

**Scrutiny comment on Scheme of Mining including PMCP in respect of Balda Block Iron Ore Mine of M/s Serajuddin & Co. in Keonjhar district of Odisha State.**

**Date of Inspection: 04/10/2016 (Sri D. Upadhyay, ACOM and Sri D. Jain, JMG)**

**GENERAL:**

1. On cover page as well as in text, wherever necessary, position of rule 17 (1) of MCR, 2016 to be mentioned along with rule 12 of MCDR, 1988 (as review of mining plan also allowed in rule 17 of MCR, 2016). Further, on cover page area under forest and non-forest also to be mentioned.
2. Qualification and experience certificate as required to prepare Mining Plan/Scheme of Mining as per rule 15 of MCR, 2016 to be submitted in respect of all Qualified Persons.
3. Page 12: It is mentioned that One RC type of hole has been drilled in year 2016-17, however, details of same has not submitted. Further, in review of exploration, this RC BH is not considered. Hence, all the details i.r.o. this BH to be submitted.
4. Page 5: Mobile no/contact no, email address etc. to be submitted along with under takings from all the partners about their/his working in other firms / company/ organization.
5. CCOM circular no.2/2010 and its addendum regarding geo-referenced mining lease map and ML boundary pillars to be implemented.
6. Submitted document is very much descriptive/lengthy. It should be precise. The contents should be depicted as far as possible on plans and sections duly supplemented by tabular statements / charts / diagrams or sketches in support, keeping the descriptive matter to the minimum essential.
7. As per executed lease deed, the lease is going to be expired by 02.12.2017. Hence, final Mine closure plan under rule 23(C) of MCDR, 1988 to be submitted before one year prior to expiry of lease deed. In this regard necessary action needs to be taken.

**GEOLOGY:**

8. Page 27: It is mentioned that a total 150 BH have been drilled, however, on page 28 & 31 same is mentioned as 151 BH. Verify and rectify.
9. The Geological boundaries of exploration limit i.e. G1/G2/G3 etc. are not marked as per Minerals Evidence of Mineral Contents Rules 2015. Same to be revised as per mentioned rule. Accordingly, the resource estimation calculation, geological plan and Sections need to be revised. Further, Specific date to be mentioned on which Reserve & resource is estimated.
10. Exploration proposal should be given for entire lease area apart from explored area and the same should be completed within this scheme period as per directive of ministry of mines vide letter number 10/75/2008-MV dated 23rd Dec 2010 under rule 27(3) of MCR 1960.
11. As per approved Scheme of Mining dated 27/04/2012, the bulk density considered for Salable Ore, Sub-grade and Waste were 3.5MT/cum, 2.8 MT/cum and 2.2MT/cum respectively. However, in present submission same is considered as 3.0MT/cum for Saleable Ore, 2.5MT/cum for Sub-Grade Ore and 2.0MT/cum for waste. In this context justification or technical report from institute of repute to be given along with documentary evidence.
12. As per approved Scheme of Mining dated 27/04/2012, the recovery of Iron Ore was considered as 100%. However, in present submission same is considered as 95%. Hence, the recovery of 95% to be justified with documentary evidence. The recovery should be based on the time series data.
13. In this context justification or technical report from institute of repute to be given along with documentary evidence.
14. Some of the points as indicated in Geology and Exploration Chapter of "IBM manual for Mining Plan appraisal-2014" are not attended.

*Handwritten signature and date:*  
15/10/2016

## MINING:

15. The length, width, top & Bottom mRL, number of benches as mentioned on page 27 & 67 does not match with the surface plan. Verify and rectify.
16. Location of mine workings proposed has not been referred by grid lines in text part of documents.
17. It seems that Ore figure given in the table presented on page number 70 is in tonnes instead of CuM. Verify and rectify.
18. The backfilling proposal for Kalimati pit is not allowed in the interest of mineral conservation.
19. Proposal of Mining has been given in pit no. 4, but shifting of Subgrade stack has not been proposed. Therefore, necessary modification should be carried out in the light of above comment.
20. Post mining land use at final/conceptual mining stage to be described.
21. **Mine Drainage:** 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/revise.

