

SCRUNITY COMMENTS OF DRAFT MINING PLAN IN RESPECT OF FARHATABAD LIMESTONE MINE, AREA, OVER AN EXTENT OF 1445.83 HA, SUBMITTED BY M/S SHREE CEMENT LIMITED, SITUATED IN BALWAD, TILGUL, KIRANGI & B SARADGI VILLAGE KALABURAGI TALUK & 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. The details of “Category of Mine” to be included in the cover page

INTRODUCTION

2. “The PL report attached as Appendix-1 does not match with the copy submitted to this office vide letter no SCL/Mines/KAR/PL/3364/2009/2933 dated 9/11/2009. This is to be checked and authenticated PL report copy along with the aforementioned letter and Form B to be attached as Annexure and reference to be given in this Para.
3. It is mentioned in Pg. no 11-“The Mining Plan is submitted for approval under rule 16(1) of MCR 2016 for conducting systematic and scientific mining operation” which is to be corrected as “ The present Mining plan is being submitted for the ML area of 1445.83 ha under Rule 16(1) of MCR 2016, for compliance of the condition laid in ML Grant order No. DMG/668 AML 2009/2019-20 dated 13/03/2020”.

GENERAL

4. Para 1.0(c& D): The reference of the prospecting license Lease deed & Letter of Intent to be given in these sections respectively.

LOCATION AND ACCESSIBILITY

5. Para 2.0(a)- Lease details- (Lease No. & Mine code”) - The Lease No and mine code details as given should be deleted. It should be mentioned “ML is currently granted but yet to be executed”.
6. Para 2(a)-i) The lease sketch with co-ordinates of all boundary pillars in latitude and longitude(dd mm ss) in WGS-84 datum and duly certified by State Government should be attached as plate and reference to be given in this Para as discussed during site inspection.
7. Para 2(b)- The cadastral map showing superimposed mine Lease boundary enclosed at Plate No. 3 is not proper. The map should clearly demarcate the mine lease boundary superimposed on cadastral map showing all Khasra nos./survey nos. and Latitude & Longitude co-ordinates of all the Mining Lease boundary pillars in degree minutes and Seconds (dd mm ss) in WGS-84 datum and duly certified by the State Government. The Plate should be submitted accordingly and reference to be given in this Para.

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

8. All the subheadings in this Para to be added as per the mine plan universal format.
9. Para 3.1- Date and reference of earlier approved MP/SOM: It is to be mentioned “Not applicable” and further “The present mining plan is being submitted for the ML grant over an extent of 1445.83 ha virgin area covered in villages Balwad, Tilgul, Kirangi & B-Saradagi village in Kalaburagi Tehsil & district (Karnataka) under Rule 16(1) of MCR 2016 to fulfill the condition laid in the ML grant order No. DMG/668 AML 2009/2019-20 dated 13/03/2020.
10. Para 3.2 to 3.6- The subheadings should be added as per the format and it should be mentioned “Not applicable”. For Para 3.5 if no suspension/prohibitory order issued by any Government agency under any rule or Court of law then it should be mentioned “None”.

PART-A (1.0 GEOLOGY AND EXPLORATION)

11. All the headings & subheadings in this chapter should be replicated as per the mine plan universal format.
12. Para 1.0(e): Details of Prospecting/exploration carried out-
 - i) Number of pits and trenches indicating dimensions, spacing etc. along and across the strike/foliation with reference to geological plan. - The sub-heading should be added as per the format and details to be given.
 - ii) Number of boreholes indicating type (Core/RC/DTH), diameter, spacing, inclination, collar level, depth etc with standard borehole logs duly marked on geological plan/sections- The subheading should be added as per the format. The details of the complete 49 nos. of boreholes to be given as per the below mentioned tabular format.

Sl. No	Bore hole No	Type (Core/D TH)	Diameter	Inclination	Co-ordinates (Northing, Easting)	Collar Level	Depth	Date of starting	Date of Ending.
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All the aforementioned boreholes should bedemarcated with distinct colour on the geological plan& sections and reference to be given in this Para. The details of the all the above exploratory borehole lithologsas per Form-J should be enclosed in annexure and reference to be given here.

iii) *Details of samples analysis indicating type of sample (surface/sub-surface from pits/trenches/borehole etc.)-* The subheading should be added as per the format. The chemical analysis report for all the drilled exploratory boreholes for entire strata for all radicals from NABL accredited Laboratory should be furnished in the annexure and reference to be given in this Para.

iv) *Expenditure incurred in various prospecting operations-* The subheading should be added as per the format and the Expenditure details for the previous drilled boreholes should be givenas per the below mentioned tabular format.

Type of Exploratory Drilling (Core/RC/DTH)	No of Boreholes	Total drilling Meterage	Cost per meter of drilling	Total cost in Rs.
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Table No 1.4 & 1.5 should be corrected/modified as per the aforementioned comments of this para.

