SCRUNITY COMMENTS OF MINING PLAN IN RESPECT OF AUCTIONED ML BLOCK OF UBBALAGANDI IRON ORE MINE, ML No. 2433, AREA 29.49 HA., SUBMITTED BY PREFERRED BIDDER M/S MINERA STEEL & POWER PVT. LTD., SITUATED IN DONIMALAI BLOCK, SANDUR TALUK, BALLARI DISTRICT OF KARNATAKA STATE

All the headings, subheadings should be replicated as per the standard guidelines as given in "*IBM Manual on Appraisal of Mining Plan 2014"*

COVER PAGE

1. Name of the document should be corrected as "Mining Plan including Progressive Mine Closure Plan".
2. Submission of Progressive Mine Closure Plan under Rule 23 of MCDR, 2017 also to be included in the cover page.
3. Name of M/s Minera Steel & Power Private Ltd. should be mentioned as 'Preferred Bidder' in the cover page.
4. Category of the mine should be mentioned as: 'Opencast, Fully Mechanized, Captive, Private Ltd. Company.

INTRODUCTION

5. List of other mines held by the preferred bidder in the state may be given.

GENERAL

6. Para 1.0 (a): (i) Name of the 'lessee' should be corrected as 'preferred bidder'; necessary correction should be carried out throughout the document. (ii) The details like name, phone no, fax, mobile no and email of the managing director may be given.
7. Para 1.0 (d): Name of the mineral specified in the LOI should be mentioned here.
8. Para 2.0(c): Summary of the salient features of the approved Reclamation & Rehabilitation plan may be placed in the PMCP chapter at appropriate para.
9. Para 3.0: The sub para 3.1 to 3.6 may be given with appropriate answer.

LOCATION AND ACCESSIBILITY

10. Copy of the high resolution satellite image, obtained from CARTOSAT-2 satellite LISS-IV sensor on the scale of cadastral map, as on 31st March of the financial year, covering the mining lease and an area of 2 kilometres from the lease boundary require to be enclosed with the document.

PART-A

11. Para 1.0 (c): Mode of occurrences, size wise quality and recovery % of BHQ/ siliceous iron ore should be discussed in the local geology.
12. Para 1.0 (i): Entire potential mineralized area within the lease should be explored by detailed exploration (G1 stage) within a period of five years from the date of opening of the mine after execution [ref. Rule 12(3) of MCDR, 2017].

    Also, as observed during the course of inspection and from the geological plan that few boreholes require to be proposed along the iron ore band no. 4, located at North Western

side of the lease area, between section nos. S2-S2' and S3-S3' to confirm delineation of the ore body at subsurface.

13. Para 1.0 (j): In economic evaluation of feasibility report, provision of paying royalty against DMF and NMET are not considered. Also, economic evaluation of BHQ/siliceous ore, end use of such material, marketability and proposed beneficiation or blending practice should be elaborated.
14. Para 1.0 (k): Following deficiencies are required to be corrected in 'detailed calculation' of iron ore reserve and resources:
    a) In section-wise detailed calculation of reserve and resources bulk density of heamatitic iron ore has not been considered as **3 tonnes/m^3** as per the ICFRE recommendation in approved R&R document.
    b) Recovery of BHQ/ Siliceous iron ore has been considered as 60% without any justification/ documentary evidences. A copy of the recovery analysis report from NABL or similar accredited laboratory should be enclosed with the document.
    c) Justification of considering 1.016 million tonnes of BHQ/ Siliceous iron ore into probable reserve category (UNFC Cat. 122) has not been furnished in the document. Economic evaluation of siliceous ore, end use of such material, marketability and proposed beneficiation or blending practice should be elaborated in details before placing BHQ/siliceous ore into reserve category.
    d) Depth of the estimated reserve has not considered up to the end run of drilled boreholes. Since proved depth of the main iron ore band (ore body 1), as established by drilled borehole is 60m from the collar level; therefore depth of the UPL should be restricted accordingly for the main iron ore band. In view of above, estimation of reserve in section nos. S3-S3', S4-S4' and S9-S9' should be corrected and re-furnished.
    e) Sectional influence of S6-S6' section is found more than 100m, but in document it is incorrectly mentioned as 95m; should be corrected accordingly.
15. Para 1.0 (l)(a): Cut-off grade for proposed mining has been mentioned as 55% Fe, but mineral reject generation (for Fe quality 45% to 55% in case of heamatitic ore) has not been proposed in tentative year wise production proposals, please clarify.
16. Para 2.0 (a): The existing dimension of the pit may be given in a tabular form. The details of ROM/Graded stocks available in the mine may be furnished in a tabular column including location, area covered, approximate quantity.
17. Para 2.0 (b): (i) Table no 18 may be given as per the format prescribed in the IBM manual for preparation of Mining Plan & two separate table may be given, one in CuM &the other in Tonnage. (ii) A separate table for Bulk density of each material may be given for computing the tonnage. (iii) The Bulk density of OB, Iron ore and BHQ considered in the calculation may be supported by NABL accredited laboratory. (iv)Average grade of BHQ may be discussed. (v) In table no.19, bench wise volume calculation including no of benches proposed to be worked in ore & OB may be given.
18. Para 2.0(d): In the extent of Mechanization, it has been mentioned that only 30% of ore & waste requires blasting but during the field inspection it was observed that at least 60% of the total material handling needs blasting. The same may be corrected and accordingly the calculation may be changed to arrive at the no of drills to be used in the mine.

