

Technical Series 12

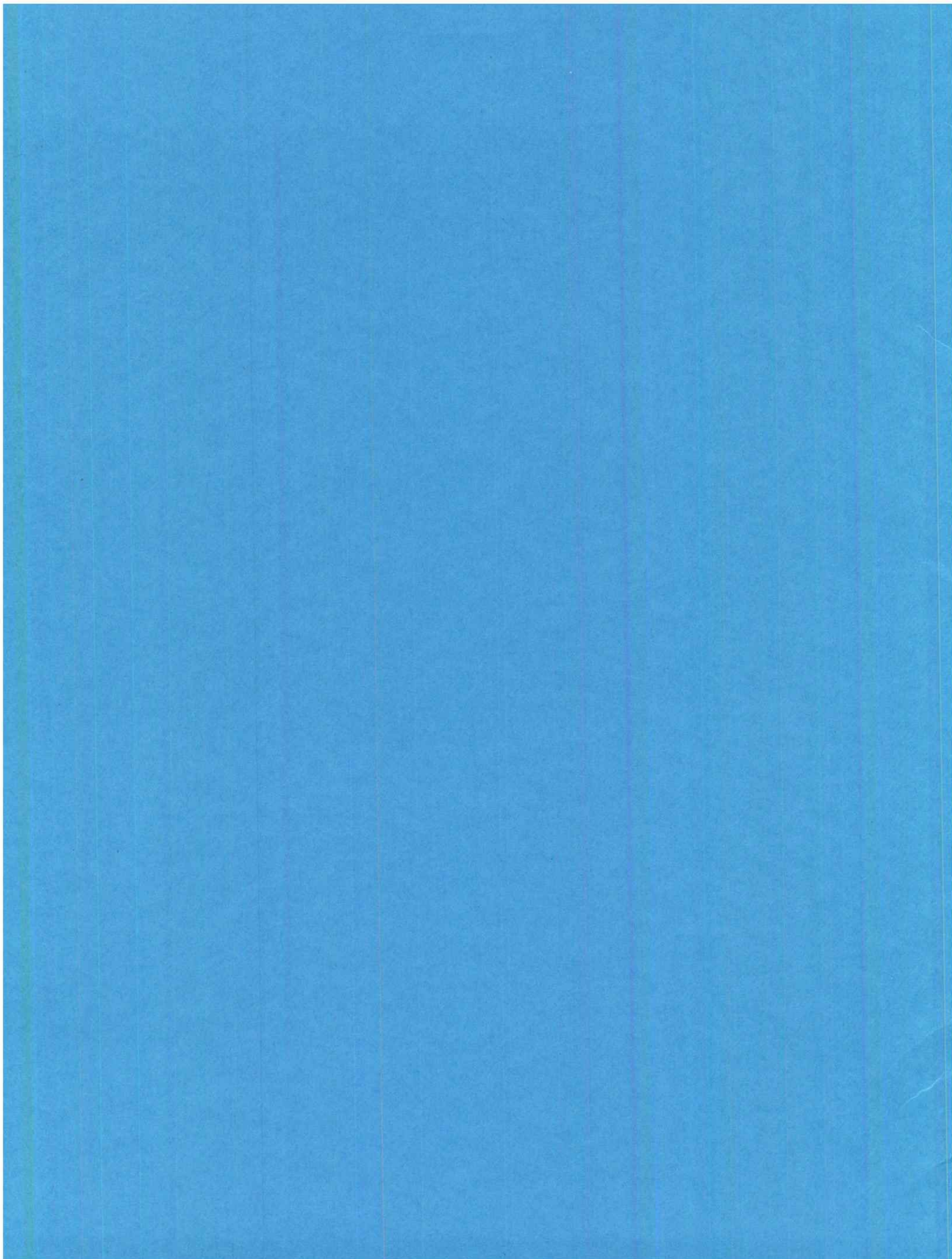
January 1998 Kansas Water Levels
and Data Related to Water-level Changes

John J. Woods, Jeffrey A. Schloss, and P. Allen Macfarlane



Kansas Geological Survey

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Abstract

Water levels measured in January 1998 generally showed more rises and fewer declines in region I (southwest), a very slight tendency toward water-level rise in region II (west-central), a tendency toward decline in region III (northwest), and a rather strong tendency toward water-level rise in region V (south-central). The 1998 measurements showed an average water-level rise of 0.15 ft (4.6 cm) over the 1997 measurements compared to an average rise of 0.06 ft (1.8 cm) during the 1996–97 period. The overall pattern of increasing water-level decline in region III may be the result of increased pumpage since the 1997 measurements. The strong pattern of increasing water-level rise in the central and eastern portions of region V is probably caused by increased recharge from precipitation in 1997. The single largest rise in water level was 25.3 ft (7.71 m), and the largest decline was 30.2 ft (9.20 m) for the wells in this report. Annual water-level rises outnumbered declines 51% to 48%, contrasted with 53% declines and 47% rises in the 1997 report. Regional breakdowns of the data indicate that more areas experienced rising water levels and that fewer areas experienced declining water levels in region I. Region II showed fewer areas with declines and fewer areas with rises greater than 1 ft (0.3 m), while showing a slight overall trend of water-level rise. Region III generally showed more areas with water-level declines throughout except in the central part of the region where water-level rises were generally observed. In region V, where the water table is relatively shallow, a marked increase in the total area of water-level rise and a marked decrease in the total area of water-level decline were observed. Most of the areas of decline were in the far northwestern, western, and southwestern portions of the region.

Introduction

In this report, we summarize hydrologic data from the cooperative program of ground-water-level measurements in Kansas along with suitable supplementary data from other sources. This program is carried out jointly by the Kansas Geological Survey and the Kansas Department of Agriculture's Water Resources Division and involves water-level measurements on a network of approximately 1,400 wells. The U.S. Geological Survey publishes a compilation of water-resources data annually on a water-year basis (October 1–September 30) (see the list of references in Appendix C). This Kansas Geological Survey report presents the annual water-level data in the context of both recent and long-term water-level changes to provide information on the trends in ground-water resources of the state.

Appendix A describes the acquisition techniques and technology used in measuring water levels, and Appendix B discusses statistical quality-control measurements. Appendix C is a list of publications containing ground-

water-level data for Kansas. Appendix D contains information on well locations and characteristics, past and present water-level measurements, trends in the measurements, and other information on water resources. To make this information more understandable, we provide in the text that follows some basic definitions and descriptions of the occurrence of ground water in Kansas, a discussion of the relationship between precipitation and ground water, and tables and maps summarizing the long- and short-term changes in water levels in selected areas of the state. Appendix E lists those wells previously reported that are not contained in this report because of a lack of recent data. Wells that have not been measured for three consecutive years or wells that have been taken out of service have been eliminated from this report.

Information in this report is generalized and regional in nature and should not be used in place of site-specific data collection for decisions concerning local ground-water conditions.

Data-collection Program

Most of the wells in the water-level-measurement program are measured annually, some are measured quarterly, and a few are equipped with continuous recorders. For continuously recorded wells, depth to water values are picked from the record at specific times, typically one value per month. Because many of the wells are used for irrigation or are in areas of major irrigation pumpage, the annual measurement program is timed for mid-winter to maximize the recovery of water levels from seasonal pumping. The nominal time of measurement is January, but for logistical reasons, some of the wells are

measured in December of the preceding year or in February of the reporting year. Because of this, the current water-level report presents data collected before the irrigation season of the present year and includes measurements taken primarily from December through February. In this report, the shallowest depth to water measurement made during this three-month period was chosen as the measurement for the current year. This is assumed to be the "most recovered" depth to water measurement. A brief discussion of the data-acquisition techniques and technology can be found in Appendix A of this report, and a

discussion of the application of statistical methods to the assessment of the data quality can be found in Appendix B. More complete discussions of these aspects of data acquisition and analysis can be found in KGS Open-File Report 98-7, entitled *1998 Annual Water Level Raw Data Report for Kansas*.

Ideally, the data should provide a snapshot of regional water levels undisturbed by pumping or other influences. In practice, recovery of local water levels from pumping depends on several factors, including the local hydrogeology, the schedule of pumping, the volume of

irrigation water pumped during the preceding season, and the proximity of high-capacity industrial or municipal wells that are pumped year round. Other factors can also influence the apparent water levels; for example, changes in barometric pressure or the method of measurement. An apparent change in water level for a particular well during a one-year period may reflect only temporary deviations from the fully equilibrated water table. Because of these uncertainties, any assessment of trends should be based on a comparison of changes that occur over a period of several years or that emerge as a consistent geographic pattern involving a number of wells.

Aquifers and Ground-water Occurrence

Bedrock or unconsolidated sediments that have a sufficiently large number of interconnected pores to contain substantial amounts of extractable water are defined as aquifers. In Kansas, most of the regional aquifers occur in the western and south-central portions of the state. Because these areas receive relatively little rainfall and have inadequate surface-water resources, ground water is extensively used. Fewer ground-water resources are found in eastern Kansas, and surface water is used for many water supplies. For a general overview of the aquifers in Kansas, we refer readers to *Kansas Ground Water*, Educational Series 10, published by the Kansas Geological Survey in 1993.

Aquifers are more commonly known by popular or geographic names that may or may not coincide with the names of the formations that make up the aquifer. Throughout Kansas, stream and river systems flow over unconsolidated Quaternary alluvial deposits that may be locally important sources of ground water, forming stream-aquifer systems. Depending on the conditions in the stream and in the aquifer, considerable interchange of water between the subsurface and the stream may occur. The High Plains aquifer consists of the Ogallala Formation and associated Quaternary deposits in western Kansas and the Quaternary alluvial deposits of the Equus Beds and Great Bend Prairie in south-central Kansas. The Dakota is a regional bedrock aquifer in western and central Kansas that consists of sandstones in the Dakota and Kiowa Formations and in the Cheyenne Sandstone. In southeastern Kansas, the major bedrock aquifer is the Ozark aquifer, which consists of solution cavities and fractures in

Ordovician and Cambrian limestone and dolomite formations. In northeastern Kansas, Pennsylvanian sandstones in the Lawrence and Stranger Formations are a locally important source of ground water for small municipal and domestic users.

The tables in Appendix D contain abbreviated designations of the geologic units that make up the aquifers. These abbreviations, along with descriptions of the geologic units and the aquifers with which they are associated, are listed below.

TABLE 1—ABBREVIATIONS AND DESCRIPTIONS OF GEOLOGIC UNIT CODES USED IN THIS REPORT.

Symbol	Description	Aquifer name
JM	Jurassic Morrison Formation	Morrison
OU	Ordovician undifferentiated	Ozark
PL	Pennsylvanian Lawrence and Stranger Formations	Douglas Group
KJ	Lower Cretaceous/ Upper Jurassic undifferentiated	Dakota/ Morrison
KD	Cretaceous Dakota and Kiowa Formations and Cheyenne Sandstone	Dakota
KN	Cretaceous Niobrara Chalk	
TO/QU	Tertiary Ogallala Formation/ Quaternary undifferentiated	High Plains
QA	Quaternary alluvium	alluvial

Factors Influencing Infiltration, Recharge, and Water-level Fluctuations

Most aquifer systems are recharged primarily by the percolation of infiltrated precipitation that moves downward through the soil zone to the water table. Recharge also may result from downward seepage from water bodies at the earth's surface.

Infiltration of water through the soil is affected by a number of interrelated factors. The intensity and duration of precipitation affect the rate of infiltration. Moderate rainfall over an extended period favors infiltration. Heavy rain over a short period will eventually exceed the soil's

ability to absorb and transmit water and produce runoff. Drainage patterns within a watershed and local topography also affect infiltration rates. In general, steep slopes favor rapid surface runoff, and gentle slopes retain water longer, favoring infiltration. However, extremely flat terrain often develops tight surface soils that impede infiltration. Land use, agricultural practices, and vegetation also influence the balance between runoff, recharge, and evaporation.

The rate of recharge also varies with the permeability and thickness of the soil and other earth materials, which the water must infiltrate to reach the zone of saturation. Relatively rapid downward movement commonly occurs where the soils contain a greater proportion of sand and silt than clay. However, even in areas where the soil zone is dominated by sand, thin clay layers may significantly retard the downward movement of recharge.

The major factors that cause water-level fluctuations in an aquifer are the volume, rate, and timing of ground-water pumping in the area and the rate of replenishment by local recharge or regional flow. If the annual ground-water pumpage from an aquifer exceeds its replenishment, the elevation of the water table will decline. Likewise, if the annual pumpage is less than or equal to the amount of water that can be supplied by local recharge or regional flow, the water table will rise or remain unchanged. The response of the water table to recharge events may be delayed for years or decades if the water table is deep below the surface (such as in much of northwestern and southwestern Kansas). In contrast, a shallow water table in permeable sediments may respond rapidly to recharge events.

Hydrographs and Precipitation Graphs

For this report, the state is divided into eight ground-water regions (fig. 1). Regional tables and maps depict ground-water-level changes in the major aquifers of the central and western parts of the state. Regions I, II, and III cover the High Plains aquifer and coincide approximately with the areas of Groundwater Management Districts 3, 1,

and 4, respectively. Region V covers the Great Bend Prairie and Equus Beds regions and is roughly coincident with the combined areas of Groundwater Management Districts 2 and 5. No tables or maps are included for the remaining four regions because they contain fewer wells and no laterally extensive major aquifers.

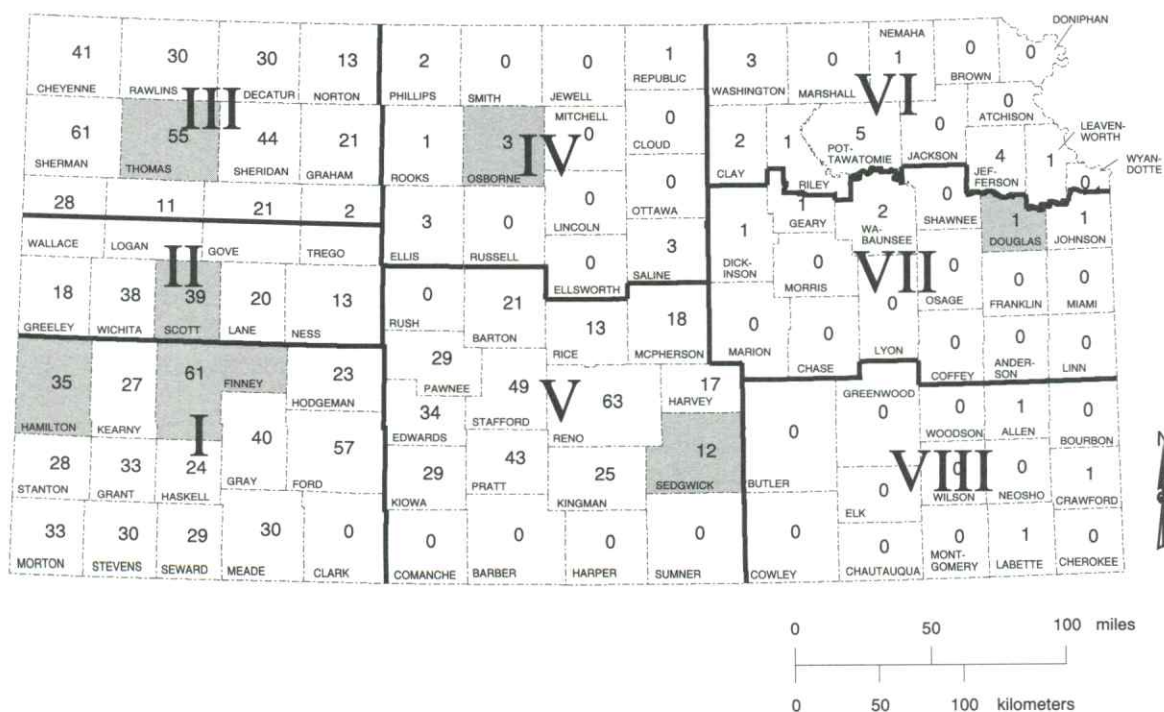


FIGURE 1—NUMBER OF GROUND-WATER-LEVEL OBSERVATION WELLS MEASURED IN EACH COUNTY FOR THE 1998 WATER-LEVEL CENSUS. Shaded counties are those for which precipitation graphs and well hydrographs are presented in the text.

Hydrographs are plots of the depth to water or the water-level elevation in a given well as a function of time. These graphs are used to portray long-term changes in ground-water levels and short-term fluctuations resulting from recharge or pumpage. In this section, we present several representative well hydrographs and local rainfall records for various aquifers and geographic regions. The hydrographs in figs. 2–8 contain historical information regarding precipitation and water-table fluctuations in Douglas, Finney, Hamilton, Osborne, Scott, Sedgwick, and Thomas counties. The increases in ground-water usage and the associated declines in the water table in some counties are demonstrated on several of the graphs.

In viewing the graphs in figs. 2–8, it is important to remember that rainfall and water levels are represented by two different types of measurements. The precipitation is expressed as the annual total for the preceding calendar year at a specific location in the general vicinity of the well. The corresponding depth-to-water measurement is taken at a single point in time, before the onset of irrigation, usually early in the year. Although the graphs are a reasonable way to compare the available data, no direct correspondence exists between the plots, because of the importance of the timing of precipitation events to the recharge process. For example, a wet spring season may have less influence on next year's water level than a single storm event closer to the time of water-level measurement.

Some of the graphs in figs. 2–8 display discontinuous lines. The breaks indicate years during which the data-collecting agencies encountered sampling problems, resulting in no data having been reported in the desired time interval. No attempt is made to connect these data points because of the variable and seasonal nature of the natural processes. Lines joining two points do not accurately represent the behavior of the water table between sampling observations. In all the hydrographs, measurements were plotted primarily for the months of December or January.

The figures demonstrate that the deeper aquifers in more arid regions do not show rapid responses to recharge events because of the greater thickness of the unsaturated zone and the low recharge rate. Water levels in shallow aquifers, however, respond more rapidly to recharge. This is particularly true where surface water and ground water commonly interact.

Douglas County, alluvial aquifer (QA)

The observation well in fig. 2, for Douglas County, is screened in the Kansas River alluvium. In this area, alluvial deposits are the primary geologic unit for water usage and yield water of good quality and moderate quantity. The alluvium consists of unconsolidated clay, sand, and gravel located along major stream courses. The thickness of the alluvial deposits varies according to the amount of downcutting and sedimentation by streams.

The hydrograph of well 12S-20E-07CBC-01 (fig. 2) illustrates a relatively prompt response of the water table to fluctuations in precipitation. This is probably because of the shallow depth of the water table, relative proximity of the well to the river, the types of sediment through which the water moves, and the small volume of ground water pumped in the area.

Finney County, High Plains aquifer (QU, TO)

Most of the observation wells in Finney County are screened in the High Plains aquifer. The depth to bedrock (bottom of the aquifer) at well 24S-33W-28DAA-01 (fig. 3) is 386 ft (118 m), and the well is screened in deposits that consist of poorly consolidated Pleistocene sand and gravel deposits and the Ogallala Formation.

The depth to water for 1998 is 107.3 ft (32.70 m). Compared to the 1940 depth to water of 34 ft (10 m) (Appendix D, Finney County), the decline of 73.3 ft (22.3 m) represents a decrease of about 21% in saturated thickness. Changes in saturated thickness of this magnitude or greater for the period 1940–1998 are typical of the High Plains aquifer in Finney County.

Figure 3 illustrates the lack of effect of precipitation recharge on the water table in the High Plains aquifer and the prominent effect of ground-water pumping on the water table in the area. As the graph indicates, precipitation has fluctuated over time with an average annual total of 18.1 inches/yr (46.0 cm/yr).

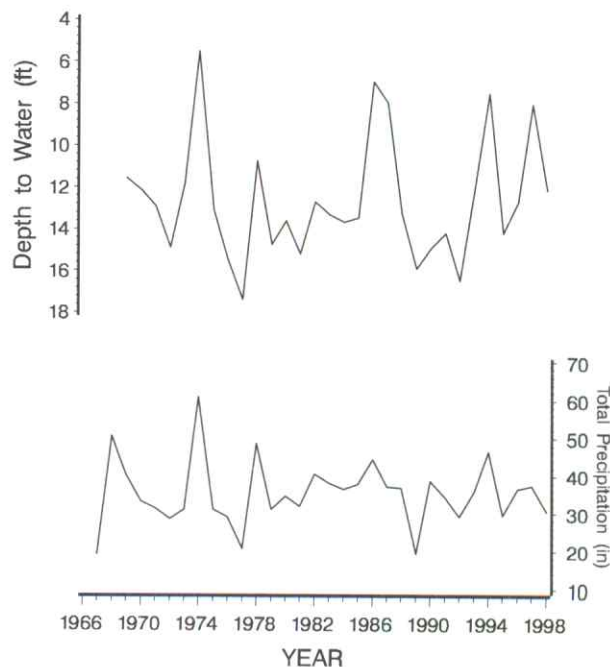


FIGURE 2—DEPTH TO WATER IN DOUGLAS COUNTY, well 12S-20E-07-CBC-01 [29 ft (8.8 m) deep; alluvial aquifer], and precipitation at Topeka WSFO airport (station 14816706).

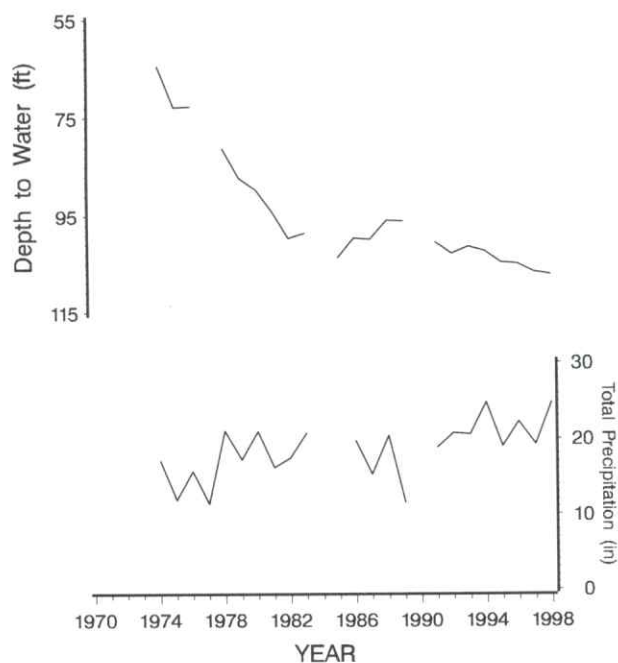


FIGURE 3—DEPTH TO WATER IN FINNEY COUNTY, well 24S-33W-28-DAA-01 [185 ft (56.4 m) deep; High Plains aquifer], and precipitation at Garden City Experimental Station (station 14298007).

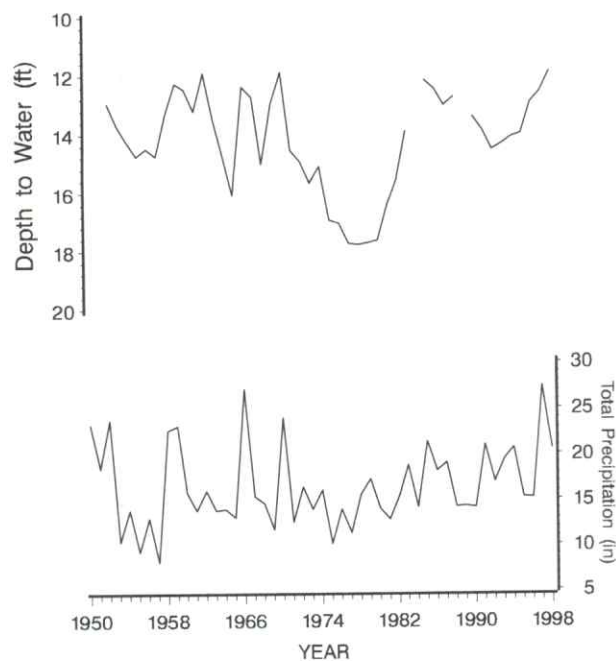


FIGURE 4—DEPTH TO WATER IN HAMILTON COUNTY, well 23S-43W-21-ABA-01 [29 ft (8.8 m) deep; alluvial aquifer], and precipitation at Syracuse (station 14803807).

Hamilton County, alluvial aquifer (QA)

The aquifers used in Hamilton County are associated with various geologic units (KJ, TO, QU, QA). The hydrograph (fig. 4) is for well 23S-43W-21ABA-01 in the Quaternary alluvium of the Arkansas River valley. Alluvial-aquifer systems consist of unconsolidated sand and gravel at relatively shallow depths. The depth to bedrock at the well is 29 ft (8.8 m), with a 1940 depth to water of 15 ft (4.6 m) and a 1998 depth to water of 11.9 ft (3.63 m). This local increase in saturated thickness is reasonable for an alluvial aquifer because the water level fluctuates in response to recharge from the Arkansas River and from precipitation. However, aquifer systems such as the High Plains and Dakota aquifers in Hamilton County show steady long-term declines in water levels. This is the result of ground-water withdrawals that exceed natural recharge. Some wells in the area show declines in excess of 70 ft (21 m) since predevelopment, as shown in Appendix D.

The hydrograph (fig. 4) for well 23S-43W-21ABA-01 shows some relationship between precipitation and water levels. Large-scale and variable local irrigation pumping can influence these relationships. In addition, precipitation, water use, and releases from the John Martin reservoir in Colorado influence streamflow in the Arkansas River over a much larger area than that represented by the single precipitation gauge.

Osborne County, terrace deposits of Quaternary age (QU)

Osborne County contains few observation wells for data collection. The major aquifers in this county are the Dakota (KD) and the terrace deposits of Quaternary age (QU). The hydrograph of the observation well 06S-12W-23CDC-01 is presented in fig. 5. The well is in the alluvial terrace deposits along the North Fork Solomon River.

The combined effects of recharge, ground-water pumping, releases from upstream reservoirs, and surface-water irrigation on yearly changes in water level influence the hydrograph. Precipitation patterns drive these factors directly or indirectly. In turn, they interact in various ways that either cancel their effects (e.g., diverting surface water can be less expensive than pumping and is therefore used in its place) or compound their effects (e.g., increased rainfall increases reservoir levels, which allows for more instream releases). The hydrograph is for a shallow well with a shallow water table [at an average depth of 13–28 ft (4.0–8.5 m)] that is located in alluvial-terrace deposits of sands, gravels, and clays. These permeable materials allow the water table to respond more rapidly to local recharge and changes in the stream-channel water level. A comparison of figs. 2 and 5 supports these conclusions. The well in fig. 2 is also an alluvial well, but it is not subject to fluctuations resulting from variable local releases and irrigation. Thus, depth to water and precipitation in fig. 2 show greater correspondence than in fig. 5.

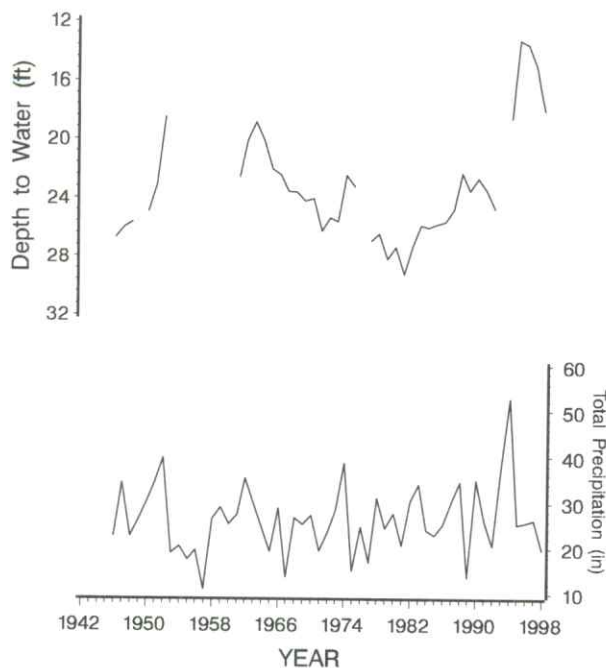


FIGURE 5—DEPTH TO WATER IN OSBORNE COUNTY, well 06S-12W-23-CDC-01 [30 ft (9.1 m) deep; unconsolidated Quaternary aquifer—alluvial terrace deposits], and precipitation at Cawker City (station 14137102).

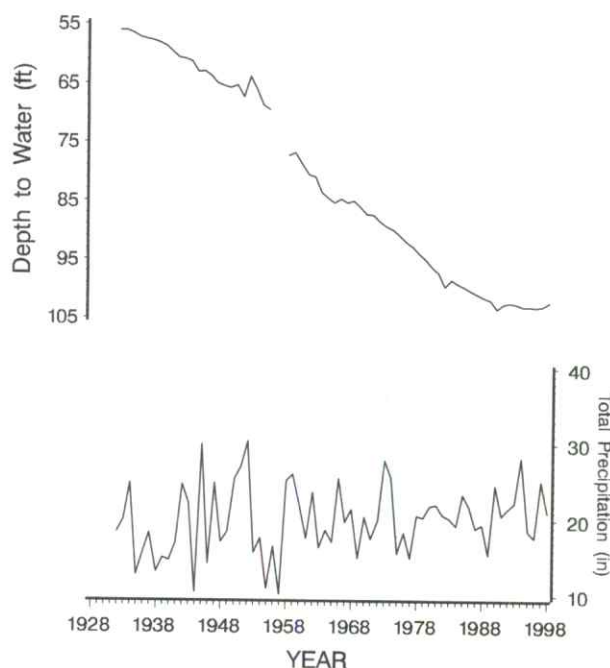


FIGURE 6—DEPTH TO WATER IN SCOTT COUNTY, well 20S-33W-09-BBB-01 [128 ft (39.0 m) deep; High Plains aquifer], and precipitation at Scott City (station 14727104).

Scott County, High Plains aquifer (TO)

All of the observation wells in Scott County are screened in the Ogallala Formation (TO). In this area, the High Plains aquifer consists of sand, gravel, silt, and clay of the Ogallala Formation and Pleistocene loess deposits of sand, silt, and clay. Well 20S-33W-09BBB-01, penetrating 128 ft (39.0 m) to the bottom of this aquifer, is used for the hydrograph (fig. 6).

The 1998 depth to water is 101.9 ft (31.06 m). Compared to the 1940 level [60 ft (18 m)] (Appendix D, Scott County), the water-level decline is 41.9 ft (12.8 m) and represents a nearly 62% decrease in saturated thickness for this period, which is typical of the High Plains aquifer in Scott County.

The water-level changes and the low, variable annual rainfall shown in the hydrograph (fig. 6) bear no observable relationship. This is consistent with other studies that indicate that average annual recharge is on the order of 0.25 inches/yr (0.6 cm/yr) and that the time required for water to move from the surface to the water table in some locations is more than 30 years. Clearly, the dominant effect is the decline in the water table resulting from ground-water pumping.

Sedgwick County, alluvial aquifer (QA)

The hydrograph of the observation well 25S-01W-14DDD-01 (fig. 7) is representative of ground-water conditions in Sedgwick County and is screened in the Arkansas River alluvium. The hydrograph illustrates the effect of recharge on changes in water level on a yearly basis. Because this well is shallow and located in alluvial terrace deposits, the depth to water (15–20 ft [4.6–6.1 m]) is greatly influenced by recharge from the river and infiltrating precipitation.

A comparison of fig. 7 with figs. 2 and 5 shows that the Sedgwick County well is more similar to the Douglas County well in the Kansas River alluvium (fig. 2) than to the well in Osborne County (fig. 5). Unlike the well in Osborne County, the wells in Sedgwick and Douglas counties are subject to streamflow regimes and are less affected by local flow regulation.

Thomas County, High Plains aquifer (TO)

The primary aquifer in Thomas County is the High Plains, which in this area consists of the Ogallala Formation. The Ogallala is composed of sand, gravel, silt, and clay and is overlain by Pleistocene loess. The depth to bedrock at observation well 08S-34W-01BAC-01 is 270 ft

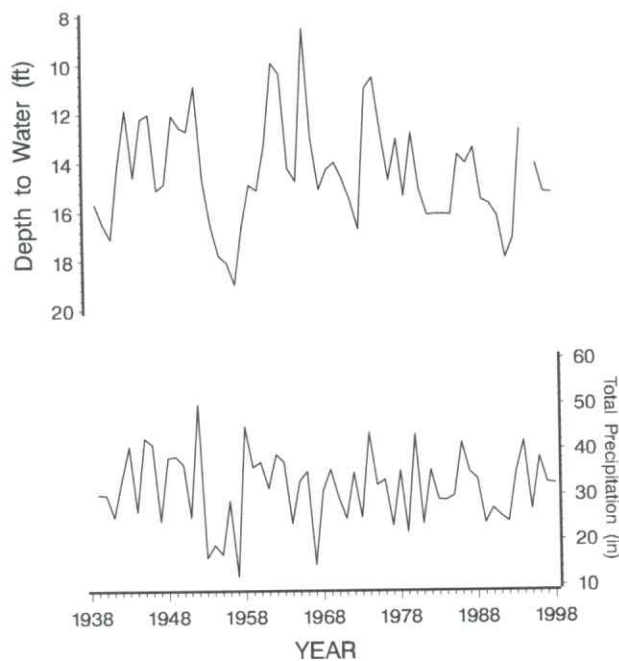


FIGURE 7—DEPTH TO WATER IN SEDGWICK COUNTY, well 25S-01W-14-DDD-01 [alluvial aquifer], and precipitation at Mount Hope (station 14553908).

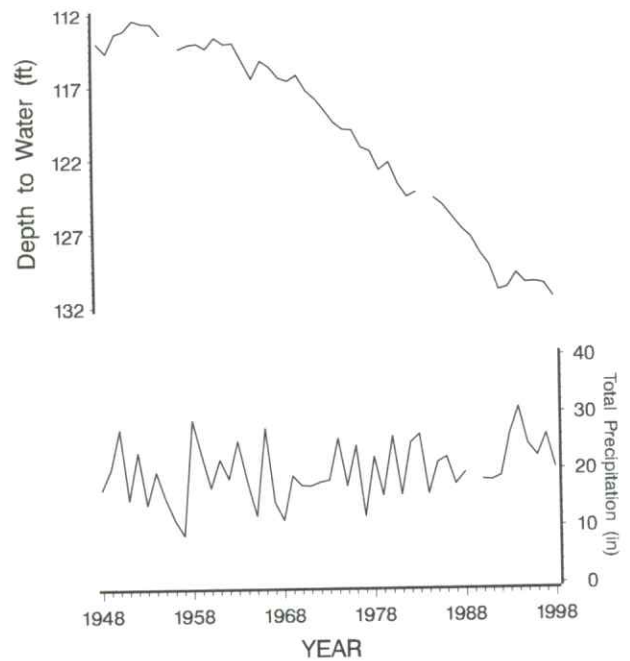


FIGURE 8—DEPTH TO WATER IN THOMAS COUNTY, well 08S-34W-01-BAC-01 [160 ft (48.8 m) deep; High Plains aquifer], and precipitation at Colby 1 SW (station 14169901).

(82.3 m). The depth to water in this well has increased from 113 ft (34.4 m) below land surface in 1950 to 131.5 ft (40.08 m) in 1998. This drop in water level represents a 12% decrease in saturated thickness since predevelopment.

As in the hydrograph for Scott County (fig. 6), the hydrograph in fig. 8 shows no obvious correspondence between total annual rainfall and the depth to the water table. In this part of Kansas, the water table in the High

Plains aquifer is much deeper than it is elsewhere in the state. This deep water table combined with thick, overlying, unsaturated sediments and low annual rainfall results in long time-lags between rainfall and recharge. The long-term imbalance between ground-water withdrawal and replenishment is evident from the decline of water levels over a 40-year period with relatively stable amounts of precipitation.

Regional Change in Water Levels

The state of Kansas has been divided into eight hydrologic regions for the purpose of this report (see fig. 1). In regions IV, VI, VII, and VIII, the water-level data are too sparse to lend themselves to regional analysis. For each of the remaining four regions that contain major portions of the High Plains aquifer, two types of water-level change are presented in this section. Each is based on the measured depths to water reported in Appendix D. Because the amount of water available and the elevation of the water table both decrease as the depth to water increases, changes are discussed in terms of change in water level, or elevation of the water table.

Because wells are normally measured in the same time period of each sample year, this provides a benchmark for short-term annual changes, and differences between successive annual measurements are reported as the annual change. Long-term effects are represented by

changes since the predevelopment period. The predevelopment water level represents conditions before ground water in that region was used extensively and is usually taken as a specific year in the range 1940–1950, depending on the availability of early data for the region.

Tables 2–9 summarize regional changes in water level since the predevelopment period and during the past seven years. Figures 9–12 are divided into three maps each, depicting the spatial distribution of water level and saturated thickness changes in the High Plains aquifer. Part A of each figure displays a generalized interpretation of the absolute change in water level from the assigned predevelopment period to the present. Part B shows a generalized interpretation of the percentage change in the saturated thickness of the aquifer from predevelopment to present. Finally, part C shows the generalized change in water level since the last annual sample. The areal extent

of the High Plains aquifer is shown as an outline on each map, and except for fringe areas, generally coincides with the shaded regions. On each map, an average value of the variable (water-level change or percent change in saturated thickness) is determined for each section in a township. The sections are then classified into different intervals according to their specific average values. For example, all sections with an average decline of water level since predevelopment between 25 and 50 ft (7.6–15.2 m) are shaded the same intensity and assigned to the interval which is labeled 25 to 50 ft decrease, and so forth. The classification schemes are based on the range of possible values, are limited by the total number of classes, and therefore may vary from one region to another. It must also be kept in mind that the intensity of gray shading may differ from one annual report to the next. In this report, areas of sparse data are indicated as a separate category in figs. 9–12.

For the production of figs. 9–12, not every well listed in the tables of Appendix D was used. Wells drilled in any formations of type KD, KN, JM, KJ (even in combination with any other type) were not used because these formations are not considered part of the High Plains aquifer system. For the same reason, wells with a geologic unit code containing any alluvial (QA) type were eliminated from the maps of regions I, II, and III. Wells drilled in units of this type (QA) were used for the production of region V maps since such units are generally considered part of the aquifer system in this region.

Statistical analysis is an important tool for understanding observed patterns of ground-water data. This report employs a statistic to help describe the behavior of annual water-level changes. Tables 3, 5, 7, and 9 report the results of a “paired t-test” on the difference between each successive annual depth-to-water measurement for each well. This statistic, the average of all annual water-level changes, is tested to determine whether that difference is large enough to indicate that a “statistically significant” change has occurred.

Statistical significance relates the value of a water-level measurement with the probability of observing that calculated value. It is often measured by the “p-value.” This quantity reports the probability of encountering a larger value than was calculated from the sample of data. A 5% level of significance is commonly used as an indication of statistical significance (this convention is followed in this report). This means that the p-value must be less than 0.05 (5%) to indicate statistical significance. In other words, there is less than a 5% risk that the statistic could be larger, by random chance. This is commonly accepted as sufficient evidence of a statistically significant result. However, there remains a 1 in 20 (5%) chance that this relationship is not significant. Conversely, if statistical significance is rejected because of a large p-value, a possibility always remains that the difference is nonetheless real.

Region I: Southwestern Kansas

Table 2 shows the changes in regional water levels in the High Plains aquifer over the past seven years. Although the average decline in water levels between 1997 and 1998 is small, the average decline since predevelopment of 51.4 ft (15.7 m) is still relatively large. The map in fig. 9A shows large declines from predevelopment ground-water levels in parts of Stanton, Grant, Haskell, Stevens, Kearny, and Finney counties. Because of the large original saturated thickness of the High Plains aquifer in this area, substantial reserves of ground water still exist. There are limited areas, primarily in Grant, Stanton, Morton, Hamilton, and Finney counties, where saturated thickness has decreased by over 50% (see fig. 9B).

Annual changes in water level (table 3) for region I show an average decline of 0.1 ft (3.0 cm) this year, compared with 0.3 ft (9 cm) last year. Declines in water levels were observed in 55% of the wells reported, compared to 57% last year. As in the 1996–97 period, the average water-level change for this region in 1997–98 is statistically insignificant (table 3). The annual change map for 1997–98 (fig. 9C) shows a marked decrease in the total area of declines of 5 ft (1.5 m) or more compared to the 1997–98 period, particularly in Grant, Finney, and Stevens counties. In Grant and Finney counties, no such areas were observed for the current period. A significant increase in the total area of water-level rise and a significant decrease in the total area of water-level decline can be seen in Grant, Kearny, Finney, Seward, Gray, and eastern Ford counties. In contrast, significant increases in the total area of water-level decline and significant decreases in the total area of water-level rise can be seen in Morton and western Ford counties. These observations indicate an overall trend of decline over most of the region, but to a lesser extent than in 1996–97.

TABLE 2—CHANGE IN WATER LEVEL (ft), predevelopment to present, for reported wells in region I.

Year	Average change	Number of wells	Largest rise	Largest decline
1992	–49.3	347	20.3	209.0
1993	–48.0	331	19.8	210.4
1994	–49.4	327	19.8	207.9
1995	–49.6	302	19.6	212.0
1996	–53.4	307	18.6	216.9
1997	–52.2	304	19.9	218.9
1998	–51.4	303	20.1	216.8

TABLE 3—ANNUAL CHANGE IN WATER LEVEL (ft) for reported wells in region I.

Interval	Average change	Number of wells	Largest rise	Largest decline	Percentage of wells with rise ^a	Percentage of wells with decline ^a	Is change statistically significant?
1992–1993	+0.6	427	84.9	11.1	45	55	no
1993–1994	–0.1	415	43.1	21.5	34	66	no
1994–1995	–2.2	385	9.6	29.9	17	82	yes
1995–1996	1.6	387	20.0	20.2	24	76	yes
1996–1997	–0.3	423	20.0	21.1	43	57	no
1997–1998	–0.1	442	19.1	30.2	45	55	no

a. The percentage of wells with water-level rises and the percentage of wells with water-level declines will not always sum to 100. Each year it is possible that a small number of wells will remain at the same level as the previous year.

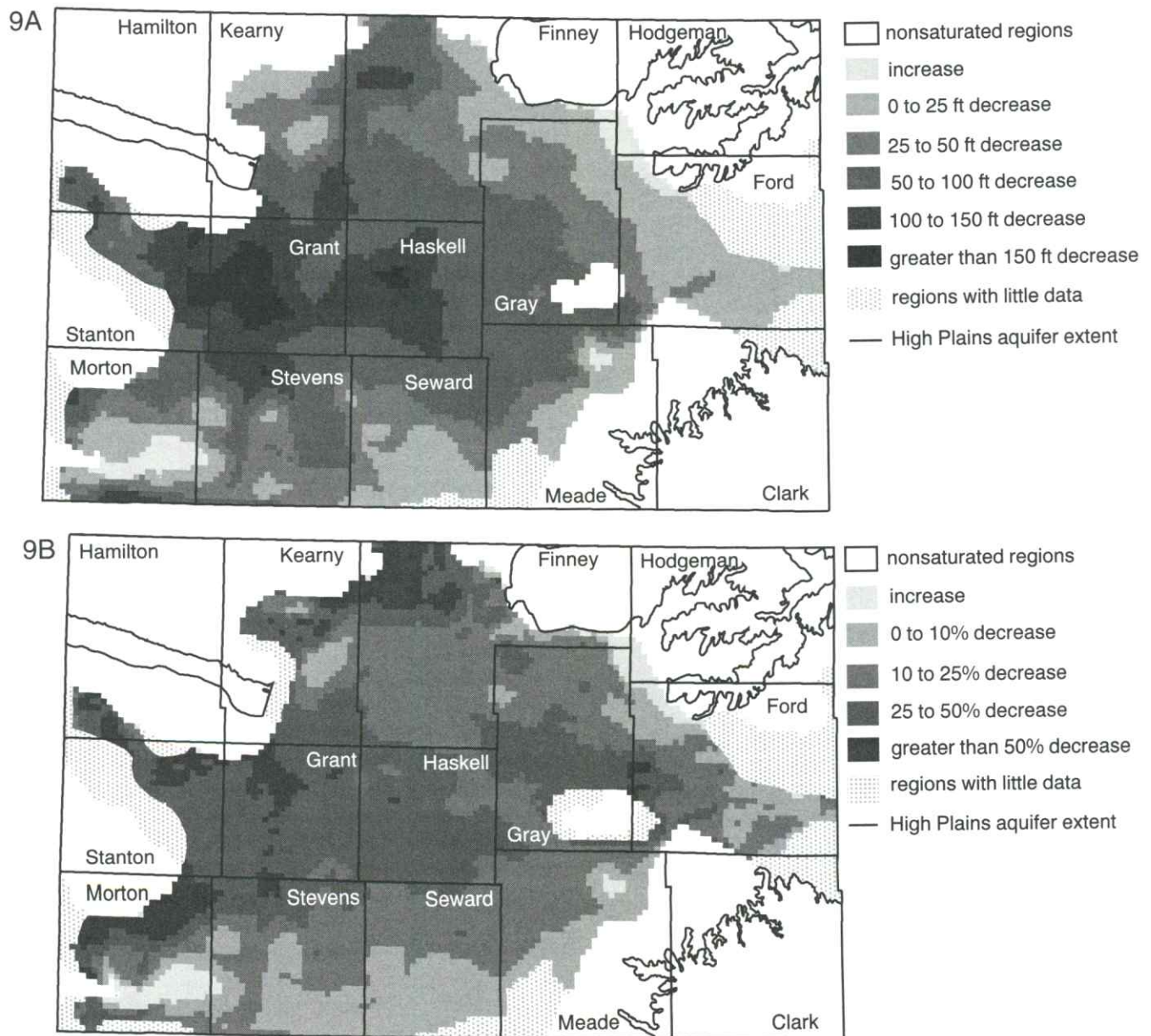
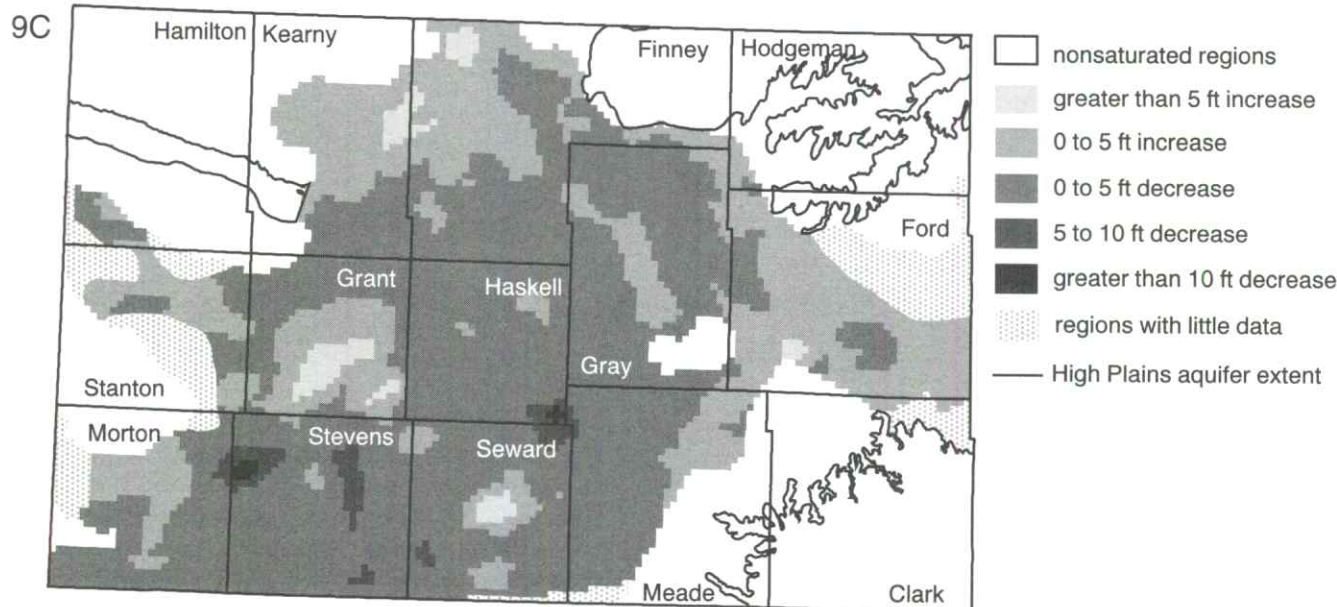


FIGURE 9—GROUND-WATER CHANGES IN THE AREA OF THE HIGH PLAINS AQUIFER IN REGION I, SOUTHWEST KANSAS. See fig. 10 for adjacent areas to the north, and fig. 12 for adjacent areas to the east. (A) Generalized water-level changes (ft), predevelopment to 1998. (B) Change in saturated thickness (%), predevelopment to 1998. (C, next page) Annual water-level change (ft), 1997–98.



