

# **SCRUTINY COMMENTS ON MODIFICATION TO THE APPROVED MINING PLAN INCLUDING PROGRESSIVE MINE CLOSURE PLAN IN RESPECT OF DEVADARI IRON ORE MINE, ML No. 006, OVER AN EXTENT OF 100.54 HA OF FOREST LAND, SUBMITTED BY M/S JSW STEEL LIMITED, SITUATED IN LAKSHMIPURA VILLAGE, SANDUR TALUK, BALLARI DISTRICT OF KARNATAKA STATE**

All the headings, subheadings should be replicated as per the standard guidelines as given in “IBM Manual on Appraisal of Mining Plan 2014”

## **COVER PAGE**

1. IBM Mine code details may be also mentioned.

## **INTRODUCTION**

2. The reference of Mine Development and production agreement also to be given in this chapter and is to be attached as Annexure. The production and dispatch requirement section of the MDPA agreement (Sec-8) expressly mentions that the production requirement shall be the permissible annual production as prescribed under the approved R&R plan. The permissible annual production limit is 1.165 MMTPA as per the CEC Approval letter attached in Annexure-6. Accordingly, enhancement of production capacity to 2.0 MMTPA is not acceptable.
3. The chapter should also mention the status of Environmental clearance (EC). The lease deed as attached in Annexure-I mentions “Mining operations after the expiry of EC i.e. on 18.06.2022 will be prohibited till lessee obtain valid EC”. EC from the erstwhile lessee has been transferred by MOEF vide letter no: J-11015/913/2007-IA.II(M) dated 31/3/2017 valid till 18.06.2022, details in this regard should be given accordingly.
4. The document mentions Fresh FC has been taken for execution of lease (Annexure-3). Annexure-3 however mentions MOEFCC(FC division) letter dated 9<sup>th</sup> March 2007. The latest letter from MOEFCC is to be attached as annexure and details of the same should be given in this chapter accordingly.
5. The salient features of approved R&R plan should be mentioned in details in this chapter. The feasible production limit of 1.165 MMTPA as per the approved R&R plan should be described in details. The reference of CEC concurrence letter no, Monitoring committee letter should be given.

## **LOCATION AND ACCESSIBILITY**

6. Para 2(b)-Table 9: Ground control points (GCP)- The co-ordinates of GCP in the text and surface plan is not matching. This should be checked and corrected.
7. Para 2(c)- The reference of the key plan is given as Plate-I(a) whereas in plate it is mentioned as Plate-I The index of the key plan shows scale of 1:2000 R.F. This is to be checked and corrected.

## **DETAILS OF APPROVED MINING PLAN/SCHEME OF MINING (if any)**

8. Para 3.3-Exploration-i)The borehole lithologs along with chemical analysis as given in Annexure-13 B is incomplete. Detailed lithologs and analytical details of all 46 boreholes drilled during Fy 2019-20 should be annexed and reference to be given.  
ii)The reasons for less development (-94.0 %) for the year 2018-19 should be mentioned.  
iii)The achievement of dump re-handling proposal, reclamation & rehabilitation measures etc. as per the approved plan should also be reviewed and to be mentioned in details in this para.
9. Para 3.4- The copy of IBM violation letter no KNT/BLR/Fe-492/Vol-I/161 dated 30/01/2020 to be annexed and reference to be given here. The compliance letter dated 27-02-2020 mentions, 10 nos. of boreholes which include RC drilling with a drilling meterage of 490 m as on 27.02.2020. The date of commencement of exploratory drilling as per Form I is 4.09.2019. In the document it is mentioned, 46 no of boreholes up to a cumulative meterage of 2252 m were drilled in Fy. 2019-20. This indicates that in last month of Fy. 2019-20, remaining 36 boreholes with 1762 meterage have been drilled after 27.02.2020. Only chemical analyses of 10 nos. boreholes (JDB 1 to 10) are attached as annexure. The complete details for date of commencement, date of closure, total depth, co-ordinates, borehole-lithologs & chemical analysis of all the 46 drilled boreholes (JDB-1 to 46) should be furnished.
10. Para 3.6- As already mentioned in scrutiny comment no 2, enhancement of production capacity to 2.0 MMTPA is not acceptable, since permissible annual production limit is 1.165 MMTPA as per CEC. Also detailed lithologs along with analytical details for all drilled boreholes(RC & core) should be given, so as to update the Reserves & Resources with respect to the recent exploratory drilling.

