

Scrutiny Comments on Draft Review of Mining Plan including Progressive Mine Closing Plan i.r.o. Kodla Limestone Mine (ML No. 2673/2674) over an extent of 517.61Ha of M/s Shree Cements Ltd. located in Kodla & Benakanahalli Villages, Sadem Taluk, Kalburgi District of Karnataka State

Chapter 1: General Information

Para 1.1.1: Initial/subsequent Lease grant details: ML no. 2673 over an area of 91.87 ha and ML No. 2674 over an area of 425.74 ha both the leases have been amalgamated. For lease deed reference, Annexure no, may be provided.

Para 1.1.2: Mining Plan Submission Criteria Details: Other items in the table may be mentioned as Not Applicable.

Para 1.2: Land Ownership Details: In Type of Land column it is mentioned as Govt. land and Pvt. Land, the same should be mentioned as Forest or Non-Forest also.

Para 1.3.4: Statutory Compliances: Annexure no. may be mentioned for all the Statutory Clearances.

Para 1.3.4.1: Environment Clearance: Validity date may be specified

Para 1.3.4.4: Land Acquisition Details: Total Area acquired/purchased so far may be specified.

Para 1.3.6: Owner/Nominated Owner Details: Minutes of Board Resolution in case of Nominated Owner – Copy of the Pan Card needs to be enclosed as Annexure and Annexure no. may be given. The list of board of Directors may also be given as Annexure.

Para 1.3.7: Qualified Person Details as per M(OAHCEM)CR, 2016: Copy of the Pan card, the qualification certificate of QP should be enclosed as Annexure and Annexure no. may be specified. The Consent letters for Qualified Person issued by lessee are not digitally signed.

Chapter 2: Geology & Exploration

Para 2.1.1: Topography: From the key plan (Plate no. 2) it is observed that, second order streams passes in the lease area. However, in the order of the stream it is mentioned as 1st order. The highest order of stream in the lease area may be given.

Para 2.1.2: Details of Physiographic features and Infrastructures available in and around the lease/ block area: (i) This para may be reviewed, all Physiographic features and Infrastructures available outside lease may also be provided in the respective column and the details may be given in the remarks column. (ii) Distance of State Highway/National Highway from lease area may be provided

Para 2.1.3: Regional Geology: Regional Strigraphy of the area may be provided as an Annexure and the Annexure number may be referred in the Text or this may also be provided by inserting table in word file.

Para 2.1.4.6: Nature/Form of Mineral: The limestone in the lease area is hard compact in nature. Hence other may be selected and written as ‘hard compact with platy nature’

Para 2.1.4.7: Extent of Mineralization: Thickness range of limestone in the lease area may also to be provided.

Para 2.2.1: Summary of The Previous Exploration (for fresh grant) / During Last Plan Period (for existing leases): Not applicable written in all the sub-sections (2.2.1.1 to 2.2.1.14). The same may be written in all the as ‘No Proposal, Not Applicable’.

Para 2.2.2.1: Geological Mapping: The scale of the geological mapping given as 1.430555 the same may be corrected as 1:2000.

Para 2.2.2.2 to 2.2.2.6: Mentioned as Not Applicable. The same may be mentioned in all the paras 2.2.2.2 to 2.2.2.6 as ‘No Proposal, Not Applicable’.

Para 2.2.2.9: Sampling: Extent of the exploration carried out area may be provided in the latitude & longitude column.

Para 2.2.2.10: Chemical Analysis: (i) In the chemical analysis it is observed that Alumina, silica, iron, Magnesia also been analysed. However, only Cao radical given in the Radical Analysis column. Other radicals analysed and their results may also be specified. (ii) The drill core samples information may be provided in CSV/excel file which shall normally include Five files namely (a) collar file, (b) survey file and (c) Geology log file, (d) Assay file and (e) RQD File. The file formats are as follows:

(a) Collar file

Hole_id*	Latitude	Longitude	Altitude	Max_depth	Hole_path (linear/angular)	Date of drilling

(b) Survey file for drill holes

Hole_id	Depth	Dip	Azimuth

(c) Assay file

			radicals analysed				
			(specify name of radical as an example given below)				
Hole_id	Depth_from	Depth_to	Fe	SiO2	Al2O3	LOI	P

(d) Geology file

Hole_id	Depth_from	Depth_to	Litholoical Description

(e) Rock Quality Designation (RQD) File

Hole_id	Depth_from	Depth_to	RQD%

*Hole ID should tally with the surface geological plan as available in the latest approved mining plan

Para 2.2.2.13: Bulk Density: Rock type/Mineral may be specified in Mineral column.

