

Inspection Report cum Scrutiny comments on the Modified Mining Plan for Barima Bauxite Mine over an extent of 80.414 Hectors in Barima Village, Mainpat, Tehsil, Surguja District of M/S Chhattisgarh Mineral Development corporation Ltd.

1. The certificates, consent and undertaking should be furnished as per IBM manual. In consent letter it is requested to Regional controller of Mines, IBM, Nagpur. the correction to be made as Raipur.
2. **All the rules of MCDR,1988 should be updated as per new MCDR,2017.**
3. **Introduction:** In the given Para the co-ordinates of boundary pillar given but during mine visit it was observed no boundary pillar intact in lease area. The boundary pillars should be constructed for demarcation of lease area as per rule 12 of MCR,2016 and pillar may be erected accordingly photographs should be enclosed.
4. The breakup of the area containing nature of the land may be furnished as under:-

Forest		Non-forest	
(i)Reserves Forest, (ii)Protected forest, (iii)Wild life sanctuary, (iv)Bird sanctuary, (v)others(specify)	Area	(i)Govt. waste land, (ii)Govt. grazing land, (iii)Pvt. Agriculture irrigated land, (iv)Pvt. Agriculture non-irrigated land, (v)Pvt. other land, (vi)others(specify)	Area

5. No. of leases held, state-wise, within the state, by the applicant, has to be mention in the prescribed format is given below:

Sl. No	Lease reference No. & Date	Area	Postal address & location	Type of Minerals	Working/ Non-Working	Status of approval of MP	Date of execution & Date of expiry	Remarks
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6. List of Board of Directors with address, contact number and e-mail id should be furnished.
7. The lease period to be mentioned as per MMDR, 2015 and supporting document should be enclosed.
8. It is mentioned that modification in approved mining plan is not applicable then how document is submitted as modification in approved mining plan. The reasons for modification in approved scheme of mining should be discussed.(Para 3.6)
9. **Review of Compliance position:** In the given Para the compliance position of exploration to be mentioned. In the given Para proposal mentioned is not as per approved document and achievement not mentioned. The correction to be done.(Para 3.3.1)
10. **Geological Reserves:** As per the last approved scheme the reserve and resource details furnished is not correct. The data should be as furnished in last approved scheme.
Kindly clarify that without any exploration how the reserves increased. The correction to be done accordingly.
The mineable reserve is calculated by adding proved mineral reserve(111) and feasibility mineral resources(211). The resource under 211 as mentioned the resources which either fall outside the UPL within the statutory barrier of 7.5 m. So how the resource converts into reserve. The correction to be done.
11. The reserves should be calculated as per mineral content and mineral evidence Rule, 2015. In the given Para it is said that 23 trial pits has been excavated but the dimension of trial pits not mentioned. As per the trial pit shown in the plan no trial pit was found in the field and depth mentioned for trial pits in annexure(TP No.-49-10 meter,TP-51-8.3 meter,TP-41-9.2 meter,TP-54-8.8 meter) is not practically possible. Therefore the establishment of additional reserve is not correct. The correction to be done as per actual field condition.
12. **Mining:**
Brief description of existing excavation: The Method of working should be discussed elaborately with bench parameters and method of excavation, loading and transportation No.

of Benches in soil, OB & Mineral. Bench/RL wise excavation planning for each year of the mining plan period is required to be submitted indicating the length, width, depth, & orientation of each benches as well as number of benches proposed in each year for clarity. So, also the proposed production, handling of overburden, generation of insitu & intercalated waste, topsoil generation etc. yearly basis from each bench for more informative. All should be presented in tabular form.

13. The proposal is given 88000 tons/year which is approximately 176000 tons whereas as per the calculation reserves are only having 100105 tons and rest all are resources. The same to be clarified.
14. A list of mining machinery proposed along with projected norms of performance / output for individual main items of equipment/ machinery have not been given.
15. The tentative excavation should be furnished as per the format given in universal format.

Year	Pit no	Total tentative excavation (cu.m.)	Top soil (cu.m.)	OB/IB/S B (cu.m.)	ROM(cu.m)		Mineral Reject	ROM/Waste Ratio
					Ore(cu.m)	Mineral reject(cu.m)		
2017-18								
1018-19								

Tentative tonnage of the ore may be arrived by computing approximate bulk density and recovery factor as these data are variable and may be established on time series.