Region II: West-central Kansas

Region II encompasses Greeley, Wichita, Scott, Lane, and Ness counties as well as the southern half of Wallace, Logan, Gove, and Trego counties. In this region, the High Plains is the primary aquifer. The average decline in water level since predevelopment for reported wells (table 4) has been approximately 36.7 ft (11.2 m), with the largest decline equal to 83.6 ft (25.5 m). Water-level declines since the predevelopment period (fig. 10A) exceed 50 ft (15 m) in many areas, primarily in Wallace, Greeley, Wichita, and Scott counties. The areal extent of the largest declines appears to be unchanged from 1997. The depth to bedrock in region II is less than that in regions I and III. Consequently, small declines in water-level elevation represent a larger percentage (50% or more in many areas; see fig. 10B) of the total water reserves than is the case in the High Plains aquifer in regions I and III. The hydrograph for Scott County (fig. 6) illustrates the typical pattern of decline in the region.

Water levels in region II rose by an average of 0.5 ft (15.0 cm) in the 1997–98 period, a statistically insignificant change (table 5). The percentage of wells exhibiting a decline was less than the percentage of wells exhibiting a rise (42% vs. 58%). As fig. 10C indicates, local areas of both declining and rising water levels exist throughout this region. The total area of greater than 1-ft (30 cm) decline has markedly decreased in the current period relative to

TABLE 4—CHANGE IN WATER LEVEL (ft), predevelopment to present, for reported wells in region II.

Year	Average change	Number of wells	Largest rise	Largest decline
1992	–34.0	115	2.6	88.4
1993	–34.0	89	4.1	86.5
1994	–32.4	107	5.2	83.9
1995	–34.2	111	2.5	84.7
1996	–35.3	108	2.8	95.2
1997	–34.8	110	3.0	84.7
1998	–36.7	121	3.1	83.6

TABLE 5—ANNUAL CHANGE IN WATER LEVEL (ft) for reported wells in region II.

Interval	Average change	Number of wells	Largest rise	Largest decline	Percentage of wells with rise ^a	Percentage of wells with decline ^a	Is change statistically significant?
1992–1993	+0.6	111	5.8	9.7	76	24	yes
1993–1994	+0.9	109	7.7	5.5	66	33	yes
1994–1995	–1.1	131	5.4	10.1	24	76	yes
1995–1996	–0.9	134	6.6	14.6	31	69	yes
1996–1997	+0.1	148	15.4	23.1	53	47	no
1997–1998	+0.5	154	25.3	10.7	58	42	no

a. The percentage of wells with water-level rises and the percentage of wells with water-level declines will not always sum to 100. Each year it is possible that a small number of wells will remain at the same level as the previous year.

1996–97, particularly in southwestern Wallace, northern Wichita, and southwestern Scott counties. The total area of greater than 1-ft rise has also decreased relative to the 1996–97 period, primarily in southeastern Wallace, northern Scott, and northern Lane counties. The area of

greatest decline (greater than 4 ft) is in northwestern Scott County, and the (small) area of greatest rise (greater than 4 ft) is in southwestern Wallace County. These observations indicate an overall trend of slight rises in water levels with localized areas of both rises and declines.

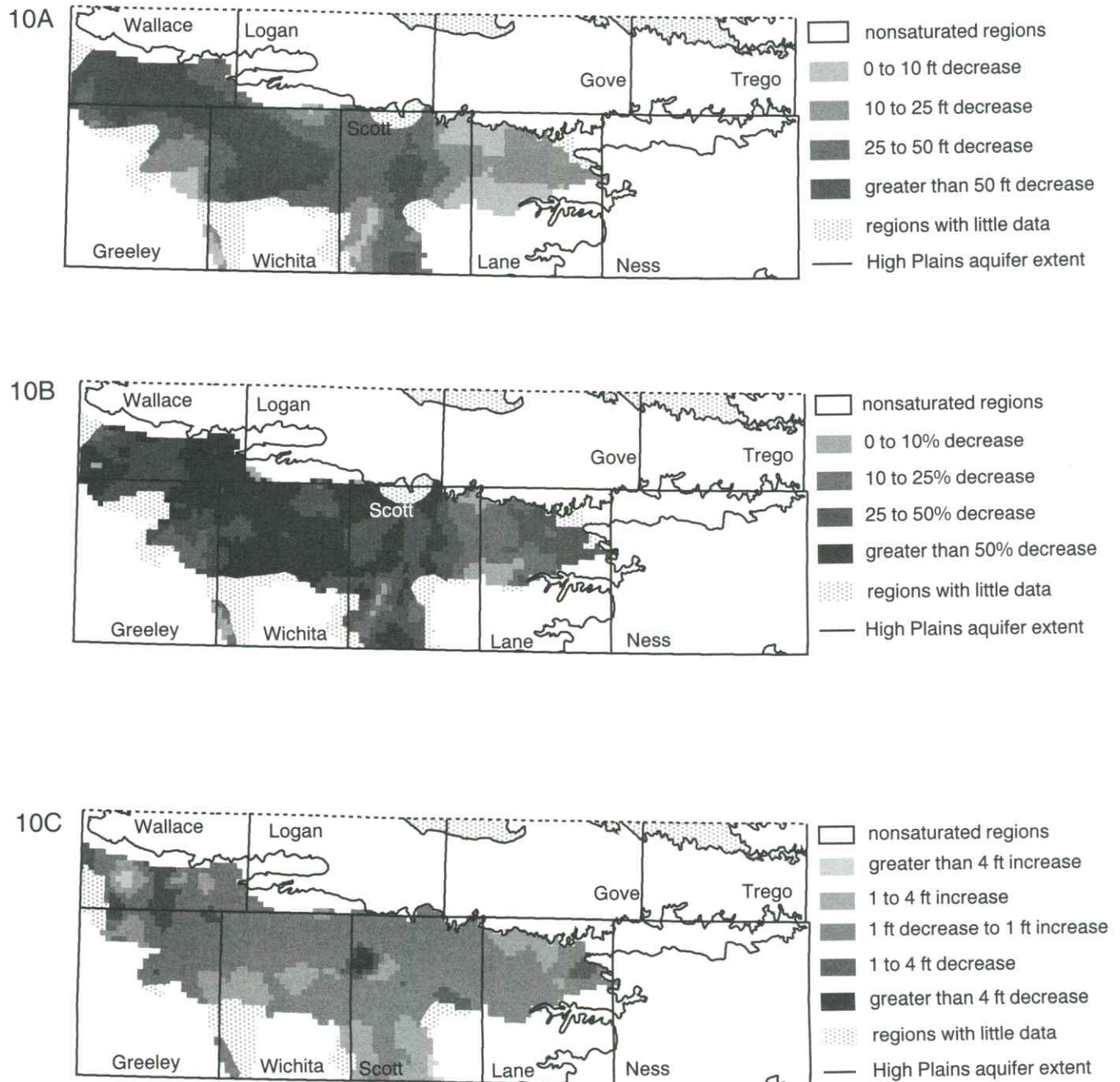


FIGURE 10—GROUND-WATER CHANGES IN THE AREA OF THE HIGH PLAINS AQUIFER IN REGION II, WEST-CENTRAL KANSAS. See fig. 11 for adjacent areas to the north, and fig. 9 for adjacent areas to the south. (A) Generalized water-level changes (ft), predevelopment to 1998. (B) Change in saturated thickness (%), predevelopment to 1998. (C) Annual water-level change (ft), 1997–98.

Region III: Northwestern Kansas

In northwestern Kansas, the High Plains is the primary aquifer. The average water-level change since predevelopment for this region (table 6) was a decline of 14.8 ft (4.51 m), with the largest decline equal to 61.5 ft (18.7 m). Since predevelopment, the largest areas of declines (greater than 25 ft; 7.6 m) in water level (fig. 11A) and of decreases (greater than 25%) in saturated thickness (fig. 11B) continue to be in Sherman, Sheridan, and Thomas counties, where well development is greatest. Declines in saturated thickness in this region have not yet reached the 50% level because of the large predevelopment saturated thickness of the aquifer. The hydrograph for Thomas County (fig. 8) illustrates a sustained water-table decline, which is typical for much of the region.

The 1998 average annual change in water level was a decline of 0.3 ft (9 cm) (table 7), which is statistically insignificant. This average annual decline was slightly more than that for the 1996–97 period (0.1 ft [3 cm]). Sixty-nine percent of the wells had water-level declines whereas 31% had water-level rises during the 1997–98 period. These percentages are quite different than those observed in the 1996–97 period during which 48% showed a decline and 51% showed a rise. Figure 11C shows that the total area of decline (greater than 1 ft; 0.3 m) has increased in the current period relative to 1996–97. This trend appears to be most prevalent in Cheyenne, Sherman, northwestern Rawlins, southern Thomas, and northern Logan counties. Larger areas of rise (greater than 1 ft or 0.3 m) were observed in Sheridan, northern Thomas, eastern and south central Rawlins, and southwestern Decatur counties. From Figure 11C one can also see that the greatest declines (greater than 5 ft; 1.5 m) were observed in relatively small, localized areas in northwestern Rawlins County and in southeastern Thomas County near the Sheridan County border. A small area of (greater than 10 ft [3 m]) decline can be seen in northern Rawlins County. Areas with greater than 5 ft (1.5 m) rises were observed in Rawlins, Thomas, and eastern Sheridan counties. These

observations, taken as a whole, indicate an overall trend of decline in the western, southern, and easternmost parts of the region and an overall trend of water-level rise in the central part of the region.

Region V: South-central Kansas

The south-central region of Kansas is located east of the Ogallala Formation extent. In this region the primary geologic unit used for ground-water supply is Quaternary alluvium. As table 8 shows, the average change since predevelopment has been a decline of 1.8 ft (55 cm), which is much smaller than the average amount of change in other regions (table 8). Significant areas of water-level decline greater than 10 ft (3 m) and saturated thickness decline greater than 10% (figs. 12A, 12B) continue to appear in Edwards and Pawnee counties and, to a lesser extent, in Stafford, Kiowa, Pratt, Rice, Reno, and Kingman counties. Water-table elevations higher than the predevelopment value by 0–10 ft (0–3 m) were observed primarily in Stafford, Reno, Kingman, Pratt, Kiowa, and western Edwards counties.

Water-levels rose in the 1997–98 period (table 9) an average of 0.9 ft (27 cm) with 80% of the wells exhibiting an increase in water level (compared to 64% during the

TABLE 6—CHANGE IN WATER LEVEL (ft), predevelopment to present, for reported wells in region III.

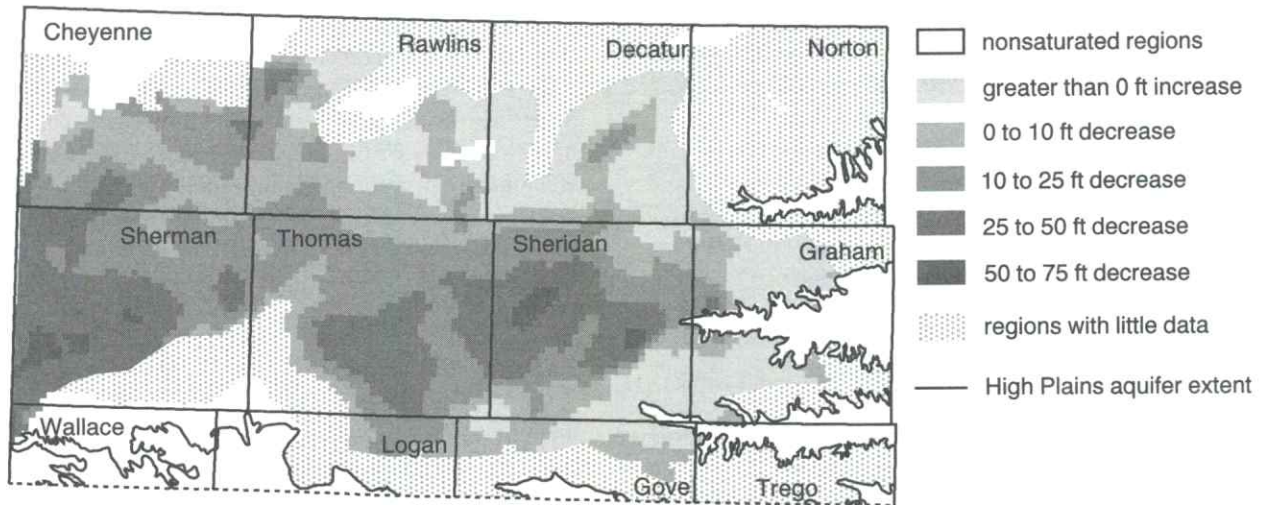
Year	Average change	Number of wells	Largest rise	Largest decline
1992	-15.2	217	4.0	68.2
1993	-13.8	209	6.1	66.6
1994	-12.4	238	8.7	64.8
1995	-13.2	234	22.3	67.1
1996	-14.2	225	23.5	67.8
1997	-14.2	227	21.8	67.4
1998	-14.8	225	10.1	61.5

TABLE 7—ANNUAL CHANGE IN WATER LEVEL (ft) for reported wells in region III.

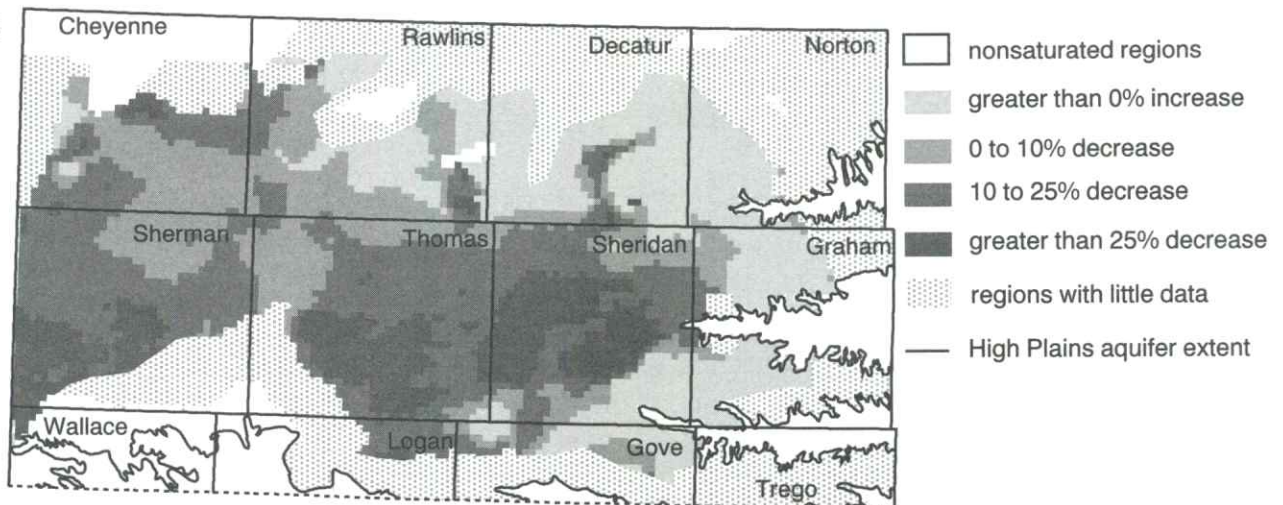
Interval	Average change	Number of wells	Largest rise	Largest decline	Percentage of wells with rise ^a	Percentage of wells with decline ^a	Is change statistically significant?
1992–1993	+1.1	269	21.6	6.6	78	22	yes
1993–1994	+1.3	290	15.6	11.3	73	26	yes
1994–1995	-0.5	317	16.2	13.0	34	66	yes
1995–1996	-0.4	306	9.9	17.4	45	54	yes
1996–1997	-0.1	313	8.6	13.8	51	48	no
1997–1998	-0.3	323	18.8	16.1	30	69	no

a. The percentage of wells with water-level rises and the percentage of wells with water-level declines will not always sum to 100. Each year it is possible that a small number of wells will remain at the same level as the previous year.

11A



11B



11C

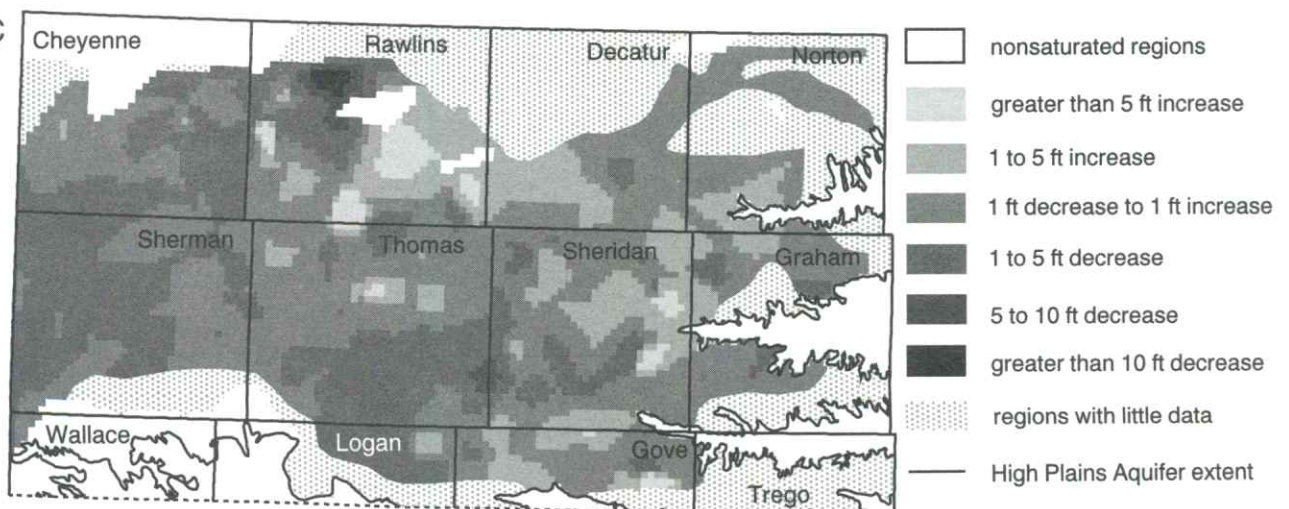


FIGURE 11—GROUND-WATER CHANGES IN THE AREA OF THE HIGH PLAINS AQUIFER IN REGION III, NORTHWESTERN KANSAS. See fig. 10 for adjacent areas to the south. (A) Generalized water-level changes (ft), predevelopment to 1998. (B) Change in saturated thickness (%), predevelopment to 1998. (C) Annual water-level change (ft), 1997-98.

1996–97 period). The total area in which declines occurred during 1997–98 is considerably smaller than that observed for the previous year. Larger areas of decline and smaller areas of rise in water level (relative to the 1996–97 period) can be observed only in the western and northwestern parts of the region (Barton, Pawnee, Edwards, Kiowa, and southwestern Pratt counties [fig. 12C]). Larger areas of rise and smaller areas of decline were observed throughout the remaining three fourths of the region. The greatest annual water-level declines (greater than 2 ft [0.6 m]) can be seen in southwestern Pratt and southeastern Edwards counties. The greatest water-level rises (greater than 4 ft [1.2 m]) can be seen in the area surrounding the intersection between the Harvey–Reno County boundary and the McPherson County boundary and near the Edwards, Kiowa, and Pratt county boundaries. The greatest contrast between the 1996–97 and 1997–98 periods is in the area surrounding the intersection between the Harvey–Reno County boundary and the McPherson County boundary, where 0 to 2 ft (0–0.6m) declines were observed for the 1996–97 period and water-level rises of greater than 4 ft (1.2 m) were observed during the 1997–98 period.

In the central and eastern portions of this area, the freshwater aquifer is underlain by formations containing saltwater, which can move up to replace the freshwater if

pumping exceeds recharge. This means that local areas are subject to both water-table declines (reduction of saturated thickness) and upconing of saltwater. Because of this, reporting of water levels alone is not sufficient for determining the availability of usable water. The Kansas Geological Survey, Big Bend Groundwater Management District 5, and Equus Beds Groundwater Management District 2 are currently studying the relationship between saltwater and freshwater.

TABLE 8—CHANGE IN WATER LEVEL (ft), predevelopment to present, for reported wells in region V.

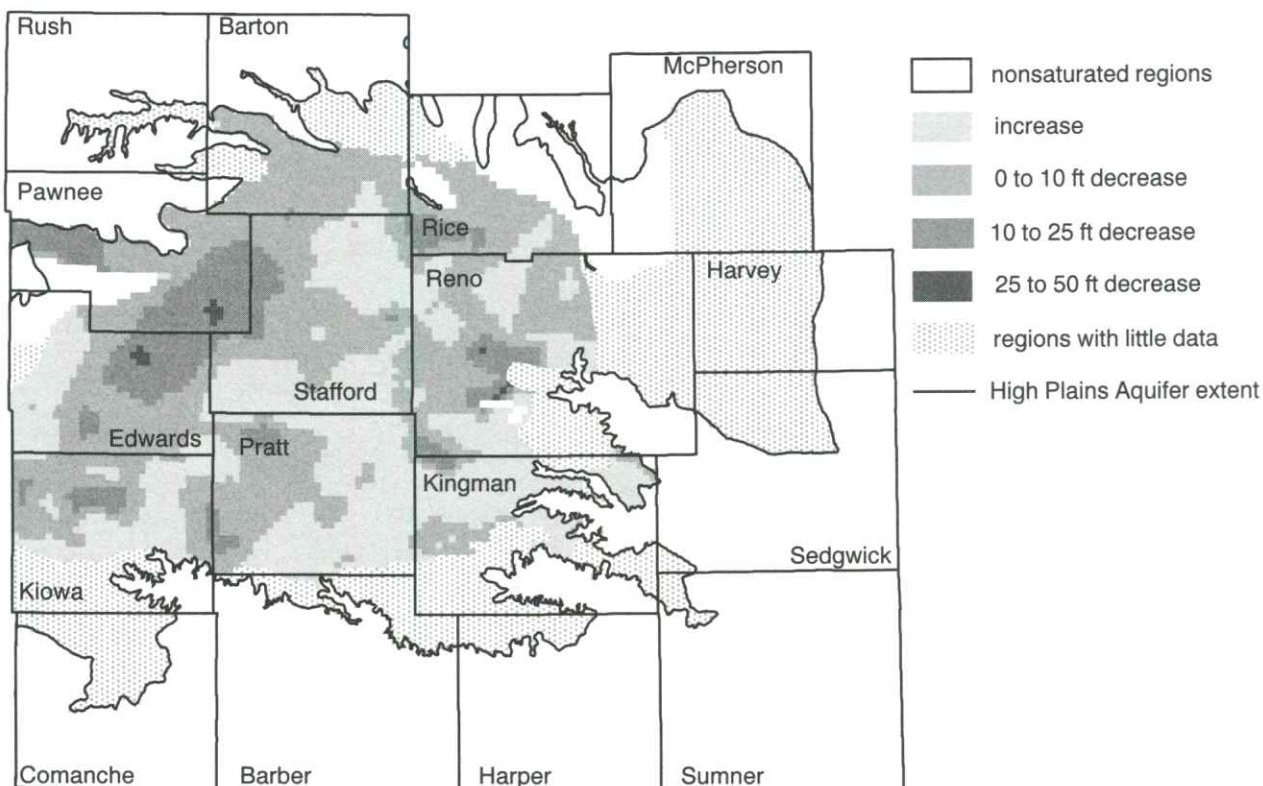
Year	Average change	Number of wells	Largest rise	Largest decline
1992	–5.4	224	17.8	31.1
1993	–4.3	222	21.1	31.9
1994	–1.7	224	19.4	31.4
1995	–4.0	219	16.9	33.2
1996	–3.4	220	17.8	32.3
1997	–2.6	219	20.5	32.3
1998	–1.8	216	21.7	32.2

TABLE 9—ANNUAL CHANGE IN WATER LEVEL (ft) for reported wells in region V.

Interval	Average change	Number of wells	Largest rise	Largest decline	Percentage of wells with rise ^a	Percentage of wells with decline ^a	Is change statistically significant?
1992–1993	+1.3	339	10.0	5.9	77	22	yes
1993–1994	+2.5	335	13.6	4.7	85	15	yes
1994–1995	–2.4	329	5.2	10.0	6	94	yes
1995–1996	+0.7	322	5.9	9.5	80	19	yes
1996–1997	+0.6	341	18.3	3.5	64	35	yes
1997–1998	+0.9	351	7.9	5.5	80	19	yes

a. The percentage of wells with water-level rises and the percentage of wells with water-level declines will not always sum to 100. Each year it is possible that a small number of wells will remain at the same level as the previous year.

12A



12B

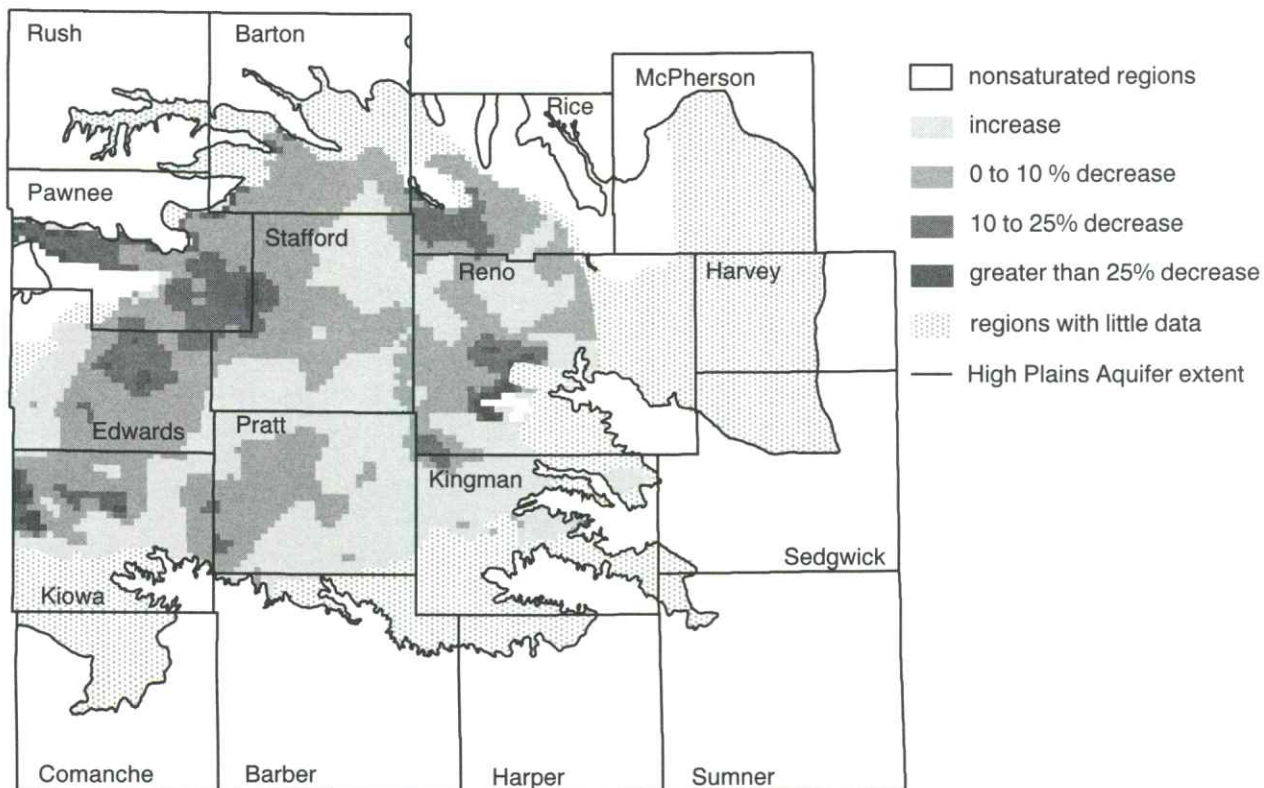
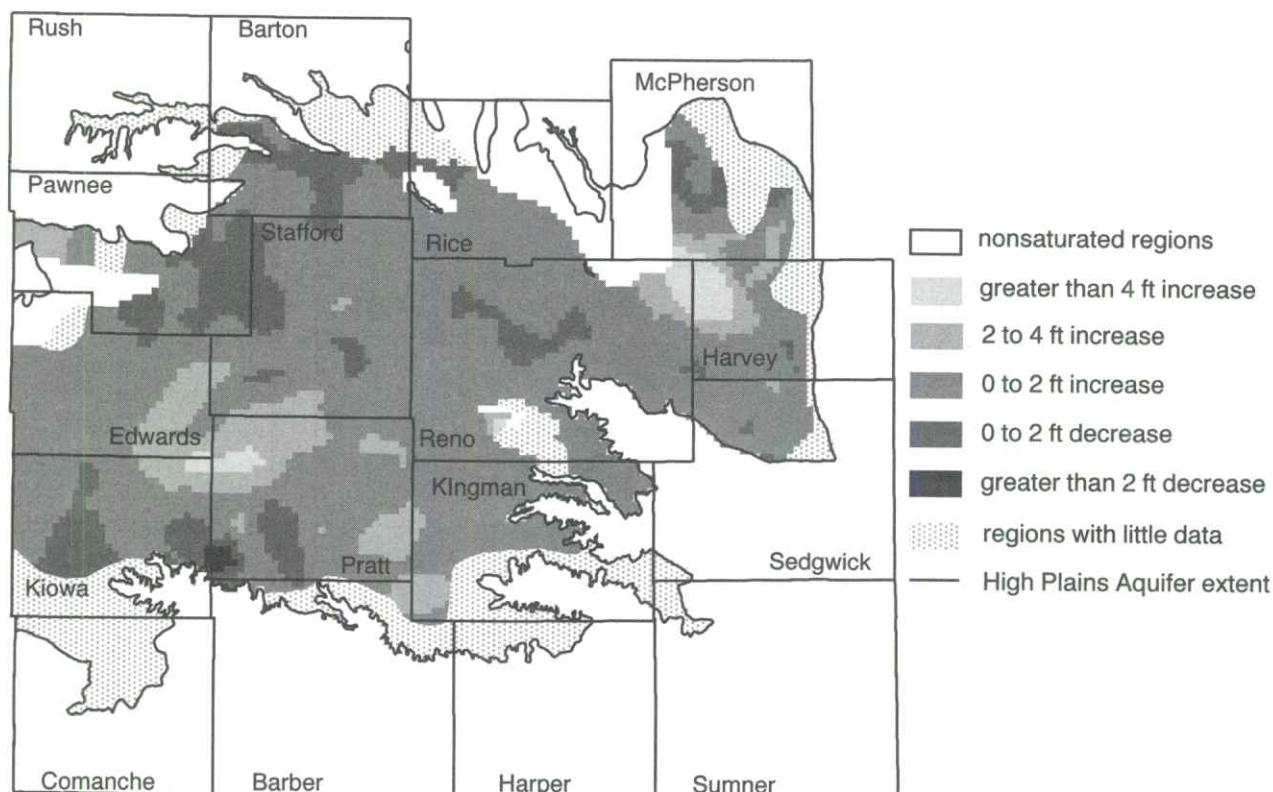


FIGURE 12—GROUND-WATER CHANGES IN THE AREA OF THE HIGH PLAINS AQUIFER IN REGION V, SOUTH-CENTRAL KANSAS. See fig. 9 for adjacent areas to the west. (A) Generalized water-level changes (ft), predevelopment to 1998. (B) Change in saturated thickness (%), predevelopment to 1998. (C, next page) Annual water-level change (ft), 1997–98.



Appendix A: Acquisition Techniques and Technology

Richard D. Miller
Exploration Services
Kansas Geological Survey

The current measurement methodology is well established and has been in use virtually unaltered for the last 40 years (Miller, 1996). Evolution of the measurement technique has been constrained by physical limitations both at the surface and within the casing of most wells that make up the network. Because the majority of measurements are taken in irrigation wells, access to water levels is limited by surface and downhole equipment. Entry points into most measured wells is through access tubes, threaded plug holes, or open slits in the wellhead base. These small openings (generally less than 1 inch [less than 2.5 cm]) are generally in the side of the wellhead or through openings in the well curb/pad. For consistency and accuracy reasons, measurements are always made through the same opening regardless of other access points.

Water-level measurements for the annual program are generally taken with a lead-weighted, steel tape. Weighting the end of the steel tape serves to minimize downhole tape coil and provides some degree of control when

starting a tape into the top of well. Steel tapes are preferred because they do not suffer from stretch problems and help minimize the potential risk of measuring devices such as electric sounders tangling around pumps, fitting, or collars. Considering the variability in well and equipment design above and below the ground surface, steel tapes possess the greatest flexibility in adapting to the variety of well types that make up the network. In many cases the measuring device must make several sharp bends just to get into the well casing. Wells used for irrigation, domestic, livestock, municipality, and general commercial supply make up this network.

Water depth is calculated by subtracting the length of tape immersed in water from the total length of tape lowered into the well. Determining the amount of tape submersed in water is very subjective and in some cases impossible if the water "beads up" on the surface of the tape due to oil or downhole grime. Coating the lower portion of tape with blue carpenter's chalk improves the contrast of the wet/dry line. A distinctive color change

separates the wet part of the tape (wet chalk is dark blue) from the dry portion (dry chalk is light blue). The depth to water (DTW) is determined by subtracting the wet/dry line ("cut") measurement from the total length of tape suspended in the well ("hold") once an adjustment has been made for the well specific measurement point (MP) elevation. An acceptable cut can range from excellent (sharp, impulsive color change with no trace of moisture above the cut line) to poor (moisture spots and grimy/oily smudges above and near a partially obscured cut). When an acceptable reading is made, the tape hold and cut line, quality of cut, borehole conditions, and general comments are recorded and used to calculate depth to water and to establish well characteristics.

One of the more important and subjective aspects of the measurement process is the in-field appraisal of measurement confidence and quality. Precise measurements of depth to water in a well require a very controlled and smooth measurement technique and a clear understanding of the downhole environment. Knowing when to remeasure is much more difficult when the tape contacts moisture or grease/oil on casing walls above the water level. Once a preliminary depth to water has been calculated, it is compared to local trends established using the current season's measurements at wells in close proximity. If the cut is judged acceptable and the relative difference between the current year and previous year's measurements is reasonable, based on the local trend, the measurement is recorded and the well is tagged. If an unacceptable or out-of-trend reading is obtained, a re-measurement is made.

Once a well has been successfully measured, it is tagged. A color-coded (according to year: 1997-yellow; 1998-white; 1999-orange; 2000-red; etc.) Tyvek tag is attached to the well with a wire tie. Each tag provides the landowner/operator with some of the well characteristics and identifies the program participants (i.e., Kansas Geological Survey and the Division of Water Resources). Tags provide information on the well location, landowner's name, measuring agency, measurement access, obstructions, cut quality, oil on water, remarks, depth to water (current and previous two years), date, and initials of measurer. The tag is provided as a courtesy to and convenience for the owner/operators and can be used in whatever fashion they choose.

Wells Measured in 1998

Type of Well	KGS	DWR
Irrigation	407	572
Unused (monitor or abandoned)	103	171
Stock	23	41
Household	8	24

Depth to Water	KGS	DWR
Less than 100 ft	206	445
100 to 200 ft	237	272
200 to 300 ft	85	45
More than 300 ft	14	3

Drill Depth of Well	KGS	DWR
Unknown	89	78
Less than 100 ft	85	247
100 to 200 ft	88	284
200 to 300 ft	127	140
300 to 400 ft	91	36
More than 400 ft	74	36

Measurements Judged	KGS	DWR
Excellent	490	597
Good	40	150
Fair	12	32

1998 Water Levels

1998	542 wells measured (KGS)	(98%)
1997	542 wells measured (KGS)	(96%)
1996	504 wells measured (USGS)	(90%)
1995	509 wells measured (USGS)	(91%)
1994	513 wells measured (USGS)	(91%)
1992	481 wells measured (USGS)	(87%)
1991	493 wells measured (USGS)	(88%)
1990	485 wells measured (USGS)	(86%)

Reference

- Miller, R. D., 1996, The acquisition of annual water levels in Kansas sponsored through a cooperative agreement between the KGS and USGS: Kansas Geological Survey, Open-file Report 96-39

Appendix B: Statistical Quality-control Measurements, 1998 Water-well Measurements

John C. Davis
Mathematical Geology
Kansas Geological Survey

The objective in the quality-control study is to identify and assess possible sources of unwanted variation in water-level measurements made by the KGS. The purpose of the analysis is to provide guidance to the Kansas Geological Survey (KGS) field-measurement program, to suggest ways in which field measurements might be improved, and to provide information necessary to identify past or current measurements that are suspect. The statistical quality-control and field-measurement programs have been intimately intertwined from the outset when the KGS assumed responsibility in 1997 for measuring observation wells formerly measured by the U.S. Geological Survey (USGS). A comparison of results from 1998 with those from 1997 shows that the quality-control program is resulting in the desired improvements in the measurement program.

Statistical Procedures

An analysis of variance (ANOVA) procedure was used to estimate the significance of different well and procedural characteristics on annual change in depth to water (called “’98-’97”) in the initial set of 514 observations. In addition to six variables that describe conditions of measurement, each well has a unique USGS ID number and KGS ID designation, a surface elevation, a legal description of the well location, a decimal latitude and longitude (obtained by mathematical conversion of the legal description), and the purpose for which the well is used. The variable “Aquifer Code” describes the primary source of water in the well; the manner in which aquifer code values were assigned in 1997 is summarized in Miller, Davis, and Olea (1997).

The initial statistical model includes all exogenous variables recorded during the quality-control study that may contribute to the variability in the response, ’98-’97, plus the variables “Well Use” and “Aquifer Code.” This initial model shows that none of the exogenous variables except “Aquifer Code” is a significant contributor to the total variance in ’98 - ’97. “Measurer” is marginally significant, as is “Well Use.” All other variables make no contribution to the variance of the response variable. This is in strong contrast with results obtained in 1997, when all components of the equivalent model except “Measurer,” “Downhole Access,” and “Oil on Water” were significant.

Summary of the Analyses of Variance

Unlike field measurements from 1997, data collected in 1998 show no significant variation attributable to any secondary effect except the aquifer being tapped by the well. The median decline in water level from 1997 to 1998 (0.41 ft [12 cm]), although not large, is almost three times greater than the median decline in the previous year; that is, from 1996 to 1997 (0.14 ft [4 cm]). The variation in decline is significantly less in the current year than in the previous year. The standard deviation of variable ’98-’97 is 2.48 ft (74 cm), versus a standard deviation of 4.66 ft (1.4 m) for variable ’97-’96. We may interpret this reduction in standard deviation as reflecting an improved consistency in the water-level measurements in the second year of the KGS measurement program.

There are no significant differences between the operators, although it is interesting to note that the two operators whose measurements deviated the most from the norm had no prior experience in measuring water levels and measured the fewest wells. There is almost no difference between wells with good or poor access (an average difference of 0.2 ft [6 cm]) and the same small difference between wells with good downhole access and poor downhole access. This similarity, coupled with measurer’s informal comments, suggests that the field crews do not distinguish between these two variables. The variable Well Access may be redundant; a better measure of this property may be extractable from the GPS time log.

The water level measured without a weight on the tape tends to be about 0.4 ft (12 cm) deeper than water levels measured in wells where the tape is weighted. By comparison, the difference between using or not using a weight on the tape was related to a difference in water level of more than 2.6 ft (78 cm) in 1997.

Water levels in wells that were unused or used for public purposes tended to be about 1 ft (30 cm) shallower than anticipated, while wells whose classification was unknown tended to be about 0.5 ft (15 cm) deeper.

If the quality of the chalk cut on the measuring tape is “poor,” the reading tends to be about 0.6 ft (18 cm) deeper than in 1997; if the cut is “good” the reading tends to be about 0.4 ft (12 cm) deeper; if the cut is “excellent,” the reading tends to be nearly the same as the preceding year.

Water levels in Cretaceous aquifers tend to be almost 1 ft (30 cm) deeper than in 1997. The Ogallala aquifer tends to be about 0.5 ft (15 cm) shallower. Measurements made in wells tapping alluvial aquifers or mixed sources tend to be about 0.5 ft (15 cm) or less deeper. Unlike measurements made in 1997, the differences in annual changes of water level for different aquifers are not significant.

Quality Assurance (Remeasure) Program

The 1998 Quality Assurance program of random remeasurements was highly successful in the sense that no statistically significant sources of variation were detected in the QA data set. This confirms that steps taken in 1997 and 1998 to control the reliability of well measurements made by the KGS achieved their objective. Thirty-five wells were selected at random for remeasurement during the late January supplementary data-collection period; of these, 31 could be measured.

The remeasurements of two wells deviated significantly from the initial water-level measurements of the same wells taken earlier in the month. The water level in the well located in 35S 31W 10AAC was 4.73 ft (1.42 m) deeper upon remeasurement, and the well located in 24S 30W 33ADD was 2.16 ft (65 cm) shallower than earlier in the month. Differences in water levels in the remaining wells of the QA data set are approximately normally distributed with a trimmed mean decrease in depth to water table of 0.25 ft (7.6 cm), probably representing a continued return to equilibrium of the water table after pumping ceased at the end of the 1997 irrigation season. The trimmed standard deviation of the differences in water-table elevation is 0.39 and can be taken as an estimate of the uncertainty in water-table elevations measured in the 1998 field season.

Comparison of the 1997 water-level elevation with the two 1998 measurements in well 35S 31W 10AAC suggests that the initial 1998 measurement is probably correct and the QA remeasurement shows too deep a reading, perhaps the result of continued pumping for non-irrigation use in a nearby well. Comparisons with earlier year's measurements for well 24S 30W 33ADD suggest that the initial 1998 measurement is on trend and that the remeasurement may be incorrect.

Analyses of variance using the difference between initial 1998 measurements and 1998 QA remeasurements as the dependent variable fail to disclose any significant contributions from the exogenous variables recorded. There are no significant operator effects, and no systematic contributions from quality of well access, quality of downhole access, or quality of the chalk cut. The aquifer being measured did not contribute significantly to the

differences noted, nor did well use. The presence of oil on the water could contribute as much as 0.8 ft (2 cm) difference between the pairs of readings, but this relationship is inconsistent and not statistically significant.

Conclusions

The purpose of the Quality-control and Assurance Program is to identify wells and procedural conditions that may contribute significantly to the variance of "Depth to Water" measured in observation wells, and which does not reflect true changes in the water-table elevation. Gathering quality-control information requires little additional effort by the field crews, emphasizes the importance of procedural consistency, and certifies performance. Quality control for the 1998 field season is markedly improved over the 1997 field season, demonstrating the usefulness of the quality-control program and the success of changes in operational procedures for 1998. The value of intensive training of field measurers and the incorporation of automatic recording devices has been decisively demonstrated. Although no exogenous variables proved to contribute in a significant way to variation in the 1998 field measurements, the QC program should be continued. The program continues to identify specific wells as troublesome, and flags well locations which require verification before being permanently incorporated into the WIZARD data base. At least one more year will be needed to achieve acceptable GPS well locations.

The Quality-control Program has achieved its objectives of identifying and quantifying sources of unwanted variation in observation-well data collection, and in flagging wells whose measurements required verification. It detected numerous spurious values, both in the measured data and in the historical data, resulting in a much "cleaner" data base than otherwise would have been the case. As the quality-control process is routinely applied to KGS observation-well measurements in the future, and particularly if it is applied to the entire Kansas observation-well network, the quality of the data will be progressively improved with time.

