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Geothermal Resources of Twin Falls County, Idaho

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ABSTRACT

Monitoring of the thermal aquifer in northern Twin Falls County in conjunction with a regional geologic framework study was initiated to provide baseline data on which to base resolution of conflicts over resource utilization. Monitoring results indicate an overall decline of the artesian head of the system of 15-25 feet over the last 3 years.

The thermal water ranges from 30°C-70°C and occurs in Tertiary rhyolitic pyroclastic rocks buried beneath a cover of younger basalts. Circulation of water in the system initiates in the Cassia Mtns. highlands to the south and flows northward down the regional gradient of dipping volcanic strata. Deep circulation in high temperature zones is facilitated by a northwest trending normal fault zone which runs from the Cassia Mtns. to the Buhl-Banbury area. Primary upwelling is along the Banbury segment of this zone. Aquifers to the east of this upwelling zone are conductively heated by direct hydrologic contact.