

EFFECTS OF STRATIGRAPHY ON GEOTHERMAL RESERVOIR PERFORMANCE

Mike Timlin

TerraThermal
80 Pelican Lane
Redwood City, CA 94065-1575 USA
MTimlin@TerraThermal.Com

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ABSTRACT

Geothermal reservoir performance is critical to successful production of energy from geothermal resources. It is highly dependent upon a variety of factors, including reservoir types, fluid properties, rock properties, temperature, structural geology, stratigraphy, and others. Drilling of the well field and construction of the associated fluid collection and processing system is one of the largest costs of developing a geothermal resource. Proper conceptual modeling of the geothermal resource is necessary to optimize the design of the subsurface and surface geothermal energy production system. When done correctly, we can maximize the return on investment of our development dollars. Furthermore, we can use this information to better maintain the health of our reservoirs and wells. We can also improve and optimize well and reservoir productivity, providing additional return on our geothermal investments. This paper outlines some of the interactions between geothermal reservoirs and their associated stratigraphies. The resultant effects upon reservoir performance as seen at the wellhead are discussed in detail.