13. Para 1.0(f)- The heading should be added as per the format. The surface plan is not prepared as per Rule 32(1)(a) of MCDR 2017. All the features to be incorporated in surface plan as per Rule 32(1)(a) of MCDR 2017. The plan should be prepared in UTM grid and Northing and Easting grid lines should be clearly demarcated through-out the plan. The Lease boundary with all the Boundary Pillars, Ground Control points should be clearly demarcated on the surface plan and should be also given in tabular format with latitude and longitude values in degree minute and seconds (dd mm ss). The 7.5 m safety Zone all along the Mine Lease boundary should be clearly demarcated on surface plan and all other related plates. The other safety zone for Nala/Road/Villages/Electric power line etc. inside the ML area as per the statutory norms should also be demarcated along with the details of the safety zone, in the index. It should be ensured that no mining or allied activities are proposed within these safety zones. The attached Lease sketch plate (Plate no 3) shows presence of Nala, Road, track inside the ML area, however surface plan (Plate 4) doesn't show any of these features. All the surface features, ML boundary pillars co-ordinates, Ground control points etc. should be given as per the lease sketch duly certified by the State Govt. UPL demarcation is not required in surface plan. The grant of scale relaxation permission from RCOM, IBM Bangalore should be attached. Plate no-4 should be corrected accordingly.
14. Para 1.0(g)- The heading should be added as per the mine plan universal format. The geological plan is not prepared as per Rule 32 (1) b of MCDR 2017. All the features to be incorporated in geological plan as per Rule 32(1)(b) of MCDR 2017. The plan should be prepared in UTM grid and Northing and Easting grid lines should be clearly demarcated through-out the plan. The Geological plan should show all the boreholes already drilled with distinct colour and indexed. It should also include locations of the proposed exploratory boreholes for the plan period with distinct colours, all the lithological units exposed in the area, structural features if any, Section line at regular intervals from one boundary to other of the lease, contour not more than 10 m intervals and the area under different exploration limits G1, G2, G3, and G4 as per UNFC should be clearly demarcated on the Geological plan and also to be added in Tabular format in plate. All the above features should be shown on the plate index. The surface features as mentioned in the aforementioned scrutiny comment no 13 to be also added. UPL (Ultimate pit Limit) demarcation to be done distinctly. Plate 5A to be corrected accordingly.
15. Para 1.0(h)- The Geological section prepared (Plate 5B) are not correct. The Geological sections to be prepared on natural scale of geological plan at suitable interval across the lease area from boundary to boundary. All the sections as per the section line demarcated on the Geological plan from one boundary of the lease to the other should be given. The Geological section should be prepared w.r.t to the borehole logs for the drilled exploratory boreholes. The sections should distinctly show the ML Boundary, 7.5 m safety zone from ML Boundary, Safety Barrier for Nala/Road/Village/Power line if any, UPL (Ultimate pit limit), Boreholes as per lithologs etc. Plate 5 B should be corrected accordingly.
16. Para 1.0(i)- The Para and the heading should be corrected as per the mine plan universal format. As per Rule 12(3) of MCDR 2017 "The holder of a mining lease shall carry out detailed exploration (G1 level) over the entire

potentially mineralized area under the mining lease, within a period of five years from the date of opening of the mine after execution of such mining lease”. Accordingly, the exploration program should be proposed for 5 years duration of the plan period in stepwise manner so that the entire potentially mineralized area covers detailed exploration under G-1 level. Since from 3rd year onwards the production is required in million tonnes, accordingly the exploration program to be re-assessed and distributed in 5 years 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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The related text in this Para and Annexure-12 should be corrected accordingly.

17. Para 1.0 (j):i) The heading should be added as per the mine plan universal format. The Reserves and Resources with respect to the threshold value notified by IBM should be furnished in a tabular form. It should be mentioned in this para ‘ ‘ The threshold value for Limestone vide IBM notification no C-284/3/CMG/2017 dated 25.4.2018 is Cao-34 % (Min) & Mgo-5 % (Max) and the Reserve & Resource estimation has been done as per the threshold value notified by IBM. Also, the area explored under different level of exploration may be marked on geological plan and UNFC code for the area considered for different categories of reserve/resources estimation should be marked on geological cross sections. The details should be given in tabular format as mentioned below.

G-Axis	Area in Ha	Depth in Meter
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ii) The PL report which is submitted to this office vide letter no SCL/Mines/KAR/PL/3364/2009/2933 dated 9/11/2009 mentions 570.08 million tonnes of Geological Reserves for limestone with average grade 46.32 % CaO and 1.36 % MgO. Further estimated Recoverable geological reserves after considering all the mining constraints (allowance of 10 % safety margin due to various losses, 50 mtr. both side from road, nallah and 300 mtr from Balwad village) is 494.6 million tonnes with average grade 46.34 % CaO and 1.36 % MgO. The current submitted document has reduced the Reserve/Resource estimation to 405 million tonnes. It is also not clear in this chapter the cut-off grade and the threshold value based on which the Reserve/Resource estimation has been carried out. The Reserve/Resource estimation should be specifically done as per the threshold value for Limestone, IBM notification no C-284/3/CMG/2017 dated 25.4.2018 (Cao-34 % (Min) & Mgo-5 % (Max)). There is reduction of almost 90 million tonnes in Reserve/resource figures in the current submitted document, from the PL report which was submitted to this office. It is also noted that out of 50 boreholes drilled in the PL area, 49 boreholes are within the granted ML boundary based on which Reserve/Resource estimation was done. The detailed justification and calculation, with all the relevant documents for the aforementioned reduction in Reserve/Resources from PL to ML, should be provided.

iii) The corrections should also be incorporated as per the aforementioned comments in the prefeasibility study report (Annexure-13).

iv) The text, tables in this Para and all the related plates should be corrected accordingly as per the above-mentioned scrutiny comments.

