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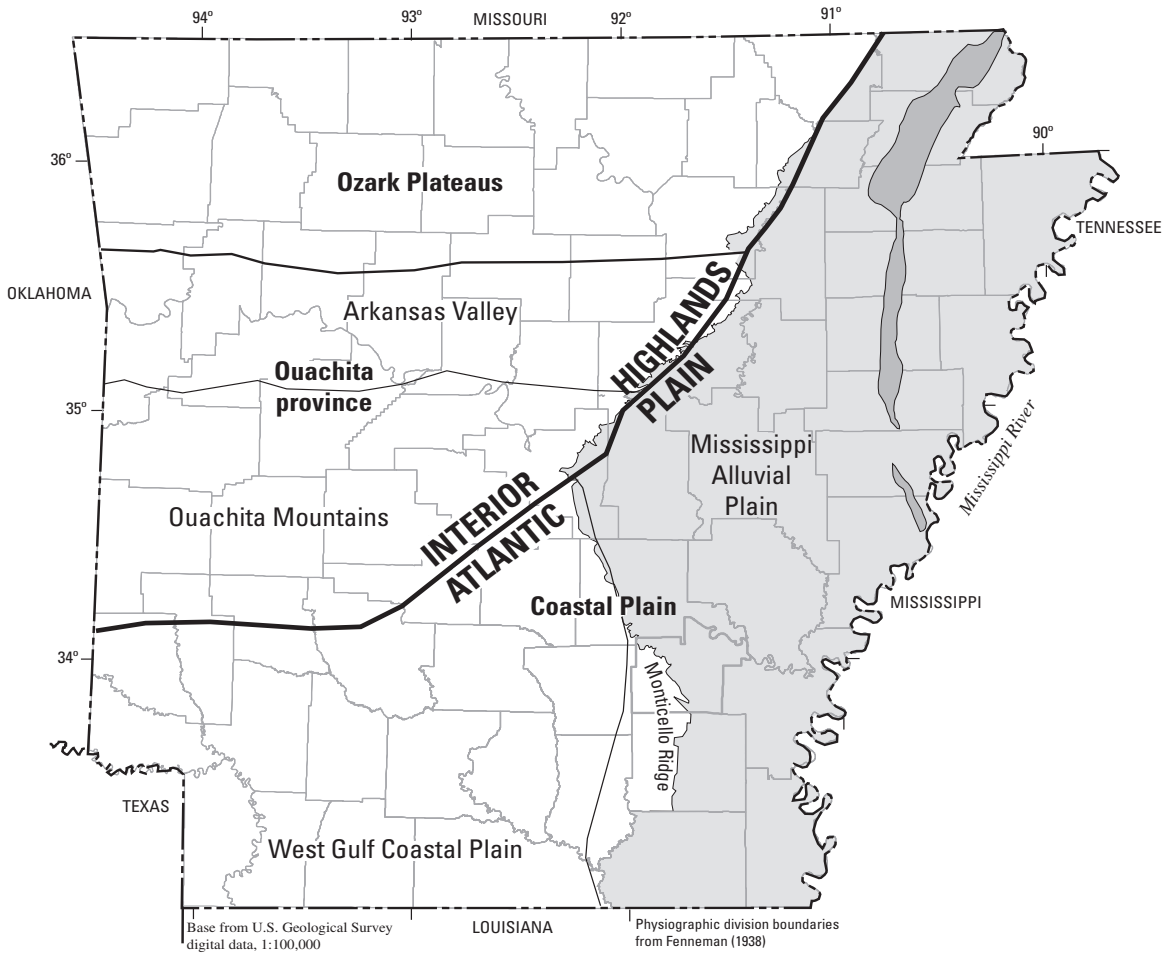
Water Levels and Selected Water-Quality Conditions in the Mississippi River Valley Alluvial Aquifer in Eastern Arkansas, 2008



Scientific Investigations Report 2010–5140

U.S. Department of the Interior
U.S. Geological Survey

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By T.P. Schrader

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U.S. Department of the Interior
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Suggested citation:
Schrader, T.P., 2010, Water levels and selected water-quality conditions in the Mississippi River Valley alluvial aquifer in eastern Arkansas, 2008: U.S. Geological Survey Scientific Investigations Report 2010-5140, 71 p., 2 plates.

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[In pocket]

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Conversion Factors Vertical Datums, and Abbreviations

Multiply	By	To obtain
	Length	
inch (in.)	2.54	centimeter (cm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
	Flow rate	
foot per year (ft/yr)	0.3048	meter per year (m/yr)
cubit foot per second (ft^3/s)	0.02832	cubic meter per second (m^3/s)
million gallons per day (Mgal/d)	3.7854×10^6	liter per day (L/d)
foot per year (ft/yr)	0.3048	meter per year (m/yr)

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

°F=(1.8×°C)+32

Temperature in degrees Fahrenheit (°F) may be converted to degrees Celsius (°C) as follows:

°C=(°F-32)/1.8

Vertical coordinate information is referenced to the National Geodetic Vertical Datum of 1929 (NGVD 1929).

Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 1983).

Altitude as used in this report, refers to distance above the vertical datum.

Specific conductance is given in microsiemens per centimeter at 25 degrees Celsius (μS/cm at 25°C).

Water Levels and Selected Water-Quality Conditions in the Mississippi River Valley Alluvial Aquifer in Eastern Arkansas, 2008

By T.P. Schrader

Abstract

During the spring of 2008, the U.S. Geological Survey, in cooperation with the Arkansas Natural Resources Commission and the Arkansas Geological Survey, measured 670 water levels in 659 wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas. Groundwater levels are affected by groundwater withdrawals resulting in potentiometric-surface depressions. In 2008, the lowest water-level altitude was 69 feet above National Geodetic Vertical Datum of 1929 in the center of Arkansas County. The highest water-level altitude was 288 feet above National Geodetic Vertical Datum of 1929 in northeastern Clay County on the west side of Crowleys Ridge. Two large depressions in the potentiometric surface are located in Arkansas, Lonoke, and Prairie Counties and west of Crowleys Ridge in Craighead, Cross, Lee, Monroe, Poinsett, St. Francis, and Woodruff Counties.

The elongated depression in Arkansas, Lonoke, and Prairie Counties has two areas that have changed in horizontal area or depth when compared to previous conditions of the aquifer. The area in Arkansas County in the southeastern half of the depression has not expanded horizontally from recent years, although the center of the depression has deepened. The area in Lonoke and Prairie Counties in the northwestern half of the depression has not expanded and water level in the deeper part of the depression has risen. In Lonoke and Prairie Counties in the northwestern half of the depression, the 90-foot contour shown on the 2006 potentiometric-surface map is not shown on the 2008 potentiometric-surface map. Along the west side of Crowleys Ridge, the area enclosed by 140-foot contour in Cross and Poinsett Counties has expanded further south into Cross County. The 130-foot contour in Poinsett County expanded north in 2008. The 130-foot contour is shown in Cross County, which was not evident in previous years. The 130-foot contour in St. Francis, Monroe, and Woodruff Counties in 2006 is not shown on the 2008 potentiometric-surface map.

A map showing the difference in water level was constructed using 595 differences in water levels measured in 585 wells during 2008 and 2004. The difference in measured water levels from 2004 to 2008 ranged from -20.6 feet to 25.9 feet, with a mean of -1.6 feet. The largest decline of -20.6 feet occurred in Randolph County and the largest rise of 25.9 feet occurred in Prairie County. Out of the 595 differences, 442 were declines (74.3 percent), 10 were no difference (values of 0.0 ft) (1.7 percent), and 143 were rises (24.0 percent). Five areas are dominated by declines that are west of Crowleys Ridge; in eastern Craighead County; in southern Mississippi and Crittenden Counties; in eastern Lonoke and western Prairie Counties; and in Arkansas, Ashley, Chicot, Desha, Drew, and Lincoln Counties.

Long-term water-level changes were evaluated using hydrographs from 173 wells in the Mississippi River Valley alluvial aquifer for the period 1984 to 2008. The mean annual rise or decline in water level for the entire study area was -0.38 feet per year (ft/yr) with a range of –4.86 to 0.58 ft/yr. Independence and White Counties are the only counties with a mean annual rise from 1984 to 2008. Mean annual declines between -0.50 ft/yr and 0.00 ft/yr occurred in Arkansas, Chicot, Clay, Craighead, Crittenden, Drew, Greene, Jefferson, Mississippi, Monroe, Phillips, Poinsett, Prairie, Pulaski, Randolph, and Woodruff Counties. Mean annual declines between -1.00 ft/yr and -0.50 ft/yr occurred in Ashley, Desha, Jackson, Lee, Lincoln, and St. Francis Counties. Mean annual declines between -1.50 ft/yr and -1.00 ft/yr occurred in Cross and Lonoke Counties.

The analysis of long-term water-level changes in Arkansas, Lonoke, and Prairie Counties shows the elongation of the depression in these three counties. Arkansas and Prairie Counties have two different rates of annual decline for the two hydrographs shown for each county. Water levels in the two wells near the Arkansas and White Rivers have risen or declined at a slower rate than in the three wells in the center, northern, and western parts of the depression. These rates of water-level change indicate that this depression has expanded in an elongated direction north and west into Lonoke and Prairie Counties from 1984 to 2008. The depression west of Crowleys Ridge has five wells with hydrographs in or near the depression that can be used to characterize the rates of water-level change within this depression.

Water samples were collected from 60 wells completed in the Mississippi River Valley alluvial aquifer and measured onsite for specific conductance and temperature. Specific

conductance ranged from 111 microsiemens per centimeter at 25 degrees Celsius (µS/cm) at a well in Lincoln County to 2,020 µS/cm at a well in Desha County. Specific conductance values equaled or exceeded 1,000 µS/cm in Arkansas, Chicot, Cross, Desha, Greene, and Lincoln Counties.

Introduction

The Mississippi Alluvial Plain (fig. 1) encompasses an area of approximately 32,000 square miles and includes parts of Arkansas and nearby States. Approximately 54 percent of the Mississippi Alluvial Plain covers the eastern one-third of Arkansas. The Mississippi River Valley alluvial aquifer (herein referred to as the alluvial aquifer) underlies the Mississippi Alluvial Plain in eastern Arkansas. Within Arkansas, the alluvial aquifer extends from the Missouri State line south to the Louisiana State line, and from the Mississippi River west to the Fall Line (the physiographic boundary between the Atlantic Plain and the Interior Highlands) and the Monticello Ridge (a topographic feature in southeastern Arkansas) (fig. 1).

Agricultural land use in eastern Arkansas has increased since 1900 with production consisting predominately of rice, soybeans, cotton, and, in recent years, aquaculture, all of which are highly dependent on the availability of water.

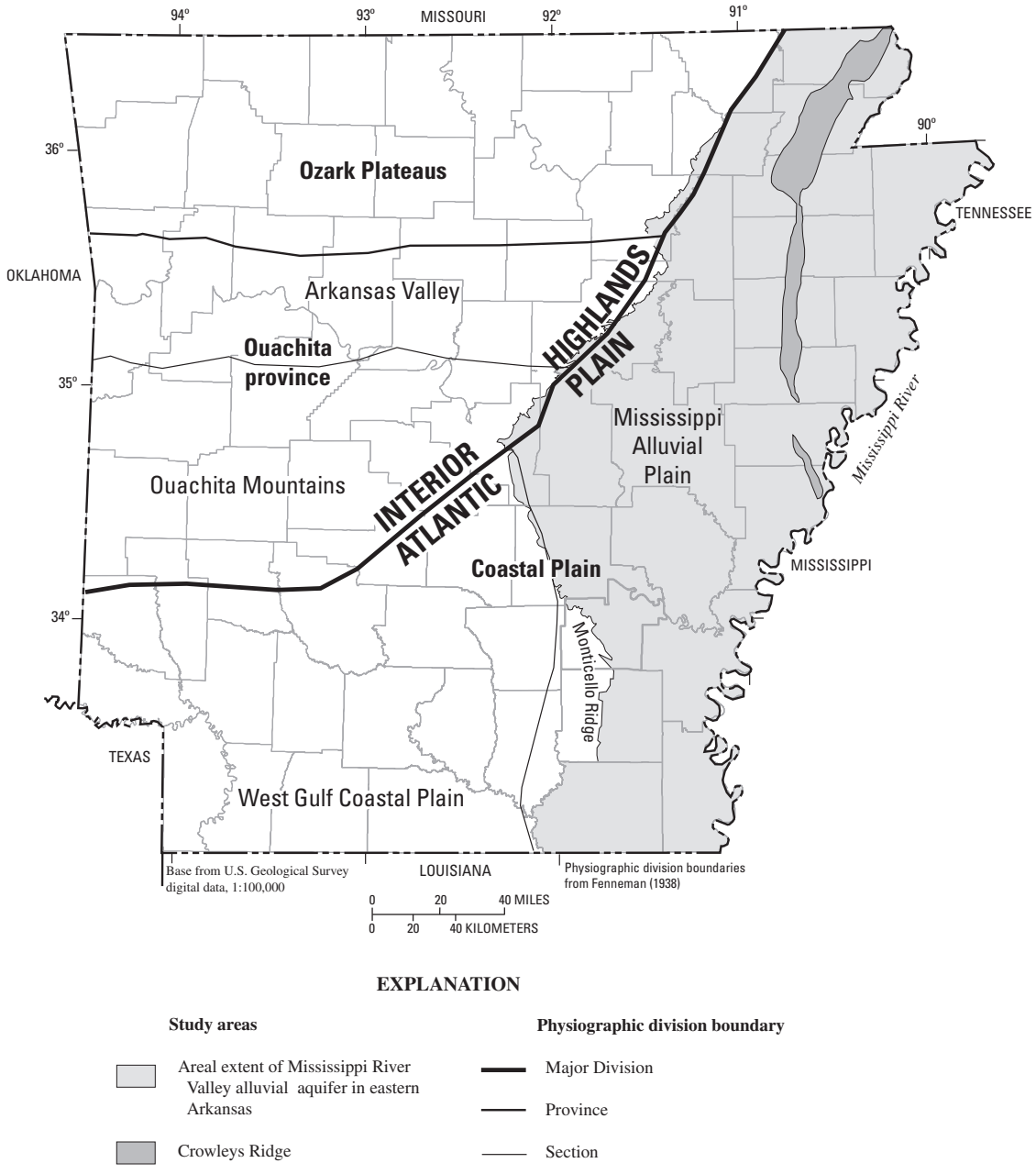


Figure 1. Location of study area.

Eastern Arkansas receives sufficient precipitation to support these crops, receiving an average 46 to 54 inches of precipitation annually (Freiwald, 1984). However, during a critical part of the growing season from late spring through early summer, most precipitation in eastern Arkansas falls as rain from widely scattered thunderstorms, which may be insufficient for crop production.

The alluvial aquifer is increasingly relied upon for agriculture and aquaculture in eastern Arkansas. In 2005, estimated water withdrawals from the alluvial aquifer in Arkansas totaled about 7,252 million gallons per day (Mgal/d) (Holland, 2007); estimated withdrawals were about 1,063 Mgal/d in 1965 (fig. 2) (Halberg and Stephens, 1966). Starting in 1970 and continuing in 5-year intervals through 2000, estimated water withdrawals from the alluvial aquifer in Arkansas totaled about 1,287 Mgal/d, 2,211 Mgal/d, 3,697 Mgal/d, 3,534 Mgal/d, 4,360 Mgal/d, 5,056 Mgal/d, and 6,585 Mgal/d (Halberg, 1972, 1977; Holland and Ludwig, 1981; Holland, 1987, 1993, 1999, 2004). Since 1965, withdrawals from the alluvial aquifer have increased from about 1,063 Mgal/d to about 7,252 Mgal/d in 2005, an increase of about 582 percent. Withdrawals have more than doubled in the last 20 years, about a 105 percent increase since 1985.

During the spring of 2008, the U.S. Geological Survey (USGS), in cooperation with the Arkansas Natural Resources Commission (ANRC) and the Arkansas Geological Survey, measured water levels in 319 wells completed in the alluvial aquifer in eastern Arkansas. The ANRC measured water levels in 39 wells and the U.S. Department of Agriculture-Natural Resources Conservation Service (NRCS) measured water levels in 312 wells completed in the alluvial aquifer and provided these data to the ANRC. These data were made available to the USGS and were incorporated into the database used to develop a potentiometric-surface map of the alluvial aquifer for the spring of 2008. In the spring of 2008, a total of 670 water-level measurements were collected from 659 wells. Because the USGS and NRCS both measure water levels in 11 wells, a total of 670 measurements were made in 659 wells. During the summer of 2008, water samples from 60 wells completed in the alluvial aquifer were measured for specific conductance and temperature. These measurements provided information for a database of selected water-quality data for the alluvial aquifer.

This report describes the status and trends of water levels and selected water-quality conditions (specific conductance and temperature) in the alluvial aquifer. The report includes maps, long-term hydrographs, and data tables. Scheduled monitoring and evaluation of conditions in the alluvial aquifer provide information necessary for resource management.

The well-numbering system used in this report is based upon the locations of the wells according to the Federal land survey used in Arkansas. The component parts of a well number are the township number; the range number; the section number; three letters that indicate respectively, the quarter section, the quarter-quarter section, and the quarter-quarter-quarter section in which the well is located; and a sequence

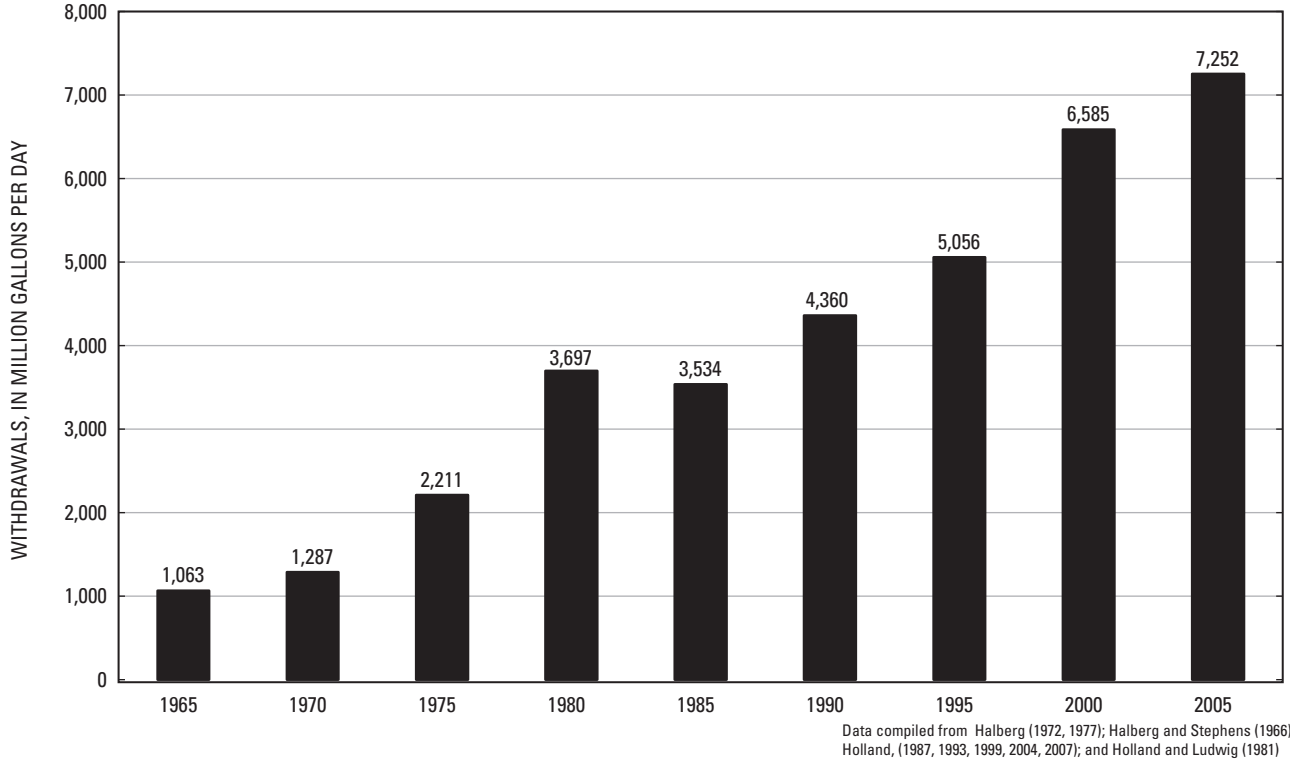


Figure 2. Estimated withdrawals from the Mississippi River Valley alluvial aquifer in Arkansas, 1965 to 2005.

number of the well in the quarter-quarter-quarter section. The letters are assigned counterclockwise, beginning with "A" in the northeast quarter or quarter-quarter or quarter-quarter-quarter section in which the well is located. For example, well 01S03W04BBD16 (fig. 3) is located in Township 1 South, Range 3 West, and in the southeast quarter of the northwest quarter of the northwest quarter of section 4. This well is the 16th well in this quarter-quarter-quarter section of section 4 from which data were collected.

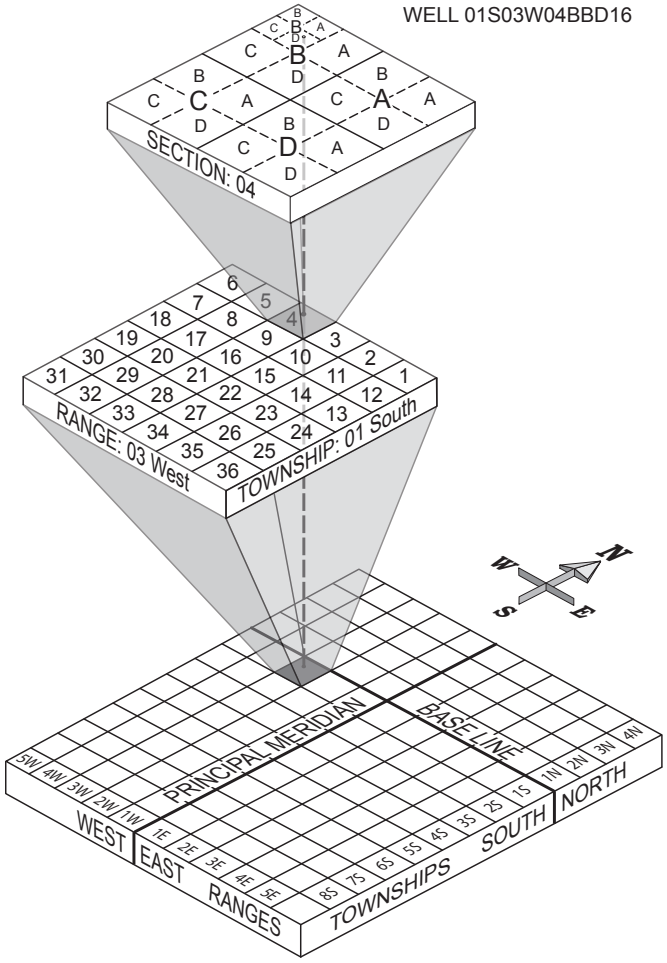


Figure 3. Well-numbering system.

Methods

Personnel from the USGS, the ANRC, and the NRCS measured water levels from February to May 2008 from wells completed in the alluvial aquifer. Measurements by USGS and ANRC personnel were made with steel or electric tapes graduated in hundredths of a foot, whereas measurements by NRCS personnel were in tenths of a foot or whole feet. The steel and electric tapes used by USGS and ANRC personnel were calibrated during January 2008 prior to collecting water-level measurements from wells. Calibration of steel and electric tapes was performed by comparing the field steel or electric tape to a standardized steel tape used only for calibration. Duplicate measurements were made by USGS and ANRC personnel in 11 wells for quality assurance.

Well locations were verified using Global Positioning System (GPS) receivers to acquire the horizontal-coordinate information, latitude and longitude, based on the North American Datum of 1983. The latitude and longitude of the wells in Arkansas were recorded from a GPS accurate to one-tenth of a second of latitude and longitude (approximately 10-20 feet (ft)). The latitude and longitude of the well location were transferred to a topographic map and the altitude of the well (National Geodetic Vertical Datum of 1929) was determined from the topographic contours at the well location on the map. Altitude is accurate to one-half of the contour interval (2.5 to 5 ft) of the topographic map.

Two methods for calculating the annual rise or decline of water levels may be used. One method is to take the difference between the final and initial water levels and divide by the period of time. This method is determined from two measurements and calculated values are dependent solely on the final and initial water levels. A second method uses the linear regression of water levels over time to calculate the annual rise or decline in water level. Linear regression is more robust analysis because the trend line is determined using all the water-level measurements collected over the period of record instead of the two measurements used for the difference method. The slope, □, of the trend line is the annual rise or decline in water level. The intercept, □0, would be the water level in the year 1900, the origin for the graph. This assumes the pumping rate was constant throughout the period of pumping. This condition is not commonly met or the data are not available to demonstrate that this has occurred. The predevelopment water level will not be discussed as this condition can not be demonstrated. The R2 term is the coefficient of determination, correlation coefficient, or the fraction of variance explained by the regression. The R2 value gives the proportions of the total variability that can be accounted by the independent variable (Helsel and Hirsch, 1992). Values of R2 can range from 0.00 to 1.00. A high value of R2 can indicate a linear change in water level. A low value of R2 can indicate a sporadic change in water level.

Five assumptions are associated with linear repression: (1) Y is linearly related to X, (2) data used to fit the linear regression are representative of the data of interest, (3) variance of the residuals is constant and does not depend on X or on anything else, (4) the residuals are independent, and (5) the residuals are normally distributed. The assumption of a normal distribution is involved only when testing hypotheses, which requires the residuals from the regression equation to be normally distributed (Helsel and Hirsch, 1992).

Specific conductance was measured in groundwater from selected wells using specific-conductance meters with temperature compensation. Specific-conductance meters were calibrated twice daily by comparing the measurement of the specific-conductance meter of two specific conductance calibration standards. Most of the wells were irrigation

wells sampled during pumping; specific conductance and temperature were monitored for 5 minutes or until the readings stabilized before values were recorded. For public supply and industrial wells, a minimum of three well volumes were purged and then specific conductance and temperature were monitored for 5 minutes or until the readings stabilized before values were recorded.

Aquifer Description

The alluvial aquifer comprises alluvial and terrace deposits of Quaternary age (Ackerman, 1996). Lithologically, the Quaternary alluvial and terrace deposits are similar, consisting of unconsolidated sediments that grade from gravel and coarse sand in the lower sections to silt and clay in the upper sections (Boswell and others, 1968). Because coarse sediments are contained in the lower sections of the alluvial and terrace deposits, the aquifer is capable of sustaining high-yielding wells (Ackerman, 1996). Finer sediments in the upper sections of the alluvial and terrace deposits form a confining unit above much of the aquifer. This confining unit is thin or has been completely removed by erosion in some areas, especially near large rivers within the study area (Gonthier and Mahon, 1993). Channel fill, point bar, and backswamp deposits associated with present or former channels of large rivers have produced abrupt changes in lithology and result in large spatial variations in the hydraulic properties of the aquifer (Joseph, 1999).

Sedimentary rocks and unconsolidated sediments of Tertiary age or older underlie the alluvial aquifer and have been modified by geologic processes into an undulating surface (Mahon and Poynter, 1993). In most areas, these rocks and sediments are less permeable than the overlying alluvial and terrace deposits of Quaternary age and form the confining unit below the alluvial aquifer (Boswell and others, 1968).

In the northern half of the study area, the alluvial and terrace deposits of Quaternary age are separated by Crowleys Ridge (fig. 1), an erosional remnant of deposits of Tertiary age trending north-south from the Missouri-Arkansas border. Crowleys Ridge is a prominent topographic feature on the otherwise low-relief surface of the Mississippi Alluvial Plain and forms a physical barrier to groundwater flow in the alluvial aquifer.

Water Levels

Water-level measurements collected in wells completed in the alluvial aquifer (appendix 1) were used to produce a regional potentiometric-surface map (plate 1). The water-level altitudes for the potentiometric-surface map were calculated by subtracting the depth-to-water measurement from the land-surface altitude, then rounding to the nearest foot. A difference in water-level map from 2004 to 2008 (plate 2) was produced by subtracting water-level measurements in 2008 from measurements in 2004. Data from wells that have water-level measurements with a minimum 25-year period of record were used to produce hydrographs shown in figure 4. The water-level changes shown in the hydrographs indicate long-term changes in hydrologic conditions. Long-term water-level changes shown by many of the hydrographs reflect the development of cones of depression in the potentiometric surface.

Potentiometric Surface

The potentiometric-surface map (plate 1) shows the altitude at which water would have stood in tightly cased wells completed in the alluvial aquifer. The map on plate 1 is based on 670 water-level measurements (319 by USGS, 39 by ANRC, and 312 by NRCS) made in 659 wells during the spring of 2008 (appendix 1). Eleven wells were measured by both the USGS and NRCS. The potentiometric surface was mapped using the altitude of the water levels measured in the wells and is represented on the map by contours that connect points of equal altitude. The general direction of groundwater flow is perpendicular to the contours in the direction of decreasing potentiometric-surface altitude.

Groundwater levels are affected by groundwater withdrawals within the study area, often resulting in depressions. The depressions or other areas of reduced water level are shaded on plate 1. In 2008, the lowest water-level altitude was 69 ft in the center of Arkansas County. The highest water-level altitude was 288 ft in northeastern Clay County on the western side of Crowleys Ridge.

Previous reports described three large depressions in the alluvial aquifer potentiometric surface (Stanton and others, 1998; Joseph, 1999; Schrader, 2001; Reed, 2004; Schrader, 2006, 2008). A large, elongated area of depression extended across Arkansas, Lonoke, and Prairie Counties. Two shallower depressions were documented in Lee, Monroe, St. Francis, and Woodruff Counties, and in Craighead, Cross, and Poinsett Counties that have merged for a single depression.

The elongated depression in Arkansas, Lonoke, and Prairie Counties has two areas that have changed in horizontal area or depth when compared to previous conditions of the aquifer. The area in Arkansas County within the southeastern half of the depression has not expanded horizontally during recent years, although the center of the depression has deepened. The Arkansas and White Rivers that bound Arkansas County on the southwestern and eastern county lines are hydrologically connected and provide recharge to the alluvial aquifer. A comparison of measured water-level altitudes from 1998 through 2008 at the location of the lowest measured water level in the depression in central Arkansas County indicates water levels rose 8 ft from 1998 (78 ft) to 2002 (86 ft), declined 10 ft from 2002 to 2004 (76 ft), no change from 2004 to 2006 (76 ft), and declined 7 ft from 2006 to 2008 (69 ft).

The area in Lonoke and Prairie Counties in the northwestern half of the depression has not expanded, and water level in the deeper part of the depression has risen. The extent

of the 130-foot contour is generally the same in both the 2006 and 2008 potentiometric-surface maps. The 90-foot contour shown on the 2006 potentiometric surface (Schrader, 2008) is not shown on the 2008 potentiometric-surface map. The lowest measured water-level altitudes in Lonoke County show a slow rise from 88 ft in 2002 (Reed, 2004) to 92 ft in 2008.

