

SCRUTINY COMMENTS ON EXAMINATION OF DRAFT REVIEW AND UPDATION OF MINING PLAN IN RESPECT OF **RAMGAD IRON ORE MINE ( ML NO. 2547)** OVER AN AREA OF 50.00 HA LEASE DEED, 49.73 HA (AS PER CEC SKETCH) IN RAMGAD VILLAGE, SANDUR TALUK, BALLARI DISTRICT, KARNATAKA STATE, SUBMITTED BY M/S. **ZEENATH TRANSPORT COMPANY**, FOR APPROVAL UNDER RULE 17(1) OF MCR, 2016.

**Cover page:** On the cover page all the relevant details like extent of the Mining lease area, type of land, Mine code, IBM registration Number, Period of the Lease, Category of the mine, Name of the Qualified person preparing the document etc., needs to be given.

#### **Chapter-1: General Information:**

- 1. Para 1.3.6: Owner/ Nominated Owner Details:** The Board Resolution nominating the owner of the mines is of 12/11/2007. The Latest copy of the Resolution of partners Under the Mines Act, 1952/ The occupational safety, health and working conditions code 2020 and Mines and Minerals (development and Regulation Act, 1957 and rules made there in, should be enclosed and details in this section should be given accordingly.  
-Also the partnership deed dated 01/04/2005 does not cover the instant Mining Lease i.e Ramgad Iron Ore Mine (ML.No.2547) for exploitation of the mining areas.
- 2. Para 1.3.7:** The copy of the pan card of the Qualified Person be enclosed and annexure reference be given.

#### **CHAPTER-2-GEOLOGY AND EXPLORATION:**

- 3. Para 2.1.1:** (i) Minimum distance of stream from lease area may be furnished. (ii) Average level mentioned as 72.63m, the same may be corrected w.r.t highest level and lowest level from MSL.
- 4. Para 2.1.2:** (i) Details of the public road used for mineral transport, Men and material be given. (ii) Key plan may be provided to verify the Physiographic features, infrastructures etc available in and around the lease.
- 5. 2.1.4: Local Geology:** Rock type below BHQ may be specified in the General sequence of rock formations.
- 6. 2.1.4.2: Structure:** General structural information provided, Structural details in the lease area may also be specified.
- 7. Para 2.1.4.3:** Different type of iron ore available in the lease, their field occurrence, petrological characteristics and percentage of incidence of each type of ore may be given.
- 8. 2.1.4.6: Nature/Form of Mineral:** The ratio of lumps to fines in ROM may be furnished under this para.
- 9. Para 2.1.4.7 Extent of Mineralization:** The information given in this para may be deleted and details on lateral and vertical extension of the ore body may be provided.
- 10. Pars 2.2 Exploration:** Details provided in this para may be deleted.
- 11. Para 2.2.1.1 to Para 2.2.1.6 and para 2.2.1.8:** Where the exploration activity is not proposed and not carried out, it may be mentioned as 'No Proposals' and 'Not carried out'. This comment also applicable to Para 2.2.2.1 to 2.2.2.6 in summary of the previous exploration Before Last Plan Period.
- 12. 2.2.1.10: Chemical analysis :** The core /non-core samples information may be provided in CSV/excel file which shall normally include Five files namely (a) collar file, (b) survey file and (c) Geology log file, (d) Assay file and (e) RQD File. The file formats are as follows:

**(a) Collar file**

Hole_id*	Latitude	Longitude	Altitude	Max_depth	Hole path (linear/angular)	Date of drilling

**(b) Survey file for drill holes**

Hole_id	Depth	Dip	Azimuth

**(c) Assay file**

radicals analysed (specify name of radical as an example given below)							
Hole_id	Depth_from	Depth_to	Fe	SiO2	Al2O3	LOI	P

**(d) Geology file**

Hole_id	Depth_from	Depth_to	Lithological Description

**(e) Rock Quality Designation (RQD) File**

Hole_id	Depth_from	Depth_to	RQD%

*\*Hole ID should tally with the surface geological plan as available in the latest approved mining plan*

This comment is also applicable to para 2.2.2.10.