## **PART-A, 1.0 GEOLOGY AND EXPLORATION**

11. Para 1.0 (a): The proposed lowest working (MSL) and the conceptual period working is to be corrected as per aforementioned scrutiny comment no 2.
12. Para 1.0(d): Details of Exploration agency:-Table 12- The complete document mentions “drilling by M/s JSW steel Ltd”. Accordingly, instead of M/s Rock-tech enterprises. M/s JSW steel Ltd details to be given. If M/s JSW steel Ltd. has awarded contract to M/s Rock-tech enterprises for exploratory drilling then supporting document for the same like work order copy etc. may be annexed and reference to be given in this para.
13. Para 1.0(e)-(ii): a) The details of all the boreholes drilled by M/s JSW should be given as per the below mentioned table.

S.I no	The date Co-ordinates		Reduced Level(m)	Total Depth(m)	Date of commencement	Date of Closure
	Latitude	Departure				

b) Annexure 13 A as mentioned in the text only mention borehole logs of previous drilled boreholes by MECL(MVMR-1 to MVMR-38) & (MVM 39-48). The reserve/resource estimation w.r.t these boreholes as per the last approved document was 28.6 million tonnes with an average grade of 59.69% Fe. Further for the recent 40 nos. of RC boreholes & 6 nos. of core boreholes drilled by M/s JSW, only for 10 boreholes chemical analysis report is given as Annexure 13 B. For further reserve/resource estimation complete details of the 46 boreholes including borehole lithologs with analytical details should be furnished.

c) It is mentioned "lithologs of all boreholes are given in Plate 5c, however no lithologs plate is enclosed with the document. Details of the exploration agency given in Table -17 may be checked w.r.t the aforementioned scrutiny comment no 12.

Para 1.0 (e)-(iii) - The lithologs and the chemical analysis details are not provided as mentioned in the aforementioned scrutiny comment.

14. Para 1.0(f)- Surface plan shows date of survey as 24.02.2020. As per Rule 31(4) of MCDR 2017 "the plans and sections required under these rules shall be maintained up to date within three months in case of category 'A' mines as referred to in clause (a) of sub-rule (2) of rule 55. The updated surface plan should be prepared & submitted accordingly.
15. Para 1.0(g& h) - Updated Geological plan should also be prepared and submitted accordingly as per aforementioned scrutiny comment. The lithology of the borehole logs should match with the lithology shown in the geological section. The Geological index is also incomplete. No lithology is shown for southern portion of the lease (ID-1-ID2 area). There is no available detail for recent 46 drilled boreholes as mentioned already, hence geological plan & section couldn't be verified. Complete information to be furnished and all the relevant portion of text and plates should be modified accordingly.
16. Para 1.0(i)- No future exploration program is proposed in this plan period. The Geological plan shows 60.03 ha in G1, 0.79 ha in G-2 and 2.61 ha in G-3 category. Clause 11 of Mining Lease deed mentions "**Lease should complete detailed exploration (G-1 level exploration) and prepare a detailed feasibility report confirming to part-IV and V of the Mineral (Evidence of Mineral contents) rules, 2015 over the entire mining lease area within a period of five years from the date of commencement of the mining lease**" accordingly future exploration program should be proposed in details as per the below mentioned table.

