

SCRUTINY COMMENTS ON REVIEW AND UPDATION OF MINING PLAN(RMP), OF THIMMAPPANAGUDI IRON ORE MINE (ML.NO.2549) IN MURARIPURA VILLAGE, IN SANDUR TALUK OF BELLARY-DISTT OVER AN AREA OF 46.20 HA AS PER CEC & 54.64 HA OF SRI H.G. RANGANGOUD.STATE KARNATAKA. SUBMITTED FOR THE APPROVAL,UNDER RULE 17(1) OF MCR,2016.CATEGORY OF THE MINE IS A-(FM-FULLY MECHANIZED) MINE, FOREST LAND, PERIOD OF THE RMP IS 2017-18 TO 2021-22.

1. Cover page:--(i) The rule under which the document submitted should be checked and corrected as “ 17(1) of MCR 2016” (ii) Mine code (30KAR03125) of mine has not been mentioned. (iii)The qualification of QP mentioned to be checked & corrected. (iv)The expiry date of ML as per amended MMDR act has not been mentioned. The forest land indicated should be specific in giving reserve forest or ordinary forest.

2. Introduction:--- (i) The details of others MLs and PLs held by the lessee in the country has not been furnished. (ii) The deemed extension of ML as per amended MMDR act has not been furnished. (iii) The copy of letter from DMG/CEC regarding production limit of mine has not been appended. (iv) The co-ordinates of BPs as per Mahazar report of joint survey should also be incorporated. Further, the co-ordinates were as per DGPS or GPS may be checked and corrected.

3. Para 2:---(i) The toposheet No. should be checked and corrected.(ii) The expiry of ML as per amended MMDR act should also be mentioned.

4 Para 3.3:----- (i) During inspection, it is noted that the lessee had carried out 14 nos of RC boreholes after last approval of SOM document. However, the boreholes logs, chemical analysis reports of boreholes samples & trial pits samples and form-J in support of exploration carried out have not been appended. (ii) The production and development up to Feb-2017 should be reflected under review. (iii) The indicative cost summary table of approved R & R Plan and actual expenditure incurred should also be mentioned. (iv) The details of afforestation carried out in the mine should be properly reflected at Table no-14. (v) The copy of letter from the monitoring committee regarding resumption of mining activities has not been enclosed.

Part-A

Geology & Exploration:--

5. Para 1(a) :---The rainfall data of the area should also be discussed in brief as per Universal format.

6. Para 1(c):-- (i) Lumps to Fines ratio of Iron ore should also be mentioned. (ii) The grade of iron ore and BHQ should be should supported by chemical analysis reports from NABL accredited Lab or Govt. Labs.

7. Para 1(d):-- The address details of exploration agency has not been mentioned.

8. Para 1(e)(ii):-- Type of boreholes drilled should also be incorporated in tables.

9. Para 1(e)(iii):--The details of samples analyzed at NABL accredited Lab or Govt. Labs have not been discussed.

10. Para 1(e)(iv):-- The total meterage of RC boreholes drilled should be checked and corrected.

11. Para 1(h):-- The type of boreholes drilled should be checked and corrected.

12. Para 1(i) The lateral extent of area cover under G-1 and G-2 level of exploration has not been mentioned w.r.t. total mineralized area. As per rule 12 (4) of MCDR 2017 and as discussed during site inspection, the G-1 level exploration should be proposed over the entire potentially mineralized area. Accordingly, trial pits may be proposed in 100 X 50 m grid internals over the entire potentially mineralized float iron area and Core/RC boreholes in G-2 level area depending upon approachability. Accordingly, the exploration proposals should be revised with proposed expenditure on exploration.

13. Para 1(j):-- (i) The reserves and resources estimated (111—372,856 tonnes, 211---676, 096 tonnes and 333---1,053,360 tonnes) in last approved SOM document dated 16/4/2014 may also be mentioned. (ii) Bulk density and recovery factor should be determined based on field tests conducted & confirmed. (iii) The enhancement of reserves should be properly justified. (iv) The grade of BHQ should be checked with earlier approved SOM document and chemical analysis report. It should not be included under reserves. (v) Exploration proposals under G-3 level mentioned at page no-21, may be removed. (vi) The ore body projections at geological cross-sections should be checked and corrected w.r.t. Geological plan and boreholes logs. As discussed during site-inspection, the presences of shale/phyllite bands in pit have not been projected in sections.

14. Para 1(k):-- (i) The sectional influence considered at section DD' may be checked and corrected w.r.t. Geological Plan. (ii) There is no question of blockage of BHQ in 7.5 safety zone, overlapping area due to grade. The same may be reviewed and corrected. (iii) The ore body and other litho-units may be projected properly based on Geological plan and boreholes logs. All boreholes logs should also be enclosed in support. Accordingly, reserves and resource should be reconciled.