- 13. Para 2.2.1.13:** Bulk density & recovery considered for Iron Ore, Laterite, BHQ, and OB and number of samples drawn for each Rock type may be given supported by the test report. Bulk Density Study as per M(EMC) Rules, 2016 and SOP of CGPB: (i) Number of samples collected for each type of ore/waste/OB for Bulk Density Study may be specified. (ii) Bulk density study report may be annexed and annexure no. may be provided in this para.
- 14. Para 2.2.2.13: Bulk Density:** The information given in this para is already provided in exploration carried out in last plan period in para 2.2.1.13. If the Bulk Density test is not carried out before Last Plan Period, the information given in this para may be deleted.
- 13. Para 2.2.2.14:** (i) A large extent of Mining Lease is covered with shale/phyllite, further drill holes on these lithologies which have been proved as non-mineralized is not advisable. The entire 49.73Ha lease area is given as potentially mineralized area is not correct. The same may be reviewed and suitably mineralized and non-mineralized areas may be calculated and updated in the plans and sections. (ii) Year wise area converted to G1 from G2, G3 & G4 area during 2021-22 may be reviewed & corrected. The table given above under this heading, extent covered under G1, G2, G3 & G4 are different covering the entire lease area.
- 14. Para 2.2.3:** (i) Details of all the ore bands with their dimensions may be furnished in this para. Further, in the table it is observed that in the radicals analyzed, the information may be given in separate row for each radical. (ii) The minimum grade % may be corrected as per the threshold value determined by IBM. (ii) Ore body Geometry & grade: General strike and dip information provided for lateritic iron ore may be deleted. (iii) Since Laterite is a 'minor mineral', Ore type given as Laterite may be corrected as 'Lateritized Hematitic Iron Ore'. This may be corrected in all the applicable paras including plans and sections.

15. **2.2.4.1:** Only Iron ore grade Fe 45% and above has been considered for calculation of Resources. As per revised threshold value notification No.C-284/3/CMG/2017 dated 25<sup>th</sup> April,2018 the Threshold value for hematitic iron ore is 45% Fe and Hematitic Siliceous iron ore 35% Fe. Accordingly all resources calculation may re-assessed and details may be provided.
16. **Para 2.2.4.3:** For calculation of reserves, depth continuity of mineralization may be considered limited to the depth up to which direct evidence of mineralization is established as per Minerals (Evidence of Mineral Contents) Rules, 2015. Also Ultimate working depth proposals be restricted to 910 m RL as per EC condition, accordingly these aspects to be taken care while calculating Reserves/ Resources. In calculation, mineral beyond the prescribed EC depth limit may be considered in Resources. The reserves/ resources may be re-estimated and corrected at all places in the text & plates (eg. refer geological sections-H-H', J-J', K-K' L1-L1' etc.,). Also comment at para **2.2.4.1** may also be considered while re-estimation of Reserves and resources.
17. **Para 2.2.4.4:** The Threshold value mentioned in this para may be corrected as per Threshold value published in notification. Cut off parameters/value for calculation of reserves may also be specified.
18. **Para 2.2.4.5 Mining factors or Assumption:** Ultimate depth 910mRL as per EC condition may also be specified in this para.
19. **Para 2.2.4.7:** Feasibility report may be annexed and annexure number may be provided in this para.
20. **Para 2.2.4.8: Market Assessment:** The cut-off grade from this mine is mentioned as 60% Fe and the grade of ore +45% to 58% Fe will be suitably blended with higher grade ore. However, there is an ore existing between cut off grade and threshold value (i.e. between 35% to 45% of Fe ore) not taken into account in the Market assessment. If non saleable in the present Market Scenario, the iron ore between 35% to 45% Fe may be stacked separately as a Mineral Reject and the same may be proposed.
21. **2.2.4.12: Calculation of Reserves: (i)** As per EC ultimate working depth should be 910 m RL. However, Reserves are calculated beyond 910 m RL. The same may reviewed and suitably modified in calculation and respective plans/sections. **(ii)** Comments at para **2.2.4.1** may also be considered while estimation off Reserves and resources.
22. **2.2.4.13:** (i) Reserves/Resources calculation should be as on 01/04/2021. The quantity produced from 01/04/2021 to 30/11/2021 may be provided in foot note of the table or separate Table may be provided for Reserve Resources as on 01/04/2021. (ii) The Reserve/Resources for HSIO may be provided separately as an Associated Mineral.

### **CHAPTER-3-MINERAL BENEFICIATION/PROCESSING:**

23. **Para 3.9:** The quantity of water required in KLD for mining & allied activities, process like dust suppression, drilling, plantation, domestic purpose, drinking etc. may be given under this Para. The details regarding source of supply of water, disposal of water, extent of recycling, chemical analysis of water should also be furnished in this Para. The Water balance charts to be prepared accordingly and may be added in annexure and reference to be given under this Para. The water requirement should be within the EC & CFO permissible limits.
24. **Para 3.10:** Material balance chart of dry crushing & screening may be furnished along with feed size & their expected recovery.