Reference

Miller, R. D., Davis, J. C., and Olea, R. A., 1997, Acquisition activity, statistical quality control, and spatial quality control for 1997 annual water-level data acquired by the Kansas Geological Survey: Kansas Geological Survey, Open-file Report 97-33, 53 p.

Appendix C: Publications Containing Ground-water Level Data for Kansas

Records of ground-water level data for Kansas were published in U.S. Geological Survey Water-Supply Papers for 1935–1971. These water-supply papers are listed in table A.1. A series of annual reports that contain records of water-level measurements for Kansas for 1956–1965 have been published in the Kansas Geological Survey bulletins listed in table A.2.

Recent Literature of Interest to Users of Water-level Data

In addition to the water-supply papers and bulletins, information of interest to users of water-level data in Kansas can be found in the following recent publications. For literature more than seven years old, refer to earlier issues of this report or to *Kansas Water Bibliography through 1989*, by J. H. Sorensen, 1990, Kansas Geological Survey, Open-file Report 90–41a-m.

1991

- Buddemeier, R. W., Shamsnia, S., Woods, J., and McClain, T. J., 1991, January 1990 Kansas water levels and data related to water-level changes: Kansas Geological Survey, Open-file Report 91–12, 129 p.
- Buddemeier, R. W., Woods, J., McClain, T. J., and Mitchell, J. E., 1991, January 1991 Kansas water levels and data related to water-level changes: Kansas Geological Survey, Groundwater Series 13, 134 p.
- Dugan, J. T., and Shild, D. E., 1991, Water-level changes in the High Plains aquifer—predevelopment to 1990: U.S. Geological Survey, Water Resources Investigations Report 91–4165, 55 p.
- Geiger, C. O., Lacock, D. L., Schneider, D. R., Carlson, M. D., and Pabst, B. J., 1991, Water resources data, Kansas water year 1990: U.S. Geological Survey, Water-Data Report KS–90–1, 370 p.
- Gillespie, J. B., Hargadine, G. D., Myers, N. C., and Hargadine, D. A., 1991, Geohydrologic data for the South Fork Ninescaw River valley and adjacent plains in Pratt and Kingman counties, south-central Kansas: U.S. Geological Survey, Open-file Report 91–0186, 55 p.
- Hansen, C. V., 1991, Estimates of freshwater storage and potential natural recharge for principal aquifers in Kansas: U.S. Geological Survey, Water Resources Investigations Report 87–4230, 100 p.
- Kenny, J. F., 1991, Reported water use in Kansas, 1987: U.S. Geological Survey, Open-file Report 91–0212, 39 p.

1992

- Geiger, C. O., Lacock, D. L., Schneider, D. R., Carlson, M. D., and Pabst, B. J., 1992, Water resources data, Kansas, water year 1991: U.S. Geological Survey, Open-file Report 92–90, 130 p.
- _____, 1992, Water resources data, Kansas water year 1991: U.S. Geological Survey, Water-Data Report KS–91–1, 358 p.
- Hansen, C. V., Underwood, E. J., Wolf, R. J., and Spinazola, J. M., 1992, Geohydrologic systems in Kansas—physical framework of the upper aquifer unit of the Western Interior Plains aquifer system: U.S. Geological Survey, Hydrologic Investigations Atlas HA–722–D, 2 sheets, scales 1:1,000,000 and 1:3,000,000.
- Hansen, C. V., Wolf, R. J., and Spinazola, J. M., 1992, Geohydrologic systems in Kansas—physical framework of the confining unit in the Western Interior Plains aquifer system: U.S. Geological Survey, Hydrologic Investigations Atlas HA–722–E, 2 sheets, scales 1:1,000,000 and 1:3,000,000.
- Spinazola, J. M., Wolf, R. J., and McGovern, H. E., 1992, Geohydrologic systems in Kansas—physical framework of the Great Plains aquifer system: U.S. Geological Survey, Hydrologic Investigations Atlas HA–722–B, 2 sheets, scales 1:1,000,000 and 1:2,000,000.
- Wolf, R. J., McGovern, H. E., and Spinazola, J. M., 1992, Geohydrologic systems in Kansas—physical framework of the Western Interior Plains confining system: U.S. Geological Survey, Hydrologic Investigations Atlas HA–772–C, 2 sheets, scales 1:1,000,000 and 1:3,000,000.

1993

- Buchanan, R., and Buddemeier, R. W., 1993, Kansas ground water: Kansas Geological Survey, Educational Series 10, 44 p.
- Combs, L. J., Hansen, C. V., and Wolf, R. J., 1993, Geohydrologic systems in Kansas—geohydrology of the lower aquifer unit in the Western Interior Plains aquifer system: U.S. Geological Survey, Hydrologic Investigations Atlas HA–722–1, 3 sheets, scale 1:1,500,000.
- Hansen, C. V., 1993, Description of geographic-information-system files containing water-resource-related data compiled and collected for Wyandotte County, northeastern Kansas: U.S. Geological Survey, Open-file Report 93–92, 46 p.
- Mitchell, J. E., Woods, J., McClain, T. J., and Buddemeier, R. W., 1993, January 1992 Kansas water levels and

data related to water-level changes: Kansas Geological Survey, Technical Series 3, 134 p.

Wolf, R. J., and Helgesen, J. O., 1993, Ground- and surface-water interaction between the Kansas River and associated alluvial aquifer, northeastern Kansas: U.S. Geological Survey, Water-Resources Investigations Report 92-4137, 49 p.

1994

Dugan, J. T., McGrath, T., and Zelt, R. B., 1994, Water-level changes in the High Plains aquifer—predevelopment to 1992: U.S. Geological Survey, Water-Resources Investigations Report 94-4027, 56 p.

Mitchell, J. E., Woods, J., McClain, T. J., and Buddemeier, R. W., 1994, January 1993 Kansas water levels and data related to water-level changes: Kansas Geological Survey, Technical Series 4, 114 p.

Woods, J. J., Mitchell, J. E., Buddemeier, R. W., 1994, January 1994 Kansas water levels and data related to water-level changes: Kansas Geological Survey, Technical Series 5, 106 p.

1995

Buddemeier, R. W., 1995, Kansas research and data needs, 1995-2000: Kansas Geological Survey, Open-file Report 95-46, 6 p.

Geiger, C. O., Lacock, D. L., Schneider, D. R., Carlson, M. D., and Dague, B. J., 1995, Water-resources data, Kansas water year 1994: U.S. Geological Survey, Water-data report KS-94-1, 479 p.

Goolsby, D. A., Scribner, E. A., Thurman, E. M., Pomes, M. L., and Meyer, M. T., 1995, Data on selected herbicides and two triazine metabolites in precipitation of the midwestern and northeastern United States, 1990-91: U.S. Geological Survey, Open-file Report 95-0469, 341 p.

Hedman, E. R., and Engel, G. B., 1995, Flow characteristics of selected streams in the Great Plains subregion of the Central Midwest Regional Aquifer System and selected adjacent areas; Kansas and Nebraska, and parts of Colorado, Iowa, Missouri, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming: U.S. Geological Survey, Hydrologic Investigations Series HA-708, 3 sheets

Jordan, P. R., and Stamer, J. K. (eds), 1995, Surface-water-quality assessment of the Lower Kansas River basin, Kansas and Nebraska; analysis of available data through 1986: U.S. Geological Survey, Water-supply Paper 2352-B, 161 p.

Roberts, D. J., and Combs, L. J. (compls.), 1995, Water-resource reports prepared by or in cooperation with the U.S. Geological Survey, Kansas, 1886-1994: U.S. Geological Survey, Open-file Report 95-0120, 122 p.

Southard, R. E., 1995, Flood volumes in the Upper Mississippi River basin, April 1 through September 30, 1993: U.S. Geological Survey, Circular 1120-H, 32 p.

Woods, J. J., Schloss, J. A., and Buddemeier, R. W., 1995, January 1995 water levels and data related to water-level changes: Kansas Geological Survey, Technical Series 8, 138 p.

1996

Bell, R. W., Joseph, R. L., and Freiwald, D. A., 1996, Water-quality assessment of the Ozark Plateaus study unit, Arkansas, Kansas, Missouri, and Oklahoma—Summary of information on pesticides, 1970-90: U.S. Geological Survey, Water-resources Investigations Report 96-4003, 51 p.

Council of Water Research Directors, 1996, Water research in Kansas, 1994-1995: Kansas Agricultural Experiment Station, Manhattan, Kansas, 34 p.

Jorgensen, D. G., Helgesen, J. O., Signor, D. C., Leonard, R. B., Imes, J. L., and Christenson, S. C., 1996, Analysis of regional aquifers in the central midwest of the United States in Kansas, Nebraska, and parts of Arkansas, Colorado, Missouri, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming—Summary: U.S. Geological Survey, Professional Paper 1414-A, 67 p.

Putman, J. E., Lacock, D. L., Schneider, D. R., Carlson, M. D., and Dague, B. J., 1996, Water resources data, Kansas water year 1995: U.S. Geological Survey, Water-data Report KS-95-1, 488 p.

Tanner, D. Q., 1996, Surface-water-quality assessment of the Lower Kansas River basin, Kansas and Nebraska—Selected metals, arsenic, and phosphorus in streambed sediments of first- and second-order streams, 1987: U.S. Geological Survey, Water-resources Investigations Report 94-4196, 13 p.

Whittemore, D. O., Mingshu, T., and Grauer, J., 1996, Upper Arkansas River corridor study—Inventory of available data and development of conceptual models—A Kansas water plan project: Kansas Geological Survey, Open-file Report 96-19, 83 p.

Woods, J. J., and Schloss, J. A., January 1996 Kansas water-level measurements: Kansas Geological Survey, Open-file Report 96-21, 100 p.

Woods, J. J., and Schloss, J. A., 1996, January 1996 Kansas water levels and data related to water-level changes: Kansas Geological Survey, Technical Series 9, 124 p.

1997

McGuire, V. L., and Sharpe, J. B., 1997, Water-level changes in the High Plains aquifer—predevelopment to 1995: U.S. Geological Survey, Water-resources Investigations 97-4081, 2 sheets.

Miller, R. D., Davis, J. C., Laflen, D., Siceloff, J., Bennett, B., Brohammer, M., and Acker, P., 1997, Acquisition activity and raw data report on 1997 annual water measurements; Kansas Geological Survey's portion: Kansas Geological Survey, Open-file Report 97-11, 98 p.

Miller, R. D., Davis, J. C., and Olea, R. A., 1997, Acquisition activity, statistical quality control, and spatial quality control for 1997 annual water-level data acquired by the Kansas Geological Survey: Kansas Geological Survey, Open-file Report 97-33, 59 p.

TABLE C.1—U.S. GEOLOGICAL SURVEY WATER-SUPPLY PAPERS.

Year	Water-Supply Paper Number*
1935	777
1936	817
1937	840
1938	845
1939	886
1940	908
1941	938
1942	946
1943	988
1944	1018
1945	1025
1946	1073
1947	1098
1948	1128
1949	1158
1950	1167
1951	1193
1952	1223
1953	1267
1954	1323
1955	1406
1956	1456
1957-1961	1781
1962-1966	1976
1967-1971	2090

*Can be purchased from the U.S. Geological Survey, Books and Open-file Reports, Federal Center, Box 25425, Denver, CO 80225.

Putnam, J. E., Lacock, D. L., Schneider, D. R., Carlson, M. D., and Dague, B. J., 1997, Water resources data, Kansas water year 1996: U.S. Geological Survey, Water-data Report KS-96-1, 408 p.

Woods, J. J., and Schloss, J. A., 1997, January 1997 Kansas water-level measurements: Kansas Geological Survey, Open-file Report 97-34, 69 p.

Woods, J. J., Schloss, J. A., and Macfarlane, P. A., 1997, January 1997 Kansas water levels and data related to water-level changes: Kansas Geological Survey, Technical Series 11, 90 p.

TABLE C.2—KANSAS GEOLOGICAL SURVEY BULLETINS WITH WATER-LEVEL MEASUREMENTS.

Year	Bulletin Number*
1956	125
1957	131
1958	141
1959	146
1960	153
1961	159
1962	167
1963	173
1964	177
1965	184

*Can be purchased from the Publications Sales Office, Kansas Geological Survey, The University of Kansas, 1930 Constant Avenue, Lawrence, KS 66047.

Appendix D: Water-level Data

This appendix contains water-level and water-well data arranged in alphabetical order by county. For each county, a table that spans two pages is presented. The nature of the information presented and how to use it is described in the following text.

An apparent anomaly should be noted. A few of the wells are preceded by a plus sign (e.g., +21S-34W-14DBB-01 in Finney County). For these wells, at least one of the water levels listed for the past seven years is below the top of the bedrock. This situation can occur

when wells are intentionally drilled into the bedrock to allow for greater yields, or when the top of the bedrock contains fractures that were filled with unconsolidated material from overlying units and therefore can produce substantial amounts of ground water. Another possible explanation of this apparent anomaly is the fact that for many wells, the depth to the top of bedrock is estimated based on data from nearby wells, rather than having been measured or derived from logging data from the subject well.

Column 1 contains the well number, which is based on the legal location of the well. Wells in this report are numbered according to a modification of the U.S. Bureau of Land Management system of land subdivision (fig. 13). The legal location is composed of the township, range, and section numbers followed by letters indicating the subdivision of the section in which the well is located. The first letter encloses a 160-acre tract; the second, a 40-acre tract; the third, a 10-acre tract; and the fourth, if present, a 2.5-acre tract. The letters A, B, C, and D designate the tract in a counterclockwise manner, starting in the northeast corner. Therefore, a location described as SW NW NW sec. 7, T 18 S, R 39 W [the SW quarter of the NW quarter of the NW quarter of sec(ion) 7, T(ownship) 18 S(outh), R(ange) 39 W(est)] is translated to 18S-39W-07BBC. A two-digit number is appended to the location to identify specific wells in cases where there is more than one well in the same tract. If there were two wells in the parcel of land described above, the second well ID would be 18S-39W-07BBC-02.

Column 2 contains the U.S. Geological Survey site ID, which is a unique identifier based primarily on the geographic (longitude, latitude) location of the well.

Column 3 gives the well depth measured in feet below the land-surface.

Column 4 gives the depth to water during the base reference (predevelopment) year where that information is

available. Depending on the area of the state, the base reference year is 1940, 1944, or 1950. These are the earliest predevelopment years (before significant irrigation withdrawals of ground water) for which a significant amount of water-table data are available.

Column 5 gives the depth to water for the reference year of either 1966 or 1974. Depending on the locale, these years mark the beginning of modern continuous water-level monitoring operations for the major Kansas aquifers.

Columns 6–12 give the depths to water measured in each year (when available) for the current year and the past six years.

Column 13 gives the well number as described for column 1.

Column 14 identifies the principal geologic unit or units (up to 3) in which the well is screened. Designations for the geologic units in the tables are listed in table 1. In some cases, geologic-unit designations are inferred from designations for neighboring wells or the general geology of the area. Where more than one unit designation is given for a single well, the designations indicate that the well was drilled through more than one water-bearing formation or that the geologic units are so similar or in such close proximity that the hydrology at that well may be influenced by more than one unit.

Column 15 gives the land-surface altitude of the well (in feet above mean sea level). By subtracting the depth to water from the land-surface altitude, the altitude of the water table can be calculated.

Column 16 presents the depth to bedrock where that is known. The bedrock is assumed to be the consolidated formation at the bottom of the aquifer. The difference between the depth to water and the depth to bedrock is the saturated thickness of the aquifer.

Columns 17–19 give water-level change from the base reference (predevelopment) year, from the reference year (1966 or 1974), and from the preceding year, respectively.

Columns 20 and 21 present the average annual water-level changes between the base reference (predevelopment) year and the current year and between the reference year (1966 or 1974) and the current year, respectively.

Columns 22 and 23 present the saturated thicknesses of the water-bearing formations in the base reference (predevelopment) year and in the present year, respectively. Where the depth to bedrock or the depth to water is not known, no values are given.

Column 24 gives the percentage change in saturated thickness from the base reference (predevelopment) year to present. This is roughly equivalent to the percentage change (in most cases, a depletion) of the original water resource. If we abbreviate "saturated thickness" as ST, the percent change can be calculated using the formula:

$$\% \text{ change in ST} = \frac{(\text{present ST} - \text{predevelopment ST})}{\text{predevelopment ST}} \times 100.$$

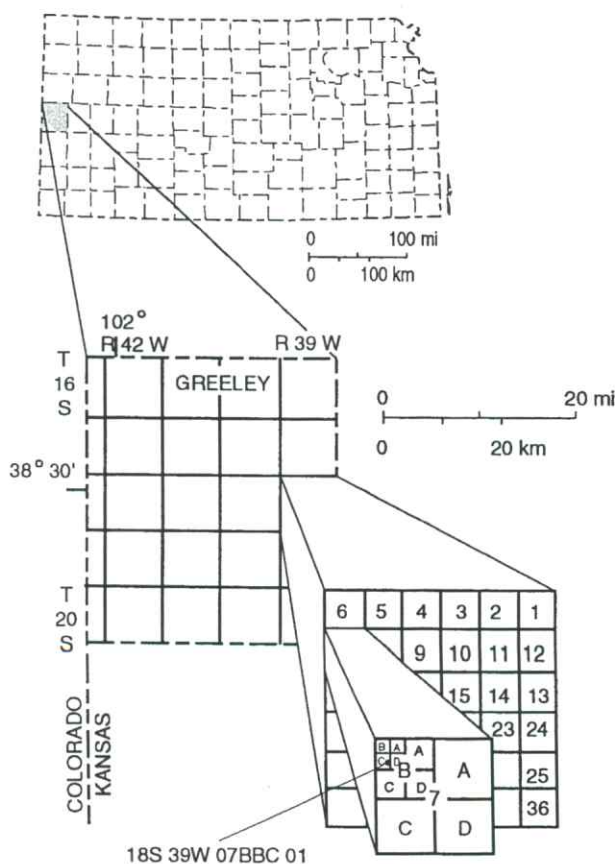


FIGURE 13—LOCATING WELLS USING THEIR LEGAL LOCATION DESIGNATION.

ALLEN COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
24S 18E 28CDD 01	375528095263701	23.0			15.0	5.0	9.3		13.8	11.4	10.8

BARBER COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1940	1966	1992	1993	1994	1995	1996	1997	1998
32S 12W 04DBC 01	371710098374501	66.0	16	16.4	15.1	14.6	14.1		14.1		

BARTON COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1944	1974	1992	1993	1994	1995	1996	1997	1998
18S 14W 27CDD 01	382704098512701	125.0			48.6	44.6	37.6	38.4	36.5	35.5	34.8
18S 15W 28CCC 03	382704098593803	68.2	9		25.3	19.2	5.6	11.3	10.8	9.0	9.1
19S 11W 19BDD 01	382307098345601		13		21.6	20.9	18.9	19.7	19.3	19.5	19.5
19S 11W 26BDA 01	382225098304401	52.0	7		15.5	14.3	10.8	12.7	12.0	12.1	12.4
19S 12W 28DBC 01	382202098391201	37.0			16.3	14.9	13.4	15.9	15.5	13.6	14.1
19S 13W 08BAD 01	382506098470501	128.0	11		23.3	20.4	14.2	17.1	16.7	15.4	15.9
19S 13W 33DDB 01	382104098453301	118.0	4	4.4				10.2	10.3	9.1	9.1
19S 14W 06BBB 02	382601098550102	56.0			22.7	20.3	10.7	12.6	12.8	10.2	11.6
19S 14W 23BBD 01	382321098503701	73.0			20.6	19.0	15.1	17.8	17.5	16.3	16.5
19S 14W 30CDD 01	382159098545001	55.0					34.4	34.5	34.5	34.6	34.4
19S 14W 36BBC 01	382137098493201		8		12.9	11.7	9.0	11.1	10.8	10.2	10.2
20S 11W 06CCC 01	382004098352101	51.0	9	5.6	11.5	9.9	8.3	10.5	9.9	8.7	8.1
20S 11W 26AAC 01	381714098300701	70.0	3	1.6	12.5	11.1	6.0	10.1	9.1	8.6	8.0
20S 12W 03DAC 01	382018098375001	80.0	2	1.3	8.5	7.0	5.5	7.7	7.1	5.2	5.2
20S 12W 06AAC 01	382044098410801	69.0	7	5.1	10.1	9.2	7.7	9.3	9.2	7.6	8.3
20S 12W 23CCA 01	381734098372501	80.0	11	3.7		14.2	8.1	12.5	10.4	11.8	10.6
20S 13W 17DDC 01	381821098463901	120.0	11	7.2		15.0	11.4	14.9	14.9	14.3	12.1
20S 13W 24DCB 01	381734098423001	89.0	12	9.6	23.4	20.1	14.9	17.8	17.6	15.2	17.2
20S 14W 22DCB 01	381734098511501	73.0	6	6.5	17.2	14.5	11.4	14.7	14.4	13.0	11.8
20S 15W 24DBD 01	381739098552101	82.0	10		16.0	14.6	11.3	13.7	13.6	12.6	12.5
20S 15W 33ADD 01	381614098583801	25.0	15		20.9	20.0	16.9	18.7	19.4	18.5	18.0

CHEYENNE COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
01S 38W 02CDC 01	395921101331801	41.0	23	22.6	23.9	23.0	23.1	24.2	23.2	22.8	24.4
01S 38W 08DCC 01	395829101362501	33.0	12	12.3	13.5	13.1	13.3	14.1	13.4	13.3	14.3
01S 38W 30BDC 01	395619101375201	28.0	7	8.0	10.0	8.9	8.9	9.2	8.6	8.3	8.9
01S 39W 25CBC 01	395606101391601	28.0	7	8.5	9.5	8.9	9.6	9.7	9.4	9.6	9.9
02S 37W 33DCC 01	394947101283501	320.0			214.3	213.4	213.2	214.3	214.2	214.0	214.0
02S 40W 28DBA 01	395100101484301	142.0	112	112.5	110.8	110.4	110.4	110.7	110.3	109.9	110.1
02S 40W 32BCB 01	395021101503301	172.0			131.4	130.1	129.9	129.9	129.7	129.5	129.6
02S 41W 27BBD 01	395120101545301	245.0	200	198.6	202.8	200.1	199.9	201.1	200.2	199.9	200.6
02S 41W 33DBC 01	395001101553501	288.0	235	235.2	236.4	235.9	236.5	236.6	236.3	235.9	236.8
03S 37W 19BBC 01	394658101312601	325.0	215	219.8	231.1	230.4	229.7	229.8	229.1	229.0	230.3
03S 37W 21DDD 01	394619101281101	325.0	194			218.2	218.2	219.0	219.3	219.0	219.8
03S 37W 36ADB 01	394507101245701	300.0	175	182.0	202.6	200.4	200.6	202.8	201.9	201.5	205.9
03S 38W 04BCC 01	394921101355801	300.0			217.6	217.1	216.7	216.7	216.8	216.1	217.2
03S 38W 21BCB 01	394651101360001	317.0				241.4	240.9	240.4	240.2	243.7	241.6
03S 38W 25BBB 01	394612101323501	316.0			228.2	226.4	225.7	225.4	225.5	224.6	226.5

ALLEN COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1950 -1998
				1950	1966	1997	1950	1966	1950	1998	
				-1998	-1998	-1998	-1998	-1998	-1998	-1998	
24S 18E 28CDD 01	QU	948						0.6			

BARBER COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1940 -1998
				1940	1966	1997	1940	1966	1940	1998	
				-1998	-1998	-1998	-1998	-1998	-1998	-1998	
32S 12W 04DBC 01	QA	1480									

BARTON COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1944 -1998
				1944	1974	1997	1944	1974	1944	1998	
				-1998	-1998	-1998	-1998	-1998	-1998	-1998	
18S 14W 27CDD 01	QU	1896				0.7					
18S 15W 28CCC 03	QA	1913				-0.1	0.0				
19S 11W 19BDD 01	QU	1791		-7		0.0	-0.1				
19S 11W 26BDA 01	QU	1772		-5		-0.3	-0.1				
19S 12W 28DBC 01	QA	1815				-0.5					
19S 13W 08BAD 01	QA, QU	1855		-5		-0.5	-0.1				
19S 13W 33DDB 01	QA, QU	1848		-5	-4.7	0.0	-0.1	-0.2			
19S 14W 06BBB 02	QA	1895				-1.4					
19S 14W 23BBD 01	QA	1873				-0.2					
19S 14W 30CDD 01	QA	1905				0.2					
19S 14W 36BBC 01	QA, QU	1868		-2		0.0	0.0				
20S 11W 06CCC 01	QA	1788	138	1	-2.5	0.6	0.0	-0.1	129	130	1
20S 11W 26AAC 01	QU	1752	112	-5	-6.4	0.6	-0.1	-0.3	109	104	-5
20S 12W 03DAC 01	QA	1799	144	-3	-3.9	0.0	-0.1	-0.2	142	139	-2
20S 12W 06AAC 01	QU	1822	117	-1	-3.2	-0.7	0.0	-0.1	110	109	-1
20S 12W 23CCA 01	QU	1814	159	0	-6.9	1.2	0.0	-0.3	148	148	0
20S 13W 17DDC 01	QU	1876	126	-1	-4.9	2.2	0.0	-0.2	115	114	-1
20S 13W 24DCB 01	QU	1850	140	-5	-7.6	-2.0	-0.1	-0.3	128	123	-4
20S 14W 22DCB 01	QA	1897	152	-6	-5.3	1.2	-0.1	-0.2	146	140	-4
20S 15W 24DBD 01	QA	1915		-3		0.1	-0.1				
20S 15W 33ADD 01	QA	1945		-3		0.5	-0.1				

CHEYENNE COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1950 -1998
				1950	1966	1997	1950	1966	1950	1998	
				-1998	-1998	-1998	-1998	-1998	-1998	-1998	
01S 38W 02CDC 01	QA	3034	41	-1	-1.8	-1.6	0.0	-0.1	18	17	-6
01S 38W 08DCC 01	QA	3057	33	-2	-2.0	-1.0	0.0	-0.1	21	19	-10
01S 38W 30BDC 01	QA	3090	28	-2	-0.9	-0.6	0.0	0.0	21	19	-10
01S 39W 25CBC 01	QA	3102	26	-3	-1.4	-0.3	-0.1	0.0	19	16	-16
02S 37W 33DCC 01	TO	3420				0.0					
02S 40W 28DBA 01	TO	3452	140	2	2.4	-0.2	0.0	0.1	28	30	7
02S 40W 32BCB 01	TO	3492				-0.1					
02S 41W 27BBD 01	TO	3620	242	-1	-2.0	-0.7	0.0	-0.1	42	41	-2
02S 41W 33DBC 01	TO	3650	288	-2	-1.6	-0.9	0.0	-0.1	53	51	-4
03S 37W 19BBC 01	TO	3468	325	-15	-10.5	-1.3	-0.3	-0.3	110	95	-14
03S 37W 21DDD 01	TO	3422	312	-26		-0.8	-0.5		118	92	-22
03S 37W 36ADB 01	TO	3381	300	-31	-23.9	-4.4	-0.6	-0.7	125	94	-25
03S 38W 04BCC 01	TO	3479				-1.1					
03S 38W 21BCB 01	TO	3512				2.1					
03S 38W 25BBB 01	TO	3479				-1.9					

CHEYENNE COUNTY (cont'd)

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
03S 39W 04CCC 01	394856101424201	75.0			64.6	64.0	63.5	63.6	63.4	63.0	63.4
03S 39W 20DAC 01	394632101430001	199.0	130	140.4	138.8	138.6	138.6	139.0	139.0	139.0	140.3
03S 39W 24DDD 01	394619101382601		205			222.2	222.3	223.2	223.1	223.0	224.6
03S 39W 32BDB 01	394507101433401	224.0	150	153.6	157.7	152.4	151.9	152.5	152.7	153.0	154.7
03S 40W 09BAA 02	394850101490002	22.0	20	19.9	19.6	19.7	19.3	19.4	19.3	19.2	
03S 40W 35AAC 01	394514101463001	150.0	95	96.1	97.4	97.1	96.8	97.4	97.2	97.0	97.5
03S 41W 33ABB 01	394521101553601	255.0	164			160.4	160.6	160.2	159.9	159.2	157.7
03S 42W 26CCD 01	394527102002701	250.0				204.8	204.4	204.9	205.7		
04S 37W 17AAC 01	394237101292901	342.0	187	187.9	198.4	198.4	198.4	203.1	198.8	198.9	201.5
04S 37W 25DCA 01	394020101250801	297.0	147	141.5	154.7	154.4	154.4	154.2	154.2	154.5	155.7
04S 38W 04BAC 01	394421101354501	330.0	207	207.0	221.6	220.8	220.5	220.4	221.1	220.1	222.0
04S 38W 20CCC 01	394106101371301	303.0	151	149.5	157.5	157.9	158.0	158.3	158.5	158.7	159.1
04S 38W 21ADC 01	394132101351201	319.0	178	188.0		185.7	186.5	187.3	186.5	186.6	188.4
04S 40W 22BCB 01	394139101482101	144.0	123	123.9	124.9	125.1	125.2	125.4	125.5	125.8	126.0
04S 41W 16DAA 01	394218101551201	38.0	13	14.2	15.4	15.4	15.6	16.1	15.8	15.7	16.1
04S 41W 23AAA 01	394152101525901	172.0				121.4	122.3	122.8	122.8	122.4	123.1
04S 41W 25BCB 02	394047101525102						144.3			144.8	145.1
04S 41W 31ACA 01	393955101574301	117.0	94	94.0	97.6	97.8	97.8	98.1	99.1	98.7	98.1
04S 42W 02BCC 01	394409102003501	230.0			216.0	212.4	212.5	212.5	212.3	212.4	213.1
04S 42W 16CCD 01	394159102022201	168.0				88.6	88.9	89.3		90.1	90.9
05S 37W 15DBB 01	393704101273301	285.0	137	136.4	152.5	144.7	144.4	145.2	145.1	143.8	146.3
05S 38W 13BAD 01	393724101321401	220.0	74	72.5		78.4	77.5	79.1	79.2	79.4	80.3
05S 38W 22ACB 01	393625101342401	270.0	90	90.6	97.3	96.7	96.8	98.4	98.0	98.4	99.5
05S 39W 06DAA 01	393849101440101				214.7	213.4	214.1	214.1	214.6	214.8	215.6
05S 39W 11CBC 01	393751101403601	291.0	140	140.1	151.0	151.0	152.0	151.3	151.9	151.7	153.3
05S 39W 25CDA 01	393508101390801	297.0	127	125.0	133.2	133.3	133.7	134.2	134.2	134.1	134.9
05S 40W 14BCD 01	393712101470601	325.0	187		224.6	222.3	223.0	224.2	224.0	224.7	226.6
05S 42W 14DCC 01	393645102000401				134.1	132.8	132.6	133.1	133.6	133.9	134.8

CLARK COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)							
			1940	1966	1992	1993	1994	1995	1996	1997
30S 23W 06AAA 01	372758099520401	160.0		140.6	142.6	150.3	144.6		142.8	
33S 22W 30CBC 01	370822099452801	168.0			18.1	17.0	14.8		14.5	

CLAY COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
06S 01E 02BCD 01	393341097173201	56.5							6.6	7.8	9.2
08S 02E 02CCA 01	392256097105701	48.0							12.6	10.6	13.1

CLOUD COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1944	1974	1992	1993	1994	1995	1996	1997	1998
05S 02W 01BAC 01	393907097293701	230.0		43.9	44.1	42.1	40.2			40.8	

CHEYENNE COUNTY (cont'd)

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1950 -1998
				1950	1966	1997	1950	1966	1950	1998	
				-1998	-1998	-1998	-1998	-1998	-1998	-1998	
03S 39W 04CCC 01	TO	3351				-0.4					
03S 39W 20DAC 01	TO	3450	199	-10	0.1	-1.3	-0.2	0.0	69	59	-14
03S 39W 24DDD 01	TO	3505	275	-20		-1.6	-0.4		70	50	-29
03S 39W 32BDB 01	TO	3490	223	-5	-1.1	-1.7	-0.1	0.0	73	68	-7
03S 40W 09BAA 02	QA	3358	22								
03S 40W 35AAC 01	TO	3445	144	-3	-1.4	-0.5	-0.1	0.0	49	47	-4
03S 41W 33ABB 01	TO	3594	184	6		1.5	0.1		20	26	30
03S 42W 26CCD 01	TO	3702									
04S 37W 17AAC 01	TO	3446	325	-15	-13.6	-2.6	-0.3	-0.4	138	124	-10
04S 37W 25DCA 01	TO	3374	284	-9	-14.2	-1.2	-0.2	-0.4	137	128	-7
04S 38W 04BAC 01	TO	3509	327	-15	-15.0	-1.9	-0.3	-0.5	120	105	-13
04S 38W 20CCC 01	TO	3485	297	-8	-9.6	-0.4	-0.2	-0.3	146	138	-5
04S 38W 21ADC 01	TO	3491	316	-10	-0.4	-1.8	-0.2	0.0	138	128	-7
04S 40W 22BCB 01	TO	3520	215	-3	-2.1	-0.2	-0.1	-0.1	92	89	-3
04S 41W 16DAA 01	QA	3403	38	-3	-1.9	-0.4	-0.1	-0.1	25	22	-12
04S 41W 23AAA 01	TO	3526				-0.7					
04S 41W 25BCB 02	TO	3571				-0.3					
04S 41W 31ACA 01	TO	3552	142	-4	-4.1	0.6	-0.1	-0.1	48	44	-8
04S 42W 02BCC 01	TO	3704				-0.7					
04S 42W 16CCD 01	TO	3590				-0.8					
05S 37W 15DBB 01	TO	3397	297	-9	-9.9	-2.5	-0.2	-0.3	160	151	-6
05S 38W 13BAD 01	TO	3390	220	-6	-7.8	-0.9	-0.1	-0.2	146	140	-4
05S 38W 22ACB 01	TO	3437	270	-10	-8.9	-1.1	-0.2	-0.3	180	171	-5
05S 39W 06DAA 01	TO	3607				-0.8					
05S 39W 11CBC 01	TO	3530	291	-13	-13.2	-1.6	-0.3	-0.4	151	138	-9
05S 39W 25CDA 01	TO	3533	295	-8	-9.9	-0.8	-0.2	-0.3	168	160	-5
05S 40W 14BCD 01	TO	3645	325	-40		-1.9	-0.8		138	98	-29
05S 42W 14DCC 01	TO	3672	215			-0.9				80	

CLARK COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1940 -1998
				1940	1966	1997	1940	1966	1940	1998	
				-1998	-1998	-1998	-1998	-1998	-1998	-1998	
30S 23W 06AAA 01	QU	2557									
33S 22W 30CBC 01	QA	1899									

CLAY COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1950 -1998
				1950	1966	1997	1950	1966	1950	1998	
				-1998	-1998	-1998	-1998	-1998	-1998	-1998	
06S 01E 02BCD 01	QA	1260				-1.4					
08S 02E 02CCA 01	QA	1193				-2.5					

CLOUD COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1944 -1998
				1944	1974	1997	1944	1974	1944	1998	
				-1998	-1998	-1998	-1998	-1998	-1998	-1998	
05S 02W 01BAC 01	KD	1380									

CRAWFORD COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
29S 23E 24DBA 01	373020094501801	1210.0			321.4		318.6		310.9	322.0	326.0

DECATUR COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
01S 26W 18DDB 01	395740100161901	59.0	28	26.4		27.8	24.9	25.5	26.1	23.7	25.3
01S 29W 03DDB 01	395925100331901	45.0	23	23.0	29.3	28.7	26.9	22.8	23.9	23.9	24.1
01S 29W 19BDD 01	395708100370701	54.0	10	10.9	19.5	18.8	15.7	14.4	14.9	12.2	12.5
01S 30W 34DDD 01	395458100395501	60.0	20	21.5	32.6	30.0	24.9	21.1	21.0	20.4	22.2
02S 26W 11BBA 01	395358100124001	110.0	85	87.3	85.5	84.9	83.3	82.6	81.8	80.7	80.2
02S 28W 13ABA 01	395307100243001	60.0	27	26.2	29.8	27.7	25.8	24.3	26.6	24.3	25.8
02S 30W 23ADD 01	395155100384901	154.0				135.2	134.7	133.6		131.0	
03S 26W 30CBB 02	394544100172202	144.0	119	119.4	123.9	123.7	123.3	122.6	121.7	121.2	120.5
03S 28W 06DCB 01	394859100301701	55.0	34	25.6	35.9	33.3	30.1	28.8	28.7	26.4	28.1
03S 28W 32BCA 01	394504100293601	205.0	133	133.6	130.4		129.1	130.7	128.1	127.4	126.6
03S 29W 12BBA 01	394846100314901	60.0	26	24.9	24.6	22.3	17.3	16.4	16.9	14.5	15.9
03S 29W 17DCB 01	394715100355501	51.0	19	20.0	22.8	16.8	14.4	11.2	18.2	18.1	18.4
03S 29W 31DCC 01	394432100370401	40.0	20	20.3	25.2	24.0	20.2	19.5	19.5	18.3	19.8
03S 30W 03CBA 01	394913100404701	129.0	96	98.6		93.0	96.5	99.5	91.6		
03S 30W 26BBB 01	394610100395001	51.0	7	10.2	5.7	5.2	0.4	10.5	0.6	6.5	7.2
04S 26W 08DDD 01	394248100150801	70.0	26	28.7	30.6	27.7	28.4	28.6	28.6	27.9	34.6
04S 26W 19DCA 01	394110100163301	37.0	14	14.0	15.7	14.6	14.2	14.7	14.7	14.1	13.7
04S 27W 17DAC 01	394208100221101	165.0	105	103.8			100.0	99.0	101.7	97.3	99.4
04S 27W 33BBB 01	394005100215501	55.0	13	16.0	18.1	18.1	10.0	18.8	16.5	14.7	15.1
04S 28W 15AAA 01	394241100263201	106.0	92	94.1	91.2	91.1	89.9	89.4	89.8	87.9	
04S 28W 30DDD 01	394011100295401	110.0	92	92.7	89.9	88.8	89.2	89.6	91.4	92.5	90.5
04S 30W 07BBB 01	394335100441701	21.0	7	7.3	14.1	13.2	10.2	7.7	7.7	6.7	7.6
05S 26W 05ADD 01	393853100150901	138.0	128	128.9	125.8	125.6		126.3	124.9	124.4	123.9
05S 26W 26DDA 01	393505100115901	74.0	26	22.4	25.4	23.3	21.3	23.4	20.9	20.8	20.9
05S 26W 33DCC 01	393407100143101	60.0	20	18.2	18.9	18.4	16.9	22.3	17.0	16.8	16.9
05S 27W 21CCA 01	393557100214701	140.0	103	104.2	103.0	102.8	102.3	102.1	101.8	101.1	100.8
05S 28W 07BBC 01	393814100305401	55.0	19	19.9	18.9	13.9	14.3	15.1	14.2	13.9	14.5
05S 28W 10BBB 01	393820100273201	50.0	12	8.0	9.8	8.5	7.7	7.8	8.4	6.9	7.1
05S 28W 14ADD 01	393709100252601	142.0	133	135.0	133.2	133.2	131.3	137.5	136.3	140.5	137.3
05S 28W 17DAC 01	393656100285601	124.0	102	102.3	101.7		100.2	99.6		95.5	95.0
05S 29W 22CBB 01	393610100341701	46.0	11	12.6	13.9	11.7	11.4	12.4	11.9	11.0	11.6
05S 30W 15CCB 01	393651100410001	150.0			98.2	97.3	91.9	91.5	90.3	90.8	90.2
05S 30W 35BCB 01	393440100395501	201.0	112	111.6	119.3	118.2	117.0	117.7	118.0	117.2	116.7

DICKINSON COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
13S 01E 26DDC 01	385311097165501	52.0							18.7	19.6	21.6

DOUGLAS COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
12S 20E 07CBC 01	390105095142901	29.0		14.0	16.5	12.0	7.5	14.2	12.7	8.0	12.1
15S 19E 15AAD 01	384501095164901	190.0				45.0	39.8			42.4	

CRAWFORD COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	1950
				-1998	-1998	-1998	-1998	-1998			-1998
29S 23E 24DBA 01	OU	995									-4.0

DECATUR COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	1950
				-1998	-1998	-1998	-1998	-1998			-1998
01S 26W 18DDB 01	QA	2413	59	3	1.1	-1.6	0.1	0.0	31	34	10
01S 29W 03DDB 01	QA	2539	45	-1	-1.1	-0.2	0.0	0.0	22	21	-5
01S 29W 19BDD 01	QA	2572	53	-3	-1.6	-0.3	-0.1	-0.1	43	41	-5
01S 30W 34DDD 01	QA	2610	60	-2	-0.7	-1.8	0.0	0.0	40	38	-5
02S 26W 11BBA 01	TO	2509	110	5	7.1	0.5	0.1	0.2	25	30	20
02S 28W 13ABA 01	QA	2487		1	0.4	-1.5	0.0	0.0			
02S 30W 23ADD 01	TO	2835									
03S 26W 30CBB 02	TO	2610	142	-2	-1.1	0.7	0.0	0.0	23	22	-4
03S 28W 06DCB 01	QA	2571	55	6	-2.5	-1.7	0.1	-0.1	21	27	29
03S 28W 32BCA 01	TO	2749	180	6	7.0	0.8	0.1	0.2	47	53	13
03S 29W 12BBA 01	QA	2556	55	10	9.0	-1.4	0.2	0.3	29	39	34
03S 29W 17DCB 01	QA, TO	2587	50	1	1.6	-0.3	0.0	0.1	31	32	3
03S 29W 31DCC 01	QA	2633	38	0	0.5	-1.5	0.0	0.0	18	18	0
03S 30W 03CBA 01	TO	2807	177								
03S 30W 26BBB 01	QA	2629	49	0	3.0	-0.7	0.0	0.1	42	42	0
04S 26W 08DDD 01	QA	2456	70	-9	-5.9	-6.7	-0.2	-0.2	44	35	-20
04S 26W 19DCA 01	QA	2464	37	0	0.3	0.4	0.0	0.0	23	23	0
04S 27W 17DAC 01	TO	2648	162	6	4.4	-2.1	0.1	0.1	57	63	11
04S 27W 33BBB 01	QA	2528	54	-2	0.9	-0.4	0.0	0.0	41	39	-5
04S 28W 15AAA 01	TO	2700	130								
04S 28W 30DDD 01	TO	2726	110	2	2.2	2.0	0.0	0.1	18	20	11
04S 30W 07BBB 01	QA	2697	21	-1	-0.3	-0.9	0.0	0.0	14	13	-7
05S 26W 05ADD 01	TO	2607	170	4	5.0	0.5	0.1	0.2	42	46	10
05S 26W 26DDA 01	QA	2437	74	5	1.5	-0.1	0.1	0.0	48	53	10
05S 26W 33DCC 01	QA	2475	60	3	1.3	-0.1	0.1	0.0	40	43	8
05S 27W 21CCA 01	TO	2675		2	3.4	0.3	0.0	0.1			
05S 28W 07BBC 01	QA	2644	52	5	5.4	-0.6	0.1	0.2	33	38	15
05S 28W 10BBB 01	QA	2600	47	5	0.9	-0.2	0.1	0.0	35	40	14
05S 28W 14ADD 01	TO	2723	160	-4	-2.3	3.2	-0.1	-0.1	27	23	-15
05S 28W 17DAC 01	TO	2734	124	7	7.3	0.5	0.1	0.2	22	29	32
05S 29W 22CBB 01	QA	2686	46	-1	1.0	-0.6	0.0	0.0	35	34	-3
05S 30W 15CCB 01	TO	2878				0.6					
05S 30W 35BCB 01	TO	2891	200	-5	-5.1	0.5	-0.1	-0.2	88	83	-6

DICKINSON COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	1950
				-1998	-1998	-1998	-1998	-1998			-1998
13S 01E 26DDC 01	QA	1156	52							30	

DOUGLAS COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	1950
				-1998	-1998	-1998	-1998	-1998			-1998
12S 20E 07CBC 01	QA	826			1.9	-4.1		0.1			
15S 19E 15AAD 01	PL	1000									