Para 2.2.2.14: Area Covered under Exploration: Total Potentially Mineralised area may be given in second Table of this para. Area converted to G1 from G2, G3 & G4 and other details may also be provided.

Para 2.2.3: Ore Body Geometry & Grade: Other radicals range and average may also be provided.

Para 2.2.4: Reserve / Resource Estimation Method: It is mentioned as Reserve/resources calculated using by Block Model Method and Cross sectional method using data Mine software, the variance in calculation in both the methods may be given in the methodology and details may enclosed as Annexure.

Para 2.2.4.2: (i) Resources Quantity should be given in Metric Tonnes. (ii) Type of Land mentioned as Private Land, as per the template Type of Land should be Forest or Non-Forest, the same should be corrected, (iii) Level of exploration (G1/G2/G3/G4) column is missing in the Table, the same may provided, (v) Geological cross sections are not provided in Autocad DWG format to verify the calculations.

Para 2.2.4.4: Threshold value & Cut off Parameters: This para may be revised as stated below:

As per revised Threshold value notification dated 25th April 2018 Threshold value of Limestone is CaO - 34% (Min.) and MgO-5% (Max.). The cut of parameter considered for Limestone is CaO - 34% (Min).

Para 2.2.4.7: Cost & Revenue Factors: Feasibility Report may be enclosed as Annexure and the Annexure no. may be given in this para for reference.

Para 2.2.4.11: Calculation of blocked resources: (i) Type of Land mentioned as Private Land, as per the template, Type of Land should be Forest or Non-Forest, the same should be corrected, (ii) Resource Quantity should be calculated in tonnes, (iii) In Blocked Resources mentioned as others, the details of others may be given in foot note of the table, (iv) Total blocked resources should be given at the bottom of the table.

Para 2.2.4.12: Calculation of Reserves: (i) No calculation details given in the Reserve Table. As per the format, Sectional Method Calculation details should be provided. (ii) From the Geological cross sections it is observed that for calculation of reserves below 30m ground level & 460 mRL limestone is also considered. However, as per EC condition Ultimate working depth will be 30 meter below ground level & 460mRL. Hence, it is advised to restrict the reserve calculation upto 30m below ground level or upto 460mRL whichever is earlier. In calculation, mineral beyond the prescribed EC depth limit may be considered in Resources. Accordingly Reserve/Resources calculation should be re-estimated in all the relevant paras and information given in plates should be suitably modified.

Chapter 3: Mineral Beneficiation / Processing

Para 3.2: Complete Chemical Analysis of the ROM Ore/Mineral: The Average Chemical grade of the limestone may also to be provided.

Para 3.3.1: Primary Crushing: Type of crusher may be mentioned at foot note of the Table

Para 3.9: Overall water requirement of mining and mineral processing: Details of source of water supply, usage of water for different purposes may be given. Water requirement, Water quality test report, water balance chart may enclosed as Annexure and Annexure no. may be referred in this para.

Para 3.10: Flow sheets and charts showing different level of crushing & screening may be provided as Annexure and Annexure no. may be referred in the text.

Chapter 4: Mining Operations

Para 4.2.1.2.1: Dump Details: (i) Quantity of material in each dump may be provided. (ii) In place of local grid location, UTM grids may be provided in location of dump column, (iii) From the Geological plan it is observed that, the existing dumps are located above the limestone mineralized zone, hence in the foot note of the Table, it may be mentioned as OB Dump no. 1, 2 and 3 are Temporary Dumps within UPL.

Para 4.2.1.2.2: Stack Details: Quantity of stack in each stock may be given.