### **CHAPTER-4-MINING OPERATIONS:**

25. **Para 4.2.1.1:** (i) Ultimate working depth proposals be restricted to 910 m RL as per EC condition, accordingly these aspects to be taken care while calculating Reserves/ Resources. In calculation, mineral beyond the prescribed EC depth limit may be considered in Resources. The reserves/ resources may be re-estimated and corrected at all places in the text & plates. (refer geological

sections-H-H', J-J', K-K' L1-L1' etc.,). (ii) If, any relevant additional information pertaining to this para may be provided in Annexure and reference made here.

26. **4.2.1.2.1: Dump Details:** As per the information given, the active waste dump AD1 height is 67m and inactive dump ID is 48m. However, as per EC specific condition No (xxiii) the maximum height of the dump shall not exceed 30m. It is advised to take a slope stability study of the waste dumps. Further, it is also advised not have any dumping proposals exceeding the maximum height prescribed in the EC.
27. **Para 4.2.1.2.2:** The details of all the existing temporary mineral stacks may be given as per the format.
28. **Para 4.2.1.3: Details of the Stabilized Dumps:** The number of terraces for stabilized dump ID1 and Average Height of Terraces given as 48m may be checked and corrected. As per EC specific condition No. (xxiii) the maximum height of the dump shall not exceed 30m and each terrace/stage shall preferably be of 10m with overall slope of the dump not exceeding 28°.
29. **Para 4.4.4: Drill Machine Requirement:** Drilling requirement per day (m) and Drilling Requirement per shift (m) given as 1440 may be checked and corrected.
30. **Para 4.4.5.1, Para 4.4.5.2 & Para 4.4.5.3:** The make of Excavator, Dozer and Wagon Drill needs to be given in the specified column. Also it is noted that use of rock breaker is proposed. Details of this equipment may also be given under Para 4.4.5.3.
31. **Para 4.5.1. Blasting & Explosive Requirement in Waste/Development:** Explosive requirement for the charge per round (kg) given as 9 needs to checked and corrected.
32. **Par 4.6.3: Skilled Workers/ Operator:** Total No. of Dumper operators per day given as 99 may be verified and corrected. Also 31 operators required may be specified for better clarity.
33. **Para 4.7.2:** (i) Year wise proposal for disposal of waste dump may be furnished including details of the proposed area, height, quantity & location and also needs to be reviewed as per the comments given at **4.2.1.2.1** keeping in view the restrictions imposed in EC for maximum height of the waste/overburden dumps. Necessary corrections may be done in the respective plates & Clarification in this regard may be submitted.
34. **Para 4.7.3:** Under Para4.2.1.2.2 the details of 28 existing mineral stacks are given. Accordingly the same needs to be given here along with its location.
35. **Para 4.7.4:** Proposal of only one mineral stack with ID 1 is given which is not correct. Different stacks for lumps, fines and ROM according to ratio of lumps and fines generation expected and in line with existing stacks may be proposed for every year.

#### **CHAPTER-5-SUSTAINABLE MINING :**

36. **Para 5.2: CSR Initiatives:** Under cumulative work done for the proposed years, "Nil" may be mentioned. Para 5.2.1, 5.2.2 etc, under cumulative column, year on year proposals to be added taking 2022-2023 as the base year covering the entire plan period.
37. **Para 5.2.1.13:** The green Energy consumption is not given. It is to be given for each year.

#### **CHAPTER-6- PROGRESSIVE MINE CLOSURE PLAN:**

38. **Para 6.1: Status of Land:** The total area under excavation in the lease, 14.45 Ha is shown as Mined out area. Based on the field observations it is noted that no area is mined out or exhausted from mineral. This aspect may be reviewed and corrections made.
39. **Para 6.2.3.2:** Year wise proposal for green belt development may be given in line with the EC condition.

40. **Para 6.2.7:** The details of Number of terraces and Average height of terraces given needs to be reviewed as per the comments given **Para 4.2.1.3**.
41. **Para 6.2.9: Top soil Management:** Cumulative work done i.e quantity of top soil generated in the past since commencement of mining till date may be given along with the details of its utilization in the foot note (eg. In green belt development or plantation on dumps etc).
42. **Para 6.2.11: Land use of lease area at the expiry of lease period (conceptual stage):** 14.85 Ha of area shown as undisturbed/ virgin appears to be incorrect. This may be rechecked and corrected if so.