15. Para 1(l):-- (i) Sub-paras (a) to (c) have not been discussed as per Universal format. (iii) Foot note as per universal format may be incorporated below Table no-27. (iii) The grade of BHQ should be checked with earlier approved SOM document and chemical analysis report. It should not be included under reserves. (iv) As discussed, table nos from 28 to 33 may be reflected under 3 tables viz. geological axis, feasibility axis and Economic axis to avoid repetition. The table of cost of production should be modified as per scrutiny comments at Feasibility study report.

16. Para 2A (a):--The existing and the proposed method of working should be described in brief with relevant information. (ii). 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. (iii). Also, the existing dumps spread parameters, height, slope protective works etc., to be marked. (iv). The bench wise, mRL wise, opening reserves, exploitation and the closing balance should be furnished for the proposed periods. (v). The details existing pit dimensions and nos. of benches developed have not been discussed.

17. Para 2B, under blasting, it is given 6.44Cu.m/kg of explosive as powder factor is not appropriate and correct. This should be checked and reconciled.

18. Para 2(b):-- (i) Generation of waste during mining plan period to be re-assessed based on modified plans and sections as per scrutiny comments at para 1(j) & (k). Accordingly, necessary correction should be made in all relevant tables/text/plans/sections (ii) Table No 35:-- The ore to waste ratio mentioned to be checked and corrected. Further, the generation of waste and tentative excavation figures mentioned were not matching the quantity assessed at relevant Table Nos 36 & 37. (ii) Table No 36:--The proposed sections location mentioned for year 2020-21 to 2020-22 should be checked and corrected w.r.t enclosed relevant plans/sections. (iii) Table No 37:-- Similarly, the proposed sections location mentioned for year 2020-22 should be checked and corrected w.r.t. enclosed relevant plans/sections. (iv) Table No 38:-- The year-wise, grand total of proposed production & development should be mentioned with unit of quantity. (v) The proper justifications should be given for proposed location of dumping.

19. **Para 2 (f):--** (i) The conceptual mine planning should be end of lease period as per amended MMDR Act (i.e. 4/8/2042) (ii) Life of mine should be revised based on modified reserves / resources and future exploration proposals. (ii) Quantity of generation of wastes, BHQ and their location of disposal/stacking at conceptual period have not been discussed.(iii) Back-filling proposals in float iron ore area has not been discussed. (iv) Afforestation and other environmental protective measures during conceptual period (i.e. of end of lease period) have not been discussed.

20. Para 2(j), table-46, under land use pattern, the present, 1st block review & conceptual periods are given, but nowhere it is mentioned about the extent of the land used for back filling after exhaustion of the ore from a particular location in para 2(b), few place it is given about back filling proposals. Hence the para/ table need to be attended suitably.

21. **Para 3 (d):--** Annual rain fall and local drainage pattern have not been discussed.

22. **Para 4 (a) :--** Year-wise generation of wastes / mineral reject should be presented in standard table as per “Universal format”.

23. **Para 4 (b) & (c) :--** (i) “Soil dumping” should be replaced as “ Waste dumping” with possibility of efforts to be taken for separate BHQ dumping. (ii) The concurrent back-filling in float iron ore area has not been discussed.

24. **Para 5 (a):--** Whether the complete utilization of iron ore production for captive purpose may be clearly mentioned.

25. **Para 5 (e):--** The utilization of iron ore above threshold value (+ 45 % Fe) may be clearly mentioned with economic cut-off grade.

26. **Para 7(b):--** The table heading of table no 49 may be replaced as proposed employment potential.

27. **Para 8.1:--** The minimum temperature mentioned under “Climatic conditions” should be checked and corrected as “ 10⁰c”

28. **Para 8.2 (i) :--** The present area covered under waste dump should be checked and corrected as “0.63 Ha” at Table No-51.

29. **Para 8.2 (v) :--** The nearest village from the mine site should be mentioned.

30. **Para 8.2 (vi) :--** The ground water table mentioned should checked and corrected w.r.t. para 3(b).

31. **Para 8.2 (viii) :--** The name of temple mentioned should checked and corrected.

32. **Para 8.3.5:--** (i) the actual position of environmental protective measures at table no-55 is not a total of proposals. It should be actual position within the mine and accordingly reflected. (ii) The season-wise environmental monitoring should be proposed.

33. **Para 8.6:--** (i) the financial assurance calculation should be made as per latest amendment under rule 27(1) of MCDR 2017, which shall be an amount of three lakh rupees for Category ‘A’ mines and two lakh rupees for Category ‘B’ mines, per hectare of the mining lease area put to use for mining and allied activities: and accordingly Bank Guarantee should be submitted. (ii) The proposal of back-filling area & afforestation area (1.13 Ha) as mentioned in the table cannot be considered under area fully reclaimed & rehabilitated.

