

Scrutiny comments on the draft Review of Mining Plan of Amtipani – Chirodih Bauxite Mine (130.01 ha.) of M/s Minerals and Minerals Ltd. situated in village - Amtipani, Chirodih & Bahagarha, P.S. – Bishunpur, district – Gumla, Jharkhand State.

Introduction:

1. Validity of proposal period should be mentioned on cover page.
2. Introductory remarks (para 1 to 4) should be redrafted and events of prior approval from Central Govt., grant of LOI by State Govt, approval of Mining Plan, execution of lease deed/ reduction in lease area and approval of Modification in Mining Plan etc may be discussed in brief in chronological order and a copy of supporting documents to be attached for reference.

Details of Approved Mining Plan:

1. It is reported that Mining Plan was approved over 130.29 ha. and the lease was granted over 130.01 ha area. Details of area as per LOI and as per lease deed need to be reconciled throughout the document wherever applicable.

Geology and Exploration:

1. Nature of mineralization and type of deposit with reference to MEMC rule should be mentioned under subhead Local Geology so that reserves/resource estimation and future exploration proposals can be justified.
2. Based on past exploration, breakup of mineralized and non-mineralised area and further, mineralized area explored under G1/ G2/G3 level should be tabulated in text and marked in geological plan.
3. The deposit is of irregular nature and is explored by GSI in past by putting pits and boreholes at 200x200 m grid spacing and subsequently no exploration was done inside the lease area. How resources are placed under Measured and indicated categories should be justified in compliance to MEMC Rule.
4. An electric line and a nala is passing across the lease area however, blockage of ore in barrier zone due to these statutory features has not been taken into account in reserves estimation.
5. As per enclosed logs though no bauxite zone was encountered in few boreholes (BH no. 33 E3, 37 E3 etc) yet these boreholes are considered as positive boreholes. Information/ data should be checked and reconciled with borehole/pit logs and justification for considering aluminous laterite zone area under mineralized zone should be given in brief.
6. In view of above mentioned major shortcomings reserves & remaining resources needs to be re-assessed a fresh strictly as per the extant provisions of Minerals (Evidence of Minerals Contents) Rules 2015. UPL should also be corrected in respective plates accordingly.
7. Resource estimation under Measured, Indicated and Inferred category as applicable should be done a fresh in compliance with provisions laid down in MEMC Rules and threshold values of bauxite as notified in 2018. After applying modifying factors and conducting feasibility/prefeasibility study, reserves (111, 121, 122 category as applicable) and blocked resources (211, 221 and 222) may be derived. Back up calculation and Feasibility Report/Prefeasibility Report as applicable are to be attached separately.
8. Information tabulated regarding G1 and G2 area need to be reconciled and corrected in compliance to provisions laid down in MEMC Rules. Irrelevant paragraphs regarding change in the shape/lease area should be deleted from page 15.

Mining:

1. As per State Govt. order no.B.M4-1047/94 the lease is granted under the provisions of Section 10 A (2) (c) of the MMDR Amendment Act 2015. Since lease is granted under Section 10 A (2) (c) of the Act, a Mine Development and Production Agreement should have been signed between the lessee and the State Government. Details of such agreement need to be discussed and copy of said agreement is to be attached. Production proposals should be drawn in line with MDPA Agreement.
2. It is reported that permission will be taken from concerned department for diversion of electric line prior to mining in the area. In absence of permission from competent authority, mining operations in barrier zone may not be permitted and mining proposals should be restricted outside the statutory barrier zone. Year wise proposals should be modified in text and plates wherever applicable.
3. It is reported that recovery percentage is anticipated at 70% on visual basis (page 20). An undertaking for submission of Recovery test report (from NABL accredited lab) within six months' time from the date of commencement mining operations should be enclosed with final copy.
4. Footnote as per IBM manual of appraisal of Mining Plan 2014 for tonnage alongwith note need to be furnished below the table on insitu tentative excavation (page 22).

Mine Drainage:

1. As per khasra schedule one nala is flowing across the lease area. Brief write up on catchment area, likely quantity of rain water to flow through the lease area and arrangement for arresting solid wash off etc should be incorporated. Statement about seasonal nala is to be corrected on page 66 and other places wherever applicable.

