

**Scrutiny comments of the the Mining Plan of Bainibasa Graphite ore, Area 58.704 ha belonging to M/s Pradhan Industries situated in Dist. Rayagada, Odisha.**

**General**

1. The mining plan submitted under rule 13(3) of MCR 2016 which may be replaced with rule 13(1) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rule 2016.
2. Chapter "Introduction": A brief review of status of Mining lease at present with documentary evidences may be given.
3. The status of lease saved under section 10(A)(2)(c) and details of hearing and order passed by Govt. may be enclosed and describe it in relevant chapter.
4. All the annexure to be properly numbered/paged and signed by the RQP.

**"Geology & Exploration":**

5. Chapter-4, Para-4.4, it has been described that prospecting operation carried out by Directorate of Mining & Geology, Bhubaneswar, Odisha but prospecting report has not been enclosed. Also the report parameters has not been described while calculating the reserves/resources under UNFC
6. The complete lease area should be proposed to cover under exploration to quantify reserves /resources under UNFC code 111 & 122 with cut of grade corresponding to threshold value suggested by IBM.
7. Chemical Analysis Report of BHs samples should be enclosed from NABL Accredited laboratory or Govt. lab. as per guideline of "IBM manual on appraisal of Mining Plan-2014". *Entire mineralized area should be analyzed meter wise with 10% of check samples. (At least for 10% of total samples may be analyzed in accordance to BIS and reports from NABL accredited/other government laboratory).*

**"Mining":**

8. Development proposal to be given from one end to another end year wise in the interest of scientific mining and protection of environment. Therefore 4<sup>th</sup> year proposal may be modified accordingly.
9. The applied area has not been explored by drilling bore holes, therefore the entire area should be explored by core drilling within five year.
10. A retaining wall may be proposed between boundary pillar C to F and along diverted nallahs.
11. The average weighted grade of minerals to be excavated and the grade of mineral rejects may be depicted.
12. The benches in OB and ore should be marked in different colours in development plan.

13. In the development and production tables bench wise, year wise area of excavation and average thickness of the excavation or average area of cross section of bench and its average advance is to be given along with RL of bench at the end of the year.

14. Ultimate pit limit should be depicted on all relevant plans & sections.

#### **Mine Drainage:**

15. Nalas, water course etc. are present at lower level near to lease area and in the lease area. Therefore a drainage plan may be submitted showing the drainage pattern of the lease area. Accordingly, environment protective measures like retaining wall, garland drain, settling tank etc. may be proposed/revised.

#### **“Stacking of mineral reject/ sub grade material and disposal of waste”**

16. Storage/Stacking of Sub-grade material/ Mineral reject in earmarked area to be described with m. RL and area on year to year basis with description of the manner of its disposal.

17. “Stacking of mineral reject/ sub grade material and disposal of waste” : Stacking of mineral reject/ sub grade of Graphite ore should be in lieu of threshold value notified by IBM. **Threshold value fixed for Graphite ore for flaky variety is 2% F.C (min.) and for amorphous variety 10% F.C (min.).** Therefore all the text may be modified accordingly.

18. In the text, details of blending of sub-grade ore to be explained.

#### **Use of Mineral and Mineral Reject:**

19. Specifications stipulated by user industry viz-a viz grade of mineral being produced from mine may be given.

#### **“Progressive Mine Closure Plan”:**

20. Updated break up of proposed land degradation (pit, water body, dumps, infrastructure, settlement etc) under different land types (forest, revenue, waste, grazing etc) may be given.

21. Under impact on land, cumulative land degradation at the end of proposal period and at the end of conceptual period may be given.

## **Plates:**

### **General:**

22. The plans and sections submitted do not bear the certificate that --the plans and sections are prepared based on the lease map authenticated by the state government.
23. All the plan & sections prepared bear the signature of certified surveyor.
24. Magnetic meridian with date may be depicted in relevant plan & sections.
25. DGPS plan has not been enclosed with plates.

### **Key Plan:**

26. The approach road upto the Mining lease may be indicated.
27. Direction of north not clearly appeared. It may be located on top corner on right side of plan with prominent wind direction.

### **Lease Plan Plan:**

28. It is observed during field inspection that intermediate pillars have not been marked in lease plan. Lease plan has also been not authenticated by State Govt. therefore authenticated and modified lease plan must be submitted.

### **Surface Plan:**

29. Intermediate pillars have not been marked on surface plan.
30. Irrigation channel and dry ponds as observed in the field between Pillar L to M are not shown on surface plan.
31. Forest area and non-forest area should be shown with different colour codes.
32. Latitude, longitude of all corner pillars may be indicated on the plan. Few pillars may be correlated with some permanent ground features giving distance and direction.
33. Close spacing of contours with 5m interval may be shown.

### **Geological Plan & Section:**

34. Proposal of bore holes in 2<sup>nd</sup> & 5<sup>th</sup> years may show in different colour code.
35. The reserve under G2 category and limits of reserves/resources 122 and 211 marked on geological plan and sections in different colour codes.
36. As observed during field inspection surface topography as shown in geological section not matched with actual.
37. Geological Plan & section prepared in single plate. A separate geological section may be prepared.

### **Year wise development plan:**

38. Excavation in ore and OB is not clear hence on year wise plans and sections ore and OB may be marked. Show position of faces and bench RIs at the beginning and end of the year distinctly with direction of advance and individual year workings with colour code.

39. Spot levels at sufficient no of places on original surface, in the pit, and at the toe of benches may be shown so as to ascertain the average depth of excavation in a particular bench.

40. Development Plan & section prepared in single plate. A separate development section may be prepared.

**Reclamation Plan:**

41. Year wise progress of backfilling, dumping, afforestation, environmental protection measures using different colour codes for easy understanding.

**Environment plan:**

42. The Environment Plan as prepared should be satisfied the provision as laid down rule 28(5)(b) of MCDR'88.

43. It has been observed during field inspection that outside the lease area there is a temple in eastern side within 500m radius and kutcha village road along the ML pillar of lease boundary not shown in environmental Plan.

44. Prominent wind direction may be shown through wind rose diagram.

**Conceptual plan:**

45. This may be prepared considering mineralisation as revealed from the borehole logs. One longitudinal section may also be submitted. Direction of run off from the area based on surface contours may be shown on the plan and the sections.

**Financial Assurance Area Plan:**

46. Show fresh (virgin) land degradation due to mining activity working/dumping /reclamation and rehabilitation etc may show at the end of 5 year on this plan with highlighted boundaries and different colour codes for FA calculation.

47. In FA table area of sub grade stack has not considered and not depicted in FA table, therefore FA area should be re-checked..