

Scrutiny comments on examination of draft Modified Mining Plan submitted under rule 17(3) of MCR' 2016 in respect of Hiremagi Sulebhavi Aihole Iron Ore Mine (M.L.No. 2649) of M/s. Doddannavar Bros., over an extent of 30.33 Ha, situated in Hiremagi Sulebhavi Aihole Villages, Hunagund Taluka, Bagalkot District of Karnataka State.

Text:-

GENERAL

1. Mining Lease area has not been surveyed correctly and recently. Surface plan & other plans are prepared based on inaccurate/incorrect survey. No. of dumps are shown over the Surface plan like Dump-1, 2, 3, 4 etc., however the same were not observed existing at the site. Pit roads, Pit benches, extent of Pits, overall pits profile and extent of existing dumps as shown over the surface plan & other plans, were also not observed to be made as per the actual field position. Thus existing level (RL) of pits and dumps are also not seems to be mentioned/shown as per the actual field position. Therefore, Mining Lease area has to be surveyed correctly and Surface plan & other plans have to be updated to do further planning of excavation and dumping in systematic and scientific manner.
2. As per enclosed copy of State Govt. letter dtd. 26.04.2016, extension of ML was granted up to 05.06.2030 with condition that the lessee shall execute a supplementary/rectification ML deed on acceptance of terms and conditions mentioned therein. However, the said executed supplementary/rectification ML deed is not enclosed.
3. As mentioned in Introduction and as per enclosed copy of FC, forest clearance was granted for 10 years only w.e.f. 20.06.2001. However, recent status of FC is not given.
4. As mentioned in Para 1 (b), Lessee is a partnership firm. Name of all partners/directors to be mentioned here. Further, undertaking regarding working/interest of partners in other firms/company/organization should be enclosed.
5. Chapter-3: Para 3.3: Review of earlier approved proposal is not carried out properly. Reason/justification given for not carrying out exploration and for less development and production, as lack of suitable drilling machinery and lack of machinery respectively are not appears to be justified.
6. Chapter-3: Para 3.4: Latest status of compliance of violations pointed by IBM is not given.
7. Chapter-3: Para 3.5: Suspension order issued by IBM is not indicated and also detail of the same is not given. However, from office record, it is observed that suspension order of mine was issued by this office on dtd. 19.06.2018, which has not been revoked till date.
8. Chapter-3: Para 3.6: reason of submission of the instant modification of approved SoM/RMP is not given with justification.
9. The submitted MMP document appears to be prepared in a casual manner and not up to the mark; TQP advised to be more careful while next (final) submission of the document and in attending the scrutiny comments.

GEOLOGY

10. In review, 10 core BHs of total 500m depth reported carried out in 2018-19. However, the same has not taken in to consideration for resource estimation and further in para e(iv), page-17, it is mentioned that "No exploration is made during the SoM plan period".

11. DTH BHs of 15 nos. has been taken for resource estimation, which is not desirable.
12. In page-21, it is mentioned that the reserve considered below *cut-off grade* are calculated as waste. The same ought to be considered as Mineral reject/sub-grade ore up to the *threshold value*.
13. In Feasibility Study Report, It is mentioned that presently there are three working pits namely west, east & centre pits. Whereas at site only two pits in north & south part of the ML are observed. No. of BHs taken in to consideration for resource estimation are also mentioned differently at different places.
14. Over the resource calculation table, even the name of some other mines is mentioned.
15. Earlier exploration carried out so far in the lease area should be summarized as per table below and given in the text.

Total Lease area:						
Item of information	Lease area explored as per UNFC norms (in Ha) as on dt...					Remarks/ Comments including reasons for not carrying out the exploration as per UNFC norms.
	Total Lease area = A+B+C+D+E					
	G1 Level	G2 Level	G3 Level	Explored and found non-mineralized with level of exploration (Remarks)	Unexplored lease area	
	A	B	C	D	E	
Area as per level of exploration						
No. of BH Drilled						
No. of BH considered for Resource Estimation.						
Meterage Drilled						
Grid Interval						
Scale of Mapping						
Reserve estimated after above exploration as on dt :						
Remaining Resource after above exploration as on dt:						
Total Reserve/Resource after above exploration as on dt:						

16. Exploration carried out so far should be corroborated with documentary evidence in respect of name of agency, order for the work, cost involved, and payment details by the lessee etc. with copy of form I & J maintained as per rule 47 & 48 of MCDR. All details of exploration carried out should also be certified by the concerned geologist of the mine.
17. Documentary proof for chemical analysis of BHs samples and bulk density/T.F. considered for reserve estimation may be submitted. It should be from NABL accredited lab. or Govt. lab. Entire mineralized area should be analysed meter wise with 10% of check samples. (At least for 10% of total samples may be analysed in accordance to BIS and reports from NABL accredited/other government laboratory).NABL Accreditation

certificate of laboratory from where Chemical Analysis of BH samples and bulk density test carried out, should also be enclosed.

18. As Mine is A-FM, a detailed feasibility Study report needs to be given. In the UNFC feasibility study, following important parameters to be dealt with:-
 - Assessment of IRR (Internal Rate of Return) and NPV for the project life.
 - IRR based on operating cost, reclamation/ rehabilitation cost, closure cost and other important parameters as per UNFC guidelines for the life of the project on the basis of ore body geometry, i.e., depth, width, length etc. as estimated and considered for reserve/ resource estimate.
 - Cash flow statement for the period considered for assessment of IRR.
 - Sensitivity analysis on cash flow due to market changes, i.e., cost of operation, sale price etc.
19. Exploration proposal for the entire lease area should be given on a regular grid pattern (excluding the area already covered) to be completed during this proposed plan/scheme period for assessing the total mineral reserve/ resources as per UNFC. Check BHs should be proposed in non-potential resource area.
20. Reserve/ resources to be updated/estimated based on latest exploration and survey of the mine.