EDWARDS COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
24S 16W 12CBD 01	375826099022201	87.0	5	9.2	30.5	32.0	27.7	28.9	26.1	22.3	21.2
24S 17W 20ADC 01	375655099123501	84.0	3	15.8	34.0	34.9	34.4	36.2	35.3	35.3	35.2
24S 17W 24DDD 01	375629099075901	61.0	15	13.3	34.9	34.8	32.8	35.4	34.5	31.7	30.9
24S 18W 13DAC 01	375732099144301				32.8	33.7	33.2	34.8	34.4	34.7	34.6
24S 18W 17ABD 01	375801099191001	89.0	27	18.8	33.1	33.4	31.7	32.7	31.5	30.5	29.8
24S 18W 28DAC 01	375550099175601	69.0	25	16.6	37.2	37.7	37.1	41.9	37.7	37.5	36.3
24S 18W 36DDC 01	375445099143901	79.0	28	24.2	40.1		42.6		42.0		
24S 19W 34ADD 01	375513099231701	30.2	8	7.0	10.3	6.3	8.3	8.9	8.0	7.1	6.7
25S 16W 02BBB 01	375436099032701	62.0	6	6.6	28.3	27.6	23.8	26.7	23.4	19.6	16.2
25S 16W 27AAC 01	375059099034201	84.0	3	6.1	20.5	18.0	14.8		15.9	12.4	8.9
25S 16W 31DCC 01	374926099071601	82.0			23.4	24.8	21.0	24.8			17.6
25S 17W 01DAB 01	375411099080701	72.0	12	8.8	30.6	30.0	29.3	30.5	30.4	28.6	26.9
25S 17W 17AAC 01	375245099123501	110.0	14	14.4	34.9	31.1	33.0	34.9	34.4	33.2	32.3
25S 17W 31BBD 01	375008099141501	73.0	22	11.1	28.0	28.4	21.9	29.1	29.1	28.4	27.5
25S 18W 09AAA 01	375346099174801	74.0	21	15.6	33.8	33.5	33.1	35.5	33.9	33.8	32.6
25S 18W 20AAB 01	375201099190201	116.0			41.0	41.8	40.4	42.9	42.2	41.3	40.7
25S 18W 33CDC 01	374931099182901	90.0	29	23.2	34.8	35.9	36.2	37.6	37.7	37.1	36.8
25S 19W 08BDD 01	375329099260101				8.3	7.1	5.5	7.8	6.1	2.7	2.5
25S 19W 26DDB 01	375032099222001	92.0	31	30.1	40.2	41.4	40.9	42.0	41.4	40.9	39.9
25S 19W 31CAB 01	374954099270701	49.0	17	15.2	21.2	20.1			19.2	16.8	16.1
25S 20W 03BCD 01	375406099303401				30.7	30.1	27.3	29.4	29.7	27.4	25.9
25S 20W 34CCC 01	374935099304801	26.0			9.0	10.0	9.5	10.5	8.1	4.6	4.4
26S 16W 10CCC 01	374731099035701	42.0	5	3.8	13.1	9.9	8.0	11.8	9.8	7.6	6.7
26S 16W 18CAC 01	374653099070201	100.0					13.4	17.7	16.9	14.3	12.4
26S 16W 31CCA 01	374408099070401	173.0	25	19.6	36.4	34.8	30.7	34.7	34.0	32.2	29.0
26S 16W 34ABC 01	374440099032401	100.0	25	6.8	25.5	23.0	18.4	23.8	23.1	21.1	17.2
26S 17W 14BAA 01	374720099090001	90.0	16	20.7	29.4	27.1	23.1	26.3	25.5	23.3	20.1
26S 17W 33DDB 01	374404099104601	120.0	22	12.4	27.9	26.5	24.4	27.2	27.4	26.4	22.7
26S 18W 15DCB 01	374637099163101	158.0	33	22.0	35.0	36.2	35.4	37.3	37.1	36.1	35.3
26S 18W 31CCC 01	374354099202001	82.0	47	33.6	51.6	52.4	51.6	53.1	51.7	52.5	50.9
26S 19W 12ABB 02	374803099205402	100.0	38		47.4	53.3	53.6	54.2	54.5	53.8	53.3
26S 19W 16BCB 01	374658099244301	82.0	35	29.4	41.6	42.3	42.1	42.8	42.1	41.3	39.9
26S 19W 31AAC 01	374428099260501	96.0			43.0	41.9	41.7			40.8	40.6
26S 19W 34BBD 01	374427099232901	80.0	36	30.8	43.0	44.1	44.3	45.0	44.6	43.3	43.2
26S 20W 20BBC 01	374558099321601	30.0	19		13.4	13.0	12.0	13.4	13.0	8.7	8.0

ELLIS COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
13S 18W 29CCC 01	385313099211601	34.0					17.7		19.4	13.7	18.8
14S 18W 12AAD 01	385115099155401	54.0					23.8		23.8	23.7	23.8
15S 18W 25CCD 01	384246099165101	56.0					16.5		16.9	15.1	
15S 19W 25CAB 01	384305099232201	65.0					15.4		16.2	15.4	15.8

ELLSWORTH COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
17S 09W 20BCD 01	383335098204601	63.0			25.7		17.3		19.0		
17S 09W 21BCC 01	383334098194701	200.0		92.2	95.1		78.2		83.1		
17S 09W 28CBB 02	383236098194702	76.6			37.4		32.8		32.0		
17S 09W 31AAB 01	383210098211001	162.0		99.6	51.3		48.7		45.7		

EDWARDS COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	
				-1998	-1998	-1998	-1998	-1998			-1998
24S 16W 12CBD 01	QU	2055	130	-16	-12.0	1.1	-0.3	-0.4	125	109	-13
24S 17W 20ADC 01	QU	2126	121	-32	-19.4	0.1	-0.7	-0.6	118	86	-27
24S 17W 24DDD 01	QU	2100	170	-16	-17.6	0.8	-0.3	-0.6	155	139	-10
24S 18W 13DAC 01	QU	2130	115			0.1				80	
24S 18W 17ABD 01	QU	2147	92	-3	-11.0	0.7	-0.1	-0.3	65	62	-5
24S 18W 28DAC 01	QU	2158	98	-11	-19.7	1.2	-0.2	-0.6	73	62	-15
24S 18W 36DDC 01	QU	2149	119								
24S 19W 34ADD 01	QA	2160		1	0.3	0.4	0.0	0.0			
25S 16W 02BBB 01	QU	2069	184	-10	-9.6	3.4	-0.2	-0.3	178	168	-6
25S 16W 27AAC 01	QU	2063	188	-6	-2.8	3.5	-0.1	-0.1	185	179	-3
25S 16W 31DCC 01	QU	2089									
25S 17W 01DAB 01	QU	2102	162	-15	-18.1	1.7	-0.3	-0.6	150	135	-10
25S 17W 17AAC 01	QU	2129	74	-18	-17.9	0.9	-0.4	-0.6	60	42	-30
25S 17W 31BBB 01	QU	2148	178	-6	-16.4	0.9	-0.1	-0.5	156	151	-3
25S 18W 09AAA 01	QU	2161	131	-12	-17.0	1.2	-0.3	-0.5	110	98	-11
25S 18W 20AAB 01	QU	2185				0.6					
25S 18W 33CDC 01	QU	2182	172	-8	-13.6	0.3	-0.2	-0.4	143	135	-6
25S 19W 08BDD 01	QA	2185				0.2					
25S 19W 26DDB 01	QU	2206	146	-9	-9.8	1.0	-0.2	-0.3	115	106	-8
25S 19W 31CAB 01	QU	2220		1	-0.9	0.7	0.0	0.0			
25S 20W 03BCD 01	QU, TO	2237				1.5					
25S 20W 34CCC 01	QA	2219				0.2					
26S 16W 10CCC 01	QU	2065	220	-2	-2.9	0.9	0.0	-0.1	215	213	-1
26S 16W 18CAC 01	QU	2092				1.9					
26S 16W 31CCA 01	QU	2110	285	-4	-9.4	3.2	-0.1	-0.3	260	256	-2
26S 16W 34ABC 01	QU	2079	289	8	-10.4	3.9	0.2	-0.3	264	272	3
26S 17W 14BAA 01	QU	2109	194	-4	0.6	3.2	-0.1	0.0	178	174	-2
26S 17W 33DDB 01	QU	2127	227	-1	-10.3	3.7	0.0	-0.3	205	204	0
26S 18W 15DCB 01	QU	2174	229	-2	-13.3	0.8	0.0	-0.4	196	194	-1
26S 18W 31CCC 01	QU	2215	195	-4	-17.3	1.6	-0.1	-0.5	148	144	-3
26S 19W 12ABB 02	QU	2210	155	-15		0.5	-0.3		117	102	-13
26S 19W 16BCB 01	QU	2231	176	-5	-10.5	1.4	-0.1	-0.3	141	136	-4
26S 19W 31AAC 01	QU	2250				0.2					
26S 19W 34BBB 01	QU	2232	187	-7	-12.4	0.1	-0.1	-0.4	151	144	-5
26S 20W 20BBC 01	QA	2251		11		0.7	0.2				

ELLIS COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	
				-1998	-1998	-1998	-1998	-1998			-1998
13S 18W 29CCC 01	QU	2000				-5.1					
14S 18W 12AAD 01	QU	2000				-0.1					
15S 18W 25CCD 01	QA	1910									
15S 19W 25CAB 01	QA	1937				-0.4					

ELLSWORTH COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	
				-1998	-1998	-1998	-1998	-1998			-1998
17S 09W 20BCD 01	QU	1770									
17S 09W 21BCC 01	KD	1775									
17S 09W 28CBB 02	QU	1761									
17S 09W 31AAB 01	KD	1762									

FINNEY COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1940	1966	1992	1993	1994	1995	1996	1997	1998
21S 31W 26CCC 01	381134100420001	120.0	75		75.1	75.0	74.8	74.7	75.3	75.0	74.7
21S 32W 20CBD 01	381242100514201	203.0	31	45.1	112.0	111.0	113.6	113.1	115.1	116.5	116.4
21S 32W 26DAA 01	381155100473701	203.0	96	98.8	109.1	109.2	108.2	109.5		110.3	110.1
21S 33W 29BBC 01	381215100582401		16		86.2	87.0		87.6	87.1	91.5	80.9
+ 21S 34W 14DBB 01	381340101010701	141.0	56	69.0	101.0		106.9	99.9	101.6	101.3	100.0
22S 27W 14ADC 01	380823100144801	395.0			178.7	172.2	173.2	174.5	168.3	168.0	162.7
22S 31W 08CCC 01	390856100451901	200.0	81		97.9	102.9	103.3	104.7	106.1	106.0	106.3
22S 32W 08ACB 01	380932100511801	148.0	33	40.0	101.6	102.6	102.9	104.2	105.4	106.5	107.0
22S 32W 21CDC 01	380715100503701	200.0	58	66.4	138.0	137.9	138.6	140.0	143.3	143.0	143.9
22S 33W 22BAA 01	380801100554801	184.0	40	47.1		127.8	132.4	133.8	137.5	141.3	140.5
22S 33W 36BCCC01	380600100535701	200.0				131.0	132.6	131.1	132.7	133.0	131.9
+ 22S 34W 08BCB 01	380932101045601	170.0	87	108.9	141.3	135.4	135.4	135.6	135.5	135.5	135.1
22S 34W 10AAA 01	380945101014801	150.0	43	59.2	107.3	108.1	108.4	107.7	107.7	107.1	106.0
22S 34W 18CDD 01	380807101054001		67		149.1		151.8	152.6	151.3	146.9	142.1
22S 34W 26CCC 01	380622101014001	206.0			174.5	174.5	172.3	170.4	170.7	170.7	166.9
23S 27W 22DAB 01	380208100155501	140.0	82		80.3	79.1	76.7	76.0	75.8	75.3	73.9
23S 28W 22DCD 01	380149100223801	140.0	74		75.8	75.3	74.4	74.9	74.9	74.6	73.9
23S 28W 34DDC 01	38003100223001	162.0	76			94.2	94.4	94.2	94.9	95.5	96.5
23S 29W 30BBB 01	380146100331301	126.0	75		78.5	78.3	77.7	78.0	78.2	78.0	78.3
23S 29W 34CDD 01	380006100293001	141.0	84	84.0	91.0	89.7	87.8	89.3	89.4	90.4	90.4
23S 30W 04ACC 01	380446100371901	141.0	65		69.0	69.6	69.4	70.0	70.3	70.8	71.0
23S 30W 19CCB 01	380202100394701	205.0	89	82.2	90.3	90.9	90.6	90.7	91.0	91.1	90.9
23S 31W 03DCD 01	380435100422401	180.0	72	83.0		119.7	116.7	112.1	112.6	112.7	112.7
23S 31W 17ABA 01	380333100442901		90		113.9	113.8	113.6	114.6	115.7	115.9	116.5
23S 32W 31CBD 01	380033100523501	290.0	41	49.4	94.8	88.3	85.6	86.8	86.5	81.9	79.3
23S 33W 08BBCC01	380423100582601								166.2		
23S 33W 26ABB 01	380155100543401	327.0	42	50.4	110.8	101.7	102.1	104.5	101.4	95.6	93.8
23S 33W 28CDC 01	380109100570201	300.0	46	61.2	109.3	101.0	94.5	99.5	99.6	93.2	88.8
23S 34W 17CCC 01	380253101045501	310.0	46	70.0	142.8	135.9	129.8	133.5	130.3	126.1	124.0
23S 34W 21DDC 01	380201101030101	300.0	41	71.6	131.0	121.4	113.9		117.4	112.2	106.8
24S 31W 27CCB 01	375558100430401	295.0	114	119.5	142.9	138.6	139.9	143.7	141.4	141.1	141.4
24S 32W 10ACA 01	375905100484901	270.0					83.0			82.8	81.4
24S 33W 09CCD 01	375832100571001	210.0	11		52.7	52.2	47.6	51.5	48.1	47.1	46.0
24S 33W 09CCD 02	375832100571002	55.0			19.3	22.2	14.1	17.6	12.5	11.4	10.1
24S 33W 09CCD 03	375832100571003	560.0			65.4	61.8	58.0	62.0	59.2	57.4	57.3
24S 33W 18BDB 02	375812100591302	720.0	8		107.8	101.6	84.7	101.0	84.3	93.4	98.4
24S 33W 19DBB 02	375706100585702	740.0	57		142.8	143.0	131.4	148.3	128.4	118.7	148.9
24S 33W 22BCC 01	375713100561301	300.0	38		75.1	78.3	73.8	76.0	74.2		
24S 33W 22DCA 01	375654100553201	373.0	71		113.7	112.6	111.4	114.5	113.5	114.9	117.1
24S 33W 28DAA 01	375614100562101	350.0	34		103.0	101.6	102.4	104.8	105.0	106.8	107.3
24S 33W 34CAC 01	375516100555601	635.0	60		133.1	131.6	132.6	135.5	136.8	139.1	139.5
24S 34W 01BCBB01	375957101003501	295.0	12	24.7	60.3	55.8	47.7	50.8	49.3	49.1	46.3
25S 32W 22DBC 01	375145100485701		65	62.0	113.5	113.8	115.0	118.3	119.6	122.3	123.5
25S 32W 31DDC 01	374948100515802				125.5	126.7	127.7	129.7	136.2	139.1	142.0
25S 32W 35ADB 01	375020100474201	180.0	67	68.0	114.9	116.3	117.8	121.0	123.3	125.6	127.6
25S 33W 03BCC 01	375436100561301	300.0	47		53.1	52.6		55.1	55.4	54.5	51.5
25S 33W 05ABD 01	375449100574301	420.0	52		135.9	134.8	137.8	140.5	141.6	144.4	143.8
25S 33W 09ABD 01	375357100563701	400.0	50		131.3	130.0	131.8	134.8	136.9	139.8	140.6
25S 33W 15DAC 01	375239100552401	470.0	71		152.7	151.4	153.6	156.7	157.5	160.7	162.7
25S 33W 16DDC 01	375226100564601	300.0	62		89.9	90.1	89.1	90.0	91.4	91.1	91.7
25S 33W 17DBD 01	375239100574301	473.0	78		155.1	153.8	157.5	160.5	163.2	167.1	172.2
25S 33W 33CDA 01	374955100565401		65		140.8	142.8	144.9	147.9	152.6	157.1	158.9
25S 34W 06AAA 01	375456101050301	300.0	52		125.4	128.9	129.1	132.4	135.3	140.6	143.2
25S 34W 10ABB 01	375404101021201	300.0	62		106.6	108.4	107.5	110.8	111.4	113.4	113.6
25S 34W 34DBD 01	375002101020401		65	70.0	140.1	143.9	146.6	151.6	154.0	161.6	159.1
26S 31W 01DDA 01	374840100391301	169.0	75	74.0	118.3	120.1	121.1	123.8	126.5	129.9	131.7
26S 31W 06BBBB01	374931100453501	180.0	55	55.6	102.2	104.0	105.4	108.6	111.4	114.2	116.6
26S 31W 31CDC 01	374417100451901		83	86.1	152.3	153.1	155.9	160.1	164.1	167.5	169.7
26S 31W 36CAB 01	374426100395001	160.0	82	80.3	139.1	141.3	142.2	146.7	158.4		
26S 32W 22ABB 01	374645100481901	378.0	113	115.6	159.1	165.7	168.4	162.4	163.4	165.3	166.3

FINNEY COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness	
				1940	1966	1997	1940	1966	1940	1998	1940	1998
				-1998	-1998	-1998	-1998	-1998	-1998	-1998	-1998	-1998
21S 31W 26CCC 01	QU,TO	2900		0		0.3	0.0					
21S 32W 20CBD 01	QU,TO	2898	200	-85	-71.3	0.1	-1.5	-2.2	169	84	-50	
21S 32W 26DAA 01	QU,TO	2946	171	-14	-11.3	0.2	-0.2	-0.4	75	61	-19	
21S 33W 29BBC 01	QU,TO	2891	106	-65		10.6	-1.1		90	25	-72	
+ 21S 34W 14DBB 01	KN	2947	97	-44	-31.0	1.3	-0.8	-1.0	41	-3	-107	
22S 27W 14ADC 01	KJ	2458				5.3						
22S 31W 08CCC 01	QU,TO	2911	171	-25		-0.3	-0.4		90	65	-28	
22S 32W 08ACB 01	QU,TO	2884	224	-74	-67.0	-0.5	-1.3	-2.1	191	117	-39	
22S 32W 21CDC 01	QU,TO	2903	198	-86	-77.5	-0.9	-1.5	-2.4	140	54	-61	
22S 33W 22BAA 01	QU,TO	2900	190	-101	-93.4	0.8	-1.7	-2.9	150	50	-67	
22S 33W 36BCCC01	QU,TO	2869				1.1						
+ 22S 34W 08BCB 01	KN	2987	132	-48	-26.2	0.4	-0.8	-0.8	45	-3	-107	
22S 34W 10AAA 01	QU,TO	2933	153	-63	-46.8	1.1	-1.1	-1.5	110	47	-57	
22S 34W 18CDD 01	QU,TO	2984	234	-75		4.8	-1.3		167	92	-45	
22S 34W 26CCC 01	QU,TO	2939				3.8						
23S 27W 22DAB 01	QU,TO	2654		8		1.4	0.1					
23S 28W 22DCD 01	QU,TO	2729		0		0.7	0.0					
23S 28W 34DDC 01	QU,TO	2738		-21		-1.0	-0.4					
23S 29W 30BBB 01	QU,TO	2794		-3		-0.3	-0.1					
23S 29W 34CDD 01	TO	2772	147	-6	-6.4	0.0	-0.1	-0.2	63	57	-10	
23S 30W 04ACC 01	QU,TO	2846		-6		-0.2	-0.1					
23S 30W 19CCB 01	QU,TO	2862	142	-2	-8.7	0.2	0.0	-0.3	53	51	-4	
23S 31W 03DCD 01	QU,TO	2877	167	-41	-29.7	0.0	-0.7	-0.9	95	54	-43	
23S 31W 17ABA 01	QU,TO	2900	210	-27		-0.6	-0.5		120	94	-22	
23S 32W 31CBD 01	QU,TO	2876	324	-38	-29.9	2.6	-0.7	-0.9	283	245	-13	
23S 33W 08BBCC01	QU,TO	2914										
23S 33W 26ABB 01	QU,TO	2890	327	-52	-43.4	1.8	-0.9	-1.4	285	233	-18	
23S 33W 28CDC 01	QU,TO	2904		-43	-27.6	4.4	-0.7	-0.9				
23S 34W 17CCC 01	QU,TO	2974	349	-78	-54.0	2.1	-1.3	-1.7	303	225	-26	
23S 34W 21DDC 01	QU,TO	2961	356	-66	-35.2	5.4	-1.1	-1.1	315	249	-21	
24S 31W 27CCB 01	QU,TO	2883	295	-27	-21.9	-0.3	-0.5	-0.7	181	154	-15	
24S 32W 10ACA 01	QU,TO	2860				1.4						
24S 33W 09CCD 01	QU,TO	2865	355	-35		1.1	-0.6		344	309	-10	
24S 33W 09CCD 02	QA	2865				1.3						
24S 33W 09CCD 03	KD	2865				0.1						
24S 33W 18BDB 02	KD	2878	338	-90		-5.0	-1.6		330	240	-27	
24S 33W 19DBB 02	KD	2928	447	-92		-30.2	-1.6		390	298	-24	
24S 33W 22BCC 01	QU,TO	2888										
24S 33W 22DCA 01	QU,TO	2905	405	-46		-2.2	-0.8		334	288	-14	
24S 33W 28DAA 01	QU,TO	2886	386	-73		-0.5	-1.3		352	279	-21	
24S 33W 34CAC 01	QU,TO	2910	435	-80		-0.4	-1.4		375	296	-21	
24S 34W 01BCBB01	QU,TO	2894	316	-34	-21.6	2.8	-0.6	-0.7	304	270	-11	
25S 32W 22DBC 01	QU,TO	2865	373	-59	-61.5	-1.2	-1.0	-1.9	308	250	-19	
25S 32W 31DDC 01	QU,TO	2871				-2.9						
25S 32W 35ADB 01	QU,TO	2857	417	-61	-59.6	-2.0	-1.1	-1.9	350	289	-17	
25S 33W 03BCC 01	QU,TO	2902		-5		3.0	-0.1					
25S 33W 05ABD 01	QU,TO	2920	510	-92		0.6	-1.6		458	366	-20	
25S 33W 09ABD 01	QU,TO	2909	514	-91		-0.8	-1.6		464	373	-20	
25S 33W 15DAC 01	QU,TO	2915	535	-92		-2.0	-1.6		464	372	-20	
25S 33W 16DCC 01	QU,TO	2920		-30		-0.6	-0.5					
25S 33W 17DBD 01	QU,TO	2940	530	-94		-5.1	-1.6		452	358	-21	
25S 33W 33CDA 01	QU,TO	2915	460	-94		-1.8	-1.6		395	301	-24	
25S 34W 06AAA 01	QU,TO	2972	397	-91		-2.6	-1.6		345	254	-26	
25S 34W 10ABB 01	QU,TO	2962	412	-52		-0.2	-0.9		350	298	-15	
25S 34W 34DBD 01	QU,TO	2945	440	-94	-89.1	2.5	-1.6	-2.8	375	281	-25	
26S 31W 01DDA 01	QU,TO	2811	301	-57	-57.7	-1.8	-1.0	-1.8	226	169	-25	
26S 31W 06BBB01	QU,TO	2832	327	-62	-61.0	-2.4	-1.1	-1.9	272	210	-23	
26S 31W 31CDC 01	QU,TO	2841	496	-87	-83.6	-2.2	-1.5	-2.6	413	326	-21	
26S 31W 36CAB 01	QU,TO	2817	332									
26S 32W 22ABB 01	QU,TO	2899	564	-53	-50.7	-1.0	-0.9	-1.6	451	398	-12	

FINNEY COUNTY (cont'd)

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1940	1966	1992	1993	1994	1995	1996	1997	1998
26S 33W 10CCD 01	374747100552101	305.0							142.4	146.3	150.0
26S 33W 17DBD 01	374701100565001		60		132.2	137.1	143.7			150.2	154.0
26S 34W 05ADC 01	374905101032801		72		144.5	147.6				162.8	167.3
26S 34W 21BBD 01	374638101025601		77			159.5	162.0	166.2	170.3	175.7	176.4

FORD COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1940	1966	1992	1993	1994	1995	1996	1997	1998
25S 22W 20AAA 01	375206099451001	71.5	65	62.6	61.1	58.7	58.2	58.0	57.8	57.4	56.9
25S 22W 27CCD 01	375028099434701	240.0			142.8	57.9	46.2	45.6	44.0	41.4	41.0
25S 23W 11CCC 01	375307099492701	385.0			93.0	89.9	46.9	53.3	65.6	80.0	70.4
25S 23W 12BBB 01	375353099482001	362.0			164.7	155.7	152.9	162.7	161.2	158.5	159.8
25S 25W 32CDD 01	374936100052801	383.0			202.6	196.4	197.5	201.4	203.5	202.3	202.8
25S 25W 32DAD 01	374948100045601				75.7	75.3	74.5	74.5	74.6	74.5	73.8
25S 26W 25CDD 01	375026100074001	187.0	79		78.5		77.0		78.6	78.0	78.0
25S 26W 30ABC 01	375107100125801	225.0	104		114.7	114.6	113.9	115.1	115.3	114.4	113.9
26S 21W 17DBC 01	374632099381801				65.3	63.7		67.6	68.8		
26S 21W 23ADA 01	374559099343801	12.4	6	7.3	7.0	8.3		7.3	7.0		
26S 21W 25CCC 01	374434099343001				8.2	6.4	7.0	8.4	7.7	4.5	3.7
26S 22W 21DCD 01	374529099433401	360.0			41.8	41.2	39.7	41.1	40.8	39.4	37.9
26S 23W 02ABB 01	374929099481601	350.0				80.9	81.1	80.9	85.0	78.7	77.5
26S 23W 10DAD 01	374725099485601	280.0			179.8	179.8	184.8	179.8	180.5	180.5	180.2
26S 24W 29DDD 01	374442099573601	209.0	130		149.1	146.4	146.9	151.4	152.5	150.9	147.3
26S 24W 31DDA 01	374356099584201	112.0	11		26.6	24.3	22.5	30.8	25.4	15.5	11.4
26S 24W 33CDA 01	374357099570301	126.0	26		40.8	39.5	38.9	44.4	44.1	34.3	38.1
26S 25W 16DCC 01	374649100035201	220.0			145.5	145.8			147.8	146.5	143.4
26S 26W 18CCB 01	374657100124101	261.0			13.8	16.2	14.7	17.2	15.1	13.1	12.7
26S 26W 32DCC 01	374403100110601	124.0	74		95.8	95.4	95.5	99.4	101.5	100.5	101.8
26S 26W 36DCC 01	374404100064401	124.0	31		57.3	48.8	49.2	50.8	50.3	50.8	50.0
27S 21W 10DBB 01	374214099360301				8.0	5.7	6.6	7.3	5.5	3.2	0.6
27S 23W 24BCB 01	374048099474001	220.0			74.6	61.8	57.6	84.9	74.6	54.7	53.0
27S 23W 36CCC 01	373831099473901	147.0	46		47.8	47.9	47.9	48.6	49.3	49.6	49.4
27S 24W 03BBD 01	374337099561401	97.7	19		27.1	28.1	18.0	30.6	33.0	34.1	30.8
27S 24W 03CDD 01	374258099555701	96.0			18.8	17.7	31.0	21.4	21.8	16.7	14.4
27S 24W 04BBC 01	374337099572801	119.0	11		24.2	22.3	23.2	30.8	30.6	22.5	20.1
27S 24W 09AAD 01	374245099563001	160.0	10		28.3	26.8	27.1	30.8	31.5	25.7	22.8
27S 24W 16BDB 01	374146099571101	200.0			83.1	82.9	82.5	85.3	86.3	83.3	80.5
27S 24W 26DAA 01	373950099541801	191.0	79		95.7	95.5	95.6	96.7	97.9	97.6	97.0
27S 25W 09ACA 01	374304100032201				73.2	73.9	74.1	76.8	76.2	75.7	73.7
27S 25W 25BBB 01	374040100004601	170.0			123.0	122.9	123.5	124.6	125.6	125.4	124.7
28S 21W 10DDD 01	373644099354101	89.0	41		46.4	46.6	47.0	48.0	48.4	47.5	46.0
28S 21W 23DBC 01	373513099350001	145.0				79.6	80.0	80.8	81.4	80.3	78.9
28S 21W 25ABB 01	373510099335801	149.0			74.9	73.9	74.7	75.5	75.8	74.5	73.4
28S 22W 05ADD 01	373820099442701	51.0			19.4	19.2	19.6	20.9	20.7	19.5	19.5
28S 22W 12CAC 01	373659099404301	120.0	66		63.9	64.5	64.4	65.6	65.7	65.5	64.8
28S 22W 32BAB 01	373404099445801	161.0	121		142.1	125.8	125.9	126.7	127.1	127.2	127.2
28S 23W 18BAB 01	373702099525701	247.0			140.0	140.5	141.0	141.8	142.6	143.0	143.5
28S 23W 24ABB 01	373602099470101	247.0			96.6		97.1	97.8	98.0	98.0	98.1
28S 24W 08DCC 01	373652099575901	275.0	133		146.1	146.1	146.2	170.6	160.3	147.9	147.4
28S 24W 22CDA 01	373528099553501	295.0			110.6	111.1	111.5	112.3	117.7	113.2	113.1
28S 24W 35CAB 01	373358099550801	421.0			106.1	106.9	107.0	107.8	112.1	108.6	108.5
28S 25W 06ABB 01	373838100053901	189.0	144		154.7	154.0	154.7	170.3	165.2	156.4	156.4
28S 25W 19BBB 01	373601100061301	265.0	133		151.1	151.0	150.7	153.5	154.8	154.0	151.4
28S 26W 06ABB 01	373841100115601	257.0	133		174.2	168.9	169.6	172.4	173.8	174.2	173.9
28S 26W 13CAA 01	373632100065401	218.0			144.4	145.4	144.9			147.7	145.0
29S 21W 05BBB 01	373309099384901	131.0	98	96.6	102.2	102.1	101.8	102.8	99.5	103.5	102.8
29S 21W 20CAD 01	373005099381801	275.0			135.8	135.8	135.8	136.3	139.0	136.1	135.8
29S 22W 17DAD 01	373054099441601	240.0	119		136.1	131.4	131.5	132.5	133.1	132.4	131.8

FINNEY COUNTY (cont'd)

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1940 -1998
				1940 -1998	1966 -1998	1997 -1998	1940 -1998	1966 -1998	1940	1998	
26S 33W 10CCD 01	QU, TO	2890				-3.7					
26S 33W 17DBD 01	TO	2900	520	-94		-3.8	-1.6		460	366	-20
26S 34W 05ADC 01	TO	2960		-95		-4.5	-1.6				
26S 34W 21BBD 01	TO	2955		-99		-0.7	-1.7				

FORD COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1940 -1998
				1940 -1998	1966 -1998	1997 -1998	1940 -1998	1966 -1998	1940	1998	
25S 22W 20AAA 01	TO	2438		8	5.7	0.5	0.1	0.2			
25S 22W 27CCD 01	TO, KD	2432				0.4					
25S 23W 11CCC 01	KD	2424				9.6					
25S 23W 12BBB 01	KD	2390				-1.3					
25S 25W 32CDD 01	KD	2607				-0.5					
25S 25W 32DAD 01	QU, TO	2593				0.7					
25S 26W 25CDD 01	TO	2623	187	1		0.0	0.0		108	109	1
25S 26W 30ABC 01	TO	2679	225	-10		0.5	-0.2		121	111	-8
26S 21W 17DBC 01	KD	2348									
26S 21W 23ADA 01	QA	2262									
26S 21W 25CCC 01	QA	2270				0.8					
26S 22W 21DCD 01	TO, KD	2377				1.5					
26S 23W 02ABB 01	KD	2451				1.2					
26S 23W 10DAD 01	KD	2463				0.3					
26S 24W 29DDD 01	TO	2575		-17		3.6	-0.3				
26S 24W 31DDA 01	QA	2463		0		4.1	0.0				
26S 24W 33CDA 01	TO	2466		-12		-3.8	-0.2				
26S 25W 16DCC 01	TO	2619				3.1					
26S 26W 18CCB 01	QA, TO	2558				0.4					
26S 26W 32DCC 01	TO	2616		-28		-1.3	-0.5				
26S 26W 36DCC 01	TO	2543	168	-19		0.8	-0.3		137	118	-14
27S 21W 10DBB 01	QA, QU	2291				2.6					
27S 23W 24BCB 01	KD	2395				1.7					
27S 23W 36CCC 01	TO	2428	147	-3		0.2	-0.1		101	98	-3
27S 24W 03BBD 01	TO	2455		-12		3.3	-0.2				
27S 24W 03CDD 01	TO	2445				2.3					
27S 24W 04BBC 01	TO	2453		-9		2.4	-0.2				
27S 24W 09AAD 01	TO	2448		-13		2.9	-0.2				
27S 24W 16BDB 01	TO	2515				2.8					
27S 24W 26DAA 01	TO	2512	191	-18		0.6	-0.3		112	94	-16
27S 25W 09ACA 01	TO	2546				2.0					
27S 25W 25BBB 01	TO	2574				0.7					
28S 21W 10DDD 01	QU, TO	2349		-5		1.5	-0.1				
28S 21W 23DBC 01	TO	2370				1.4					
28S 21W 25ABB 01	QU, TO	2365	149			1.1				76	
28S 22W 05ADD 01	QA, QU	2370				0.0					
28S 22W 12CAC 01	TO	2405	82	1		0.7	0.0		16	17	6
28S 22W 32BAB 01	TO	2485	161	-6		0.0	-0.1		40	34	-15
28S 23W 18BAB 01	QU, TO	2547	239			-0.5				96	
28S 23W 24ABB 01	QU, TO	2465				-0.1					
28S 24W 08DCC 01	QU, TO	2578		-14		0.5	-0.2				
28S 24W 22CDA 01	QU, TO	2500				0.1					
28S 24W 35CAB 01	QU, TO	2528	450			0.1				342	
28S 25W 06ABB 01	QU, TO	2643		-12		0.0	-0.2				
28S 25W 19BBB 01	TO	2635	265	-18		2.6	-0.3		132	114	-14
28S 26W 06ABB 01	TO	2685	195	-41		0.3	-0.7		62	21	-66
28S 26W 13CAA 01	QU, TO	2635				2.7					
29S 21W 05BBB 01	TO	2418		-5	-6.2	0.7	-0.1	-0.2			
29S 21W 20CAD 01	QU, TO	2445				0.3					
29S 22W 17DAD 01	TO	2475	240	-13		0.6	-0.2		121	108	-11

FORD COUNTY (cont'd)

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1940	1966	1992	1993	1994	1995	1996	1997	1998
29S 22W 36ACA 01	372841099401201	245.0			137.8		137.9	138.6	140.0	138.9	138.9
29S 23W 12BAC 01	373223099472101	240.0				180.7	182.4	184.2	183.6	183.4	183.7
29S 24W 01ABA 01	373318099532701	225.0	140		147.5	148.0	148.2	149.1	149.9	149.8	149.7
29S 24W 13BCA 01	373127099540701	220.0			116.3	116.1	116.4	117.3	117.7	117.8	117.7
29S 24W 18BAA 01	373131099591001		149		160.4	160.7	161.3	161.5	162.6	161.8	162.0
29S 25W 03ADA 01	373310100015601		152		192.2	188.5	188.0			188.6	180.2
29S 25W 10BBBC01	373231100025401	245.0	139			166.1	164.5	167.4	170.4	167.9	165.0
29S 26W 29ABB 01	372957100110901	178.0			102.5	102.4	102.7	103.6	105.0	106.9	107.3
29S 26W 36BBB 01	372906100072001	175.0	26		37.2	33.8	33.8	36.1	37.6	34.8	34.2

GEARY COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
11S 06E 27CBB 01	390356096455601	65.0		20.7	22.4	19.5	11.9		19.0	19.4	21.4

GOVE COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
11S 26W 04CDC 01	390709100125401	167.0	62	60.0	67.1	66.1	62.0	64.4	63.9	62.5	63.6
11S 26W 19AAA 01	390611100160101	138.0					126.5			120.9	119.8
11S 27W 36BCC 01	390316100163201	142.0	71		76.7	76.4	73.2	75.7	78.5	70.9	73.0
11S 28W 08AAA 01	390703100263601	170.0			122.0	121.6	119.0	119.0	120.4	114.4	108.4
11S 28W 17DCB 01	390532100270101	135.0						97.7	97.2	95.9	96.0
11S 28W 26ABB 01	390427100235101	223.0						90.6	90.3	91.7	91.9
11S 29W 04DAD 01	390723100320801	171.0	109		113.8	113.4	112.9	113.4	113.2	112.2	108.7
11S 29W 33BBA 01	390336100330001	140.0			105.4	105.5	103.6	103.6	102.6	101.1	101.5
11S 30W 27ABB 01	390428100380701	168.0	117		129.3	129.6	125.3	126.3	125.8	123.3	123.7
11S 30W 28CBA 01	390402100393801	168.0			125.1	125.3	122.2	122.9	122.7	122.8	120.4
11S 30W 36CBB 01	390310100362801	152.0			107.3	106.3	104.2	103.9	103.9	104.8	101.2
11S 31W 12AAB 01	390704100421401	154.0			106.9	105.7	104.9	104.7	108.8	103.0	100.8
11S 31W 27ADC 01	390409100442901	99.0			52.3	51.7	48.8	49.8	50.0	47.2	48.9
11S 31W 35BDC 01	390317100435701	125.0				100.4	98.4	98.9	98.4	96.0	95.2
12S 26W 12BCC 01	390131100095701	66.0			41.1	41.1	38.2	34.5	35.8	33.4	33.6
12S 27W 10CCB 01	390113100184501	130.0			79.5	78.4	75.1	75.1	76.7	73.2	70.8
12S 27W 12BBA 01	390152100162401	87.0						34.3	33.8	44.8	31.5
12S 28W 07DDD 01	390106100274501	110.0			49.6	48.1	43.6	48.1	47.3	45.6	46.1
12S 28W 12DDD 01	390106100221301	152.0			95.5	94.3	92.8	93.1	92.2	90.8	
13S 26W 20CBC 01	385423100142501	45.0		11.1	16.7	14.7	10.8	8.3	5.9	5.4	6.0
13S 27W 16CA 02	385519100193402	68.0			15.6			11.9	10.6	13.5	10.3
13S 28W 14AC 01	385532100234301	58.0			16.1			8.6	9.3	7.5	8.2

GRAHAM COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
06S 21W 19CDC 01	393039099423701				99.8	98.9	95.2			92.2	92.6
06S 22W 16DCC 01	393132099463701					136.5	132.8			130.0	129.3
06S 22W 19CCC 01	393039099493101	198.0			107.0	107.0	106.4	105.3	104.3	102.5	101.4
06S 23W 13BBB 01	393216099503801	183.0	55		57.8	56.9	53.5	52.3	50.8	49.4	49.5
06S 23W 17CCA 01	393137099550001	165.0			74.1	73.4	72.3	69.5	67.7	63.9	63.6

FORD COUNTY (cont'd)

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1940 -1998	1966 -1998	1997 -1998	1940 -1998	1966 -1998	1940	1998	
29S 22W 36ACA 01	QU,TO	2445	242			0.0				103	
29S 23W 12BAC 01	QU,TO	2545				-0.3					
29S 24W 01ABA 01	TO	2560	220	-10		0.1	-0.2		80	70	-13
29S 24W 13BCA 01	QU,TO	2530	212			0.1				94	
29S 24W 18BAA 01	TO	2610	210	-13		-0.2	-0.2		61	48	-21
29S 25W 03ADA 01	TO	2630	220	-28		8.4	-0.5		68	40	-41
29S 25W 10BBBC01	QU,TO	2617		-26		2.9	-0.4				
29S 26W 29ABB 01	QU,TO	2558				-0.4					
29S 26W 36BBB 01	TO	2532	212	-8		0.6	-0.1		186	178	-4

GEARY COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950 -1998	1966 -1998	1997 -1998	1950 -1998	1966 -1998	1950	1998	
11S 06E 27CBB 01	QA	1057			-0.7	-2.0		0.0			

GOVE COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950 -1998	1966 -1998	1997 -1998	1950 -1998	1966 -1998	1950	1998	
11S 26W 04CDC 01	TO	2583	190	-2	-3.6	-1.1	0.0	-0.1	128	126	-2
11S 26W 19AAA 01	TO	2680				1.1					
11S 27W 36BCC 01	TO	2676	140	-2		-2.1	0.0		69	67	-3
11S 28W 08AAA 01	TO	2797				6.0					
11S 28W 17DCB 01	TO	2790				-0.1					
11S 28W 26ABB 01	TO	2755				-0.2					
11S 29W 04DAD 01	TO	2844	170	0		3.5	0.0		61	61	0
11S 29W 33BBA 01	TO	2857				-0.4					
11S 30W 27ABB 01	TO	2922	165	-7		-0.4	-0.1		48	41	-15
11S 30W 28CBA 01	TO	2925				2.4					
11S 30W 36CBB 01	TO	2885				3.6					
11S 31W 12AAB 01	TO	2959				2.2					
11S 31W 27ADC 01	TO	2913				-1.7					
11S 31W 35BDC 01	TO	2951				0.8					
12S 26W 12BCC 01	TO	2573				-0.2					
12S 27W 10CCB 01	TO	2700				2.4					
12S 27W 12BBA 01	TO	2625				13.3					
12S 28W 07DDD 01	TO	2742				-0.5					
12S 28W 12DDD 01	TO	2741									
13S 26W 20CBC 01	QA	2432	43		5.1	-0.6		0.2		37	
13S 27W 16CA 02	QA	2490				3.2					
13S 28W 14AC 01	QU	2538				-0.7					

GRAHAM COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950 -1998	1966 -1998	1997 -1998	1950 -1998	1966 -1998	1950	1998	
06S 21W 19CDC 01	TO	2305	135			-0.4				42	
06S 22W 16DCC 01	TO	2360				0.7					
06S 22W 19CCC 01	TO	2395	198			1.1				97	
06S 23W 13BBB 01	TO	2340	183	6		-0.1	0.1		128	134	5
06S 23W 17CCA 01	TO	2406				0.3					

GRAHAM COUNTY (cont'd)

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
06S 24W 14AAA 01	393216099572401	280.0			118.9	118.6	118.8	115.6	111.3	116.3	110.6
06S 24W 28BAB 01	393032100002001	212.0	96		101.5		99.0	94.3	94.4	93.0	92.6
06S 25W 12CCC 01	393223100040801	244.0	135		142.5	142.8	142.1	141.6	141.5	141.0	140.6
06S 25W 28CBC 01	392959100073201	180.0	109	102.7	110.0	109.8	107.2	107.9	108.7	107.8	113.8
07S 22W 10BBC 01	392749099461001	100.0	6		7.9	7.6	7.9	8.2	8.3	8.3	9.3
07S 22W 19BBB 01	392611099493301	56.0	39		38.5	35.3	30.6	32.5	32.7	29.2	31.6
07S 24W 08CBA 01	392729100013501		126		128.1	127.6	126.8	128.0		121.4	120.4
07S 25W 24BBB 01	392611100040901	218.0	85		89.0		87.5	86.9	86.0	85.3	85.0
07S 25W 33DDD 01	392340100063401	157.0			101.1	99.3	97.3	98.4	99.1	101.6	99.4
08S 21W 17ABB 01	392151099410501	60.0			24.2	24.4	19.7	21.1	20.1	20.5	22.0
08S 22W 18CDC 01	392105099491801	50.0			9.3	8.9	7.4	7.8	8.0	7.8	7.8
08S 24W 23ACC 01	392038099575401	62.0			36.7	36.0	31.3	32.1	30.0	29.6	30.0
08S 25W 24BAB 01	392058100035201	91.0			29.7	29.2	25.2		26.7	25.3	25.3
09S 23W 26BAA 01	391451099512701	95.0				49.1	45.3			43.4	43.2
09S 24W 22BAA 01	391545099590901		94		93.0	92.1	89.0	88.7	87.0	86.1	87.2
09S 25W 14DDD 01	391551100041901		90		92.2		89.6	89.1	88.8	88.3	87.8

GRANT COUNTY

Well number			USGS site id	Depth of well (ft)	Depth to water by year (ft)								
					1940	1966	1992	1993	1994	1995	1996	1997	1998
27S	35W	17ADD 01	374203101095101	410.0	175	185.7	264.9	269.2	272.4	278.1	278.7	282.7	285.2
27S	35W	25BDC 01	374013101060801	410.0			246.7	249.9	252.8	256.9	261.8	266.9	269.8
27S	36W	21DCC 01	374047101153401	400.0	199		293.8	296.3	298.3	302.2	305.2	307.2	308.6
27S	37W	04ABB 01	374406101221501	370.0	70	86.4	187.4	189.1	189.3	192.0	194.1	195.1	195.9
27S	37W	16AAD 01	374215101222301	400.0	54		225.9	226.9	226.2	229.6	230.5	231.6	231.8
27S	37W	21BDD 01	374110101222301	630.0	58		208.7	209.3	207.8	212.1	213.3	214.6	212.5
27S	38W	12ADC 01	374255101251501	280.0	34	65.5	204.1	205.6	203.0	205.2	207.1	207.9	207.6
27S	38W	15BBB 01	374221101281501	479.0		132.9	172.2	181.1	179.6	182.4	183.2	185.4	187.2
27S	38W	23CBB 01	374100101270501		50	98.2	160.0	161.2	160.8	161.1	163.7	171.3	176.4
28S	35W	03DBB 01	373828101080401	420.0			292.0	294.4	297.0	303.3	302.9	306.6	307.0
28S	35W	05BCC 01	373833101104901	443.0	237	253.2	332.8		334.6	338.4	340.9		
28S	35W	36ABC 01	373426101055101	400.0	222	236.4	326.9		330.2	332.8	336.0	338.1	339.8
28S	36W	18ABC 01	373701101175001	554.0	95		240.7	240.6	238.0	240.8	247.3	250.0	247.6
28S	37W	02BBB 04	373853101203604	618.0			253.7	255.5	253.3	256.9	258.3	259.0	257.7
28S	38W	12BCB 01	373748101260301	360.0			206.8	208.1	206.3	211.9	210.6	211.3	212.4
28S	38W	33BDB 01	373417101290201	410.0			218.9			227.8	230.3	232.3	233.1
29S	35W	07CBD 01	373214101114301	376.0	168		263.4	261.0	253.9	251.0	250.9	262.4	255.5
29S	35W	24BAA 01	373104101060001	415.0	239		347.5	348.6		365.5	356.5	357.7	362.3
29S	35W	28ACC 01	372951101091001		147	185.4	266.6	268.7	268.5		277.7	282.1	281.9
29S	36W	19BCB 01	373048101182401	370.0	44	118.0	217.2	212.8	213.0	216.5	224.0	232.7	219.2
29S	36W	33ADB 01	372904101152101	480.0	91				240.8	251.5	245.4	253.3	251.8
29S	37W	03CDB 01	373300101212501	408.0	71	133.0	254.0	243.6	242.2		259.9	250.0	247.0
29S	37W	08CBA 01	373220101234401	300.0	46	114.5	248.9	247.5	243.8	250.8	258.4		
29S	37W	29BBA 01	373009101234301	380.0	74	148.0	283.0	284.4	281.9	286.0	290.9	292.9	290.8
29S	38W	20CDC 01	373015101300701	550.0	59	80.8			197.2	201.1	207.8	209.2	206.5
29S	38W	35CCD 01	372832101265901	400.0	74	115.1	187.0	190.4	190.4	194.6	200.7	198.6	199.1
30S	35W	02DBC 01	372754101065801	430.0	225	240.5		315.8	322.2		310.9	332.0	324.6
30S	35W	19BCD 01	372528101114301	430.0	134	153.3	206.8		206.6	207.4	204.3	213.3	207.4
30S	36W	01BBB 01	372826101125501	400.0	98	130.4	220.8	217.6	214.5	224.3	232.7	226.5	224.8
30S	36W	04ABB 01	372825101153801	590.0	113		152.3		163.6		152.7	160.6	141.5
30S	36W	32BBC 01	372357101171501	370.0	113	122.5	180.0	183.9	183.9	187.5	195.0	197.7	200.6
30S	37W	02BAA 02	372826101201102	480.0	122	221.7	308.9	311.5	309.0	311.8	314.7		
30S	37W	03DBA 01	372759101210001	558.0	120		283.8		283.8		295.4	301.7	289.9
30S	37W	20CBC 02	372515101235102									249.3	243.7
30S	38W	13CCC 01	372556101260201	560.0	102	146.7	231.5	228.1	231.6		229.3	233.6	
30S	38W	15DBC 01	372608101273901	360.0	89	118.7	200.2	201.9	202.4	206.5	212.1	214.3	215.7
30S	38W	30ACA 01	372442101304601	380.0	69	82.1		209.0	209.4		207.3	218.2	218.4

