

ECONOMIC GEOLOGY RESEARCH FOR MARBLE-LIMESTONE AND CALCITE FOR CALCIUM CARBONATE PRODUCTION IN THE STATE OF HIDALGO, MÉXICO.

M en C Fernando Piñeiro Ramírez

At the north-western and western portions of the State of Hidalgo, lies the La Encarnación-Barranca de los Mármoles and Puerto El Lefe marble's areas, into the Zimapán municipality. The other limestone and calcite deposits lie at the south-central of the State of Hidalgo portion, into the Francisco I. Madero, Mixquiahuala, San Salvador, and Progreso de Obregón municipalities. Natural calcium carbonate and precipitated calcium, have a wide variety of industrial uses and active demand for satisfying their requirements and needs. Because of its physical and chemical properties and according with the manufacture method used, they are necessary for new technology processing (as a substitute when replacing acid methods for basic ones in paper production, this is, using calcium carbonate instead of caolinite), or new ones as is the case of plastic and polymers. Geological and economically, are of importance the facies changes in the El Doctor Limestone and the Upper Tamaulipas Formation of Barremian-Turonian and Albian-Cenomanian age, for marble production due to contact metamorphism and in the exploration of high grade (CaCO_3) limestone. The El Doctor Limestone hosts calcite veins, up to 8 m replacement and cavity filling at a fault and fracture zone that produce different commercial textures. Calcium carbonate derived from marble, limestone and calcite is a labor source and productivity, it benefits more than 2,500 people and gives to the State of Hidalgo the first place of the national production. The annual average production during 1980-1995 was of 258,7541 t with a monetary value of \$ 41,429 Mexican pesos, which means \$ 114 Mexican pesos per ton. For the State of Hidalgo is of great importance as well as for the industry. Because of its geographic location and quality is placed in a preponderant situation and also because of the nearest to the consumer industry of the Federal District area and the State of Mexico.