Part-B:--

34. **Certificate and undertaking from Lessee:--**(i) An additional undertaking from lessee stating the time-bound implementation of CEC approved Reclamation & Rehabilitation Plan and monitoring / maintenance of protective measures already implemented, may also be incorporated under para 9. (ii) The rule under which the document submitted should be checked and corrected “17(1) of MCR 2016”

35. Certificate from QP:-- The provision of rule may be checked and corrected as “ **MCDR 2017**”

36. Plate 1A(Key Plan):--- (i) Adjacent mines with their details should be properly shown on the plan. (ii) The plan may be as per rule 32 (5) (a) of MCDR 2017.

37. Plate No 3(Surface Plan):--- (i) The boundary pillar’s co-ordinates as per Mahazar report of CEC joint survey should also be incorporated (ii) Overlapping area and area under FC should be properly marked on Plan. (iii) All drilled BHs locations should be marked. (iv) The existing R & R measures within ML have not been reflected. (v) The plan may be as per rule 32 (1) (a) of MCDR 2017.

38. Plate No 4(Geological Plan):---(i) Overlapping area should be properly marked on Plan. (ii) The proposed exploration should be modified as per scrutiny comments at para 1(i). (iii) All drilled boreholes with their number should be in visible form. Further strike and dip of ore body should be properly shown. (iv) The plan may be as per rule 32 (1) (b) of MCDR 2017.

39. Plate No 5(Geological Cross sections):--- (i) The ore body and other lithounits projections should be as per scrutiny comments at para 1(j). (ii) The overlapping area should be properly marked. (iii) The proposed exploration location should also be shown with dotted lines as per scrutiny comments at para 1(i). (iv) The different categories of reserves and resources considered for assessment should be properly marked. (v) The RC BH no-4 has been projected twice at section DD’ should be checked and corrected.

40. Longitudinal section has not been enclosed.

41. Year-wise Production and developments plans (Plate No -6A to 6E):-- The plans should be modified as per scrutiny comments at para 2A(a) & (b). The development and production proposed for 1st year to 5th year should be attended in line with the remarks given in text paras after para 2A strictly. The 1st year to 5th year workings should be brought out at the end of each year i.e. up to 31.03.2018, 31.03.2019 & so on up to 31.03.2022, respectively.

42. Year-wise Production and developments sections (Plate No -7):-- (i) The sections should be modified as per scrutiny comments at para 2. (ii) Year-wise proposed float mining has not been properly reflected. (iii) Year-wise build up of Dump section have not been enclosed. The development & the production shown in the plan, where the existence of ore/ deposit as per the lithological index is not brought out to know the continuation of ore body beneath the workings for the clarity of the deposits.

43. Plate Nos 8 and 9 (Conceptual plan and sections):-- The plan and sections should be modified as per scrutiny comments at para 2(f). Besides, the conceptual plan and sections should be brought out in such a manner to know the position of workings at the time of closure of the mine/ end of the lease period. What are the other protective works planned to undertake in the worked out areas may be updated, appropriately, bench plantations and other, reclamation and rehabilitations, which should be shown in the financial assurance table accordingly.

44. Plate No-10 (Environmental plan):-- (i) Water monitoring station at water discharge point of ML area should also be proposed. (ii) The existing R & R measures have not been reflected. (iii) Contour lines (with value) should be at five meter intervals. (iv) The plan may be as per rule 32 (5) (b) of MCDR 2017.

45. Plate No-11 (Reclamation Plan) :-- (i) Proposed environmental monitoring stations have not been shown in core zone. (ii) Water monitoring station at water discharge point of ML area should also be proposed. (iii) The existing R & R measures have not been reflected.

46. Plate No-12 (F.A Plan) :--The incorporated F.A table should be modified as per scrutiny comments at para 8.6

Annexures:

47. The consent for operation should be corrected, instead of establishment.

48. Annexure-V, should be given separately for mining pit, dumps, stacks, infrastructure etc., instead of adding together with the BP & pillars, GCP, etc.
49. Copy of the valid BG should be enclosed as per the latest MCDR, 2017, indicated above.
50. The latest season's environmental monitoring data have not been enclosed.
51. Affidavit from the lessee regarding that no matter is pending against the lease area on the following issues. (1) Issues relating to illegal mining with the State Government. (2) Royalty and Revision matters with the State Government. (3) Safety and Environment issues of General Public Concern. (4) Public Interest Litigation (PIL) and other Court cases etc, has not been enclosed.
52. **Feasibility study report** :--(i) The reserves/resources, production schedule and mining method should be modified as per scrutiny comments as mentioned above. (ii) Economic Evaluation chapter should be discussed in detail with NPV & IRR. (iii) The items of proposed operation cost table should be as per Annan Return (G-1) under rule 45 (5)(c) of MCDR 2017.