

SCRUNITY COMMENTS OF THE MINING PLAN OF AUCTIONED, M. L. BLOCK OF DEVADARI IRON ORE MINE (V. S. LAD & SONS, M. L. NO. 2290), AREA 100. 54 HA., SUBMITTED BY PREFERRED BIDDER M/S JSW STEEL LTD., SITUATED NEAR LAKSHMIPURA VILLAGE, SANDUR TALUK, BELLARY DISTRICT OF KARNATAKA STATE. FOR THE FIVE YEARS PERIOD, CATEGORY OF THE MINE IS A(FM-FULLY MECHANIZED), OPEN CAST, DEVADARI RESERVED FOREST, CAPTIVE MINE. SUBMITTED FOR APP

COVER PAGE

1. Proposed method of working should be mentioned clearly as: Open-cast, Category A, Fully Mechanized, Captive Mine. Further, it should be written as document submitted for approval under rule 16 of MCR, 2016.

LOCATION AND ACCESSIBILITY

2. Para 2.0 (b): Name of the nearest railway station with distance may be mentioned.

PART-A

3. Para 1.0 (c): Extent of total mineralised area established so far by exploration may be discussed in local geology.
4. Para 1.0 (i): Future exploration proposal by 10 nos. of core boreholes are not sufficient to cover entire potential mineralised area under G1 stage of exploration. Western iron ore band and other small ore bands within the ML block are not found to be explored by detailed exploration. Therefore, to ascertain the extent and depth of mineralization, complete ML block should be explored by detailed exploration in (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); accordingly future exploration programme may be re-framed by adding more number of holes. The location proposed for bore holes are not adequate. Besides, it is given MECL has estimated reserves under G3 category, if it is so, how the reserves shown in table 1.6 under different UNFC categories may be examined and reconciled.
Few boreholes may be drilled in the potential BHQ areas to ascertain the quality of the same.
5. Para 1.0 (j): In economic evaluation of feasibility report, provisions of paying royalty against District Mineral Foundation (DMF) and National Mineral Exploration Trust (NEMT) are not considered. Justification of considering UNFC Codes (111, 122 & 333) as applicable for this deposit should be deliberated briefly in this para.
6. Para 1.0 (k): Following correction are required in detailed calculation of ore reserve and resources as furnished in table 1.7:
 - a) Bulk density of iron ore may be considered as 3 as per ICFRE recommendation, % of recovery should be mentioned clearly while estimating reserve and resources.
 - b) UNFC code 113 does not exist logically; the same may be corrected as UNFC code 333 (Inferred mineral resource).
 - c) Reserve estimation as per UNFC along section nos. S-1, S-9, S-14, S-16, S-17, S-18 are not found correct, average sectional influence in all above-mentioned sections are found more than 100m (i.e. under G2 stage of exploration). Hence, incorrectly estimated proved reserve (UNFC Cat. 111) under those particular sections should be placed under probable reserve category or UNFC Cat. 122.

- d) Name of the 'total reserve' (column no 14) should be corrected as 'total reserve and resources'.
7. Para 1.0 (l): Bulk density, recovery factor, processing loss etc. as applied by the applicant during reserve and resource estimation only to be furnished here. Nomenclature of reserve and resources should be given as per UNFC; perplexing words like 'geological reserve', 'minable reserve' may be removed in page 28.
 8. Table 1.8 and 1.9: Quantity of iron ore under different stages of exploration and UNFC codes may be corrected in accordance with the scrutiny comment as given for para no. 1.0 (k).
 9. Para 2.0 A(a), under the existing method, it is mentioned that the mining operation were carried out by mechanized method, even though the mine were worked only through fully mechanized method using HEMM, the information should be given appropriately. (ii). Besides, the top most mRL of the mine pit is 966mRL, and the UPL, ultimate pit limit would extend to 786mRL, which is not correct, it should be indicated as ultimate pit depth/ ultimate pit bottom, this will be extended from the UPL to UPS (ultimate pit slope). Therefore, the information may be attended suitably. (iii). Besides, it is expected to brief on the slope of faces, direction of advancement, approach road to the faces & specification of roads, etc., to be marked. (iv). Also, the existing dumps spread parameters, height, slope protective works etc., to be marked. (v). The bench wise, mRL wise, opening reserves, exploitation and the closing balance should be furnished for the proposed periods.
 10. Para 2.0 (b): In year wise advancement of proposed pit, developments of benches are shown from southern-end of the mining block to further north. But, mining benches are found to be proposed in zigzag manner; which should be maintained as parallel and straight to the strike of the ore body as far as possible. (ii). Also, partial handling of waste dump ID-1 is necessary for systematic and scientific development of proposed mining pit. In view of that, proposed tentative excavation proposal may be corrected. (iii). Dumping by backfilling is proposed by the applicant at western side of the pit in between section no. S-10 to S-12. Before commencement of backfilling within designated area, exposed ore body blocked in mine benches (in between section nos. S-9 and S-10) should be completely handled during first year itself. (iv). The back filling operation should be taken up in the proposed location after exploiting the left out ore and confirmed for exhaustion of the ore/ non-mineralized, possibly in the 2nd year onwards. In the light of the remarks, the remaining 3rd year to 5th year development & production may be attended appropriately.
 11. Table-2.3, should be attended in line with the remarks given in para 2A (a) (iv) & (v). Further, in page-35 to 39, the development & production figure furnished need to be still more with clarity.
 12. Para 2(b)(II), the dump re-handling part, should be taken up with top priority to assess for the exact quantity and quality and need to be handled with proper planning.
 13. Para 2.0 (e): Waste dumping by backfilling may be started from northern portion of the designated area and advancement of backfilling should continue from north to south in subsequent years (from section 12 to section 10), so that blocked ore can be removed completely that present in between section nos. S-9 and S-10. Proposed approach haul road from mine pit to backfilled area, width and gradient of haul road may also be discussed here. The table 2.6, waste generated during the five years given in table for back filling, also in table-4.1, may be reconsidered, before undertaking the back filling for exploitation of ore-beneath
 14. Table 2.6: Proposed waste generated quantity is not matching with table 2.1 (ref. page 32).

