3 Characterization of Fractures and Fracture Network of Porous Media

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3.1 INTRODUCTION

Of the many problems that must be addressed by scientists who study large-scale (LS) porous media, such as oil, gas, and geothermal reservoirs, and groundwater aquifers, none is as complex as characterization and modeling of fractures, fracture networks, and fractured porous media. The economic development of a fractured oil reservoir, which is abundant in the world, cannot be planned unless the nature of the fractures (tectonic, diagenetic, or induced) and the properties of their network (connectivity, fracture length distribution, etc.) are understood and accurate models of fractures and their network are developed. The same is true in hydrology if one wishes to address the problem of contamination of groundwater flow. Most recently, the problem of disposal of radioactive wastes has