18. Para 1.0 (k): The heading should be added as per the mine plan universal format. As already mentioned in aforementioned Scrutiny comment no 17, the total Resource figure in the current submitted document and the PL report submitted is not aligned. The detailed calculation of Reserve/resource section wise is not given in the submitted document. The detailed calculation of Reserve/Resource section wise is to be provided in this Para. Also the detailed calculation of reserves/resources section wise needs to be re-examined as per aforementioned scrutiny comment no -17 and Reserve/Resource estimation are to be done under different UNFC code (111,122,211,221etc.). The details of the threshold value, Bulk density (T/cum) for limestone, Bulk density (T/cum) for waste etc. should be specifically mentioned. The text, tables and related plates of this Para should be corrected accordingly. The Bulk density lab test report from NABL accredited lab may be attached as annexure and reference to be given in this Para.

19. Para 1.0 (i): i) Table 1.9-The figures in the table should be checked and corrected as per the aforementioned scrutiny comment no 17 & 18. It is to be specifically mentioned in this Para the mineral Resource estimation is as

per the threshold value of limestone declared by IBM.(CaO-34% Min, MgO-5% Max). The table is to be also corrected as per the mine plan universal format.

Level of Exploration	Resources in million tonnes	Grade
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Mining Method, Recovery factor, mining losses, processing loss etc.- The subheading should be added as per the format and details to be given specifically for Mining method proposed, Recovery factor, etc.

a) *Cut-off grade and ultimate pit depth proposed*- Specific details should be given for cut-off grade based on the prefeasibility study report and reference of Prefeasibility report attached as Annexure to be given.

b) *Mineral/ore blocked due to benches, barriers, pillars, road, railway, river, nala, reservoir, electric line and other statutory barriers etc., under forest, sanctuaries etc. where necessary permissions are not available*- The subheading should be added as per the format and details of the Mineral blocked to be given as per the section wise calculation under different UNFC Code as mentioned in scrutiny comment no 18.

Reserve/Resource details should be re-examined thoroughly w.r.t all the scrutiny comments for Geology and Exploration chapter(1.0) and should be given accordingly in tabular format specifically as per the mine plan universal format. Table no 1.13 should be corrected accordingly.

ii) The text, tables in this Para and all the related plates should be corrected as per the aforementioned scrutiny comments for Geology and Exploration chapter(1.0).

2.0 MINING

20. All the headings & subheadings in this chapter should be replicated as per the mine plan universal format.
21. Para 2.0: No Production has been proposed from 1st year to 4th year of the plan period and in 5th year only 0.6 million tonnes ROM production has been proposed in the submitted document, which is not acceptable. The lease is to be executed as per provision of sec 10 A 2(b) of MMDR Act 2015 & Rule 7 of MCR 2016 wherein Mine Development and Production agreement (MDPA) are to be executed with the State Government. Further as per Clause 8 of MDPA minimum production of the Rated capacity of the mining plan is to be done. In view of the above taking into account the estimated mineable reserves & the mine lease period, ROM production of more than **3 million tonnes** each year is to be proposed for **3rd, 4th and 5th year** of the plan period. The complete working proposals in this chapter should be worked out accordingly and all corrections to be incorporated in the related text, table, annexures and plates.
22. Para 2.0(a) -i) The text and other technical parameters in this Para should be corrected as per the aforementioned scrutiny comment no 21& the afore mentioned comments related to Geology chapter.
ii) The height of the bench is kept as 12 m. This should be checked w.r.t the capacity of shovel, drill equipment etc. and statutory guidelines which states that height of bench shall not be more than the digging height of the machine used for excavation. Accordingly, all the mine technical parameters including bench configuration should be proposed as per the statutory guidelines and relevant document in support of the same like equipment specifications etc. may be attached as annexure. The corrections if any to be incorporated in all relevant portion of text, tables and plates.
23. Para 2.0(b)- *Indicate year-wise tentative excavation in Cubic metres indicating development, ROM, pit wise as in table below*-i)The heading in this para should be corrected as per the mine plan universal format. The year-wise excavation for OB & ROM to be worked out as per the aforementioned scrutiny comment no 21 and provided in below mentioned tabular form as per the universal format. Separate tables to be provided for Quantity in volume and for Quantity in tonnage.