Year	No of boreholes (Core/RC/DTH)	Grid interval	Total meterage	No of pits, Dimensions And volume	No of Trenches, Dimensions and Volume.
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Location of the proposed boreholes

Proposed year	Proposed bore-hole	Sections	Northing	Easting
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17. Para 1.0 (j): i) The logs of the previous drilled boreholes of MECL were checked with the current submitted plan and section based on which reserve/resource estimation was done. It is observed that lithologs and other strati-graphical data as provided is not as per the borehole logs submitted in Annexure-13 A and last approved mining plan. Sec-(S17-17')- MVMR-27, the lithologs shown is not as per the borehole-logs. The borehole logs shows Haematitic ore, BHQ whereas the borehole section(Plate-5A) shows siliceous iron ore & BHQ. MVMR-24 borehole logs show haematitic ore, BHQ, Ferruginous shale whereas the borehole section again shows only siliceous iron ore & BHQ. MVMR-23(S-16-16') the borehole log shows haematitic ore, ferruginous clay, clayey iron ore whereas the borehole section shows siliceous iron ore. In between section 15'-21' on the northeastern side boundary of the lease the area is shown as the area covered by soil with boulders and scree in the previous approved mining plan whereas the same area has been shown as the area covered by siliceous ore. The previous reserve/resource estimated as per the approved document was 28.6 million tonnes with an average grade of 59.69% Fe. Out of which 2.32 million tonnes were mined out during year 2018-19 & 2019-20. The remaining Reserves/resources is 26.28 million tonnes having average grade of 59.69 %. The current submitted document enhances reserves/resources to 49.8 million tonnes with average grade of 46.26 % Fe. This indicates that balance 23.52 million tons which is added, approximate grade that has been considered for the same is 31 % Fe (approx.). Such degradation of the iron ore grade and drastic variation from the last approved document is not acceptable w.r.t the aforementioned errors in the lithological & analytical interpretation for the previous drilled 48 MECL boreholes and lack of data for the recent drilled 46 boreholes. It indicates that this is a defeat to the interest of mineral conservation.

ii) IBM Threshold value for hematitic ore is 45 % Fe (min). The previous approved plan mentions the same and the Reserve/Resource estimation were carried out accordingly based on the litho-logs and analytical details 48 MECL drilled boreholes. The reserve and resource re-estimation has to be carried out based on the latest exploratory bore hole data drilling of 46 boreholes. The given borehole data for only 10 boreholes are not justifying the enhancement of the reserves estimated, the siliceous ore quantity and the degrading of the grade which is shown in the submitted document. Hence the entire exploratory data of 46 boreholes drilled during the year 2019-20 should be furnished with lithologs and analytical details and re-estimated reserves/resources should be furnished in the prescribed table. If the above said data is not available readily the balance reserves/resources estimated in the previous approved mining plan should be considered after depletion of the production of 2 years (2018-19 & 2019-20), accordingly all the working proposals should be made as per the permissible Annual production limit fixed by CEC.

iii) The entire feasibility report should be corrected w.r.t to the aforementioned scrutiny comments for Reserve/Resource estimation, permissible Annual production limit fixed by CEC. The economic evaluation of the feasibility report should also be corrected as per the UNFC format. The feed grade with physical and chemical specification requirement for the steel plant which is considered in economic axis evaluation should also be elaborated. The feasibility report of the previous approved document mentions end use requirement of 63 % Fe ROM for the plant. The detailed analysis based upon the NPV, Internal Rate of Return cash-flow needs to be done for economic viability.

iv) The area explored under G1, G-2, G-3 category should be calculated, after incorporating the aforementioned scrutiny comments and should be given in this section in tabular format. It is also to be clearly demarcated on the Geological plan & indexed. The current geological plan (Plate-4) doesn't demarcate the area under G1, G2 & G-3 category and also not indexed.

18. Para 1.0 (k)-The detailed calculation of reserves/resources section wise needs to be re-examined as per aforementioned scrutiny comment no -17. Table no 21, 22, 23 & 24 have to be re-examined and calculated for Reserve/Resource estimate under different UNFC code (111, 122, 333 etc.). The complete exploratory borehole data should be furnished in support of the same. Also, a table needs to be added as per the universal format.