16. **Conceptual Mining Plan:** A proper conceptual plan based on the long term design parameters of the mine covering all the mining and allied activities has not been furnished. All the activities should be furnished with extent of area and quantity involved in the form of 5 yearly blocks up to the lease period. The plate to be revised accordingly.
17. **Employment Potential:** The manpower requirement suiting to excavation planning by giving the calculation against the proposed excavation. The O.M.S. should be mentioned for the excavation proposal for the given period. The manpower requirement should be mention as skilled, semiskilled, and unskilled. As per Rule 55 of MCDR, 2017 Mining Engineer to be proposed.

Plates:

18. **Plat no.1 (key plan): The details of the deficiencies found on the plate are as follows**
 - (i) The road to be marked with different colour line differentiating whether it is village, public road, highway, etc and also it should marked properly in index.
 - (ii) Contours should be clearly visible at not more than 20 meter intervals and should be index.
 - (iii) Co-ordinates of extremities of lease area are not shown in the plan.
 - (iv) The forest area, govt. land, agriculture land, etc should be marked in the plate and also in index.
 - (v) The plate to be indexed properly, different colour code should used for showing different features.
 - (vi) Approach road for ML area is not shown.
 - (vii) Population of the villages falling within 5 km radius to be furnished in tabular form.

The plate should be revised.

19. **Surface Plan:** During the field visit it was observed that the location of mine pit and trial pit location is not correctly shown as per field position. In the surface plan and in surface geological plan the date of survey is same but the pit shown in different location. In surface plan three pits are shown and in surface geological plan only one mine pit shown. The area to be re surveyed and accordingly the plate should be revised.
20. **Surface Geological Plan:** In geological plan the lithology should be shown and same should be indexed properly. In geological plan G1, G2, G3 and G4 scale exploration area should be

marked properly as per UNFC and Minerals (Evidence and Mineral contents) Rules, 2015. The G1 area shown should be revised as per the explosion base.

As per analysis report enclosed it is observed that maximum result is beyond threshold(SiO₂ is less than 30% and SiO₂ is more than 5%) therefore as per definition it cannot be considered as reserves.

The ore body zone should be marked on the plan as per the exploration base available.

21. The sample collection point to be mark in the plate and the same along with the location and co-ordinate to be enclosed in the text and also by whom and the manner in which the representative samples have been drawn and prepared in the prescribed manner for analysis by an accredited laboratory (NABL or any Govt. Lab) has to be furnished in the text. In annexure IX details of 23 trial pits sample given but during mine visit it was observed as per geological plan the trial pits not exist. The correction to be done.(Plate 5)
22. **Development Plan & Section:** The working plan should be proposed with proper advancement and top and bottom RL. In the text it is mentioned that the mining is proposed with subsequent backfilling/reclamation but the same is not reflected. The top soil should be dump somewhere so that after the backfilling of waste the topsoil should be put on the top for proper reclamation.
The haul road not shown from working face to dump and mineral stack.
The top soil dump and mineral stack should be shown in the plate should be furnished with RL. The plate submitted for 2016-17,2017-18 & 2018-19 production & Development plan in all plan 2018-19 proposal is shown. The plate only to be shown with yearwise excavation, afforestation, dumping & reclamation proposal. The plate should be revised.
23. **Conceptual Mining Plan:** A proper conceptual plan based on the long term design parameters of the mine covering all the mining and allied activities has not been furnished. All the activities should be furnished with extent of area and quantity involved in the form of 5 yearly blocks up to the lease period. The plate to be revised accordingly.
24. **Reclamation Plan:** The reclamation plan submitted yearwise in separate plate is not required .It may be submitted in single plate with balance years
25. proposal.
26. **Environment plan:** The plate should be enclosed as per Rule 31(5)(b) of MCDR,2017.The plate is missing.
27. **Financial Assurance:**During the mine visit it was observed the area shown as reclaimed area is not as per ground condition therefore area should surveyed accordingly correction to be done. Financial Assurance as per new MCDR, 2017 may be calculated and accordingly bank guarantee should be given.
28. All the plates should be index properly as the features shown in the plan with the same colour code for clarity and signed with date. The plate no. is missing in all the plates.
29. All the plans and sections enclosed with the modified mining plan should be certified by Qualified person that the plans and sections are prepared based on the lease map authenticated by the state Government.

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