Along the western side of Crowleys Ridge, two previously documented areas of depression expanded and coalesced into a single depression by 2002 (Reed, 2004). The 2008 potentiometric-surface map shows little change in the area of this depression, although the deeper areas within the depression have changed. The 2008 map shows that the area enclosed by the 150-foot contour is similar in area to the areas in the 2004 and 2006 potentiometric-surface maps. The area enclosed by 140-foot contour in Lee, Monroe, St. Francis, and Woodruff Counties is similar in area to the area in the 2006 potentiometric-surface map. The area enclosed by 140-foot contour in Cross and Poinsett Counties has expanded further south into Cross County since 2006. The 130-foot contour in St. Francis, Monroe, and Woodruff Counties in 2006 is not shown in the 2008 potentiometric-surface map. In 2008, water levels were not measured in this area; in previous years, this area was the deepest part of the depression. The lack of data points in this area may have caused the 130-foot contour not to be shown in the 2008 potentiometric-surface map. The area enclosed by the 130-foot contour in eastern Monroe County is similar in area to the 2006 potentiometric-surface map. The 130-foot contour in Poinsett County has expanded north in 2008. The 130-foot contour is shown in Cross County, which was not evident in previous years.

In central Drew County, near the western boundary of the study area, a cone of depression was first noted in the 2002 potentiometric-surface map (Reed, 2004). The area enclosed by the 130-foot contour expanded in 2004, and the water level in the center of the cone declined by 8 ft to 118 ft (Schrader, 2006). In 2006, the area decreased to approximately the same area as in the 2002 potentiometric-surface map (Schrader, 2008). In 2008, the area was approximately the same area as in 2006.

Three areas of reduced water level were noted by Schrader (2001) in southeastern Arkansas—one in eastern Lincoln County, a second that extends from southern Desha County into northern Chicot County, and a third that extends from western Chicot County into eastern Ashley County. The area of reduced water level in southern Desha and northern Chicot Counties was first evident in the 1998 potentiometric surface (Joseph, 1999) and had expanded horizontally and vertically by 2000 (Schrader, 2001). This area expanded southward by 2002 but had not appreciably deepened. The potentiometric surface in this area showed little change between 2002 and 2004 (Schrader, 2006). In the 2006 potentiometric surface, this area had expanded further north into Desha County and south into Chicot County. In the 2008 potentiometric surface, this area is about the same size as in 2006. The water levels in this area do not have a trend, where some water levels have risen and some have declined 1 to 2 ft since 2006. The areas in eastern Lincoln County and in western Chicot and eastern Ashley Counties were not evident in 1996 and 1998. The area in eastern Lincoln County expanded into northwestern Desha County and continued to deepen through 2004, with an altitude of 118 ft (Schrader, 2006) at its deepest point. In 2006, this area had expanded westward in Lincoln County, with a measured altitude of 119 ft at its deepest point. In 2008, the deepest measured altitude was 121 ft. The area in western Chicot and eastern Ashley Counties showed little change in the 2004 potentiometric surface from the 2002 potentiometric surface (Schrader, 2006). From 2004 to 2008, the depth of this area has not increased and is approximately the same area.

A potentiometric area of reduced water level in Greene County noted in 1998 by Joseph (1999), and in 2000 by Schrader (2001), deepened by 2002 (Reed, 2004). This area contracted in 2004 (Schrader, 2006). In 2006, this area had expanded and deepened (Schrader, 2008). In 2008, the water level had risen 6 ft and the area had declined to about a quarter of the area shown in 2006.

Six other depressions are shown in the 2008 potentiometric-surface map, three that were first shown in the 2006 potentiometric surface and two that have not been previously shown. A depression south of the Prairie and White County line is enclosed by a 130-foot contour. In the 2004 potentiometric surface, the 130-foot contour line shows a small lobe extending northeast from the larger depression (Schrader, 2006). In the 2008 potentiometric surface, the 130-foot contour line is approximately oval shaped and separate from the larger, elongated depression in Arkansas, Lonoke, and Prairie Counties. A second depression at the Craighead and Mississippi County line is enclosed by a 220-foot contour. Two small depressions are located in northeastern and central St. Francis County. The northeastern depression is enclosed by a 160-foot contour, first shown on the 2006 map (Schrader, 2008), and the central depression is on the western side of Crowleys Ridge, enclosed by a 150-foot contour, first shown on the 2002 map (Reed, 2004). A depression is located in eastern Randolph County, enclosed by a 260-foot contour, which has not been shown on previous potentiometric-surface maps. In north-central Ashley County a small depression is enclosed by a 100-foot contour that has not been shown on previous potentiometric-surface maps, but additional data from water-level measurements were available in 2008. Three depressions in Desha, Jefferson, and Lee Counties were shown on the 2006 potentiometric surface (Schrader, 2008). The depression in Jefferson County is not shown on the 2008 potentiometric surface. Continued monitoring of the potentiometric surface will determine if these depressions are the result of short-term variations or long-term changes in the hydrologic conditions in the alluvial aquifer.

The regional direction of groundwater flow is generally to the south and east except where flow is affected by groundwater withdrawals; however, the flow direction is affected over substantial areas by depressions (plate 1). West of Crowleys Ridge, depressions in Arkansas, Lonoke, and Prairie Counties capture groundwater flow from all directions. The flow along

large sections of the Arkansas, Mississippi, and White Rivers is away from the rivers. East of Crowleys Ridge water flows from north to south along Crowleys Ridge and northeast to southwest along the Mississippi River. South of the Arkansas River the flow is towards the southeast, except in northwestern Desha County where flow is towards the area of reduced water level.

Water-Level Difference from 2004 to 2008

A map showing the difference in water level (plate 2) was constructed using 595 differences in water levels measured in 585 wells during 2008 (appendix 2) and 2004 (Schrader, 2006). Differences in water level were calculated by subtracting the 2008 depth-to-water measurement from the 2004 depth-to-water measurement. Positive values indicate a rise and negative values indicate a decline in water level. Rises in water level are indicated on plate 2 with blue triangles pointing upward; declines in water level are indicated with red triangles pointing downward. The triangles are scaled to the value of rise or decline.

The difference in measured water levels from 2004 to 2008 ranged from -20.6 ft to 25.9 ft, with a mean of -1.6 ft. The largest decline of -20.6 ft occurred in Randolph County and the largest rise of 25.9 ft occurred in Prairie County. Out of the 596 differences on plate 2, 442 were declines (74.3 percent), 10 were no difference (values of 0.0 ft) (1.7 percent), and 143 were rises (24.0 percent). Five areas are documented by declines that are west of Crowleys Ridge; in eastern Craighead County; in southern Mississippi and Crittenden Counties; in eastern Lonoke and western Prairie Counties; and in Arkansas, Ashley, Chicot, Desha, Drew, and Lincoln Counties.

Six areas are dominated by rises in measured water levels. The largest area is in northern Prairie, White, and western Woodruff Counties adjacent to the White River. Two areas are in Jefferson County and northern Mississippi County. Three small areas with water-level rises are located in western Greene and Randolph Counties, Independence and northwestern Jackson Counties, and eastern Greene County.

Long-Term Water-Level Changes

Long-term water-level changes were evaluated using hydrographs from 173 wells in the alluvial aquifer for the period 1984 to 2008. Linear regression was used to calculate the trend in water-level change for each well for this period. The slope of the trend line represents the mean annual rise or decline in water level during the 25-year period. Negative values denote a decline in water level. The minimum 25-year period is used to show long-term trends not dominated by short-term variations in climate and localized pumping rates on water levels in a single well. The hydrographs were grouped by county. The number of wells, the range of values for the annual rise or decline in water level, the mean, the median, and the correlation coefficient (R2) for each county are listed in table 1. The mean annual rise or decline in water level for the entire study area was -0.38 feet per year (ft/yr) with a range of –4.86 to 0.58 ft/yr. Selected hydrographs are shown in figure 4 (wells A-CC, plate 1).

Long-term water-level changes vary substantially across the study area. Independence and White Counties are the only counties with a mean annual rise from 1984 to 2008. The rise in Independence County is determined from the data of one well. Mean annual declines between -0.50 ft/yr and 0.00 ft/yr occurred in Arkansas, Chicot, Clay, Craighead, Crittenden, Drew, Greene, Jefferson, Mississippi, Monroe, Phillips, Poinsett, Prairie, Pulaski, Randolph, and Woodruff Counties. Mean annual declines between -1.00 ft/yr and -0.50 ft/yr occurred in Ashley, Desha, Jackson, Lee, Lincoln, and St. Francis Counties. Mean annual declines between -1.50 ft/yr and -1.00 ft/yr occurred in Cross and Lonoke Counties.

The analysis of long-term water-level changes (1984-2008) in Arkansas, Lonoke, and Prairie Counties shows the elongation of the depression in these three counties. Arkansas and Prairie Counties have two different rates of annual decline for the two hydrographs shown for each county. In Arkansas County, well 04S03W32BCB1 (fig. 4A) shows a mean annual water-level decline of about 0.95 ft/yr since 1984. Well A is located near the center of the depression in Arkansas County and generally shows a water-level decline during the 70-year period of record. Well 07S04W01DDD1 (fig. 4B) has a mean annual water-level rise of about 0.07 ft/yr since 1984. Well B is located near the Arkansas River and shows a relatively stable water level for the 79-year period. The water level in the Arkansas River is maintained by a lock and dam system and can be a source of water for the alluvial aquifer in southern and western Arkansas County. In Prairie County, well 02N04W32CCB1 (fig. 4X) is near the depression and the White River. This well has a mean annual water-level decline of about 0.37 ft/yr since 1984. Well 04N05W07CDC1 (fig. 4W) is located in the central part of Prairie County and has a mean annual decline of about 0.66 ft/yr since 1984. These two hydrographs show that the rate of decline in the northern part of the depression is nearly twice the rate of decline near the White River. Well 02S07W10CCB1 (fig. 4Q), near the western edge of the depression in Lonoke County, shows a mean annual water-level decline of about 0.88 ft/yr since 1984 and shows a nearly continuous water-level decline during the 51 years of record. In Arkansas, Lonoke, and Prairie Counties, water levels in the two wells near the Arkansas and White Rivers have risen or declined at a slower rate than in the three wells in the center, northern, and western part of the depression. These rates of water-level change indicate that this depression has expanded in an elongated direction north and west into Lonoke and Prairie Counties from 1984 to 2008. Water-level declines in neighboring counties are further evidence of the expansion of the depression centered in Arkansas, Lonoke, and Prairie Counties. In Jefferson County, well 03S08W24BBC1 (fig. 4N) has a mean annual water-level decline of about 0.69 ft/yr during the period 1984 to 2008. Long-term declines in this outlying well indicates that the depression is expanding.

The depression west of Crowleys Ridge has six wells with hydrographs in or near the depression that can be used to characterize the rates of water-level change within the depression. Wells 07N01E05CDA1 (fig. 4H) in Cross County, 03N01W20ABA1 (fig. 4S) in Monroe County, 11N02E26AAB1 (fig. 4U) in Poinsett County, and 04N01W28CDD1 (fig. 4AA) in St. Francis County are in the depression and have mean annual declines of about 0.99 ft/yr, 0.69 ft/yr, 1.28 ft/yr, and 0.66 ft/yr, respectively, since 1984. For the period of record, well H in Cross County, since 1946, and well U in Poinsett County, since 1958, have the largest declines in the alluvial aquifer, about 51.5 ft and 58.6 ft, respectively. Wells 14N02E18BDD1 (fig. 4F) in Craighead County and 02N01E23BAA2 (fig. 4O) in Lee County near the edge of the depression have mean annual water-level declines of about 0.99 ft/yr and 0.55 ft/yr, respectively, since 1984.

Table 1. Range, mean, median, and correlation coefficient of annual rise-decline in water level by county for wells in the Mississippi River Valley alluvial aquifer, 1984–2008.

[Annual rise or decline in water level for each well is calculated using linear regression; negative value indicates decline; positive value indicates rise. R^2 is correlation coefficient]

County	Number of wells	Range of annual rise-decline in water level (feet/year)	Mean annual rise-decline in water level (feet/year)	Median annual rise-decline in water level (feet/year)	Range of R^2 values for regression line
Arkansas	30	-0.95 to 0.58	-0.19	-0.24	0.01 to 1.00
Ashley	10	-4.86 to 0.11	-0.69	-0.29	0.01 to 0.77
Chicot	7	-1.06 to 0.00	-0.39	-0.37	0.00 to 0.89
Clay	7	-0.99 to 0.00	-0.37	-0.37	0.00 to 0.97
Craighead	6	-0.99 to 0.00	-0.41	-0.27	0.00 to 0.95
Crittenden	5	-0.69 to -0.18	-0.41	-0.37	0.40 to 0.95
Cross	7	-3.18 to -0.26	-1.15	-1.06	0.25 to 0.98
Desha	6	-1.13 to -0.11	-0.69	-0.75	0.37 to 0.97
Drew	4	-0.37 to -0.18	-0.30	-0.33	0.72 to 0.81
Greene	4	-0.80 to -0.15	-0.48	-0.49	0.20 to 0.88
Independence	1	0.18	0.18	0.18	0.06
Jackson	5	-0.91 to -0.37	-0.72	-0.77	0.86 to 0.98
Jefferson	7	-0.69 to 0.00	-0.31	-0.26	0.00 to 0.93
Lee	5	-0.69 to -0.37	-0.58	-0.62	0.43 to 0.95
Lincoln	4	-1.02 to -0.44	-0.77	-0.80	0.80 to 0.92
Lonoke	8	-2.74 to -0.47	-1.21	-0.93	0.41 to 0.98
Mississippi	8	-0.33 to 0.02	-0.09	-0.07	0.00 to 0.68
Monroe	9	-0.69 to -0.04	-0.34	-0.33	0.07 to 0.94
Phillips	3	-0.33 to -0.04	-0.22	-0.29	0.04 to 0.80
Poinsett	5	-1.28 to 0.11	-0.38	-0.18	0.15 to 0.95
Prairie	11	-0.95 to 0.22	-0.38	-0.33	0.02 to 0.94
Pulaski	1	-0.29	-0.29	-0.29	0.45
Randolph	2	-0.26 to -0.07	-0.16	-0.16	0.02 to 0.78
St Francis	7	-0.95 to -0.03	-0.58	-0.69	0.10 to 0.98
White	6	-0.37 to 0.26	0.11	0.18	0.26 to 0.62
Woodruff	5	-0.66 to 0.01	-0.19	-0.15	0.03 to 0.90

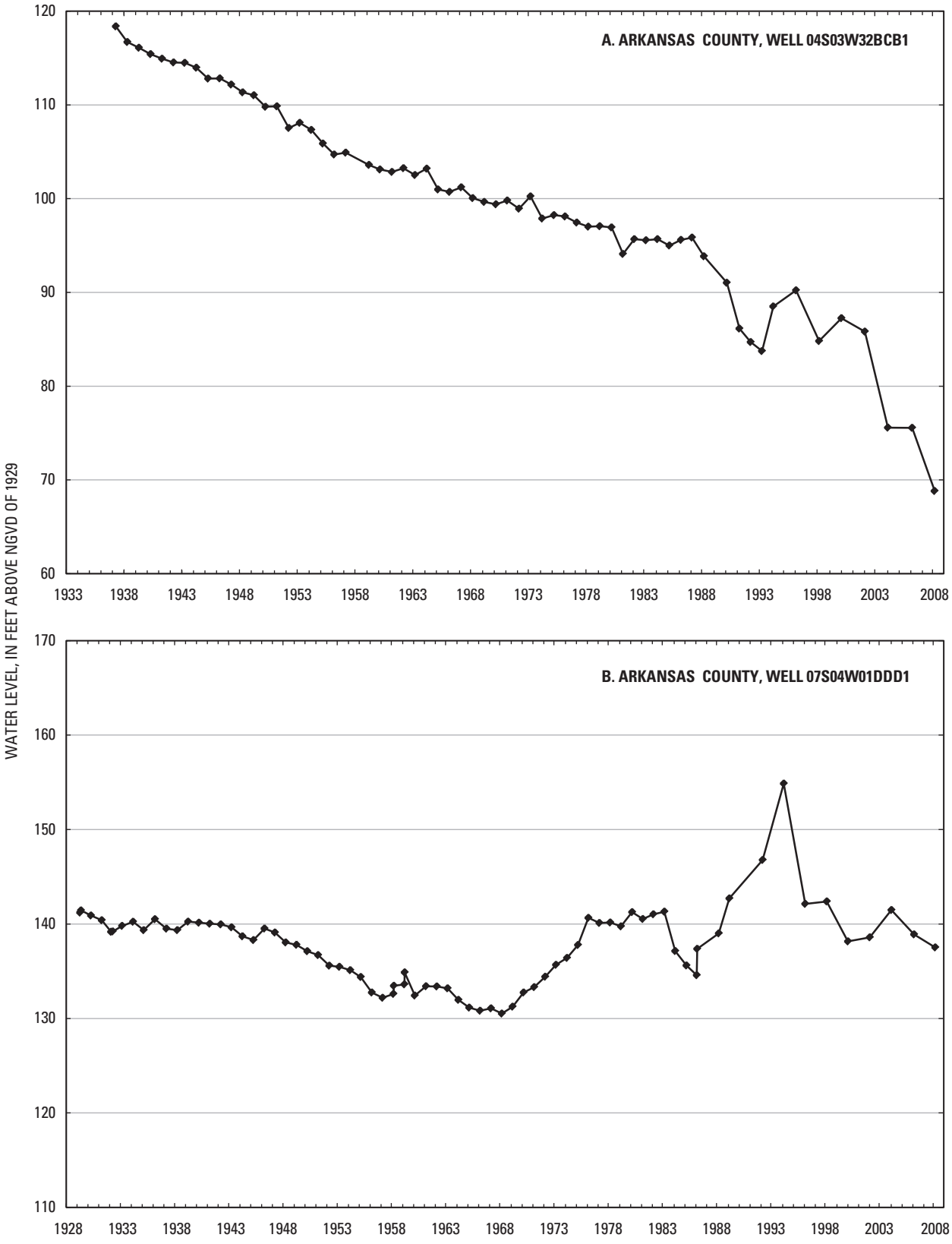


Figure 4. Water-level hydrographs (A to CC) for selected wells in the Mississippi River Valley alluvial aquifer.

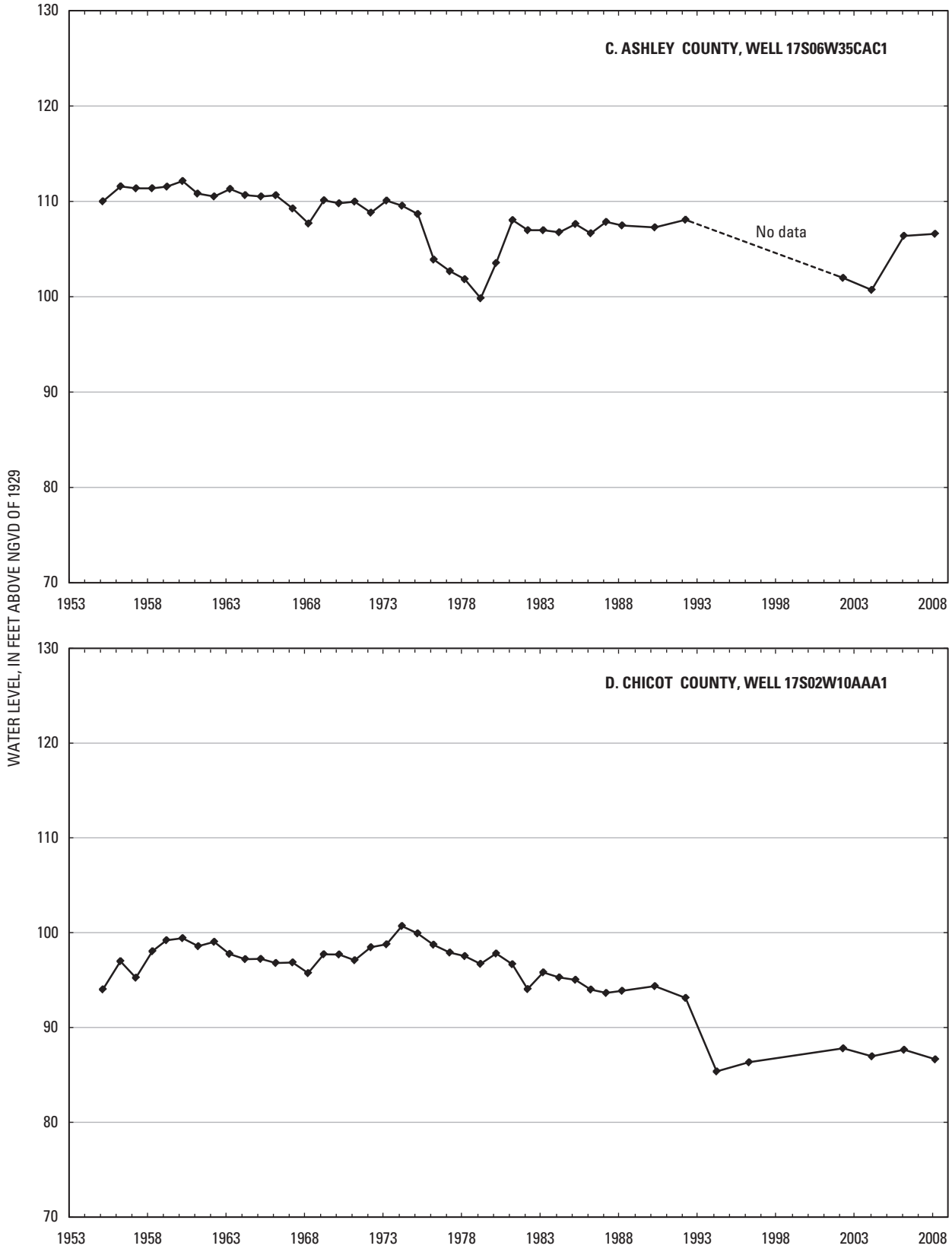
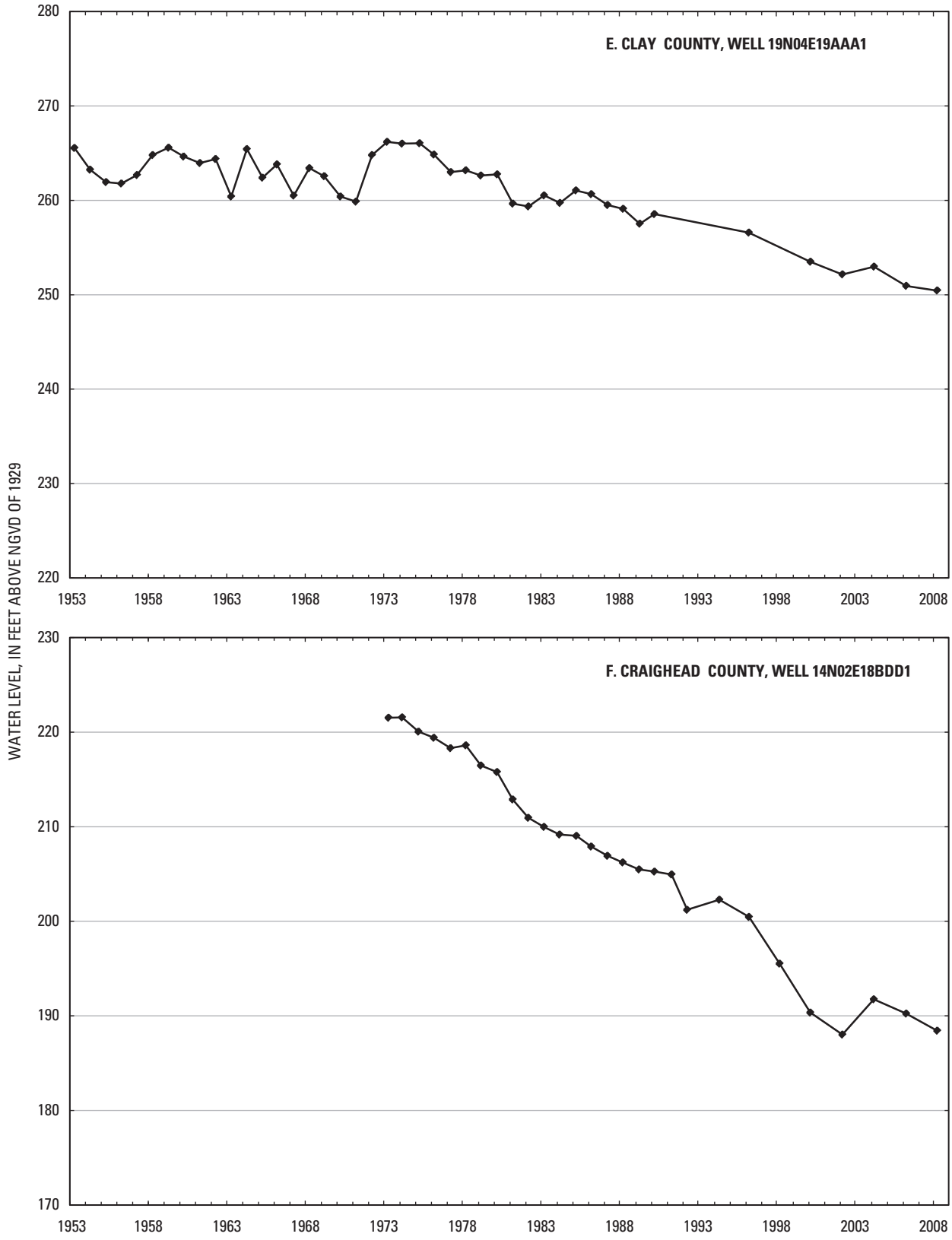


Figure 4. Water-level hydrographs (A to CC) for selected wells in the Mississippi River Valley alluvial aquifer.—Continued



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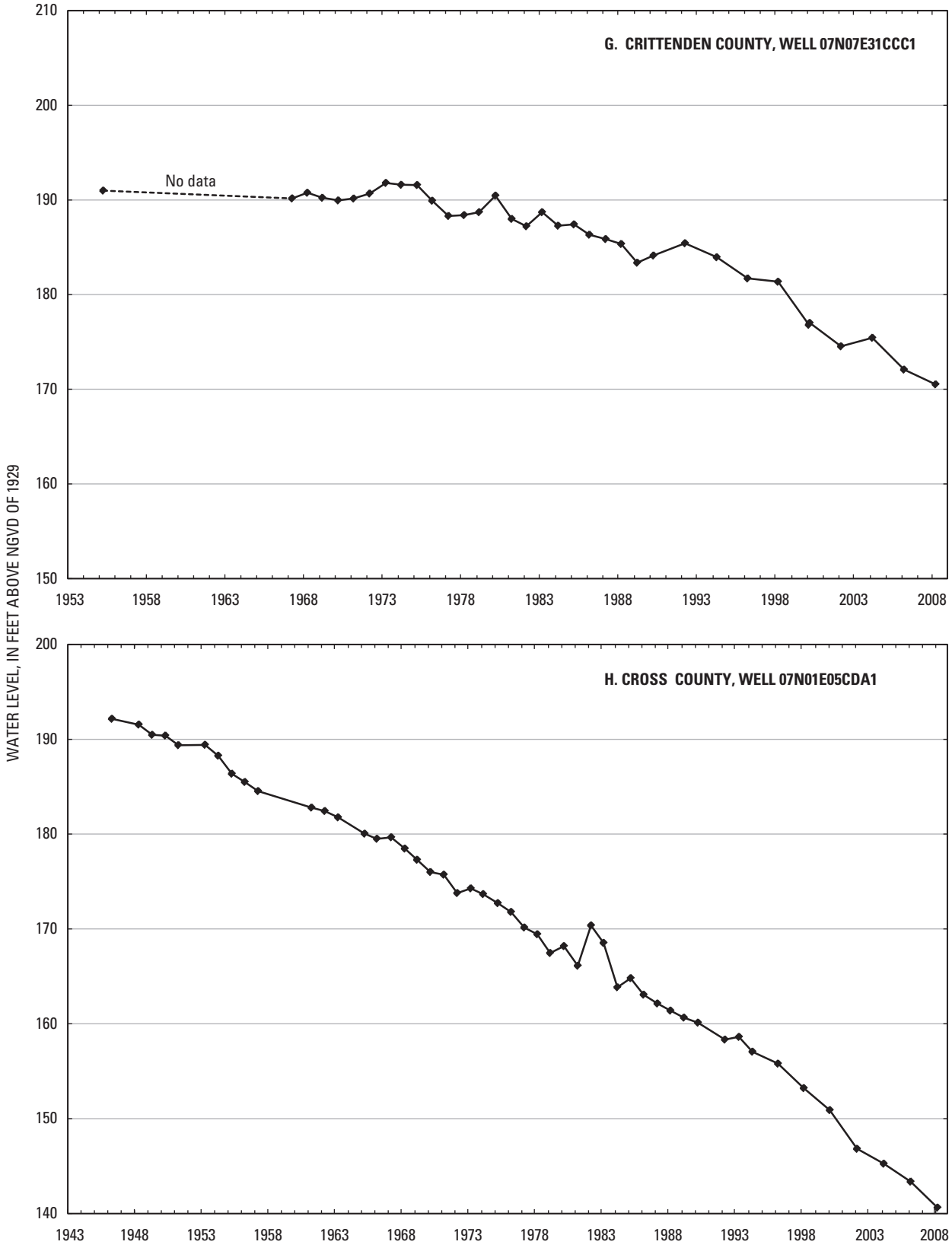