Insitu Tentative Excavation By Volume

Year	Pit no	Total tentative excavation (Cum)	Top Soil (Cum)	OB/SB/IB (Cum)	ROM		Mineral Reject (cum)	Rom/Waste Ratio (by Volm)
					ore (Cum)	Mineral Reject (cum)		

Insitu Tentative Excavation By Tonnage

Year	Pit no	Total tentative excavation (Tonnes)	Top Soil (Tonnes)	OB/SB/IB (Tonnes)	ROM		Mineral Reject (Tonnes)	Rom/Waste Ratio (by Tonnes)
					ore (Tonnes)	Mineral Reject (Tonnes)		

The bulk density for ore, OB, Top soil etc. to be mentioned specifically in this Para. and the related Lab test from NABL accredited laboratory may be attached as annexure and reference to be given. The Recovery factor assumed should also be specifically mentioned. In the current Para 100 % ROM recovery has been considered where as in later Para. (Chapter 6.0) of the submitted document it is mentioned, ROM will undergo screening for removal of interstitial clay. This should be checked and if ROM undergoes screening then the percentage recovery of the usable ore from ROM should be mentioned specifically. The screen waste accordingly from ROM should be calculated and quantified in the Mineral Reject column. It should also be detailed here the type and grade of the material which will be generated as mineral reject and the area for dumping of the same.

ii) A portion of the text in this Para (Pg.33) mentions ‘*Limestone produced from the Farhatabad Limestone Mine will be used in the Captive Clinker/Cement plant of applicant which will be established in the North eastern side of Mining Lease area. The Limestone will be used for Clinker production as well as for associated activities of cement manufacturing which require limestone as raw material*’. As noted, and discussed during site inspection the cement plant is proposed outside the mining lease towards north eastern side from the Mining Lease area. Accordingly, the correction should be incorporated in this Para.

iii) The production and development proposals should be worked out as already mentioned in aforementioned scrutiny comment no 21 so that ROM production of more than 3 million tonnes each year is proposed for 3rd, 4th and 5th year of the plan period along with required proportionate development.

iv)The production and development plan & sections should be prepared in UTM grid and Northing and Easting grid lines should be clearly demarcated through-out the plan. Accordingly, the extent of working year-wise for Topsoil, overburden and ROM production should be specifically given in Northing and Easting co-ordinates.

v)The complete text in Pg. no 33,34, 35, 36, 37, Table no 2.1,2.2,2.3,2.4,2.5, 2.6, Plate 6A,6B,6C,6D,6E should be re-worked as per the aforementioned scrutiny comments and corrections to be incorporated.

24. Para 2.0(b)-II- Dump Re-handling (for purpose of recovery of mineral)- It should be specifically mentioned ‘*There is no dump handling for the purpose of recovery of mineral during the plan period*’. The text ‘*Present the overburden temporarily.....re-handled & backfilled in the available pits*’ as mentioned in the submitted document is not related to this Para and should be deleted.

25. Para 2.0(c): i)Individual year separate plan and sections to be given for five years and year should be mentioned as I,II,III,IV,V in all related portion of the text and plates. The plates 6A to 6E reference of which is given in this Para is incomplete and not prepared properly. All corrections to be incorporated w.r.t the aforementioned comments of Geology & Exploration (1.0) and Mining chapter (2.0).

ii)The lithology as given in the geological plan should also be given in all the production & Development plans.

iii) The Mine development & waste dump details for Year I, II, III, IV & V should be given in tabular format in plates also.

iv)The environmental protective work proposed year wise should also be given in tabular format in plates.

v) Individual Year wise section may be prepared and furnished separately for each year.

vi)It should be ensured that no mining or allied activities are proposed within any of the safety zones as per aforementioned scrutiny comment no. 13.

26. Para 2.0(d):-i)The complete proposed method of working and the extent of mechanization needs to be recalculated as per the aforementioned scrutiny comments in Geology & Exploration (1.0) and Mining chapter (2.0). All the relevant portion of text, tables,annexures&plates should be corrected accordingly.

ii) The design parameters of working bench (Table 2.7), maximum production capacity for the plan period based on which the HEMM equipment are calculated (table no 2.8, 2.9), drilling equipment & particular, Blasting details & parameters (2.10), Excavation & Loading, Transportation etc. (Pg. 37-42) should be recalculated w.r.t the aforementioned scrutiny comments of the Mining Chapter(2.0) and corrections to be incorporated accordingly.

iii) The detailed back up calculation to be given for requirement of no. of drills, excavators, loaders etc. based on the maximum annual quantity to be handled including ROM, Waste & Topsoil. The blasting parameters like charge per hole, charge per delay, maximum no of holes to be blasted per round, manner and sequence of firing, type of explosives & accessories to be used, Explosive requirement annually and other related parameters to be calculated in detail and to be mentioned in the text.

iii) The selection of the capacity of mining machineries like excavator, dumpers, drill, loaders etc. for operations should be as per the Mine operational parameters as proposed (Bench height, width, angle etc.) as already mentioned in aforementioned scrutiny comment no 22.

27. Para 2.0(e):i)The Mine development & waste dump details for Year I,II,III,IV & V should be added as per the below mentioned format.

Mine Development details

Year	Area in (Ha)	Section	No of Benches	Level MRL.	Location Co-ordinates	
					Northing	Easting
				Top		
				Bottom		

Waste-Dump details

Year	Area in (Ha)	Location		Reduced level in meters		Sections
		Northing	Easting	Bottom	Top	

(ii)The layout of mine workings, Pit road layout for approach to mine workings & waste dump, the layout of faces, site for disposal of overburden/waste along with ground preparation prior to disposal of waste year-wise for the plan period should be discussed in this Para. All the aforementioned should be clearly demarcated and indexed on the Year-wise Production & development plan and sections. Since the entire area is mineralized it is to be mentioned in this Para “The proposed waste dump is temporary dump and the waste will be backfilled in the worked-out pits”.It is to be checked that based on the aforementioned production capacity in million tonnes 3rd year onwards as already mentioned in above scrutiny comment no 21 & 23, whether any portion of the pit is completely exhausted and can be utilized for backfilling in the plan period. The mineralized area& UPL should be clearly demarcated on the related plates.