Para 4.2.2.1: Bench Parameters: Regarding Bench parameters, no information given in the Table, the same may be reviewed and appropriate details may be provided.

Para 4.2.2.2: Year wise Opencast Development: (i) Financial Year should be given in the year column, (ii) the calculation measurements should be in meter, the same may be reviewed and corrected, (iii) to verify the calculation of development, Production & Development sections are not submitted (iv) Location of advancement of benches are given in local grid, the same should be given in UTM grid. (v) Pit-wise & Year-wise Top and bottom RL of the benches may be provided below the table for reference. (iv) OB to Ore Ratio is not provided, the same should be provided, (vi) The Produced quantity of ROM and OB from 1st April 2021 to 30th September 2021 may be given foot note of the Table. (vii) Ultimate working depth proposals should be restricted 30 meter below ground level or 460 mRL whichever is earlier as per EC condition, accordingly all relevant calculation and plans should be modified. (viii) if, any relevant additional information pertaining to this para may be provided in Annexure.

Para 4.2.2.3: Details of Transportation & Hauling Equipment may be given and permissions of DGMS may be enclosed as Annexure.

Para 4.3.1: Studies Undertaken for Bulk Density study, Hydrological study, Blast vibration study etc. may be enclosed as Annexure and Annexure no. may be referred in the Text.

Para 4.3.2: Insitu Mining: (i) Financial Year should be given in the year column, (ii) The Production of ROM and waste quantity for year 2021-22 should tally with 4.2.2.2 Year wise Opencast Development, (iii) the information of Ore to OB Ratio (ROM Quantity / Waste Quantity) should be calculated and provided, (iv) Limestone Grade range should be provided.

Para 4.3.3: Dump workings: There is no recovery of salable mineral from the OB dumps, however dump working is proposed. This para may be reviewed and corrected suitably.

Para 4.3.4: (i) In Production Calculation Summary, financial year should be given in the Year row. (ii) Quantity from Dump handling may be reviewed and corrected. (iii) The total ROM quantity should be within the EC limit.

Para 4.4.1: Machine Requirement Summary: Effective shift hour mentioned as 30 minutes, the same may be reviewed and corrected.

Para 4.4.2: Shovel / Excavator Requirement: (i) In effective shift time Only 30minutes given, this may be reviewed and suitably corrected. (ii) No Stand by excavator proposed, atleast one Stand by excavator need to be proposed.

Para 4.4.3: Dumper Requirement: (i) Effective shift hours is mentioned as 'zero' the same may be reviewed and corrected suitably.

Para 4.4.4: Drill Machine Requirement: (i) Effective shift hours is mentioned as 'zero' the same may be reviewed and corrected suitably, (ii) No Stand by Drill machine proposed, atleast one Stand by Drill machine need to be proposed.

Para 4.4.5.1: Excavator & Loading Equipment: Number of equipments deployed need to be provided.

Para 4.4.5.3: Drilling Details: Type of drilling and drilling capacity (meter/hour) may be specified.

Para 4.5.1: The details provided for Blasting & Explosive Requirement in Waste/Development are incomplete, all the details may be provided.

Para 4.5.2: Blasting & Explosive Requirement in Mineral / Ore: No details provided in this para, all the information related to Blasting & Explosive Requirement as for the format should be provided.

Para 4.6.6: Others Specify: Details not provided in this para. Other man power engaged in security, gardening etc may be provided in this para.

Para 4.6.7: No. of Persons Engaged Per Day: Average Daily Employment per Shift is given as 54 nos.. However, as per formula Average Daily Employment per Shift is going to be 72 nos. The same may be verified and suitably corrected.

Para 4.6.8: Supervision: No information provided in this table. Details of Manpower requirement and existing strength etc as for the format may be provided.

Para 4.7.1: Existing Dump: Year details may be provided. Top and Bottom RL of the existing dump may be provided at foot note of the table.

Para 4.7.3: Existing Stack: During the field inspection, Mineral stack dumps were observed at norther part of the pit, however, no details provided for the existing stack. Stack-wise details may be provided as for the format.