## STACKING OF MINERALS REJECT/ SUB-GRADE AND DISPOSAL OF WASTE

22. Indicate briefly the nature and quantity of top soil, overburden / waste and Mineral Reject to be disposed off as per table given in the "IBM manual for Mining Plan appraisal-2014".
23. As the back-filling proposal is advised to revise as per comment no 16, hence, proposal of back-filling also need to be revised in this chapter.
24. Storage/Stacking of Sub-grade material/Mineral reject in earmarked area to be described with mRL and area on year to year basis with description of the manner of its disposal. Specific proposal for environment protection measures i.e. Retaining wall, garland drain, check dam, settling ponds etc. around this, to be given year wise in quantified terms.
25. Overburden, Mineral reject and top Soil dumps should be proposed on the non-mineralized ground or temporary dumping for a short period to be proposed in mineralized area with technical constraints & justification.
26. Build-up of dumps from year to year to be mentioned in text w.r.t. designed capacity of dumps, bottom and top mRL of individual terrace, individual terrace slope with description of method & manner of disposal of waste should be mentioned.
27. Proposal of blending of Sub-grade/Mineral reject to be given in the interest of conservation of Mineral. Blending ratio also should be mentioned.

## PROGRESSIVE MINE CLOSURE PLAN

28. EIA : The details of base line data collected & assessment during recent past to be given along with name of agency, period of data collection, average value of data and whether it is conforming to the norms of MoEF.
29. Location of proposed retaining wall is not marked in the reclamation plan. Verify and rectify.
30. In Para "Disaster Management and Risk Assessment:", risk analysis of different mining operations and safety management plan needs to be given. Also, briefly describe the capability of lessee to meet such eventualities and the assistance to be required from the local authority may also be described. The name of officials along with telephone number may be given; responsible to take appropriate action during such eventualities. *Further, as the lease is expiring in 2017, FMUP to be submitted before one year of the expiring of the lease period*

## FEASIBILITY STUDY REPORT:

31. Financial analysis is not carried out as per UNFC guidelines. It should be carried out based on real time cost. Viability of the project should be analyzed up to the ultimate depth considering following points:  
Capital cost, Cashflow forecast, Investment cost, Inflation forecast, Operating cost, Sensitivity studies, RR, IRR, NPV for the project life, cost of operation, Closure cost and Rehabilitation cost etc.

LATES:

32. All drawings/plans are not certified to be correct by the certified Surveyor/ Qualified Person/ Mine Manager/ Mining Engineer / Mining Geologist. All plans and sections should be signed with date and certified to be correct by the certified Surveyor, Qualified Person, Mine Manager, Mining Engineer and Mining Geologist as per provisions of Rule 30 of MCDR, 1988 and Rule 66 of MMR, 1961.
33. All plans and sections should bear date and signature.
34. Date of observation of Magnetic Meridian should be given on all plans except Khasra Plan.
35. Surface Plan: Different type of dumps i.e. Waste Dump, Sub-grade dump etc. are not distinguishable on surface plan. Surface plan may be modified accordingly.
36. The contour value to be shown in all the plans. Further, ultimate pit limit to be shown in all the plans and sections.
37. Forest area, Non Forest area, Surface right acquired area etc. should be marked clearly over concern plan and section.
38. Color code given for different features in plans to be given same in sections.
39. **Geological Plan & Section:** The color code/hatching used to display various lithology should be same in plan and section.
40. The plan showing the UNFC details should also have the Grid Line, Location of pit, instead of writing 111, 122 etc. only the boundary of G1/G2/G3 need to be shown. The scale of the plan should be same as of geological plan.
41. The color of Section line as shown on Geo Plan to be change. Further, Direction along which geological section have been drawn to be depicted on the sections.
42. Environment Plan: All existing surface features beyond the 60m of ore block area boundary to be shown in detail including permanent features present near to ore block area. Monitoring stations at the strategic points in core & Buffer zone for different environmental components should also be shown over this plan.

ENCLOSURE:

43. Photo id of Joint Managing Partners submitted is obscure, legible copy of same to be submitted. The signature of Joint Managing Partners on photo id should be match with the certificate.
44. All the annexure to be properly numbered/paged and signed by QP. Further, All the pages of the text and relevant pages of the annexure to be signed by qualified person.
45. Few photograph of the Boundary pillars, present land use to be attached.  
In view of above, wherever necessary correction required to be made.

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*Pauls*  
15/10/2016