

Pengaruh Fasies dan Diagenesis Batugamping Terhadap Kualitasnya sebagai Bahan Baku Semen Portland pada Tambang Terbuka PT. Semen Padang, Sumatera Barat = The Influence of Limestone Facies and Diagenesis on Its Quality as Raw Material for Portland Cement in the Open Pit Mining of PT. Semen Padang, West Sumatra

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Abstrak

Tesis ini membahas mengenai pengaruh fasies dan diagenesis terhadap kualitas batugamping untuk bahan baku semen portland. Fasies dan diagenesis batugamping diketahui dengan analisis petrografi berdasarkan komposisi batugamping. Penentuan kualitas batugamping diketahui dengan analisis XRF (X-ray Fluorescence) untuk mengetahui kandungan senyawa CaO. Korelasi dilakukan setelah fasies dan diagenesis serta kualitas batugamping diketahui. Fasies batugamping kristalin memiliki kadar CaO lebih tinggi karena tersusun dari mineral kalsit dan minim pengotor. Lalu fasies wackestone yang memiliki kandungan CaO lebih rendah diakibatkan oleh dominasi mud supported pada fasies ini. Diagenesis batugamping berada pada Zona Marine Phreatic, Zona Burial, dan Zona Meteoric Phreatic. Hal ini diketahui dari tipe diagenesis yang ditemukan berupa sementasi, dll. Tipe diagenesis disolusi dan neomorfisme diduga mempengaruhi kualitas dari batugamping untuk bahan baku semen portland. Menggunakan acuan kualitas batugamping dari PT. Semen Padang bahwa kualitas batugamping daerah penelitian sudah memenuhi kriteria karena kandungan senyawa CaO rata-rata yaitu 52%.

.....This thesis discusses the effect of facies and diagenesis on the quality of limestone as raw material for portland cement. Limestone facies and diagenesis are known by petrographic analysis based on limestone composition. Determination of the quality of limestone is known by XRF (X-ray Fluorescence) analysis to determine the content of CaO compounds. Correlation was carried out after the facies and diagenesis as well as the quality of the limestone were known. The crystalline limestone facies has a higher CaO content because it is composed of the mineral calcite and has minimal impurities. Then the wackestone facies which has a lower CaO content is caused by the dominance of mud supported in this facies. Limestone diagenesis is in the Marine Phreatic Zone, Burial Zone, and Meteoric Phreatic Zone. This is known from the type of diagenesis found in the form of cementation, etc. The type of dissolution diagenesis and neomorphism is thought to affect the quality of limestone as raw material for portland cement. Using limestone quality reference from PT. Semen Padang that the quality of the limestone in the study area met the criteria because the average content of the CaO compound was 52%.