in the headings & subheadings.

**COVER PAGE:**

1. Name of the document may be corrected as “Review & updation of Mining Plan including Progressive Mine Closure Plan” along with rule no. at all places in the text, certificates & plates.
2. Date of grant, Execution and date of expiry of mining lease area as per the lease deed may be given. Lease period mentioned up to 30.09.2035 may be supported by letter from the State DMG, Karnataka.
3. Mine code, Mining Lease no. and Extent may be clearly specified.
4. Break up of forest and non forest may be given for the ML area.
5. Under Category, it may be given as A-FM/Opencast/Public Company (unlisted)/Non captive/Private.
6. Plan period: 2020-21 to 2024-25 may be corrected as RMP period.

**INTRODUCTION:**

7. Reasons for non working of the mine, justification and date since when the mine is non working may be clearly given.
8. State wise leases already held by the lessee, other than the said lease may be furnished in the appended table.

| Sl No. | Lease reference no. & date | Area | Postal address | Type of mineral | Working/non working | Status of approval of mining plan | Date of execution & date of expiry | Remarks |
|--------|----------------------------|------|----------------|-----------------|---------------------|-----------------------------------|------------------------------------|---------|
|        |                            |      |                |                 |                     |                                   |                                    |         |

**LOCATION AND ACCESSIBILITY:**

9. Para 2.0(a): (i) Lat/Long. of any boundary pillar may be furnished. (ii) Date of execution of lease may be given. (iii) Expiry date of ML may be furnished as per lease deed or supported by letter from the State DMG, Karnataka.

## **DETAILS OF APPROVED MINING PLAN:**

10. Para 3.3: Review of approved proposals in respect of explorations, production, development & reclamation may be given in the appended table separately.

For exploration:

| Year | No of bore holes/<br>pits/trenches planned | Achieved | Deviation<br>in % | Reasons for deviation |
|------|--|----------|-------------------|-----------------------|
|      |  |          |                   |                       |

For Production, Development & reclamation:

| Year | Production/Development<br>/reclamation Proposed | Achieved | Deviation<br>in % | Reasons for deviation |
|------|---|----------|-------------------|-----------------------|
|      |   |          |                   |                       |

## **PART-A; GEOLOGY & EXPLORATION:**

11. Para 1.0 (e): (i) Exploration carried out in the past (since the inception of the mine) may be furnished. Future exploration proposals may be furnished in para 1.0 (i). (ii) Under details of sample analysis, at least 10% of total samples may be completely analysed for all radicals from a NABL accredited laboratory or Government laboratory. Findings may be enumerated in brief. (iii) Expenditure incurred in various prospecting operations may be given.
12. Para 1.0 (i): (i) Future exploration proposed may be tabulated indicating the year, type, no of boreholes, grid interval, depth, location & total meterage. (ii) Future exploration proposals given in the document may be aligned as per Rule 12(3) of MCDR, 2017 which requires detailed exploration (G1 level) to be carried out over the entire potentially mineralised area under the mining lease, within a period of five years from the date of opening of the mine.
13. Para 1.0 (j): (i) The area under G-1, G-2, G-3 and G-4 may be given in a tabular form based on the exploration carried out in the past. The same may be shown in the geological plan and sections as well. (ii) Bulk density of each of the material handled in the mine & recovery factor may be furnished. The same may be supported by field test report from NABL accredited /Govt. authorised Laboratory.
14. Para 1.0 (k): (i) Section wise detailed calculation of reserves/resources may be furnished in this para. instead of annexure. Blocked reserves may also be given if any. (ii) Parameters considered for reserve/resource estimation may be aligned as per Minerals (Evidence of Mineral Contents) Rules, 2015. (iii) In the text it is mentioned 90% recovery, whereas in the calculation sheet of geological resources, 80% recovery is considered. Clarification in the matter may be given.
15. Para 1.0 (l): (i) Mineral reserve/resources may be furnished as per the format specified in the standard guidelines as given in “IBM Manual on Appraisal of Mining Plan 2014” & be corrected as per the section wise calculation. (ii) Lumps & fine ratio in Manganese ore may also be discussed in this para.