28. Para 2.0(f): (i) Exploration-The future exploration program should be proposed for 5 years duration of the plan period in stepwise manner so that the entire potentially mineralized area covers detailed exploration under G-1 level. Since from 3rd year onwards the aforementioned rated production in million tonnes will be commenced, accordingly the exploration program to be re-assessed and distributed in 5 years as already mentioned above in scrutiny comment no. 16. The details under “Exploration” should be corrected accordingly in text (Pg. 42), tables, Annexure and related plates.

ii) Excavation- The Reserve/Resource figures to be checked w.r.t the aforementioned scrutiny comments no 17, 18& 19 of the Geology Chapter. The details of the mineralized area are to be given. The ROM production quantity should be checked w.r.t the aforementioned scrutiny comments 21, 22& 23 of Mining Chapter and the Life of the mine should be reassessed. Considering the current exploration data and geology, pit layout is to be designed for conceptual period. The details of mining excavation during this plan period& conceptual period to be given. The plate references for individual year proposed excavation &final excavation as per conceptual planshould be given. Accordingly, the final pit limit designed on basis of ultimate pit slope and ultimate pit Limit (UPL) to be given as per the table below.

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

The details under “Excavation” should be corrected accordingly in text (Pg. 42-46), tables (2.11, 2.12, 2.13, 2.14, 2.15), Annexures and related plates. The Conceptual plan and section should be prepared separately after incorporating all the aforementioned corrections and reference to be given in this Para.

iii) “Recovery of ROM” subheading should be added and detailed here as per the mine plan universal format.

iv)“Disposal of Waste”- The dump/waste figures should be checked as per the aforementioned scrutiny comment no 27 & 28. All the figures in this Para (Pg-46) to be corrected accordingly.

v)“Backfilling of voids”- The “Backfilling of voids” subheading should be added as per the mine plan universal format. The details of the backfilling of the mined-out area for the plan period and the conceptual period should be reassessed thoroughly w.r.t the aforementioned scrutiny comment no 27 & 28 and corrections to be incorporated in all relevant portion of text, tables, annexures & plates.

vi) Reclamation & Rehabilitation–i) The area under safety zone should be re-examined and calculated w.r.t the aforementioned scrutiny comment no. 13. The entire backfilled area & safety zones should be reclaimed & rehabilitated with afforestation during the conceptual period. The text (Pg. no 47), Table(2.16, 2.17), annexures and related plates should be corrected accordingly. The conceptual plan & section should also include undertaking of re-grassing of the mining area and any other area which may have been disturbed due to mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. in accordance with the order of Hon’ble Supreme Court dated 08.01.2020. The complete details of afforestation in backfilled area, safety zone etc should be given for the entire conceptual period in below mentioned tabular format.

Plan Period	Area	Location for afforestation	No of trees	Species for plantation	Remarks
1 st 5 years					
2 nd 5 years					

vii) Table no 21-The Land use pattern for mining and allied mining activities during this plan period as well as during the conceptual period should be given as per the below-mentioned table.

Sl. No	Particulars	Existing (ha)	Plan period(ha)	Conceptual Period(ha)
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viii) The Conceptual plan & section should be prepared separately with all the aforementioned details. The plate should also demarcate the land use pattern clearly for the conceptual period along with index and also having the aforementioned land use details in tabular format.

3.0 MINE DRAINAGE

29. All the headings & subheadings in this chapter should be replicated as per the mine plan universal format.
30. Para 3.0 (b)-Indicate maximum and minimum depth of workings (Pg. 48)-The maximum and minimum depth of working to be checked as per aforementioned scrutiny comment no 27& 28 for the plan period and the conceptual period.
31. Para 3.0(c)- The quantity and quality of water likely to be encountered, the pumping arrangements and place where the mine water is finally proposed to be discharged are to be given in this Para. Detail calculation should be done for quantity of water, capacity of the pump and no of pumps required for catering the required quantity.

4.0 STACKING OF MINERAL REJECT/SUB GRADE MATERIAL AND DISPOSAL OF WASTE

32. Para 4.0 (a): i) The Quantity(volume) of top soil, overburden excavation, Mineral Rejects quantity, overall stripping ratio etc. should be corrected w.r.t the aforementioned scrutiny comments for Mining Chapter (2.0). Table no 4.1 should be corrected as per the universal format as mentioned below.