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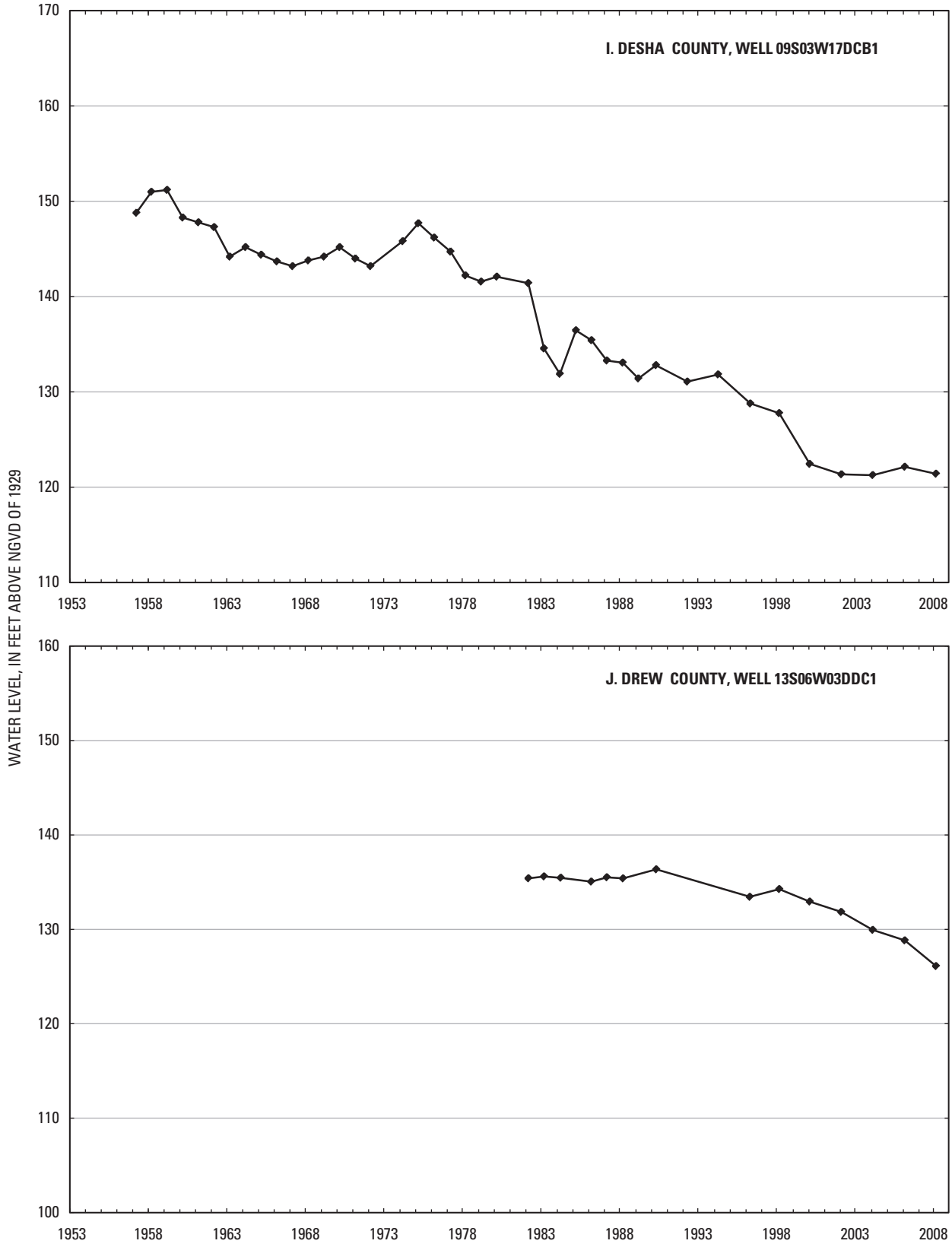

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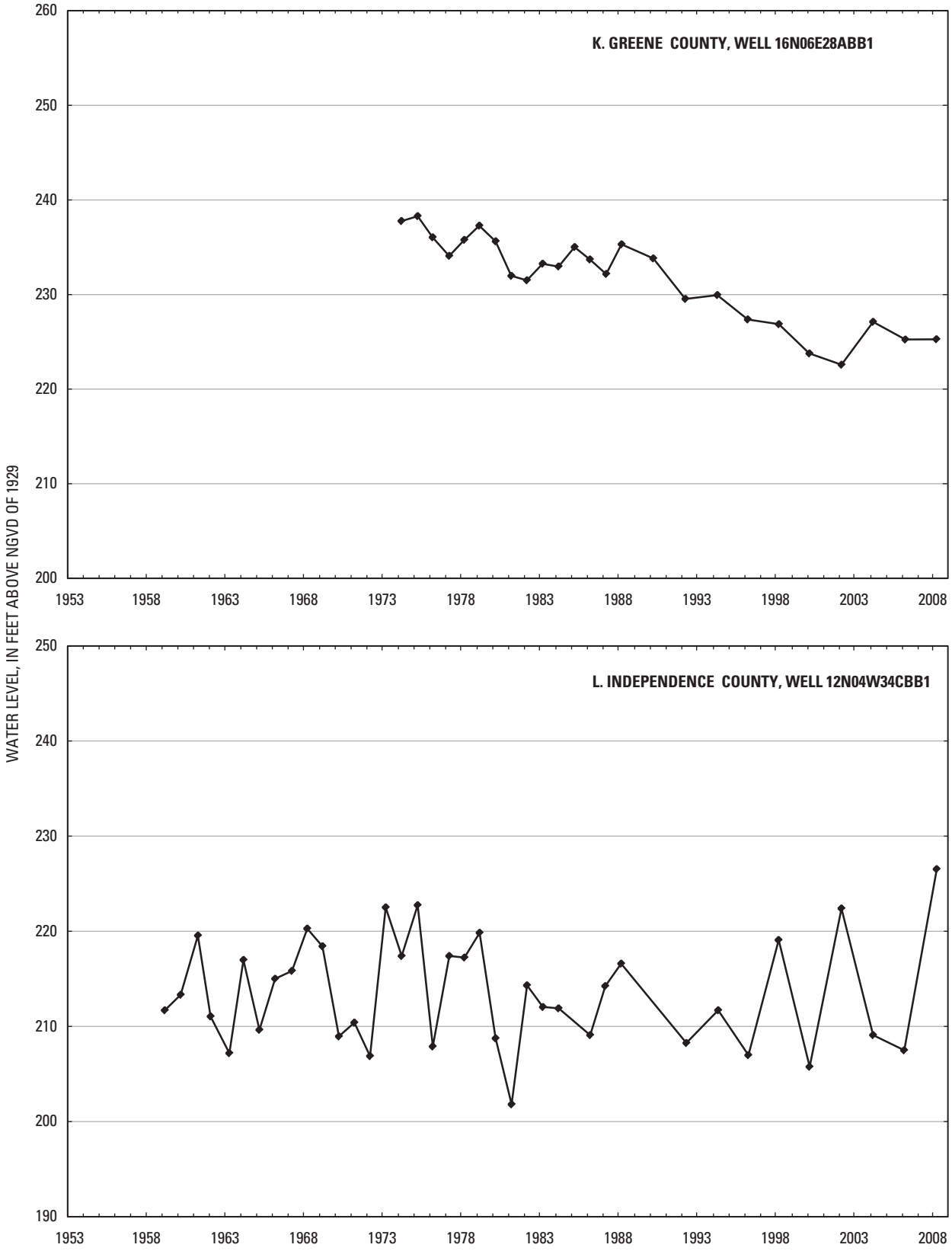

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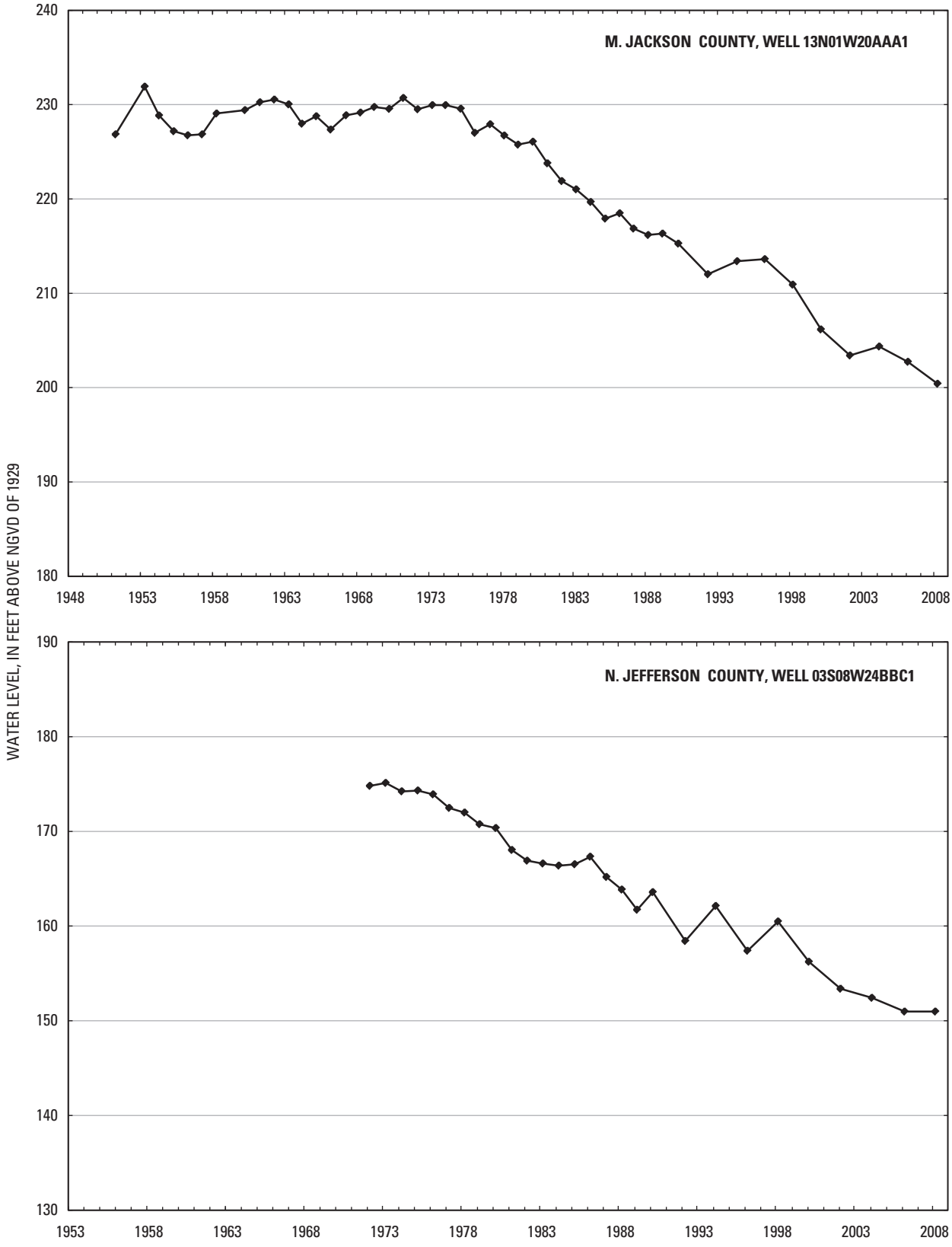


Figure 4. Water-level hydrographs (A to CC) for selected wells in the Mississippi River Valley alluvial aquifer.—Continued

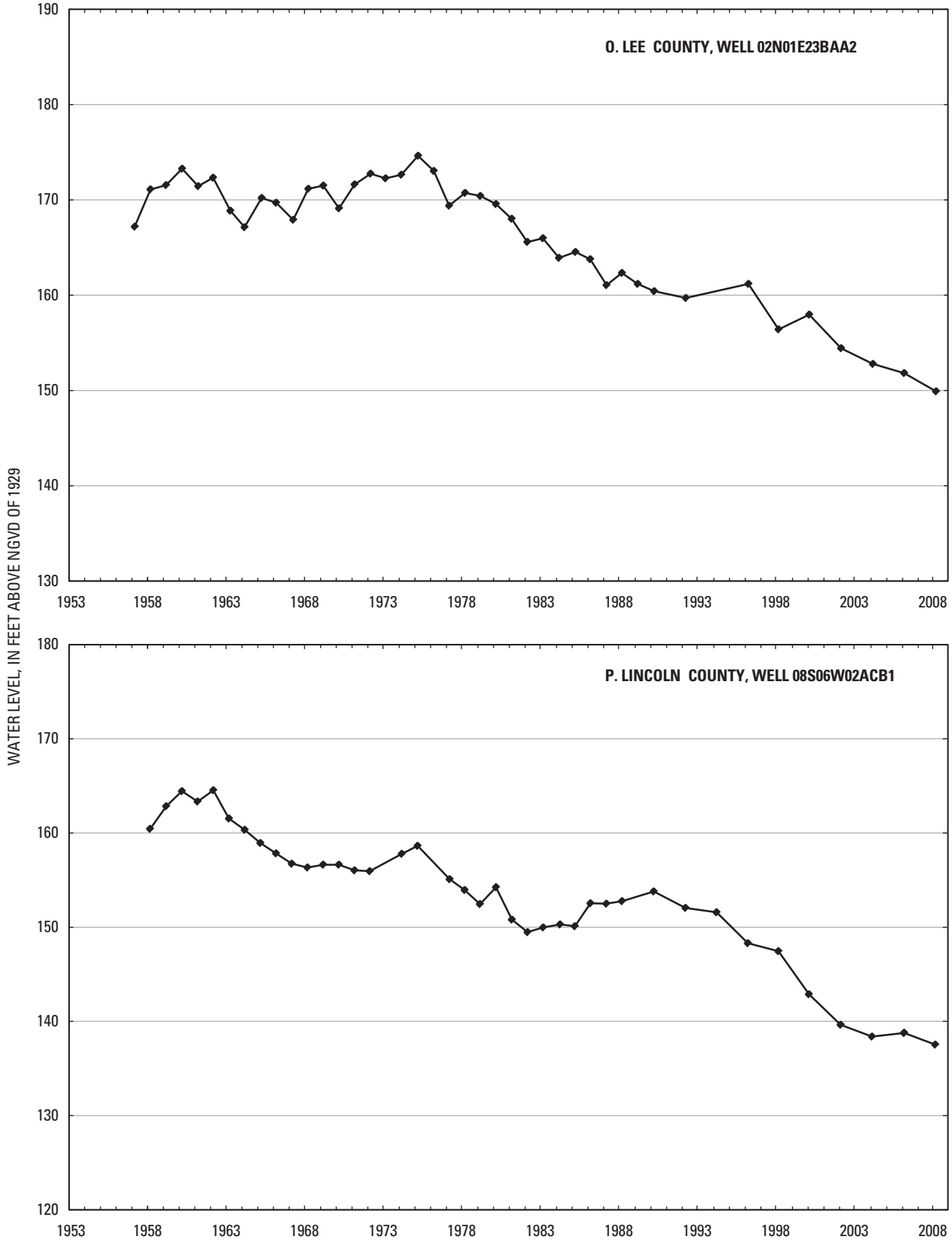
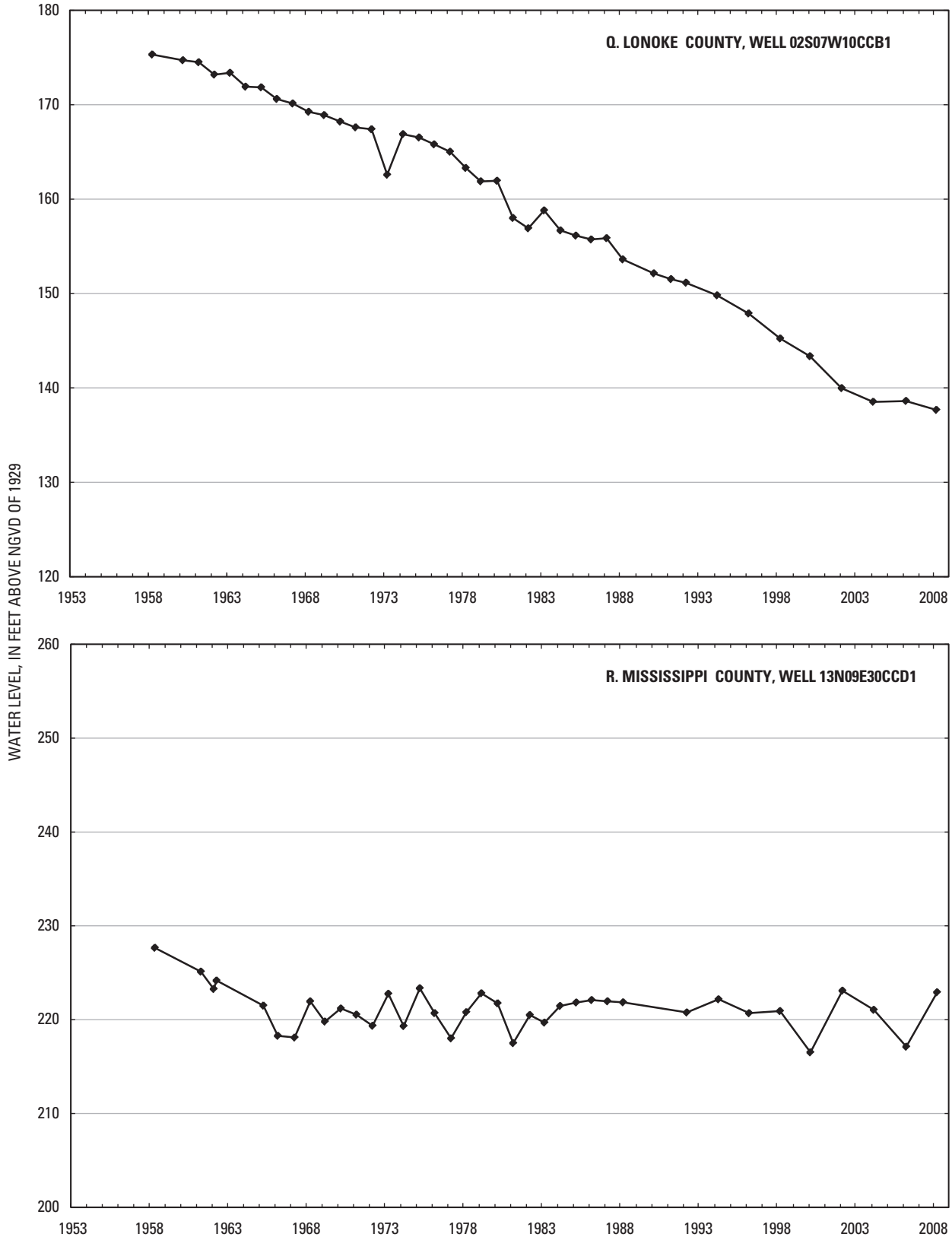


Figure 4. Water-level hydrographs (A to CC) for selected wells in the Mississippi River Valley alluvial aquifer.—Continued



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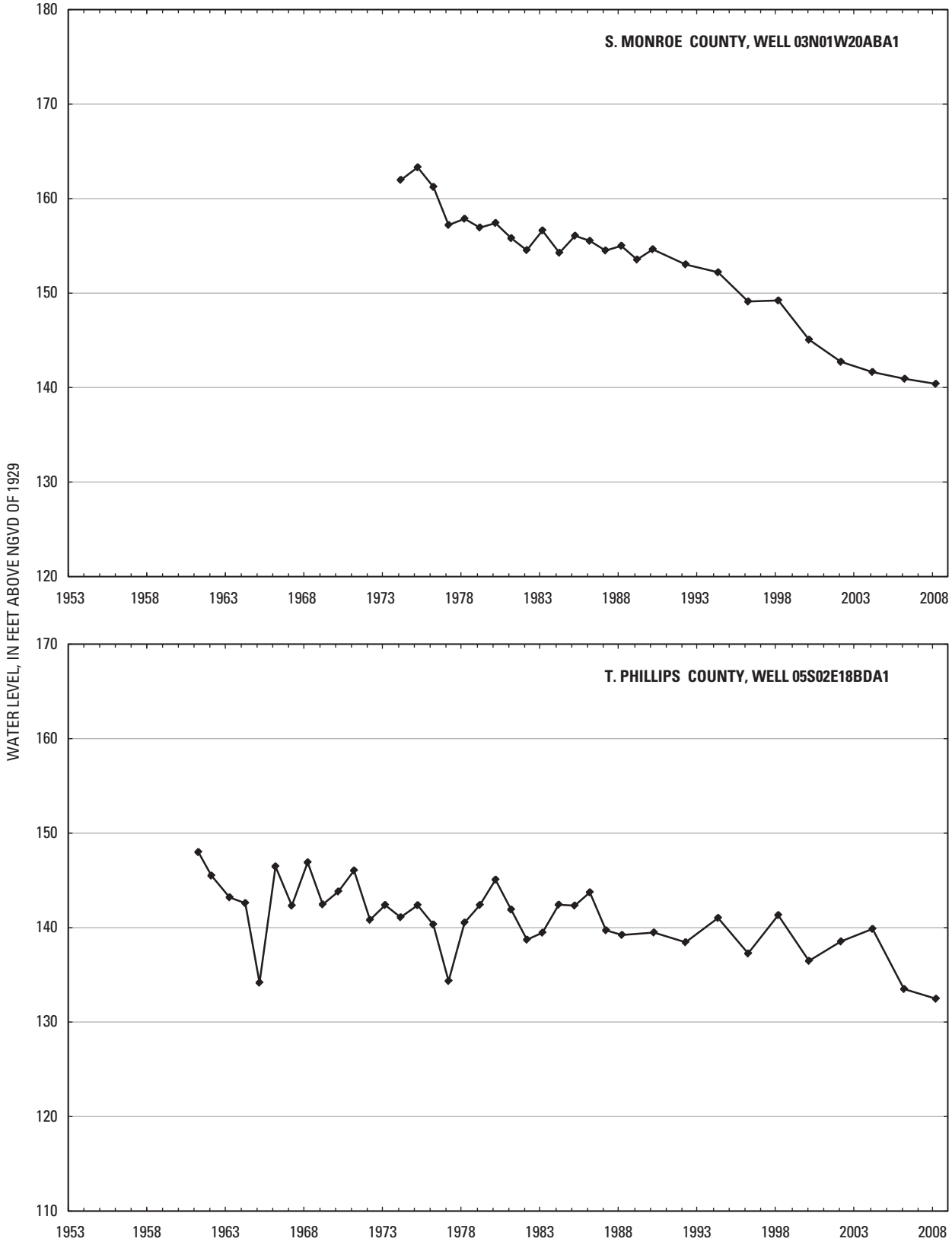
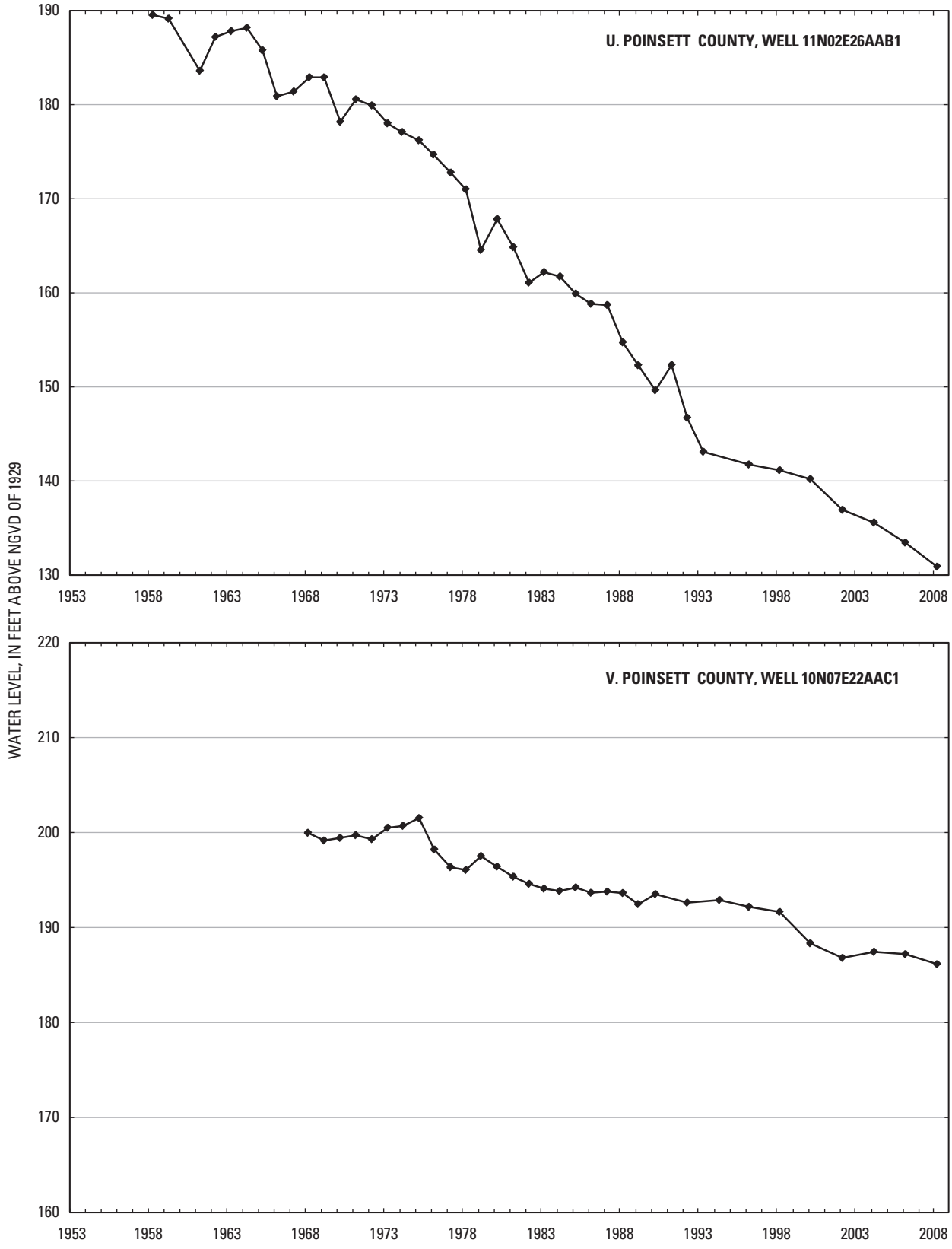


Figure 4. Water-level hydrographs (A to CC) for selected wells in the Mississippi River Valley alluvial aquifer.—Continued



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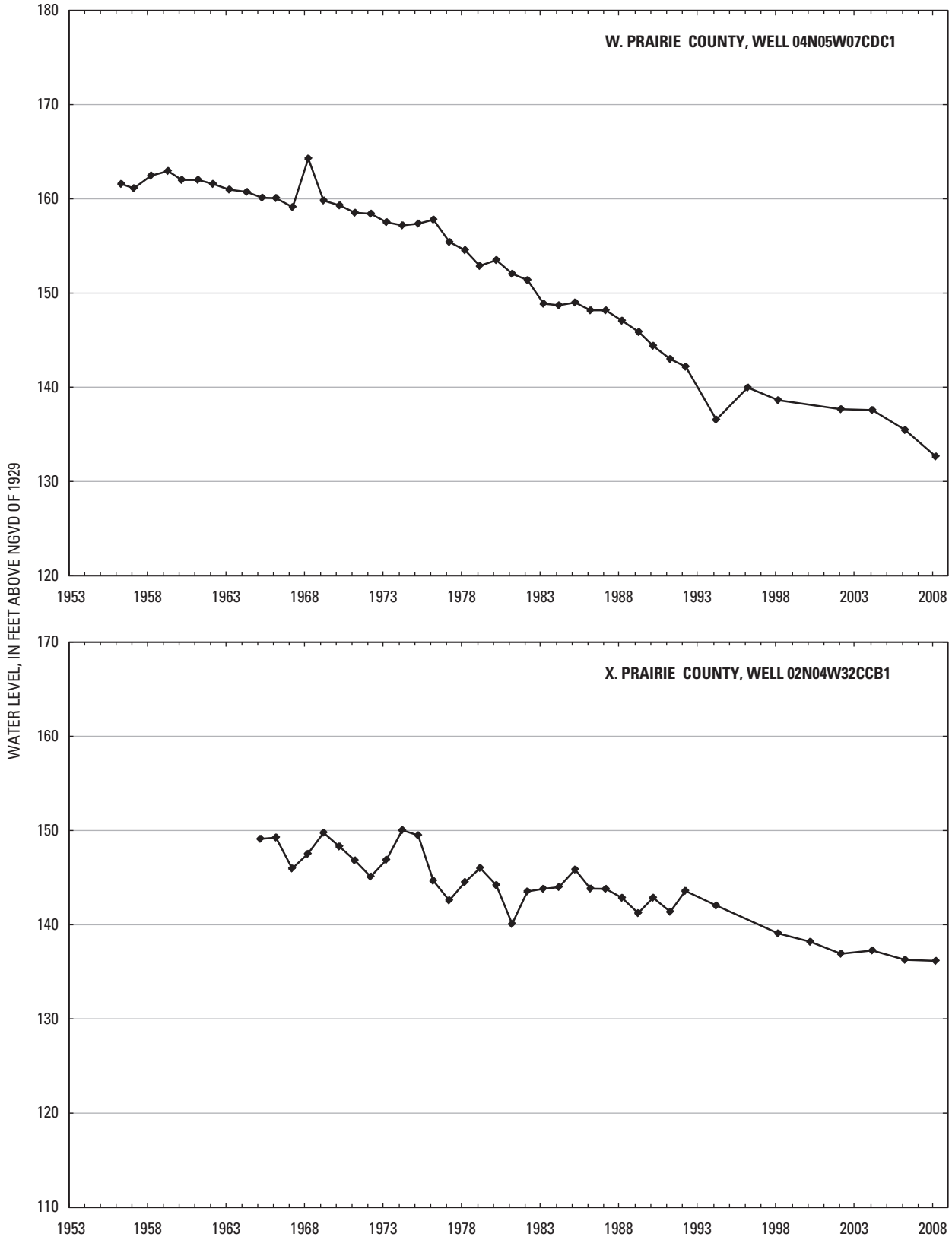