GRAHAM COUNTY (cont'd)

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950 -1998	1966 -1998	1997 -1998	1950 -1998	1966 -1998	1950	1998	1950 -1998
06S 24W 14AAA 01	TO	2527				5.7					
06S 24W 28BAB 01	TO	2478		3		0.4	0.1				
06S 25W 12CCC 01	TO	2538	224	-6		0.4	-0.1		89	83	-7
06S 25W 28CBC 01	TO	2540	180	-5	-11.1	-6.0	-0.1	-0.3	71	66	-7
07S 22W 10BBC 01	TO	2217	72	-3		-1.0	-0.1		66	63	-5
07S 22W 19BBB 01	TO	2295	63	7		-2.4	0.1		24	31	29
07S 24W 08CBA 01	TO	2519	244	6		1.0	0.1		118	124	5
07S 25W 24BBB 01	TO	2495	210	0		0.3	0.0		125	125	0
07S 25W 33DDD 01	TO	2502				2.2					
08S 21W 17ABB 01	QA	2035				-1.5					
08S 22W 18CDC 01	QA	2122				0.0					
08S 24W 23ACC 01	QA	2242				-0.4					
08S 25W 24BAB 01	TO	2302				0.0					
09S 23W 26BAA 01	TO	2380				0.2					
09S 24W 22BAA 01	TO	2491	110	7		-1.1	0.1		16	23	44
09S 25W 14DDD 01	TO	2534	134	2		0.5	0.0		44	46	5

GRANT COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1940 -1998	1966 -1998	1997 -1998	1940 -1998	1966 -1998	1940	1998	1940 -1998
27S 35W 17ADD 01	QU, TO	3086	462	-110	-99.5	-2.5	-1.9	-3.1	287	177	-38
27S 35W 25BDC 01	TO	3046				-2.9					
27S 36W 21DCC 01	QU, TO	3132		-110		-1.4	-1.9				
27S 37W 04ABB 01	QU, TO	3080	316	-126	-109.5	-0.8	-2.2	-3.4	246	120	-51
27S 37W 16AAD 01	TO, KJ	3075	324	-178		-0.2	-3.1		270	92	-66
27S 37W 21BDD 01	TO, KJ	3058		-155		2.1	-2.7				
27S 38W 12ADC 01	QU, TO	3076	280	-174	-142.1	0.3	-3.0	-4.4	246	72	-71
27S 38W 15BBB 01	KJ	3148			-54.3	-1.8		-1.7			
27S 38W 23CBB 01	QU, TO	3105	335	-126	-78.2	-5.1	-2.2	-2.4	285	159	-44
28S 35W 03DBB 01	TO	3079				-0.4					
28S 35W 05BCC 01	QU, TO	3117	457								
28S 35W 36ABC 01	QU, TO	3032	572	-118	-103.4	-1.7	-2.0	-3.2	350	232	-34
28S 36W 18ABC 01	TO, KJ	3050	345	-153		2.4	-2.6		250	97	-61
28S 37W 02BBB 04	TO, KJ	3072				1.3					
28S 38W 12BCB 01	QU, TO	3087				-1.1					
28S 38W 33BDB 01	TO	3125				-0.8					
29S 35W 07CBD 01	QU, TO	3036	441	-88		6.9	-1.5		273	186	-32
29S 35W 24BAA 01	TO	3037	562	-123		-4.6	-2.1		323	200	-38
29S 35W 28ACC 01	QU, TO	2975	500	-135	-96.5	0.2	-2.3	-3.0	353	218	-38
29S 36W 19BCB 01	QU, TO	2995	405	-175	-101.2	13.5	-3.0	-3.2	361	186	-48
29S 36W 33ADB 01	QU, TO	3011	466	-161		1.5	-2.8		375	214	-43
29S 37W 03CDB 01	QU, TO	3051	421	-176	-114.0	3.0	-3.0	-3.6	350	174	-50
29S 37W 08CBA 01	QU, TO	3065	430								
29S 37W 29BBA 01	QU, TO	3095	504	-217	-142.8	2.1	-3.7	-4.5	430	213	-50
29S 38W 20CDC 01	QU, TO, KD	3139	489	-148	-125.7	2.7	-2.6	-3.9	430	283	-34
29S 38W 35CCD 01	QU, TO	3124	469	-125	-84.0	-0.5	-2.2	-2.6	395	270	-32
30S 35W 02DBC 01	QU, TO	3020	525	-100	-84.1	7.4	-1.7	-2.6	300	200	-33
30S 35W 19BCD 01	QU, TO	3004	474	-73	-54.1	5.9	-1.3	-1.7	340	267	-21
30S 36W 01BBB 01	QU, TO	2973	463	-127	-94.4	1.7	-2.2	-3.0	365	238	-35
30S 36W 04ABB 01	QU, TO, KD	3033	493	-29		19.1	-0.5		380	352	-7
30S 36W 32BBC 01	QU, TO	3064	384	-88	-78.1	-2.9	-1.5	-2.4	271	183	-32
30S 37W 02BAA 02	QU, TO	3102	507								
30S 37W 03DBA 01	QU, TO, KD	3108	458	-170		11.8	-2.9		338	168	-50
30S 37W 20CBC 02	QU, TO	3125				5.6					
30S 38W 13CCC 01	QU, TO, KD	3142	467								
30S 38W 15DBC 01	QU	3144	360	-127	-97.0	-1.4	-2.2	-3.0	271	144	-47
30S 38W 30ACA 01	QU, TO	3152	377	-149	-136.3	-0.2	-2.6	-4.3	308	159	-48

GRAY COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1940	1966	1992	1993	1994	1995	1996	1997	1998
24S 27W 08CCC 01	375819100185601	138.0	66	59.1	78.5	77.9	76.7	79.6		80.0	79.8
24S 27W 14ABB 01	375811100145901	92.0	74	66.2	65.1	65.7	63.4	64.0	64.6	63.6	63.4
24S 27W 29BCC 01	375607100185701	155.0	72		89.1	88.8		89.8	91.2	90.9	92.1
24S 27W 31CDD 01	375459100195001				94.2	94.3	93.4	94.6	95.3	96.1	96.5
24S 28W 28BBA 01	375626100241701		93		112.9	112.7	112.1	113.8	114.3	116.4	116.9
24S 28W 31DD 01	375451100254401	265.0	91	87.9	130.8	129.9	128.1	131.3	131.9	134.3	134.7
24S 29W 16DCA 01	375735100302001	222.0	98	96.2	119.0		116.6	118.7	119.2	120.0	120.9
24S 29W 18CCB 01	375736100331301	220.0	106	109.8	134.4	132.4	131.8	135.3	137.0	137.6	139.0
24S 30W 15CCC 02	375732100363002				145.9	146.8	145.0	148.1	149.9	152.2	153.9
24S 30W 33ADD 01	375521100363801		130			162.1	160.3	162.9	166.2	169.0	169.0
25S 27W 33ABB 01	375018100171901	249.0	134	131.8	140.9	141.9	142.5		143.2	143.2	143.5
25S 29W 07BCB 01	375339100331401		131	129.0	152.4	152.6	152.4	154.9	156.9	158.4	159.9
25S 29W 14ABB 01	375258100281701	316.0	107	107.1	139.8		138.8		143.2	145.3	145.7
25S 30W 20BCB 01	375159100384101	44.7	9	9.8	16.2	18.0	18.9	21.8	12.8	10.1	9.5
26S 27W 12CDD 01	374746100132901								40.9	37.9	37.9
26S 27W 27CDD 01	374502100153401	230.0	33			68.4	67.7	70.1	71.8	72.1	73.6
26S 28W 06DDC 01	374848100250301		9		15.5	16.8	17.1	18.4	14.1	12.4	10.5
26S 29W 35CCC 01	374417100280401	218.0	72	71.6	119.5	121.3	122.6	125.4		136.3	134.3
26S 30W 01ABC 01	374924100325901	232.0			75.5		73.4	79.6	79.6	78.5	78.3
26S 30W 24DDD 01	374557100323401	210.0	54		111.9	113.7	109.7	111.4	115.8	117.3	120.4
27S 27W 01BAA 01	374403100132401				95.7	97.8	98.5	100.0	101.8	103.4	104.5
27S 27W 07ADC 01	374251100182601	200.0	82	74.0	109.1		110.4	112.3	115.0	117.3	119.0
27S 27W 10CDB 01	374231100154201	237.0	131	123.4	153.8	154.5	157.8	157.4	158.4	159.8	159.6
27S 28W 05AAA 01	374411100235101	228.0	66		109.1	110.6	111.7	117.3	115.9	118.0	118.9
27S 28W 30CCA 01	374001100254501	195.0	78		120.0	121.3	122.4	124.3		131.7	130.4
27S 29W 27CAA 01	374014100284601	317.0	83		122.0	124.4	126.1	128.9	131.2	134.8	135.8
27S 30W 08BBB 01	374317100375501	200.0	68	66.6	124.3	126.2		131.9	137.4	137.8	141.2
27S 30W 23BBC 01	374125100344101	275.0					130.5			141.1	144.3
27S 30W 34CCC 01	373900100354401	225.0	102	101.0	163.5	164.6	166.0	168.5	172.4	175.1	177.1
28S 27W 03BBB 01	373848100155901	250.0	166		189.8	192.6	191.0	192.9	194.5	194.9	195.3
28S 29W 16ACC 01	373651100294301	205.0	121	125.0	168.5		169.8	170.7	171.2	172.1	172.6
28S 30W 10DDD 01	373714100344601	285.0	115	120.9	180.6	181.8	182.7	184.0	186.1	186.9	188.1
28S 30W 17BBA 01	373709100374701	300.0	110	110.4	177.5	179.3	181.2	184.2	186.8	189.6	191.5
28S 30W 24BAB 01	373614100331601	242.0	114	119.5	179.2	178.6	179.3	180.6	182.5	183.5	184.3
29S 27W 30BCC 01	372942100192201	187.0	87	103.0	146.7	147.3	148.8	149.6	153.4	154.4	157.0
29S 28W 28CDC 01	372922100232701	204.0	88	91.2	133.9	137.6	138.9	140.8	143.7	145.5	148.6
29S 29W 10ABB 01	373247100283801	170.0			135.9	131.3	136.8		136.5	133.6	135.0
29S 29W 27BCB 01	372957100291101	302.0	98	101.0	150.3	152.0	153.2	155.1	157.6	158.9	160.0
29S 30W 22BBC 01	373054100354401	289.0	144	144.6		211.6	213.7	216.5	218.4	222.3	224.2
29S 30W 35ACD 01	372855100335801	261.0	146	147.8		217.1	221.9	221.5	224.8	228.4	229.2

GREELEY COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
16S 39W 02BDC 01	384139101354901	190.0	81		155.4	149.5	149.3	150.7	156.7	154.2	155.4
16S 39W 22DCB 01	383841101363801	163.0	95	88.8			139.9	141.0	142.7	142.8	143.8
16S 40W 15ACC 01	383954101432401	204.0	114	119.9	156.3		157.0	162.8	162.4	159.9	160.6
16S 40W 17CBC 01	383941101461201				164.8	165.2	165.6	167.7	166.0	168.7	170.2
16S 40W 26ADA 01	383815101415101	210.0	93		121.1	120.9	121.3	122.0	122.3	122.5	122.3
16S 41W 20ABC 01	383915101522101						175.5	174.5	179.6	181.6	178.5
16S 42W 22BCB 01	383909101572301	237.0	183	198.5	207.3	201.5	207.0	204.8	202.8	203.1	202.8
16S 42W 25AAA 01	383829101540901				185.8	186.1	185.9	187.5	190.4	191.7	189.6
17S 39W 02BAA 01	383643101354101	232.0	102		118.8	120.7	121.1	124.5	121.6	121.6	121.9
17S 39W 22ABB 01	383405101363901	194.0	118	123.3	132.3	139.3	137.1	139.9	137.5	137.8	138.0
17S 39W 34CCB 01	383141101371201	194.0	95		96.6		101.5	100.8	98.8	101.0	98.9
17S 40W 15CCB 01	383418101435701	200.0	123	127.0	139.7		140.4	140.6	141.2	141.3	141.8
17S 40W 17BBA 01	383458101460201	227.0	165		186.0	186.1	185.6	189.5	195.3	199.5	199.2
17S 40W 31BBA 01	383220101470801	250.0	151	168.1	161.5		161.7	162.4	163.8	163.1	164.1
17S 42W 28DAB 01	383247101573601						28.0	34.3	32.9	28.1	27.8

GRAY COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1940	1966	1997	1940	1966	1940	1998	
				-1998	-1998	-1998	-1998	-1998	1940	1998	
24S 27W 08CCC 01	QU, TO	2697	138	-14	-20.7	0.2	-0.2	-0.6	72	58	-19
24S 27W 14ABB 01	QU, TO	2654	92	11	2.8	0.2	0.2	0.1	18	29	61
24S 27W 29BCC 01	QU, TO	2703	152	-20		-1.2	-0.3		80	60	-25
24S 27W 31CDD 01	QU, TO	2709				-0.4					
24S 28W 28BBA 01	QU, TO	2750	240	-24		-0.5	-0.4		147	123	-16
24S 28W 31DD 01	QU, TO	2754	264	-44	-46.8	-0.4	-0.8	-1.5	173	129	-25
24S 29W 16DCA 01	QU, TO	2787	222	-23	-24.7	-0.9	-0.4	-0.8	124	101	-19
24S 29W 18CCB 01	QU, TO	2814	220	-33	-29.2	-1.4	-0.6	-0.9	114	81	-29
24S 30W 15CCC 02	QU, TO	2846				-1.7					
24S 30W 33ADD 01	TO	2857	282	-39		0.0	-0.7		152	113	-26
25S 27W 33ABB 01	QU, TO	2728	249	-10	-11.7	-0.3	-0.2	-0.4	115	106	-8
25S 29W 07BCB 01	QU, TO	2830	281	-29	-30.9	-1.5	-0.5	-1.0	150	121	-19
25S 29W 14ABB 01	QU, TO	2776		-39	-38.6	-0.4	-0.7	-1.2			
25S 30W 20BCB 01	QU, TO	2734	184	-1	0.3	0.6	0.0	0.0	175	175	0
26S 27W 12CDD 01	QU, TO	2592				0.0					
26S 27W 27CDD 01	QU, TO	2612	222	-41		-1.5	-0.7		189	148	-22
26S 28W 06DDB 01	QA, QU	2647	147	-2		1.9	0.0		138	137	-1
26S 29W 35CCC 01	QU, TO	2742	242	-62	-62.7	2.0	-1.1	-2.0	170	108	-36
26S 30W 01ABC 01	QU, TO	2740				0.2					
26S 30W 24DDD 01	QU, TO	2754	253	-66		-3.1	-1.1		199	133	-33
27S 27W 01BAA 01	TO	2631				-1.1					
27S 27W 07ADC 01	QU, TO	2686	186	-37	-45.0	-1.7	-0.6	-1.4	104	67	-36
27S 27W 10CDB 01	QU, TO	2712	235	-29	-36.2	0.2	-0.5	-1.1	104	75	-28
27S 28W 05AAA 01	QU, TO	2707	228	-53		-0.9	-0.9		162	109	-33
27S 28W 30CCA 01	QU, TO	2738	218	-52		1.3	-0.9		140	88	-37
27S 29W 27CAA 01	QU, TO	2760	235	-53		-1.0	-0.9		152	99	-35
27S 30W 08BBB 01	QU, TO	2790	265	-73	-74.6	-3.4	-1.3	-2.3	197	124	-37
27S 30W 23BBC 01	QU, TO	2773				-3.2					
27S 30W 34CCC 01	QU, TO	2807	404	-75	-76.1	-2.0	-1.3	-2.4	302	227	-25
28S 27W 03BBB 01	QU, TO	2755	260	-29		-0.4	-0.5		94	65	-31
28S 29W 16ACC 01	QU, TO	2799	299	-52	-47.6	-0.5	-0.9	-1.5	178	126	-29
28S 30W 10DDD 01	QU, TO	2814	469	-73	-67.2	-1.2	-1.3	-2.1	354	281	-21
28S 30W 17BBA 01	TO	2817	497	-82	-81.1	-1.9	-1.4	-2.5	387	306	-21
28S 30W 24BAB 01	QU, TO	2804	429	-70	-64.8	-0.8	-1.2	-2.0	315	245	-22
29S 27W 30BCC 01	QU, TO	2655	280	-70	-54.0	-2.6	-1.2	-1.7	193	123	-36
29S 28W 28CDC 01	TO	2688	278	-61	-57.4	-3.1	-1.1	-1.8	190	129	-32
29S 29W 10ABB 01	TO	2745				-1.4					
29S 29W 27BCB 01	QU, TO	2739	494	-62	-59.0	-1.1	-1.1	-1.8	396	334	-16
29S 30W 22BBC 01	QU, TO	2816	446	-80	-79.6	-1.9	-1.4	-2.5	302	222	-26
29S 30W 35ACD 01	QU, TO	2805	445	-83	-81.4	-0.8	-1.4	-2.5	299	216	-28

GREELEY COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	
				-1998	-1998	-1998	-1998	-1998	1950	1998	
16S 39W 02BDC 01	TO	3520	220	-74		-1.2	-1.5		139	65	-53
16S 39W 22DCB 01	TO	3529	163	-49	-55.0	-1.0	-1.0	-1.7	68	19	-72
16S 40W 15ACC 01	TO	3650	192	-47	-40.7	-0.7	-1.0	-1.3	78	31	-60
16S 40W 17CBC 01	TO	3688				-1.5					
16S 40W 26ADA 01	TO	3602	157	-29		0.2	-0.6		64	35	-45
16S 41W 20ABC 01	TO	3735				3.1					
16S 42W 22BCB 01	TO	3828	237	-20	-4.3	0.3	-0.4	-0.1	54	34	-37
16S 42W 25AAA 01	TO	3763				2.1					
17S 39W 02BAA 01	TO	3511	161	-20		-0.3	-0.4		59	39	-34
17S 39W 22ABB 01	TO	3527	195	-20	-14.7	-0.2	-0.4	-0.5	77	57	-26
17S 39W 34CCB 01	TO	3505	135	-4		2.1	-0.1		40	36	-10
17S 40W 15CCB 01	TO	3607	209	-19	-14.8	-0.5	-0.4	-0.5	86	67	-22
17S 40W 17BBA 01	TO	3663	217	-34		0.3	-0.7		52	18	-65
17S 40W 31BBA 01	TO	3663	218	-13	4.0	-1.0	-0.3	0.1	67	54	-19
17S 42W 28DAB 01	TO	3762				0.3					

GREELEY COUNTY (cont'd)

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
18S 39W 07BBD 01	383028101402701	145.0	109		114.8		119.7	124.7	127.7	115.4	115.4
18S 39W 19CDA 01	382810101400801	100.0	70		75.8		77.1	76.6	78.3	74.7	75.4
18S 39W 24AAC 01	382843101341301	183.0	105		138.4	135.6	134.5	140.2	143.0	138.8	136.5

HAMILTON COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1940	1966	1992	1993	1994	1995	1996	1997	1998
21S 39W 07CBA 01	381422101385501	216.0	196	194.0	183.4	187.6	190.2	187.5	190.9	186.6	186.6
23S 39W 15ADD 01	380309101345301	144.0		130.1	133.8	130.0	130.1	130.6	131.4	130.7	130.8
23S 40W 29DDB 01	380105101433601	330.0		240.3	309.9	305.6	308.9	304.8	310.0	313.7	316.0
23S 42W 19CBB 01	380210101584801	74.0	20	24.1	26.0	25.2	25.5	24.1	27.3	24.7	23.3
23S 42W 26DCA 01	380105101534401	70.0	29	23.7	26.7	26.7	26.6	26.7	26.0	25.1	24.9
23S 42W 27DDB 01	380105101544101	70.0	23	20.0	23.2	23.1	22.6	22.6	22.3	22.0	20.6
23S 42W 34CBB 01	380025101553001	70.0	13	9.6	11.2	10.6	10.7	10.7	10.9	9.7	9.3
23S 43W 21ABA 01	380236102023501	29.0	15	15.0	14.5	14.4	14.1	14.0	12.9	12.6	11.9
23S 43W 23BCB 01	380223102010301	68.0	21	20.5	21.8	21.6	21.3	21.2	22.1	20.5	19.5
23S 43W 25CBD 02	380111101594702	83.0	8	8.8	8.7	8.6	8.3	8.6	8.3	7.5	7.3
23S 43W 26BCC 01	380124102010201	22.0	7	7.1	8.2	8.0	8.3	8.0	7.8	7.4	6.3
24S 39W 19CBC 01	375650101390001	50.0	6	6.7	9.8	9.1	9.3	9.4	8.9	8.4	7.7
24S 39W 22CCB 01	375643101355001	42.0	8	11.8	11.8	11.4	11.9	12.9	11.5	11.3	10.3
24S 39W 35BAC 01	375531101342601	40.0	9	5.4	8.8	8.4		8.4	8.2	7.6	7.5
24S 39W 35CBA 01	375512101343401	90.0	11	11.4	15.8	15.6	15.5	15.3	15.3	14.7	14.7
24S 40W 07CBB 01	375841101453401	58.0	14	13.9	17.3	15.5	15.4	15.5	14.9	14.2	13.6
24S 40W 17BBB 01	375815101442401	59.0	13		16.0	15.1	15.1	15.1	15.8	13.7	14.5
24S 40W 23AAB 01	375722101402101	68.0	26	24.4	27.4	26.5	27.4	26.8	26.3	24.8	24.6
24S 40W 31BBB 01	375538101453401	71.5		63.6	64.4	63.6	64.6	63.7	62.1	62.9	64.4
24S 41W 01DAD 01	375927101454301	45.0		14.7	27.0	26.7	25.3	24.7	22.5	19.3	20.0
24S 42W 04AAD 01	375953101553901		7	6.5	15.8	16.4		19.2	20.8	32.8	40.5
24S 42W 28DDD 01	375544101553801	200.0		160.0	166.9			169.2	171.4	169.8	169.7
24S 43W 14CBB 01	375749102010201		114	110.8	119.0	115.7	120.8	119.5	117.8	119.8	118.9
25S 39W 02CAD 01	375413101341701	40.0	24	27.9	32.9	33.1	33.4	32.1	32.0	32.4	32.2
25S 39W 23BDD 01	375149101341601	133.0		78.7	89.4	89.0		88.9	88.8	88.8	88.4
25S 40W 01CA 01	375416101394401	58.0	46	45.8		50.9	50.9	50.5		49.4	49.5
25S 40W 26BBB 01	375116101410801	255.0	213	215.0	226.3	223.9	226.4	226.7	226.3	226.3	226.7
25S 43W 03ABB 01	375446102013601	295.0		190.5	262.9	264.9	266.4	267.6	267.9	268.7	269.1
25S 43W 25CCD 01	375031101594501	225.0	101	121.4	154.4		154.1	156.4	160.3	159.8	160.3
26S 41W 20BCD 01	374638101495001	140.0	17	20.7	42.2	43.9	45.0	46.4	47.7	46.4	47.4
26S 41W 32DDB 01	374421101490901	610.0			161.2				170.0	174.0	169.5
26S 42W 10BB 02	374826101541402	370.0	52	77.2	130.2	129.8	131.2	133.2	137.7	136.6	135.9
26S 42W 17CBB 01	374708101562401	749.0		108.1	185.8	187.0	189.5	193.1	196.6	198.5	200.1
26S 42W 22DCC 02	374559101534602						182.3			199.0	199.9
26S 43W 25DCC 01	374507101580601	400.0	128		232.1	233.1	236.0	236.6	238.9	242.0	246.5

HARPER COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
32S 06W 01DDD 01	371708097544701	52.6			30.3	24.9			25.0		

GREELEY COUNTY (cont'd)

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950 -1998	1966 -1998	1997 -1998	1950 -1998	1966 -1998	1950 1998	1998	
18S 39W 07BBD 01	TO	3564	145	-6		0.0	-0.1		36	30	-17
18S 39W 19CDA 01	TO	3510	100	-5		-0.7	-0.1		30	25	-17
18S 39W 24AAC 01	TO	3467	183	-32		2.3	-0.7		78	47	-40

HAMILTON COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1940 -1998	1966 -1998	1997 -1998	1940 -1998	1966 -1998	1940 1998	1998	
21S 39W 07CBA 01	TO	3497	215	9	7.4	0.0	0.2	0.2	19	28	47
23S 39W 15ADD 01	QU, TO	3325	144		-0.7	-0.1		0.0		13	
23S 40W 29DDB 01	KD	3397			-75.7	-2.3		-2.4			
23S 42W 19CBB 01	QA, QU	3339	67	-3	0.8	1.4	-0.1	0.0	47	44	-6
23S 42W 26DCA 01	QA	3309	70	4	-1.2	0.2	0.1	0.0	41	45	10
23S 42W 27DDB 01	QA	3311	70	2	-0.6	1.4	0.0	0.0	47	49	4
23S 42W 34CBB 01	QA	3307	58	4	0.3	0.4	0.1	0.0	45	49	9
23S 43W 21ABA 01	QA	3364	29	3	3.1	0.7	0.1	0.1	14	17	21
23S 43W 23BCB 01	QA	3356	68	2	1.0	1.0	0.0	0.0	47	49	4
23S 43W 25CBD 02	QA	3335	47	1	1.5	0.2	0.0	0.0	39	40	3
23S 43W 26BCC 01	QA	3343	22	1	0.8	1.1	0.0	0.0	15	16	7
24S 39W 19CBC 01	QA	3175	65	-2	-1.0	0.7	0.0	0.0	59	57	-3
24S 39W 22CCB 01	QA	3152	42	-2	1.5	1.0	0.0	0.0	34	32	-6
24S 39W 35BAC 01	QA	3143	43	2	-2.1	0.1	0.0	-0.1	34	36	6
24S 39W 35CBA 01	QU	3146	97	-4	-3.3	0.0	-0.1	-0.1	86	82	-5
24S 40W 07CBB 01	QA	3233	58	0	0.3	0.6	0.0	0.0	44	44	0
24S 40W 17BBB 01	QA	3221	71	-2		-0.8	0.0		58	57	-2
24S 40W 23AAB 01	QA	3204	104	1	-0.2	0.2	0.0	0.0	78	79	1
24S 40W 31BBB 01	QU	3287			-0.8	-1.5		0.0			
24S 41W 01DAD 01	QA, QU	3254	45		-5.3	-0.7		-0.2		25	
24S 42W 04AAD 01	QA	3304	44	-34	-34.0	-7.7	-0.6	-1.1	37	4	-89
24S 42W 28DDD 01	KJ	3455			-9.7	0.1		-0.3			
24S 43W 14CBB 01	KJ	3452		-5	-8.1	0.9	-0.1	-0.3			
25S 39W 02CAD 01	QU, TO	3156	46	-8	-4.3	0.2	-0.1	-0.1	22	14	-36
25S 39W 23BDD 01	QU, TO	3286	133		-9.7	0.4		-0.3		45	
25S 40W 01CA 01	QU	3218	58	-4	-3.7	-0.1	-0.1	-0.1	12	9	-25
25S 40W 26BBB 01	KJ	3412		-14	-11.7	-0.4	-0.2	-0.4			
25S 43W 03ABB 01	KJ	3575			-78.6	-0.4		-2.5			
25S 43W 25CCD 01	QU, TO	3490	225	-59	-38.9	-0.5	-1.0	-1.2	124	65	-48
26S 41W 20BCD 01	QU, TO	3317	242	-30	-26.7	-1.0	-0.5	-0.8	225	195	-13
26S 41W 32DDB 01	KJ	3354				4.5					
26S 42W 10BB 02	QU, TO	3405	245	-84	-58.7	0.7	-1.4	-1.8	193	109	-44
26S 42W 17CBB 01	QU, TO, KJ	3458			-92.0	-1.6		-2.9			
26S 42W 22DCC 02	TO	3413				-0.9					
26S 43W 25DCC 01	QU, TO, KJ	3508	258	-119		-4.5	-2.1		130	12	-91

HARPER COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950 -1998	1966 -1998	1997 -1998	1950 -1998	1966 -1998	1950 1998	1998	
32S 06W 01DDD 01	QA	1360									

HARVEY COUNTY

Well number			USGS site id	Depth of well (ft)	Depth to water by year (ft)								
					1944	1974	1992	1993	1994	1995	1996	1997	1998
22S	02W	05CBD	01	380950097340901			49.4	49.6	48.3	48.7		49.2	49.1
22S	02W	29BBA	01	380653097340801	74.0		24.1	21.3	18.9	22.1	20.9	20.9	18.8
22S	03W	02DCD	01	380937097365501	86.0		41.1	38.0	34.2	38.0	37.5	37.9	35.0
22S	03W	29BAD	01	380647097402901	130.0		22.0	13.3	7.0	16.2	13.5	13.0	5.4
22S	03W	35AAA	01	380601097363601	90.0		19.0	11.4	7.7	14.5	11.4	12.0	6.6
23S	01W	28AAD	01	380133097253501			22.5	20.5	19.2	21.8	18.9	19.5	19.1
23S	02W	22CCD	01	380146097315501	107.0		18.4	15.5	14.4	17.6	15.1	14.5	12.1
23S	02W	34DCC	01	380001097313001			16.9	13.8	16.7	16.7	16.5	16.6	16.1
23S	03W	06DDD	01	380423097410101	148.0		78.2	69.3	66.8	74.9	72.4	71.7	65.5
23S	03W	14AAC	01	380318097364301	153.0		42.3	37.2	33.9	39.3	36.8	36.6	31.9
23S	03W	32DCC	02	380002097401702	101.0		12.5	11.3	8.0		9.3		9.0
23S	03W	32DCC	03	380002097401703								10.5	10.0
24S	01W	05AAB	01	375955097264801			28.9	25.3	21.0	27.1	24.1	24.0	24.3
24S	01W	19BCC	01	375658097284601			25.6	25.5	21.0	26.0	23.3	23.0	21.7
24S	01W	22BCC	01	375658097252701			29.3	27.6	24.6	29.1	26.6	25.8	26.0
24S	02W	28DDD	01	375540097320901	246.0		40.1	40.9	34.3	36.4	33.7	34.2	32.5
24S	03W	14BBB	01	375811097373001	36.0		16.2	16.6	16.6	16.6	16.5	16.5	16.3

HASKELL COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1940	1966	1992	1993	1994	1995	1996	1997	1998
27S 31W 24CDC 01	374044100395001	206.0	94	97.8	166.1	168.2	169.9	174.0	177.4	180.4	182.0
27S 31W 31BCC 01	373929100453601	250.0	151	154.8	219.8	221.3	224.4	230.1	234.4	236.6	234.9
27S 32W 03CBB 01	374342100485201		92		159.0	160.8	163.2	169.1	174.4	178.6	
27S 32W 06CBB 01	374343100520801	298.0	107		176.2	179.7	182.2	187.6	192.4	197.2	201.4
27S 32W 19CCD 01	374046100520101	400.0	118	130.0	211.3	216.9	218.4	223.5	235.0	239.8	244.3
27S 33W 19CDC 01	374046100582701						267.9			276.8	279.3
27S 34W 16DDD 01	374136101020901	450.0			210.5	213.9			223.5		
27S 34W 16DDD 02	374136101020902	400.0					212.6	218.2	223.5	227.1	230.6
27S 34W 28DAA 02	374011101020902	410.0			258.3	261.0	262.1	271.0	279.3	281.4	284.2
28S 31W 35CCB 01	373352100411301	312.0	156	171.9	228.8	229.7	231.3	232.5	235.0	239.0	240.0
28S 32W 17CDD 01	373624100503901	580.0					315.6			327.4	329.6
28S 32W 24BCC 01	373556100464201	250.0	175	181.5	234.7	234.9	239.3	246.8	238.1	237.6	241.3
28S 33W 20ACD 01	373607100565301	723.0							376.0	379.6	379.2
28S 34W 14CCC 01	373632101004301	422.0							382.0	384.8	386.5
29S 31W 09CB 01	373218100432101	340.0	166	169.4	238.2	240.9	247.1	246.6	252.3	254.1	256.0
29S 32W 04AAA 01	373340100490201	447.0			271.0	273.9	275.3	280.8	286.7	289.5	291.8
29S 32W 19CCC 01	373018100521101	325.0	208	218.2	313.1	316.1	316.6	346.6	329.8	325.7	328.3
29S 32W 26CBB 02	372944100474902	384.0	191	204.1	277.0	279.9	280.3	283.6	287.6		292.2
29S 33W 01AAB 01	373340100522701	450.0	213	226.3	351.7	350.1	348.7			363.1	363.1
29S 33W 28BCB 01	372958100563301	565.0	212		323.5	326.0	326.1	331.8	334.8	335.9	339.3
29S 33W 34DDD 01	372833100543001	412.0			332.8	335.4	336.2	340.7	344.8	348.2	350.7
30S 31W 26ABB 01	372454100404001				235.7	236.6	235.4	236.2	238.5	240.3	253.1
30S 32W 22BBB 01	372549100485501	400.0					277.6	283.4	286.9	287.8	288.6
30S 32W 31BAB 01	372405100515601	380.0	194	202.0	276.8	279.5	280.4	284.3	284.4	288.2	289.6
30S 34W 05BBB 01	372825101041201	410.0	223	232.7	314.0	315.6		319.0	323.0	325.2	327.4
30S 34W 30ADD 02	372436101042002		63		122.2	123.7	123.8	127.4	131.4	133.0	136.9

HARVEY COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/vr)		Saturated thickness (ft)		% change saturated thickness
				1944	1974	1997	1944	1974	1944	1998	
				-1998	-1998	-1998	-1998	-1998			-1998
22S 02W 05CBD 01	QU	1468				0.1					
22S 02W 29BBA 01	QU	1424				2.1					
22S 03W 02DCD 01	QU	1450				2.9					
22S 03W 29BAD 01	QA, QU	1430				7.6					
22S 03W 35AAA 01	QU	1420				5.4					
23S 01W 28AAD 01	QU	1403				0.4					
23S 02W 22CCD 01	QU	1395				2.4					
23S 02W 34DCC 01	QA	1399				0.5					
23S 03W 06DDD 01	QU	1495				6.2					
23S 03W 14AAC 01	QU	1450				4.7					
23S 03W 32DCC 02	QU	1445									
23S 03W 32DCC 03	QU	1444				0.5					
24S 01W 05AAB 01	QU	1394				-0.3					
24S 01W 19BCC 01	QU	1383				1.3					
24S 01W 22BCC 01	QU	1390				-0.2					
24S 02W 28DDD 01	QU	1403				1.7					
24S 03W 14BBB 01	QA	1430				0.2					

HASKELL COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/vr)		Saturated thickness (ft)		% change saturated thickness
				1940	1966	1997	1940	1966	1940	1998	
				-1998	-1998	-1998	-1998	-1998			-1998
27S 31W 24CDC 01	QU, TO	2816	366	-88	-84.2	-1.6	-1.5	-2.6	272	184	-32
27S 31W 31BCC 01	QU, TO	2895	520	-84	-80.1	1.7	-1.4	-2.5	369	285	-23
27S 32W 03CBB 01	TO	2872									
27S 32W 06CBB 01	QU, TO	2905	465	-94		-4.2	-1.6		358	264	-26
27S 32W 19CCD 01	QU, TO	2906	456	-126	-114.3	-4.5	-2.2	-3.6	338	212	-37
27S 33W 19CDC 01	TO	3009				-2.5					
27S 34W 16DDD 01	QU, TO	3000									
27S 34W 16DDD 02	TO	2995				-3.5					
27S 34W 28DAA 02	TO	3042				-2.8					
28S 31W 35CCB 01	QU, TO	2863	443	-84	-68.1	-1.0	-1.4	-2.1	287	203	-29
28S 32W 17CDD 01	TO	2948				-2.2					
28S 32W 24BCC 01	QU, TO	2910	549	-66	-59.8	-3.7	-1.1	-1.9	374	308	-18
28S 33W 20ACD 01	TO	2976				0.4					
28S 34W 14CCC 01	TO	3013				-1.7					
29S 31W 09CB 01	QU, TO	2871	466	-90	-86.6	-1.9	-1.6	-2.7	300	210	-30
29S 32W 04AAA 01	TO	2914				-2.3					
29S 32W 19CCC 01	QU, TO	2923	598	-120	-110.1	-2.6	-2.1	-3.4	390	270	-31
29S 32W 26CBB 02	QU, TO	2895		-101	-88.1		-1.7	-2.8			
29S 33W 01AAB 01	QU, TO	2946	601	-150	-136.8	0.0	-2.6	-4.3	388	238	-39
29S 33W 28BCB 01	QU, TO	2963	558	-127		-3.4	-2.2		346	219	-37
29S 33W 34DDD 01	TO	2950				-2.5					
30S 31W 26ABB 01	TO	2834				-12.8					
30S 32W 22BBB 01	TO	2876				-0.8					
30S 32W 31BAB 01	QU, TO	2906	466	-96	-87.6	-1.4	-1.7	-2.7	272	176	-35
30S 34W 05BBB 01	QU, TO	3006	531	-104	-94.7	-2.2	-1.8	-3.0	308	204	-34
30S 34W 30ADD 02	QU, TO	2843		-74		-3.9	-1.3				

HODGEMAN COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1940	1966	1992	1993	1994	1995	1996	1997	1998
21S 22W 12BCB 01	381430099414001	75.6		35.5	56.7	63.3	52.4		52.8		
22S 22W 13CCC 01	380752099414101	49.4		24.0	39.2	38.4	29.5		32.2	25.2	25.1
22S 24W 14BBC 01	380833099560201	560.0			285.0	246.7	254.0	258.9	255.0		252.4
22S 24W 15BDA 01	380827099564301	588.0			281.9	261.3	254.8	259.9	263.9	255.6	254.6
22S 24W 24DDD 01	380701099535801	410.0			177.8	163.2		158.1	162.3	152.9	153.3
22S 24W 25DDC 01	380609099540701	330.0			156.6	138.0	127.7		144.2	128.1	128.9
22S 24W 26DDA 01	380616099550401	240.0			158.6	158.1			156.7	152.3	145.2
22S 24W 35DAC 01	380530099551301	282.0			137.7	115.5	106.7	115.3	127.0	107.0	108.3
23S 22W 07DAA 01	380351099461501	482.0			90.2	90.6	80.2		79.6	81.8	85.2
23S 23W 04AAD 01	380504099504001	282.0			45.5	33.0	26.6	32.0	40.3	25.2	26.8
23S 23W 04DCA 01	380432099505701	264.0			46.2	34.2	24.9			24.9	25.5
23S 23W 12ABD 01	380412099473801	245.0			66.9	70.3	74.5			66.9	66.8
23S 24W 11DAA 01	380352099550501	300.0			156.5	129.2	118.9	142.6	141.6	125.1	126.3
23S 26W 07CCC 01	380335100132701	500.0			325.0	318.1	314.1	314.9	317.2	315.7	314.1
23S 26W 20CCC 01	380149100122201	100.0			47.7		44.0		44.7	44.2	42.9
23S 26W 26AAD 01	380135100081001	102.0			69.0	68.4	67.2	67.2	66.6	66.9	67.3
23S 26W 31CDD 01	380005100130401	90.0	71		71.1	70.5	70.8	69.0	68.6	68.3	68.2
24S 21W 20CBB 01	375653099392401	169.0			77.5	76.5	75.9	75.9	75.5	75.2	74.5
24S 23W 03CCC 01	375912099503201	90.0			63.2	62.0	58.7	62.3	61.8	60.3	60.3
24S 23W 06AAB 01	375958099530101	517.0			214.7	209.5	205.7	207.6	214.7	203.9	201.5
24S 24W 02CCC 01	375911099560301	90.0			68.7	70.1	67.0	68.7	71.7	71.9	71.1
24S 24W 20CCC 01	375636099592101	73.0			64.5	64.2	64.8	63.6	64.0	63.8	63.4
24S 25W 22BAB 01	375719100033001				87.3	85.9	82.4	85.2	85.6	85.2	83.5
24S 26W 35CBC 01	375502100090801	86.5	63		59.5	59.4	58.4	61.5	58.5	56.4	56.6

JACKSON COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)							
			1944	1974	1992	1993	1994	1995	1996	1997
06S 15E 27BAB 01	393024095435701	123.0		76.2	89.8	90.4	90.6			91.6

JEFFERSON COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
11S 16E 25CBA 01	390347095352701	39.5		26.1		25.3				24.2	26.4
11S 17E 27BBC 01	390407095310901	42.0		17.7		18.0				15.7	18.8
11S 18E 08DAC 01	390617095255301	49.0		15.1		13.4				8.0	7.6
11S 19E 29CCA 01	390334095195801	71.0		19.7		20.6				18.3	21.9

JOHNSON COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
12S 22E 29BBD 01	385853094594901	46.0				21.5				18.7	19.8

HODGEMAN COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1940 -1998
				1940 -1998	1966 -1998	1997 -1998	1940 -1998	1966 -1998	1940	1998	
21S 22W 12BCB 01	QA	2157									
22S 22W 13CCC 01	QA	2152			-1.1	0.1		0.0			
22S 24W 14BBC 01	KD	2460									
22S 24W 15BDA 01	KD	2463				1.0					
22S 24W 24DDD 01	KD	2360				-0.4					
22S 24W 25DDC 01	KD	2332				-0.8					
22S 24W 26DDA 01	KD	2365				7.1					
22S 24W 35DAC 01	KD	2312				-1.3					
23S 22W 07DAA 01	KD	2239				-3.4					
23S 23W 04AAD 01	KD	2235				-1.6					
23S 23W 04DCA 01	KD	2236				-0.6					
23S 23W 12ABD 01	KD	2256				0.1					
23S 24W 11DAA 01	KD	2335				-1.2					
23S 26W 07CCC 01	KD	2612				1.6					
23S 26W 20CCC 01	TO	2594				1.3					
23S 26W 26AAD 01	TO	2590				-0.4					
23S 26W 31CDD 01	TO	2621	122	3		0.1	0.1		51	54	6
24S 21W 20CBB 01	TO, KD	2348				0.7					
24S 23W 03CCC 01	TO	2422	90			0.0				30	
24S 23W 06AAB 01	KD	2457				2.4					
24S 24W 02CCC 01	TO	2478	90			0.8				19	
24S 24W 20CCC 01	TO	2511	86			0.4				23	
24S 25W 22BAB 01	TO	2545				1.7					
24S 26W 35CBC 01	TO	2609		6		-0.2	0.1				

JACKSON COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1944 -1998
				1944 -1998	1974 -1998	1997 -1998	1944 -1998	1974 -1998	1944	1998	
06S 15E 27BAB 01	QU	1135									

JEFFERSON COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1950 -1998
				1950 -1998	1966 -1998	1997 -1998	1950 -1998	1966 -1998	1950	1998	
11S 16E 25CBA 01	QA	873			-0.3	-2.2		0.0			
11S 17E 27BBC 01	QA	860			-1.1	-3.1		0.0			
11S 18E 08DAC 01	QA	852			7.5	0.4		0.2			
11S 19E 29CCA 01	QU	848			-2.2	-3.6		-0.1			

JOHNSON COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1950 -1998
				1950 -1998	1966 -1998	1997 -1998	1950 -1998	1966 -1998	1950	1998	
12S 22E 29BBD 01	QA	791									