19. Para 1.0(i)- i) The reserve/resource estimated as per aforementioned scrutiny comment 17 & 18 should be furnished as per the below-mentioned universal format.

Level of Exploration	Resources in million tonnes	Grade
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ii) Specific Details should be given in this para for the Cut-off grade, ultimate pit depth proposed based on the economic evaluation/feasibility study.

iii) Reserve/Resource details should be re-examined thoroughly w.r.t all the scrutiny comments for Geological and Exploration chapter (1.0) and should be given accordingly in tabular format specifically as per the mine plan universal format.

## **2.0 MINING**

20. Para 2.0: Mining- The production and dispatch requirement section of the MDPA agreement (Sec-8) expressly mentions that the production requirement shall be the permissible annual production as prescribed under the approved R&R plan. The permissible annual production limit is 1.165 MMTPA as per the CEC Approval letter attached in Annexure-6. Accordingly, enhancement of production capacity to 2.0 MMTPA is not acceptable as mentioned in this section and all the working proposals should be corrected and made as per the permissible Annual production limit fixed by CEC. All the relevant portion of the text, related plates & annexures should be corrected accordingly.

21. Para 2.0(a)- As already mentioned in aforementioned scrutiny comment no 14, the surface plan should be updated as per Rule 31(4) of MCDR 2017. Table no 29, 30 & 31 should be checked w.r.t the latest survey and corrections to be incorporated. The working pit details, dumps, ore stock etc. should be clearly demarcated on the relevant plans and indexed and reference to be given in this para.

22. Para 2.0(b)(I & II)- The year wise working details should be corrected as per the aforementioned scrutiny comments for Geology and Mining chapter. Calculations in Table 33, 34 & 35 needs to be reexamined and corrections to be incorporated in all relevant portions of text, plates & annexures. Also, as per the previous approved mining plan dump re-handling was proposed for 2018-19, 2019-20 & 2020-21. The status with complete details for the same should be given in the chapter no 3.0 (Review of the earlier approved proposal) and the reasons/justification for the change in dump handling proposal from the previous approved plan for 2020-21 should also be detailed in this para.

Para 2.0(c): The complete working proposals for each individual year needs to be corrected as per the aforementioned scrutiny comments for Geology and Mining Chapter in the text, tables (36, 37, 38, 39 & 40) and all relevant plates. The Lithology as arrived in the geological plan & section w.r.t the borehole lithologs & analysis and the production & development plans and sections should be exactly similar.

23. Para 2.0(d & e): The complete proposed method of working and the extent of mechanization needs to be recalculated as per the aforementioned scrutiny comments in Geology and Mining chapter and with annual CEC permissible

production limit of 1.165 MMTPA. All the relevant portion of text, tables (Table 41,42,43,44,45(a&b)), annexures, plates should be corrected accordingly.

24. Para 2.0(f) - The S.I no. should be corrected as per mine plan universal format to 2.0(e).

25. Para 2.0(g)- Conceptual mine planning-i) The SI. No should be corrected as per mine plan universal format to 2.0(f). All the working proposals in this para should be as per the permissible CEC annual production limit of 1.165 MMTPA as already mentioned. The Reserve/Resource estimation and all related geological data in this para should be reexamined and corrected as per the aforementioned scrutiny comments in the Geology chapter. The life of mine to be calculated accordingly. All the relevant portion of the text, table (Table 46), Annexures, Plates should be corrected accordingly.

ii) Excavation- Details of the mineralized area is to be given. Considering the current exploration data and geology, pit layout is to be designed for conceptual period. Accordingly, the final pit limit designed on basis of ultimate pit slope and UPL to be given as per the tabular format mentioned below.