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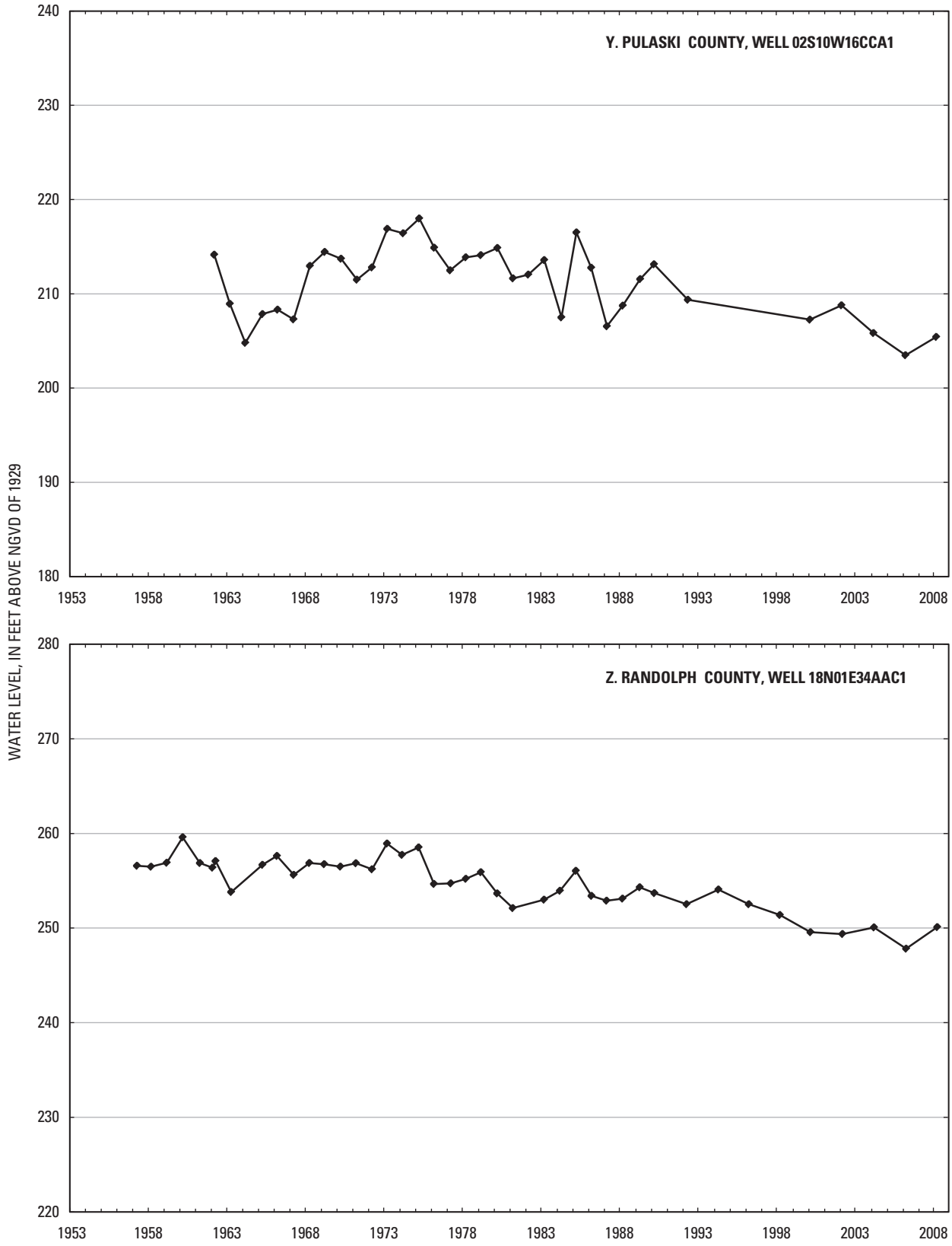
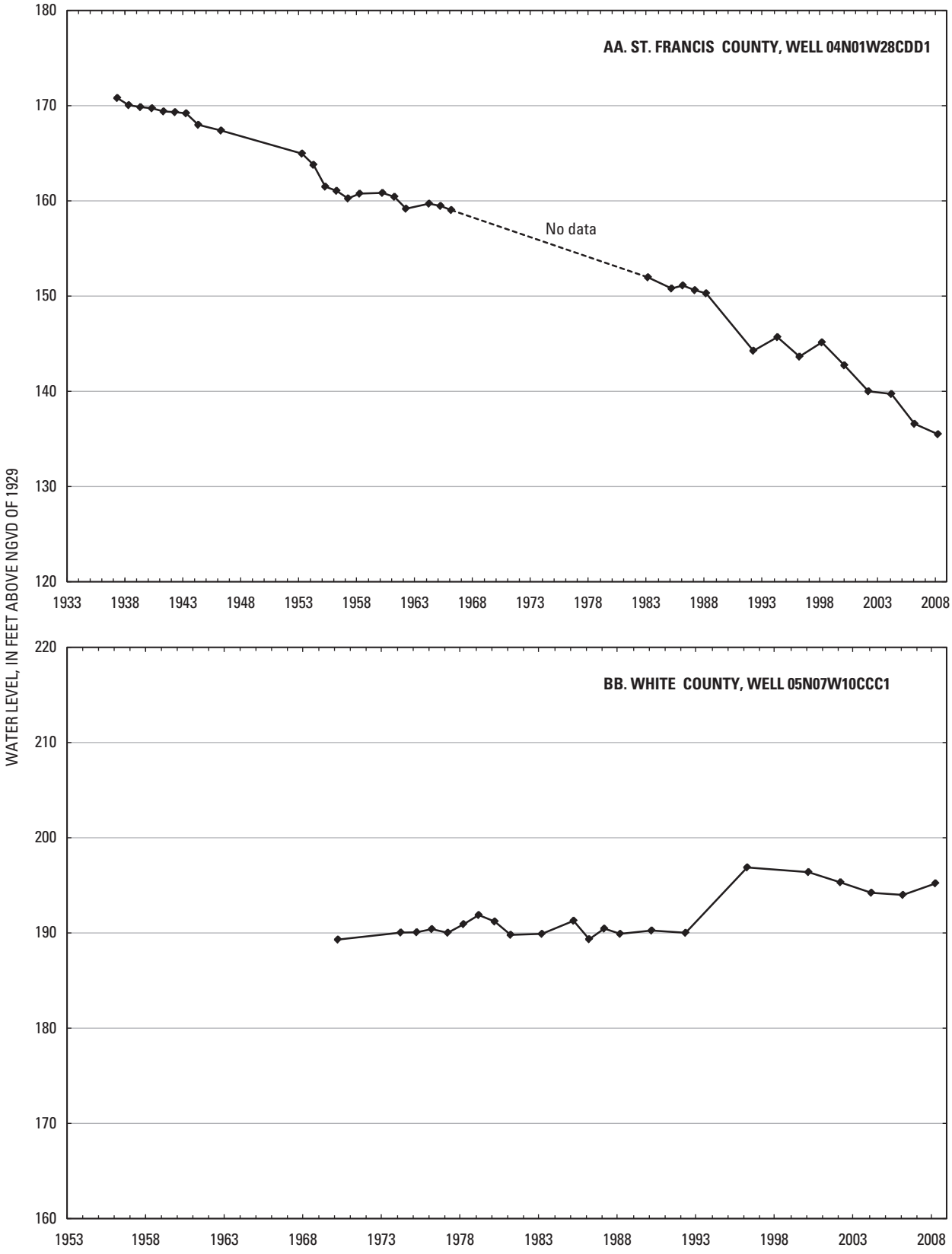


Figure 4. Water-level hydrographs (A to CC) for selected wells in the Mississippi River Valley alluvial aquifer.—Continued



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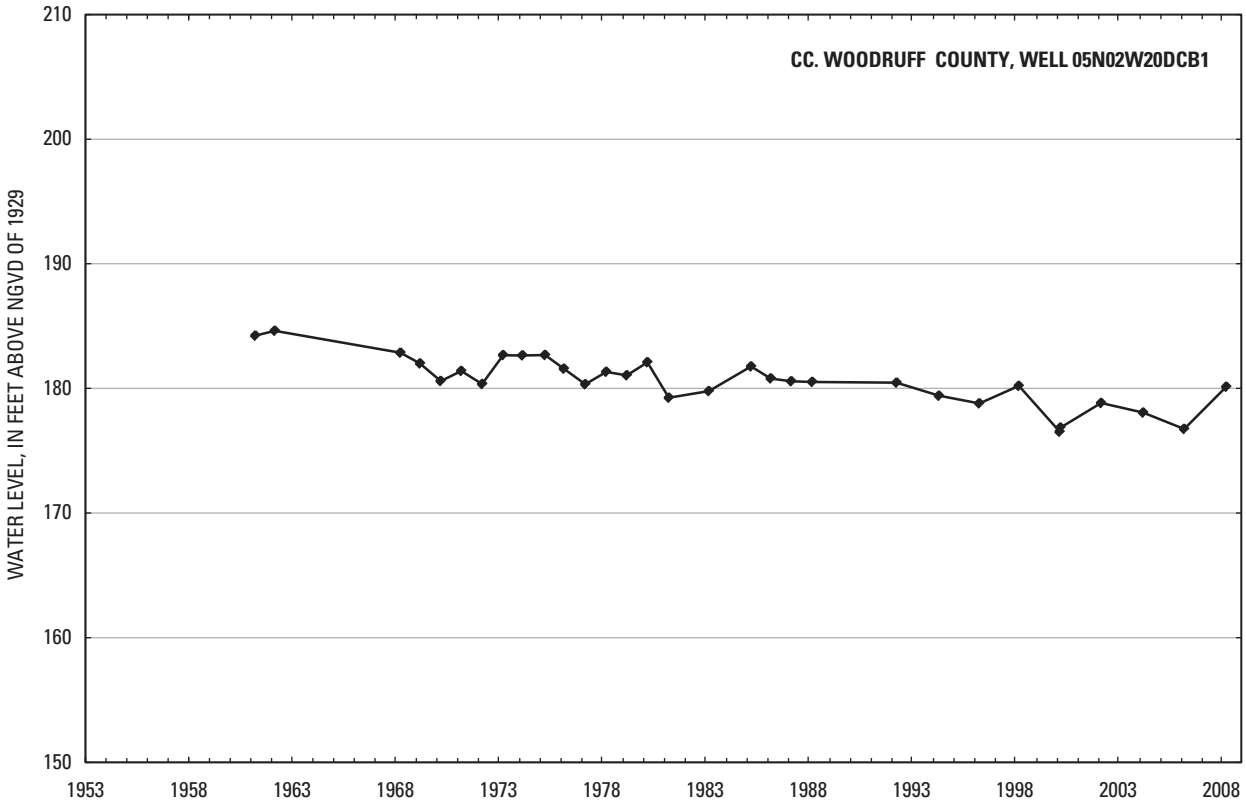

Figure 4. Water-level hydrographs (A to CC) for selected wells in the Mississippi River Valley alluvial aquifer.—Continued

Water-Quality Conditions

Water samples were collected from 60 wells completed in the alluvial aquifer and measured onsite for specific conductance and temperature (appendix 3). Specific conductance ranged from 111 microsiemens per centimeter at 25 degrees Celsius (µS/cm) at a well in Lincoln County to 2,020 µS/cm at a well in Desha County (appendix 3). The majority of the values are in the 401-600, 601-800, and 801-1,000 µS/cm ranges (fig. 5). Specific conductance values equaled or exceeded 1,000 µS/cm in Arkansas, Chicot, Cross, Desha, Greene, and Lincoln Counties. Other values in Chicot County are as low as 393 µS/cm, in Desha County as low as 725 µS/cm, and in Lincoln County as low as 111 µS/cm. Chicot, Desha and Lincoln Counties have a wide range of specific conductance values.

Generally, the occurrences of higher specific conductance in the alluvial aquifer are associated with the movement of water containing high concentrations of dissolved solids from sources at depth (Bryant and others, 1985). Water with higher concentrations of dissolved solids may have moved upward where the confining units are thin or absent, along faults, or through unplugged or deteriorated casings of abandoned oil and gas test wells (Fitzpatrick, 1985). Morris and Bush (1986) cite two possible sources of high dissolved-solids concentrations—a zone of groundwater stagnation present in the alluvial aquifer caused by localized restricted horizontal or vertical flow, and upward movement of water with higher dissolved-solids concentration from deeper formations in response to pumping. The variability in specific conductance in Desha and Lincoln Counties is explained by the local geomorphology. Channel deposits have high recharge and permeability, resulting in lower specific conductance. Backswamp deposits have low recharge and permeability and higher evapotranspiration, resulting in higher specific conductance. The high specific conductance in Chicot County is explained by the upward migration of higher specific conductance water through the intersection of two faults (Kresse and Clark, 2008). The high specific conductance water is limited to a specific area, with lower specific conductance water in the rest of the county.

The histograms of specific conductance data for 2008 and 2006 are similarly shaped (figs. 5 and 6, respectively). The largest category for both years is the 401-600 µS/cm range. The number of values decreases by 5 for the 601-800 µS/cm range in 2008. Both histograms have a right skew. The number of samples collected in 2006 is 65, 5 more than in 2008. Six wells sampled in 2008, 10 percent, were from the wells sampled in 2006. The mean specific conductance for both years was 393 µS/cm. The similarity in distribution shape, largest category, and mean from two different well sets indicate a minimal change in water quality from 2006 to 2008.

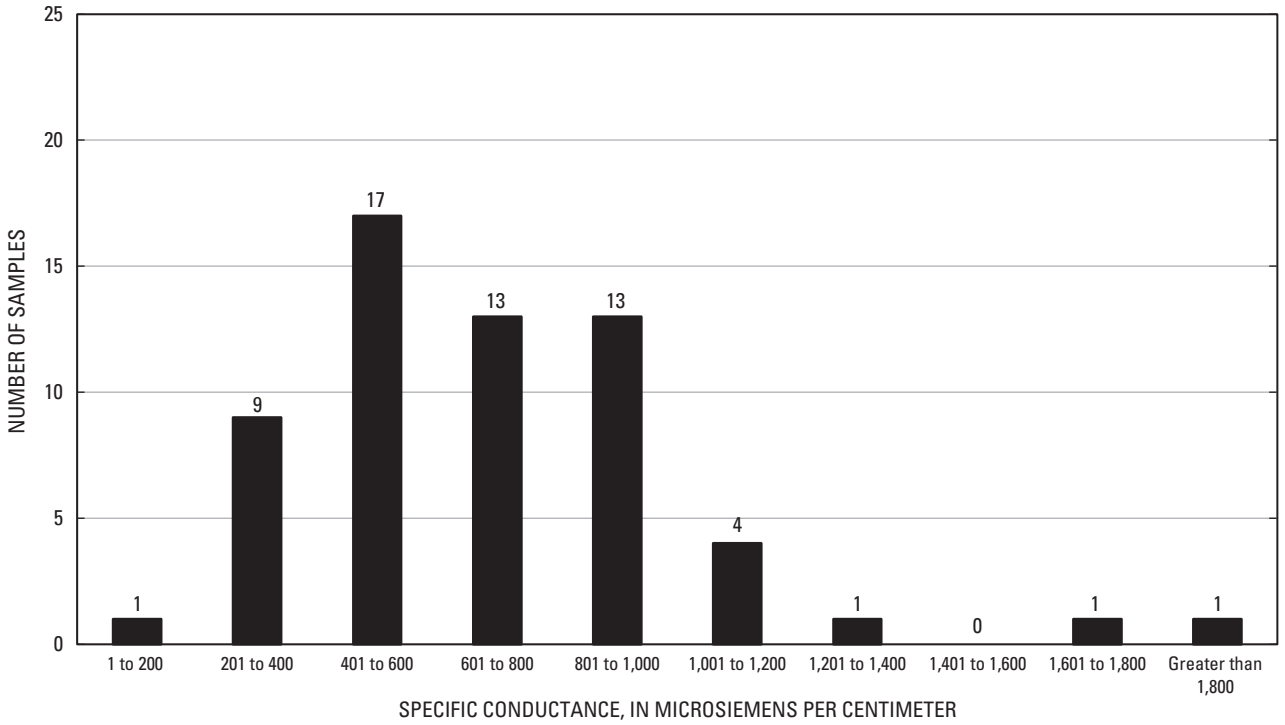

Figure 5. Distribution of specific conductance in samples from the Mississippi River Valley alluvial aquifer in 2008.

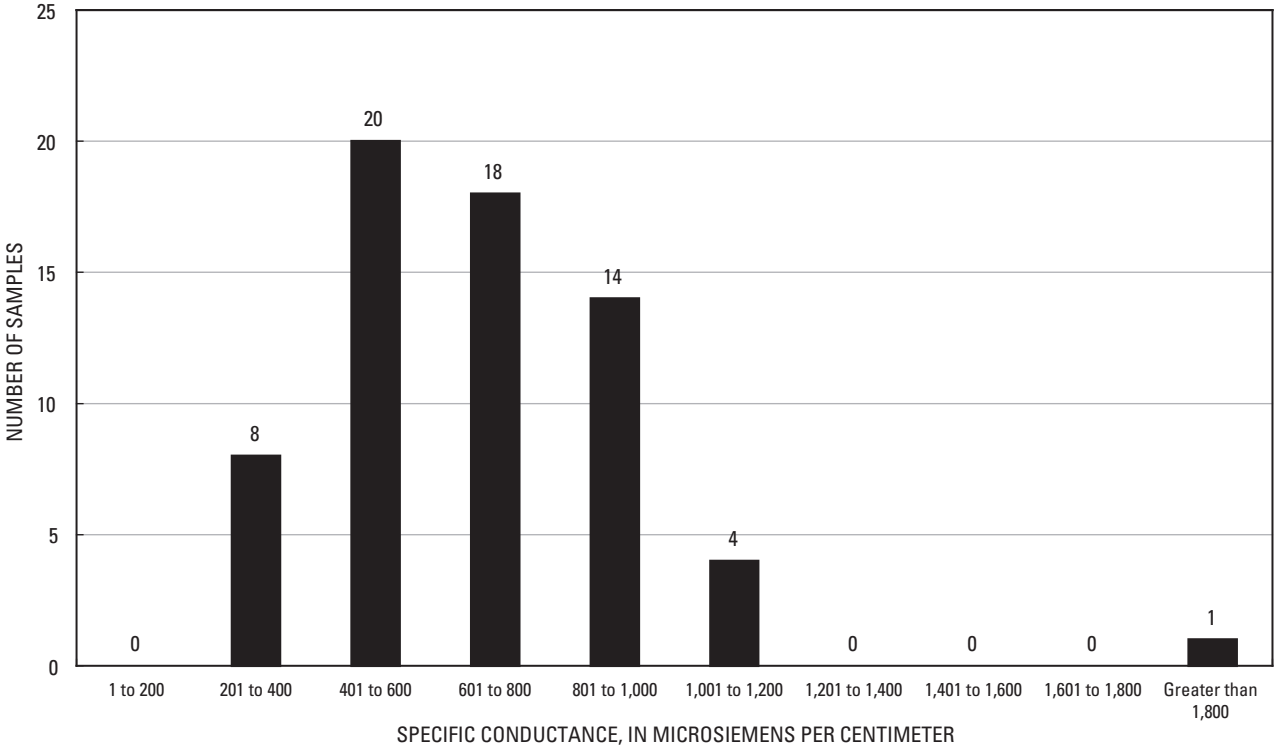

Figure 6. Distribution of specific conductance in samples from the Mississippi River Valley alluvial aquifer in 2006.

Summary

The Mississippi River Valley alluvial aquifer is increasingly relied upon for agriculture and aquaculture in eastern Arkansas. Since 1965 withdrawals from the alluvial aquifer have increased from about 1,063 million gallons per day to about 7,252 million gallons per day in 2005, an increase of about 582 percent. Withdrawals have more than doubled in the last 20 years, about a 105 percent increase since 1985.

Groundwater levels are affected by groundwater withdrawals within the study area, often resulting in depressions. In 2008, the lowest water-level altitude was 69 ft in the center of Arkansas County. The highest water-level altitude was 288 ft in northeastern Clay County on the western side of Crowleys Ridge. Two large depressions in the potentiometric surface are located in Arkansas, Lonoke, and Prairie Counties and west of Crowleys Ridge in Craighead, Cross, Lee, Monroe, Poinsett, St. Francis, and Woodruff Counties. The elongated depression in Arkansas, Lonoke, and Prairie Counties has two areas that have changed in horizontal area or depth when compared to previous conditions of the aquifer. The area in Arkansas County within the southeastern half of the depression has not expanded horizontally during recent years, although the center of the depression has deepened. The Arkansas and White Rivers that bound Arkansas County on the southwestern and eastern county lines are hydrologically connected and provide recharge to the alluvial aquifer. The area in Lonoke and Prairie Counties in the northwestern half of the depression has not expanded, and water level in the deeper part of the depression has risen. The 90-foot contour shown in the 2006 potentiometric surface is not shown on the 2008 potentiometric-surface map. Along the western side of Crowleys Ridge, the area enclosed by a 140-foot contour in Cross and Poinsett Counties has expanded further south into Cross County. The 130-foot contour in St. Francis, Monroe, and Woodruff Counties in 2006 is not shown in the 2008 potentiometric-surface map. A 130-foot contour in Poinsett County has expanded north in 2008. A 130-foot contour is shown in Cross County that was not evident in previous years.

Three other areas of reduced water level were identified in previous work in southeastern Arkansas—one in eastern Lincoln County, a second that extends from southern Desha County into northern Chicot County, and a third that extends from western Chicot County into eastern Ashley County. The area with reduced water levels in western Chicot and eastern Ashley Counties is about the same size in 2008 and 2006. The water levels in this area do not have a trend, where some water levels have risen and some have declined 1 to 2 ft since 2006. From 2004 to 2008, in western Chicot and eastern Ashley Counties the depth of this area has not increased and is approximately the same area. The area in eastern Lincoln County expanded into northwestern Desha County and continued to deepen through 2004 with an altitude of 118 ft at its deepest point. In 2006, this area expanded westward in Lincoln County.

Six depressions are shown in the 2008 potentiometric-surface map, three that were first shown in the 2006 potentiometric surface and two that have not been previously shown. A depression at the Prairie and White County line, a second depression at the Craighead and Mississippi County line, and a small depression in northeastern St. Francis County were first shown on the 2006 potentiometric-surface map. A depression in central St. Francis County on the western side of Crowleys Ridge was first shown on the 2002 potentiometric-surface map. A depression in eastern Randolph County and a depression in north-central Ashley County have not been shown on previous potentiometric-surface maps. A depression in Jefferson County was shown on the 2006 potentiometric-surface map but is not shown on the 2008 potentiometric-surface map.

The regional direction of groundwater flow is generally to the south and east except where flow is affected by groundwater withdrawals; however, the flow direction is affected over substantial areas by depressions. West of Crowleys Ridge, depressions in Arkansas, Lonoke, and Prairie Counties capture ground-water flow from all directions. The flow along large sections of the Arkansas, Mississippi, and White Rivers is away from the rivers. East of Crowleys Ridge water flows from north to south along Crowleys Ridge and northeast to southwest along the Mississippi River. South of the Arkansas River the flow is towards the southeast, except in northwestern Desha County where flow is towards the area of reduced water level.

A map showing the difference in water level was constructed using 595 differences in water levels measured in 585 wells during 2008 and 2004. The difference in measured water levels from 2004 to 2008 ranged from -20.6 ft to 25.9 ft, with a mean of -1.6 ft. The largest decline of -20.6 ft occurred in Randolph County and the largest rise of 25.9 ft occurred in Prairie County. Out of the 595 differences, 442 were declines (74.3 percent), 10 were no difference (values of 0.0 ft) (1.7 percent), and 143 were rises (24.0 percent). Five areas are dominated by declines that are west of Crowleys Ridge; in eastern Craighead County; in southern Mississippi and Crittenden Counties; in eastern Lonoke and western Prairie Counties; and in Arkansas, Ashley, Chicot, Desha, Drew, and Lincoln Counties. Six areas are dominated by rises in measured water levels; in northern Prairie, White, and western Woodruff Counties adjacent to the White River, in Jefferson County, in northern Mississippi County, in western Greene and Randolph Counties, Independence and northwestern Jackson Counties, and eastern Greene County.

Long-term water-level changes were evaluated using hydrographs from 173 wells in the alluvial aquifer for the period 1984 to 2008. The mean annual rise or decline in water level for the entire study area was -0.38 feet per year (ft/yr) with a range of –4.86 to 0.58 ft/yr. Long-term water-level changes vary substantially across the study area. Independence and White Counties are the only counties with a mean annual rise from 1984 to 2008. The rise in Independence County is determined from the data of one well. Mean annual declines between -0.50 ft/yr and 0.00 ft/yr occurred in Arkansas,

Chicot, Clay, Craighead, Crittenden, Drew, Greene, Jefferson, Mississippi, Monroe, Phillips, Poinsett, Prairie, Pulaski, Randolph, and Woodruff Counties. Mean annual declines between -1.00 ft/yr and -0.50 ft/yr occurred in Ashley, Desha, Jackson, Lee, Lincoln, and St. Francis Counties. Mean annual declines between -1.50 ft/yr and -1.00 ft/yr occurred in Cross and Lonoke Counties.

