

**Scrutiny comments on examination of Modification of Mining plan of Gaval-Sonshi Iron Ore lease over 61.743 ha. of Cosme Costa & Sons in North Goa District of Goa state**

**Text:**

**GENERAL**

1. Introduction/Preamble: Detailed reasons of earlier approved MP & modification of MPs are not required to be given here. Only brief lease history/details with Status of all statutory clearance obtained and Surface right acquired should be given.
2. Lessee is a partnership firm. Hence, Certificates/ Undertaking should be signed by the all partners or an authorized partner or Nominated owner of the mine. A latest resolution/authorization from all partners of the lessee firm regarding authorized partner/nominated owner of the mine to be submitted. Photo id of the authorized partner /nominated owner also to be enclosed.
3. Chapter-3: Para 3.3: In review, Proposal and achievement of ROM (Ore+M.R.) and Waste to be given separately.
4. Chapter-3: Para 3.4: Status of compliance of violations pointed out recently to be given.
5. Chapter-3: Para 3.6: Reason of submitting this modification of approved MP to be given with proper Justification.
6. As per surface Plan & other plans submitted, mining (excavation/dumping) was carried out at common ML boundary with another mining leases in almost all side of the lease area. Permission from competent authority in this regard to be enclosed.

**Geology:**

- Page-22: Total Number of Boreholes drilled is 621, but only 433 boreholes have been considered for reserves estimation. Remaining boreholes details is to be mentioned in remarks column. Grid intervals are differs from Page to page.
- Instead of 02.07.2015, it should be shown as 01.02.2017 in the Exploration table and it is to be same for reserves estimation also. Entire Exploration table has to be re-checked and estimate the balance reserves for 01.02.2017.
- Additional exploration is to be proposed to know the continuity of ore in depths as well as to complete the exploration as per UNFC norms. Many sections are not having sufficient Boreholes and many boreholes are incomplete to find out the contact zone.
- Minerals (Evidence of Mineral Contents) Rules 2015 for exploration grid interval to be followed for reserves & resources estimation as per UNFC. As per rule 200-100m or closer interval of borehole spacing along strike for G-2 and 100m or closer interval of borehole spacing along strike for G-1 category of irregular bodies to be considered. Hence Geological section has to be drawn in closer interval.
- 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.
- Geological reserves & Resources have to be shown in table to compare as per previous approved plan and as of now. Addition or depletion of reserves/ resources to be explained.
- In the approved plan, Office & workshop building are present upto Borehole -300 in Section line-25, whereas in present plan two benches have shown in the same location.
- When compare to previous approved plan & sections, the borehole lithology, ore body are changed this needs to be explained.

**MINING**

7. Para a) page 38: Waste dumping to be carried out within this particular lease area only to be discussed here. Nothing outside the lease area to be proposed as it is not acceptable in view of recent judgement of Hon'ble Supreme Court.

8. Para a): Sequence of different mining operations should be described and Description of existing quarries/pits should be given with no. of benches in ore and OB with their mRL. Details of Dumps/Stocks of Waste, Sub-grade/mineral rejects, ROM, Processed ore - Lump, fines etc. should also be given in the text vis-à-vis that was actually available on the site as on the date of Survey.
9. Para b): Excavation/production as per last approved mining Plan to be given with approval date of the last Mining plan or modification of Mining Plan (MMP). Proposal for the year 2015-16 & before to be eliminated, as the same has already been elapsed.
10. Para b) As per guideline of “IBM manual on appraisal of Mining Plan-2014”, a NOTE to be added below the proposed year wise excavation summary Table (given in Cubic m) regarding tentative tonnage as arrived considering recovery % and Bulk-Density based on time series data and few samples test. Incidence/recovery % of salable ore and mineral reject/Intercalated waste from ROM & Total excavation to be clarified.
11. Para b) page 41: It is mentioned that there are no surface dumps within the lease hold area. However, as shown over the Surface Plan, in addition to the temporary back-filled waste; surface waste dumps exist in the S-E part of the lease area over the pit top. These dumps are not secured to prevent environmental degradation. Hence, the same to be rectified.
12. Para e) mining (excavation) is proposed at common ML boundary with another mining leases. However, enclosed permission from DGMS was valid upto 11.12.2016. Hence, Valid Permission from competent authority in this regard to be enclosed.

#### **HANDLING OF MINERALS REJECT/ SUB-GRADE AND DISPOSAL OF WASTE**

13. Para C) Protective measures to be proposed in quantified terms at the surface waste dumps exist in the S-E part of the lease area over the pit top.

#### **PMCP**

14. In summary of PMCP table for Item No. 8.3, Cumulative actual achievement as on date and specific proposal should be given year-wise in absolute quantified term. Under heading ‘others’, environment monitoring and protective works to be carried out year wise around waste dumps/backfill area etc. to be given.

#### **Enclosure:-**

15. Copy of Mining lease deed (some relevant pages concerning to ML area, validity etc.) to be enclosed.
16. All the annexure to be properly indexed, numbered, paged and signed by the TQP.

#### **Plates:-**

17. All plans to be prepared based on recent and accurate survey and to be correct as per existing surface features & mine profile. Such plans should be prepared and certified by the qualified Surveyor.
18. Reclamation Plan: All Protective measures existing/proposed to be shown in distinct & different colors.

\*\*\*