Area(ha)	Pit dimension			
	Length(m)	Width(m)	Depth(m)	Pit slope

The reference of the conceptual plan and section to be given.

iii) "Disposal of waste"/Subgrade ore/ Backfilling of voids- The dump Management plan(modified) as per the approved R & R should also be enclosed as plates and reference to be given in this para. The proposed backfilling area should be as per the approved dump management plan. All the text, tables (table -46) and the related plates etc. the references of which are given in this para needs to be reexamined and corrected as per aforementioned scrutiny comment no 25.

iv) Reclamation & Rehabilitation- Table 47 shows TW-4 proposed length as 200 m whereas, as per approved R&R attached in Annexure-23, it is 239 m. The particular section of this para including Table 47, 48 & 49 should be specifically checked w.r.t approved R& R plan as attached in Annexure-23 & Dump management plan. The achievement of the Engineering structure/measures completed for Dump management and surface water management as per the approved plan should be mentioned and the proposal for the submitted plan period should be given accordingly. Also, the steps & measures proposed to be taken to reclaim the mining lease area including re-grassing at the conceptual stage of mine should be enumerated in brief and the related plan & section to be enclosed as plates. The reclamation & rehabilitation details should be given and plate references to be given.

v) Table no 50-The Land use pattern for mining and allied mining activities during this plan period as well as during the conceptual period should be reexamined as per the aforementioned scrutiny comments for Geology & Mining chapter.

26. Para: 3- **MINE DRAINAGE**- The maximum and minimum depth of working and other related portion of this para needs to be corrected as per aforementioned scrutiny comment for Geology and Mining chapter.

27. Para 4.0 (a): **STACKING OF MINERAL REJECT/DISPOSAL OF WASTE**-i) The sl. No of this para should be corrected as per the mine plan universal format. The text and table (Table-51) should be checked as per the aforementioned scrutiny comment for Geology and Mining chapter and corrections to be incorporated in all relevant portion of text, plates and annexures.

Para 4.0(b)- The details of all the existing dumps within the ML area should also be given in the tabular format.

Waste dump Id	Location	Extent in Ha.	Height in m.
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Para 4.0 (c): The year wise proposals for the protective measures should be given in this para as per aforementioned scrutiny comment no 25(iv) in tabular format.

28. Para 5.0-**(USE OF MINERAL AND MINERAL REJECT)**-(a,b,c,d &e): i) The physical and chemical specification of the end use industry/JSW steel plant are to be furnished in tabular format as mentioned below. The previous approved mining plan mentions chemical specification of +45 % Fe and physical specification of Lumps 10-40 mm and Fines 0-10 mm and should be given accordingly.

Name of the Company	Chemical Specification	Physical specifications
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ii) The text in the para to be reviewed w.r.t the aforementioned scrutiny comments for Geology chapter and all corrections in ROM grade which is currently mentioned as +35 % Fe in the text should be corrected accordingly. The feasibility report of the previous approved document mentions specific end use requirement of 63 % Fe for the plant. A detailed description should be given for process of maintaining this grade.