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Appendixes 1-3

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; --, no data; NGVD of 1929, National Geodetic Vertical Datum of 1929; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Arkansas County								
02S04W11DBB1	343233	912415	USGS	152	213.04	100.74	112	03/24/2008
02S05W15AAB1	343213	913127	USGS	180	213	107.38	106	03/24/2008
02S05W31BBB1	342937	913536	USGS	90	198	41.24	157	03/24/2008
03S02W27ABB1	342448	911251	USGS	87	197	65.92	131	03/25/2008
03S03W05CCD1	342737	912132	ANRC	150	201	99.78	101	03/24/2008
03S03W27BBC1	342455	911944	ANRC	120	195	93.04	102	03/24/2008
03S04W02BBB1	342831	912454	USGS	116	197.63	93.22	104	03/24/2008
03S04W03DCA16	342753	912515	USGS	126	205	101.14	104	05/12/2008
03S04W03DCA6	342753	912517	USGS	122.3	204	100.63	103	03/24/2008
03S04W03DDA1	342750	912460	USGS	127	202	100.94	101	03/24/2008
03S05W03CCC1	342752	913227	USGS	110	215	104.42	111	03/20/2008
03S06W35ADD1	342411	913652	USGS	--	190	54.81	135	03/21/2008
04S01W04ACD2	342233	910733	USGS	52.4	155	4.05	151	03/25/2008
04S01W31DCB1	341753	910949	ANRC	130	179	52.42	127	03/25/2008
04S02W11AAA1	342209	911123	USGS	--	195.08	67.81	127	03/25/2008
04S02W29CCC1	341846	911539	USGS	140	191	83.92	107	03/25/2008
04S03W17ADD1	342102	912058	USGS	--	200	109.98	90	03/24/2008
04S03W32BCB1	341820	912202	USGS	--	192	123.19	69	03/20/2008
04S04W02ABB1	342313	912424	USGS	155	200	109.89	90	03/24/2008
04S04W35ABC1	341835	912437	NRCS	--	193	106	87	04/07/2008
04S05W16CDC1	342045	913321	USGS	120	201	71.25	130	03/20/2008
04S05W24DAA1	342001	912930	USGS	150	198	90.17	108	03/20/2008
04S06W15DBB1	342122	913827	USGS	100	190	34.88	155	03/21/2008
05S01W16BAB1	341552	910729	USGS	--	183	51.37	132	03/25/2008
05S02W16ABD1	341552	911358	USGS	154	190	86.13	104	03/20/2008
05S04W07CCC1	341555	912932	USGS	120	194	75.05	119	03/20/2008
05S04W32BBA1	341316	912822	USGS	--	191	58.75	132	03/20/2008
05S06W02DDD1	341724	913651	USGS	60	182.93	21.8	161	03/21/2008
05S06W07DDC1	341642	914130	USGS	32	180.48	3.83	177	03/21/2008
06S02W23DCD1	340853	911206	USGS	--	188	70.61	117	03/20/2008
06S03W10BBA1	341136	911954	USGS	155	184	82.25	102	03/20/2008
06S03W27AAA1	340858	911913	USGS	132	183.14	68.55	115	03/20/2008
07S02W04BBB1	340707	911452	USGS	--	176	50.5	126	03/20/2008
07S02W17BBA1	340530	911539	USGS	95	184	54.05	130	03/20/2008
07S03W18CCD1	340435	912316	USGS	--	186.18	44.17	142	03/20/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; --, no data; NGVD of 1929, National Geodetic Vertical Datum of 1929; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Arkansas County—Continued								
07S03W32BBC1	340240	912216	USGS	128	176.92	26.45	150	03/20/2008
07S04W01DDD1	340625	912327	USGS	155	186	48.48	138	03/20/2008
08S02W08ACA1	340041	911506	USGS	--	179	42.67	136	03/20/2008
08S03WT2299	340147	912203	USGS	158	178	22.09	156	03/20/2008
Ashley County								
15S04W23DBD1	332247	912852	USGS	--	128	33.42	95	03/11/2008
15S04W26DCC1	332232	912902	USGS	64.1	127	32.17	95	03/11/2008
15S07W21CBA1	332316	915001	USGS	27.4	210	4.52	205	03/10/2008
16S06W08CAA1	331941	914438	USGS	105	185	78.92	106	03/10/2008
16S06W25DDD1	331640	913958	ANRC	130	182	78.47	104	03/12/2008
16S06W27BAB1	331729	914240	USGS	115	182	84.07	98	03/10/2008
17S04W03ABB1	331528	913010	USGS	105	124	30.77	93	03/11/2008
17S04W15DDC1	331252	912954	USGS	57	116	27.70	88	03/11/2008
17S04W21ABA1	331252	913108	USGS	--	117	22.97	94	03/11/2008
17S05W01AAD1	331459	913402	NRCS	100	122	18	104	04/15/2008
17S06W01ADD1	331518	913956	USGS	144	182	84.03	98	03/10/2008
17S06W35CAC1	331049	914136	USGS	140	179	72.41	107	03/10/2008
18S04W23DDD1	330658	912856	NRCS	100	103	30	73	04/15/2008
18S05W11CCD1	330841	913538	NRCS	75	118	27	91	04/15/2008
18S05W22DDA1	330712	913555	NRCS	100	125	22	103	04/15/2008
18S08W01AAB1	331015	915225	USGS	128	181	84.34	97	03/10/2008
18S08W28DDD2	330625	915528	USGS	156	163.26	85.11	78	05/13/2008
19S04W06BAB2	330504	913329	USGS	98	110	23.92	86	03/11/2008
19S04W14BBB1	330310	912913	NRCS	100	107	31	76	04/15/2008
19S05W08ACA1	330405	913815	NRCS	--	111	18	93	04/15/2008
19S05W16ABB1	330323	913718	NRCS	100	116	28	88	04/15/2008
19S05W22DCD1	330139	913615	NRCS	--	107	26	81	04/15/2008
19S06W07BCC1	330404	914608	USGS	--	134.7	32.46	102	03/10/2008
Chicot County								
13S03W27AAA1	333253	912310	NRCS	--	138	48	90	03/24/2008
13S03W34BAA1	333110	912539	USGS	100	133	40.74	92	03/11/2008
13S03W34CAA1	333136	912336	USGS	75	132	37.92	94	03/11/2008
13S03W35BAC1	333154	912246	USGS	90	134	41.29	93	03/11/2008
14S02W09BDD1	332859	911729	NRCS	--	133	30	103	03/26/2008
14S02W18BBDD1	332859	912038	NRCS	--	129	34	95	03/24/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; --, no data; NGVD of 1929, National Geodetic Vertical Datum of 1929; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Chicot County—Continued								
14S03W07BBD1	333011	912620	USGS	77	134	27.62	106	03/11/2008
14S03W32CDB2	332613	912551	USGS	90	134	35.76	98	03/11/2008
15S02W20DDC1*	332227	911920	NRCS	70	126	28.12	98	03/11/2008
15S02W20DDC1*	332227	911920	NRCS	70	126	32	94	03/26/2008
16S03W11ADC1	331920	912234	NRCS	--	118	29.61	88	03/11/2008
17S01E17CDA1	331259	910716	USGS	110	118	21	97	03/11/2008
17S01E18ADA1	331326	910758	USGS	--	121	11.53	109	03/11/2008
17S01W06BCC1	331501	911505	USGS	100	115	21.57	93	03/11/2008
17S02W10AAA1	331429	911712	USGS	90	114	27.36	87	03/11/2008
17S03W18CBC1	331257	912736	NRCS	--	117	35	82	03/26/2008
17S03W28DBA1	331127	912441	USGS	95	110	24.74	85	03/11/2008
18S01W19DAB1	330709	911423	USGS	--	110	13.95	96	03/11/2008
18S01W33BAD1	330543	911245	NRCS	--	116	14	102	03/26/2008
18S03W22ABA2	330728	912341	USGS	85.5	103	11.17	92	03/11/2008
19S01W17BCC1	330250	911406	USGS	120	106	20.57	85	03/11/2008
19S03W14ABB1	330304	912251	USGS	95	111	23.99	87	03/11/2008
Clay County								
18N08E03DAB1	361323	901153	USGS	105	257	4.29	253	04/09/2008
18N08E11BAA1	361253	901117	NRCS	100	259	4	255	04/02/2008
19N03E24AAA1	361655	904157	USGS	--	278	20.96	257	04/09/2008
19N04E11DAA1	361805	903621	NRCS	--	280	17.8	262	04/02/2008
19N04E19AAA1	361654	904050	USGS	--	282	31.56	250	04/09/2008
19N04E19BAA1	361649	904125	NRCS	100	279	23.2	256	04/06/2008
19N05E15BBD1	361716	903152	NRCS	110	289	39	250	04/02/2008
19N06E18DBC1	361642	902815	NRCS	--	297	38.9	258	04/02/2008
19N07E25BCB1	361519	901700	NRCS	--	268	13.1	255	04/02/2008
19N08E08DCA1	361729	901402	NRCS	--	270	4	266	04/02/2008
19N09E19CDC1	361539	900908	NRCS	--	265	4.5	261	04/02/2008
20N03E25BAA1	362112	904225	NRCS	100	288	23	265	04/06/2008
20N04E03ADA1	362425	903725	NRCS	--	290	16	274	04/08/2008
20N05E22CAD1	362118	903132	NRCS	--	290	29.5	261	04/02/2008
20N05E30CAC1	362003	903454	NRCS	--	283	17.4	266	04/06/2008
20N05E34DBA1	361939	903117	USGS	110	285	31.78	253	04/09/2008
20N06E09BBA1	362327	902620	NRCS	--	290	22.5	268	03/26/2008
20N06E28CCD1	362005	902630	NRCS	--	290	30.8	259	04/02/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; --, no data; NGVD of 1929, National Geodetic Vertical Datum of 1929; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Clay County—Continued								
20N08E22BDC1	362111	901220	NRCS	--	275	6.5	269	04/02/2008
20N08E24DDA1	362057	900934	USGS	110	276	6.16	270	04/09/2008
20N09E09ABC1	362306	900642	NRCS	--	279	3	276	04/02/2008
20N09E33DDC1	361904	900628	NRCS	--	270	5	265	04/02/2008
21N03E15CBC1	362738	904453	NRCS	90	292	5	287	04/28/2008
21N03E36CDD1	362450	904214	NRCS	--	290	11.1	279	04/08/2008
21N04E09DBC1	362828	903853	NRCS	--	291	10	281	04/08/2008
21N05E17ABB1	362755	903329	USGS	105	298	23.92	274	04/09/2008
21N05E22BAB1	362704	903132	NRCS	105	288	5.8	282	04/08/2008
21N06E11BBB1	362839	902421	NRCS	100	296	15.2	281	04/02/2008
21N06E28BB1	362605	902608	ANRC	130	292.5	19.38	273	04/09/2008
21N07E01DDC1	362835	901607	NRCS	90	303	33.2	270	04/02/2008
21N07E19BDA1	362640	902148	NRCS	--	295	24.8	270	03/26/2008
21N08E03CDB1	362848	901217	NRCS	--	308	20.5	288	04/02/2008
21N08E18CCC1	362651	901550	ANRC	110	324	40.71	283	04/09/2008
21N08E36ABB1	362502	900958	USGS	90	283	2.68	280	04/09/2008
21N09E31BDA1	362447	900851	NRCS	100	284	1	283	04/02/2008
Craighead County								
13N01E03AAA1	354739	905753	NRCS	135	240	56.6	183	03/17/2008
13N01E21CAB	354434	905945	NRCS	120	240	65.5	175	03/17/2008
13N01E23CAB1	354430	905736	NRCS	118	245	70.1	175	03/17/2008
13N01E23DAA1	354435	905652	USGS	118	242	71.08	171	04/10/2008
13N02E02AAB1	354731	905032	NRCS	130	251	93.8	157	03/17/2008
13N02E03AAA1	354733	905129	NRCS	105	250	88.7	161	03/17/2008
13N03E23CDA1	354419	904434	NRCS	135	249	81.7	167	03/12/2008
13N03E29AAA1	354403	904713	USGS	122	251	105.76	145	04/10/2008
13N03E35AAA1	354308	904401	NRCS	150	249	97.5	152	03/12/2008
13N04E12ABB1	354635	903656	USGS	110	231	24.51	206	04/10/2008
13N04E15DBA1	354521	903857	NRCS	130	230	26.6	203	03/12/2008
13N04E26BCC1	354340	903829	NRCS	100	225	26.6	198	03/12/2008
13N05E02CCC1	354648	903202	NRCS	120	230	13.5	217	03/12/2008
13N05E06DCC1	354637	903547	NRCS	110	229	20.4	209	03/12/2008
13N05E22BAD1	354449	903243	USGS	--	226	13.23	213	04/10/2008
13N05E24BAC1	354451	903045	NRCS	120	225	8.8	216	03/12/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; --, no data; NGVD of 1929, National Geodetic Vertical Datum of 1929; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Craighead County—Continued								
13N06E21AAA1	354450	902701	NRCS	150	222	8.5	214	03/12/2008
13N07E02CAB1	354642	901901	NRCS	120	226	10.5	216	03/12/2008
13N07E05ABB1	354716	902158	NRCS	100	225	4.4	221	03/12/2008
13N07E20BBA1	354440	902216	USGS	22.3	223.2	1.95	221	04/10/2008
13N07E35BCD1	354233	901837	NRCS	120	221	12.9	208	03/12/2008
14N01E03ACB1	355246	905816	NRCS	96	249	51.5	198	03/17/2008
14N01E10BAB1	355204	905828	NRCS	96	246	54	192	03/17/2008
14N01E31DCA1	354817	910121	NRCS	126	251	61.9	189	03/17/2008
14N02E18BDD1	355041	905419	USGS	120	242	53.57	188	04/10/2008
14N02E22AAA1	355007	905129	NRCS	132	255	78	177	03/17/2008
14N05E25ABB1	354921	903025	USGS	--	238	18.58	219	04/10/2008
14N06E06BAA1	355234	902934	NRCS	120	240	21.5	219	03/12/2008
14N06E27AAB1	354911	902559	USGS	30.3	225.93	-0.25	226	04/10/2008
14N07E14DDC1	354956	901831	NRCS	120	230	13.1	217	03/12/2008
14N07E26DBB1	354834	901843	USGS	100	228	2.68	225	04/10/2008
15N02E12DCB1	355626	904930	NRCS	120	250	36.5	214	03/17/2008
15N03E19ADA1	355502	904802	USGS	116	262	51.27	211	04/10/2008
15N03E31ADA1	355314	904807	ANRC	150	270	59.2	211	04/10/2008
15N05E22BAB1	355513	903241	NRCS	197	260	31.8	228	03/12/2008
15N06E04BAD1	355744	902706	NRCS	104	239	17.4	222	03/12/2008
15N06E20DDD1	355426	902739	USGS	--	234	9.37	225	04/10/2008
15N07E35DCB1	355241	901831	NRCS	120	231	13.9	217	03/12/2008
Crittenden County								
03N07E01ACC2	345349	901837	USGS	150	200	14.19	186	04/03/2008
03N07E01DBB1	345342	901834	USGS	150	200	12.45	188	04/03/2008
03N07E01DBB2	345343	901836	USGS	150	200	12.23	188	04/03/2008
03N07E01DBC2	345339	901839	USGS	150	203	16.14	187	04/03/2008
03N07E01DBD1	345339	901834	USGS	145	201	11.21	190	04/03/2008
03N07E01DBD2	345339	901832	USGS	--	201	9.81	191	04/03/2008
04N07E21AAD1	345644	902121	USGS	82.1	202	10.1	192	04/03/2008
05N07E08BDC1	350407	902234	NRCS	110	204	26	178	04/07/2008
05N07E28CBA1	350121	902140	USGS	--	201	17.08	184	04/03/2008
05N07E34BAB1	350059	902030	USGS	100	203	16.27	187	04/03/2008
05N07E34CDD1	350010	902028	NRCS	110	205	9.9	195	04/07/2008
05N08E11CCD2	350345	901308	USGS	63	211	25.27	186	04/03/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; --, no data; NGVD of 1929, National Geodetic Vertical Datum of 1929; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Crittenden County—Continued								
06N07E14ABA1	350848	901858	NRCS	110	211	23.6	187	04/07/2008
07N06E29CBC1	351152	902914	NRCS	120	210	40.11	170	04/08/2008
07N07E31CCC1	351042	902359	USGS	110	207	36.48	171	04/03/2008
07N08E04BBD1	351538	901505	NRCS	120	224	22.9	201	03/26/2008
07N09E05CDD1	351453	900934	USGS	120	214	14.83	199	04/03/2008
08N06E01DCC1	352021	902408	NRCS	120	215	33.1	182	03/26/2008
08N07E13CCC2	351828	901812	ANRC	100	221	31.43	190	04/03/2008
08N07E14DAA2	351854	901833	USGS	--	219	31.82	187	04/03/2008
08N07E32DAA1	351618	902146	NRCS	110	215	31.4	184	04/07/2008
08N08E06ABB1	352103	901644	NRCS	110	223	31.3	192	03/26/2008
09N06E30ADD1	352235	902904	NRCS	--	216	34	182	03/26/2008
09N07E02CDB1	352537	901905	NRCS	130	225	33.5	192	03/26/2008
09N07E10DDA1	352448	901925	USGS	60	221	29.29	192	04/03/2008
09N07E31BAB1*	352160	902327	NRCS	110	221	32.1	189	03/26/2008
09N07E31BAB1*	352160	902327	NRCS	110	221	34.06	187	04/03/2008
09N08E04CDC1	352527	901444	NRCS	120	225	27	198	03/26/2008
Cross County								
06N02E11BDB1	350934	905132	NRCS	--	220	69.5	151	04/14/2008
06N02E12AAA1	350934	904952	NRCS	--	235	81	154	04/14/2008
06N04E01BBB1	351044	903739	NRCS	--	205	37	168	04/08/2008
06N05E05AAA1	351042	903432	NRCS	130	205	41	164	04/07/2008
07N01E05CDA1	351518	910049	USGS	140	217	76.38	141	04/04/2008
07N01E05DCA1	351514	910033	NRCS	160	215	77.5	138	04/08/2008
07N01E06CAA1	351530	910154	NRCS	--	220	75	145	04/08/2008
07N01E11AAA1	351501	905705	USGS	120	217	78.62	138	04/02/2008
07N02E02BBB1	351601	905144	NRCS	--	227	76.5	151	04/08/2008
07N02E10ABB1	351504	905217	NRCS	--	230	91	139	04/08/2008
07N02E15DAA1	351330	905149	NRCS	--	218	83	135	04/08/2008
07N02E29CCC1	351142	905152	NRCS	--	220	74.5	146	04/07/2008
07N02E29DDC1*	351138	905409	USGS	100	220	74.14	146	04/02/2008
07N02E29DDC1*	351138	905409	NRCS	100	220	72.5	148	04/08/2008
07N03E05AAD1	351558	904737	NRCS	--	255	106	149	04/15/2008
07N03E05ADA1	351549	904739	USGS	160	254	112.23	142	04/02/2008
07N03E32DCC1	351045	904810	USGS	--	251	97.8	153	04/02/2008
07N04E07AAA1	351510	904207	NRCS	--	223	48	175	04/08/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; --, no data; NGVD of 1929, National Geodetic Vertical Datum of 1929; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Cross County—Continued								
07N04E27BDA1	351220	903926	NRCS	--	203	24.5	179	04/07/2008
07N05E02AAB1	351600	903103	NRCS	--	210	43	167	04/08/2008
07N05E16ACA1	351358	903352	NRCS	--	210	31.5	179	04/08/2008
07N05E19CCC1	351238	903645	USGS	--	207	39.34	168	04/03/2008
07N05E24CCC1	351232	903121	NRCS	110	205	37.6	167	04/07/2008
07N05E25ABA1	351229	903045	NRCS	140	205	38.94	166	04/03/2008
08N01E02CDD1	352023	905736	NRCS	--	226	89	137	04/08/2008
08N01E16DBB1	351855	905933	NRCS	140	225	87	138	04/08/2008
08N01E17CAD1	351852	910046	NRCS	--	220	76	144	04/08/2008
08N02E12DCC1	351938	905002	NRCS	--	230	92	138	04/14/2008
08N02E17AAA1	351923	905354	NRCS	--	225	90	135	04/08/2008
08N02E29CBA1	351715	905438	NRCS	--	225	86.5	139	04/08/2008
08N03E15BBB1	351942	904620	NRCS	--	265	115	150	04/14/2008
08N05E17CAA1	351904	903508	NRCS	--	211	32	179	04/08/2008
08N05E32ADD1	351632	903440	USGS	--	204	31.47	173	04/03/2008
09N01E04ACD1	352608	905914	NRCS	140	225	90	135	04/08/2008
09N01E33BBA2	352203	910001	USGS	--	225	83.67	141	04/04/2008
09N01E36AAB1	352155	905605	NRCS	160	225	91.5	134	04/08/2008
09N02E20AAA1	352402	905342	NRCS	120	231	94	137	04/08/2008
09N02E30CBB1	352243	905551	NRCS	--	225	90	135	04/08/2008
09N02E32BBB1	352213	905444	NRCS	--	226	100	126	04/08/2008
09N03E03ACA1	352630	904529	NRCS		250	108	142	04/14/2008
09N03E17CDD1	352422	904753	NRCS	--	245	105.5	140	04/14/2008
09N03E17DDC1	352409	904726	USGS	160	251	107.77	143	04/04/2008
09N05E10ACC1	352511	903249	NRCS	120	210	20	190	04/09/2008
09N05E32BCB1	352151	903525	NRCS	--	206	30	176	04/09/2008
09N05E32BDB1	352151	903512	USGS	--	210	32.17	178	04/03/2008
Desha County								
07S01E19ABA1	340428	910303	NRCS	120	154	22.5	132	03/25/2008
08S03W33ABD1	335803	912338	USGS	60	165.04	6.93	158	03/13/2008
09S01W08BDA1	335608	911234	NRCS	--	156	30	126	04/01/2008
09S01W15CBB1	335501	911055	NRCS	--	152	39	113	04/01/2008
09S02W26DDC1	335257	911530	USGS	97	149.27	31.68	118	05/13/2008
09S03W05BAC1	335704	912506	NRCS	--	161	36	125	04/01/2008
09S03W13BAB1	335500	911922	NRCS	--	156	35	121	04/01/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; --, no data; NGVD of 1929, National Geodetic Vertical Datum of 1929; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Desha County—Continued								
09S03W17DCB1	335448	912457	USGS	126	155.08	33.68	121	03/13/2008
09S04W06BCA1	335756	913243	USGS	--	161	36.43	125	03/13/2008
10S01W23CDA1	335305	911032	NRCS	--	151	31	120	04/01/2008
10S02W11ADD1	335045	911517	NRCS	--	146	31	115	04/01/2008
10S02W20ADA1	334916	911825	ANRC	93.8	148	40.85	107	03/12/2008
10S02W24DBC1	334850	911453	USGS	70	143	26.18	117	03/12/2008
10S03W26CAA1	334806	912145	USGS	96	155	47.43	108	03/12/2008
10S04W03ABB1	335208	912931	ANRC	100	165	36.2	129	03/13/2008
10S04W03BAB1	335209	912948	USGS	100	166	36.86	129	03/13/2008
10S04W11DDA1	335031	912802	ANRC	100	155	33.33	122	03/13/2008
10S04W12DBB1	335102	912729	ANRC	99	152	31.73	120	03/13/2008
11S02W15ADD1	334446	911635	NRCS	--	144	36	108	04/01/2008
11S03W16CBA1	334439	912433	NRCS	--	155	36	119	04/01/2008
11S03W31BBA1	334228	912651	USGS	--	148	37.27	111	03/12/2008
12S01W33BAA1	333718	911205	USGS	95	135	25.21	110	03/13/2008
13S02W17ADA1	333421	911858	NRCS	--	138	46	92	04/01/2008
13S02W27CAC1	333224	911735	USGS	120	133	32.43	101	03/12/2008
13S02W32DBD1	333126	911917	NRCS	--	135	40	95	04/01/2008
13S03W10DAA1	333506	912302	USGS	86	140	49.17	91	03/12/2008
13S03W11CAB1	333503	912241	NRCS	--	142	52	90	04/01/2008
Drew County								
11S04W08DBA1	334532	913136	USGS	70	160	26.08	134	03/12/2008
11S05W08CCC1	334546	913837	USGS	153	185	37.47	148	03/12/2008
12S04W03ABB1	334134	912946	USGS	--	155	26.02	129	03/12/2008
12S04W25DBB1	333739	912738	NRCS	90	149	36	113	03/17/2008
13S04W09ACD1	333512	913034	NRCS	90	145	20	125	03/17/2008
13S04W28CDD1	333206	913100	USGS	65	139	19.92	119	03/12/2008
13S04W33BAA1	333206	913100	USGS	130	138	19.32	119	03/12/2008
13S05W29ADA1	333248	913747	USGS	--	185	46.85	138	03/12/2008
13S06W03DDC1	333545	914202	USGS	110	191	64.89	126	03/12/2008
13S06W21DAA1	333324	914258	NRCS	142	207	72	135	03/17/2008
14S04W03ADD1	333050	912929	NRCS	92	141	28	113	03/17/2008
14S04W05CBC1	333042	913226	NRCS	90	131	20	111	03/17/2008
15S04W13DAD1	332338	912730	NRCS	--	131	42	89	03/25/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

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Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Greene County								
16N03E03BA1	360316	904516	ANRC	100	260	33.17	227	04/09/2008
16N03E05BBB1	360316	904750	NRCS	105	257	32.6	224	04/17/2008
16N03E16DDD1	360049	904547	NRCS	100	258	28.1	230	04/17/2008
16N03E29ACC1	355926	904722	NRCS	100	257	37.1	220	04/17/2008
16N06E03CCC1	360224	902626	USGS	194	258	41.19	217	04/09/2008
16N06E09ABB1	360215	902651	NRCS	90	261	40.2	221	04/07/2008
16N06E21BAA1	360031	902705	NRCS	130	249	27.6	221	04/07/2008
16N06E28ABB1	355938	902657	USGS	--	251	25.73	225	04/09/2008
17N03E02DCC1	360806	904352	NRCS	100	267	30.8	236	04/17/2008
17N04E07AD1	360718	904122	NRCS	100	273	38.1	235	04/17/2008
17N04E30CDC1	360409	904218	USGS	100	265	39.09	226	04/09/2008
17N06E15ABC1	360631	902546	NRCS	168	268	30.9	237	04/17/2008
17N07E01BBA1	360832	901724	NRCS	100	250	5.8	244	04/07/2008
17N07E18ABB1	360638	902235	USGS	--	245	7.85	237	04/09/2008
18N03E24ACA1	361119	904216	NRCS	120	271	35.1	236	04/17/2008
18N04E04AAC1	361356	903854	NRCS	127	273	31.3	242	04/17/2008
18N04E21CBD1	361052	903725	USGS	--	294	58.57	235	04/09/2008
18N06E23ABB1	361109	902402	NRCS	145	280	15.4	265	04/17/2008
18N07E05DAB1	361316	902025	NRCS	--	274	12.2	262	04/07/2008
18N07E17BAB1	361203	902105	NRCS	100	262	8.6	253	04/07/2008
18N07E20BBA1	361110	902113	USGS	--	257	7.23	250	04/09/2008
19N03E26AD1	361601	904258	USGS	100	281	30.28	251	04/09/2008
19N03E33DDD1	361418	904516	NRCS	100	276	36.5	240	04/17/2008
19N05E34AAD1	361437	903102	NRCS	130	282	34.8	247	04/17/2008
Independence County								
12N04W14DD1	353929	912236	ANRC	60	231	10.54	220	04/16/2008
12N04W34CBB1	353720	912513	USGS	--	231	4.47	227	04/16/2008
12N05W36AAA1	353738	912827	NRCS	--	236	6.41	230	04/16/2008
Jackson County								
09N01W22ADD1	352332	910433	USGS	125	215	63.04	152	04/15/2008
09N02W32BBB1	352215	911344	NRCS	100	220	32.2	188	03/27/2008
09N02W32CBB1	352152	911348	USGS	117	220	30.39	190	04/15/2008
10N02W29ABB1	352829	911312	USGS	--	227	28.47	199	04/15/2008
11N01W26AAD1*	353330	910323	NRCS	95	227	69.3	158	03/27/2008
11N01W26AAD1*	353330	910323	USGS	95	227	68.29	159	04/15/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

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Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Jackson County—Continued								
11N01W29AAD1	353339	910635	USGS	97	225	41.88	183	04/15/2008
11N02W25BBD1	353322	910855	NRCS	100	221	28.1	193	03/27/2008
12N01W11BCB1	354127	910416	NRCS	110	233	40.7	192	03/27/2008
12N02W25ABB2	353910	910852	USGS	--	234	34.41	200	04/16/2008
13N01W20AAA1	354514	910627	USGS	147	242	41.59	200	04/16/2008
13N03W15CDD1	354526	911749	USGS	--	232	7.41	225	04/16/2008
13N03W36ABB1	354337	911532	NRCS	110	241	16.3	225	03/27/2008
14N01W08AAA1	355216	910623	NRCS	80	252	37.5	215	03/27/2008
14N01W09AAA1	355220	910515	USGS	--	251	43.88	207	04/16/2008
14N02W22BBC1	355026	911145	NRCS	100	250	25.2	225	03/27/2008
Jefferson County								
03S08W24BBC1	342620	914953	USGS	135	202	51.03	151	03/18/2008
03S09W06DDA1	342840	920037	USGS	--	225	37.02	188	03/18/2008
03S09W14BCD1	342712	915713	NRCS	--	220	51	169	03/31/2008
03S09W22AAA1	342640	915728	NRCS	100	218	43	175	03/31/2008
03S09W29CBD1	342517	920023	USGS	--	216	27.74	188	03/18/2008
03S09W36ACC1	342428	915555	NRCS	--	214	29	185	03/31/2008
03S10W26AAA1	342551	920300	NRCS	--	216	25	191	03/31/2008
03S10W35BBC1	342449	920359	NRCS	--	215	8.5	207	03/31/2008
04S07W35DDB1	341836	914347	NRCS	--	185	28.8	156	03/31/2008
04S08W13DCB1	342123	914926	USGS	110	204	47.99	156	03/18/2008
04S09W02CBD1	342325	915717	NRCS	110	212	26.6	185	03/31/2008
04S09W32DDA1	341859	920009	NRCS	--	212	16	196	03/31/2008
05S06W31CAA1	341330	914206	USGS	--	189.22	18.33	171	03/18/2008
05S07W29DDD1	341411	914654	NRCS	110	194	16.1	178	03/31/2008
05S08W12DAA1	341712	914907	USGS	101	194.25	16.15	178	03/18/2008
06S05W15BCA1	341023	913245	USGS	120	177.14	18.22	159	03/18/2008
06S06W23AAD1	341007	913712	USGS	107	189.01	19.02	170	03/18/2008
06S07W14BAA1	341125	914426	USGS	110	199	15.25	184	03/18/2008
07S08W06BAA1	340859	915647	USGS	160	202.31	19.07	183	03/18/2008
Lawrence County								
15N01E26DDA1	355402	905639	USGS	100	251	54.07	197	04/10/2008
15N01W35CBB1	355336	910356	USGS	--	250	46.68	203	04/10/2008
16N01E11DAC2	360203	905639	USGS	--	262	48.69	213	04/10/2008
16N01W30DDC1	355937	910723	NRCS	105	255	13	242	03/24/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

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Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Lawrence County—Continued								
16N02E34CBB1	355831	905208	NRCS	100	255	50	205	03/24/2008
17N01E02BBA1	360901	905707	NRCS	90	260	16.2	244	03/24/2008
17N02E04DCA1	360758	905224	NRCS	110	270	44.2	226	03/24/2008
17N02E19CDC1	360516	905449	NRCS	105	265	41.07	224	04/10/2008
Lee County								
01N01E09CCC1	344215	910054	NRCS	140	182	35.5	147	04/15/2008
01N01E24CBD1	344033	905729	NRCS	140	185	16.7	168	04/15/2008
01N02E01ADD1	344330	905016	NRCS	140	207	31	176	04/15/2008
01N02E11BAB1	344255	905208	NRCS	140	202	33	169	04/15/2008
01N02E12ABB1	344254	905040	NRCS	140	206	34	172	04/15/2008
01N02E22CBA1	344056	905318	NRCS	140	200	29.5	171	04/15/2008
01N02E33CBB1	343858	905434	NRCS	140	186	11	175	04/15/2008
01N02E33CCB1	343851	905433	NRCS	140	185	9	176	04/15/2008
01N03E02BBC1	344339	904601	USGS	168	236.43	53.68	183	04/01/2008
01N03E35BBA1	343923	904549	USGS	120	202	13.85	188	04/01/2008
02N01E21BAA1	344633	910005	NRCS	140	185	38.3	147	04/15/2008
02N01E23BAA2	344632	905820	USGS	137	202	52.1	150	04/01/2008
02N01W12BAA1	344828	910330	USGS	95	185	45.65	139	04/01/2008
02N01W34DDC1	344410	910520	NRCS	140	180	52	128	04/15/2008
02N02E08ADC1	344807	905339	ANRC	120	201	45.92	155	04/01/2008
02N02E21ABC1	344622	905358	USGS	120	200	41.25	159	04/01/2008
02N02E22BBB1	344628	905327	NRCS	140	200	34	166	04/15/2008
02N03E08AAD1	344811	904838	USGS	100	211	45.73	165	04/01/2008
02N03E09DDD1	344723	904707	NRCS	120	220	47	173	04/15/2008
02N03E29CAD1	344500	904846	NRCS	140	220	43	177	04/15/2008
02N04E03ABD1	344855	903954	NRCS	140	192	26	166	04/15/2008
02N04E15DAC1	344637	903950	USGS	60	192	20.67	171	04/01/2008
03N01E15CCB1	345206	905947	ANRC	--	205	63.96	141	04/01/2008
03N01E16CBA1	345222	910040	ANRC	110	202	65.14	137	04/01/2008
03N02E12CDC1	345239	905053	NRCS	140	210	43	167	04/15/2008
03N02E13BBA1	345237	905107	USGS	65	212	51.87	160	04/01/2008
03N02E21CBC1	345111	905428	NRCS	140	209	56	153	04/15/2008
03N02E29DAD1	345014	905430	USGS	135	205	44.64	160	04/01/2008
03N03E05CDD1	345327	904837	NRCS	110	204	49	155	04/15/2008
03N03E32CAB1	344933	904926	ANRC	116	204	51.22	153	04/01/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; --, no data; NGVD of 1929, National Geodetic Vertical Datum of 1929; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Lee County—Continued								
03N04E07CBB1	345245	904312	NRCS	140	200	30	170	04/15/2008
03N05E14DDA1	345148	903203	ANRC	120	193	15.79	177	04/01/2008
Lincoln County								
07S06W03CCA2	340828	914114	NRCS	110	190	18	172	03/12/2008
07S07W36CBD1	340411	914529	NRCS	123	183	41	142	03/12/2008
08S04W06ABD1	340341	913116	NRCS	95	171	16	155	03/12/2008
08S04W08BBB2	340254	913101	USGS	65.2	171	23.23	148	03/13/2008
08S04W29ABC1	340021	913044	NRCS	100	176	45	131	03/12/2008
08S04W31CBA1	335901	913150	USGS	99	161.9	35.11	127	03/13/2008
08S05W12AAD1	340246	913214	NRCS	83	165	24	141	03/12/2008
08S05W21DCD1	340027	913533	NRCS	120	169	30	139	03/12/2008
08S05W32DCC1	335840	913644	NRCS	100	172	47	125	03/12/2008
08S06W02ACB1	340339	913958	USGS	68	181.03	43.49	138	03/13/2008
08S07W05DDD1	340301	914903	ANRC	97	190	30.23	160	03/14/2008
09S04W06CBB1	335721	913252	NRCS	110	163	39	124	03/12/2008
09S05W17BCB1	335552	913820	USGS	97	171	43.17	128	03/13/2008
09S05W19CCC1	335428	913941	NRCS	110	171	40	131	03/12/2008
09S06W04BCD1	335821	914346	USGS	62.6	181	42.58	138	03/13/2008
09S06W04BDD1	335759	914335	NRCS	100	178	46	132	03/12/2008
09S06W23CDB1	335440	914136	USGS	70	175	30.92	144	03/13/2008
10S05W06DCC1	335155	913908	USGS	65	175	32.37	143	03/13/2008
Lonoke County								
01N08W03DDA1	344411	915050	NRCS	--	229	137	92	04/15/2008
01N09W07DAA1	344337	920030	NRCS	--	240	51	189	04/15/2008
01N09W13DAB1	344235	915517	USGS	150	226	88.43	138	03/19/2008
01N09W25BAA1	344120	915538	NRCS	--	226	88	138	04/15/2008
01N10W15CDA1	344236	920415	NRCS	100	240	31	209	04/15/2008
01S06W31ABB1	343459	914131	ANRC	120	200	79.32	121	03/19/2008
01S06W32BBB1	343501	914056	NRCS	--	201	78.5	123	04/15/2008
01S07W12ABA1	343834	914230	USGS	140	207	71.77	135	03/19/2008
01S08W24CDD1	343606	914912	USGS	127	210	83.34	127	03/19/2008
01S09W36CCC1*	343435	915619	NRCS	95	220	61.91	158	03/18/2008
01S09W36CCC1*	343435	915619	NRCS	95	220	64	156	04/15/2008
01S10W01ACB1	343927	920215	USGS	--	236	44.63	191	03/18/2008
02N07W07DAA1	344845	914707	NRCS	--	232	134	98	04/15/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; --, no data; NGVD of 1929, National Geodetic Vertical Datum of 1929; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Lonoke County—Continued								
02N07W16BAB1	344815	914540	USGS	184	240	135.79	104	03/19/2008
02N08W16ABC1	344806	915114	USGS	170	230	124.87	105	03/19/2008
02N08W23CAB1	344659	915118	NRCS	--	229	129	100	04/15/2008
02N09W02BDB1	344955	915841	ANRC	140	251	126.74	124	03/19/2008
02N10W15ACC1	344807	920353	NRCS	135	241	32	209	04/15/2008
02S07W05CDC1	343326	914715	NRCS	--	205	70	135	04/15/2008
02S07W10CCB1	343246	914525	USGS	--	201	63.34	138	03/19/2008
02S08W13BBB1	343232	914935	USGS	--	200	57.67	142	03/19/2008
02S08W34DBB1	343003	915150	USGS	--	214	63.76	150	03/19/2008
02S09W22AAA1	343153	915728	NRCS	--	226	63	163	04/15/2008
02S09W26DC1	343019	915643	NRCS	100	216	53	163	04/15/2008
02S09W30CDD1	343014	920116	USGS	80	226	38.88	187	03/18/2008
03N07W08BDB1	345407	914638	USGS	125	250	98.31	152	02/07/2008
03N07W15DBC2	345253	914417	USGS	144.5	227	83.53	143	03/19/2008
03N07W29ADA1	345129	914558	USGS	120	234	92.27	142	02/07/2008
03N07W29CDD1	345057	914632	NRCS	157	232	98	134	04/15/2008
03N07W35CDC2	344957	914332	USGS	--	232	117.23	115	03/19/2008
03N08W03BAA1	345519	915054	USGS	162	260	95.69	164	02/07/2008
03N08W03CCC1	345430	915123	USGS	162	260	105.1	155	02/07/2008
03N08W05CCC1	345429	915323	USGS	130	257	81.03	176	02/07/2008
03N08W08ABA1	345427	915248	USGS	150	258	95.51	162	02/07/2008
03N08W10ACB1	345415	915053	USGS	150	250	92.62	157	02/07/2008
03N08W10ADD1	345401	915023	USGS	165	250	95.05	155	02/07/2008
03N08W11ABD1	345419	914936	USGS	160	260	106.11	154	02/07/2008
03N08W11ACA1	345413	914934	USGS	144	256	104.23	152	02/07/2008
03N08W21BCC1	345220	915220	USGS	155	247	82.79	164	03/19/2008
03N08W26CDC1	345100	915007	NRCS	150	235	111	124	04/15/2008
03N08W29BBB1	345147	915333	USGS	152.2	249	113.34	136	02/07/2008
03N08W29BCC1	345125	915333	USGS	150	250	133.08	117	02/07/2008
03N08W32ABB1	345057	915257	USGS	154	250	120.61	129	02/07/2008
03N08W32ABB2	345057	915259	USGS	154	250	119.68	130	03/19/2008
03N08W34ADD1	345035	915028	USGS	130	240	121.54	118	11/04/2008
04N08W05ACA1	350020	915247	USGS	138	238	46.96	191	02/08/2008
04N08W10BDD1	345917	915055	USGS	130	218	30.47	188	02/08/2008
04N08W15BCB2	345833	915121	USGS	104	225	29.2	196	03/19/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