Year	Top Soil (Cum)		OB/SB/IB (cum)		Mineral Rejects (Cum)		
	Reuse/spreading	Storage	Backfilling	Storage	Blending	Storage	Beneficiation

33. Para 4.0(b): It is to be checked, that based on the aforementioned production capacity in million tonnes 3rd year onwards as already mentioned above in scrutiny comment no 21 & 23, whether any portion of the pit is completely exhausted and can be utilized for backfilling in the plan period. Accordingly, the backfilling details if any should also be provided in this Para.
34. Para 4.0 (c):i)The waste dump parameters (Individual terrace height, width & angle, Overall dump height and slope angle etc.) should be detailed in this Para. This should be recalculated w.r.t the aforementioned scrutiny comments for Geology& Exploration (1.0) & Mining(2.0) chapters and corrections to be incorporated in all relevant portion of text, tables, annexures & plates. The year wise dumping details may be added as per the below mentioned table.

Waste dump details

Year	Waster Dump ID	OB Quantity Proposed	Area in Ha	No. of Stages	Level in MSL, Top RL & Bottom RL	Location Coordinates	Slope Angle
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Top soil dump details: In this Para it is mentioned that Topsoil will be use concurrently and accordingly no topsoil storage is shown in Table 4.1(Pg.50) but in later part of the document in Para 8.3.2(Pg. 74) it is mentioned that topsoil will be first stored in temporary storage and later on used for plantation along the 7.5 m barrier zone

along mining lease area. It is to be thoroughly assessed whether the volume of topsoil generated will be reused concurrently or temporary storage is required. If temporary storage is required then the details of the topsoil storage area to be specifically given as per the below mentioned tabular format and also the area should be demarcated in all the relevant plates.

Year	Topsoil Dump ID	Top soil Quantity Proposed	Area in Ha	No. of Stages	Level in MSL, Top RL & Bottom RL	Location Coordinates	Slope Angle
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Mineral Reject dump details: The Mineral reject dump details if any as per the aforementioned scrutiny comment no 23 may also be provided as per the below mentioned tabular format and also the area should be demarcated in all the relevant plates.

Year	Mineral Reject Dump ID	Mineral Reject Quantity Proposed	Area in Ha	No. of Stages	Level in MSL, Top RL & Bottom RL	Location Coordinates	Slope Angle
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ii) Environment protective measures like construction of retention wall, garland drains, gully plugs, check dams etc. may be undertaken along the toe of the proposed waste dump, Top soil storage dump & Mineral reject dump to prevent escape of material. Year wise proposals for all the aforementioned dumps should be examined and furnished here in a tabular form.

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

Year	Check dams		Remarks
	Dimension(LXWXH)	Location(Co-ordinates)	

6.0 PROCESSING OF ROM AND MINERAL REJECT

35. Para 6.0(a & b)-i) It is mentioned "The entire material ROM of limestone will be consumed in the cement plant after screening". Since it is mentioned here in this chapter that ROM will undergo screening, accordingly the percentage recovery of the usable ore from ROM should be specified. The screen waste quantity accordingly from ROM should be calculated and quantified in Mineral Reject in Chapter 2.0(Mining) as already mentioned in aforementioned scrutiny comment no 23.
36. Para 6.0(g) - Table no 6.3, 6.4, 6.5 should be recalculated w.r.t the production requirement as per the aforementioned scrutiny comment of Mining Chapter (2.0) and corrections to be incorporated. The details regarding source of supply of water, disposal of water and extent of recycling along with water balance chart should be given in this Para.

7.0 OTHER

37. Para 7.0(a&b)-Site services & infrastructure & Employment: The proposed site services & infrastructures and Table 7.2 should be reviewed and recalculated w.r.t the production requirement as per the scrutiny comments of Mining chapter (2.0) and corrections to be incorporated. The infrastructures mentioned in this Para should be clearly demarcated on all the relevant plates.

8.0 PROGRESSIVE MINE CLOSURE PLAN

38. Para 8.2: i) The land use details given in Table 8.12 is not correct. This should be recalculated w.r.t the aforementioned scrutiny comments for Geology & Exploration chapter(1.0), Mining Chapter(2.0), Stacking of Mineral reject/subgrade material & Disposal of waste chapter(4.0), Processing of ROM & Mineral Reject chapter(6.0) & Other chapter(7.0) and the existing & the plan period land use should be given as per the below mentioned tabular format. Table 8.12 to be corrected accordingly.

Land use in Hectares				
S.L No.	Particulars	Area put on use at start of Plan period (Present Land use) (in Ha)	Additional requirement during plan period (in Ha)	Total (in Ha)

ii) Air Quality- The control measures proposed may be discussed. The Ambient air quality monitoring as per the statutory norms to be elaborated and the details of all the Air monitoring stations to be given as per the below-mentioned format. The reference of the Environmental Management plate should be given which would be showing all the Air monitoring stations in Buffer and core zone.

S.I. no.	Location	Zone	Code
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iii) Water Quality: The control measures proposed may be discussed. The process for monitoring of water quality may be discussed. The parameters for monitoring of water quality and the locations as per statutory norms may be discussed here. The details of the water monitoring stations should be given as per the below mentioned tabular format. The reference of the Environmental Management plate should be given which would be showing all the water quality monitoring stations.

S.I. no.	Location	Code
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iv) Noise levels: The control measures proposed may be discussed. The details of noise monitoring stations should be given as per the below mentioned format. The reference of the Environmental Management plate should be given which would be showing all the noise monitoring stations.

