



Simulation of Groundwater Flow, Effects of Artificial Recharge, and Storage Volume Changes in the Equus Beds Aquifer Near the City of Wichita, Kansas Well Field, 1935-2008

By Brian P Kelly, Linda L Pickett, Cristi V Hansen

Createspace, United States, 2014. Paperback. Book Condition: New. 279 x 216 mm. Language: English . Brand New Book ***** Print on Demand *****.The Equus Beds aquifer is a primary water-supply source for Wichita, Kansas and the surrounding area because of shallow depth to water, large saturated thickness, and generally good water quality. Substantial water-level declines in the Equus Beds aquifer have resulted from pumping groundwater for agricultural and municipal needs, as well as periodic drought conditions. In March 2006, the city of Wichita began construction of the Equus Beds Aquifer Storage and Recovery project to store and later recover groundwater, and to form a hydraulic barrier to the known chloride-brine plume near Burrton, Kansas. In October 2009, the U.S. Geological Survey, in cooperation with the city of Wichita, began a study to determine groundwater flow in the area of the Wichita well field, and chloride transport from the Arkansas River and Burrton oilfield to the Wichita well field. Groundwater flow was simulated for the Equus Beds aquifer using the three-dimensional finite-difference groundwater-flow model MODFLOW-2000. The model simulates steady-state and transient conditions. The groundwater-flow model was calibrated by adjusting model input data and model geometry until model results matched field observations..



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