

**Scrutiny Comments on examination of draft Review of Mining Plan submitted under rule 17 (2) of MCR,2016 in respect of Kumbhewade Bauxite Mine of M/s Veet Rag Exploration & Minerals Pvt. Ltd. over an extent of 95.577 Ha situated in Kumbhewade Village, Rajapur - Taluka, Ratnagiri - District of Maharashtra State.**

**GENERAL**

1. As the nearly one and half year of the plan period already has passed away, therefore, in the block period 2018-19 to 2022-23, the proposal period 2019-20 (balance period) to 2022-23 may be given in the document.
2. Updated/fresh consent Letter/Undertaking and Consent certificate from the qualified person to be signed and may be submitted along with final submission.
3. Lease boundary pillars to be erected and maintained as per the standard specifications and supported with suitable photographs as enclosures.
4. Clarify whether the lease area falls under the ESZ of Western Ghats draft notification of MOEF or not?
5. CCOM circular no.2/2010 and its addendum regarding geo-reference mining lease map and ML boundary pillars to be implemented. The plans to be submitted with legible form.
6. In view of the non-commencement of the Mining Operations within two years from date of execution of the lease, the necessary consent/ comments from the State Government under rule 12(1) (c) of MCR, 2016, to be submitted during the final submission of these documents.
7. Para 3.3: Review of exploration, ROM production, Waste generation, D&P, and Afforestation etc. to be carried out properly with the correct figures in the tabular form with suitable reason/justifications of % deviation.
8. Para 3.6: The instant document is not submitted for modifications. Therefore, the same should be indicated as “Not Applicable”.

**GEOLOGY & EXPLORATION**

9. Under local geology thickness of the different litho units exist in the lease area needs to be mentioned based on exploration data.
10. Type of the deposit, dimension of the bauxite deposit etc., needs to be discussed under detailed description of geology of the lease area.
11. The bulk density and recovery factors should be taken based on the test conducted.
12. Latest chemical analysis report from the NABL accredited Laboratory needs to be enclosed.
13. Entire mineralized area should be explored under G-1 level of exploration, in the grid pattern suitable for the nature of the deposit as per MEMC Rule-2015, accordingly proposals should be modified.
14. At page no-29 year of proposed exploration is mentioned as 2017-18 which is already over, this needs to be rechecked and corrected.
15. The area explored under different level of exploration is varies from page to page this needs to be corrected.
16. Compared to total explored area, bulk density and recovery factor taken, the reserves which are estimated under 111 category appears to be more. So reserves/resources need to be re-estimated.

17. As per chemical analysis the ore is bauxite only. How ferruginous Bauxite is estimated needs to be justified.
18. At page no-30 it is mentioned that about 148320 tons of ore is estimated under float ore. Without any exploration how float ore is estimated and tests carried out for recovery and bulk density needs to be discussed in detail.
19. The exploration proposal given at page no-45 should be removed and exploration proposal should be given under the heading future programme of exploration.
20. Date of reserve estimation should be given on the table.
21. Prospecting report of GSI, DGM of Maharashtra in the Lease area may be enclosed for additional support.
22. Twelve Boreholes has been drilled by the lessee in the lease area. Borehole logs with lithology, co-ordinates to be enclosed.
23. Detailed estimation table for reserves & resources as per UNFC has to be given in text. Minerals (Evidence of Mineral Contents) Rules 2015 has to be followed for UNFC reserves & resources estimation. Beyond & below the depth of boreholes, it should be considered as resources as per above said rule.
24. Detailed estimation table for reserves & resources as per UNFC has to be given in text. Minerals (Evidence of Mineral Contents) Rules 2015 has to be followed for exploration grid interval for UNFC reserves & resources estimation. Beyond & below the depth of boreholes, it should be considered as resources as per above said rule.
25. Proposed exploration year is not wrongly given.
26. Additional exploration is to be proposed to know the continuity of ore in depths and to complete the exploration as per UNFC compliance has to be planned. Many sections are not having sufficient Boreholes and many boreholes are in complete to find out the contact zone. The year wise number of boreholes to be drilled has to be tabulated indicating the grid wise location, depth of each hole, collar RL etc.
27. Float Bauxite ore has been not mentioned in explored boreholes and there is no analysis report for float ore deposit. It is mentioned that float ore has been proved by trial pits, but the details of trail pits are not discussed properly.
28. Trial pits which are shown in Geological plan are not is uniform Grid patterns, hence it is very difficult to estimate the Reserves. Mostly the trial pits are dig in linear patterns, based on this float ore mining are not feasible.
29. Recovery of bauxite ore is considered as 90%, whereas the drilled boreholes recovery is less than 90%.
30. Using single Boreholes or without boreholes, section has drawn and ore is consider as G-1, as per Minerals (Evidence of Mineral Contents) Rules 2015, it has to consider as resources only i.e, Section XX' has only single boreholes. Section X3-X3' distance between two boreholes is more than 400m, hence it should be considered as G-3 only. Production plan has to re-design based on 111 categories of Boreholes.
31. Index of Geological section and plan are differs from each other's. Uniform lithology has to show in plan, text & sections. Geological Exploration plan is not needed to submit separately, all the proposed boreholes, trial pits can be shown in Geological plan. Borehole Numbers are differ from both plans.
32. Nalla is passing on the western side of the lease area and Safety distance for them has

not shown in both plan & sections and ore blocked due to safety barrier of 50m is to be considered as Resources in Reserves table.