KEARNY COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1940	1966	1992	1993	1994	1995	1996	1997	1998
22S 35W 23CDD 01	380713101075501	175.0	95	107.6	134.7	135.2	135.8	136.3	136.9	137.3	136.8
22S 37W 34BBC 01	380606101223501	184.0			137.2	138.9	136.7	136.7	136.4	137.6	136.8
23S 35W 05ACC 01	380500101110501	180.0	118	122.7	151.8	150.7	151.6	151.2	151.9	151.8	151.9
23S 35W 12CCC 02	380344101071302						146.6			140.1	132.7
23S 35W 16BBC 01	380329101103001	263.0	52		136.4	136.7	133.0	136.0	136.5	135.9	131.3
23S 35W 25BBB 03	380153101071303									98.7	91.2
23S 36W 04CBB 01	380452101170901	197.0	142	132.9	146.7	145.9	143.8	146.8	144.7	145.7	143.9
23S 36W 32BBB 01	380057101181401	307.0	189	218.0	242.3	243.5	240.2	240.6	242.8	240.1	239.1
23S 36W 35BBB 01	380058101145601	290.0	169		214.0	213.6	213.9	213.6	212.1	212.9	212.1
23S 37W 04ABC 01	380510101231101	300.0	183		192.5	201.4	192.4	191.9	190.9	191.9	190.8
23S 37W 28CCB 01	380108101234301	300.0	218	236.9	256.2	257.2	254.3	253.8	253.0	254.2	251.9
24S 35W 09CCC 01	375828101103101	253.0	30	31.0	43.5	38.2	38.9	40.3	36.8	40.0	34.4
24S 35W 24BCB 01	375718101071301	325.0	11		27.8	28.1	27.5	29.7	28.8	28.8	27.9
24S 36W 23CBB 02	375702101145602	280.0	26	24.8	32.3	31.4	30.7	31.0	30.3	29.3	28.0
25S 35W 02BAA 01	375454101075401	300.0	52		111.2	112.3	113.4	115.3	118.1	121.0	121.4
25S 35W 04BDD 01	375433101100601	299.0	40		75.9	76.3	77.6		80.8	82.4	83.4
25S 35W 17AAA 01	375307101103901		37		113.6	113.3	115.1	115.8	119.8	120.8	126.2
25S 35W 26BAB 01	375124101080201		70		163.5	164.8	166.7	169.2	175.8	181.7	183.2
25S 36W 14B 01	375257101144301	370.0			95.8	93.7	95.9	98.9	92.9	96.8	92.9
25S 36W 28CBD 01	375049101165801	512.0						116.9	118.8	118.3	119.4
25S 36W 35CCA 01	374951101144601				116.4	117.4	119.1	122.5	125.4	127.1	129.2
25S 37W 15ABA 02	375305101215502	29.0	5		9.8	9.9	9.0	9.0	8.0	7.4	6.6
25S 38W 08CAA 01	375328101305701	120.0	30	37.5	45.0	45.1	45.0	45.0	45.0	44.6	44.5
25S 38W 20ACC 01	375150101304801	127.0	65	63.2	81.0	77.9	77.2	82.0	69.5	87.4	70.4
26S 35W 29BBD 01	374544101103701		113		198.8	201.0	203.5	207.5	212.0	215.0	218.7
26S 36W 01DBB 01	374902101122201	140.0						120.8	124.5	127.3	
26S 36W 22CCA 01	374606101145401	254.0	125		194.0	196.5	199.5	202.9	205.8	209.8	211.0
26S 37W 06ACB 01	374917101242701	47.0		26.1	28.8	27.6	27.8	27.3	28.7	25.8	24.2

KINGMAN COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1944	1974	1992	1993	1994	1995	1996	1997	1998
27S 05W 24CDC 01	374050097491601	42.0	14	12.6	18.6	16.2	14.2	17.1	14.1	15.8	14.9
27S 05W 33ABB 02	373951097521902	40.0	25	4.0	7.2	3.9	8.6	10.5	7.2	4.5	3.3
27S 06W 12CCD 01	374225097555101	52.0	7	6.6	12.3	7.4	10.0	11.4	8.6	6.3	4.9
27S 06W 16CCB 01	374139097591601	30.0	1	0.9	3.8	2.4	3.7	3.9	2.9	2.4	1.7
27S 07W 03ADC 01	374332098040101	55.0	20	8.2	11.9	8.9	7.9	11.2	8.7	3.8	
27S 07W 23BCC 01	374055098034401	14.0		7.3	8.9	7.7	7.0	8.1	6.7	7.2	6.6
27S 08W 14DDC 01	374123098092701	35.0	2	0.6	2.8	1.0	1.5	2.4	1.4	0.9	-0.1
27S 08W 17DAB 01	374143098124601	113.0	45	34.4	41.1	40.8	37.4	40.1	38.4	39.5	38.4
27S 08W 35CBC 01	373859098101701	57.0	32	20.4	24.0	22.7	21.0	23.1	21.9	21.6	20.9
27S 09W 29AAA 01	374023098190401	36.0	30		26.2	25.3	23.8	25.6	25.3	26.4	26.0
27S 10W 03DDD 01	374309098232301	170.0	33	51.0	56.1	55.5	52.5	53.9	54.3	55.1	54.6
27S 10W 17DDD 01	374123098253201	84.0	77	61.9	65.6	66.1	62.1	63.9	64.6	65.5	65.3
27S 10W 24DAD 01	374045098211401	42.0	20	16.0		18.5	16.3	16.7		18.2	17.1
28S 07W 29CDD 01	373422098063301	76.0	30	26.6	28.0	26.9	25.9	26.9	26.4	26.8	25.5
28S 07W 35CCD 01	373331098033301	73.0	23	21.9	22.6	21.9	20.9	23.1	21.0	21.4	19.5
28S 08W 21BBB 01	373602098123001	43.0	1	2.3	3.1	2.7	2.0	2.3	2.1	2.1	1.9
28S 08W 26ABC 01	373503098094301	164.0	77	63.2	62.2	62.7	59.2	60.1	59.8	61.3	61.4
28S 09W 01BCC 01	373819098154001	65.0	15	7.5	8.5	7.3	7.5	8.4	7.7	7.3	6.7
28S 09W 21AAA 01	373601098175901	84.0	34	28.1	30.2	30.3	27.8	29.4	28.9	29.3	28.1
28S 09W 29CCC 01	373422098200201	76.0	30	32.7	35.1	34.7	32.4	34.1	33.3	33.9	32.2
28S 09W 34AAB 01	373417098170201	76.0	41	42.8	45.4	45.2	44.2	43.8	43.5	43.8	42.3
28S 10W 16BCB 01	373641098252501	150.0	51	50.2	52.9	52.6	53.2	50.8	51.1	51.5	49.5
29S 10W 19DDB 01	373008098264801	125.0			26.9	24.0	24.8	26.6	25.0	23.1	22.5
30S 05W 12CCA 01	372659097491801	63.0			22.2	21.9		21.7	22.3	21.4	20.1
30S 10W 05BBD 01	372803098262201	148.0			46.9	46.4	43.3	46.3	44.1	44.0	40.4
30S 10W 28DAC 01	372408098243901	124.0			23.9	21.8	19.8	23.6	20.7	18.6	16.6

KEARNY COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1940	1966	1997	1940	1966	1940	1998	1940
				-1998	-1998	-1998	-1998	-1998			-1998
22S 35W 23CDD 01	TO	3025	175	-42	-29.2	0.5	-0.7	-0.9	80	38	-53
22S 37W 34BBC 01	TO	3230				0.8					
23S 35W 05ACC 01	TO	3096	180	-34	-29.2	-0.1	-0.6	-0.9	62	28	-55
23S 35W 12CCC 02	QU, TO	3010				7.4					
23S 35W 16BBC 01	TO	3038	263	-79		4.6	-1.4		211	132	-37
23S 35W 25BBB 03	QU, TO	3000				7.5					
23S 36W 04CBB 01	TO	3183	198	-2	-11.0	1.8	0.0	-0.3	56	54	-4
23S 36W 32BBB 01	TO	3234	305	-50	-21.1	1.0	-0.9	-0.7	116	66	-43
23S 36W 35BBB 01	TO	3193	293	-43		0.8	-0.7		124	81	-35
23S 37W 04ABC 01	TO	3281	233	-8		1.1	-0.1		50	42	-16
23S 37W 28CCB 01	TO	3303	300	-34	-15.0	2.3	-0.6	-0.5	82	48	-41
24S 35W 09CCC 01	QU, TO	2998	358	-4	-3.4	5.6	-0.1	-0.1	328	324	-1
24S 35W 24BCB 01	QA	2941	341	-17		0.9	-0.3		330	313	-5
24S 36W 23CBB 02	QU, TO	3014	310	-2	-3.2	1.3	0.0	-0.1	284	282	-1
25S 35W 02BAA 01	QU, TO	2990	400	-69		-0.4	-1.2		348	279	-20
25S 35W 04BDD 01	QU, TO	2990	410	-43		-1.0	-0.7		370	327	-12
25S 35W 17AAA 01	QU, TO	2995	405	-89		-5.4	-1.5		368	279	-24
25S 35W 26BAB 01	QU, TO	3005	450	-113		-1.5	-1.9		380	267	-30
25S 36W 14B 01	QU, TO	3050				3.9					
25S 36W 28CBD 01	QU, TO	3050				-1.1					
25S 36W 35CCA 01	QU, TO	3025				-2.1					
25S 37W 15ABA 02	QA	3050	30	-2		0.8	0.0		25	23	-8
25S 38W 08CAA 01	QU, TO, KJ	3140	90	-15	-7.0	0.1	-0.3	-0.2	60	46	-23
25S 38W 20ACC 01	QU, TO, KJ	3175	75	-5	-7.2	17.0	-0.1	-0.2	10	5	-50
26S 35W 29BBD 01	TO	3045		-106		-3.7	-1.8				
26S 36W 01DBB 01	QU, TO	3010									
26S 36W 22CCA 01	TO	3090	440	-86		-1.2	-1.5		315	229	-27
26S 37W 06ACB 01	QU, TO	3092	102		1.9	1.6		0.1		78	

KINGMAN COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1944	1974	1997	1944	1974	1944	1998	1944
				-1998	-1998	-1998	-1998	-1998			-1998
27S 05W 24CDC 01	QU	1477		-1	-2.3	0.9	0.0	-0.1			
27S 05W 33ABB 02	QU	1460	60	22	0.7	1.2	0.4	0.0	35	57	63
27S 06W 12CCD 01	QU	1488		2	1.7	1.4	0.0	0.1			
27S 06W 16CCB 01	QA	1462	17	-1	-0.8	0.7	0.0	0.0	16	15	-6
27S 07W 03ADC 01	QU	1545	25								
27S 07W 23BCC 01	TO	1567	14		0.7	0.6		0.0		7	
27S 08W 14DDC 01	QU	1610		2	0.7	1.0	0.0	0.0			
27S 08W 17DAB 01	QU	1665	118	7	-4.0	1.1	0.1	-0.2	73	80	10
27S 08W 35CBC 01	QU	1610	54	11	-0.5	0.7	0.2	0.0	22	33	50
27S 09W 29AAA 01	QU	1700		4		0.4	0.1				
27S 10W 03DDD 01	QU	1743	145	-22	-3.6	0.5	-0.4	-0.2	112	90	-20
27S 10W 17DDD 01	QU	1755	171	12	-3.4	0.2	0.2	-0.1	94	106	13
27S 10W 24DAD 01	QU	1692	117	3	-1.1	1.1	0.1	0.0	97	100	3
28S 07W 29CDD 01	QU	1601	151	5	1.1	1.3	0.1	0.0	121	126	4
28S 07W 35CCD 01	QU	1585		4	2.4	1.9	0.1	0.1			
28S 08W 21BBB 01	QU	1562	49	-1	0.4	0.2	0.0	0.0	48	47	-2
28S 08W 26ABC 01	QU	1652		16	1.8	-0.1	0.3	0.1			
28S 09W 01BCC 01	QA, QU	1580	55	8	0.8	0.6	0.1	0.0	40	48	20
28S 09W 21AAA 01	QU	1666	118	6	0.0	1.2	0.1	0.0	84	90	7
28S 09W 29CCC 01	QU	1708	107	-2	0.5	1.7	0.0	0.0	77	75	-3
28S 09W 34AAB 01	QU	1690	75	-1	0.5	1.5	0.0	0.0	34	33	-3
28S 10W 16BCB 01	QU	1756	154	2	0.7	2.0	0.0	0.0	103	105	2
29S 10W 19DDB 01	QU	1765				0.6					
30S 05W 12CCA 01	QU	1484				1.3					
30S 10W 05BBB 01	QU	1770				3.6					
30S 10W 28DAC 01	QU	1730				2.0					

KIOWA COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)									
			1944	1974	1992	1993	1994	1995	1996	1997	1998	
27S 16W 10BAC 01	374255099033901	94.0	28	12.1	32.3	31.1	29.2	30.6	30.4	30.6	25.6	
27S 16W 19BBD 01	374111099070401	177.0	37	20.3	37.1	37.6	34.4	36.5	36.0	35.5	32.7	
27S 16W 28CDD 01	373938099043601	130.0	65	56.7	68.4	68.8	68.5	69.6	68.9	68.9	67.3	
27S 17W 21ADC 01	374054099104501	90.0	39	24.4	38.3	39.6	37.7	39.1	38.8	38.3	36.7	
27S 18W 13AAA 01	374201099135401	66.0	24	15.6	28.3	29.2	27.1	29.1	28.9	27.5	26.3	
27S 18W 18DDC 01	374117099193001	40.1	26	15.7	21.7	22.3	22.8	23.3	23.6	23.8	24.1	
27S 18W 22ADC 01	374050099161301	136.0	29	14.1	27.3	28.1	28.4	29.2	28.3	28.3	26.8	
27S 18W 35AAC 01	373917099140101	160.0								37.5	36.9	
27S 20W 26ABD 01	374001099282201	95.0	38	40.6	45.5	45.4	45.4	46.7	46.7	47.0	46.5	
27S 20W 32ABD 01	373910099313701	123.0	36	45.2	49.4	49.0	49.0	49.6	49.4	49.3	48.4	
28S 16W 12BCA 01	373732099013501	206.0	92	101.0	103.2	104.8	103.1	103.8	104.2	103.5	103.2	
28S 16W 17AAC 01	373648099051601	196.0	120	118.0	119.4	119.7	119.8	120.3	120.6	120.3	120.3	
28S 16W 31DCA 01	373341099062501		75		70.9	71.3	70.5	71.3	71.1	70.8	71.0	
28S 17W 01CAB 01	373809099080001	154.0	65	55.6	64.0	68.4	63.6	64.1	64.6	64.2	63.1	
28S 17W 15DDB 01	373612099093801	185.0	105	96.0	99.7	100.0	101.6	100.1	100.2	100.0	99.6	
28S 18W 05CDB 01	373801099185901	170.0					81.5			83.0	82.6	
28S 18W 19CCB 01	373517099201701	134.0	103	88.0	90.5	90.8	91.0	91.3	91.8	92.0	92.3	
28S 18W 25CAC 01	373429099143301	161.0			114.5	114.7	114.6	115.2	115.6	115.6	114.8	
28S 19W 10AAC 01	373729099224501	175.0			97.4	98.1	98.4	99.4	99.7	100.1	100.2	
28S 19W 30CBC 01	373427099265001	170.0	116	115.0	114.7	114.3	114.4	114.5	114.7	113.8		
28S 19W 33CBD 01	373334099243001	163.0	133	134.0	135.1	134.7	134.8	135.1	135.4	135.4	135.8	
28S 20W 12BBD 01	373724099274801	86.0	64	55.7	58.0		58.4	59.3	59.6	59.9	59.5	
28S 20W 30ACA 01	373442099324101	89.0	32	39.4	44.5	43.9	44.0	43.8	44.7	43.8	43.3	
29S 16W 02ADB 01	373310099015901	142.0			50.8	51.1	50.8	51.7	51.3	50.8	51.5	
29S 17W 04ABC 01	373315099105901	110.0	60	50.0	52.9	53.4	54.7	53.3	52.7	52.4	52.1	
29S 17W 12DAA 01	373202099071801				49.5	49.7	49.3	49.3	48.2	48.8	48.8	
29S 18W 02ACC 01	373258099152101	188.0			143.6	143.8	143.8	138.6	138.8	138.7	138.4	
29S 18W 07BBD 01	373220099200801	229.0	155	153.5	154.5	153.6	153.8	154.3	154.7	154.1	154.5	
29S 19W 22BAA 01	373038099230801	254.0	158	157.0	156.9	156.5	156.4	156.9	157.3	157.3	157.4	
29S 20W 11CDD 01	373131099283501	200.0	170	168.0	169.3	166.2	166.5	166.3	166.5	166.3	166.3	

LABETTE COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1944	1974	1992	1993	1994	1995	1996	1997	1998
31S 21E 15CCC 02	372026095060702	17.4		7.3		6.9	11.1		14.7	11.1	11.1

LANE COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
16S 29W 26CCD 01	383743100295901	749.0	90	89.2	109.5	109.2	108.5	108.1	109.0	109.3	107.5
16S 29W 33BAB 01	383736100320301	149.0			111.2	110.7	110.2	110.3	110.7	110.0	109.3
16S 30W 24DCC 01	383836100350501		109		124.5	123.4	124.0	124.9	125.3	122.8	118.9
16S 30W 29CDD 01	383743100393801	172.0	121		129.9	129.3	128.7	128.7	128.9	128.4	128.3
17S 27W 20CCC 01	383320100201101		84			100.7	99.1	100.1	102.5	98.9	100.6
17S 27W 26CCC 01	383227100165301	127.0	80		95.4	95.4	92.4	94.6	94.4	94.2	94.5
17S 28W 07BBB 01	383551100275501	110.0	83		101.4	101.0	100.2	100.5	102.2	102.1	100.3
17S 28W 15BBC 01	383452100243601	110.0	84		107.5	107.1	106.6	107.0		105.7	105.5
17S 28W 26ABB 01	383314100225601	140.0	85	88.2	104.0	103.0	102.2	103.3	103.7	102.4	104.1
17S 28W 34CBB 01	383155100243401	140.0	78		96.2	95.0	94.2	92.3	96.2	95.0	93.6
17S 29W 10BAC 01	383545100305601	175.0			112.8	112.0	112.1			113.3	112.6
17S 29W 36BAA 01	383222100283401		70		89.2	89.1	89.0	89.6	90.3	88.9	88.1
17S 30W 13CBB 01	383433100353601		84	83.9	94.9	93.6	92.9	93.9	94.7	94.1	93.8
17S 30W 20BBB 01	383407100400201	165.0	87		123.4		105.9	107.9	116.9	108.0	107.4
18S 27W 13CCC 01	382857100154501	95.4	88	86.1	85.9	86.1	85.9	85.5	85.2	85.0	84.9

KIOWA COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1944	1974	1997	1944	1974	1944	1998	
				-1998	-1998	-1998	-1998	-1998	1944	1998	
27S 16W 10BAC 01	QU	2088	248	2	-13.5	5.0	0.0	-0.6	220	222	1
27S 16W 19BBD 01	QU	2112	182	4	-12.4	2.8	0.1	-0.5	145	149	3
27S 16W 28CDD 01	QU	2120	168	-2	-10.6	1.6	0.0	-0.4	103	101	-2
27S 17W 21ADC 01	QU	2140	175	2	-12.3	1.6	0.0	-0.5	136	138	1
27S 18W 13AAA 01	QU	2152	219	-2	-10.7	1.2	0.0	-0.4	195	193	-1
27S 18W 18DDC 01	QU	2192	187	2	-8.4	-0.3	0.0	-0.4	161	163	1
27S 18W 22ADC 01	QU	2175	210	2	-12.7	1.5	0.0	-0.5	181	183	1
27S 18W 35AAC 01	QU	2160				0.6					
27S 20W 26ABD 01	QU	2274	174	-9	-5.9	0.5	-0.2	-0.2	136	128	-6
27S 20W 32ABD 01	QU	2308	108	-12	-3.2	0.9	-0.2	-0.1	72	60	-17
28S 16W 12BCA 01	QU	2111	211	-11	-2.2	0.3	-0.2	-0.1	119	108	-9
28S 16W 17AAC 01	QU	2165	245	0	-2.3	0.0	0.0	-0.1	125	125	0
28S 16W 31DCA 01	QU	2110	192	4		-0.2	0.1		117	121	3
28S 17W 01CAB 01	QU	2135	180	2	-7.5	1.1	0.0	-0.3	115	117	2
28S 17W 15DDB 01	QU	2178	191	5	-3.6	0.4	0.1	-0.2	86	91	6
28S 18W 05CDB 01	QU	2225				0.4					
28S 18W 19CCB 01	QU	2268		11	-4.3	-0.3	0.2	-0.2			
28S 18W 25CAC 01	QU	2220				0.8					
28S 19W 10AAC 01	QU	2270				-0.1					
28S 19W 30CBC 01	QU	2335	185								
28S 19W 33CBD 01	QU	2325	220	-3	-1.8	-0.4	-0.1	-0.1	87	84	-3
28S 20W 12BBD 01	QU	2288	190	5	-3.8	0.4	0.1	-0.2	126	131	4
28S 20W 30ACA 01	QU	2319	69	-11	-3.9	0.5	-0.2	-0.2	37	26	-30
29S 16W 02ADB 01	QU	2040				-0.7					
29S 17W 04ABC 01	QU	2125	122	8	-2.1	0.3	0.1	-0.1	62	70	13
29S 17W 12DAA 01	QU	2100				0.0					
29S 18W 02ACC 01	QU, KD	2251	196			0.3				58	
29S 18W 07BBD 01	QU	2311	256	1	-1.0	-0.4	0.0	0.0	101	102	1
29S 19W 22BAA 01	QU	2340	250	1	-0.4	-0.1	0.0	0.0	92	93	1
29S 20W 11CDD 01	QU	2398		4	1.7	0.0	0.1	0.1			

LABETTE COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1944	1974	1997	1944	1974	1944	1998	
				-1998	-1998	-1998	-1998	-1998	1944	1998	
31S 21E 15CCC 02	QU	836			-3.8	0.0		-0.2			

LANE COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	
				-1998	-1998	-1998	-1998	-1998	1950	1998	
16S 29W 26CCD 01	TO	2803	140	-18	-18.3	1.8	-0.4	-0.6	50	33	-34
16S 29W 33BAB 01	TO	2813				0.7					
16S 30W 24DCC 01	TO	2840	155	-10		3.9	-0.2		46	36	-22
16S 30W 29CDD 01	TO	2884	174	-7		0.1	-0.1		53	46	-13
17S 27W 20CCC 01	TO	2717	127	-17		-1.7	-0.4		43	26	-40
17S 27W 26CCC 01	TO	2678	127	-15		-0.3	-0.3		47	33	-30
17S 28W 07BBB 01	TO	2785	170	-17		1.8	-0.4		87	70	-20
17S 28W 15BBC 01	TO	2760	150	-22		0.2	-0.5		66	45	-32
17S 28W 26ABB 01	TO	2735	140	-19	-15.9	-1.7	-0.4	-0.5	55	36	-35
17S 28W 34CBB 01	TO	2747	132	-16		1.4	-0.3		54	38	-30
17S 29W 10BAC 01	TO	2807				0.7					
17S 29W 36BAA 01	TO	2784	119	-18		0.8	-0.4		49	31	-37
17S 30W 13CBB 01	TO	2846	151	-10	-9.9	0.3	-0.2	-0.3	67	57	-15
17S 30W 20BBB 01	TO	2889	165	-20		0.6	-0.4		78	58	-26
18S 27W 13CCC 01	TO	2674	95	3	1.2	0.1	0.1	0.0	7	10	43

LANE COUNTY (cont'd)

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
18S 28W 18ACC 01	382925100271801	104.0	51		66.0	64.6	61.7	61.6	61.3	57.0	56.5
18S 29W 04DDA 01	383056100311801	110.0					67.9	68.9	70.4	66.8	66.8
18S 30W 02AAA 01	383130100354301	130.0	68		91.0	88.3	85.3	85.9	86.3	84.8	84.3
18S 30W 04BAB 01	383130100383801	130.0	69		77.4	76.9	76.4	76.8	77.6	76.2	76.4
18S 30W 23AAA 01	382853100354201	150.0	55		63.5	61.3	60.3	59.4	58.8	58.2	58.3

LEAVENWORTH COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1944	1974	1992	1993	1994	1995	1996	1997	1998
12S 22E 22CAA 01	385926094572001	48.0		13.7		22.8				22.6	24.4

LOGAN COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
11S 32W 01BCC 01	390738100494401						114.9			113.9	114.4
11S 32W 19AAB 01	390521100542901	185.0	92		105.5	105.1	104.6	104.4	104.5	109.0	105.2
11S 32W 31CCD 01	390252100551301	135.0			73.6	68.9	67.1	68.3		65.9	69.2
11S 32W 36ABA 01	390336100490501	134.0			92.4	91.9	91.8	96.4		97.5	98.3
11S 33W 10BDD 01	390646100581301	185.0			118.4	117.9	116.8	116.7	118.1	116.2	118.2
11S 33W 14DCC 01	390528100565901	203.0			133.7	137.5	132.0	132.8	134.2	133.9	135.2
11S 34W 13AAB 01	390615101021601	214.0			142.0	144.7	144.1	143.6	144.7		144.7
11S 34W 16CDB 01	390537101060901	142.0	122	118.4	120.9	121.0	120.8	120.4	123.8	119.8	121.7
11S 36W 06ADD 02	390741101205902	220.0	142	137.0	178.9	175.0	171.9	171.7	172.4	175.0	175.7
11S 37W 01DCD 01	390715101222201				167.9	167.7		168.3	170.5	173.3	173.0
13S 36W 20CCB 01	385421101210001	32.0			10.8	11.3	10.0	10.9	10.8	8.8	9.6

MCPHERSON COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1944	1974	1992	1993	1994	1995	1996	1997	1998
17S 05W 07CBB 01	383514097552401	30.0							18.8	18.2	18.7
17S 05W 22BAA 01	383355097514001	70.0							12.9	15.4	16.3
18S 03W 30CCC 01	382702097420701	208.0			115.0	113.9	112.9	114.3	113.5	114.6	113.5
18S 04W 21CCC 01	382755097463301	80.0			14.4	12.5	9.5	11.8	11.5	12.2	11.4
19S 01W 32DAC 01	382110097265601	114.0			47.8	46.4	45.3	46.1	45.2	41.9	45.2
19S 03W 16BCB 01	382406097395501	190.0			101.5	100.8	99.8	100.7	100.4	100.8	100.3
19S 04W 15AAC 01	382413097443601	226.0			89.1	87.6	86.6	87.8	88.8	89.5	90.7
20S 01W 22BBB 01	381813097253201	66.0			12.7	9.4	7.4	11.2	8.2	8.4	6.6
20S 03W 22DAA 01	381747097375101	76.0			43.2	42.1	40.6	42.0	41.3	44.8	45.1
20S 03W 30BBA 01	381721097415901	99.0			58.1	58.0	56.9	57.9	57.1	58.7	58.8
20S 04W 15BDD 01	381847097450101	91.0			57.3		55.6	56.6	56.5	57.0	56.8
20S 04W 27DAC 01	381649097443601	129.0			48.0	46.1	43.9	46.5	45.4	46.4	45.9
21S 02W 12BBB 01	381444097295401				15.3	13.4	11.8	12.7	10.2	9.0	7.0
21S 02W 28CBA 01	381141097330401	101.0			41.0	40.5	36.8	39.4	38.5	39.4	
21S 02W 36ACA 01	381102097291201				14.5	10.6	9.4	12.4	9.7	11.1	8.7
21S 03W 06CBD 01	381504097415701	140.0			49.1	48.5	46.0	47.8	47.9	49.0	48.5
21S 03W 22BBB 01	381300097384401	130.0			35.4	34.6	31.0	34.0	33.1	34.7	32.1
21S 03W 33BBC 01	381109097395001	180.0			52.2	49.9	43.3	47.7	47.0	47.9	44.2
21S 04W 26CDC 01	381122097435901	133.0			42.5	36.5	29.6	36.3	35.1	36.4	31.7

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change (ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	1950
				-1998	-1998	-1998	-1998	-1998	-1998	-1998	-1998
18S 28W 18ACC 01	TO	2764	95	-6		0.5	-0.1		44	39	-11
18S 29W 04DDA 01	TO	2801				0.0					
18S 30W 02AAA 01	TO	2849	124	-16		0.5	-0.3		56	40	-29
18S 30W 04BAB 01	TO	2872	125	-7		-0.2	-0.1		56	49	-13
18S 30W 23AAA 01	TO	2848	150	-3		-0.1	-0.1		95	92	-3

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1944 -1998	1974 -1998	1997 -1998	1944 -1998	1974 -1998	1944 -1998	1944 -1998	
12S 22E 22CAA 01	QA	785		-10.7	-1.8		-0.4				

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	1950
				-1998	-1998	-1998	-1998	-1998	1950	1998	-1998
11S 32W 01BCC 01	TO	3040				-0.5					
11S 32W 19AAB 01	TO	3073	183	-13		3.8	-0.3		91	78	-14
11S 32W 31CCD 01	TO	3054				-3.3					
11S 32W 36ABA 01	TO	3009				-0.8					
11S 33W 10BDD 01	TO	3113				-2.0					
11S 33W 14DCC 01	TO	3117				-1.3					
11S 34W 13AAB 01	TO	3184									
11S 34W 16CDB 01	TO	3218	170	0	-3.3	-1.9	0.0	-0.1	48	48	0
11S 36W 06ADD 02	TO	3380	220	-34	-38.7	-0.7	-0.7	-1.2	78	44	-44
11S 37W 01DCD 01	TO	3369				0.3					
13S 36W 20CCB 01	QA	3023	30			-0.8				20	

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1944 -1998	1974 -1998	1997 -1998	change (ft/yr)				1944 -1998
							1944 -1998	1974 -1998			
									1944 -1998	1974 -1998	
17S 05W 07CBB 01	QU	1424			-0.5						
17S 05W 22BAA 01	QA	1400			-0.9						
18S 03W 30CCC 01	QU	1515			1.1						
18S 04W 21CCC 01	QU	1412			0.8						
19S 01W 32DAC 01	QU	1590			-3.3						
19S 03W 16BCB 01	QU	1511			0.5						
19S 04W 15AAC 01	QU	1494			-1.2						
20S 01W 22BBB 01	QU	1527			1.8						
20S 03W 22DAA 01	QU	1473			-0.3						
20S 03W 30BBA 01	QU	1476			-0.1						
20S 04W 15BDD 01	QU	1474			0.2						
20S 04W 27DAC 01	QU	1467			0.5						
21S 02W 12BBB 01	QU	1503			2.0						
21S 02W 28CBA 01	QU	1467									
21S 02W 36ACA 01	QU	1475			2.4						
21S 03W 06CBD 01	QU	1464			0.5						
21S 03W 22BBB 01	QU	1450			2.6						
21S 03W 33BBC 01	QU	1461			3.7						
21S 04W 26CDC 01	OU	1445			4.7						

MEADE COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)									
			1940	1966	1992	1993	1994	1995	1996	1997	1998	
30S 26W 04CBB 01	372746100103701	228.0	11	20.7	74.3	64.0	65.0	69.5	75.3	69.0	67.0	
30S 26W 13ABB 01	372628100064701				68.4	69.6	69.5	69.9	70.2	70.6	70.5	
30S 26W 32DDD 01	372304100104601		16		22.5	18.1	21.5	23.1	23.7	20.4	21.5	
30S 27W 20ABA 01	372539100171401				75.1	72.8	73.8	75.9	80.6	79.0	79.0	
30S 27W 23ABB 01	372539100142501	210.0	12	16.5	63.0	54.3	54.5	57.8	65.3	58.5	56.1	
30S 27W 27BBB 01	372446100160201	320.0			37.8	32.2	33.3	35.5	43.0	37.0	35.6	
30S 27W 32DDD 01	372307100171401		26	11.8	9.6	7.3	6.9	7.5	7.4	6.1	5.9	
30S 28W 17ABB 01	372638100241701	311.0	102	109.6	157.4	158.8	160.9	167.5	166.1	167.4	169.4	
30S 28W 33AAA 01	372359100224701		85		131.4	132.4	134.2	136.0	138.2	139.4	140.6	
30S 29W 23CAD 01	372513100274101		134	141.3	192.8	194.1	195.9	197.8	202.6		203.8	
30S 29W 28BBB 01	372455100301701	400.0	137	137.8	194.5		197.1	198.9	200.8	202.0	204.0	
30S 30W 06CCC 01	372740100390101	398.0	152		217.1	219.3	221.4	223.7	226.6	228.8	229.2	
30S 30W 28ABB 01	372454100361701	450.0	150	145.9	208.1	209.9	210.2	211.9	214.3	215.3	216.7	
31S 26W 30BBB 01	371931100115501	212.0	98		106.3	106.8	107.2	107.9		108.0	104.9	
31S 27W 20AAA 02	372026100162402	150.0	15		43.4		38.0	39.1	44.7	35.5	30.2	
31S 28W 02CCC 01	372220100203501	360.0			133.9	134.5	135.8	137.5	140.3	140.2	140.1	
31S 28W 10BCB 01	372200100214001	470.0	114	112.2	171.3	172.5	174.1			181.5	184.9	
31S 28W 26ABB 01	371936100200301				49.9	46.1	49.7	49.7	49.9	46.8	44.2	
31S 29W 02DBB 01	372241100263201	258.0	130		181.2	182.3	184.2	185.9	187.4	188.6		
31S 29W 25AAA 02	371938100250102		145	156.5	191.9	192.8	193.4	194.5	195.0	195.1	195.6	
31S 29W 30AAA 01	371938100302901		136	130.2	181.8	178.8	179.3	181.0	185.0	188.2	190.6	
31S 30W 16BBC 01	372117100354701		136	133.9	206.1	206.7	209.7	212.8	216.7	220.3	223.5	
32S 28W 04ADD 01	371732100214701	126.0	63	66.1	75.9	77.1	77.7	78.4	77.9	77.8	78.1	
32S 29W 27AAB 02	371425100272002	468.0	143		154.5	150.2	156.0	156.9	157.7	158.8	159.7	
32S 30W 09CCC 01	371618100354701	468.0	155	156.7	207.2	208.8	210.6	213.0	215.4	217.9	219.5	
33S 28W 29BCB 01	370857100234601	160.0	14	14.3	15.2	15.0	15.7	16.2	16.4	16.1	16.3	
33S 29W 36AAB 01	3708191002050601		81	81.3	88.5	87.0	88.8	88.8	89.2	89.1	89.5	
34S 28W 05BDA 01	370712100232201	80.0			25.6	24.0		26.9	26.8	26.8	26.5	
34S 30W 22CBC 01	370423100344401		191		202.0	202.4	202.9	203.5	204.7	205.8	206.5	
35S 30W 10CDA 01	370048100342101	260.0	23	23.1	26.5	23.2	24.6	24.9	25.4	25.0	24.8	

MORTON COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)									
			1940	1966	1992	1993	1994	1995	1996	1997	1998	
+ 31S 39W 18CCC 01	372043101363101	293.0	116	135.6	212.1	218.9	219.5	220.7	231.2	228.1	225.0	
31S 40W 29ABB 01	371945101412701	215.0	141	166.1	186.7	187.7	186.6	187.2	188.7	188.9	189.2	
31S 41W 07CDD 01	372135101491101	250.0			135.3	135.1	134.0	134.3	134.4	134.2	134.1	
31S 41W 31CBC 01	371817101492301								100.5	103.1	87.3	
31S 42W 29AAB 01	371945101541201	776.0	74	93.1	101.0	102.3	103.4	104.6	104.9	105.7	105.2	
31S 43W 03CB 01	372243101591701	108.0	61	65.7	63.9	65.6	68.1	67.0	67.5		67.5	
31S 43W 14DDC 01	372043101572701	85.6		67.7	72.1	72.3	72.6	72.6	73.3	73.2	73.3	
32S 40W 07BDC 01	371649101424801	385.0	52		112.3	112.7	113.6	113.4	113.9	114.7	114.8	
32S 40W 21ADB 01	371511101400401		132	156.0	196.3		200.5	192.9	196.1	194.9	194.8	
32S 41W 15CDC 01	371531101460301	317.0		18.0	23.5	23.9	24.3	24.4	25.4	24.5	25.3	
32S 41W 35DCC 01	371255101444201	310.0			188.4		182.8	174.5	181.8	182.0	179.4	
32S 42W 14CCC 01	371531101514501	187.0		90.6	127.0	127.8	129.6		130.9	135.2	131.4	
32S 42W 21BCC 01	371505101535601	196.0	64	113.6	157.7	158.0	159.6	160.1	157.9	156.5	153.4	
32S 42W 26CDD 01	371347101512101	196.0	75	102.0	126.8	124.3	124.0		169.6	159.8	158.5	
32S 43W 08CBD 01	371636102012301	410.0	45		102.5	101.5	110.2	114.5	115.3	107.2	106.5	
32S 43W 28BBC 01	371426102002601	390.0			67.0	67.1	68.4		71.5	71.0	71.2	
33S 39W 04DBB 01	371221101334301	377.0	87		104.5	104.8	105.3	110.3	116.8	111.8	114.0	
33S 39W 16ABB 01	371103101334301	422.0	82	70.0	80.6	84.8	81.3	82.7	85.7	84.8	86.4	
33S 40W 27CCC 01	370835101394701	123.0	98	80.0	82.0	82.5	82.6	81.9	82.7	82.0	82.1	
33S 41W 03ADA 01	371235101452101						165.8	166.0	167.2	167.1	167.0	
33S 42W 05DCC 01	371203101542801	167.0			71.3	71.1	72.3	73.6	72.9	74.2		
33S 42W 21BCB 01	371000101535601	100.0	87	85.0	89.4	90.1		90.2	91.2	90.8	91.8	
33S 43W 09DBA 01	371130101594601	270.0					92.7	93.3	94.0	95.0	95.9	
34S 39W 06CCA 01	370655101362201	500.0	140		119.7	120.3	120.1	120.8	122.6	124.5	123.8	
34S 40W 16ABB 01	370552101401901	405.0	163		143.3	147.3	144.9	143.4	144.4	143.9	145.5	

MEADE COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1940-1998
				1940-1998	1966-1998	1997-1998	1940-1998	1966-1998	1940	1998	
30S 26W 04CBB 01	QU, TO	2525	415	-56	-46.3	2.0	-1.0	-1.4	404	348	-14
30S 26W 13ABB 01	QU, TO	2575				0.1					
30S 26W 32DDD 01	QU, TO	2488	388	-6		-1.1	-0.1		372	367	-1
30S 27W 20ABA 01	QU, TO	2564				0.0					
30S 27W 23ABB 01	QU, TO	2531	321	-44	-39.6	2.4	-0.8	-1.2	309	265	-14
30S 27W 27BBB 01	QU, TO	2518				1.4					
30S 27W 32DDD 01	QU, TO	2475	315	20	5.9	0.2	0.3	0.2	289	309	7
30S 28W 17ABB 01	QU, TO	2697	517	-67	-59.8	-2.0	-1.2	-1.9	415	348	-16
30S 28W 33AAA 01	QU, TO	2646	466	-56		-1.2	-1.0		381	325	-15
30S 29W 23CAD 01	QU, TO	2744	544	-70	-62.5		-1.2	-2.0	410	340	-17
30S 29W 28BBB 01	QU, TO	2758	553	-67	-66.2	-2.0	-1.2	-2.1	416	349	-16
30S 30W 06CCC 01	QU, TO	2825	449	-77		-0.4	-1.3		297	220	-26
30S 30W 28ABB 01	QU, TO	2803	508	-67	-70.8	-1.4	-1.2	-2.2	358	291	-19
31S 26W 30BBB 01	QU, TO	2516		-7		3.1	-0.1				
31S 27W 20AAA 02	QU, TO	2466	326	-15		5.3	-0.3		311	296	-5
31S 28W 02CCC 01	QU, TO	2623				0.1					
31S 28W 10BCB 01	QU, TO	2643	463	-71	-72.7	-3.4	-1.2	-2.3	349	278	-20
31S 28W 26ABB 01	QU, TO	2496				2.6					
31S 29W 02DBB 01	QU, TO	2720	420	-59		-1.2	-1.0		290	231	-20
31S 29W 25AAA 02	QU, TO	2698	438	-51	-39.1	-0.5	-0.9	-1.2	293	242	-17
31S 29W 30AAA 01	QU, TO	2741	461	-55	-60.4	-2.4	-0.9	-1.9	325	270	-17
31S 30W 16BBC 01	QU, TO	2770	505	-88	-89.6	-3.2	-1.5	-2.8	369	282	-24
32S 28W 04ADD 01	QU, TO	2546	366	-15	-12.0	-0.3	-0.3	-0.4	303	288	-5
32S 29W 27AAB 02	QU, TO	2688	555	-17		-0.9	-0.3		412	395	-4
32S 30W 09CCC 01	QU, TO	2764	504	-65	-62.8	-1.6	-1.1	-2.0	349	285	-18
33S 28W 29BCB 01	TO	2371	160	-2	-2.0	-0.2	0.0	-0.1	146	144	-1
33S 29W 36AAB 01	QU, TO	2463	283	-9	-8.2	-0.4	-0.2	-0.3	202	194	-4
34S 28W 05BDA 01	QU	2350				0.3					
34S 30W 22CBC 01	TO	2675	675	-16		-0.7	-0.3		484	469	-3
35S 30W 10CDA 01	QA	2393	318	-2	-1.7	0.2	0.0	-0.1	295	293	-1

MORTON COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1940-1998
				1940-1998	1966-1998	1997-1998	1940-1998	1966-1998	1940	1998	
+ 31S 39W 18CCC 01	QU, TO, KD	3246	226	-109	-89.4	3.1	-1.9	-2.8	110	1	-99
31S 40W 29ABB 01	QU, TO	3331	233	-48	-23.1	-0.3	-0.8	-0.7	92	44	-52
31S 41W 07CDD 01	KD	3441				0.1					
31S 41W 31CBC 01	KJ	3441				15.8					
31S 42W 29AAB 01	QU, TO, KJ	3510		-31	-12.1	0.5	-0.5	-0.4			
31S 43W 03CB 01	QU, TO, KD	3609		-7	-1.8		-0.1	-0.1			
31S 43W 14DDC 01	KD	3576			-5.6	-0.1		-0.2			
32S 40W 07BDC 01	QU, TO, KJ	3302		-63		-0.1	-1.1				
32S 40W 21ADB 01	QU, TO	3342	237	-63	-38.8	0.1	-1.1	-1.2	105	42	-60
32S 41W 15CDC 01	QU, TO, KD	3360			-7.3	-0.8		-0.2			
32S 41W 35DCC 01	QU, TO, KJ	3420				2.6					
32S 42W 14CCC 01	QU, TO	3500			-40.8	3.8		-1.3			
32S 42W 21BCC 01	QU, TO	3526	186	-89	-39.8	3.1	-1.5	-1.2	122	33	-73
32S 42W 26CDD 01	QU, TO, KD	3485	175	-84	-56.5	1.3	-1.4	-1.8	100	17	-83
32S 43W 08CBD 01	QU, TO, KJ	3615		-62		0.7	-1.1				
32S 43W 28BBC 01	QU, TO, KJ	3526				-0.2					
33S 39W 04DBB 01	QU, TO	3237	357	-27		-2.2	-0.5		270	243	-10
33S 39W 16ABB 01	QU, TO, KD	3234	344	-4	-16.4	-1.6	-0.1	-0.5	262	258	-2
33S 40W 27CCC 01	QU, TO	3308	323	16	-2.1	-0.1	0.3	-0.1	225	241	7
33S 41W 03ADA 01	TO	3430				0.1					
33S 42W 05DCC 01	QU, TO	3525									
33S 42W 21BCB 01	QU, TO	3527	167	-5	-6.8	-1.0	-0.1	-0.2	80	75	-6
33S 43W 09DBA 01	QU, TO, KJ	3612				-0.9					
34S 39W 06CCA 01	QU, TO, KJ	3310	355	16		0.7	0.3		215	231	7
34S 40W 16ABB 01	QU, TO	3363	388	18		-1.6	0.3		225	243	8

MORTON COUNTY (cont'd)

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)									
			1940	1966	1992	1993	1994	1995	1996	1997	1998	
34S 41W 26DCD 01	370322101443201	289.0	120			164.5	162.8	162.8	163.7	164.6	164.0	163.2
34S 41W 28CBA 01	370342101471501	300.0				125.0	127.2			131.4	122.0	122.0
34S 42W 05BDC 01	370717101544501	75.0	31	38.4		39.8	39.8	40.0	39.9	40.2		39.4
34S 42W 22CDB 01	370422101523401	120.0	92			80.1	80.3	80.5	80.6	80.9	81.6	81.6
35S 39W 06CDD 01	370136101360401	460.0	175			218.5	220.2	217.3	214.6	229.6	226.7	228.8
35S 40W 03BBB 02	370224101394602	227.0				181.3	181.6	181.0	182.6	183.6	184.0	185.5
35S 41W 16CCD 01	370001101472201	350.0	80			220.9	223.9	224.3	222.7	224.7	224.0	
35S 42W 02DBB 01	370159101511101	380.0				173.4	177.1	174.7	175.3	176.2	176.6	176.8
35S 43W 04AAC 01	370217101593801	160.0	76			90.2	90.5	91.3	93.0	94.4	94.8	95.9
35S 43W 13BDB 01	370027101565601	271.0	151				190.2	193.9	194.8	197.6	200.2	201.1

NEMAH COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
05S 11E 10ADB 01	393803096100101	284.0							64.7	59.9	59.4

NESS COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
16S 24W 15ABB 01	384006099574601	38.0			29.8	29.5	28.2	28.3	28.0	27.9	27.8
16S 26W 24DDA 01	383839100081701	92.0				62.2	58.4			57.5	58.1
18S 21W 25AAB 01	382749099352001	50.0			30.0	27.8	24.2	26.0	26.4	24.9	25.6
18S 21W 31CAA 01	382632099411501	44.0			31.5	28.5	28.6	27.7	27.4	26.5	26.7
18S 24W 36ADB 01	382645099551201	59.0			32.5	32.2	31.3	32.1	32.0	32.0	32.2
18S 25W 33BBC 01	382656100055901	48.0			28.9	26.0	19.6	18.5	16.6	15.0	14.8
18S 26W 06BAB 02	383129100142402	48.0			7.7	7.4	6.9	7.1	7.1	6.9	6.9
19S 23W 01CCB 01	382526099492301	450.0			89.4	88.8	87.3	87.7	87.6	87.4	86.9
19S 23W 08CBB 01	382447099534801	52.0			22.0	20.6	16.1	17.8	18.1	17.6	17.3
20S 22W 20CCC 01	381728099470701				47.8	46.3	40.6	40.5	40.3	38.9	37.4
20S 22W 35BCC 01	381609099434801	68.0			48.4	45.3	37.8	37.6	37.9	36.0	34.7
20S 23W 32CDA 01	381550099532001	67.0			37.1	37.3	33.3	35.5	36.3	33.4	32.8
20S 26W 07BDC 01	381946100141801	50.0			24.7	22.0	19.3	20.9	20.4	19.6	20.4