29. Para 6.0-**PROCESSING OF ROM AND MINERAL REJECT (a&b)**- The para mentions entire ROM will be crushed to 0-10 mm(fines) with tertiary crushing. A major change in the physical & chemical characteristics of the ROM has been attempted in this document. Moreover, the reasons given for the current modification to the previous approved plan are mentioned only as "up-dation of Reserves & Resources & enhancement of production capacity and change in year wise working proposal". On scrutiny of the monthly returns for the year(2019-20) gives total ROM production as 1164619 tons with lump quantity as 583593 tons and fines quantity as 1215947 tons and same was being despatched for end use in plant. The economic viability of the previous approved plan has also been calculated based on the lump: fine ratio of 30:70. The proposal and the flow sheet for only -10 mm fines are not acceptable. ROM should be given as 30:70 lump to fine ratio.
30. Para 7.0- Other- **SITE SERVICES & EMPLOYMENT POTENTIAL**- This should be reviewed w.r.t all the aforementioned scrutiny comments related to Geology(1.0), Mining(2.0), Stacking of Mineral reject(4.0), Use of mineral & mineral reject(5.0), Processing of rom and mineral reject(6.0) chapters and modifications/corrections to be incorporated.
31. Para 8.0- **PROGRESSIVE MINE CLOSURE PLAN**-
- i) Para 8.1- Existing land use pattern- Table 54 should be rechecked as per the latest survey data as mentioned in aforementioned scrutiny comment no 14.
32. Para 8.2: Table 59 -should be reviewed w.r.t all the aforementioned scrutiny comments related to geology(1.0), mining(2.0), disposal of waste(4.0), use of mineral & mineral reject(5.0), processing of rom and mineral reject(6.0) chapters and modifications/corrections to be incorporated. Also, the reference of the environment plan should be given here in this para.
33. Para 8.3.1- Mined out land- The para mentions no proposal of backfilling whereas backfilling for the waste generated have been proposed in the entire document. The portion should be reviewed and all corrections to be incorporated w.r.t the aforementioned scrutiny comment related to geology(1.0), mining(2.0), disposal of waste(4.0), use of mineral & mineral reject(5.0) & processing of rom and mineral reject(6.0).
- ii) The environmental protective work such as dump management, retaining wall, check dams, afforestation, avenue plantation etc. proposed as per the approved R&R plan should be given as already mentioned in aforementioned scrutiny comment no 25(iv).

Proposal for protective measures for plan period

Year	Retaining Wall		Garland drain		Remarks
	Dimension (LXWXH)	Location (Co-ordinates)	Dimension (LXWXH)	Location	

Proposal for plantation for plan period

Year	Location	Area in Ha	No of Saplings	Survival rate	Remarks

All other proposed engineering measures for dump management & surface water management year-wise for the proposed plan period should be given in this para. The proposals may be supported with yearly plans & sections depicting yearly progress in the activities for land restoration/reclamation/rehabilitation, afforestation etc. in the Reclamation plan. All the aforementioned details should also be incorporated in the Reclamation plate and the reference of the plate to be given.

34. Para 8.3.5-Table no 63-No year-wise information on R&R work is provided in the table. This is to be furnished as per the approved R&R plan for the plan period as already mentioned in aforementioned scrutiny comment no 33.
35. Para 8.6: Table No 65-Financial assurance-The area put on use at start, additional area requirement during plan period, Total Area, Area considered as fully reclaimed & rehabilitated & Net area considered for calculation, should be recalculated as per the aforementioned scrutiny comment related to Geology(1.0), Mining(2.0), Disposal of Waste(4.0), use of mineral & mineral reject(5.0), processing of rom and mineral reject(6.0), other (7.0) & Progressive mine closure plan(8.0) chapters & Table 65 should be corrected accordingly. The corrections also need to be incorporated in all relevant portions of the document & plates.
- ii) It should be mentioned "Submission of Bank Guarantee is not applicable for a mining lease granted through the auction wherein the Mine Development and Production Agreement are signed between the lessee and the State Government".

## **PART-B**

### **Para 9.0- CERTIFICATES/UNDERTAKINGS/CONSENTS.**

36. i) Para 02 is not included in the consent letter. It is to be included as per the prescribed format.
- ii) Certificate from Qualified person-In the certificate the word "modified" to be replaced by "modification"
37. **Para 10- PLATES:**