S.I. no.	Location	Code
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39. Para 8.3.1- The details of the mined-out land and the backfilling area during the plan period may be reassessed as per aforementioned scrutiny comment no 27 and details to be given in this Para. accordingly. Also, the environmental protective work such as retaining wall, check dam, afforestation etc. for dump management(Waste, Topsoil, Mineral Reject)& Green belt/safety zone plantation etc. proposed should be discussed here. Details should be given as per the below mentioned table

Proposal for protective measures for plan period

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

Year	Check dams		Remarks
	Dimension (LXWXH)	Location (Co-ordinates)	

Proposal for plantation for plan period

Year	Location	Area in Ha	No of Saplings	Survival rate	Remarks
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The proposals should 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. Para no 8.3.1 should be corrected accordingly.

40. Para 8.3.2-Topsoil Management: - The quantity of topsoil generation should be recalculated as already mentioned in scrutiny comment no 32. It is mentioned in this Para ‘‘The topsoil will be first stored in a temporary storage and later on used for plantation along the 7.5 m barrier zone along mining lease area’’. In Chapter 4.0 it is mentioned that Topsoil will be use concurrently and accordingly no topsoil storage is shown in Table 4.1(Pg.50). It is to be thoroughly assessed whether the volume of topsoil generated can be reused concurrently or temporary storage is required. If temporary storage is required then the details of the topsoil storage area to be specifically given and also the area should be demarcated in all the relevant plates. Also the area where the topsoil will be used for plantation in 7.5 m safety zone during the plan period should be specifically demarcated year-wise. All the related portions of text, tables and annexures should be modified accordingly.

41. Para 8.3.5-The information on protective measures for reclamation and rehabilitation works year-wise needs to be provided. The proposals to be recalculated & corrected as per the aforementioned scrutiny comments for Geology & Exploration chapter(1.0), Mining chapter(2.0), Stacking of Mineral Reject/subgrade material and disposal of waste(4.0), Processing of ROM & Mineral Reject(6.0), Other(7.0) &PMCP(8.0). The details related to all reclamation & rehabilitation activities w.r.t. the dump management (Retaining wall, garland drain, check dam,

afforestation etc.), Reclamation & Rehabilitation by backfilling if any, Rehabilitation of waste land within lease (Green belt plantation along 7.5 m ML boundary, safety zone for road & village etc.) year-wise should be reworked and corrections to be incorporated. All the related portions of text, tables (8.16-8.21) and annexures should be corrected accordingly.

42. Para 8.6: Table No 32-Financial assurance- Table no 8.22 (Pg .81-82) needs to be recalculated as per the aforementioned scrutiny comments for Geology & Exploration chapter (1.0), Mining chapter (2.0), Stacking of Mineral Reject/subgrade material and disposal of waste (4.0), Processing of ROM & Mineral Reject (6.0), Other (7.0) & PMCP (8.0). The corrections also need to be incorporated in all relevant portions of the document, table & plates.

PART-B (Para 9.0- Consents/Undertakings/Consents)

43. Consent letter/undertaking /certificate- i) It is mentioned ‘*I hereby.....with my knowledge and consent and shall be acceptable on me and binding in all respects.*’. This should be corrected as ‘*We hereby.....with our knowledge and consent and shall be acceptable on us and binding in all respects*’.

ii) This should be added in Para 02 as per the mine plan universal format. ‘*It is certified that CCOM Circular No-2/2010 will be implemented and complied with by an authorized agency approved by the State Government*’

44. Para 10, List of the Plans and Sections to be submitted:

- a) All the plans & sections to be prepared in UTM grid and Northing & Easting gridlines should be clearly demarcated throughout the plan. Also, a scale of the plan at least twenty-five centimetres long and suitably subdivided may be shown on all the related plates.
- b) It should be ensured that all attached plans & sections are prepared as per the content & scale specifications, of Rule 31 (General requirement about Plan & Sections) of MCDR 2017. The Scale relaxation letter from the competent authority should be attached as per the provision of the Rule 31 of MCDR 2017. All plans and sections should be signed with date by certified surveyor, Qualified Person as per provisions of MCDR 2017.
- c) The copy of plates that are mentioned in Final prospecting Report attached as Appendix-I should also be enclosed.
- d) A composite map showing ML area of 1445.83 ha superimposed on the PL area of 1750 hectares and demarcating the mineralized/non mineralized area that was excluded with ML grant should be prepared and attached.
- e) Key Plan (Plate No. 2): All requirements as per rule 32(5) of MCDR 2017 should be incorporated and the plate should be corrected accordingly. The plan should show the boundary of the mining Lease in Latitude & Longitude and also the adjoining area lying within 5 kms, Contour should not be more than 20 m intervals and the plan should be prepared at 1:50,000 scale, Natural drainage system such as rivers, nullahs, stream etc., roadways, boundary of all villages and towns with their population, places of historical & archaeological importance, forest with tree density, predominant wind direction etc. as per the provision of aforementioned rule. The index to be updated accordingly.
- f) Cadastral Map (Plate No-3)-The cadastral map showing superimposed mine Lease boundary enclosed at Plate No. 3 is not proper. The map should clearly demarcate the mine lease boundary superimposed on cadastral map showing all Khasra nos./survey nos. and Latitude & Longitude co-ordinates of all the Mining Lease boundary pillars in degree minutes and Seconds (dd mm ss) in WGS-84 datum and duly certified by the State Government. The same boundary pillars and surface features should be there in all the plans & sections.
- g) Surface Plan (Plate No-4): All the corrections mentioned above in this para along with the corrections mentioned in scrutiny comment no. 13 should be incorporated and updated surface plan should be furnished. The plate should incorporate all the details as per Rule 32(1)(a) of MCDR 2017. The index of the plate should have all the features demarcated on the plan
- h) Geological Plan & Sections (Plate no. 5A & 5B): i) 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). The plate should incorporate all the details as per Rule 32(1)(b) of MCDR 2017 like all lithological units in the area, already drilled boreholes and proposed boreholes in the plan period with distinct colours and indexed, structural details like dip, fold, fault etc. if any, contour interval not more than 10m, the area covered under different explorations limits G1, G2, G3 to be clearly demarcated and area to be mentioned in tabular format in plate. The section lines at regular interval from one boundary of the lease to the other based on which Geological sections are prepared.