## MINING

33. Para a):-Briefly describe the existing as well as proposed method for excavation with all design parameters indicating on plans /sections. Furnished table may not be needed in this para.
34. Para b) :-Year-wise tentative Excavation in Cubic Meters to be indicated from (i) In-situ excavation as per guideline.

Year	Pit no	Total tentative Excavation (Cum)	Top Soil (Cu m)	OB/SB/IB (Cum)	ROM (Cu m)		ROM/Waste Ratio
					Ore (cu m)	Mineral reject (Cum)	
I							
II							
III							
IV							
V							

Then, a NOTE to be added below the proposed year wise excavation summary Table regarding tentative tonnage as arrived considering Recovery % and Bulk-Density (Tonnage factor) based on time series data and samples test. The above table may be refurbished after considering the tonnage and recovery factor based as said above.

Year	Pit no.	Total tentative Excavation (Cum)	Top Soil (Cu m)	OB/SB/IB (Cum)	ROM (Tons)		ROM/Waste Ratio
					Ore	Mineral Rejects	
I							
II							
III							
IV							
V							

35. Excavation of ferruginous bauxite is proposed, whereas the terminology is not supported with geological evidence. Therefore, this may be suitably corrected on the basis of the exploration results obtained from the reputed agency.

36. The instant submission is being made for the period 2018-19 to 2022-23, however the production proposal is given only in the fifth year i.e. in the year 2022-23 and in the remaining period are proposed with the clearance of EC, Exploration & land acquisition etc. The proposal for exhaustion of proved reserve in the single year may not be justifiable in view of the sustainable extraction of mineral reserves and scientific mining. Therefore, the production/excavation proposal may be extended in entire plan year. Further, 2018-19 is already lapsed. Therefore, proposals should be indicated from 2019-20.
37. Sufficient proposal for protective measures to be given to substantiate the environmental requirement.
38. Para 2.19):-The land use pattern to be furnished as described in the text and depicted in the corresponding plan.
39. Para 3.d):- Rainwater management plan i.e. drainage plan (Flow chart) along with arrangement for arresting solid wash off should be given. Existing arrangement and proposal for protective measures to control wash-off from flow of rain water should be given in quantified terms.
40. Details of seasonal nallah/water bodies passing through the lease to be discussed and to be shown in the plans.

#### **PROCESSING OF ROM AND MINERAL REJECT**

41. The details of the proposal of processing units to be describe with proper flow sheet or schematic diagram indicating the feed, product, recovery and its grade etc.
42. Indicate the details of dust suppression arrangement required to protect the degradation of environmental parameters and its monitoring mechanism.

#### **PMCP**

43. Para 8.1 iii and iv to be described properly based on the survey details.
44. Environmental Impact Assessment Statement describing the impact of mining and beneficiation on environment and their Mitigation measures of impacts associated with mining based on EIA i.e. mainly related to air, water, noise, vibration, land, aesthetics etc. to be elaborated with bases station for monitoring the parameters and same to be depicted in the corresponding plan.
45. Para 8.3:- Table to be furnished based on the discussion made in the text.
46. Financial Assurance to be submitted as per the rule 27(1) of MCDR, 2017. Further, Qualified Person has not signed in the documents.

#### **Enclosure:-**

47. All the annexure to be properly indexed, numbered, paged and signed by the TQP.
48. Annexures to be furnished as per the Guideline/Format of "IBM manual on appraisal of Mining Plan-2014". All the annexure to be properly indexed with numbered and paged.

#### **PLATES:-**

49. Rule 31, 32 & 34 of MCDR, 2017 and convention of MMR-1961 to be followed for preparation of plans & sections.
50. All plans to be prepared based on recent and accurate survey features & profile. Such plans should be prepared by the qualified Surveyor and certified by the mining engineer of the mine for its correctness.
51. The relevant surface features to be marked in the surface Plan and others.
52. Production & Development Plan:-
  - i. Year of proposal was not furnished in the index.
  - ii. The relevant surface features with demarcating the safety zones from the seasonal nallah etc. to be marked properly.

- iii. Sub grade and Mineral reject stock is marked whereas the generation of such has not given in the text.
  - iv. Backfilling has shown whereas such proposal has not given in the text.
  - v. Mine working to be proposed within the lease only after leaving safety barrier of 7.5 m from the lease boundary.
53. All relevant plans to be re-prepared/modified in view of above comments.