#### **CHAPTER-7- FINANCIAL ASSURANCE/PERFORMANCE SURETY:**

43. Revised bank guarantee as per the amended MCDR Rule 2021 needs to be submitted.

#### **CHAPTER-8- REVIEW OF PREVIOUS PROPOSALS:**

44. **Para 8.1.2:** Since the last approved document didn't have SDF proposals, accordingly it should be mentioned "Not applicable" under this para.
45. **Para 8.2.1: Exploration:** Under each subheading the deviation and reasons for the same needs to be given. If achieved more (+) or (-) for less achievement be indicated. Also the area converted under G1 from G2/G3 may be reviewed in line the comments given under CHAPTER-2-GEOLOGY AND EXPLORATION.
46. **8.2.2.2: Mine Development (Opencast / Dump Mining):** The Deviation and reasons for the same is not given which needs to be given. If achieved more (+) or (-) for less achievement be indicated and this comment applies to all the subchapters under Para 8.2.6: Production of Minerals and 8.2.8.2 & 8.2.8.3: Afforestation also.
47. **Para 8.3:** Since there were no proposals in the last approved plan period under Socio-Economic, accordingly under para 8.3.1, 8.3.2, 8.3.3.1, 8.3.3.2, 8.3.3.3, 8.3.3.4 & 8.3.3.5 it should be mentioned "Not applicable".

#### **CHAPTER-9- IMPACT ASSESSEMENT:**

48. This chapter may be furnished as a part of the text document. Though this chapter is applicable only for fresh grant, all the headings & sub headings may be furnished with "Not Applicable" against each of the same as given in the format.

#### **PLANS & SECTIONS:**

49. Hard copies of all the plans may be submitted in .dwg format with UTM grids (WGS 84 datum) only. Soft copies of the same may be submitted in KML/SHP format.
50. The plan submitted in SHP format does not contain any attribute data. Line, polygon & point feature should be in separate file with all the necessary information.
51. The numbering of plates has not been sequentially maintained as per the format. Numbering of plates to be specifically maintained as per the format. Any additional plates enclosed may be followed after plate no 11 with corresponding details.
52. All plans and sections should be signed with date by certified surveyor, Qualified Person, Geologist, Mining Engineer as per provisions of MCDR 2017.
53. **Surface Geological Plan & Sections (Plate No.3 & 4):** In these plates all the necessary corrections may be done as per the comments placed under Geology and Exploration chapter.

54. **Production and Development Plan & Sections (Plate No 5A to 5E & 6):** In these plates all the necessary corrections may be done as per the comments placed under chapter 4: Mining operations.
55. **Conceptual Plan & section (Plate No.9 & 9A):** This plans needs to redrawn as per the information furnished in the text showing all the proposed activities at the conceptual stage of mining including fencing, plantation, construction of retaining wall, garland drain & re-grassification of the degraded land.
56. **Financial Assurance Plan (Plate No.12):** (i) only the outline with solid fill colors may be marked for different land particulars and indexed. (ii) All the land particulars to be shown prominently in this plate.
57. Key Plan showing distinctly Natural drainage system such as rivers, nallahs, stream etc., roadways, boundary of all villages and towns with their population, places of historical & archaeological importance, forest with tree density, predominant wind direction etc. as per the provision of rule 32(5) of MCDR 2017.
58. **Dump management Plan & section:** Separate plate of OB dump management plan & sections may be given.

**ANNEXURE:**

59. The numbering of annexure has not been sequentially maintained as per the format. Numbering of annexure to be specifically maintained as per the format. Any additional annexure enclosed may be followed after annexure no 18 with corresponding details. All the annexure as mentioned in above scrutiny comments of different chapters to be enclosed. Also, corrections in the annexure, as mentioned above in scrutiny comments of different chapters to be incorporated and corrected annexure to be enclosed.
60. Letter of lease grant may be enclosed.
61. Undertaking/Consent letter from the lessee may be digitally signed by the lessee.
62. Bulk density test report of each of the material handled in the mine may be enclosed.
63. Copy of Valid Bank Guarantee for the entire plan period as per the amended MCDR Rule 2021 needs to be submitted.
64. The 106(2)(b) permission from DGMS for working with Deep hole drilling and blasting with use of heavy machineries under MMR 1961 may be enclosed.
65. All the annexure to be properly numbered/ paged and relevant annexure to be signed by QP. The Page no range should be accordingly given in list of Annexure. All the annexure should be legible.

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