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Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Lonoke County—Continued								
04N08W16DCC1	345757	915154	USGS	155	225	47.88	177	02/07/2008
04N08W26AAD1	345652	914917	USGS	130	246	71.18	175	02/08/2008
04N08W28CAC1	345620	915216	ANRC	140.5	235	55.9	179	02/07/2008
04N08W28CAD1	345626	915204	USGS	115	249	71.23	178	02/07/2008
04N08W28CCC1	345615	915225	USGS	137	240	61.43	179	02/07/2008
04N08W33ABD1	345559	915141	USGS	138	258	85.22	173	05/01/2008
04N08W33ABD2	345558	915141	USGS	137	258	86.73	171	05/01/2008
04N08W33ACD1	345547	915141	USGS	152	256	79.16	177	05/01/2008
04N08W33ADB1	345553	915125	USGS	173	257	94.55	162	05/01/2008
04N08W33ADD1	345548	915125	USGS	180	265	97	168	05/01/2008
04N08W33ADD2	345546	915125	USGS	190	266	96.67	169	05/01/2008
04N08W36DBB1	345541	914914	USGS	130	259	93.08	166	02/08/2008
Mississippi County								
10N08E21ABA1	352852	901415	NRCS	110	224	25	199	04/17/2008
10N08E21BDC1	352830	901407	NRCS	100	224	25.5	199	04/17/2008
10N08E22ABA2	352851	901312	USGS	100	224	25.53	198	04/07/2008
10N09E08ACC1	352949	900926	ANRC	110	230	17.78	212	04/07/2008
11N09E34BBB1	353218	900715	USGS	94	235	19.12	216	04/07/2008
11N10E09BCB1	353530	900202	NRCS	110	236	16	220	04/17/2008
12N08E08BCB1	354047	901559	USGS	120	225	6.26	219	04/07/2008
12N08E28DDB1	353707	901406	NRCS	120	225	15.5	210	04/17/2008
12N09E12ABC1	354054	900449	NRCS	120	232	9	223	04/25/2008
12N10E04CAA1	354124	900136	NRCS	120	235	8	227	04/17/2008
12N10E07BCD1	354036	900404	NRCS	110	234	17	217	04/25/2008
12N10E21DBA1	353842	900122	NRCS	110	236	16.5	220	04/17/2008
13N08E24ABB1	354428	901112	NRCS	120	230	7.5	223	04/17/2008
13N09E30CCD1	354248	901029	USGS	--	230	7.08	223	04/07/2008
13N10E34DBB1	354218	900024	ANRC	98	235	10.8	224	04/07/2008
14N08E12DAB1	355104	901052	USGS	--	235	2.75	232	04/07/2008
14N08E20DAA1	354921	901458	NRCS	110	225	2.5	223	04/25/2008
14N08E26CC1	354803	901235	NRCS	100	230	3.5	227	04/25/2008
14N10E18ABC1	355022	900345	USGS	101	236	8.11	228	04/07/2008
14N11E03BCB1	355158	895433	USGS	128	247	3.52	243	04/07/2008
14N11E17CCB1	354955	895639	NRCS	120	240	3	237	04/25/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

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Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Mississippi County—Continued								
14N11E33CAA1	354727	895508	NRCS	120	240	10	230	03/25/2008
15N08E08DBC2	355605	901526	USGS	120	236	10.53	225	04/07/2008
15N10E21ABC1	355447	900135	NRCS	120	240	7.5	233	03/25/2008
15N12E01BCD1	355704	894601	NRCS	100	258	9	249	03/25/2008
16N10E28BBD1*	355906	900156	NRCS	120	238	5.5	233	03/25/2008
16N10E28BBD1*	355906	900156	NRCS	120	238	5.33	233	04/07/2008
16N11E23ADA1	355947	895231	USGS	--	255	9.2	246	04/07/2008
Monroe County								
01N01W21CDC2	344037	910707	USGS	150	181	39.68	141	03/27/2008
01N02W12CBC1	344242	911032	USGS	110	182	40.9	141	03/27/2008
01N03W23BAC1	344124	911743	NRCS	100	170	14.3	156	03/20/2008
01N03W24BBB1	344135	911651	USGS	125	185	28.23	157	03/27/2008
01N04W33BBB2	343960	912649	USGS	--	218	97.56	120	03/27/2008
01S01W13CDD1	343611	910341	USGS	135	178	22.52	155	03/27/2008
01S01W16DB	343615	910632	NRCS	100	175	20	155	03/27/2008
01S01W18DCD1	343618	910849	ANRC	110	178	24.52	153	03/27/2008
01S02W20BBB1*	343613	911456	NRCS	100	170	12	158	03/27/2008
01S02W20BBB1*	343613	911456	NRCS	100	170	12.22	158	03/27/2008
01S03W20BBA1	343538	912118	USGS	140	210	75.03	135	03/27/2008
01S04W01BAB1	343906	912317	USGS	160	210	76.88	133	03/27/2008
02N01W19ADD1	344624	910814	NRCS	80	188	54	134	03/27/2008
02N01W19BBA1	344645	910912	USGS	75	191	54.78	136	03/27/2008
02N03W35BCA1	344455	911745	NRCS	100	188	35	153	03/20/2008
02S01W01BCD1	343305	910408	NRCS	100	176	22	154	03/27/2008
02S02W01BCA1	343322	911031	USGS	--	171	13.36	158	03/27/2008
02S02W11DAC1	343209	911101	USGS	110	164	11.04	153	03/27/2008
03N01W20ABA1	345201	910723	USGS	--	189	48.61	140	03/27/2008
03N02W31ADC1	344958	911447	USGS	95	190	39.15	151	03/27/2008
03N03W36AAA1	345027	911547	USGS	120	176	23.06	153	03/27/2008
04N02W01BCC1	345929	911004	NRCS	100	175	39	136	03/20/2008
04N02W05BBB1	345957	911311	NRCS	100	188	16	172	03/20/2008
04N02W27CDD3	345540	911150	USGS	181	200	45.68	154	03/27/2008
04N02W28DDD3	345535	911221	USGS	137	192	32.81	159	03/27/2008
04N02W30BBB1	345628	911525	USGS	119	185.16	13.8	171	03/27/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

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Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Phillips County								
01S01E20DDB1	343529	910058	NRCS	114	185	27	158	04/14/2008
01S02E09CBB1*	343719	905434	NRCS	110	185	12.8	172	03/24/2008
01S02E09CBB1*	343719	905434	NRCS	110	185	15.44	170	04/01/2008
01S03E02ADD1	343814	904511	NRCS	120	200	17	183	03/24/2008
01S03E10ABB1	343741	904634	NRCS	120	205	19	186	03/24/2008
01S04E05DCD1*	343802	904151	NRCS	120	230	49	181	03/24/2008
01S04E05DCD1*	343802	904151	NRCS	120	230	50.23	180	04/01/2008
02S01E28CCB1	342916	910058	USGS	108	174	18.63	155	03/31/2008
02S02E29DDD1	342901	905444	NRCS	125	180	24	156	04/14/2008
02S02E33ACC1	342824	905412	NRCS	120	177	24	153	04/14/2008
02S03E15ACD1	343110	904621	USGS	112	174	8.59	165	05/12/2008
02S03E34BCD1	342828	904653	NRCS	120	165	20.4	145	03/25/2008
02S04E27AAC1*	342932	904001	NRCS	175	179	7	172	03/25/2008
02S04E27AAC1*	342932	904001	USGS	175	179	9.74	169	03/31/2008
03S02E35DDA1	342256	905130	USGS	50	163	22.44	141	03/31/2008
03S03E04DAA1	342735	904710	USGS	36	171	20.37	151	03/31/2008
03S04E02CAA1*	342732	903918	NRCS	120	176	15.5	161	03/25/2008
03S04E02CAA1*	342732	903918	USGS	120	176	17.48	159	03/31/2008
04S01E01AAD1	342238	905700	NRCS	120	156	18	138	03/25/2008
04S01E14CDD1	342014	905837	NRCS	120	155	16	139	03/25/2008
04S01E23CCA1	341931	905853	USGS	--	156	14.14	142	03/31/2008
04S01E29CDC1	341844	910148	NRCS	120	150	7	143	03/25/2008
04S02E01DBB1	342220	905053	NRCS	--	163	16	147	03/25/2008
05S02E18BDA1	341535	905628	USGS	130	156	23.53	132	03/31/2008
Poinsett County								
10N01E02AAA	353205	905654	NRCS	140	235	101	134	04/07/2008
10N01E14CC1	352910	905814	ANRC	150	231	94.91	136	04/08/2008
10N01E16CCB1	352922	910005	USGS	120	225	77.67	147	04/08/2008
10N01E32CBB1	352657	910053	NRCS	120	222	76.5	146	03/26/2008
10N01E33ACB1	352746	905931	NRCS	153	220	81	139	03/26/2008
10N02E13BCC1	352949	905026	USGS	167	237	105.24	132	04/08/2008
10N02E15CAA1	352940	905209	NRCS	160	237	108	129	03/26/2008
10N02E20BAB1	352906	905418	NRCS	155	237	106	131	03/26/2008
10N03E13BCB1	352958	904352	NRCS	155	275	140	135	03/26/2008
10N03E14DAB1	352947	904405	USGS	--	263	119.6	143	04/08/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

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Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Poinsett County—Continued								
10N03E19BCB1	352905	904907	NRCS	--	239	101	138	03/26/2008
10N03E26BBD1	352816	904449	NRCS	140	257	115	142	04/07/2008
10N03E35CDD1	352656	904436	USGS	--	275	125.48	150	04/08/2008
10N04E35BBA1	352745	903831	NRCS	100	212	19.5	193	03/24/2008
10N05E15BDD1	352937	903253	USGS	--	207	12.71	194	04/08/2008
10N07E22AAC1	352847	901935	USGS	--	215	28.86	186	04/08/2008
10N07E28CBB1	352733	902128	NRCS	105	217	31	186	03/24/2008
11N01E17DDC1	353437	910015	NRCS	100	232	81	151	04/07/2008
11N01E17DDD1	353437	910013	USGS	100	230	80.89	149	04/08/2008
11N01E26AA1	353340	905653	ANRC	140	236	96.63	139	04/08/2008
11N01E34AAA	353256	905759	NRCS	100	229	90.5	139	04/07/2008
11N02E26AAB1	353350	905034	USGS	158	241	110.11	131	04/08/2008
11N02E30BBB1	353352	905540	NRCS	140	239	105	134	04/07/2008
11N02E34CBA1	353238	905222	NRCS	130	240	110	130	04/07/2008
11N03E10DDA1	353546	904457	USGS	145	243	106.11	137	04/08/2008
11N03E17AAB1	353535	904714	NRCS	--	242	107	135	04/07/2008
11N03E18BAB1	353538	904852	ANRC	157	243	106.53	136	04/08/2008
11N04E13DDA1	353450	903631	NRCS	112	211	18	193	03/26/2008
11N04E36ABA1	353251	903654	NRCS	100	211	16.5	195	03/24/2008
11N05E26BDB1	353318	903213	NRCS	--	213	11	202	03/24/2008
11N07E18CAB1	353435	902320	USGS	100	217	14.04	203	04/08/2008
11N07E28CBB1	353252	902120	NRCS	--	217	25	192	03/24/2008
12N01E07CDA1	354054	910141	USGS	120	236	55.14	181	04/08/2008
12N01E22DAB1	353922	905809	NRCS	115	235	76.5	159	04/07/2008
12N02E25DCC1	353820	904944	NRCS	145	245	115	130	04/07/2008
12N02E34CCC1	353724	905230	NRCS	180	245	115.5	130	04/07/2008
12N03E01CBD1	354154	904329	NRCS	190	250	96	154	03/26/2008
12N03E04DAD1	354158	904600	USGS	120	247	106.12	141	04/08/2008
12N03E35AD1	353745	904353	NRCS	150	246	106	140	04/07/2008
12N03E36ACB1	353749	904319	USGS	120	250	99.86	150	04/08/2008
12N04E08CDA	354053	904112	NRCS	100	250	95	155	03/26/2008
12N05E16ABA1	354039	903333	NRCS	140	221	9.5	212	03/26/2008
12N05E34ABA1	353805	903230	USGS	100	215	7.13	208	04/08/2008
12N07E04BAA1	354202	902060	USGS	60	223	2.42	221	04/08/2008
12N07E10CBB1	354042	902022	NRCS	100	220	10	210	03/24/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; --, no data; NGVD of 1929, National Geodetic Vertical Datum of 1929; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Prairie County								
01N06W05CCB1	344353	914049	USGS	155	220	119.27	101	03/26/2008
01N06W29DDD1	344018	913951	USGS	155	235	118.13	117	03/26/2008
01S04W28BBC1	343529	912650	NRCS	180	206	100	106	04/02/2008
01S04W28BDB1	343523	912630	USGS	112	205	98	107	03/25/2008
01S05W14BBC1	343722	913109	USGS	118	211	109.68	101	03/25/2008
01S05W31DDA1	343417	913432	USGS	120	206	105.57	100	03/26/2008
02N04W02BCB1	344916	912419	USGS	140	188	19.88	168	03/25/2008
02N04W32CCB1	344436	912738	USGS	--	221	84.84	136	03/25/2008
02N05W06BAB1	344958	913421	USGS	145	221	89.81	131	03/26/2008
02N05W13AAB1	344805	912854	USGS	130	223	51.83	171	03/25/2008
02N05W29DDB2	344545	913309	USGS	135	228	119.78	108	03/26/2008
02N06W17ABB1	344809	913959	ANRC	180	235	125.82	109	03/26/2008
02S06W14BBB1	343213	913729	USGS	105	201	75.76	125	03/26/2008
03N04W03AAC1	345439	912424	USGS	106	187	26.91	160	03/25/2008
03N05W03BDD2	345444	913115	USGS	110	207	65.25	142	03/26/2008
03N06W01BCB1	345455	913601	USGS	115	216	80.72	135	03/26/2008
03N06W19BDD1	345207	914110	USGS	105	221	86.33	135	03/26/2008
04N04W07ADC1	345850	912733	USGS	110	195	23.66	171	03/25/2008
04N05W07CDC1	345043	913441	USGS	--	212	79.34	133	03/25/2008
04N05W31DDC1	345514	913406	USGS	104	206	76.25	130	03/26/2008
04N06W05CCC1	345934	914018	USGS	100	206	80.49	126	03/25/2008
04N07W03DCB1	345942	914412	ANRC	100	255	88.73	166	03/25/2008
04N07W20DDB1	345709	914607	USGS	160	255	103.11	152	02/07/2008
04N07W28BBA1	345701	914545	ANRC	110	258	97.67	160	03/25/2008
05N05W14DCD1	350252	913034	USGS	--	205	31.74	173	03/25/2008
Pulaski County								
01S10W29CC1	343538	920708	USGS	100	239	14.87	224	03/18/2008
02S10W14DC1	343205	920334	USGS	60	225	23.5	202	03/18/2008
02S10W16CCA1	343217	920549	USGS	--	230.76	25.33	205	03/18/2008
Randolph County								
18N01E13BAB1	361230	905551	NRCS	100	266	16	250	04/08/2008
18N01E28AAD1	361040	905820	NRCS	120	265	13.5	252	04/08/2008
18N01E34AAC1	360943	905729	USGS	--	266	15.9	250	04/10/2008
18N02E03DAD1	361336	905043	NRCS	120	280	32.5	248	04/08/2008
18N02E17CBB1	361204	905356	NRCS	--	265	19	246	04/08/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; --, no data; NGVD of 1929, National Geodetic Vertical Datum of 1929; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
Randolph County—Continued								
18N02E20BDA1	361125	905332	NRCS	110	274	32.5	242	04/08/2008
18N02E22DCD1	361046	905105	ANRC	110	273	39.12	234	04/10/2008
18N02E34BCC1	360933	905150	NRCS	100	265	35.5	230	04/08/2008
19N02E09DCA1	361757	905157	USGS	--	267	-0.5	268	04/10/2008
20N02E01ADD1	362424	904811	ANRC	65	280	2.66	277	04/10/2008
20N02E01ADD2	362424	904811	NRCS	65	281	3	278	04/10/2008
20N02E12BAA1	362352	904848	NRCS	60	281	19	262	04/09/2008
20N02E14DAB1	362232	904930	NRCS	100	274	18	256	04/10/2008
20N02E21CDD1	362117	905107	NRCS	110	270	9	261	04/10/2008
20N03E28BA1	362114	904538	ANRC	--	276	9.43	267	04/10/2008
20N03E33CCA1	361941	904552	NRCS	--	287	23.5	264	04/09/2008
St. Francis County								
04N01E13ADA1	345755	905638	USGS	--	206	61.56	144	04/02/2008
04N01W28CDD1	345535	910634	USGS	--	208	72.51	135	04/02/2008
04N02E19BBB1	345701	905633	USGS	72.2	209	61.77	147	04/02/2008
04N03E21DAD1	345623	904655	USGS	--	236	60.37	176	04/02/2008
04N05E22BBB1	345651	903357	USGS	--	200	27.22	173	04/02/2008
05N01E15BCB1	350303	905942	USGS	94.1	209	69.66	139	04/02/2008
05N01E27BBA1	350136	905929	USGS	--	209	69.07	140	04/02/2008
05N02E20ADC1	350157	905437	USGS	79	211	56.07	155	04/02/2008
05N03E20AAA2	350214	904801	USGS	153.45	250	106.09	144	04/02/2008
05N05E19DCA1	350128	903630	ANRC	110	203	32.66	170	04/02/2008
05N06E34CAB1	350026	902657	USGS	110	200	28.38	172	04/02/2008
06N01E33ACA2	350552	905942	USGS	--	211	69.41	142	04/02/2008
06N02E13DCA1	350813	905003	USGS	--	231	75.8	155	04/02/2008
06N02E15BDD1	350842	905247	USGS	75	214.64	62.23	152	04/02/2008
06N02E24AAA1	350755	905002	USGS	147	232	72.94	159	04/02/2008
06N05E22ACC1	350723	903252	USGS	--	200	42.82	157	04/02/2008
06N06E20ABB2	350747	902841	ANRC	150	200	37.3	163	04/02/2008
White County								
05N07W09AAA1	350447	914441	USGS	29.5	205	12.62	192	04/16/2008
05N07W10CCC1	350400	914436	USGS	80	203	7.79	195	04/16/2008
06N06W04BAA1	351047	913910	ANRC	70	220	28.9	191	04/16/2008
06N06W04BAD1	351037	913903	NRCS	--	215	36.7	178	03/27/2008
06N06W13DBB1	350918	913552	NRCS	--	213	45.8	167	03/27/2008

Appendix 1. Information pertaining to water levels measured in wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, spring 2008.—Continued

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; --, no data; NGVD of 1929, National Geodetic Vertical Datum of 1929; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station nme	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Source of data	Depth of well (feet)	Land-surface datum altitude (feet above NGVD of 1929)	Depth to water (feet below land-surface datum)	Water-level altitude (feet above NGVD of 1929)	Date of measure-ment
White County—Continued								
06N06W18BBC1	350851	914152	USGS	--	210	12.09	198	04/16/2008
06N06W18BCA1	350835	914150	NRCS	--	210	13.8	196	03/27/2008
06N06W34AAB1	350624	913754	USGS	--	213	60.78	152	04/16/2008
06N07W17DCC1	350822	914635	USGS	90	217	13.42	204	04/16/2008
06N08W13ABA1	350908	914824	USGS	60	228	6.6	221	04/16/2008
06N08W26DDB1	350640	914931	USGS	89	230	13.23	217	04/16/2008
07N05W01AAA1	351553	912858	USGS	--	205	11.11	194	04/16/2008
07N05W32BAB1	351137	913406	USGS	80	213.7	33.17	181	04/16/2008
08N04W06CCB1	352028	912847	USGS	74	214	12.81	201	04/16/2008
08N05W32CBC1	351616	913417	USGS	--	199	3.46	196	04/16/2008
Woodruff County								
04N03W03AB1	350021	911820	ANRC	100	185	9.63	175	04/11/2008
05N01W13CDC1	350244	910331	NRCS	135	210	76.6	133	04/17/2008
05N01W31CCC1	350106	910900	NRCS	140	210	61.2	149	04/17/2008
05N02W20DCB1	350208	911356	USGS	--	192	11.87	180	04/11/2008
05N03W25DDB1	350133	911531	NRCS	120	190	10.6	179	04/17/2008
05N04W12DBA1	350427	912211	USGS	92	186	2.94	183	04/15/2008
06N01W06BAB1	351048	910835	USGS	--	202	36.73	165	04/11/2008
06N02W19AAA1	350802	911419	NRCS	130	225	45.9	179	04/17/2008
06N03W31BCB1	350623	912144	USGS	--	185	1.5	184	04/15/2008
06N04W22BDA1	350807	912428	NRCS	120	186	-1	187	04/17/2008
07N01W04ACB1	351541	910626	NRCS	125	225	64.2	161	04/17/2008
07N03W06BAC1	351607	912109	NRCS	100	211	23.5	188	03/21/2008
07N03W19AAA1	351335	912025	USGS	100	202.59	8.39	194	04/15/2008
07N03W31BBA1	351152	912103	NRCS	120	195	7.7	187	04/17/2008
08N01W06DDD1	352028	910747	USGS	--	218	46.14	172	04/11/2008
08N02W27DDB1	351711	911107	NRCS	100	214	27.5	187	04/17/2008
08N02W31DDD1	351611	911411	USGS	40	194.55	1.66	193	04/11/2008
08N03W31AAD1	351655	912028	USGS	110	212	22.78	189	04/15/2008
09N03W28ABB1	352310	911845	NRCS	120	220	17.6	202	04/17/2008
09N03W29AAD1	352258	911921	USGS	--	220	18.9	201	04/15/2008
09N03W32ACA1	352205	911936	NRCS	120	217	16.9	200	04/17/2008

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	2004 water-level date	2004 depth to water (feet below land-surface datum)	2008 water-level date	2008 depth to water (feet below land-surface datum)	Water-level difference 2004 to 2008 (feet)
Arkansas County							
02S04W11DBB1	343233	912415	3/09/2004	99.78	3/24/2008	100.74	-1.0
02S05W15AAB1	343213	913127	3/09/2004	107.66	3/24/2008	107.38	0.3
02S05W31BBB1	342937	913536	3/09/2004	38.18	3/24/2008	41.24	-3.1
03S02W27ABB1	342448	911251	3/09/2004	65.58	3/25/2008	65.92	-0.3
03S03W05CCD1	342737	912132	3/09/2004	97.85	3/24/2008	99.78	-1.9
03S03W27BBC1	342455	911944	3/04/2004	90.83	3/24/2008	93.04	-2.2
03S04W02BBB1	342831	912454	3/04/2004	91.92	3/24/2008	93.22	-1.3
03S04W03DCA16	342753	912515	3/04/2004	100.02	5/12/2008	101.14	-1.1
03S05W03CCC1	342752	913227	3/08/2004	104.87	3/20/2008	104.42	0.5
03S06W35ADD1	342411	913652	3/08/2004	51.98	3/21/2008	54.81	-2.8
04S01W04ACD2	342233	910733	3/09/2004	5.62	3/25/2008	4.05	1.6
04S01W31DCB1	341753	910949	3/09/2004	52.04	3/25/2008	52.42	-0.4
04S02W11AAA1	342209	911123	3/09/2004	66.4	3/25/2008	67.81	-1.4
04S02W29CCC1	341846	911539	3/09/2004	81.8	3/25/2008	83.92	-2.1
04S03W17ADD1	342102	912058	3/04/2004	107.08	3/24/2008	109.98	-2.9
04S03W32BCB1	341820	912202	3/04/2004	116.43	3/20/2008	123.19	-6.8
04S04W02ABB1	342313	912424	3/04/2004	108.54	3/24/2008	109.89	-1.4
04S04W35ABC1	341835	912437	4/09/2004	103.5	4/07/2008	106	-2.5
04S05W16CDC1	342045	913321	3/08/2004	70.58	3/20/2008	71.25	-0.7
04S05W24DAA1	342001	912930	3/08/2004	90.49	3/20/2008	90.17	0.3
04S06W15DBB1	342122	913827	3/08/2004	32.84	3/21/2008	34.88	-2.0
05S01W16BAB1	341552	910729	3/09/2004	49.61	3/25/2008	51.37	-1.8
05S02W16ABD1	341552	911358	3/04/2004	79.36	3/20/2008	86.13	-6.8
05S04W07CCC1	341555	912932	3/08/2004	75.2	3/20/2008	75.05	0.2
05S04W32BBA1	341316	912822	3/08/2004	58.03	3/20/2008	58.75	-0.7
05S06W02DDD1	341724	913651	3/08/2004	20.48	3/21/2008	21.8	-1.3
05S06W07DDC1	341642	914130	3/08/2004	2.78	3/21/2008	3.83	-1.1
06S02W23DCD1	340853	911206	3/04/2004	68.17	3/20/2008	70.61	-2.4
06S03W10BBA1	341136	911954	3/04/2004	82.42	3/20/2008	82.25	0.2
06S03W27AAA1	340858	911913	3/04/2004	66.72	3/20/2008	68.55	-1.8
07S02W04BBB1	340707	911452	3/04/2004	35.38	3/20/2008	50.5	-15.1
07S02W17BBA1	340530	911539	3/04/2004	52.23	3/20/2008	54.05	-1.8
07S03W18CCD1	340435	912316	3/04/2004	43.08	3/20/2008	44.17	-1.1
07S03W32BBC1	340240	912216	3/04/2004	25.5	3/20/2008	26.45	-1.0

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.—Continued

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	2004 water-level date	2004 depth to water (feet below land-surface datum)	2008 water-level date	2008 depth to water (feet below land-surface datum)	Water-level difference 2004 to 2008 (feet)
Arkansas County—Continued							
07S04W01DDD1	340625	912327	3/04/2004	44.52	3/20/2008	48.48	-4.0
08S02W08ACA1	340041	911506	3/04/2004	42.23	3/20/2008	42.67	-0.4
08S03WT2299	340147	912203	3/04/2004	21.62	3/20/2008	22.09	-0.5
Ashley County							
15S04W23DBD1	332247	912852	2/26/2004	32.29	3/11/2008	33.42	-1.1
15S04W26DCC1	332232	912902	2/26/2004	30.97	3/11/2008	32.17	-1.2
15S07W21CBA1	332316	915001	2/25/2004	3.74	3/10/2008	4.52	-0.8
16S06W08CAA1	331941	914438	2/25/2004	77.22	3/10/2008	78.92	-1.7
16S06W27BAB1	331729	914240	2/25/2004	83.2	3/10/2008	84.07	-0.9
17S04W03ABB1	331528	913010	2/26/2004	28.97	3/11/2008	30.77	-1.8
17S04W15DDC1	331252	912954	2/26/2004	26.45	3/11/2008	27.7	-1.3
17S04W21ABA1	331252	913108	2/26/2004	21.37	3/11/2008	22.97	-1.6
17S06W01ADD1	331518	913956	2/25/2004	82.57	3/10/2008	84.03	-1.5
17S06W35CAC1	331049	914136	2/25/2004	78.29	3/10/2008	72.41	5.9
18S04W23DDD1	330658	912856	4/30/2004	22	4/15/2008	30	-8.0
18S05W11CCD1	330841	913538	4/30/2004	16	4/15/2008	27	-11.0
18S05W22DDA1	330712	913555	4/30/2004	12	4/15/2008	22	-10.0
18S08W01AAB1	331015	915225	2/25/2004	86.33	3/10/2008	84.34	2.0
18S08W28DDD2	330625	915528	2/26/2004	85.16	5/13/2008	85.11	0.1
19S04W06BAB2	330504	913329	2/26/2004	24.07	3/11/2008	23.92	0.2
19S04W14BBB1	330310	912913	4/30/2004	20	4/15/2008	31	-11.0
19S05W08ACA1	330405	913815	4/30/2004	11	4/15/2008	18	-7.0
19S05W16ABB1	330323	913718	4/30/2004	19	4/15/2008	28	-9.0
19S05W22DCD1	330139	913615	4/30/2004	20	4/15/2008	26	-6.0
19S06W07BCC1	330404	914608	2/25/2004	31.43	3/10/2008	32.46	-1.0
Chicot County							
13S03W27AAA1	333253	912310	4/28/2004	43	3/24/2008	48	-5.0
13S03W34BAA1	333110	912539	2/26/2004	39.77	3/11/2008	40.74	-1.0
13S03W34CAA1	333136	912336	2/26/2004	36.52	3/11/2008	37.92	-1.4
13S03W35BAC1	333154	912246	2/26/2004	38.87	3/11/2008	41.29	-2.4
14S02W09BDD1	332859	911729	5/07/2004	29	3/26/2008	30	-1.0
14S03W32CDB2	332613	912551	2/26/2004	34.93	3/11/2008	35.76	-0.8
15S02W20DDC1	332227	911920	4/28/2004	30	3/26/2008	32	-2.0

