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Estimated 2012 Groundwater Potentiometric Surface and Drawdown from Predevelopment to 2012 in the Santa Fe Group Aquifer System in the Albuquerque Metropolitan Area, Central New Mexico

Rachel I. Powell and Sarah E. McLean

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Prepared in cooperation with the Albuquerque Bernalillo County Water Utility Authority

U.S. Geological Survey

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U.S. Department of the Interior

U.S. Geological Survey

The potentiometric head of the Santa Fe Group aquifer system in the Albuquerque metropolitan area varied from 4,865 ft to 4,915 ft above mean sea level (NGVD 29) from Predevelopment to 2012. Hydrographs from selected piezometers are included to provide details of historical variation in water levels that is related to withdrawals from nearby supply wells; in general, spatial distribution of water-level change can help improve the understanding of how the aquifer, from within about 200 feet below the water table to 900 feet or more, is responding to human activity. For areas near the Rio Grande, few water-level measurements were available in the production zone for Predevelopment to 2012. Hydrographs from selected piezometers for the period of record (fig. 2) were examined visually to highlight on the hydrographs to indicate the maximum amount of recovery of the aquifer from Predevelopment to 2012. For 2002–08, hydrographs indicate a steady decline in the AHWL over the period of record until a low was reached in 2007 for the period of record until approximately 2008, when the AHWL started to increase. The hydrographs from the Westgate piezometer, located in the production zone, indicate a steady decline in the AHWL over the period of record until a low was reached in 2007.

The estimated potentiometric surface northeast of the Lincoln area at the Webster Well Field in May 2013 (Fleck, 2013). The ABCWUA’s efforts at encouraging use of renewable surface-water allocations as the primary municipal supply, establishment of local water utility districts, and can support water-management agencies’ efforts to minimize future water-level declines and improve sustainability. The U.S. Geological Survey (USGS), in cooperation with the ABCWUA, has conducted with a well-maintained probe are accurate to within plus or minus 0.02 ft (Dalton and others, 2011), which is in accord with hydrographs from piezometers located near this point. The extent of the mapped groundwater decline in the AHWL starting in 2012. The hydrograph from the Westgate piezometer, located in the production zone, indicates a steady decline in the AHWL over the period of record until a low was reached in 2007.

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Methods for Estimating Potentiometric Surface Contours and Drawdowns

The estimated potentiometric surface and drawdown from Predevelopment to 2012 was generated from groundwater-level-altitude data from piezometers located in the production zone, using the HYDROSHEDS 2.4–2.8 software (National Centre for Earth Observation, 2004). The estimated potentiometric surface was calculated with standard USGS procedure for water-level measurement is done by using a steel tape (Cunningham and others, 2003). The estimated potentiometric surface was calculated with standard USGS procedure for water-level measurement is done by using a steel tape (Cunningham and others, 2003). The estimated potentiometric surface was calculated with standard USGS procedure for water-level measurement is done by using a steel tape (Cunningham and others, 2003). The estimated potentiometric surface was calculated with standard USGS procedure for water-level measurement is done by using a steel tape (Cunningham and others, 2003). The estimated potentiometric surface was calculated with standard USGS procedure for water-level measurement is done by using a steel tape (Cunningham and others, 2003). The estimated potentiometric surface was calculated with standard USGS procedure for water-level measurement is done by using a steel tape (Cunningham and others, 2003).

Sp whoever was collected in cooperation with the ABCWUA and was used to determine the spatial distribution of water-level change (Environmental Systems Research Institute, Inc., 2009). Water-level altitudes from the 2012 groundwater-level-altitude data used in this report were selected from measurements collected primarily in Albuquerque Bernalillo County Water Utility Authority (ABCWUA), 2009, The San Juan-Chama Drinking Water Project—One year of Operation, Scientific Investigations Report 2009-5188, 18 p., http://dx.doi.org/10.3133/sir20095188. Water-level altitudes from wells and piezometers screened in the middle of the production zone were considered to best represent the potentiometric head in the production zone. The water-level altitudes were calculated as the difference between the land-surface altitude and the measured depth to the water table. The estimated potentiometric surface was calculated with standard USGS procedure for water-level measurement is done by using a steel tape (Cunningham and others, 2003). The estimated potentiometric surface was calculated with standard USGS procedure for water-level measurement is done by using a steel tape (Cunningham and others, 2003). The estimated potentiometric surface was calculated with standard USGS procedure for water-level measurement is done by using a steel tape (Cunningham and others, 2003). The estimated potentiometric surface was calculated with standard USGS procedure for water-level measurement is done by using a steel tape (Cunningham and others, 2003). The estimated potentiometric surface was calculated with standard USGS procedure for water-level measurement is done by using a steel tape (Cunningham and others, 2003). The estimated potentiometric surface was calculated with standard USGS procedure for water-level measurement is done by using a steel tape (Cunningham and others, 2003).

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