15. Para 2.0 (f): Approved R & R measures to be undertaken by the applicant with time limit of completion of the same may be discussed in this para, the same may be incorporated in table 2.8 and table 2.9.
16. Para 2.0 (g): In extent of mechanization, utilization and availability% of mining machineries are not considered while estimating requirement of machineries. Calculation of tripper requirement is not found correct, no additional trippers are considered for standby (ref. page 63). Effective working hours for mining machineries are mentioned as 9 Hrs, number of working shifts may be clarified here.
17. Para 4.0(a): Sub-grade stacks already present at different location in the mining block may be furnished here in a tabular format mentioning stack no, location, extent and height.
18. Para 4.0(b): Nos. of dumps already present in the mining block may be furnished here in a tabular format mentioning dump no, location, extent and height.
19. Para 4.0(c): Sequence of dumping may be corrected in accordance with the scrutiny comment as given for para no. 2.0 (e). Year-wise proposed environment protective measures like construction of retention wall, gully plugs and check dams to be undertaken along the toe of the active/ inactive dumps may be furnished here in a tabular format/ also in line with the R & R approved documents.
20. Para 6.0(a): Tentative location of proposed crushing and screening unit may be mentioned here, the same to be updated in year-wise Production and development plans with clear demarcation of temporary ore (finished product) staking areas.
21. Para 8.2: Provision of regular monitoring of air, water and noise should be proposed within the mining block as preventive measures. Such monitoring stations should be duly marked in environment plan.
22. Para 8.3.5, Table-8.4: In summary of year-wise proposal for item no. 8.3, under 'R & R by backfilling' item-head, 'void available for backfilling' may be furnished as Length X Breadth X Depth.
23. Para 8.4: Name, designation & contact no. of the person to be communicated in case of any emergency situation should be furnished in this para.
24. Para 8.6: As per the provision of Rule 27(1) of MCDR, 2017 Financial Assurance is not applicable *"for a mining lease granted through the auction or the mining lease granted under the provisions of clause (b) or clause (c) of sub-section (2) of section 10A, wherein the Mine Development and Production Agreement has been signed between the lessee and the State Government."* Hence, submission of Bank Guarantee to IBM for this auctioned ML block is not required.

PART-B

25. Para 10, Plates:

- a) Key Plan (Plate no. I/b): Villages name, contours and other features are not legible; nearby ML areas are required to be demarcated in this plan. Wind rose diagram may be drawn on this plan.
- b) CEC Lease Sketch (Plate no. I/c): Particulars of lease sketch table and extents are not legible.
- c) Surface plan (Plate no. II/a): Sub-grade ore stacks should be numbered in the plan; extent of stacks and dumps within the mining block may be shown clearly. Contour values in untouched areas are not legible.

- a) Geological Plan (Plate no. II/b): Area covered under different stages of exploration should be marked. The waste dumps that are present within the UPL must be removed out of UPL demarcation in a phased manner, on the mineral conservation point of view and the area to be utilized for mining to exploit the mineral at depth.
- d) Geological Sections (Plate no. II/c): Geological sections are not matching w.r.t. the Geological Plan, entire ore body is not shown along section no. S-4. Litho contacts (as shown in the Geological Plan) and apparent dip of the ore body are not found to be connected with drilled borehole data. UNFC codes should be demarcated in the sections. the sections along S-12, S-13 & S-15 are found to be not appropriate. Therefore the sections should be prepared in the light of the above remarks, after undertaking future exploration in the ML area and the reserves should be modified.
- e) Production and Development Plans (Plate nos. III/a to III/e): These plates may be corrected in accordance with the scrutiny comments as given for para no. 2A(a) & 2.0 (b) and para no. 2.0(e). Proposed haul road from the working pit to mineral stack and dumping area should be shown. Year-wise proposed afforestation areas also to be demarcated. The development and production limit at the end of each year may be brought out as on 31.03.2018, 31.03.2019 & so on up to the 5th year working as 31.03.2022.
- f) Environmental Plan (Plate no. V): Few water monitoring stations may be proposed at the north of the mining block where nallahs are originating.
- g) Conceptual Plan (Plate No.VI): The conceptual plan is not prepared appropriately, revealing the position of workings/ what would be the situation or the position of workings at the conceptual stage. Besides, the back filling proposals were drawn, but in the index it is given as dumping is not clear for understanding. Whatever the activities that are undertaken in the mine and continued during the conceptual stage or at the closure of the mine may be brought out accordingly, instead of showing the present position workings at that stage is not correct. Therefore the same need to be attended appropriately.
- h) Financial Area Assurance Plan (Plate no. VII): Not found prepared as per the guidelines, outlines of the proposed mine working, dumps, stacks, etc. covering all the items under the financial assurance table and at the end of 5th year may be shown in this plate.

26. **Para 11, Annexure:** Following items are required to be annexed with the document:

- a) Corrected Feasibility Study Report.
- b) Few photographs of old mine workings, waste dumps and mineral stacks, subgrade stacks, infrastructure, afforestation, three Ground control points, protective measures given for waste dumps, boundary pillars etc., within ML block may be brought out with color photographs.
- c) Proposed workings for development & production and the waste dumping and the possible back filled are may also be brought out through photographs..