MINING

21. Pits Bench slope is mentioned incorrectly.
22. As per characteristics of deposit, excavation of Mineral Rejects is not possible separately to ROM, hence Mineral Rejects have to be the part of ROM excavation. Whereas considerable quantity of Mineral Rejects are proposed to excavate separately from ROM; which is not appears to be practically possible.
23. Quantity of Mineral Rejects mentioned in Year-wise tentative Excavation in Cubic Meters as indicated in table-24 (In-situ excavation table), does not match with the year-wise tentative Excavation tonnage given in next table-25; as per considered Bulk-Density (Tonnage factor) and also not match with figure given in calculation table-30.
24. Further, In table-29, Mineral Rejects (Low grade iron ore/BHQ) considered as waste and added in to total waste quantity.
25. Expansion/development of pit benches and excavation is not designed keeping in to orientation of existing pit benches and correlating with nearby existing pit levels.
26. Re-handling of waste dumps present in southern pit are needed to carry out expansion of the pit. However, its quantity has not been considered and discussed for disposal.
27. Drilling & blasting to be designed scientifically with actual requirement of blasting along with the site specific considerations and precautionary measures to be undertaken (i.e. Vibration Control, Average Charge/Delay, Pattern of Blasting, P.F. etc.).
28. Blasting parameters, initiation system, firing sequence, blasting pattern etc. needs to be explained with consumption and type of explosive to be used based on vibration study.
29. 7.5 m statutory barrier/safety zone to be maintained all along the ML boundary. Any proposal for mining activities i.e. excavation & waste dumping etc. not to be given in this area without the approval of competent authority.
30. Based on above comments, this entire chapter along with Conceptual Plan needs to be re-casted/re-designed.

MINE DRAINAGE

31. Para 3.d): Rainwater management plan i.e. drainage plan along with arrangement for arresting solid wash off should be given. Existing arrangement and proposal for protective measures to control wash-off from mine should be given in quantified terms. Manner of discharging mine water in rainy season through ML area and related environmental protection measures should be discussed.

STACKING OF MINERALS REJECT/ SUB-GRADE AND DISPOSAL OF WASTE

32. Mineral Rejects (Low grade iron ore/BHQ) cannot be considered as waste and added in to total waste quantity for disposal. Proposal for separate stacking or blending of Mineral Rejects (Low grade iron ore) to be given.
33. Waste dumping/disposal is not designed in scientific and systematic manner. As shown over Production & Development Plans, Proposal of waste dumping is given near to BP-8 in S-W corner of ML area, over the steep Hill slope. That seems to be not sustainable; as Waste dump material may get escape out of ML area.
34. At Para 4(iii) Maximum height of dump proposed is also not given.
35. Proposal of waste dumping to be given in scientific way. Configuration and sequence of waste dumping/back filling & its year-wise build up to be described in detail with manner of disposal of waste at each stages with mRL.
36. Adequate proposals of protective measures and plantation to be given over the existing and proposed dumping area.
37. Protective measures already taken and proposed to be taken around the waste dumps, Sub-grade/reject dumps, mineral stacks and around the pits like Bund, retaining wall, garland drains, settling ponds/pits and vertiver grass/plantation etc. should be given in quantified terms in tabular form.

PMCP

38. Mitigation measures of impacts associated with mining and mineral processing based on EIA i.e. mainly related to air, water, noise, vibration, land, aesthetics etc. to be elaborated. Air Quality & Dust suppression measures i.e. Wet drilling/dust collection system in Drill machines, Bag filters and water jets in Crushers/Screens are to be proposed.
39. Para 8.3 Summary of PMCP table for Item No. 8.3, should be given separately year-wise with actual achievement as on date. Under heading 'others', environment protective works to be carried out year wise and environment monitoring measures to be given.
40. Para 8.4: Care & maintenance during temp. discontinuance to be discussed in detail.
41. Para 8.6: Financial assurance: The Area considered for financial assurance needs to be re-calculated based on recent survey of the ML area..

ENCLOSURE

42. In Annexure, Lease Map/sketch of other lease (ML-2394) is observed enclosed with RML deed (executed on 23.10.2010) of this lease (ML No.-2649).
43. Copy of ML deed enclosed as Annexure-I is also not legible.
44. Supplementary/rectification Mining Lease (ML) deed for extension of ML up to 05.06.2030 to be enclosed.
45. All the annexures to be properly indexed, numbered, paged and signed by the TQP.

Plates

46. Rule 31, 32 & 34 of MCDR, 2017 and convention of MMR-1961 to be followed for preparation of plans & sections.
47. All plans to be prepared based on recent and accurate survey and to be correct as per existing surface features & mine profile. Every surface features, including roads, dumps, ROM, mineral stacks etc. to be shown over the Surface Plan. Surface plan should be prepared by the qualified Surveyor and certified by the mining engineer of the mine for its correctness.
48. Over Geological Plan, proposed BHs to be shown in distinct colour.
49. Over Production & Development Plans, Proposal of waste dumping to be shown with proposed dump (height) level at each stages in mRL.
50. Environment Plan: The plan to prepared showing details as per MCDR 2017. All existing surface features beyond the 60m of lease boundary to be shown in detail. Monitoring stations at the strategic points in core & Buffer zone for different environmental components should also be shown. Natural streams/ nalla/water course within 500m shall be marked.
51. All relevant plans to be re-prepared/modified in view of above comments.