NORTON COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
01S 21W 17AAA 01	395820099420601	139.0			82.6	82.5	81.1	80.1	78.9	77.8	76.9
01S 23W 15AAA 01	395819099532001	72.0			32.8	32.9	30.4	30.6	29.9	28.6	28.2
01S 24W 13BCB 01	395806099584801	133.0			115.0	115.0	114.8	114.2	113.8	113.3	113.1
01S 25W 25BBB 01	395634100053201	89.0			43.4	43.1	41.3	40.7	40.3	39.3	38.9
02S 21W 33CCC 01	394945099420101	200.0			93.8	93.5	92.3	91.8	90.4	89.8	89.3
02S 23W 22AAA 01	395214099532101	102.0			75.3	74.7	72.9	72.9	72.4	71.4	71.7
02S 25W 14AAA 01	395306100054301	228.0			140.9	141.1	140.4	140.3	139.8	138.7	138.0
04S 23W 03DDD 01	394340099532401	241.0			89.0	88.2	88.0	87.4	86.5	85.6	84.6
04S 23W 26CCC 01	394012099531601	83.0			46.2	45.7	44.6	44.3	43.5	43.0	42.7
04S 25W 13CCC 01	394156100054101	170.0			118.2	117.9	116.6	115.5	113.6	112.3	112.6
05S 21W 10AAA 01	393822099395801	17.0			10.6		5.4	6.5	7.3	7.7	8.5
05S 22W 18CCD 01	393643099505401	51.0			12.6		7.3	8.3	8.7	7.7	8.8
05S 24W 14BDC 01	393709099594501	27.0								12.0	11.4

MORTON COUNTY (cont'd)

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1940 -1998	1966 -1998	1997 -1998	1940 -1998	1966 -1998	1940 1998	1998	1940 -1998
34S 41W 26DCD 01	QU, TO	3360	290	-43		0.8	-0.7		170	127	-25
34S 41W 28CBA 01	QU, TO	3435				0.0					
34S 42W 05BDC 01	QU, TO, JM	3449	69	-8	-1.0		-0.1	0.0	38	30	-21
34S 42W 22CDB 01	QU, TO	3492	112	10		0.0	0.2		20	30	50
35S 39W 06CDD 01	QU, TO	3330	510	-54		-2.1	-0.9		335	281	-16
35S 40W 03BBB 02	QU, TO	3369				-1.5					
35S 41W 16CCD 01	QU, TO	3520									
35S 42W 02DBB 01	QU, TO	3554				-0.2					
35S 43W 04AAC 01	QU, TO	3554	179	-20		-1.1	-0.3		103	83	-19
35S 43W 13BDB 01	QU, TO	3615	305	-50		-0.9	-0.9		154	104	-32

NEMAHA COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950 -1998	1966 -1998	1997 -1998	1950 -1998	1966 -1998	1950 1998	1998	1950 -1998
05S 11E 10ADB 01	QU	1280				0.5					

NESS COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950 -1998	1966 -1998	1997 -1998	1950 -1998	1966 -1998	1950 1998	1998	1950 -1998
16S 24W 15ABB 01	TO	2500				0.1					
16S 26W 24DDA 01	TO	2587				-0.6					
18S 21W 25AAB 01	QA	2085				-0.7					
18S 21W 31CAA 01	QA	2122				-0.2					
18S 24W 36ADB 01	QA	2235				-0.2					
18S 25W 33BBC 01	QA	2402				0.2					
18S 26W 06BAB 02	QA	2570				0.0					
19S 23W 01CCB 01	KD	2214				0.5					
19S 23W 08CBB 01	QA	2220				0.3					
20S 22W 20CCC 01	QA	2189				1.5					
20S 22W 35BCC 01	QA	2168				1.3					
20S 23W 32CDA 01	QA	2233				0.6					
20S 26W 07BDC 01	QA	2538				-0.8					

NORTON COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950 -1998	1966 -1998	1997 -1998	1950 -1998	1966 -1998	1950 1998	1998	1950 -1998
01S 21W 17AAA 01	TO	2290				0.9					
01S 23W 15AAA 01	QU, TO	2340				0.4					
01S 24W 13BCB 01	TO	2425				0.2					
01S 25W 25BBB 01	TO	2405				0.4					
02S 21W 33CCC 01	TO	2280				0.5					
02S 23W 22AAA 01	TO	2378				-0.3					
02S 25W 14AAA 01	TO	2530				0.7					
04S 23W 03DDD 01	TO	2370				1.0					
04S 23W 26CCC 01	TO	2300				0.3					
04S 25W 13CCC 01	TO	2520				-0.3					
05S 21W 10AAA 01	QA	1996				-0.8					
05S 22W 18CCD 01	QA	2130				-1.1					
05S 24W 14BDC 01	QU	2250				0.6					

OSBORNE COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
06S 12W 23CDC 01	393038098374501	31.8		23.0	24.6		18.5	13.2	13.5	15.0	17.9
07S 12W 28ABA 01	392518098393601	47.0					26.9	28.7	28.8	29.3	31.1
07S 15W 10CCC 01	392710098591901	65.0		17.2			12.2	16.0	15.8	16.3	16.9

PAWNEE COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1944	1974	1992	1993	1994	1995	1996	1997	1998
21S 15W 11CBB 01	381419098565201	20.0	3	4.9	11.6	10.6	9.3	10.9	10.7	7.8	8.4
21S 15W 17CCC 01	381316098595801				18.8	17.7	12.9	15.6	16.5	14.7	14.6
21S 15W 31BAD 01	381108099005301	83.0	8	10.3	22.6	21.3	17.2	19.4	19.5	17.5	17.7
21S 16W 14ADC 01	381333099025001		5		18.7	18.2	12.3	12.5	16.0	14.6	14.7
21S 18W 32DAA 01	381047099185301	73.0	19	16.5	35.1	32.8	26.1	28.8	28.8	24.4	
21S 19W 27CCC 01	381120099241101	123.0	23		49.9	48.3	44.5	44.8	44.6	42.3	40.8
21S 19W 30BCC 01	381147099272701	72.6	29	33.3	53.2	50.3	45.8	46.0	45.8	44.3	41.7
21S 20W 29BBB 01	381207099325201	118.0	24	34.8	51.6	48.1	41.9	43.5	43.5	40.9	37.5
22S 15W 03AAA 01	381022098570001	51.0	18	15.5	32.7	33.4	31.1	31.5	32.2	32.4	32.6
22S 15W 03AAA 02	381022098570002	196.0		18.7	35.1	35.5	31.7	33.2	34.0	34.0	34.2
22S 15W 13DCA 01	380758098550501	95.0	29	17.5	42.9	43.2	39.7	41.5	42.2	42.0	42.6
22S 15W 33DDD 01	380513098580601		28		39.5	39.9	37.3	39.1	39.6	39.9	40.2
22S 16W 03CBC 02	380949099043602	45.0	8	9.4	18.3	16.6	14.0	15.7	15.5	13.3	13.4
22S 16W 06BBA 01	381021099074601	38.0	8	14.6	20.0	17.8	15.4	18.0	17.7	15.1	16.2
22S 16W 23AAA 01	380744099023201	80.0	24	21.8	40.1	40.9	39.3	39.6	39.9	39.9	40.2
22S 16W 32CDD 01	380513099062201				37.6	37.5	34.8	36.7	37.9	38.2	37.0
22S 17W 05BBC 02	381015099132702	160.0	15		28.6		21.4	23.3	24.0	19.5	17.8
22S 17W 18AAD 01	380830099133401	123.0	27		40.8	39.8	29.6	36.4	36.2	32.7	31.1
22S 17W 24CBC 01	380712099090001	120.0	12	5.6	15.5	14.4	11.0	14.8	11.4	9.3	8.5
22S 17W 27BAB 01	380652099105701	120.0			9.5	8.2	6.4	8.4	7.9	5.5	5.2
22S 19W 07AAA 01	380930099263001	165.0			66.8	63.8	56.7	58.3	63.7	55.9	55.7
22S 19W 10BBA 01	380929099240301	130.0			66.3	57.7	52.3	57.5	57.4	50.3	49.9
23S 15W 12DDB 01	380338098550101				34.2	33.3	28.7	31.5	30.0	30.8	31.4
23S 16W 11CDC 01	380328099031201	80.0			27.7	28.3	27.4	28.3	28.6	27.8	28.1
23S 16W 35CCD 02	375958099032002	87.0			34.2	33.3	29.8	33.3	32.0	28.8	28.9
23S 17W 07DBB 01	380348099135501				8.3	7.0	6.5	7.6	7.0	5.3	7.2
23S 17W 25AAC 01	380131099080901	70.0			26.5	25.8	24.5			26.0	25.9
23S 17W 33CCA 02	380005099121102				33.0	33.1	31.9	33.3	33.2	33.3	33.6
23S 18W 28DAD 01	380105099174801	50.0	5	6.3	9.4	8.5	8.1	8.7	8.7	7.8	7.5
23S 18W 36DAC 01	380013099143901	73.0	21	8.2	28.5	28.7	27.7	29.0	28.7	29.2	28.6

PHILLIPS COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
04S 18W 27DDD 01	394013099194801	47.0					8.8	10.0	10.1	9.9	10.4
04S 19W 35DDD 01	393922099253001	41.0			25.2		12.2	14.5	23.3	11.5	13.9

OSBORNE COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	
				-1998	-1998	-1998	-1998	-1998			-1998
06S 12W 23CDC 01	QU	1506			5.1	-2.9		0.2			
07S 12W 28ABA 01	QU	1531				-1.8					
07S 15W 10CCC 01	QA	1648			0.3	-0.6		0.0			

PAWNEE COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1944	1974	1997	1944	1974	1944	1998	
				-1998	-1998	-1998	-1998	-1998			-1998
21S 15W 11CBB 01	QA	1932		-5	-3.5	-0.6	-0.1	-0.1			
21S 15W 17CCC 01	QA	1961				0.1					
21S 15W 31BAD 01	QA	1972		-10	-7.4	-0.2	-0.2	-0.3			
21S 16W 14ADC 01	QA	1970		-10		-0.1	-0.2				
21S 18W 32DAA 01	QA	2056									
21S 19W 27CCC 01	QA	2077		-18		1.5	-0.3				
21S 19W 30BCC 01	QA	2087		-13	-8.4	2.6	-0.2	-0.4			
21S 20W 29BBB 01	QA	2104		-14	-2.7	3.4	-0.3	-0.1			
22S 15W 03AAA 01	QU	1970	207	-15	-17.1	-0.2	-0.3	-0.7	189	174	-8
22S 15W 03AAA 02	QU	1970	207		-15.5	-0.2		-0.6		173	
22S 15W 13DCA 01	QU	1976	171	-14	-25.1	-0.6	-0.3	-1.0	142	128	-10
22S 15W 33DDD 01	QU	2003	128	-12		-0.3	-0.2		100	88	-12
22S 16W 03CBC 02	QA	1996		-5	-4.0	-0.1	-0.1	-0.2			
22S 16W 06BBA 01	QA	2010		-8	-1.6	-1.1	-0.1	-0.1			
22S 16W 23AAA 01	QU	2011	106	-16	-18.4	-0.3	-0.3	-0.8	82	66	-20
22S 16W 32CDD 01	QU	2047				1.2					
22S 17W 05BBC 02	QA, QU	2036		-3		1.7	-0.1				
22S 17W 18AAD 01	QU	2047		-4		1.6	-0.1				
22S 17W 24CBC 01	QA	2034		4	-2.9	0.8	0.1	-0.1			
22S 17W 27BAB 01	QA, QU	2037				0.3					
22S 19W 07AAA 01	KD	2102				0.2					
22S 19W 10BBA 01	KD	2087				0.4					
23S 15W 12DDB 01	QU	1974	145			-0.6				114	
23S 16W 11CDC 01	QU	2038				-0.3					
23S 16W 35CCD 02	QU	2060				-0.1					
23S 17W 07DBB 01	QU	2070				-1.9					
23S 17W 25AAC 01	QU	2075				0.1					
23S 17W 33CCA 02	QU	2109				-0.3					
23S 18W 28DAD 01	QU	2102	51	-3	-1.2	0.3	-0.1	-0.1	46	44	-4
23S 18W 36DAC 01	QU	2116	96	-8	-20.4	0.6	-0.1	-0.9	75	67	-11

PHILLIPS COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	
				-1998	-1998	-1998	-1998	-1998			-1998
04S 18W 27DDD 01	QA	1770				-0.5					
04S 19W 35DDD 01	QA	1851				-2.4					

POTTAWATOMIE COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
09S 11E 19CDB 01	391456096140801	50.0				32.8				31.4	
09S 11E 31DCC 01	391305096135201	26.0		15.3		15.6				5.2	15.8
09S 11E 32ADC 01	391331096122601	86.0				23.9				22.8	23.9
10S 10E 10DBC 01	391134096171301	67.0		20.6		19.3				18.3	20.9
10S 11E 04ACB 01	391246096113501	85.0				26.5				26.1	28.4
10S 12E 07BBC 01	391159096073701	84.0				16.3				15.1	19.1

PRATT COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1944	1974	1992	1993	1994	1995	1996	1997	1998
26S 11W 01DDB 01	374833098280001	110.0	23	23.5	24.9	24.1	21.6	24.4	24.3	24.9	24.1
26S 11W 27AAC 01	374533098301301	140.0	23	23.1	24.4	24.2	20.8	24.7	25.2	23.4	21.1
26S 11W 29BCB 01	374526098331501	45.0	19	16.0	15.7	16.2	12.6	16.8	15.6	15.4	12.8
26S 12W 02ABA 01	374918098355201	135.0			34.0	34.7	34.6	34.0	34.1	35.0	33.6
26S 12W 17CCA 01	374646098394401	170.0	37	34.1	34.0	34.6	36.2	35.1	34.8	35.3	33.7
26S 12W 34CDC 01	374403098372301	210.0	46	43.2	44.3	45.0	42.0	45.2	44.3	43.6	42.0
26S 12W 34CDC 02	374403098372302	145.0	46	41.0	43.5	44.2	40.8	44.4	43.5	42.5	40.9
26S 13W 16DAA 01	374703098442401	160.0	20	15.6	24.6	24.1	21.3	25.7	26.8	24.1	20.9
26S 13W 19BBD 01	374631098472501	112.0	18	14.4	26.3	24.8	23.5	27.1	27.1	26.4	23.4
26S 13W 34BCB 01	374438098441601	75.3	44	46.7	50.5	50.9	49.0	51.2	52.1	51.5	49.9
26S 14W 17DBC 01	374653098523101						26.7	32.0	31.6	30.8	28.0
26S 15W 01AAB 01	374908098542801				26.8	22.9	20.3	24.9	24.0	21.1	17.1
26S 15W 17BBC 01	374717098593501	102.0			24.4	21.9	22.4	21.7	21.7	18.9	16.8
27S 11W 12CBC 01	374230098285101	86.0	51	46.3	49.7	49.6	45.5	47.5	48.0	48.8	46.9
27S 11W 31DAA 01	373905098332501	22.0	8	2.7	6.1	4.9	5.1	6.1	5.0	4.9	4.0
27S 12W 12DAA 01	374238098343001	115.0			58.5	57.6	54.8	56.8	56.7	57.2	57.1
27S 12W 33CBA 01	373907098383801	90.0	3	1.2	3.5	3.3	3.2	3.9	3.7	3.1	2.8
27S 13W 13DDC 01	374126098411501	112.0	72	57.0	58.7	59.1	58.3	58.7	58.5	58.7	57.1
27S 14W 03DAC 01	374323098500101	135.0	35		46.3	46.4	44.7	47.8	48.0	48.3	44.8
27S 14W 12DDD 01	374217098474101	158.0	53	57.7	62.4	62.1	61.9	63.2	63.8	64.0	63.2
27S 14W 21CAB 01	374052098513901	74.4	39	34.2	46.3	46.6	45.5	47.0	47.1	46.8	44.7
27S 15W 02ABC 01	374347098554501	117.0	26		35.8	34.0	33.3	34.2	36.1	34.2	29.0
27S 15W 05CDB 01	374314098591801	160.0			32.7	32.1	28.5	31.6	32.4	31.5	26.9
27S 15W 32CCA 01	373851098592501	149.0	48	45.9	55.0	55.3	59.4	54.9	56.9	54.7	53.7
27S 15W 36ADD 01	373911098541401	160.0	75	73.7	78.6	77.5	78.0	79.1	81.5	78.4	76.9
28S 11W 12ACC 01	373728098281801	123.0	36	32.1	38.4	39.9	33.6	35.9	36.3	35.9	33.7
28S 11W 20CAC 01	373529098330001	170.0	70		72.9	72.2	69.5	71.4	70.7	71.2	68.8
28S 12W 21BAD 01	373556098382201	153.0	83	81.8	83.2	83.1	81.6	82.2	81.8	82.9	82.1
28S 13W 02DDC 01	373756098422001	105.0	9	8.1	15.1	13.9	14.9	14.0	13.1	12.6	12.1
28S 13W 17AAA 01	373658098452901	135.0	72	72.0	70.8	71.0	70.3	71.2	70.8	70.4	69.9
28S 13W 26DCB 01	373432098423701	190.0	89	91.0	91.0	90.8	92.5	90.6	90.3	93.0	90.7
28S 14W 14CCC 01	373609098494301	152.0	80	76.9	78.8	78.9	78.0	79.2	79.2	78.4	80.7
28S 15W 23CCD 01	373514098560801	217.0	109	108.0	107.9	108.4	108.1	115.7	115.4	118.9	116.5
29S 11W 06AAA 01	373324098332601	83.0	50		48.1	47.7	44.5	47.2	46.3	45.4	42.3
29S 11W 09ADD 01	373213098311301	97.0	55	48.9	58.8	58.3	58.6	57.8	56.0	53.8	50.1
29S 11W 29AAD 01	372948098322001	80.0	63	57.4	64.5	65.3	63.5	64.8	63.5	58.5	58.0
29S 12W 20CCD 01	373000098394501	215.0	95	98.4	98.8	99.2	98.8	98.9	98.5	98.1	97.3
29S 13W 12ABB 01	373234098411501	87.0	76		71.4	71.3	70.8	70.9	71.3	71.1	70.4
29S 13W 31CAA 01	372838098470601	80.0	31	30.6	31.5	31.7	32.3	31.1	30.0	28.4	28.7
29S 14W 12ABB 01	373231098480401	120.0	108		99.3	99.8	99.1		99.6	98.5	99.1
29S 14W 17BBD 01	373107098521801	233.0	102		98.1	97.9	102.6	98.3	98.4	97.7	97.4
29S 15W 02CCA 01	373243098560701	190.0	78		106.5	100.2	102.8	98.6	105.4		
29S 15W 18ADA 01	373124098594001	174.0	78	86.0	90.4	94.3	93.1	94.3	103.8	85.6	91.0
29S 15W 25AAB 02	372952098542102	60.0			34.7	34.6	34.3	34.8	34.3	33.4	33.0

POTTAWATOMIE COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950 -1998	1966 -1998	1997 -1998	1950 -1998	1966 -1998	1950	1998	
09S 11E 19CDB 01	QU	975									
09S 11E 31DCC 01	QA	962			-0.5	-10.6		0.0			
09S 11E 32ADC 01	QA	968				-1.1					
10S 10E 10DBC 01	QA	973			-0.3	-2.6		0.0			
10S 11E 04ACB 01	QU	968				-2.3					
10S 12E 07BBC 01	QA	944				-4.0					

PRATT COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1944 -1998	1974 -1998	1997 -1998	1944 -1998	1974 -1998	1944	1998	
26S 11W 01DDB 01	QU	1801	171	-1	-0.6	0.8	0.0	0.0	148	147	-1
26S 11W 27AAC 01	QU	1808	143	2	2.0	2.3	0.0	0.1	120	122	2
26S 11W 29BCB 01	QU	1830	183	6	3.2	2.6	0.1	0.1	164	170	4
26S 12W 02ABA 01	QU	1880				1.4					
26S 12W 17CCA 01	QU	1906	196	3	0.4	1.6	0.1	0.0	159	162	2
26S 12W 34CDC 01	QU	1884	207	4	1.2	1.6	0.1	0.1	161	165	2
26S 12W 34CDC 02	QU	1884	207	5	0.1	1.6	0.1	0.0	161	166	3
26S 13W 16DAA 01	QU	1929	174	-1	-5.3	3.2	0.0	-0.2	154	153	-1
26S 13W 19BBD 01	QU	1953	193	-5	-9.0	3.0	-0.1	-0.4	175	170	-3
26S 13W 34BCB 01	QU	1950	230	-6	-3.2	1.6	-0.1	-0.1	186	180	-3
26S 14W 17DBC 01	QU	2010				2.8					
26S 15W 01AAB 01	QU	2020				4.0					
26S 15W 17BBC 01	QU	2050				2.1					
27S 11W 12CBC 01	QU	1783	99	4	-0.6	1.9	0.1	0.0	48	52	8
27S 11W 31DAA 01	QA	1726	126	4	-1.3	0.9	0.1	-0.1	118	122	3
27S 12W 12DAA 01	QU	1838				0.1					
27S 12W 33CBA 01	QA	1777	152	0	-1.6	0.3	0.0	-0.1	149	149	0
27S 13W 13DDC 01	QU	1897	145	15	-0.1	1.6	0.3	0.0	73	88	21
27S 14W 03DAC 01	QU	1995	220	-10		3.5	-0.2		185	175	-5
27S 14W 12DDD 01	QU	1983	252	-10	-5.5	0.8	-0.2	-0.2	199	189	-5
27S 14W 21CAB 01	QU	1998	203	-6	-10.5	2.1	-0.1	-0.4	164	158	-4
27S 15W 02ABC 01	QU	2036		-3		5.2	-0.1				
27S 15W 05CDB 01	QU	2070				4.6					
27S 15W 32CCA 01	QU	2068	193	-6	-7.8	1.0	-0.1	-0.3	145	139	-4
27S 15W 36ADD 01	QU	2050	245	-2	-3.2	1.5	0.0	-0.1	170	168	-1
28S 11W 12ACC 01	QU	1755	155	2	-1.6	2.2	0.0	-0.1	119	121	2
28S 11W 20CAC 01	QU	1840	215	1		2.4	0.0		145	146	1
28S 12W 21BAD 01	QU	1882	207	1	-0.3	0.8	0.0	0.0	124	125	1
28S 13W 02DDC 01	QA, QU	1827	179	-3	-4.0	0.5	-0.1	-0.2	170	167	-2
28S 13W 17AAA 01	QU	1938	189	2	2.1	0.5	0.0	0.1	117	119	2
28S 13W 26DCB 01	QU	1916	191	-2	0.3	2.3	0.0	0.0	102	100	-2
28S 14W 14CCC 01	QU	1984	194	-1	-3.8	-2.3	0.0	-0.2	114	113	-1
28S 15W 23CCD 01	QU	2071	271	-8	-8.5	2.4	-0.1	-0.4	162	155	-4
29S 11W 06AAA 01	QU	1828	173	8		3.1	0.1		123	131	7
29S 11W 09ADD 01	QU	1830	170	5	-1.2	3.7	0.1	-0.1	115	120	4
29S 11W 29AAD 01	QU	1849	199	5	-0.6	0.5	0.1	0.0	136	141	4
29S 12W 20CCD 01	QU	1907	232	-2	1.1	0.8	0.0	0.0	137	135	-1
29S 13W 12ABB 01	QU	1906	196	6		0.7	0.1		120	126	5
29S 13W 31CAA 01	QU	1893	154	2	1.9	-0.3	0.0	0.1	123	125	2
29S 14W 12ABB 01	QU	1988	233	9		-0.6	0.2		125	134	7
29S 14W 17DBD 01	QU	2012	222	5		0.3	0.1		120	125	4
29S 15W 02CCA 01	QU	2035	215								
29S 15W 18ADA 01	QU	2050	175	-13	-5.0	-5.4	-0.2	-0.2	97	84	-13
29S 15W 25AAB 02	QU	1960	117			0.4				84	

RAWLINS COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
01S 33W 29CCC 01	395551101031601	125.0	115	115.6	112.6	112.1	114.7	114.2	115.4	111.4	113.8
02S 31W 03CAD 01	395419100471001	42.0	15	14.7	19.3	17.1	14.9	15.2	16.2	12.4	14.7
02S 32W 20DCC 01	395130100555301	32.0	5	8.3	14.2	13.4	8.7	9.9	10.0	6.9	8.9
02S 33W 26DCC 01	395038100592301	48.0	13	19.8	25.3	22.2	18.6	19.5	20.1	16.4	18.9
02S 35W 13ABB 01	395308101114301	187.0	174	170.3		167.9	167.9	151.7	150.5	152.2	168.3
02S 35W 34CAA 01	3950061011140801	49.0	29	29.6	31.7	30.5	31.7	31.7	32.5	31.9	
02S 36W 13DDD 01	3952241011180301	262.0	186	190.1	189.3	185.9	187.0	186.4	186.3	186.1	
02S 36W 36BAA 01	395033101183701	280.0	160	169.8	168.9	173.4	173.1	172.7	174.6	175.8	173.8
03S 31W 07CBD 01	394814100505201	163.0	142	146.3		144.7	144.5	143.5	146.4	149.8	144.9
03S 33W 03DCC 01	394854101003101	68.0	22	20.6	27.0	25.3	23.4	23.6	24.3	20.3	22.4
03S 33W 08CDC 01	394802101030301	52.0	20	16.1	21.3	18.3	15.5	17.3	17.9	14.4	16.5
03S 34W 03ABB 01	394940101071501	40.0	12	13.8	14.3	12.2	10.7	12.8	13.0	10.6	12.3
03S 34W 26BAC 01	394605101062601	40.0	7	8.4	9.7	9.5	7.9	9.7	10.0	7.4	9.5
03S 35W 24CBB 01	394637101122001	50.0	21	24.7	26.3	26.0	25.4	25.9	26.2	25.1	26.6
03S 36W 14CBB 01	394730101201001	312.0	188	191.2	220.1		199.5	199.8	204.7	200.4	202.7
03S 36W 17CCC 01	394711101233201	300.0	196	195.3	211.8	210.5	199.1	212.1	214.3	212.8	214.1
03S 36W 21DBC 01	394632101215201	310.0			220.2	198.6	209.9	199.3	216.8	216.4	202.4
04S 31W 16ABD 01	394236100480601	51.0	7	7.9	12.5	11.7	7.4	9.6	8.6	7.5	8.1
04S 33W 10ABC 01	394328101003401	199.0			143.1	142.0	141.7	141.7	145.5	150.0	141.1
04S 33W 28DCA 01	394026101014201	240.0	152	151.2	152.2	152.8	148.6	148.1			145.0
04S 34W 33CBC 01	393933101090001	212.0	115	117.2	119.1	117.3	116.9	116.8	116.6	116.6	116.9
04S 35W 29DDD 01	394013101155301	165.0	150	150.1	149.6	149.6	149.5	149.5		151.3	149.1
04S 36W 23CBB 01	394125101201301	308.0			214.4	212.6	214.0	212.6	215.2	219.9	215.5
04S 36W 23DCA 01	394112101193101	289.0			212.2	211.8	212.5	211.7	213.0	213.1	212.9
05S 31W 10DDA 01	393742100464301	72.0	30	40.1		43.7	38.5	39.9	41.1	48.0	40.9
05S 31W 20CCA 01	393558100495001	70.0	22	29.7	33.5	33.0	29.7	38.3	38.4	30.3	33.2
05S 32W 14CDD 01	393644100525501	147.0	130	130.8	129.7	129.6	129.4	129.4	128.8	128.8	128.7
05S 33W 29BDA 01	393533101030001	115.0	12	17.0	20.3	19.1	17.5	15.7	17.9	17.6	18.7
05S 34W 01BBB 01	393914101053801	127.0	116	114.3	113.7	113.7	115.9	117.2	114.8	113.4	111.3
05S 34W 28ADC 01	393526101081201	250.0	127	134.1		133.1	133.1	133.9	142.1	152.6	133.8
05S 35W 30CBC 01	393513101180001	285.0			172.4	171.4	172.2	172.9	173.4		173.1
05S 36W 21BCD 01	393619101222101	56.0	17	15.5	22.5	17.6	18.0	21.8			18.9

RENO COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1944	1974	1992	1993	1994	1995	1996	1997	1998
22S 04W 12CDA 01	380851097424301	133.0			47.4	37.5	28.4	38.4	36.4	37.2	29.3
22S 04W 32BBC 01	380555097473101	77.0			19.6	12.8	9.9	17.4	14.8	16.0	12.0
22S 06W 18BCB 01	380825098015601	50.0			10.9	8.8	7.5	10.7	9.3	9.0	8.4
22S 06W 28CCB 01	380614097594201	31.0			11.2	10.2	8.3	9.5	9.0	9.0	8.3
22S 07W 17DCB 01	380758098065401	29.0		2.0	6.1	4.9	3.7	6.1	5.2	4.5	3.6
22S 08W 09DBB 01	380903098122701	88.0	35		33.8	33.0	28.0	31.9	31.0	31.2	31.0
22S 08W 23DAD 01	380712098094801	53.0		29.3	29.8	30.4	25.9	29.1	28.0	29.9	30.0
22S 08W 33CCD 02	380514098124902	27.0			10.3	8.3	6.2	9.4	8.3	8.5	7.5
22S 09W 03BBD 01	381015098182501	105.0	20	29.1	36.1	33.8	25.8	33.4	31.5	32.2	31.3
22S 09W 17BAB 01	380837098202801	76.0	10	9.8	19.7	18.3	10.7	18.9	16.8	16.3	15.9
22S 09W 25BBA 01	380652098160901	50.0		18.9	23.3	22.2	18.4	21.1	20.3	19.8	18.9
22S 10W 02DCC 01	380935098233201	38.0	12	1.6	14.1	10.0	3.8	10.1	8.1	6.6	5.6
22S 10W 08BBB 01	380929098272701	50.0	6	5.9	18.3	17.3	9.6	15.3	13.2	12.0	11.1
22S 10W 30DAA 01	380625098273401	40.0	10	3.9	16.2	12.7	7.5	10.9	8.1	7.9	7.0
23S 04W 03BAB 02	380509097450202	40.0			7.8	3.3	4.3		5.9	4.8	0.6
23S 04W 16BBB 01	380324097462401	140.0			26.1	20.1	16.0	22.8	20.5	20.8	19.1
23S 04W 30BAA 01	380139097481201				10.0	8.2	6.5	9.7	8.3	8.1	6.7
23S 05W 05DDC 01	380423097531701	61.0			20.3	19.5	15.4	17.9	16.8	18.6	18.6
23S 06W 31DCB 01	380008098011901	95.0	27	32.4	30.8	31.0	29.9	30.5	30.1	30.6	30.7
23S 07W 09DDD 01	380329098051701	45.0					6.0			8.0	6.5

RAWLINS COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1950 -1998
				1950 -1998	1966 -1998	1997 -1998	1950 -1998	1966 -1998	1950 1998	1998	
01S 33W 29CCC 01	TO	2992	144	1	1.8	-2.4	0.0	0.1	29	30	3
02S 31W 03CAD 01	QA	2665	42	0	0.0	-2.3	0.0	0.0	27	27	0
02S 32W 20DCD 01	QA	2735	32	-4	-0.6	-2.0	-0.1	0.0	27	23	-15
02S 33W 26DCC 01	QA	2798	46	-6	0.9	-2.5	-0.1	0.0	33	27	-18
02S 35W 13ABB 01	TO	3178	208	6	2.0	-16.1	0.1	0.1	34	40	18
02S 35W 34CAA 01	QA, TO	3064	112								
02S 36W 13DDD 01	TO	3286	260								
02S 36W 36BAA 01	TO	3263	280	-14	-4.0	2.0	-0.3	-0.1	120	106	-12
03S 31W 07CBD 01	TO	2960	200	-3	1.4	4.9	-0.1	0.0	58	55	-5
03S 33W 03DCC 01	QA	2823	62	0	-1.8	-2.1	0.0	-0.1	40	40	0
03S 33W 08CDC 01	QA	2855	52	4	-0.4	-2.1	0.1	0.0	32	36	13
03S 34W 03ABB 01	QA	2882	40	0	1.5	-1.7	0.0	0.0	28	28	0
03S 34W 26BAC 01	QA	2900	40	-3	-1.1	-2.1	-0.1	0.0	33	31	-6
03S 35W 24CBB 01	QA	3001	50	-6	-1.9	-1.5	-0.1	-0.1	29	23	-21
03S 36W 14CBB 01	TO	3332	309	-15	-11.5	-2.3	-0.3	-0.4	121	106	-12
03S 36W 17CCC 01	TO	3375	300	-18	-18.8	-1.3	-0.4	-0.6	104	86	-17
03S 36W 21DBC 01	TO	3345				14.0					
04S 31W 16ABD 01	QA	2761	50	-1	-0.2	-0.6	0.0	0.0	43	42	-2
04S 33W 10ABC 01	TO	3086				8.9					
04S 33W 28DCA 01	TO	3125	237	7	6.2		0.1	0.2	85	92	8
04S 34W 33CBC 01	TO	3160	210	-2	0.3	-0.3	0.0	0.0	95	93	-2
04S 35W 29DDD 01	TO	3219	224	1	1.0	2.2	0.0	0.0	74	75	1
04S 36W 23CBB 01	TO	3351				4.4					
04S 36W 23DCA 01	TO	3339				0.2					
05S 31W 10DDA 01	TO	2820	70	-11	-0.8	7.1	-0.2	0.0	40	29	-28
05S 31W 20CCA 01	TO	2865	68	-11	-3.5	-2.9	-0.2	-0.1	46	35	-24
05S 32W 14CDD 01	TO	3020	180	1	2.1	0.1	0.0	0.1	50	51	2
05S 33W 29BDA 01	TO	3042	115	-7	-1.7	-1.1	-0.1	-0.1	103	96	-7
05S 34W 01BBB 01	TO	3137	237	5	3.0	2.1	0.1	0.1	121	126	4
05S 34W 28ADC 01	TO	3207	247	-7	0.3	18.8	-0.1	0.0	120	113	-6
05S 35W 30CBC 01	TO	3336									
05S 36W 21BCD 01	QA, TO	3220	155	-2	-3.4		0.0	-0.1	138	136	-1

RENO COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1944 -1998
				1944 -1998	1974 -1998	1997 -1998	1944 -1998	1974 -1998	1944 1998	1998	
22S 04W 12CDA 01	QU	1449				7.9					
22S 04W 32BBC 01	QU	1510				4.0					
22S 06W 18BCB 01	QA	1575				0.6					
22S 06W 28CCB 01	QA	1555				0.7					
22S 07W 17DCB 01	QU	1596			-1.6	0.9		-0.1			
22S 08W 09DBB 01	QU	1670		4		0.2	0.1				
22S 08W 23DAD 01	QU	1651			-0.7	-0.1		0.0			
22S 08W 33CCD 02	QU	1660				1.0					
22S 09W 03BBD 01	QU	1712		-11	-2.2	0.9	-0.2	-0.1			
22S 09W 17BAB 01	QU	1732		-6	-6.1	0.4	-0.1	-0.3			
22S 09W 25BBA 01	QU	1705			0.0	0.9		0.0			
22S 10W 02DCC 01	QU	1736		6	-4.0	1.0	0.1	-0.2			
22S 10W 08BBB 01	QU	1764		-5	-5.2	0.9	-0.1	-0.2			
22S 10W 30DAA 01	QU	1775		3	-3.1	0.9	0.1	-0.1			
23S 04W 03BAB 02	QU	1470				4.2					
23S 04W 16BBB 01	QU	1570				1.7					
23S 04W 30BAA 01	QA	1491				1.4					
23S 05W 05DDC 01	QA	1529				0.0					
23S 06W 31DCB 01	QU	1577		-4	1.7	-0.1	-0.1	0.1			
23S 07W 09DDD 01	QA	1590				1.5					

RENO COUNTY (cont'd)

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)									
			1944	1974	1992	1993	1994	1995	1996	1997	1998	
23S 07W 13DDD 01	380238098020201	113.0	49	52.8	53.0	53.2	50.4	52.6	52.6	52.4	53.1	
23S 08W 18AAD 01	380316098140901	44.0	15	10.5	14.2	15.1	13.1	13.3	11.8	12.4	12.6	
23S 09W 05CBD 01	380435098203301	90.0	9	12.0	21.6	18.4	12.8	18.1	16.0	14.9	15.8	
23S 09W 21DDB 01	380151098184301	96.0	7	3.2	17.0	10.0	7.5	13.5	10.8	10.3	9.6	
23S 09W 35CCC 01	380000098171701	82.0	10	13.6	18.8	19.0	16.9	24.0	20.1	20.4	19.2	
23S 10W 01AAA 03	380507098214903	65.0					8.0	12.6	10.6	8.9	8.8	
23S 10W 25CAC 01	380104098223701	101.0	18	4.5		12.9	6.4	12.5	10.4	10.6	10.0	
23S 10W 29DCA 01	380057098264301	88.0			21.5	18.7	10.0	16.4	14.3	14.8	14.0	
24S 04W 05CDB 01	375915097471301	40.0			10.4	7.8	7.5	10.4	9.1	8.2	7.1	
24S 04W 25BBD 01	375619097425301	65.0			6.9	5.1	4.9	6.4	5.3	4.1	4.2	
24S 04W 31DAB 02	375507097474502	61.0					23.2	27.8	25.6	25.4	25.4	
24S 05W 10CCA 01	375823097514501	184.0			21.4	20.9	20.0	21.4	21.0	20.3	20.0	
24S 06W 03AAB 01	375955097574301	120.0			28.8	28.8	27.1	28.9	28.0	28.6	28.6	
24S 06W 23CBA 01	375652097571701	42.0			10.8	7.5	8.8	12.1	10.4	10.1	8.5	
24S 07W 08ADA 02	375849098062502				42.2	42.4	41.2	41.5	41.3	41.9	42.2	
24S 07W 28AAA 01	375625098051701	48.0	13	14.1	12.0	11.0	9.6	11.3	10.0	10.6	10.1	
24S 08W 04AB 01	375950098121501	48.0	13		14.9	12.8	9.1	13.2	11.3	11.6	12.5	
24S 08W 18BAC 01	375802098144501	52.0		2.5	8.0	3.1	4.1	6.9	6.1	6.0	5.1	
24S 08W 34DAC 01	375459098105401	60.0		6.4	6.3	5.1	4.4	5.3	4.8	5.1	4.8	
24S 09W 19DDB 01	375637098205201	90.0	17	21.9	25.2	24.0	21.0	23.7	23.2	23.9	22.9	
24S 10W 06DBB 01	375926098275201	87.0	17	17.9	26.5	24.6	16.1	21.1	20.5	21.3	19.6	
24S 10W 17DDC 01	375721098263301	72.0	9	11.8	19.4	17.1	13.7	16.6	16.5	16.0	14.5	
24S 10W 31CBC 01	375457098281801	43.0			11.0	9.8	9.1	10.3	10.3	10.0	9.1	
25S 04W 02ABB 01	375441097433301				9.8	9.0	8.8	9.8	9.4	8.1	7.8	
25S 07W 07BBD 01	375341098081801	71.0		24.3	23.6	22.8	21.5	22.6	21.8	22.5	22.0	
25S 07W 36CCC 01	374933098025301	85.0		24.5	29.3	28.5	25.7	33.4	27.7	28.3	26.7	
25S 08W 19ADB 01	375149098140701	25.0		7.3	10.6	7.1	7.9	9.7	9.1	7.9	6.2	
25S 09W 01DCD 01	375353098153101	60.0	10	12.8	15.9	14.5	11.5	14.0	13.3	14.3	13.3	
25S 09W 17BBC 01	375248098203301	52.0	7	12.6	16.3	14.4	12.6	16.4	14.9	15.7	15.0	
25S 09W 30DDA 01	375030098203901	52.0	15	16.0	18.5	16.4	16.7	18.1	17.6	17.3	16.8	
25S 10W 14BBB 01	375252098235701	85.0	25	24.9	26.9	26.6	23.6	25.9	25.9	27.3	27.1	
25S 10W 19ABD 01	375153098274401	110.0	33	27.9	30.9	30.4	26.7	30.5	29.2	31.1	30.3	
26S 06W 13BAB 01	374732097554401	50.0		7.2	12.1	6.9	8.6	10.6	9.0	6.8	6.2	
26S 06W 34BBC 01	374449097581101	74.0		17.6	19.1	18.4	18.4	19.3	18.1	17.7	16.3	
26S 07W 12DCC 01	374728098020801	90.0		30.6	33.3	33.3	30.9	32.8	32.4	32.7	31.3	
26S 08W 06DCC 01	374823098140501				11.1	6.7	5.8	9.8	8.4	8.7	3.7	
26S 08W 30DAA 01	374512098134301				49.0	48.6	44.6			47.5	46.4	
26S 09W 10DDDB 01	374735098170001	81.0	26	19.8	20.0	19.4	20.0	21.4	20.9	19.9	19.9	
26S 09W 18AAA 01	374721098200701	38.0	17	8.3	9.7	7.2	7.2	9.7	9.3	8.0	6.9	
26S 09W 31DCC 01	374358098203301	102.0			58.8	58.5	53.9	57.9	57.2	57.7	56.4	
26S 09W 34BBD 01	374412098170901	144.0	25	25.3	30.1	28.7	25.3	28.2	27.3	28.1	26.6	
26S 10W 18CDC 01	374637098272501	84.0	13	24.6	25.8	25.0	22.4	25.1	24.9	25.2	24.3	
26S 10W 32BBD 01	374439098262101	132.0	5	24.5	29.4	27.6	25.1	29.6	28.1	27.7	26.4	

REPUBLIC COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1944	1974	1992	1993	1994	1995	1996	1997	1998
01S 03W 01CCA 01	395926097363101	210.0			145.2	143.7	141.6		142.7	142.5	143.8

RENO COUNTY (cont'd)

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1944 -1998
				1944 -1998	1974 -1998	1997 -1998	1944 -1998	1974 -1998	1944	1998	
23S 07W 13DDD 01	QU	1604		-4	-0.3	-0.7	-0.1	0.0			
23S 08W 18AAD 01	QU	1675		2	-2.1	-0.2	0.0	-0.1			
23S 09W 05CBD 01	QU	1740		-7	-3.8	-0.9	-0.1	-0.2			
23S 09W 21DDB 01	QU	1732		-3	-6.4	0.7	-0.1	-0.3			
23S 09W 35CCC 01	QU	1718	110	-9	-5.6	1.2	-0.2	-0.2	100	91	-9
23S 10W 01AAA 03	QU	1740				0.1					
23S 10W 25CAC 01	QU	1752		8	-5.5	0.6	0.1	-0.2			
23S 10W 29DCA 01	QU	1783				0.8					
24S 04W 05CDB 01	QA	1480				1.1					
24S 04W 25BBD 01	QA	1448				-0.1					
24S 04W 31DAB 02	QA	1487				0.0					
24S 05W 10CCA 01	QU	1509				0.3					
24S 06W 03AAB 01	QU	1554				0.0					
24S 06W 23CBA 01	QU	1555				1.6					
24S 07W 08ADA 02	QU	1633				-0.3					
24S 07W 28AAA 01	QU	1588		3	4.0	0.5	0.1	0.2			
24S 08W 04AB 01	QU	1660		1		-0.9	0.0				
24S 08W 18BAC 01	QU	1649			-2.6	0.9		-0.1			
24S 08W 34DAC 01	QU	1590			1.6	0.3		0.1			
24S 09W 19DDB 01	QU	1704		-6	-1.0	1.0	-0.1	0.0			
24S 10W 06DBB 01	QU	1797		-3	-1.7	1.7	-0.1	-0.1			
24S 10W 17DDC 01	QU	1755		-6	-2.7	1.5	-0.1	-0.1			
24S 10W 31CBC 01	QA, QU	1750				0.9					
25S 04W 02ABB 01	QA	1449				0.3					
25S 07W 07BBD 01	QU	1602			2.3	0.5		0.1			
25S 07W 36CCC 01	QU	1570			-2.2	1.6		-0.1			
25S 08W 19ADB 01	QU	1607			1.1	1.7		0.0			
25S 09W 01DCD 01	QU	1658		-3	-0.5	1.0	-0.1	0.0			
25S 09W 17BBC 01	QU	1710		-8	-2.4	0.7	-0.1	-0.1			
25S 09W 30DDA 01	QU	1693		-2	-0.8	0.5	0.0	0.0			
25S 10W 14BBB 01	QU	1748	115	-2	-2.2	0.2	0.0	-0.1	90	88	-2
25S 10W 19ABD 01	QU	1790		3	-2.4	0.8	0.1	-0.1			
26S 06W 13BAB 01	QU	1475			1.0	0.6		0.0			
26S 06W 34BBC 01	QU	1545			1.3	1.4		0.1			
26S 07W 12DCC 01	QU	1582			-0.7	1.4		0.0			
26S 08W 06DCC 01	QU	1670				5.0					
26S 08W 30DAA 01	QU	1679				1.1					
26S 09W 10DDB 01	QU	1686		6	-0.1	0.0	0.1	0.0			
26S 09W 18AAA 01	QU	1668		10	1.4	1.1	0.2	0.1			
26S 09W 31DCC 01	QU	1735				1.3					
26S 09W 34DBD 01	QU	1685		-2	-1.3	1.5	0.0	-0.1			
26S 10W 18CDC 01	QU	1797		-11	0.3	0.9	-0.2	0.0			
26S 10W 32BBD 01	QU	1760		-21	-1.9	1.3	-0.4	-0.1			

REPUBLIC COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1944 -1998
				1944 -1998	1974 -1998	1997 -1998	1944 -1998	1974 -1998	1944	1998	
01S 03W 01CCA 01	QU	1610				-1.3					