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.—Continued

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	2004 water-level date	2004 depth to water (feet below land-surface datum)	2008 water-level date	2008 depth to water (feet below land-surface datum)	Water-level difference 2004 to 2008 (feet)
Chicot County—Continued							
16S03W11ADC1	331920	912234	2/27/2004	28.51	3/11/2008	29.61	-1.1
17S01E17CDA1	331259	910716	2/26/2004	21.77	3/11/2008	21	0.8
17S01E18ADA1	331326	910758	2/26/2004	11.24	3/11/2008	11.53	-0.3
17S01W06BCC1	331501	911505	2/27/2004	22.17	3/11/2008	21.57	0.6
17S02W10AAA1	331429	911712	2/27/2004	27.04	3/11/2008	27.36	-0.3
17S03W18CBC1	331257	912736	4/28/2004	33	3/26/2008	35	-2.0
17S03W28DBA1	331127	912441	2/27/2004	24.61	3/11/2008	24.74	-0.1
18S01W19DAB1	330709	911423	2/26/2004	12.18	3/11/2008	13.95	-1.8
18S01W33BAD1	330543	911245	4/28/2004	13	3/26/2008	14	-1.0
18S03W22ABA2	330728	912341	2/26/2004	12.53	3/11/2008	11.17	1.4
19S01W17BCC1	330250	911406	2/26/2004	19.19	3/11/2008	20.57	-1.4
19S03W14ABB1	330304	912251	2/26/2004	22.92	3/11/2008	23.99	-1.1
Clay County							
18N08E03DAB1	361323	901153	3/30/2004	6.84	4/09/2008	4.29	2.6
18N08E11BAA1	361253	901117	4/14/2004	6.8	4/02/2008	4	2.8
19N03E24AAA1	361655	904157	3/30/2004	18.18	4/09/2008	20.96	-2.8
19N04E11DAA1	361805	903621	4/14/2004	22.6	4/02/2008	17.8	4.8
19N04E19AAA1	361654	904050	3/30/2004	29.03	4/09/2008	31.56	-2.5
19N04E19BAA1	361649	904125	4/14/2004	21.5	4/06/2008	23.2	-1.7
19N05E15BBD1	361716	903152	4/14/2004	32.5	4/02/2008	39	-6.5
19N06E18DBC1	361642	902815	4/14/2004	32.5	4/02/2008	38.9	-6.4
19N07E25BCB1	361519	901700	4/14/2004	16.6	4/02/2008	13.1	3.5
19N08E08DCA1	361729	901402	4/14/2004	8	4/02/2008	4	4.0
19N09E19CDC1	361539	900908	4/14/2004	7.5	4/02/2008	4.5	3.0
20N03E25BAA1	362112	904225	4/14/2004	21.8	4/06/2008	23	-1.2
20N04E03ADA1	362425	903725	4/14/2004	16.9	4/08/2008	16	0.9
20N05E22CAD1	362118	903132	4/14/2004	27	4/02/2008	29.5	-2.5
20N05E30CAC1	362003	903454	4/14/2004	16.9	4/06/2008	17.4	-0.5
20N05E34DBA1	361939	903117	3/30/2004	27.63	4/09/2008	31.78	-4.2
20N06E09BBA1	362327	902620	4/14/2004	19.8	3/26/2008	22.5	-2.7
20N06E28CCD1	362005	902630	4/14/2004	27	4/02/2008	30.8	-3.8
20N08E22BDC1	362111	901220	4/14/2004	8.5	4/02/2008	6.5	2.0
20N09E09ABC1	362306	900642	4/14/2004	8	4/02/2008	3	5.0
20N09E33DDC1	361904	900628	4/14/2004	6.9	4/02/2008	5	1.9

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.—Continued

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	2004 water-level date	2004 depth to water (feet below land-surface datum)	2008 water-level date	2008 depth to water (feet below land-surface datum)	Water-level difference 2004 to 2008 (feet)
Clay County—Continued							
21N03E15CBC1	362738	904453	4/14/2004	12.1	4/28/2008	5	7.1
21N03E36CDD1	362450	904214	4/14/2004	18.1	4/08/2008	11.1	7.0
21N04E09DBC1	362828	903853	4/14/2004	11	4/08/2008	10	1.0
21N05E17ABB1	362755	903329	3/30/2004	20.32	4/09/2008	23.92	-3.6
21N05E22BAB1	362704	903132	4/14/2004	6.5	4/08/2008	5.8	0.7
21N06E11BBB1	362839	902421	4/14/2004	11.9	4/02/2008	15.2	-3.3
21N06E28BB1	362605	902608	3/30/2004	17.03	4/09/2008	19.38	-2.4
21N07E01DDC1	362835	901607	4/14/2004	18.5	4/02/2008	33.2	-14.7
21N07E19BDA1	362640	902148	4/14/2004	18	3/26/2008	24.8	-6.8
21N08E18CCC1	362651	901550	3/30/2004	30.87	4/09/2008	40.71	-9.8
21N08E36ABB1	362502	900958	3/30/2004	1.63	4/09/2008	2.68	-1.1
21N09E31BDA1	362447	900851	4/14/2004	5.4	4/2/2008	1	4.4
Craighead County							
13N01E03AAA1	354739	905753	3/16/2004	52.2	3/17/2008	56.6	-4.4
13N01E21CAB	354434	905945	3/16/2004	59	3/17/2008	65.5	-6.5
13N01E23CAB1	354430	905736	3/17/2004	64.5	3/17/2008	70.1	-5.6
13N01E23DAA1	354435	905652	3/25/2004	69.39	4/10/2008	71.08	-1.7
13N02E02AAB1	354731	905032	3/16/2004	85	3/17/2008	93.8	-8.8
13N02E03AAA1	354733	905129	3/16/2004	83.8	3/17/2008	88.7	-4.9
13N03E23CDA1	354419	904434	3/16/2004	78.8	3/12/2008	81.7	-2.9
13N03E29AAA1	354403	904713	3/25/2004	102.05	4/10/2008	105.76	-3.7
13N03E35AAA1	354308	904401	3/16/2004	93.5	3/12/2008	97.5	-4.0
13N04E12ABB1	354635	903656	3/25/2004	23.46	4/10/2008	24.51	-1.1
13N04E15DBA1	354521	903857	3/09/2004	25.2	3/12/2008	26.6	-1.4
13N04E26BCC1	354340	903829	3/09/2004	27.4	3/12/2008	26.6	0.8
13N05E02CCC1	354648	903202	3/09/2004	9	3/12/2008	13.5	-4.5
13N05E06DCC1	354637	903547	3/09/2004	20	3/12/2008	20.4	-0.4
13N05E22BAD1	354449	903243	3/25/2004	13.11	4/10/2008	13.23	-0.1
13N05E24BAC1	354451	903045	3/09/2004	5.5	3/12/2008	8.8	-3.3
13N06E21AAA1	354450	902701	3/09/2004	7	3/12/2008	8.5	-1.5
13N07E02CAB1	354642	901901	3/16/2004	5	3/12/2008	10.5	-5.5
13N07E05ABB1	354716	902158	3/16/2004	5.5	3/12/2008	4.4	1.1
13N07E20BBA1	354440	902216	3/25/2004	3.9	4/10/2008	1.95	2.0

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.—Continued

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Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	2004 water-level date	2004 depth to water (feet below land-surface datum)	2008 water-level date	2008 depth to water (feet below land-surface datum)	Water-level difference 2004 to 2008 (feet)
Craighead County—Continued							
13N07E35BCD1	354233	901837	3/16/2004	8	3/12/2008	12.9	-4.9
14N01E03ACB1	355246	905816	3/17/2004	48.1	3/17/2008	51.5	-3.4
14N01E10BAB1	355204	905828	3/17/2004	50.1	3/17/2008	54	-3.9
14N01E31DCA1	354817	910121	3/17/2004	56.7	3/17/2008	61.9	-5.2
14N02E18BDD1	355041	905419	3/25/2004	50.25	4/10/2008	53.57	-3.3
14N02E22AAA1	355007	905129	3/17/2004	71	3/17/2008	78	-7.0
14N05E25ABB1	354921	903025	3/25/2004	18.14	4/10/2008	18.58	-0.4
14N06E06BAA1	355234	902934	3/16/2004	21	3/12/2008	21.5	-0.5
14N06E27AAB1	354911	902559	3/25/2004	2.45	4/10/2008	-0.25	2.7
14N07E14DDC1	354956	901831	3/08/2004	4.5	3/12/2008	13.1	-8.6
14N07E26DBB1	354834	901843	3/25/2004	5.35	4/10/2008	2.68	2.7
15N02E12DCB1	355626	904930	3/17/2004	31.7	3/17/2008	36.5	-4.8
15N03E19ADA1	355502	904802	3/25/2004	47.93	4/10/2008	51.27	-3.3
15N05E22BAB1	355513	903241	3/16/2004	38	3/12/2008	31.8	6.2
15N06E04BAD1	355744	902706	3/12/2004	11	3/12/2008	17.4	-6.4
15N06E20DDD1	355426	902739	3/25/2004	8.62	4/10/2008	9.37	-0.8
15N07E35DCB1	355241	901831	3/08/2004	6.5	3/12/2008	13.9	-7.4
Crittenden County							
04N07E21AAD1	345644	902121	3/24/2004	9.98	4/03/2008	10.1	-0.1
05N07E08BDC1	350407	902234	4/13/2004	22	4/07/2008	26	-4.0
05N07E28CBA1	350121	902140	3/24/2004	16.98	4/03/2008	17.08	-0.1
05N07E34BAB1	350059	902030	3/24/2004	14.89	4/03/2008	16.27	-1.4
05N07E34CDD1	350010	902028	4/13/2004	19	4/07/2008	9.9	9.1
05N08E11CCD2	350345	901308	3/24/2004	26.06	4/03/2008	25.27	0.8
06N07E14ABA1	350848	901858	4/13/2004	25	4/07/2008	23.6	1.4
07N06E29CBC1	351152	902914	4/13/2004	37	4/08/2008	40.11	-3.1
07N07E31CCC1	351042	902359	3/24/2004	31.56	4/03/2008	36.48	-4.9
07N08E04BBD1	351538	901505	4/15/2004	19	3/26/2008	22.9	-3.9
07N09E05CDD1	351453	900934	3/24/2004	14.34	4/03/2008	14.83	-0.5
08N06E01DCC1	352021	902408	4/13/2004	32	3/26/2008	33.1	-1.1
08N07E13CCC2	351828	901812	3/24/2004	28.25	4/03/2008	31.43	-3.2
08N07E14DAA2	351854	901833	3/24/2004	29.2	4/03/2008	31.82	-2.6
08N07E32DAA1	351618	902146	4/13/2004	26	4/07/2008	31.4	-5.4
08N08E06ABB1	352103	901644	4/13/2004	27.5	3/26/2008	31.3	-3.8

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.—Continued

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Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	2004 water-level date	2004 depth to water (feet below land-surface datum)	2008 water-level date	2008 depth to water (feet below land-surface datum)	Water-level difference 2004 to 2008 (feet)
Crittenden County—Continued							
09N07E02CDB1	352537	901905	4/13/2004	33	3/26/2008	33.5	-0.5
09N07E10DDA1	352448	901925	3/24/2004	27.26	4/03/2008	29.29	-2.0
09N07E31BAB1*	352160	902327	3/24/2004	32.31	3/26/2008	32.1	0.2
09N07E31BAB1*	352160	902327	4/13/2004	31	4/03/2008	34.06	-3.1
09N08E04CDC1	352527	901444	4/13/2004	24	3/26/2008	27	-3.0
Cross County							
06N02E11BDB1	350934	905132	4/15/2004	61	4/14/2008	69.5	-8.5
06N02E12AAA1	350934	904952	4/15/2004	79	4/14/2008	81	-2.0
07N01E05CDA1	351518	910049	3/23/2004	71.75	4/04/2008	76.38	-4.6
07N01E05DCA1	351514	910033	4/15/2004	72	4/08/2008	77.5	-5.5
07N01E06CAA1	351530	910154	4/08/2004	71	4/08/2008	75	-4.0
07N01E11AAA1	351501	905705	3/23/2004	74.77	4/02/2008	78.62	-3.9
07N02E29DDC1	351138	905409	3/23/2004	70.48	4/02/2008	74.14	-3.7
07N03E05ADA1	351549	904739	3/23/2004	120.85	4/08/2008	112.23	8.6
07N03E32DCC1	351045	904810	3/23/2004	95.88	4/02/2008	97.8	-1.9
07N05E19CCC1	351238	903645	3/23/2004	34.91	4/02/2008	39.34	-4.4
07N05E24CCC1	351232	903121	4/15/2004	35	4/03/2008	37.6	-2.6
07N05E25ABA1	351229	903045	3/23/2004	35.81	4/07/2008	38.94	-3.1
08N01E16DBB1	351855	905933	4/08/2004	84	4/08/2008	87	-3.0
08N02E12DCC1	351938	905002	4/15/2004	88	4/14/2008	92	-4.0
08N02E17AAA1	351923	905354	4/08/2004	82	4/08/2008	90	-8.0
08N05E32ADD1	351632	903440	3/23/2004	28.47	4/03/2008	31.47	-3.0
09N01E04ACD1	352608	905914	4/08/2004	85	4/08/2008	90	-5.0
09N01E33BBA2	352203	910001	3/23/2004	78.4	4/04/2008	83.67	-5.3
09N01E36AAB1	352155	905605	4/15/2004	83	4/08/2008	91.5	-8.5
09N02E20AAA1	352402	905342	4/08/2004	91	4/08/2008	94	-3.0
09N02E30CBB1	352243	905551	4/08/2004	87	4/08/2008	90	-3.0
09N03E17CDD1	352422	904753	4/08/2004	102	4/14/2008	105.5	-3.5
09N03E17DDC1	352409	904726	3/23/2004	103.96	4/04/2008	107.77	-3.8
09N05E32BCB1	352151	903525	4/15/2004	35	4/09/2008	30	5.0
09N05E32BDB1	352151	903512	3/23/2004	29.12	4/03/2008	32.17	-3.1
Desha County							
07S01E19ABA1	340428	910303	4/13/2004	14	3/25/2008	22.5	-8.5
08S03W33ABD1	335803	912338	3/02/2004	5.32	3/13/2008	6.93	-1.6

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.—Continued

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Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	2004 water-level date	2004 depth to water (feet below land-surface datum)	2008 water-level date	2008 depth to water (feet below land-surface datum)	Water-level difference 2004 to 2008 (feet)
Desha County—Continued							
09S01W08BDA1	335608	911234	4/30/2004	25	4/01/2008	30	-5.0
09S01W15CBB1	335501	911055	4/30/2004	35	4/01/2008	39	-4.0
09S02W26DDC1	335257	911530	3/02/2004	30.47	5/13/2008	31.68	-1.2
09S03W05BAC1	335704	912506	4/30/2004	38	4/01/2008	36	2.0
09S03W13BAB1	335500	911922	4/30/2004	31	4/01/2008	35	-4.0
09S03W17DCB1	335448	912457	3/02/2004	33.82	3/13/2008	33.68	0.1
09S04W06BCA1	335756	913243	3/02/2004	33.75	3/13/2008	36.43	-2.7
10S01W23CDA1	335305	911032	4/30/2004	22	4/01/2008	31	-9.0
10S02W11ADD1	335045	911517	4/30/2004	28	4/01/2008	31	-3.0
10S02W24DBC1	334850	911453	3/02/2004	25.88	3/12/2008	26.18	-0.3
10S03W26CAA1	334806	912145	3/02/2004	45.12	3/12/2008	47.43	-2.3
11S02W15ADD1	334446	911635	4/30/2004	33	4/01/2008	36	-3.0
11S03W16CBA1	334439	912433	4/30/2004	32	4/01/2008	36	-4.0
11S03W31BBA1	334228	912651	3/02/2004	34.18	3/12/2008	37.27	-3.1
12S01W33BAA1	333718	911205	3/02/2004	24.55	3/13/2008	25.21	-0.7
13S02W17ADA1	333421	911858	4/30/2004	44	4/01/2008	46	-2.0
13S02W27CAC1	333224	911735	3/02/2004	31.92	3/12/2008	32.43	-0.5
13S02W32DBD1	333126	911917	4/30/2004	38	4/01/2008	40	-2.0
13S03W10DAA1	333506	912302	3/02/2004	45.95	3/12/2008	49.17	-3.2
13S03W11CAB1	333503	912241	4/30/2004	51	4/01/2008	52	-1.0
Drew County							
11S04W08DBA1	334532	913136	3/01/2004	23.13	3/12/2008	26.08	-3.0
11S05W08CCC1	334546	913837	3/01/2004	35.79	3/12/2008	37.47	-1.7
12S04W03ABB1	334134	912946	3/01/2004	24.11	3/12/2008	26.02	-1.9
12S04W25DBB1	333739	912738	5/04/2004	34	3/17/2008	36	-2.0
13S04W09ACD1	333512	913034	5/04/2004	16.4	3/17/2008	20	-3.6
13S04W33BAA1	333206	913100	3/01/2004	19.03	3/12/2008	19.32	-0.3
13S05W29ADA1	333248	913747	3/01/2004	30.5	3/12/2008	46.85	-16.4
13S06W03DDC1	333545	914202	3/01/2004	61.06	3/12/2008	64.89	-3.8
13S06W21DAA1	333324	914258	5/05/2004	89	3/17/2008	72	17.0
14S04W03ADD1	333050	912929	5/04/2004	25	3/17/2008	28	-3.0
14S04W05CBC1	333042	913226	5/04/2004	13	3/17/2008	20	-7.0
15S04W13DAD1	332338	912730	4/28/2004	35	3/25/2008	42	-7.0

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.—Continued

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Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	2004 water-level date	2004 depth to water (feet below land-surface datum)	2008 water-level date	2008 depth to water (feet below land-surface datum)	Water-level difference 2004 to 2008 (feet)
Greene County							
16N03E03BA1	360316	904516	3/30/2004	29.04	4/09/2008	33.17	-4.1
16N03E05BBB1	360316	904750	4/16/2004	28.4	4/17/2008	32.6	-4.2
16N03E16DDD1	360049	904547	4/16/2004	34.8	4/17/2008	28.1	6.7
16N03E29ACC1	355926	904722	4/16/2004	29.2	4/17/2008	37.1	-7.9
16N06E03CCC1	360224	902626	3/29/2004	40.39	4/09/2008	41.19	-0.8
16N06E09ABB1	360215	902651	4/15/2004	40.4	4/07/2008	40.2	0.2
16N06E21BAA1	360031	902705	4/15/2004	25	4/07/2008	27.6	-2.6
16N06E28ABB1	355938	902657	3/29/2004	23.89	4/09/2008	25.73	-1.8
17N03E02DCC1	360806	904352	4/16/2004	31	4/17/2008	30.8	0.2
17N04E07AD1	360718	904122	4/16/2004	36.1	4/17/2008	38.1	-2.0
17N04E30CDC1	360409	904218	3/30/2004	35.38	4/09/2008	39.09	-3.7
17N06E15ABC1	360631	902546	4/15/2004	38.2	4/17/2008	30.9	7.3
17N07E18ABB1	360638	902235	3/29/2004	6.97	4/09/2008	7.85	-0.9
18N03E24ACA1	361119	904216	4/16/2004	29.8	4/17/2008	35.1	-5.3
18N04E04AAC1	361356	903854	4/16/2004	28.2	4/17/2008	31.3	-3.1
18N04E21CBD1	361052	903725	3/30/2004	53.9	4/09/2008	58.57	-4.7
18N06E23ABB1	361109	902402	4/15/2004	10.3	4/17/2008	15.4	-5.1
18N07E17BAB1	361203	902105	4/15/2004	8.3	4/07/2008	8.6	-0.3
18N07E20BBA1	361110	902113	3/29/2004	6.88	4/09/2008	7.23	-0.4
19N03E26AD1	361601	904258	3/30/2004	27.59	4/09/2008	30.28	-2.7
19N03E33DDD1	361418	904516	4/16/2004	33.8	4/17/2008	36.5	-2.7
19N05E34AAD1	361437	903102	4/15/2004	30.5	4/17/2008	34.8	-4.3
Independence County							
12N04W14DD1	353929	912236	3/31/2004	24.71	4/16/2008	10.54	14.2
12N04W34CBB1	353720	912513	3/31/2004	21.91	4/16/2008	4.47	17.4
12N05W36AAA1	353738	912827	3/31/2004	23.75	4/16/2008	6.41	17.3
Jackson County							
09N01W22ADD1	352332	910433	3/31/2004	59.66	4/15/2008	63.04	-3.4
09N02W32BBB1	352215	911344	4/01/2004	29.2	3/27/2008	32.2	-3.0
09N02W32CBB1	352152	911348	3/31/2004	28.35	4/15/2008	30.39	-2.0
10N02W29ABB1	352829	911312	3/31/2004	25.83	4/15/2008	28.47	-2.6
11N01W26AAD1*	353330	910323	3/26/2004	65.1	3/27/2008	69.3	-4.2
11N01W26AAD1*	353330	910323	3/31/2004	65.25	4/15/2008	68.29	-3.0
11N01W29AAD1	353339	910635	3/31/2004	39.01	4/15/2008	41.88	-2.9

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.—Continued

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	2004 water-level date	2004 depth to water (feet below land-surface datum)	2008 water-level date	2008 depth to water (feet below land-surface datum)	Water-level difference 2004 to 2008 (feet)
Jackson County—Continued							
11N02W25BBD1	353322	910855	3/26/2004	25.5	3/27/2008	28.1	-2.6
12N01W11BCB1	354127	910416	4/06/2004	36.6	3/27/2008	40.7	-4.1
12N02W25ABB2	353910	910852	3/31/2004	31.73	4/16/2008	34.41	-2.7
13N01W20AAA1	354514	910627	3/31/2004	37.64	4/16/2008	41.59	-4.0
13N03W15CDD1	354526	911749	3/31/2004	15.18	4/16/2008	7.41	7.8
13N03W36ABB1	354337	911532	4/06/2004	14.2	3/27/2008	16.3	-2.1
14N01W08AAA1	355216	910623	4/05/2004	33.7	3/27/2008	37.5	-3.8
14N01W09AAA1	355220	910515	3/31/2004	40.32	4/16/2008	43.88	-3.6
14N02W22BBC1	355026	911145	4/05/2004	26	3/27/2008	25.2	0.8
Jefferson County							
03S08W24BBC1	342620	914953	3/03/2004	49.58	3/18/2008	51.03	-1.5
03S09W06DDA1	342840	920037	3/03/2004	35.61	3/18/2008	37.02	-1.4
03S09W14BCD1	342712	915713	5/11/2004	46.6	3/31/2008	51	-4.4
03S09W22AAA1	342640	915728	5/11/2004	43	3/31/2008	43	0.0
03S09W29CBD1	342517	920023	3/03/2004	27.04	3/18/2008	27.74	-0.7
03S09W36ACC1	342428	915555	5/20/2004	46.3	3/31/2008	29	17.3
04S07W35DDB1	341836	914347	5/20/2004	26.2	3/31/2008	28.8	-2.6
04S08W13DCB1	342123	914926	3/03/2004	46.12	3/18/2008	47.99	-1.9
04S09W02CBD1	342325	915717	5/11/2004	44.7	3/31/2008	26.6	18.1
04S09W32DDA1	341859	920009	5/11/2004	19.7	3/31/2008	16	3.7
05S06W31CAA1	341330	914206	3/03/2004	16.17	3/18/2008	18.33	-2.2
05S07W29DDD1	341411	914654	5/20/2004	18	3/31/2008	16.1	1.9
05S08W12DAA1	341712	914907	3/03/2004	17.47	3/18/2008	16.15	1.3
06S05W15BCA1	341023	913245	3/03/2004	19.44	3/18/2008	18.22	1.2
06S06W23AAD1	341007	913712	3/03/2004	21.46	3/18/2008	19.02	2.4
06S07W14BAA1	341125	914426	3/03/2004	16.23	3/18/2008	15.25	1.0
07S08W06BAA1	340859	915647	3/03/2004	19.27	3/18/2008	19.07	0.2
Lawrence County							
15N01W35CBB1	355336	910356	3/31/2004	43.39	4/10/2008	46.68	-3.3
16N01E11DAC2	360203	905639	3/31/2004	43.66	4/10/2008	48.69	-5.0
16N01W30DDC1	355937	910723	4/07/2004	22	3/24/2008	13	9.0
16N02E34CBB1	355831	905208	4/07/2004	43	3/24/2008	50	-7.0
17N01E02BBA1	360901	905707	4/08/2004	12.2	3/24/2008	16.2	-4.0
17N02E04DCA1	360758	905224	4/06/2004	38	3/24/2008	44.2	-6.2

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.—Continued

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Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	2004 water-level date	2004 depth to water (feet below land-surface datum)	2008 water-level date	2008 depth to water (feet below land-surface datum)	Water-level difference 2004 to 2008 (feet)
Lawrence County—Continued							
17N02E19CDC1*	360516	905449	3/31/2004	38.23	4/10/2008	41.07	-2.8
17N02E19CDC1*	360516	905449	4/06/2004	36.6	4/15/2008	35.5	1.1
Lee County							
01N01E09CCC1	344215	910054	4/17/2004	30.5	4/15/2008	16.7	13.8
01N01E24CBD1	344033	905729	4/12/2004	16.3	4/15/2008	31	-14.7
01N02E01ADD1	344330	905016	4/07/2004	25	4/15/2008	33	-8.0
01N02E11BAB1	344255	905208	4/07/2004	26	4/15/2008	34	-8.0
01N02E12ABB1	344254	905040	4/07/2004	26	4/15/2008	29.5	-3.5
01N02E22CBA1	344056	905318	4/12/2004	28.5	4/15/2008	11	17.5
01N02E33CBB1	343858	905434	4/12/2004	14	4/15/2008	9	5.0
01N03E02BBC1	344339	904601	3/22/2004	47.04	4/01/2008	53.68	-6.6
01N03E35BBA1	343923	904549	3/22/2004	9.18	4/01/2008	13.85	-4.7
02N01E21BAA1	344633	910005	4/07/2004	33.3	4/15/2008	38.3	-5.0
02N01E23BAA2	344632	905820	3/22/2004	49.22	4/01/2008	52.1	-2.9
02N01W12BAA1	344828	910330	3/22/2004	42.07	4/01/2008	45.65	-3.6
02N01W34DDC1	344410	910520	4/12/2004	47	4/15/2008	52	-5.0
02N02E08ADC1	344807	905339	3/22/2004	43.93	4/01/2008	45.92	-2.0
02N02E21ABC1	344622	905358	3/22/2004	38.73	4/01/2008	41.25	-2.5
02N02E22BBB1	344628	905327	4/12/2004	34	4/15/2008	34	0.0
02N03E08AAD1	344811	904838	3/22/2004	43.43	4/01/2008	45.73	-2.3
02N03E09DDD1	344723	904707	4/15/2004	50	4/15/2008	47	3.0
02N03E29CAD1	344500	904846	4/15/2004	38.5	4/15/2008	43	-4.5
02N04E03ABD1	344855	903954	4/15/2004	28.5	4/15/2008	26	2.5
02N04E15DAC1	344637	903950	3/22/2004	18.15	4/01/2008	20.67	-2.5
03N01E16CBA1	345222	910040	3/22/2004	63.2	4/01/2008	65.14	-1.9
03N02E12CDC1	345239	905053	4/12/2004	27	4/15/2008	43	-16.0
03N02E13BBA1	345237	905107	3/22/2004	48.55	4/01/2008	51.87	-3.3
03N02E21CBC1	345111	905428	4/12/2004	55	4/15/2008	56	-1.0
03N02E29DAD1	345014	905430	3/22/2004	42.66	4/01/2008	44.64	-2.0
03N03E05CDD1	345327	904837	4/15/2004	32.5	4/15/2008	49	-16.5
03N03E32CAB1	344933	904926	3/22/2004	48.35	4/01/2008	51.22	-2.9
03N04E07CBB1	345245	904312	4/15/2004	32	4/15/2008	30	2.0
03N05E14DDA1	345148	903203	3/22/2004	13.55	4/01/2008	15.79	-2.2

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.—Continued

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Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	2004 water-level date	2004 depth to water (feet below land-surface datum)	2008 water-level date	2008 depth to water (feet below land-surface datum)	Water-level difference 2004 to 2008 (feet)
Lincoln County							
07S06W03CCA2	340828	914114	5/11/2004	16	3/12/2008	18	-2.0
07S07W36CBD1	340411	914529	5/11/2004	38	3/12/2008	41	-3.0
08S04W06ABD1	340341	913116	5/11/2004	17	3/12/2008	16	1.0
08S04W08BBB2	340254	913101	3/02/2004	21.23	3/13/2008	23.23	-2.0
08S04W29ABC1	340021	913044	5/11/2004	45	3/12/2008	45	0.0
08S04W31CBA1	335901	913150	3/02/2004	32.8	3/13/2008	35.11	-2.3
08S05W12AAD1	340246	913214	5/11/2004	21	3/12/2008	24	-3.0
08S05W21DCD1	340027	913533	5/11/2004	35	3/12/2008	30	5.0
08S05W32DCC1	335840	913644	5/11/2004	33	3/12/2008	47	-14.0
08S06W02ACB1	340339	913958	3/02/2004	42.64	3/13/2008	43.49	-0.9
09S04W06CBB1	335721	913252	5/11/2004	45	3/12/2008	39	6.0
09S05W17BCB1	335552	913820	3/03/2004	41.77	3/13/2008	43.17	-1.4
09S05W19CCC1	335428	913941	5/11/2004	32	3/12/2008	40	-8.0
09S06W04BCD1	335821	914346	3/02/2004	38.38	3/13/2008	42.58	-4.2
09S06W04BDD1	335759	914335	5/11/2004	41	3/12/2008	46	-5.0
09S06W23CDB1	335440	914136	3/02/2004	30.17	3/13/2008	30.92	-0.8
10S05W06DCC1	335155	913908	3/03/2004	30.38	3/13/2008	32.37	-2.0
Lonoke County							
01N08W03DDA1	344411	915050	4/8/2004	140.4	4/15/2008	137	3.4
01N09W07DAA1	344337	920030	4/08/2004	48.8	4/15/2008	51	-2.2
01N09W13DAB1	344235	915517	3/12/2004	87.12	3/19/2008	88.43	-1.3
01N10W15CDA1	344236	920415	4/08/2004	26.8	4/15/2008	31	-4.2
01S06W31ABB1	343459	914131	3/11/2004	78.7	3/19/2008	79.32	-0.6
01S06W32BBB1	343501	914056	4/08/2004	86.9	4/15/2008	78.5	8.4
01S07W12ABA1	343834	914230	3/11/2004	68.77	3/19/2008	71.77	-3.0
01S08W24CDD1	343606	914912	3/11/2004	83.93	3/19/2008	83.34	0.6
01S09W36CCC1*	343435	915619	3/12/2004	62.27	3/18/2008	61.91	0.4
01S09W36CCC1*	343435	915619	4/08/2004	61.6	4/15/2008	64	-2.4
01S10W01ACB1	343927	920215	3/12/2004	47.24	3/18/2008	44.63	2.6
02N07W07DAA1	344845	914707	4/08/2004	131.5	4/15/2008	134	-2.5
02N07W16BAB1	344815	914540	3/11/2004	136.19	3/19/2008	135.79	0.4
02N08W16ABC1	344806	915114	3/11/2004	119.89	3/19/2008	124.87	-5.0
02N08W23CAB1	344659	915118	4/08/2004	138	4/15/2008	129	9.0
02N09W02BDB1	344955	915841	3/11/2004	123.87	3/19/2008	126.74	-2.9