- ii) Geological Section (Plate No. 5B)-The Geological section should indicate the mineral reserve and Resource under different UNFC code. The section should be in-line with the Reserve/Resource estimation done under different UNFC category. The lithology of the borehole logs and sections should be matching.
- i) Production & Development Plan (Plate No.6A-6E): i)These plates should be corrected as per the aforementioned scrutiny comments for Mining (2.0), Stacking of Mineral Reject/Sub grade material and Disposal of waste (4.0), Processing of ROM and Mineral Reject(6.0)& Progressive Mine Closure plan(8.0) chapters.
- ii) The lithology as given in the geological plan should also be given in all the production & Development plans.
- iii) The Mine development & waste dump details for Year I,II,III,IV& V should be given in tabular format in plates also as per aforementioned scrutiny comment no 27.
- iv)The environmental protective work proposed year wise should also be given in tabular format as per the PMCP chapter(8.0).
- j) Production & Development section- Individual Year wise section may be prepared and furnished separately for each year.
- k) Conceptual Plan (Plate No 8)- i) The Existing land use, plan period land use, and conceptual period land use to be rechecked as per the aforementioned scrutiny comment no 28and all corrections to be incorporated in the plate. The steps & measures proposed to be taken to reclaim the mining lease area including re-grassing at the conceptual stage of mine should also be given. The area for conceptual period land use to be given in tabular format in the plate also as per aforementioned scrutiny comments no 28(vii).
- ii) Conceptual Section may be prepared and furnished separately accordingly.
- l) Environment Plan (Plate No7):The environmental plan should be prepared of the mining lease inclusive of the adjoining area within 500 m of the boundary of a lease with contour interval on 1:5000 scale and contour lines at 5m interval in accordance with rule 32(5) b of MCDR 2017. All features to be included as mentioned in Rule 32(5) (b) of MCDR 2017. All the Air, Noise, Water monitoring station as mentioned above in Scrutiny comment no 38should be demarcated clearly and indexed.
- m) Reclamation plan (Plate No.10): The Reclamation plan prepared is not proper. This should be prepared with all details as mentioned above in scrutiny comment no. 39, 40 & 41. The year wise proposal for reclamation & rehabilitation measures should be shown and indexed. All the tables as mentioned in aforementioned scrutiny comment no 39, 40 & 41should also be given on plate and should be clearly demarcated year-wise with distinct colors.
- n) Financial Area Assurance Plan (Plate no. 11): This plate should be corrected in accordance with the comments offered for Para no. 8.6, (Scrutiny comment no 42).The Financial assurance table should be given in plate and all the area shown in the table should be clearly demarcated on plate and indexed.

45. Para 11, Annexure:

- a) All corrections/additions to be made in Annexure 12(Details of the proposed Diamond Core holes for future detailed Exploration) as per the aforementioned scrutiny comments of the Geology chapter(Chapter 1.0)
- b) The chemical analysis report for all the drilled exploratory boreholesfor entire strata for all radicals from NABL accredited Laboratory should be furnished in the annexure. The details of all the borehole logsto be annexed. The lithology of the borehole logs should match with the lithology shown in Geological section
- c) Annexure-13 – All the corrections to be incorporated in the Pre-Feasibility study report w.r.t the aforementioned scrutiny comments of Geology & Exploration(1.0), Mining(2.0),Stacking of Mineral Reject/subgrade material and Disposal of waste(4.0), use of Mineral and Mineral Reject(5.0), Processing of ROM and Mineral Reject (6.0), Other(7.0) & PMCP(8.0) chapters.. The detailed analysis based upon the NPV, Internal Rate of Return cash-flow needs to be done accordingly for economic viability of the project.
- d) All the other annexures as mentioned in the above scrutiny comments of different chapters and communicated during site visit should also be added/corrected.
- e) Good quality photographs should be enclosed showing land use of the lease area, environmental status of the area, Mine Lease Boundary pillars etc.
- f) All the annexure to be properly numbered/paged and relevant annexure to be signed by QP. All the annexures should be legible.