19. Para 2.0(e): (i) In page no.34 it is mentioned that 52,900 Tons of wastes from dump re handling will be done. In this context the year wise, section wise and bench wise details (top & Bottom RL) may be given with reference to plate No. (ii) In this para it is to be discussed whether the temporary dumps are on the mineralized/non mineralized area and within /outside UPL. (iii)In table no.23, the ultimate slope angle of the temporary dumping may be furnished.
20. Para 2.0(f): (i) This Para may be rewritten in brief and summary of the conceptual mine planning up to the **end of lease period based on the conceptual land use pattern** may be discussed giving the measures to restore the land as given in Table no.32. Few sections of the same may be enclosed as plates.
21. Para 4.0 (a): It is mentioned under this para that heamatitic iron ore having Fe quality in between 45% to 55% would be 'blended suitably as per the requirement of plant specification', hence the concept of 'cut off grade' or 'mineral reject' is not arising as such, the matter may be clarified.
    Also, nos. of existing dumps present within the ML area with extent and height should be mentioned in this para in a tabular format.
22. 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 bore hole data and be outside/inside the UPL. Justification with technical constraints may be discussed for temporary dumping.
23. Para 4.0 (c): (i)Environment protective measures like construction of retention wall, gully plugs and check damps should be undertaken along the toe of the proposed active dump to prevent escape of material as per the approved R & R plan. Year wise such proposals may be furnished here in a tabular format.(ii) In this para, Year wise temporary dumping details may be enclosed in the appended table.

Year	Dump No	OB Quantity proposed	Area in Ha	No. of Stages	Level in MSL, Top RL & Bottom RL	Location Coordinates	Slope Angle

24. Para 5.0 (a): In requirement of end use industry use of BHQ/siliceous iron ore (Fe 35 to 45%) is not discussed. Proposed blending ratio of BHQ/ siliceous ore (having quality of +35 to 38.59% Fe) with heamatitic iron ore, should be elaborated here to achieve the captive plant requirement of 55% Fe.
    It has been observed that tentative year-wise production for heamatitic iron ore and BHQ/ siliceous ore as mentioned in the table no. 18 (ref. page 26) is not aligned with the requirement of 55% Fe quality for the captive plant as the quality of the heamatitic iron ore for this deposit varies from 45% to 58.7% Fe; hence scope of blending of BHQ/siliceous iron is meagre.
25. Para 7.0 (b): In employment potential, statutory requirement of mining engineer and geologist should be furnished as per the provision of MCDR, 2017.
26. Para 8.1: The demographic details may be tabulated form under human settlement.

27. Para 8.3.5: A tabular column may be inserted for monitoring the environment parameters in the core & Buffer zone with their respective locations and no of samplings proposed in core & buffer zone.
28. Para 8.6: No additional area has been proposed for mineral storage, and mineral separation plant in the Financial Assurance table. Unused area also not mentioned in the table. 'Area put on use at the start of the plan period' should match with the total lease extant. In view of that, table -44 should be corrected.

    Submission of Bank Guarantee is not applicable for a mining lease granted through the auction wherein the Mine Development and Production Agreement are signed between the lessee and the State Government.

PART-B

29. **Para 10, Plates:**

    All the plans & sections may be given on a scale of 1:1000 for better visibility & clarity

    a) Key Plan (Plate No.1): Name of the mining companies surrounding the said ML as shown in the plate may be indexed.
    b) Surface Plan (Plate no. 3) :(i) An updated surface plan may furnished. (ii) Extent of existing dumps and ROM/graded stocks should be marked clearly in the plan.
    c) Geological Plan (Plate no. 4): Area covered under G1 and G2 stage of exploration is not demarcated correctly in the plan. Contacts of BHQ and heamatitic iron ore bands should be demarcated clearly in the plan.
    d) Geological Cross Sections (Plate no. 5): Depth of the UPL should be restricted upto the reserve limit, proved by drilled boreholes, for iron ore body no. 1 and for the adjacent BHQ band. Sub-surface ore body delineation/ projection should be corrected in accordance with the drilled borehole logs. Projected ore body below drilled borehole limit should be classified under UNFC Cat. 333.
    e) Production & Development Plan (Plate No.6A-6E): (i) As discussed during the field visit, this plate may be prepared based on the updated surface plan & subsequently so on. (ii)The proposal for stacking the ROM & graded stocks may be shown in this plate and indexed.(iii) The UPL as per the above comment may be altered accordingly.(iv) The distance and direction of movement of each of the working faces may be marked /coloured prominently.
    f) Section showing yearly working (Plate No.7): 52,900 Tons of waste from dump re handling may be shown in the respective section and indexed.(ii) The production & development sections may be aligned with the cross section.(iii) A separate plate showing the temporary dump sections may be enclosed.
    g) Environment Plan (Plate No.8): Monitoring of environment parameters in the core zone may be shown and indexed.
    h) Conceptual plan & sections (Plate No.9): In this plate only the land use pattern & measures to reclaim at the conceptual stage may be shown along with few sections.
    i)

j) Financial Area Assurance Plan (Plate no. 10): (i) This plate may be corrected in accordance with the comments offered for para no. 8.6, text part. (ii) A detailed break up of the area of the respective activity may be given and shown only in the outlines.

30. Para 11, Annexure: Any type of stamping should be avoided in the annexure**.** Following items are required to be annexed with the document:
    a) Copy of the Reclamation and Rehabilitation Plan approval letter.
    b) Copy of the recovery analysis report for BHQ/siliceous iron ore (size-wise, grade-wise).
    c) Feasibility study report of the deposit with economic evaluation of considering 1.016 million tonnes of BHQ/siliceous ore into reserve category (UNFC Cat. 122).

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