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.—Continued

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Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	2004 water-level date	2004 depth to water (feet below land-surface datum)	2008 water-level date	2008 depth to water (feet below land-surface datum)	Water-level difference 2004 to 2008 (feet)
			Lonoke County—Continued				
02N10W15ACC1	344807	920353	4/08/2004	31	4/15/2008	32	-1.0
02S07W05CDC1	343326	914715	4/08/2004	73.5	4/15/2008	70	3.5
02S07W10CCB1	343246	914525	3/11/2004	62.48	3/19/2008	63.34	-0.9
02S08W13BBB1	343232	914935	3/11/2004	58.45	3/19/2008	57.67	0.8
02S08W34DBB1	343003	915150	3/12/2004	62.68	3/19/2008	63.76	-1.1
02S09W30CDD1	343014	920116	3/12/2004	37.88	3/18/2008	38.88	-1.0
03N07W08BDB1	345407	914638	4/16/2004	93.72	2/07/2008	98.31	-4.6
03N07W15DBC2	345253	914417	3/11/2004	80.5	3/19/2008	83.53	-3.0
03N07W29ADA1	345129	914558	4/16/2004	89.27	2/07/2008	92.27	-3.0
03N07W29CDD1	345057	914632	4/08/2004	99.8	4/15/2008	98	1.8
03N07W35CDC2	344957	914332	3/11/2004	114.63	3/19/2008	117.23	-2.6
03N08W03BAA1	345519	915054	4/15/2004	90.6	2/07/2008	95.69	-5.1
03N08W03CCC1	345430	915123	4/15/2004	98.87	2/07/2008	105.1	-6.2
03N08W05CCC1	345429	915323	4/15/2004	78.96	2/07/2008	81.03	-2.1
03N08W08ABA1	345427	915248	4/15/2004	91.45	2/07/2008	95.51	-4.1
03N08W10ACB1	345415	915053	4/15/2004	88.43	2/07/2008	92.62	-4.2
03N08W10ADD1	345401	915023	4/15/2004	88.99	2/07/2008	95.05	-6.1
03N08W11ABD1	345419	914936	4/15/2004	100.54	2/07/2008	106.11	-5.6
03N08W11ACA1	345413	914934	4/14/2004	98.5	2/07/2008	104.23	-5.7
03N08W21BCC1	345220	915220	3/11/2004	80.27	3/19/2008	82.79	-2.5
03N08W29BBB1	345147	915333	4/15/2004	110.26	2/07/2008	113.34	-3.1
03N08W29BCC1	345125	915333	4/15/2004	121.06	2/07/2008	133.08	-12.0
03N08W32ABB1	345057	915257	4/14/2004	116.75	2/07/2008	120.61	-3.9
03N08W32ABB2	345057	915259	3/11/2004	117.24	3/19/2008	119.68	-2.4
03N08W34ADD1	345035	915028	4/15/2004	121.55	2/07/2008	121.67	-0.1
04N08W05ACA1	350020	915247	4/16/2004	44.12	2/08/2008	46.96	-2.8
04N08W10BDD1	345917	915055	4/16/2004	27.14	2/08/2008	30.47	-3.3
04N08W15BCB2	345833	915121	3/11/2004	33.54	3/19/2008	29.2	4.3
04N08W16DCC1	345757	915154	4/16/2004	45.12	2/07/2008	47.88	-2.8
04N08W26AAD1	345652	914917	4/15/2004	70.16	2/08/2008	71.18	-1.0
04N08W28CAC1	345620	915216	4/16/2004	53.27	2/07/2008	55.9	-2.6
04N08W28CAD1	345626	915204	4/16/2004	68.57	2/07/2008	71.23	-2.7
04N08W28CCC1	345615	915225	4/15/2004	59.09	2/07/2008	61.43	-2.3
04N08W36DBB1	345541	914914	4/15/2004	90.68	2/08/2008	93.08	-2.4

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.—Continued

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Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	2004 water-level date	2004 depth to water (feet below land-surface datum)	2008 water-level date	2008 depth to water (feet below land-surface datum)	Water-level difference 2004 to 2008 (feet)
Mississippi County							
10N08E21ABA1	352852	901415	4/15/2004	25	4/17/2008	25	0.0
10N08E21BDC1	352830	901407	4/15/2004	25	4/17/2008	25.5	-0.5
10N08E22ABA2	352851	901312	3/24/2004	22.34	4/07/2008	25.53	-3.2
10N09E08ACC1	352949	900926	3/24/2004	13.79	4/07/2008	17.78	-4.0
11N09E34BBB1	353218	900715	3/24/2004	14.78	4/07/2008	19.12	-4.3
11N10E09BCB1	353530	900202	4/15/2004	17	4/17/2008	16	1.0
12N08E08BCB1	354047	901559	3/24/2004	8.32	4/07/2008	6.26	2.1
12N08E28DDB1	353707	901406	4/15/2004	14.4	4/17/2008	15.5	-1.1
12N09E12ABC1	354054	900449	4/15/2004	7.3	4/25/2008	9	-1.7
12N10E04CAA1	354124	900136	4/15/2004	8	4/17/2008	8	0.0
12N10E07BCD1	354036	900404	4/15/2004	11	4/25/2008	17	-6.0
12N10E21DBA1	353842	900122	4/15/2004	11.7	4/17/2008	16.5	-4.8
13N08E24ABB1	354428	901112	4/14/2004	16.8	4/17/2008	7.5	9.3
13N09E30CCD1	354248	901029	3/24/2004	8.95	4/07/2008	7.08	1.9
13N10E34DBB1	354218	900024	3/24/2004	6.84	4/07/2008	10.8	-4.0
14N08E12DAB1	355104	901052	3/24/2004	5.33	4/07/2008	2.75	2.6
14N08E20DAA1	354921	901458	4/14/2004	10	4/25/2008	2.5	7.5
14N08E26CC1	354803	901235	4/14/2004	4	4/25/2008	3.5	0.5
14N10E18ABC1	355022	900345	3/24/2004	10.9	4/07/2008	8.11	2.8
14N11E03BCB1	355158	895433	3/25/2004	3.36	4/07/2008	3.52	-0.2
14N11E17CCB1	354955	895639	4/14/2004	10	4/25/2008	3	7.0
14N11E33CAA1	354727	895508	4/14/2004	12	3/25/2008	10	2.0
15N08E08DBC2	355605	901526	3/24/2004	10.5	4/07/2008	10.53	0.0
15N10E21ABC1	355447	900135	4/14/2004	12	3/25/2008	7.5	4.5
15N12E01BCD1	355704	894601	4/14/2004	7	3/25/2008	9	-2.0
16N10E28BBD1*	355906	900156	3/25/2004	7.56	4/07/2008	5.33	2.2
16N10E28BBD1*	355906	900156	4/14/2004	12.5	3/25/2008	5.5	7.0
16N11E23ADA1	355947	895231	3/25/2004	12.31	4/07/2008	9.2	3.1
Monroe County							
01N01W21CDC2	344037	910707	3/15/2004	34.47	3/27/2008	39.68	-5.2
01N02W12CBC1	344242	911032	3/15/2004	37.39	3/27/2008	40.9	-3.5
01N03W23BAC1	344124	911743	4/14/2004	14	3/20/2008	14.3	-0.3
01N03W24BBB1	344135	911651	3/15/2004	27.34	3/27/2008	28.23	-0.9
01N04W33BBB2	343960	912649	3/15/2004	94.28	3/27/2008	97.56	-3.3

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.—Continued

[USGS, U.S. Geological Survey; NRCS, Natural Resources Conservation Service, ANRC, Arkansas Natural Resources Commission; Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD83); *, control wells for duplicate measurements by USGS and NRCS for quality assurance]

Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	2004 water-level date	2004 depth to water (feet below land-surface datum)	2008 water-level date	2008 depth to water (feet below land-surface datum)	Water-level difference 2004 to 2008 (feet)
Monroe County—Continued							
01S01W13CDD1	343611	910341	3/17/2004	20.44	3/27/2008	22.52	-2.1
01S01W16DB	343615	910632	4/15/2004	17	3/27/2008	20	-3.0
01S01W18DCD1	343618	910849	3/17/2004	22.64	3/27/2008	24.52	-1.9
01S02W20BBB1*	343613	911456	3/17/2004	11.74	3/27/2008	12.22	-0.5
01S02W20BBB1*	343613	911456	4/14/2004	12	3/27/2008	12	0.0
01S03W20BBA1	343538	912118	3/15/2004	72.46	3/27/2008	75.03	-2.6
01S04W01BAB1	343906	912317	3/15/2004	76.34	3/27/2008	76.88	-0.5
02N01W19ADD1	344624	910814	4/15/2004	51	3/27/2008	54	-3.0
02N01W19BBA1	344645	910912	3/15/2004	52.56	3/27/2008	54.78	-2.2
02N03W35BCA1	344455	911745	4/15/2004	31	3/20/2008	35	-4.0
02S01W01BCD1	343305	910408	4/14/2004	19	3/27/2008	22	-3.0
02S02W11DAC1	343209	911101	3/17/2004	9.93	3/27/2008	11.04	-1.1
03N01W20ABA1	345201	910723	3/15/2004	47.35	3/27/2008	48.61	-1.3
03N02W31ADC1	344958	911447	3/15/2004	39.53	3/27/2008	39.15	0.4
03N03W36AAA1	345027	911547	3/15/2004	20.3	3/27/2008	23.06	-2.8
04N02W01BCC1	345929	911004	4/15/2004	38	3/20/2008	39	-1.0
04N02W05BBB1	345957	911311	4/15/2004	15	3/20/2008	16	-1.0
04N02W27CDD3	345540	911150	3/15/2004	45.43	3/27/2008	45.68	-0.3
04N02W28DDD3	345535	911221	3/15/2004	33.04	3/27/2008	32.81	0.2
04N02W30BBB1	345628	911525	3/15/2004	13.41	3/27/2008	13.8	-0.4
Phillips County							
01S01E20DDB1	343529	910058	4/12/2004	25	4/14/2008	27	-2.0
01S02E09CBB1*	343719	905434	3/17/2004	11.46	3/24/2008	12.8	-1.3
01S02E09CBB1*	343719	905434	4/12/2004	9	4/01/2008	15.44	-6.4
01S03E02ADD1	343814	904511	4/12/2004	13	3/24/2008	17	-4.0
01S03E10ABB1	343741	904634	4/12/2004	14	3/24/2008	19	-5.0
01S04E05DCD1*	343802	904151	3/17/2004	45.18	4/01/2008	50.23	-5.1
01S04E05DCD1*	343802	904151	4/12/2004	45	3/24/2008	49	-4.0
02S01E28CCB1	342916	910058	3/17/2004	17.56	3/31/2008	18.63	-1.1
02S02E29DDD1	342901	905444	4/12/2004	25.6	4/14/2008	24	1.6
02S02E33ACC1	342824	905412	4/12/2004	25	4/14/2008	24	1.0
02S03E15ACD1	343110	904621	3/17/2004	10.6	5/12/2008	8.59	2.0
02S03E34BCD1	342828	904653	4/13/2004	17.8	3/25/2008	20.4	-2.6
02S04E27AAC1*	342932	904001	3/17/2004	3.93	3/31/2008	9.74	-5.8

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.—Continued

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Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	2004 water-level date	2004 depth to water (feet below land-surface datum)	2008 water-level date	2008 depth to water (feet below land-surface datum)	Water-level difference 2004 to 2008 (feet)
Phillips County—Continued							
02S04E27AAC1*	342932	904001	4/13/2004	6.2	3/25/2008	7	-0.8
03S02E35DDA1	342256	905130	3/17/2004	19.9	3/31/2008	22.44	-2.5
03S03E04DAA1	342735	904710	3/17/2004	18.27	3/31/2008	20.37	-2.1
03S04E02CAA1*	342732	903918	3/17/2004	8.23	3/31/2008	17.48	-9.3
03S04E02CAA1*	342732	903918	4/13/2004	11.8	3/25/2008	15.5	-3.7
04S01E01AAD1	342238	905700	4/13/2004	14.4	3/25/2008	18	-3.6
04S01E14CDD1	342014	905837	4/13/2004	12	3/25/2008	16	-4.0
04S01E23CCA1	341931	905853	3/17/2004	11.96	3/31/2008	14.14	-2.2
04S01E29CDC1	341844	910148	4/13/2004	7.9	3/25/2008	7	0.9
04S02E01DBB1	342220	905053	4/13/2004	9.6	3/25/2008	16	-6.4
05S02E18BDA1	341535	905628	3/17/2004	16.14	3/31/2008	23.53	-7.4
Poinsett County							
10N01E02AAA	353205	905654	3/19/2004	97	4/07/2008	101	-4.0
10N01E14CC1	352910	905814	3/29/2004	89.72	4/08/2008	94.91	-5.2
10N01E16CCB1	352922	910005	3/29/2004	72.39	4/08/2008	77.67	-5.3
10N01E32CBB1	352657	910053	3/19/2004	70	3/26/2008	76.5	-6.5
10N01E33ACB1	352746	905931	3/19/2004	76	3/26/2008	81	-5.0
10N02E13BCC1	352949	905026	3/29/2004	99.9	4/08/2008	105.24	-5.3
10N02E20BAB1	352906	905418	3/19/2004	104	3/26/2008	106	-2.0
10N03E14DAB1	352947	904405	3/29/2004	116.95	4/08/2008	119.6	-2.7
10N03E35CDD1	352656	904436	3/29/2004	123.86	4/08/2008	125.48	-1.6
10N04E35BBA1	352745	903831	3/17/2004	20	3/24/2008	19.5	0.5
10N05E15BDD1	352937	903253	3/29/2004	12.17	4/08/2008	12.71	-0.5
10N07E22AAC1	352847	901935	3/29/2004	27.56	4/08/2008	28.86	-1.3
11N01E17DDC1	353437	910015	3/19/2004	77	4/07/2008	81	-4.0
11N01E17DDD1	353437	910013	3/26/2004	76.12	4/08/2008	80.89	-4.8
11N01E26AA1	353340	905653	3/26/2004	91.95	4/08/2008	96.63	-4.7
11N01E34AAA	353256	905759	3/19/2004	85	4/07/2008	90.5	-5.5
11N02E26AAB1	353350	905034	3/29/2004	105.42	4/08/2008	110.11	-4.7
11N02E30BBB1	353352	905540	3/19/2004	100	4/07/2008	105	-5.0
11N02E34CBA1	353238	905222	3/19/2004	105	4/07/2008	110	-5.0
11N03E10DDA1	353546	904457	3/29/2004	102.99	4/08/2008	106.11	-3.1
11N03E18BAB1	353538	904852	3/29/2004	103.23	4/08/2008	106.53	-3.3
11N04E36ABA1	353251	903654	3/17/2004	16	3/24/2008	16.5	-0.5

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.—Continued

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Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	2004 water-level date	2004 depth to water (feet below land-surface datum)	2008 water-level date	2008 depth to water (feet below land-surface datum)	Water-level difference 2004 to 2008 (feet)
Poinsett County—Continued							
11N07E18CAB1	353435	902320	3/29/2004	13.89	4/08/2008	14.04	-0.2
12N01E07CDA1	354054	910141	3/26/2004	51.89	4/08/2008	55.14	-3.3
12N01E22DAB1	353922	905809	3/19/2004	73	4/07/2008	76.5	-3.5
12N02E25DCC1	353820	904944	3/19/2004	112	4/07/2008	115	-3.0
12N02E34CCC1	353724	905230	3/19/2004	110	4/07/2008	115.5	-5.5
12N03E01CBD1	354154	904329	3/19/2004	92	3/26/2008	96	-4.0
12N04E08CDA	354053	904112	3/17/2004	87	3/26/2008	95	-8.0
12N05E16ABA1	354039	903333	3/17/2004	9	3/26/2008	9.5	-0.5
12N05E34ABA1	353805	903230	3/29/2004	7.47	4/08/2008	7.13	0.3
12N07E04BAA1	354202	902060	3/29/2004	8.15	4/08/2008	2.42	5.7
12N07E10CBB1	354042	902022	3/17/2004	10	3/24/2008	10	0.0
Prairie County							
01N06W05CCB1	344353	914049	3/10/2004	117.1	3/26/2008	119.27	-2.2
01N06W29DDD1	344018	913951	3/10/2004	115.91	3/26/2008	118.13	-2.2
01S04W28BBC1	343529	912650	4/19/2004	121.6	4/02/2008	100	21.6
01S04W28BDB1	343523	912630	3/09/2004	97.25	3/25/2008	98	-0.8
01S05W14BBC1	343722	913109	3/09/2004	107.74	3/25/2008	109.68	-1.9
01S05W31DDA1	343417	913432	3/09/2004	110.7	3/26/2008	105.57	5.1
02N04W02BCB1	344916	912419	3/10/2004	19.13	3/25/2008	19.88	-0.8
02N04W32CCB1	344436	912738	3/10/2004	83.73	3/25/2008	84.84	-1.1
02N05W06BAB1	344958	913421	3/10/2004	88.79	3/26/2008	89.81	-1.0
02N05W13AAB1	344805	912854	3/10/2004	77.77	3/25/2008	51.83	25.9
02N05W29DDB2	344545	913309	3/10/2004	118.24	3/26/2008	119.78	-1.5
02N06W17ABB1	344809	913959	3/10/2004	123.16	3/26/2008	125.82	-2.7
02S06W14BBB1	343213	913729	3/09/2004	62.25	3/26/2008	75.76	-13.5
03N04W03AAC1	345439	912424	3/10/2004	26.83	3/25/2008	26.91	-0.1
03N05W03BDD2	345444	913115	3/10/2004	66.27	3/26/2008	65.25	1.0
03N06W01BCB1	345455	913601	3/10/2004	80.64	3/26/2008	80.72	-0.1
03N06W19BDD1	345207	914110	3/10/2004	85.24	3/26/2008	86.33	-1.1
04N04W07ADC1	345850	912733	3/10/2004	25.53	3/25/2008	23.66	1.9
04N05W07CDC1	345043	913441	3/10/2004	74.42	3/25/2008	79.34	-4.9
04N05W31DDC1	345514	913406	3/10/2004	76.23	3/26/2008	76.25	0.0
04N06W05CCC1	345934	914018	3/10/2004	59.96	3/25/2008	80.49	-20.5
04N07W03DCB1	345942	914412	3/10/2004	86.61	3/25/2008	88.73	-2.1

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.—Continued

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Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	2004 water-level date	2004 depth to water (feet below land-surface datum)	2008 water-level date	2008 depth to water (feet below land-surface datum)	Water-level difference 2004 to 2008 (feet)
Prairie County—Continued							
04N07W20DDB1	345709	914607	4/15/2004	109.52	2/07/2008	103.11	6.4
04N07W28BBA1	345701	914545	3/10/2004	94.75	3/25/2008	97.67	-2.9
05N05W14DCD1	350252	913034	3/10/2004	37.96	3/25/2008	31.74	6.2
Pulaski County							
01S10W29CC1	343538	920708	3/19/2004	16.65	3/18/2008	14.87	1.8
02S10W14DC1	343205	920334	3/19/2004	25.57	3/18/2008	23.5	2.1
02S10W16CCA1	343217	920549	3/19/2004	24.92	3/18/2008	25.33	-0.4
Randolph County							
18N01E13BAB1	361230	905551	4/23/2004	15.7	4/08/2008	16	-0.3
18N01E28AAD1	361040	905820	4/22/2004	15.3	4/08/2008	13.5	1.8
18N01E34AAC1	360943	905729	3/30/2004	15.93	4/10/2008	15.9	0.0
18N02E03DAD1	361336	905043	4/23/2004	34.9	4/08/2008	32.5	2.4
18N02E17CBB1	361204	905356	4/22/2004	16	4/08/2008	19	-3.0
18N02E20BDA1	361125	905332	4/23/2004	35.2	4/08/2008	32.5	2.7
18N02E22DCD1	361046	905105	3/30/2004	36.27	4/10/2008	39.12	-2.9
18N02E34BCC1	360933	905150	4/23/2004	14.9	4/08/2008	35.5	-20.6
19N02E09DCA1	361757	905157	3/30/2004	10.12	4/10/2008	-0.5	10.6
20N02E01ADD1	362424	904811	3/30/2004	11.22	4/10/2008	2.66	8.6
20N02E01ADD2	362424	904811	4/23/2004	13	4/10/2008	3	10.0
20N02E12BAA1	362352	904848	4/23/2004	7	4/09/2008	19	-12.0
20N02E14DAB1	362232	904930	4/23/2004	8.6	4/10/2008	18	-9.4
20N03E28BA1	362114	904538	3/30/2004	10.93	4/10/2008	9.43	1.5
20N03E33CCA1	361941	904552	4/22/2004	21.3	4/09/2008	23.5	-2.2
St. Francis County							
04N01E13ADA1	345755	905638	3/23/2004	57.87	4/02/2008	61.56	-3.7
04N01W28CDD1	345535	910634	3/23/2004	68.28	4/02/2008	72.51	-4.2
04N02E19BBB1	345701	905633	3/23/2004	58.36	4/02/2008	61.77	-3.4
04N03E21DAD1	345623	904655	3/23/2004	56.96	4/02/2008	60.37	-3.4
04N05E22BBB1	345651	903357	3/22/2004	26.59	4/02/2008	27.22	-0.6
05N01E15BCB1	350303	905942	3/23/2004	63.48	4/02/2008	69.66	-6.2
05N01E27BBA1	350136	905929	3/23/2004	65.43	4/02/2008	69.07	-3.6
05N02E20ADC1	350157	905437	3/23/2004	53.08	4/02/2008	56.07	-3.0
05N03E20AAA2	350214	904801	3/23/2004	102.73	4/02/2008	106.09	-3.4
05N06E34CAB1	350026	902657	3/22/2004	26.46	4/02/2008	28.38	-1.9

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.—Continued

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Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	2004 water-level date	2004 depth to water (feet below land-surface datum)	2008 water-level date	2008 depth to water (feet below land-surface datum)	Water-level difference 2004 to 2008 (feet)
St. Francis County—Continued							
06N01E33ACA2	350552	905942	3/23/2004	65.34	4/02/2008	69.41	-4.1
06N02E13DCA1	350813	905003	3/23/2004	73.61	4/02/2008	75.8	-2.2
06N02E15BDD1	350842	905247	3/23/2004	58.57	4/02/2008	62.23	-3.7
06N02E24AAA1	350755	905002	3/23/2004	71.49	4/02/2008	72.94	-1.5
06N05E22ACC1	350723	903252	3/22/2004	39.44	4/02/2008	42.82	-3.4
06N06E20ABB2	350747	902841	3/22/2004	35.25	4/02/2008	37.3	-2.1
White County							
05N07W09AAA1	350447	914441	3/18/2004	14.82	4/16/2008	12.62	2.2
05N07W10CCC1	350400	914436	3/18/2004	8.78	4/16/2008	7.79	1.0
06N06W04BAA1	351047	913910	3/18/2004	36.45	4/16/2008	28.9	7.6
06N06W04BAD1	351037	913903	4/16/2004	41.5	3/27/2008	36.7	4.8
06N06W13DBB1	350918	913552	4/16/2004	46.9	3/27/2008	45.8	1.1
06N06W18BBC1	350851	914152	3/18/2004	14.67	4/16/2008	12.09	2.6
06N06W18BCA1	350835	914150	4/16/2004	24.2	3/27/2008	13.8	10.4
06N06W34AAB1	350624	913754	3/18/2004	59.7	4/16/2008	60.78	-1.1
06N07W17DCC1	350822	914635	3/18/2004	12.21	4/16/2008	13.42	-1.2
06N08W13ABA1	350908	914824	3/18/2004	7.4	4/16/2008	6.6	0.8
06N08W26DDB1	350640	914931	3/18/2004	12.25	4/16/2008	13.23	-1.0
07N05W01AAA1	351553	912858	3/18/2004	15.35	4/16/2008	11.11	4.2
07N05W32BAB1	351137	913406	3/18/2004	29	4/16/2008	33.17	-4.2
08N04W06CCB1	352028	912847	3/18/2004	16.16	4/16/2008	12.81	3.4
08N05W32CBC1	351616	913417	3/18/2004	1.5	4/16/2008	3.46	-2.0
Woodruff County							
04N03W03AB1	350021	911820	4/01/2004	13.48	4/11/2008	9.63	3.9
05N01W13CDC1	350244	910331	4/13/2004	74.1	4/17/2008	76.6	-2.5
05N01W31CCC1	350106	910900	4/13/2004	59.1	4/17/2008	61.2	-2.1
05N02W20DCB1	350208	911356	4/01/2004	13.94	4/11/2008	11.87	2.1
05N03W25DDB1	350133	911531	4/13/2004	12.7	4/17/2008	10.6	2.1
05N04W12DBA1	350427	912211	4/01/2004	4.67	4/15/2008	2.94	1.7
06N01W06BAB1	351048	910835	4/01/2004	32.47	4/11/2008	36.73	-4.3
06N02W19AAA1	350802	911419	4/14/2004	44.7	4/17/2008	45.9	-1.2
06N03W31BCB1	350623	912144	4/01/2004	2.26	4/15/2008	1.5	0.8
06N04W22BDA1	350807	912428	4/13/2004	4.9	4/17/2008	-1	5.9
07N01W04ACB1	351541	910626	4/13/2004	60.3	4/17/2008	64.2	-3.9

Appendix 2. Information pertaining to water levels measured in 2004 and 2008 in the Mississippi River Valley alluvial aquifer in eastern Arkansas.—Continued

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Woodruff County—Continued							
07N03W06BAC1	351607	912109	3/24/2004	21	3/21/2008	23.5	-2.5
07N03W19AAA1	351335	912025	4/01/2004	11.7	4/15/2008	8.39	3.3
07N03W31BBA1	351152	912103	4/13/2004	14.7	4/17/2008	7.7	7.0
08N01W06DDD1	352028	910747	4/01/2004	42.23	4/11/2008	46.14	-3.9
08N02W27DDB1	351711	911107	4/13/2004	25.5	4/17/2008	27.5	-2.0
08N02W31DDD1	351611	911411	4/01/2004	5.36	4/11/2008	1.66	3.7
08N03W31AAD1	351655	912028	4/01/2004	21.77	4/15/2008	22.78	-1.0
09N03W28ABB1	352310	911845	4/13/2004	16.9	4/17/2008	17.6	-0.7
09N03W29AAD1	352258	911921	4/01/2004	20.6	4/15/2008	18.9	1.7
09N03W32ACA1	352205	911936	4/14/2004	19.3	4/17/2008	16.9	2.4

Appendix 3. Specific conductance and temperature data from wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, summer 2008.

[Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD83); µS/cm, microsiemens per centimeter at 25 degrees Celsius]

Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Date	Specific conductance (µS/cm)	Temperature (degrees Celsius)
Arkansas County					
02S04W15ADA1	343150	912452	6/23/2008	884	19.1
02S04W15BB1	343201	912553	6/23/2008	809	19.1
04S05W03BDB1	342309	913215	6/23/2008	1,140	19.7
07S03W07BBC1	340607	912322	6/23/2008	845	19.1
Ashley County					
16S04W02DD1	332001	912845	6/19/2008	546	19.7
16S06W27BAB1	331729	914240	6/19/2008	849	19.5
16S06W35BD1	331622	914141	6/19/2008	733	22.7
18S08W12BDA1	330944	915253	6/19/2008	832	20.4
Chicot County					
14S03W32DCB1	332613	912551	6/19/2008	393	23.7
15S03W06BCD1	332536	912712	6/19/2008	405	19.3
17S01W11AA1	331408	910953	6/19/2008	639	22.1
17S02W01CBA1	331456	911550	6/19/2008	883	19.9
17S02W02DA1	331457	911612	6/19/2008	879	21.4
17S02W11BC1	331415	911708	6/19/2008	1,000	20.6
18S02W22DCB1	330647	911747	6/19/2008	1,020	20.1
Clay County					
19N08E29BCB1	361520	901452	6/26/2008	347	17.9
21N04E34DDC1	362445	903729	6/26/2008	466	18.3
Craighead County					
13N02E35DC1	354221	905053	6/25/2008	783	18.2
16N07E32AB1	355826	902155	6/25/2008	325	17.5
Crittenden County					
06N07E12DAA1	350900	901735	6/25/2008	469	17.7
07N07E22AA1	351320	902039	6/25/2008	454	17.4
Cross County					
07N01E10BB1	351450	905910	6/24/2008	1,010	18.1
07N03E06BAC1	351516	904915	6/24/2008	819	17.9
09N05E08AA1	352537	903435	6/25/2008	552	17.9
09N05E32BDB1	352151	903512	6/25/2008	540	17.1
Desha County					
10S03W22DB1	334913	911638	6/20/2008	1,680	19.3
10S04W16DDD1	334923	913012	6/20/2008	877	19.0
13S02W27DB1	333216	911722	6/20/2008	2,020	19.1
13S03W10DA1	333505	912306	6/20/2008	725	19.4

Appendix 3. Specific conductance and temperature data from wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, summer 2008.—Continued

[Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD83); µS/cm, microsiemens per centimeter at 25 degrees Celsius]

Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Date	Specific conductance (µS/cm)	Temperature (degrees Celsius)
Drew County					
11S04W07BDA1	334555	913256	6/18/2008	269	19.1
13S04W31AD1	333150	913248	6/18/2008	313	19.5
13S04W32DAA1	333134	913127	6/18/2008	331	18.6
Greene County					
17N04E30CDC1	360409	904218	6/26/2008	1,020	17.6
Jackson County					
09N01W20BDD1	352338	910805	6/26/2008	503	18.4
13N01W30DD1	354332	910835	6/26/2008	445	17.7
Jefferson County					
03S09W18CC2	342656	920139	6/18/2008	997	18.9
04S09W29ACB1	342531	920000	6/18/2008	610	18.6
06S08W28BDB1	341030	915458	6/18/2008	471	18.8
Lawrence County					
16N02E34BDA1	355839	905150	6/26/2008	445	18.0
Lee County					
01N03E26BD1	344003	904545	6/23/2008	668	18.1
02N03E04BBC1	344859	904804	6/23/2008	581	17.8
Lincoln County					
08S05W25AD1	340006	913218	6/20/2008	1,210	18.7
08S07W21CBB1	340042	914847	6/18/2008	111	19.1
09S05W01ADA1	335758	913259	6/18/2008	388	19.3
09S06W03CBA1	335739	914230	6/18/2008	539	18.3
09S06W04BCD1	335821	914346	6/18/2008	393	19.5
Lonoke County					
02N07W02BBA1	344957	914338	6/17/2008	876	21.3
Mississippi County					
12N08E07CC1	354025	901655	6/25/2008	571	18.1
14N10E22BB1	354941	900101	6/25/2008	559	17.5
Monroe County					
01N02W24ABA1	344128	910951	6/24/2008	777	18.7
03N02W31ADC1	344958	911447	6/24/2008	330	18.6
Phillips County					
04S01E01AD1	342238	905700	6/24/2008	721	18.6
04S01E23CCA1	341931	905853	6/24/2008	741	18.4
Poinsett County					
10N02E13BCC1	352949	905026	6/25/2008	941	17.8

Appendix 3. Specific conductance and temperature data from wells completed in the Mississippi River Valley alluvial aquifer in eastern Arkansas, summer 2008.—Continued

[Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD83); µS/cm, microsiemens per centimeter at 25 degrees Celsius]

Station name	Latitude (degrees, minutes, seconds)	Longitude (degrees, minutes, seconds)	Date	Specific conductance (µS/cm)	Temperature (degrees Celsius)
Poinsett County—Continued					
11N02E27CB1	353319	905223	6/25/2008	642	18.0
11N05E26CAD1	353253	903143	6/25/2008	583	18.1
Prairie County					
01N06W30BBC1	344104	914154	6/17/2008	666	21.9
St. Francis County					
04N01W28CDD1	345535	910634	6/24/2008	752	18.1
06N02E13DC1	350803	905009	6/24/2008	664	18.0
Woodruff County					
07N02W04ADA1	351550	911201	6/26/2008	553	17.4

Publishing support provided by:
Lafayette and Rolla Publishing Service Centers

For more information concerning the research described in the report

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ISBN 978-1-4113-2912-6