PMCP:

2. It is reported that mining will be from the ridge of the plateau and advancing toward center (page 63). As per submitted surface plan there is no such ridge. Area need to be resurveyed and statement is to be corrected accordingly.
3. As per State Govt. order no.B.M4-1047/94 the lease is granted under Section 10 A (2)(c) of the MMDR Amendment Act 2015. Details of Mine Development and Production Agreement signed between the lessee and the State Government is to be mentioned. If MDPA not signed, FA should be submitted as per provisions laid down under Rule 27 of MCDR 2017.

Annexure:

1. All the Annexures & Plates of the DGPS survey report shall be submitted. The plates shall be submitted in the same scale as reported in the text.
2. Copy of Geological Report and many other Annexures as enclosed with document are not legible as a result content of said annexures could not be verified. Fresh and legible copy should be annexed with final copy.
3. In attached Lithologs of pits and boreholes (refer Annexure 8A) one column for analysis details of major radicals should be added so that estimation of reserves/resources and ROM production proposals can be justified.
4. The drilled borehole logs alongwith its analysis, duly signed by the Geologist appointed for the mine shall be submitted. Atleast 10% of the samples duly tested from a NABL accredited laboratory shall be submitted.
5. The deposit is of irregular nature. The reserves & remaining resources have been reported under 111 & 211 category without any feasibility report (F-1). A pre-feasibility report (F2) has been enclosed without any cash flow analysis & sensitivity analysis. Therefore, the reserves & remaining resources needs to be re-assessed strictly as per the extant provisions of Minerals (Evidence of Minerals Contents) Rules 2015.

6. Supporting document from an approved NABL lab. shall be submitted to arrive at the reported TCF & recovery factor.
7. Both section wise & level wise calculation of the reserves & remaining resources needs to be provided.
8. Also, no assumptions/ factor shall be taken for arriving at the waste quantities. Detailed calculations shall be shown to arrive at the ore & waste quantities with clear depiction of the same in all the relevant plans & sections.

Plates:

1. The lease map of the ML area duly authenticated by the competent authority of the State Govt. shall be submitted.
2. As per land schedule attached with lease deed, plot no.1030 (khata no. 131) is under Nala but in lease map and surface plan nala is marked as village road. Lease plan and surface plan should be in sync with land schedule.
3. The surface plan, surface geological plan, key plan and environment plan shall be updated strictly as per the extant provisions envisaged under rule 32(1)(a), 32(1)(b), 32(5)(a) & 32(5)(b) of MCDR 2017.
4. An auto-cad file of the Financial Assurance (FA) Plan, Geological Plan, Geological x-sections & Conceptual Plan shall be submitted in softcopy. The FA plan shall clearly show the existing & proposed land usages only for different entities (i.e. mining/ dumps etc.) as cited in the FA table in different colours & suitably indexed.
5. The key plan, surface plan & FA plan shall also be signed by the Surveyor of the mines. A copy of his certificate of competency shall be enclosed. The geological plan with x-sections shall also be signed by the Geologist of the mine also.
6. Lease Plan based on DGPS survey conducted by authorised agency and authenticated by State authority should be submitted.
7. Surface Geological Plan and Sections:
 - (i) Mineralized and non-mineralised area and mineralized area explored under different level should be shown. UPL should be corrected in line with statutory barrier zones due to electric line and nala. In sections UNFC codes should be also be corrected accordingly.
 - (ii) The geological x-sections needs to be submitted in a scale of 1: 1000, as the print submitted in the scale of 1: 2000 is totally obscure. The UNFC categorisation of the reserves as per the re-assessment carried out shall be clearly shown in the geological x-sections (both transverse & longitudinal) & also in the geological plan.
 - (iii) The geological plan with x-sections shall also be signed by the Geologist of the mine also.
8. Production and Development Plan and Sections: All the mine production & development plans/ sections shall show the present/ last position in a lighter shade / dim colour with the proposals for development & production in a darker shade/ dark color with a very clear cut index of it. The spot level of the benches must be clearly indicated. The mine production & development plans/ sections shall also be shown in a scale of 1: 1000.
9. Environment Plan: Forest land/ agriculture land/ other lease and quarries etc coming inside 60 m and 500 m periphery of the leas area is to be shown. In in lease plan those area which are marked under Jungle jhari should also be demarcated distinctly.
10. Features shown on Environment management plan are covered in reclamation plan hence not required. For better clarity of presentation year should also be mentioned in the area for which proposal is drawn.
11. Financial Area Assurance Plan: A Financial Area Assurance Plan showing outlines of area put to use under different heads as tabulated in FA table should be submitted.