Para 4.7.4: New Stack: If any proposal for 'New Mineral Stack' location, the details may be provided in this para. If no proposals, the same may be mentioned.

Para 4.9: Use of Minerals: Use of Mineral information with chemical & Physical parameters is not provided. The same should be provided.

Chapter 5: Sustainable Mining

Para 5.1: In this para Declaration for under taking Sustainable Mining and SDF Implementations in Compliance of Rule 35 of MCDR'2017 may be provided

Chapter 6: Progressive Mine Closure Plan

Para 6.2.1: Backfilling: In the Year column, Financial year may be specified. If no proposals, the same may be mentioned.

Para 6.2.3: Green Belt Development: Details of cumulative work done upto to the end of previous block year may be provided.

Para 6.2.3.2: Year Wise Plantation Proposal: In the year column, financial Year should be provided. In the location column, UTM grid may be provided. During the field inspection, it is observed that plantation around the lease area is poor. Hence, in addition to the new proposed plantation area, gap filling plantation also to be proposed and top soil generated may be used for plantation. The suitable plant species for the climate & soil condition may be planted to achieve the maximum survival rate.

Para 6.2.9: Topsoil Management: Cumulative work done details is not provided, the same may be provided.

Para 6.2.9.2: Year Wise Proposal: Estimated expenditure is not provided, the same should be provided.

Chapter 7: Financial Assurance/ Performance Surety

In the surface Plan it is observed that at north-eastern corner of the lease area between grid line E1900-E2100 and S0-S500 in an extent about 12 Ha labour hutments is shown on the plan. The same should be reviewed and accordingly Financial assurance amount should be recalculated.

Chapter 8: Review of Previous Proposals

Para 8.2.2: Mine Development: Reasons for deviation w.r.t. mine development may be specified.

Para 8.2.2.2: Excavation: Details of proposed lateral & vertical extent and actual information in UTM grid should be provided.

Para 8.2.6: Production of Mineral(s): Reasons for less production may be specified.

Para 8.3.2: Grievance Redressal: In the Year column Financial Year should be provided in all the paras.

Plates:

1. Plates provided in .kml file format are not in order. All the features are merged and does not contain required attribute information. The same should be corrected suitably and submitted with all layer information in shape file / kml file format.
2. From the hard copy of plans submitted during the field visit, following were observed.
3. Date of survey in all the plans mentioned as 15/01/2021. The date of survey should be recent.
4. Local grid lines should be replaced with UTM-WGS 84 system grid lines
5. Plate 5A: Geological Plan: Dip & Strike information of the limestone is not provided, the same should be provided.
6. Plate 5B: (i) Geological Cross sections: In some Geological cross sections (S-100, S-300, S-500, S700 & S-900) it is observed that, the Limestone Reserves are calculated beyond prescribed EC limit i.e. 460 mRL. Geological cross-sections may be modified as per comments given in para 2.2.4.12. (ii) Geological cross sections may be numbered as AA', BB', CC' (iii) The grids referred in the sections is in local grid, the same should be replaced with UTM grid value. (iv) Geological cross sections not provided in Autocad DWG format, the same should be provided with necessary medications.
7. Plates 6A-6E: Pit position plan from 1st year to 5th Year: (i) From the Pit position plan it is observed that, the pit working bottom RL is 449m to 443m which is below the pit bottom limit prescribed in EC i.e. 460mRL. The same should be reviewed and all plans and sections should be modified suitably. (ii) The Production and Development sections are not provided in pdf/.dwg.
8. Plate 11 Financial assurance plan, the area utilized for labour hutments at north-eastern corner of the lease should be shown on this plan.

Annexures:

1. All the Annexures are combined and there is no contents and page number for easy reference. It is advised to make a separate file for each Annexure and Annexure no. wise contents may be provided.
2. Annexure 3: Karnataka State Pollution Board certificate is valid upto 31/03/2022, Valid certificate should be obtained from Pollution Control Board till plan period before expiry of validity of the certificate.
3. Annexure 7: Qualified persons certificates are not digitally signed.
4. All additional Annexures referred in the scrutiny/comments may be provided.