Abstract: To accurately understand the coal mine geological mechanics environment, thus provide reference for roadway support forms and parameters. In this paper, basic data is collected by geomechanics rapid test of surrounding rock in roadway; Three-dimentional geological model of the mining area is built based on the geological interpretation result of peephole; the calculation formula of geostress and rock strength curve are given based on test result. On the 3D geological model, the query of geostress of all points and the query of rock strength in range of 10m above roof are achieved by interpolation algorithm, which provide reliable parameters for the initial support design. At last, the methods above are used in Chang Cun mine in Lu’an group.