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**ANALYSIS OF HISTORICAL AND CURRENT WATER-LEVEL AND
PRODUCTION DATA FROM THE BOISE GEOTHERMAL SYSTEM**

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The Boise geothermal aquifer has been producing artesian geothermal water for domestic and commercial use since the early 1890s. The aquifer is a fractured-media groundwater system which produces 150-180°F water from the fractured rhyolites and interbedded sediments of the Idavada Group, and from granites of the Idaho batholith. Currently the principal producers are the Boise Warm Springs Water District (BWSWD), City of Boise (Boise Geothermal Ltd., BGL), and the State of Idaho (Capitol Mall). The main unreinjected production comes from wells owned by BWSWD and BGL. The latter two well fields are completed within fractures of the Boise foothills fault zone (Bffz) along the boundary between the Boise foothills and the Snake River Plain (SRP). Capitol Mall produces from and reinjects into fractured rhyolites and interbedded sediments beneath the SRP approximately 3,000 ft. southwest of the Bffz. Water levels within the system are cyclical and currently fluctuate between a low in late February and a high in early September. Although other factors may play a minor role, the principal cause of the cyclicity is withdrawals from the aquifer in response to demand for hot water. In the late 1890s the artesian head in the Warm Springs area was at approximately 2815 ft. elevation (Lindgren, USGS Geol Atlas 103). By 1983, maximum recovery declined to approximately 2,765 ft. and in 1987 to 2,730 ft. Prior to 1982-83 the system seems to have been at or near equilibrium. However, in 1983-84 unreinjected production peaked at approximately 455 million gallons and equilibrium was disturbed. Although withdrawals by the two major producers which do not reinject have decreased to an average of 400 million gals/yr. recovery levels in the Boise vicinity have declined at rates increasing from 3 to 12 ft./yr., and the evidence suggests interconnection and interference between the wells of the major producers.