**MINING; OPEN CAST MINING:**

16. Para 2.0(A)(a): The existing details of mine pit, OB dumps, their status indicating the location ,quantity, area covered and other details may be enclosed in a tabular column. (ii) The existing details of Mineral stock & ROM stock lying in the mines may be given in a tabular column indicating the location, quantity, area covered and quality.

17. Para 2.0(A) (b) (I): (i) The year wise tentative excavation indicating development, ROM, pit wise may be summarized in only one table given below. (ii)Bulk density & recovery factor of each of the material proposed to be handled in the mine may be tabulated below the appended table.

| Year | Pit No | Total Tentative Excavation (Tons) | Top soil (Tons) | OB/IB/S B (Tons) | ROM        |                       | Mineral reject | ROM/W aste ratio |
|------|--------|-----------------------------------|-----------------|------------------|------------|-----------------------|----------------|------------------|
|      |        |                                   |                 |                  | Ore (Tons) | Mineral Reject (Tons) |                |                  |
|      |        |                                   |                 |                  |            |                       |                |                  |

18. Para 2.0(A) (b) (II): (i) Under dump re handling for the purpose of recovery of mineral , it is mentioned as nil and in the table just below year wise quantity of ROM ore from dump working is given. Clarification may be given as the statements are contradictory. (ii) Another table may be inserted giving the dump identification no., year wise handling, estimated recovery of saleable ore & quantity of reject likely to be generated in case of dump re-handling, along with opening & closing stock.

19. Para 2.0 (c): (i) Year wise, bench wise, section wise calculation of production & development quantities may be given in this para instead of annexure & discussed in brief. (ii) The details of working may be furnished in the below appended table.

| Year | Area | Sections | Advancement | No of Benches |       | Level mRL |        | Working depth | UTM coordinates |         |
|------|------|----------|-------------|---------------|-------|-----------|--------|---------------|-----------------|---------|
|      |      |          |             | Ore           | Waste | Top       | Bottom |               | Northing        | Easting |
|      |      |          |             |               |       |           |        |               |                 |         |

(iii) Details of dumping may be given in the table given below:

| Year | Extent (Ha) | Quantity (Tons) | Top mRL | Bottom mRL | No of Stages | Slope angle | Northing coordinates | Easting coordinates |
|------|-------------|-----------------|---------|------------|--------------|-------------|----------------------|---------------------|
|      |             |                 |         |            |              |             |                      |                     |

20. Para 2.0 (e): Brief description on preparatory work to be carried out for the disposal of waste & reject may be given on yearly basis citing references of the section line.

21. Para 2.0 (f): (i) Engineering measures proposed for OB dump given may be bifurcated year wise. (ii) Re-grassification of the entire mined out area at the conceptual stage of mining may be proposed & few sections of the same may be given. (iii) Land use pattern at the start of plan period, end of plan period & at the conceptual stage of mining may be furnished as per Financial Assurance Table given in para 8.6.

22. Para 4.0(a): The details furnished in this para may be corrected and aligned with Sl no.17 mentioned above.

23. Para 4.0(b): In this Para, it is to clearly state that the dumping ground is proved for presence or absence of mineral supported by exploratory data and be outside/inside the UPL.

24. Para 4.0(c): (i) Details of OB dumping may be given in the appended table

| Year | Extent (Ha) | Quantity (Tons) | Top RL | Bottom RL | No of stages | Slope angle | Location |
|------|-------------|-----------------|--------|-----------|--------------|-------------|----------|
|      |             |                 |        |           |              |             |          |

(ii) Proposed engineering structures for environment protective measures may be given year wise and be shown on the plates.(iii) During the field inspection it was observed that the OB dump lying all along the NE portion of the ML area is not protected. Retaining wall & garland drain may be proposed and shown in the plans & sections accordingly.