- a) The permissible annual production limit is 1.165 MMTPA as per the CEC Approval letter attached in Annexure-6. Accordingly, enhancement of production capacity to 2.0 MMTPA is not acceptable. All the working proposals and related plans & sections should be made as per the permissible Annual production limit fixed by CEC.
- b) The date of survey in all plates is given as 24.02.2020 and the plans & sections prepared accordingly. As per Rule 31(4) of MCDR 2017 "the plans and sections required under these rules shall be maintained up to date within three months in case of category 'A' mines as referred to in clause (a) of sub-rule (2) of rule 55. Accordingly, all the plates should be prepared and furnished.
- c) It should be ensured that all attached plates are prepared as per the content & scale specifications, of Rule 31 & 32 of MCDR 2017. All plans and sections should be signed with date by certified surveyor, Qualified person, Mining Engineer and Mining Geologist as per provisions of MCDR 2017.
- d) Key Plan (Plate No. 1):The scale is mentioned as 1:2000 R.F in index which is not correct. All requirements as per rule 32(5) of MCDR 2017 should be incorporated and the plate should be corrected accordingly.
- e) Surface Plan (Plate no. 3):The corrections as mentioned in aforementioned scrutiny comment no 14 should be incorporated and updated surface plan should be furnished. The plate should have countersignature of authorized surveyor.
- f) Geological Plan& Cross Sections (Plate no. 4, 5A, 5B, 5C): The plates should be checked and all corrections to be specifically incorporated w.r.t aforementioned scrutiny comment related to Geology and Exploration chapter (1.0). No borehole lithologs are enclosed as 5C in the submitted document. The same should be furnished. The lithology of the borehole logs and Geological section should be matching. The entire mineralized area under G-1 level of exploration should be clearly demarcated on plan. The recent drilled 46 boreholes are not clearly visible on the plan. It should be marked with distinct colour and should be clearly visible. The future exploration program(proposed boreholes) as mentioned in aforementioned scrutiny comment no 16 should be demarcated on Geological plan & sections.
- g) Production& Development Plan (Plate No.6A-6C)& section (Plate no 7): i)These plates should be corrected as per the aforementioned scrutiny comments for Mining(2.0), Disposal of Waste(4.0), Use of Mineral & Mineral Reject(5.0), Processing of ROM and Mineral Reject(6.0)& Progressive Mine Closure plan(8.0) chapters. (ii) The lithology in Geological plan and the all production and development plan should be similar. (iii)The environmental protective work proposed year wise as per the approved R&R plan should also be given in tabular format in these plates.
- h) Reclamation plan(Plate no 8)- The reclamation plan should be corrected as per the aforementioned scrutiny comments for Mining(2.0), Disposal of Waste(4.0), Use of Mineral & Mineral Reject(5.0), Processing of ROM and Mineral Reject(6.0)& Progressive Mine Closure plan(8.0) chapters. The year wise proposal for reclamation & rehabilitation measures as per the approved R&R plan should be shown and indexed.
- i) Environment Plan (Plate No.9)- The plan should be prepared with contour interval of 5m in accordance with rule 32(5) b of MCDR 2017.
- j) Conceptual plan & sections (Plate No.10 A & 10 B): The plates should be corrected as per the aforementioned scrutiny comments for Mining(2.0), Disposal of Waste(4.0), Use of Mineral & Mineral Reject(5.0), Processing of ROM and Mineral Reject(6.0)& Progressive Mine Closure plan(8.0) chapters. The steps & measures proposed to be taken to reclaim the mining lease area including regrassing at conceptual stage of mine should also be given.
- k) Financial Area Assurance Plan (Plate no. 10): The plates should be corrected as per the aforementioned scrutiny comments for Mining(2.0), Disposal of Waste(4.0), Use of Mineral & Mineral Reject(5.0), Processing of ROM and Mineral Reject(6.0), other (7.0) & Progressive Mine Closure plan(8.0) chapters.

**38. Para 11-ANNEXURES:**

- a) Mine Development and production agreement (MDPA) agreement should be enclosed as Annexure.
- b) The concerned Forest Clearance letter from MOEFF (FC) division as per aforementioned scrutiny comments no 4 should be enclosed.
- c) Detailed borehole lithologs and analytical details of all 46 boreholes drilled during Fy. 2019-20. The analysis report of the boreholes should be from NABL accredited laboratory.
- d) Copy of IBM violation letter no KNT/BLR/FE-492/Vol-I/161 dated 30/01/2020.
- e) The feasibility report should be signed by the lessee/Qualified Person.

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