25. Para 6.0 (a):In this para ,it is to be mentioned if the processing plant is within or outside the ML area.

26. Para 6.0 (d): Since tailing are disposed in waste dump & 20% of the total feed is tailings. The same may be accounted in the quantity of OB dumped. Necessary corrections may be done at relevant places in the text.

27. Para 8.1:The existing land use pattern (table no.14.1) may be given as per the Financial Assurance Table in para 8.6.

28. Para 8.3:(i) Mitigation measures to control air pollution, water pollution, noise & vibration may be given in this para. (ii) Proposed environmental monitoring station for air, water, noise, soil and vibration in core zone & buffer zone may be tabulated indicating the no of samples & frequency of monitoring.

29. Para 8.3.1: Land use pattern at the end of plan period & conceptual stage may be tabulated and discussed in this para.

30. Para 8.3.5: The information pertaining to environmental monitoring, year wise construction of retaining wall, garland drains may be given under the head ‘others’ in page no.61.

31. Para 8.6: (i) Since retaining wall & garland drains are proposed to be constructed in the plan period, the area may be considered for FA calculation under the heading “others”. The area under tailing pond & mineral separation plant may also be reviewed, crosschecked & corrected accordingly. (ii) For financial assurance calculation, Rule 27 (1) of Mineral Conservation and Development Rules, 2017 may be referred & accordingly Bank Guarantee may be submitted.

32. The format of the Consent letter/Undertaking /Certificate from the lessee may not be changed and all the points to be covered.

## PLATES:

- a) Key Map (Plate No.1): (i) Access to the mining lease area may be shown. (ii) Wind rose diagram may be shown giving the prominent wind direction. (iii) Surrounding mining leases if any may be marked and indexed accordingly.

- b) Geological Plan (Plate No. 4): (i) Area under G-1, G-2, G-3 & G-4 may be shown prominently with thick lines, tabulated & indexed accordingly. (ii) UNFC codes may be depicted in bold letters.
- c) Geological cross sections (Plate No. 4B ): UNFC codes for the area considered for different categories may be shown clearly on each of the sections line & be prepared as per the guidelines given in Minerals (Evidence of Mineral Contents) Rules, 2015.
- d) Production & Development Plan (Plate No. 5A -5E): (i) The progress of the year wise waste/OB dumping may be shown in each of the year in each of the plate. (ii) Year wise progress of retaining wall & garland drain may be shown & indexed. (iii) Year wise progress of plantation may be marked & indexed in this plate.
- e) Production & Development Sections (Plate No. 6): (i) Interval of the Y axis in the section may be decreased and confined only till the bottom of the working pit. (ii) Progress of the year wise dumping of waste /OB dumping may be shown & indexed accordingly.
- f) Conceptual Plan (Plate No.7): (i) In this plate only the details pertaining to conceptual land use pattern may be shown with outlines & solid fill colours. The same may be tabulated. (ii)Re-grassification of the entire mined out area at the conceptual stage of mining may also be proposed & shown.
- g) Conceptual sections (Plate No. 7A): (i)The sections may be re-drawn based on the comments placed at point (f) of Plates section. (i)The interval of the Y axis in the section may be decreased and confined only till the bottom of the working pit.
- h) Financial area assurance plan (plate no.8): Break up (areas) of the land use pattern at the end of plan period of the mining & allied activities may be indexed accordingly as per FA table.
- i) Environment Plan (Plate No.9): (i) This plan may be submitted on 1:2000 scale. (ii) Environment monitoring stations may be established in the core and buffer zone and marked in the plate. The same may be reproduced in the text part as well. (iii)Progress of the proposed engineering structures (Retaining wall & Garland drain) may be shown year wise in different colours & indexed accordingly. (iv) Year wise plantation may be shown and indexed accordingly.

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