RICE COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1944	1974	1992	1993	1994	1995	1996	1997	1998
20S 08W 22AAA 01	381813098110101	59.0	14		17.3	15.6	12.6	15.6	14.5	14.3	13.1
20S 09W 12DDA 01	381918098152601	32.0	11	8.3	16.2	12.6	10.5	13.4	11.6	11.5	11.3
20S 09W 28ACD 01	381701098190001	75.0			22.1	19.7	17.1	19.8	19.3	19.4	19.3
20S 10W 27BBB 01	381718098251501		46		34.9	33.7	30.9	33.0	32.4	32.1	32.5
20S 10W 36ACD 01	381608098221001	72.0	10		15.8	14.2	10.0	13.4	12.3	12.3	12.1
21S 07W 04AAC 01	381530098053501	50.0	14		16.4	13.8	13.1	15.9	14.8	14.6	13.3
21S 07W 26CBD 01	381134098040201	50.0	10		15.0	12.2	11.0	14.3	12.9	12.8	11.1
21S 08W 09CBD 01	381411098125601	78.0	9		14.4	13.1	9.3	12.3	11.0	11.6	11.0
21S 08W 25ABB 01	381203098090501	40.0	7		7.0	5.6	3.6	6.6	5.3	5.3	4.4
21S 08W 32DBB 01	381048098133501		3		7.8		6.4	8.2	7.6	5.9	5.9
21S 09W 02DDA 01	381453098163801	60.0	9		15.8	13.3	11.3	15.0	12.5	13.0	12.2
21S 09W 15AAC 02	381344098174702	40.0			6.5	5.1	4.5	7.3		6.0	5.2
21S 10W 16CDC 01	381305098260401	80.0			7.6	5.5	5.0	7.2	6.6	5.9	5.5

RILEY COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
10S 09E 17BDD 01	391055096261701	37.0		20.7		19.7	11.4			18.9	19.1

ROOKS COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
07S 17W 14CDD 01	392618099110701	37.0							14.0	16.4	
07S 19W 23CDB 01	392533099243701	22.0		18.7			14.5		15.2	15.0	14.9

RUSH COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)							
			1950	1966	1992	1993	1994	1995	1996	1997
18S 16W 23DCC 01	382756099033301	120.0			26.5		10.0		12.4	
18S 16W 23DCC 02	382756099033302	51.0			28.9		10.1		15.1	
18S 17W 22AAD 01	382835099105401	53.5		25.8	37.1		18.4		25.0	
18S 17W 23BCC 01	382822099104601	56.0		25.1	37.3		18.5		24.0	
18S 18W 27AAC 01	382742099174001	53.0		27.6	33.4		29.7		29.3	
18S 19W 20ADD 01	382821099262301	55.0			31.2		16.6		21.7	
18S 20W 14CCC 01	382848099304201	50.4			24.7		17.5		20.7	
18S 20W 19AAD 01	382835099341201	58.0		31.2	30.3		21.9		24.9	

SALINE COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
13S 01W 23BCB 02	385435097242502	49.0			21.1	17.7	8.0		14.3	13.5	18.0
13S 02W 33DDC 01	385217097323101	64.0			25.6	22.7	15.0		20.0	19.3	21.7
16S 03W 33DCD 01	383637097391401								10.2	9.1	10.3

RICE COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1944	1974	1997	1944	1974	1944	1998	
20S 08W 22AAA 01	QA	1644		1		1.2	0.0				
20S 09W 12DDA 01	QA	1664		0	-3.0	0.2	0.0	-0.1			
20S 09W 28ACD 01	QA	1690				0.1					
20S 10W 27BBB 01	KD	1786		14		-0.4	0.3				
20S 10W 36ACD 01	QA	1715		-2		0.2	0.0				
21S 07W 04AAC 01	QA	1615		1		1.3	0.0				
21S 07W 26CBD 01	QA	1595		-1		1.7	0.0				
21S 08W 09CBD 01	QA	1647		-2		0.6	0.0				
21S 08W 25ABB 01	QA	1620		3		0.9	0.1				
21S 08W 32DBB 01	QA	1641		-3		0.0	-0.1				
21S 09W 02DDA 01	QA	1670		-3		0.8	-0.1				
21S 09W 15AAC 02	QA	1669				0.8					
21S 10W 16CDC 01	QU, QA	1720				0.4					

RILEY COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	
10S 09E 17BDD 01	QA	996			1.6	-0.2		0.1			

ROOKS COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	
07S 17W 14CDD 01	QA	1725									
07S 19W 23CDB 01	QA	1879			3.8	0.1		0.1			

RUSH COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	
18S 16W 23DCC 01	QA	1930									
18S 16W 23DCC 02	QA	1930									
18S 17W 22AAD 01	QU	1960									
18S 17W 23BCC 01	QU	1958									
18S 18W 27AAC 01	QA	1993									
18S 19W 20ADD 01	QA	2034									
18S 20W 14CCC 01	QA	2050									
18S 20W 19AAD 01	QA	2077									

SALINE COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	
13S 01W 23BCB 02	QA	1172				-4.5					
13S 02W 33DDC 01	QA	1207				-2.4					
16S 03W 33DCD 01	QA	1310				-1.2					

SCOTT COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1940	1966	1992	1993	1994	1995	1996	1997	1998
16S 31W 17DDD 01	383928100453301	125.0	118		121.5	120.4	122.8	122.0	121.2	121.6	122.1
16S 31W 31BCB 01	383724100474001	179.0	127	128.4	140.4	135.0	134.4	136.0	138.1	135.4	135.8
16S 32W 16BCA 01	384014100515901	170.0			158.0	158.0	162.9	157.6	157.8	157.1	157.4
16S 33W 19BBC 01	383916101005901								161.1	161.5	161.5
16S 33W 33BAA 01	383738100582001	194.0	130		154.8	154.6	155.5	156.3	156.9	157.1	157.6
16S 34W 09CCB 01	384028101052301	181.0	118	133.5	161.3	161.8	161.8	162.0	162.4	162.6	162.9
16S 34W 29CBB 01	383804101062801	200.0	119	134.1	174.1	170.0	168.7	169.5	173.0	169.7	169.2
17S 31W 04DCC 01	383559100445101	202.0	117		127.6	126.0	125.9	128.1	128.4	128.4	127.8
17S 31W 19CDA 01	383328100471201	190.0			129.9	129.1	130.0			133.1	133.5
17S 31W 35CCB 01	383144100431201	178.0	86		100.0	98.8	99.0	100.3	100.6	99.5	99.4
17S 32W 16BBB 01	383501100520601	231.0	88			135.8		145.6	146.2		139.1
17S 32W 27BBB 01	383316100505801	185.0	95	107.0		151.2	154.2			155.0	154.4
17S 33W 07BBA 01	383553101004901	202.0			153.6	152.0	150.4	151.9		152.7	151.9
17S 33W 14ACB 01	383448100555801	202.0	93		147.4	145.4	145.3	147.5	149.1	145.0	144.9
17S 34W 06BCB 01	383633101073401	194.0	108	118.5	154.6	153.5	152.1	154.7	157.6	154.2	155.0
17S 34W 16ACB 01	383448101044801	208.0	107	112.1	136.3	136.2		140.2		126.2	136.9
17S 34W 25DBB 01	383250101012901	189.0	103	114.5	143.7		140.4	142.2	143.3	146.3	143.1
18S 31W 24BCB 01	382841100420601	93.2	68		72.9	71.6	69.8	68.9	68.3	67.9	67.6
18S 31W 27ABA 01	382801100433501	127.0	70		67.4	65.9	64.8	67.7	69.6	68.9	70.3
18S 32W 14BBB 01	382947100495001	180.0	85	98.4		123.2	115.4	117.0	117.0	116.5	117.9
18S 32W 17ABA 02	382947100522902	135.0			122.0	121.3	120.2	120.7	122.0	121.8	122.0
18S 33W 03CCB 01	383053100573701	182.0	71	83.1	124.1	124.8	123.6	125.3	128.6	126.5	127.8
18S 33W 05CCC 01	383046100594901	119.0	75	84.7	102.4	102.8	103.0	103.2	103.6	103.7	103.9
18S 33W 25BBB 01	382803100552301	180.0			116.9	117.1	116.2	116.6	118.4	118.7	118.8
18S 34W 05CBB 01	383106101062701		88		118.2			118.5	118.1	118.7	117.8
18S 34W 25BBD 01	382756101015201	142.0	90	95.8	115.2	114.9	114.5	114.3	114.2	114.2	114.0
18S 34W 34BBC 01	382704101041301	160.0	90	100.6	118.1	116.6	115.2	114.8	114.6	114.5	114.3
19S 32W 06CCB 01	382539100541601	102.0	21		77.9	76.8	74.7	75.9	78.4	77.6	76.2
19S 32W 32ACB 01	382144100523501	210.0	69		91.2	89.2	87.9	89.9	89.3	89.6	88.2
19S 33W 06DBB 01	382552101002001	120.0	59		61.3		60.6	60.6	60.7	61.2	61.1
19S 33W 15DBD 01	382401100565301	132.0	56	70.9	110.9	110.6	107.0	109.2	110.4	110.7	108.2
19S 33W 29CBB 02	382223100594602	150.0	76	101.0	113.9	114.9	114.9	115.4	116.0	115.6	114.2
19S 34W 19DCCC01	382255101070001	135.0			127.1		126.7	126.7	126.8	128.9	126.8
20S 32W 16DAD 01	381847100510201	150.0	57		116.2	110.8	105.4	109.0	110.5	105.6	98.8
20S 32W 30BCD 01	381716100540601	185.0	25		113.4	111.5	108.9	109.7	112.7	109.7	108.6
20S 33W 09BBB 01	382013100583901	128.0	60	84.5	102.1	102.3	102.7	102.7	102.8	102.6	101.9
20S 33W 21ABA 01	381826100575701	165.0			132.9	131.5	134.9			138.7	
20S 33W 36CAD 01	381611100545501						112.1	113.2	113.7	113.8	111.8
20S 34W 15BAA 01	381920101034501	148.0	97		103.8	101.8	98.9	101.3	101.2	101.4	100.2
20S 34W 36CCD 01	381557101014701	95.0	53		78.3	76.4	74.7	73.9	74.5	73.2	72.5

SEDGWICK COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1944	1974	1992	1993	1994	1995	1996	1997	1998
25S 01W 07ABD 01	375342097280201	30.0 53.9	17	14.5	34.1	33.6	31.6	31.8	31.0	30.8	28.4
25S 01W 14DDD 01	375210097232601				17.9	17.1	12.7		14.1	15.3	15.3
25S 01W 26DBD 01	375039097234201				21.1	19.3	17.6	19.0	19.1		
25S 01W 28DBA 01	375045097255201				17.2	14.1	12.4	16.1	14.9	14.5	13.6
25S 02W 23DBD 02	375131097301402								15.5	14.9	
25S 03W 03DDD 01	375356097373601	17.0			13.7	11.9	10.9	12.6	11.3	10.4	10.3
25S 03W 15CCC 01	375211097383301	90.0			23.9	22.3	20.7	22.7	21.3	20.2	20.0
26S 01W 12BAD 01	374837097225301				17.8	15.3	15.3	17.3	16.4	16.0	15.4
26S 01W 19ABA 01	374659097280201	37.7			8.7	5.6	5.4	7.5	7.3	6.5	5.7
26S 01W 31CCD 01	374428097283501				40.8	39.6	37.1	38.8	38.0	37.6	38.2
26S 02W 08AAB 01	374837097332301				33.4	31.6	29.2	31.4	30.5	29.3	29.7
26S 02W 29AAA 01	374600097331401	83.0			26.7	25.8	23.8	25.1	24.8	24.5	24.1
26S 03W 02AAC 01	374927097362801				24.4	22.3	20.2	22.3	21.2	20.1	19.2

SCOTT COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1940	1966	1997	1940	1966	1940	1998	
				-1998	-1998	-1998	-1998	-1998			-1998
16S 31W 17DDD 01	TO	2931	161	-4		-0.5	-0.1		43	39	-9
16S 31W 31BCB 01	TO	2958	168	-9	-7.4	-0.4	-0.2	-0.2	41	32	-22
16S 32W 16BCA 01	TO	2999				-0.3					
16S 33W 19BBC 01	TO	3098				0.0					
16S 33W 33BAA 01	TO	3066	194	-28		-0.5	-0.5		64	36	-44
16S 34W 09CCB 01	TO	3146	181	-45	-29.4	-0.3	-0.8	-0.9	63	18	-71
16S 34W 29CBB 01	TO	3160	181	-50	-35.1	0.5	-0.9	-1.1	62	12	-81
17S 31W 04DCC 01	TO	2932	170	-11		0.6	-0.2		53	42	-21
17S 31W 19CDA 01	TO	2960				-0.4					
17S 31W 35CCB 01	TO	2925	147	-13		0.1	-0.2		61	48	-21
17S 32W 16BBB 01	TO	2980	231	-51			-0.9		143	92	-36
17S 32W 27BBB 01	TO	2990	180	-59	-47.4	0.6	-1.0	-1.5	85	26	-69
17S 33W 07BBA 01	TO	3093				0.8					
17S 33W 14ACB 01	TO	3014	214	-52		0.1	-0.9		121	69	-43
17S 34W 06BCB 01	TO	3163	194	-47	-36.5	-0.8	-0.8	-1.1	86	39	-55
17S 34W 16ACB 01	TO	3134	194	-30	-24.8	-10.7	-0.5	-0.8	87	57	-34
17S 34W 25DBB 01	TO	3092	189	-40	-28.6	3.2	-0.7	-0.9	86	46	-47
18S 31W 24BCB 01	TO	2913	110	0		0.3	0.0		42	42	0
18S 31W 27ABA 01	TO	2930	105	0		-1.4	0.0		35	35	0
18S 32W 14BBB 01	TO	2980	175	-33	-19.5	-1.4	-0.6	-0.6	90	57	-37
18S 32W 17ABA 02	TO	2973				-0.2					
18S 33W 03CCB 01	TO	3008	182	-57	-44.7	-1.3	-1.0	-1.4	111	54	-51
18S 33W 05CCC 01	TO	3041	119	-29	-19.2	-0.2	-0.5	-0.6	44	15	-66
18S 33W 25BBB 01	TO	2972				-0.1					
18S 34W 05CBB 01	TO	3148	168	-30		0.9	-0.5		80	50	-38
18S 34W 25BBD 01	TO	3092	132	-24	-18.2	0.2	-0.4	-0.6	42	18	-57
18S 34W 34BBC 01	TO	3130	160	-24	-13.7	0.2	-0.4	-0.4	70	46	-34
19S 32W 06CCB 01	QA, TO	2937	199	-55		1.4	-0.9		178	123	-31
19S 32W 32ACB 01	QU, TO	2984	204	-19		1.4	-0.3		135	116	-14
19S 33W 06DBB 01	TO	3021	117	-2		0.1	0.0		58	56	-3
19S 33W 15DBD 01	TO	2964	132	-52	-37.3	2.5	-0.9	-1.2	76	24	-68
19S 33W 29CBB 02	QA, TO	2994	174	-38	-13.2	1.4	-0.7	-0.4	98	60	-39
19S 34W 19DCCC 01	TO	3138				2.1					
20S 32W 16DAD 01	TO	2955	155	-42		6.8	-0.7		98	56	-43
20S 32W 30BCD 01	TO	2917	187	-84		1.1	-1.4		162	78	-52
20S 33W 09BBB 01	TO	2973	128	-42	-17.4	0.7	-0.7	-0.5	68	26	-62
20S 33W 21ABA 01	TO	2955									
20S 33W 36CAD 01	TO	2925				2.0					
20S 34W 15BAA 01	TO	3060	138	-3		1.2	-0.1		41	38	-7
20S 34W 36CCD 01	TO	2962	107	-20		0.7	-0.3		54	35	-35

SEDGWICK COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1944	1974	1997	1944	1974	1944	1998	
				-1998	-1998	-1998	-1998	-1998			-1998
25S 01W 07ABD 01	QA	1377				2.4					
25S 01W 14DDD 01	QA	1360				0.0					
25S 01W 26DBD 01	QU	1352									
25S 01W 28DBA 01	QA	1364				0.9					
25S 02W 23DBD 02	QA	1380				0.6					
25S 03W 03DDD 01	QA	1423				0.1					
25S 03W 15CCC 01	QA	1428				0.2					
26S 01W 12BAD 01	QA	1341				0.6					
26S 01W 19ABA 01	QA	1352				0.8					
26S 01W 31CCD 01	QA, QU	1370				-0.6					
26S 02W 08AAB 01	QA	1397				-0.4					
26S 02W 29AAA 01	QA	1384				0.4					
26S 03W 02AAC 01	QA	1409				0.9					

SEWARD COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)									
			1940	1966	1992	1993	1994	1995	1996	1997	1998	
31S 32W 31BBB 01	371852100505801		174		226.3	227.6	228.0	230.9	234.1	238.0	238.4	
31S 33W 06CBD 01	372240100572101	347.0	210	211.2	257.3	259.0	260.7	261.4	265.0	267.8	269.3	
31S 33W 20DBB 01	372010100555101	383.0	179	179.1	220.5	222.9	224.1	226.3	228.9	230.1	231.7	
31S 34W 18BBB 01	372128101035901	375.0	186	186.3	235.6	238.0	239.6	247.8	250.1	250.4	248.7	
32S 31W 03DAA 01	371733100402001	500.0					214.2			221.9	222.6	
32S 31W 08BBB 01	371706100432201	396.0	175	165.5	219.2	222.6	224.2	226.4	230.3	233.1	234.1	
32S 31W 26CAA 01	371403100394301	390.0	180	182.9	229.8	227.3	229.3	237.0	233.2	235.4	235.3	
32S 32W 14BBB 01	371615100463701	420.0	180	192.8	237.2	236.9	237.6	240.2	243.0	246.5	246.0	
32S 32W 19BAB 01	371524100504201	400.0	189	194.7	224.0	229.1	229.5	231.5	233.7	234.8	235.7	
32S 33W 32DBD 01	371306100554201				165.6	167.8	169.1	171.7	173.2	175.3	177.2	
32S 34W 10DAA 01	371641100594601	350.0	205	203.5	240.0	238.6		244.0	245.7	248.3	249.9	
32S 34W 32BBB 01	371339101025301	350.0	159	154.3	185.2	186.4	187.3	188.1	191.3	193.9	196.4	
33S 31W 09AAB 01	371154100412801	448.0			212.2	213.0	213.9	215.0	216.8	218.4	219.6	
33S 32W 28CDD 02	370833100482402	205.0	60		59.4	58.9	59.0	59.7	60.8	60.9	61.7	
33S 33W 12AAD 01	371148100510701	140.0	5	5.7	12.4	13.8	15.1			29.7	18.5	
33S 33W 20BCC 01	371000100561001		176		203.8	204.8	206.5	207.9	208.8	211.3	212.5	
33S 33W 25DCC 01	370842100515101	485.0	197		204.0	203.0	204.3	205.6	206.6	207.9	209.5	
33S 34W 17DCC 01	371026101020701	179.0	123		127.6	128.6	129.5	144.9	139.5	142.4	146.8	
34S 31W 01CAA 01	370706100384201	340.0								216.9	219.4	
34S 31W 30BBB 01	370407100442701	705.0	208		214.3	215.0	215.3	215.5	216.0	216.6	216.9	
34S 32W 29BAA 01	370407100492901		175		173.2	173.1	173.9	174.2	175.3	177.1	176.5	
34S 32W 35ADA 01	370301100454001	216.0	189		195.9	195.8	196.1	196.0		197.0	198.0	
34S 33W 07CCB 01	370602100572601	360.0	140	126.7	142.4	143.0	144.0	144.8	146.0	147.2	148.8	
34S 34W 16DAA 01	370523101004901	458.0	114	94.5	138.1	143.7	141.1	150.6	156.3	152.8	159.4	
34S 34W 26BCA 01	370355100592301		98		117.4	116.8	116.8	121.2	127.4	128.6	133.5	
35S 31W 10AAC 01	370123100402401	480.0			197.9	200.5	201.7	200.7		195.5	198.1	
35S 32W 06CBB 01	370157100505901		150		169.5	167.4	169.8	169.8	171.7	173.6	172.3	
35S 33W 16BCA 01	370023100550801	383.0	126	103.7	138.7	135.4	135.5	137.4	139.1	139.5	141.6	
35S 34W 10BBB 01	370128101004001	353.0	90	80.3	85.8	86.6	87.7	88.8	90.5	91.8	92.9	

SEWARD COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1940 -1998
				1940 -1998	1966 -1998	1997 -1998	1940 -1998	1966 -1998	1940 1998	1998	
31S 32W 31BBB 01	TO	2864	454	-64		-0.4	-1.1		280	216	-23
31S 33W 06CBD 01	QU, TO	2948	498	-59	-58.1	-1.5	-1.0	-1.8	288	229	-20
31S 33W 20DBB 01	QU, TO	2897	537	-53	-52.6	-1.6	-0.9	-1.6	358	305	-15
31S 34W 18BBB 01	QU, TO	2951	421	-63	-62.4	1.7	-1.1	-2.0	235	172	-27
32S 31W 03DAA 01	QU, TO	2790				-0.7					
32S 31W 08BBB 01	QU, TO	2815	455	-59	-68.6	-1.0	-1.0	-2.1	280	221	-21
32S 31W 26CAA 01	QU, TO	2783	453	-55	-52.4	0.1	-0.9	-1.6	273	218	-20
32S 32W 14BBB 01	QU, TO	2830	435	-66	-53.2	0.5	-1.1	-1.7	255	189	-26
32S 32W 19BAB 01	QU, TO	2854	475	-47	-41.0	-0.9	-0.8	-1.3	286	239	-16
32S 33W 32DBD 01	QU, TO	2830				-1.9					
32S 34W 10DAA 01	QU, TO	2925	470	-45	-46.4	-1.6	-0.8	-1.5	265	220	-17
32S 34W 32BBB 01	QU, TO	2921	491	-37	-42.1	-2.5	-0.6	-1.3	332	295	-11
33S 31W 09AAB 01	TO	2766				-1.2					
33S 32W 28CDD 02	QU, TO	2630	399	-2		-0.8	0.0		339	337	-1
33S 33W 12AAD 01	QU, TO	2626	316	-14	-12.8	11.2	-0.2	-0.4	311	298	-4
33S 33W 20BCC 01	TO	2866		-37		-1.2	-0.6				
33S 33W 25DCC 01	TO	2810		-13		-1.6	-0.2				
33S 34W 17DCC 01	TO	2918		-24		-4.4	-0.4				
34S 31W 01CAA 01	TO	2720				-2.5					
34S 31W 30BBB 01	TO	2731	671	-9		-0.3	-0.2		463	454	-2
34S 32W 29BAA 01	TO	2765	525	-2		0.6	0.0		350	349	0
34S 32W 35ADA 01	QU, TO	2734		-9		-1.0	-0.2				
34S 33W 07CCB 01	QU, TO	2901	575	-9	-22.1	-1.6	-0.2	-0.7	435	426	-2
34S 34W 16DAA 01	QU, TO	2943	673	-45	-64.9	-6.6	-0.8	-2.0	559	514	-8
34S 34W 26BCA 01	QU, TO	2908		-36		-4.9	-0.6				
35S 31W 10AAC 01	TO	2690				-2.6					
35S 32W 06CBB 01	TO	2780	540	-22		1.3	-0.4		390	368	-6
35S 33W 16BCA 01	QU, TO	2838	658	-16	-37.9	-2.1	-0.3	-1.2	532	516	-3
35S 34W 10BBB 01	QU, TO	2912	647	-3	-12.6	-1.1	-0.1	-0.4	557	554	-1

SHERIDAN COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
06S 26W 26CBB 01	393005100114801	293.0			168.5	168.1	167.6	168.1	168.6	171.2	167.3
06S 27W 05CBB 01	393334100215501	176.0			113.1	111.9	111.2	111.6	111.5	110.6	111.7
06S 27W 08DCA 01	393228100211301	108.0	21	14.6	22.4	21.2	16.4	18.4	18.0	15.9	16.2
06S 27W 19ADC 01	393104100221201				35.1	34.5	32.5	31.5	33.0	33.2	33.3
06S 29W 10DBC 01	393235100322701	207.0	116	118.6			129.4	129.6	130.3	129.1	130.5
06S 29W 24ABB 01	393123100301401	211.0	91	96.2	109.3	107.2	104.6	105.9	106.9	106.1	106.6
06S 29W 33CDA 01	392900100334201	207.0	94	93.3	113.5		111.7	112.1	112.7	118.0	113.7
06S 30W 13BAA 01	393216100371301	218.0	115		130.4	128.3	127.6	127.3	128.1	126.3	126.7
06S 30W 14CCD 01	393131100383701	205.0	95	102.8	113.1	110.4	111.8	111.9	111.8	109.3	111.1
07S 26W 06AAB 01	392847100152601	143.0	125	125.9	137.0	135.1	136.1	135.7	136.8	136.6	137.9
07S 26W 12BAC 01	392748100102601	170.0	94	91.9	101.1	100.3	100.1	101.5	101.3	106.2	104.3
07S 26W 19BBC 01	392604100162101	203.0	115		128.1	126.5	126.8	126.8	127.5	129.5	132.5
07S 26W 28CAB 01	392452100134601	247.0	142	148.4	157.3		155.8	155.1	154.5	162.1	154.4
07S 27W 22DAC 01	392538100185201				118.1	117.1	115.9	116.2	117.1	118.8	116.0
07S 28W 08DCC 01	392709100280601	242.0								168.8	168.6
07S 28W 21ABB 01	392610100270101	238.0	129	131.0	166.9	163.2	159.9	160.4	164.9	161.9	161.7
07S 28W 36ABA 01	392426100233001	233.0	123	127.5	146.0	145.9	145.6	146.2	145.4	149.7	146.3
07S 29W 05BBB 01	392848100351301	190.0					107.8	106.9	108.6	108.3	109.2
07S 29W 27CCC 01	392433100330201	267.0	131		191.0	187.2	185.2	186.0	188.9	187.5	186.8
07S 29W 30ABA 01	392519100354201	255.0	113	121.8	168.9	168.3	165.3	164.1	164.3	169.8	167.6
07S 30W 08CBB 01	392729100420601	219.0			103.4	101.6	96.4	103.1	103.2	103.4	104.4
08S 26W 14DAA 01	392123100105401	66.0	13	19.5	20.5	19.6	9.3	14.2	13.9	12.0	11.8
08S 27W 11DCD 01	392156100175401	60.0	13	8.5	11.1		10.1	9.8	9.6		
08S 27W 35CBB 01	391847100183701	163.0			128.9	129.1	127.8	126.3	124.4	123.2	126.0
08S 28W 11DAA 01	392215100242101	182.0			100.6	100.5	99.1	99.7	100.4	102.8	100.0
08S 29W 01DCB 01	392255100301801	241.0	125	122.6	163.0	162.7	162.3	162.3	163.3		
08S 30W 11CBC 01	392210100384601	286.0	123	133.5	191.3	189.6	187.8	190.1	190.8	190.4	
08S 30W 13DAA 01	392124100364001	254.0	103	109.7	154.8	155.5	149.2	154.9	156.6	155.8	156.2
08S 30W 30ABC 01	392000100424001	235.0	107	105.8	143.3		140.7	141.9	142.1	143.1	145.3
09S 26W 22BBB 01	391544100130001	217.0			142.5		139.1	137.6	137.1	135.9	135.8
09S 27W 12CCC 01	391643100173001	199.0	104	106.5	107.3		105.7	101.1	100.6	111.1	99.5
09S 27W 19DDD 01	391459100220801	138.0	124	123.6	134.7	131.8	132.0	129.7	128.7		
09S 27W 27DAA 01	391426100184601	197.0			112.6	115.2	108.0	106.8	106.7	105.1	105.0
09S 28W 04BCC 01	391801100273801	100.0	18	25.7	28.5		25.3	26.7	26.2	25.4	25.8
09S 29W 03AAA 01	391821100320601	195.0			110.7	111.1	108.2	109.5	110.3	109.4	111.2
09S 29W 17BAB 01	391637100345901	196.0	84	84.2	111.0		106.1	105.8	106.1	106.7	107.3
09S 29W 26BAA 01	391452100313401	146.0	123	132.0			140.3		138.8		140.0
09S 30W 03AAB 02	391822100390302	225.0	118	119.2	163.9	154.7	154.9	156.6	156.6	170.4	168.0
09S 30W 35BBB 01	391401100384601	220.0	120	129.3	150.8	150.1	148.7	157.3	161.7	155.0	155.7
10S 26W 12AAD 01	391209100095401	88.0			28.4	25.7	24.0	24.0	22.9	22.5	22.4
10S 27W 20CBC 01	390959100220001	50.0	12	13.9			15.4	17.9	17.2	16.9	15.4
10S 27W 22DBA 01	391005100190401	65.0	10	18.5	23.6		17.5	18.0	17.3	17.3	17.8
10S 28W 05DDB 01	391229100275701	173.0	99	95.2	110.5		105.2	105.5	106.3	107.3	108.7
10S 28W 29DAA 01	390913100274901	62.0	22	25.4	31.1	29.3	25.0	25.8	35.5	34.9	32.8
10S 29W 02DDD 01	391222100310301	180.0			83.7	83.3	79.6	79.2	79.4	79.8	80.7
10S 29W 20CAA 01	391006100345201				70.9		65.7	65.8	65.6	66.4	66.7
10S 30W 08DDD 01	391131100410801	184.0	96	93.0	102.3	101.0	98.7	98.2	97.9	97.3	96.9
10S 30W 12ADA 01	391204100364101	187.0	89	87.7	102.5	101.8	99.5	100.2	99.8	97.4	99.5

SHERIDAN COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	
				-1998	-1998	-1998	-1998	-1998	-1998	-1998	
06S 26W 26CBB 01	TO	2636				3.9					
06S 27W 05CBB 01	TO	2684				-1.1					
06S 27W 08DCA 01	QA, TO	2588	108	5	-1.6	-0.3	0.1	-0.1	87	92	6
06S 27W 19ADC 01	TO	2620				-0.1					
06S 29W 10DBC 01	TO	2823	205	-15	-11.9	-1.4	-0.3	-0.4	89	75	-16
06S 29W 24ABB 01	TO	2781	205	-16	-10.4	-0.5	-0.3	-0.3	114	98	-14
06S 29W 33CDA 01	TO	2828	207	-20	-20.4	4.3	-0.4	-0.6	113	93	-18
06S 30W 13BAA 01	TO	2875	216	-12		-0.4	-0.3		101	89	-12
06S 30W 14CCD 01	TO	2884	203	-16	-8.3	-1.8	-0.3	-0.3	108	92	-15
07S 26W 06AAB 01	TO	2634	204	-13	-12.0	-1.3	-0.3	-0.4	79	66	-16
07S 26W 12BAC 01	TO	2559	170	-10	-12.4	1.9	-0.2	-0.4	76	66	-13
07S 26W 19BBC 01	TO	2625	201	-18		-3.0	-0.4		86	69	-20
07S 26W 28CAB 01	TO	2634	243	-12	-6.0	7.7	-0.3	-0.2	101	89	-12
07S 27W 22DAC 01	TO	2644				2.8					
07S 28W 08DCC 01	TO	2797				0.2					
07S 28W 21ABB 01	TO	2774	235	-33	-30.7	0.2	-0.7	-1.0	106	73	-31
07S 28W 36ABA 01	TO	2725	233	-23	-18.8	3.4	-0.5	-0.6	110	87	-21
07S 29W 05BBB 01	TO	2841				-0.9					
07S 29W 27CCC 01	TO	2869	265	-56		0.7	-1.2		134	78	-42
07S 29W 30ABA 01	TO	2887	255	-55	-45.8	2.2	-1.1	-1.4	142	87	-39
07S 30W 08CBB 01	TO	2919				-1.0					
08S 26W 14DAA 01	QA	2398	66	1	7.7	0.2	0.0	0.2	53	54	2
08S 27W 11DCD 01	QA	2504	60								
08S 27W 35CBB 01	TO	2640				-2.8					
08S 28W 11DAA 01	TO	2692				2.8					
08S 29W 01DCB 01	TO	2823	240								
08S 30W 11CBC 01	TO	2941	277								
08S 30W 13DAA 01	TO	2891	257	-53	-46.5	-0.4	-1.1	-1.5	154	101	-34
08S 30W 30ABC 01	TO	2962	234	-38	-39.5	-2.2	-0.8	-1.2	127	89	-30
09S 26W 22BBB 01	TO	2669				0.1					
09S 27W 12CCC 01	TO	2678	198	5	7.0	11.6	0.1	0.2	94	99	5
09S 27W 19DDD 01	TO	2750	205								
09S 27W 27DAA 01	TO	2705				0.1					
09S 28W 04BCC 01	QA, TO	2677	98	-8	-0.1	-0.4	-0.2	0.0	80	72	-10
09S 29W 03AAA 01	TO	2819				-1.8					
09S 29W 17BAB 01	TO	2854	196	-23	-23.1	-0.6	-0.5	-0.7	112	89	-21
09S 29W 26BAA 01	TO	2863	210	-17	-8.0		-0.4	-0.3	87	70	-20
09S 30W 03AAB 02	TO	2933	217	-50	-48.8	2.4	-1.0	-1.5	99	49	-51
09S 30W 35BBB 01	TO	2944	215	-36	-26.4	-0.7	-0.8	-0.8	95	59	-38
10S 26W 12AAD 01	TO	2534				0.1					
10S 27W 20CBC 01	QA	2605	50	-3	-1.5	1.5	-0.1	0.0	38	35	-8
10S 27W 22DBA 01	QA	2568	65	-8	0.7	-0.5	-0.2	0.0	55	47	-15
10S 28W 05DDB 01	TO	2789	173	-10	-13.5	-1.4	-0.2	-0.4	74	64	-14
10S 28W 29DAA 01	QA, TO	2691	62	-11	-7.4	2.1	-0.2	-0.2	40	29	-28
10S 29W 02DDD 01	TO	2803				-0.9					
10S 29W 20CAA 01	TO	2820				-0.3					
10S 30W 08DDD 01	TO	2930	186	-1	-3.9	0.4	0.0	-0.1	90	89	-1
10S 30W 12ADA 01	TO	2874	187	-11	-11.8	-2.1	-0.2	-0.4	98	88	-10

SHERMAN COUNTY

Well number			USGS site id	Depth of well (ft)	Depth to water by year (ft)							
					1950	1966	1992	1993	1994	1995	1996	1997
06S 37W 07BBA 01	393310101295101	21.0	5	6.1	7.8			6.6	8.0	7.6	7.4	8.3
06S 37W 16CDD 01	393132101272001	264.0	157	163.8	173.6	173.1	172.2	171.4	172.3	172.6	172.9	172.9
06S 37W 19ABB 01	393126101292601	320.0	150	155.4	159.6		159.7	160.1	159.7	159.1	161.3	
06S 39W 09DDD 01	393225101401201	160.0	145	142.7	150.9	151.1	152.0	151.4	151.6	151.8	152.1	
06S 40W 10AAC 01	393304101455501	310.0	151	151.2		164.1	163.9	164.3	164.8	165.2	166.5	
06S 40W 13CBC 01	393146101443201	328.0			150.1	149.6	150.0	150.3	150.4	150.8	151.6	
06S 40W 30DCC 01	392948101493301	331.0	159	153.6	170.0	170.0	170.3	170.4	170.6	171.0	172.2	
06S 41W 19DBD 01	393053101560401	330.0	162	169.5	192.8	192.3	189.2	189.9	189.9	191.2	193.2	
06S 41W 27DBD 01	393001101524301	326.0	141	142.1	167.7	165.5	164.8	167.3		167.7	171.1	
06S 42W 02AAA 01	393403101575901	225.0	179	181.7	201.3	202.8	199.2	200.3	200.1	201.7	203.6	
06S 42W 08CBB 01	393244102021801	306.0	183	201.3	211.8	212.1	210.9	212.6	212.8	213.3	215.8	
06S 42W 22DCC 01	393040101593201	319.0	177	183.1	198.2	199.7	197.4	199.3	200.7	201.8	204.8	
06S 42W 30ADA 01	393020102022701	315.0	176	183.6	205.4	206.2	206.0	207.5	208.1	209.6	214.0	
07S 37W 04BBC 01	392843101274601	275.0	122		143.0	139.5	143.3	138.8	138.6	140.6	143.1	
07S 37W 05CCB 01	392811101285301	300.0	124	129.9	140.5	140.8	140.2	141.5	142.1	143.6	143.9	
07S 38W 28DAA 01	392456101333201	330.0			148.9	148.1	147.8	148.5	152.1	151.0	151.4	
07S 39W 01DCD 01	392804101371001	300.0			135.3	135.9	134.4	135.1	135.5	135.7	136.8	
07S 39W 09BBB 01	392758101411201	300.0	106	104.8	118.3	117.9	117.8	118.0	117.8	119.1	120.1	
07S 39W 24BAA 01	392613101372701	300.0	137	133.9		145.2	147.6	149.8	150.4	151.2	152.4	
07S 40W 06ADB 01	392836101491801	345.0	152	149.4	171.1	169.0	169.9	168.9	168.9	170.6	171.6	
07S 40W 29BBA 01	392521101485501	200.0	121	121.5	143.8	144.2	143.5	145.0	144.9	145.3	146.7	
07S 40W 35BBB 01	392429101454201	258.0	102	103.0	128.7	128.1	128.0			128.8	130.7	
07S 40W 36BAB 01	392429101441801	321.0	105	109.9	136.6	134.7	133.7	136.2	134.8	134.9	138.0	
07S 41W 07BCB 01	392744101564801		180	174.4	207.2	201.3	200.9	203.9	202.6		205.8	
07S 41W 28DBB 01	392454101540201	287.0	111	111.4	135.9	134.4	132.1	133.6	134.1	133.9	136.0	
07S 42W 07DAA 01	392730102022801	311.0	163	164.4	192.6	190.0	189.3	189.6	191.6	192.0	194.8	
07S 42W 17CCC 01	392618102022101	270.0	119	117.9	145.7	146.6	144.7	145.4	145.9	146.5	147.3	
07S 42W 27AAB 01	392520101591901	321.0	142	140.6	170.7	170.2	170.5	172.0	171.3	172.4	173.5	
08S 37W 03ADB 01	392324101255101	275.0	126	143.5		160.7		160.8	167.7	161.8	163.1	
08S 37W 21CCC 01	392016101274901	235.0	120	121.1	142.9	141.6	141.5	144.1	143.2	144.6	144.3	
08S 37W 32ABB 01	391917101282301	217.0	83	80.0	98.6	97.6	96.7	98.0	98.5	98.4	99.8	
08S 38W 17CDD 01	392109101351401	295.0	143	142.0	166.1	166.0	166.4	167.6	168.4	169.0	169.8	
08S 38W 24AAB 01	392101101302001	264.0	110	111.0	123.7		122.7	123.2	123.5	124.2	124.7	
08S 39W 15CCC 01	392107101400701	269.0	127	135.0	167.5	166.7	166.3	166.3	166.5	167.2	168.1	
08S 40W 12DBA 01	392218101435301	247.0	120	133.0	170.0	168.9	166.2	166.6	166.1	166.3	167.6	
08S 40W 17CDB 01	392113101484901	246.0	102	108.0	140.7	137.7	135.8	140.2	138.3	139.0	141.3	
08S 40W 25AAC 01	392001101434601	290.0	133	158.0	183.8	182.9	182.3	182.8	183.2	183.5	185.8	
08S 41W 17CBA 01	392125101553601	300.0	129	129.0	151.7	153.8	151.6	151.9	153.6	153.5	154.5	
08S 41W 25BBC 01	392000101511701	267.0	94	96.0	123.8	124.2	124.7	124.8	125.2	126.2	127.5	
08S 42W 15DDB 01	392112101592101	274.0	98	99.0	130.7	128.6	129.1	129.9	130.5	131.1	132.4	
08S 42W 31DCD 01	391828102024901	184.0	50	58.0	84.3	85.0	85.5	86.2	87.1	88.2	89.2	
09S 37W 07DDB 01	391654101291401	172.0					92.7	93.8	93.9	94.1	93.9	
09S 38W 13BCC 01	391622101311101	166.0			82.0	81.6	80.6	82.9	80.7	81.2	81.0	
09S 39W 01DBA 01	391758101371201	257.0				145.4	145.4	146.8	147.6	148.7	150.1	
09S 39W 02BAB 01	391824101383601		133			175.8		176.5	181.8	180.0	182.4	
09S 39W 10CCB 01	391652101400901	256.0				154.0	150.8	154.6	152.3	155.3	157.5	
09S 39W 19CCC 01	391502101433001	200.0	105		140.4	140.7	139.4	141.3	140.8	141.9	143.6	
09S 40W 13CDC 01	391553101442101	260.0	123	125.0	164.0	162.6	162.5	164.2	164.3	165.4	166.0	
09S 40W 29BBB 01	391454101490901	242.0	122	119.0	163.0	163.7	163.6	165.3	166.3	167.4	167.3	
09S 41W 05DCC 01	391737101551301	266.0	128	136.0	176.6		171.0	170.1	167.8	171.8	172.7	
09S 41W 14BBC 01	391632101522601	300.0	129		181.9	182.7	184.1	185.5	187.0	188.4	190.5	
09S 41W 34BAB 01	391401101531801	292.0	111	114.0		157.8	153.5	154.8	155.3	156.0	156.9	
09S 42W 08AAA 01	391730102012701	265.0	120	131.0	160.0	161.1	161.3	162.4	162.4	164.6	166.1	
09S 42W 14AAA 01	391638101580901	282.0	116	131.0	166.6	166.8	166.9	169.9	170.5	173.8	176.0	
09S 42W 35ABB 01	391401101583501	274.0	102	103.0		146.3	146.5	147.1	149.5	151.3	154.7	
10S 37W 23ABB 01	391037101250601	295.0	171	174.0	203.0	204.7		202.1	203.7	209.0	199.0	
10S 40W 10ADC 01	3911581014460401	68.0	12	16.0	18.8	19.0	16.6	17.1	17.8	18.0	18.6	
10S 41W 15CAD 01	391052101531101	120.0	12	12.0	27.8	28.3	26.1	27.8	29.6	29.0	29.2	
10S 42W 20ABB 01	391032102015501	320.0			121.0	119.8	120.9		122.3	122.6	123.7	
10S 42W 21BBB 01	391032102012201	140.0	73	86.0	116.0			118.4	119.1	119.9	121.1	
10S 42W 24BAB 01	391032101574801	205.0	73	84.0	106.6	104.3	107.1	105.5	112.3	106.1	107.4	

SHERMAN COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950 -1998	1966 -1998	1997 -1998	1950 -1998	1966 -1998	1950 1998	1998	
06S 37W 07BBA 01	TO	3304	134	-3	-2.2	-0.9	-0.1	-0.1	129	126	-2
06S 37W 16CDD 01	TO	3460	264	-16	-9.1	-0.3	-0.3	-0.3	107	91	-15
06S 37W 19ABB 01	TO	3476	309	-11	-5.9	-2.2	-0.2	-0.2	159	148	-7
06S 39W 09DDD 01	TO	3585	330	-7	-9.4	-0.3	-0.1	-0.3	185	178	-4
06S 40W 10AAC 01	TO	3641	341	-16	-15.3	-1.3	-0.3	-0.5	190	175	-8
06S 40W 13CBC 01	TO	3624				-0.8					
06S 40W 30DCC 01	TO	3718	326	-13	-18.6	-1.2	-0.3	-0.6	167	154	-8
06S 41W 19DBD 01	TO	3792	325	-31	-23.7	-2.0	-0.6	-0.7	163	132	-19
06S 41W 27DBD 01	TO	3741	325	-30	-29.0	-3.4	-0.6	-0.9	184	154	-16
06S 42W 02AAA 01	TO	3777	277	-25	-21.9	-1.9	-0.5	-0.7	98	73	-26
06S 42W 08CBB 01	TO	3841	304	-33	-14.5	-2.5	-0.7	-0.5	121	88	-27
06S 42W 22DCC 01	TO	3837	315	-28	-21.7	-3.0	-0.6	-0.7	138	110	-20
06S 42W 30ADA 01	TO	3871	309	-38	-30.4	-4.4	-0.8	-1.0	133	95	-29
07S 37W 04BBC 01	TO	3455	270	-21		-2.5	-0.4		148	127	-14
07S 37W 05CCB 01	TO	3472	294	-20	-14.0	-0.3	-0.4	-0.4	170	150	-12
07S 38W 28DAA 01	TO	3545				-0.4					
07S 39W 01DCD 01	TO	3563				-1.1					
07S 39W 09BBB 01	TO	3589	295	-14	-15.3	-1.0	-0.3	-0.5	189	175	-7
07S 39W 24BAA 01	TO	3587	300	-15	-18.5	-1.2	-0.3	-0.6	163	148	-9
07S 40W 06ADB 01	TO	3722	343	-20	-22.2	-1.0	-0.4	-0.7	191	171	-10
07S 40W 29BBA 01	TO	3708	288	-26	-25.2	-1.4	-0.5	-0.8	167	141	-16
07S 40W 35BBB 01	TO	3650	255	-29	-27.7	-1.9	-0.6	-0.9	153	124	-19
07S 40W 36BAB 01	TO	3643	321	-33	-28.1	-3.1	-0.7	-0.9	216	183	-15
07S 41W 07BCB 01	TO	3840	300	-26	-31.4		-0.5	-1.0	120	94	-22
07S 41W 28DBB 01	TO	3774	280	-25	-24.6	-2.1	-0.5	-0.8	169	144	-15
07S 42W 07DAA 01	TO	3903	320	-32	-30.4	-2.8	-0.7	-1.0	157	125	-20
07S 42W 17CCC 01	TO	3864	263	-28	-29.4	-0.8	-0.6	-0.9	144	116	-19
07S 42W 27AAB 01	TO	3862	321	-32	-32.9	-1.1	-0.7	-1.0	179	148	-17
08S 37W 03ADB 01	TO	3476	273	-37	-19.6	-1.3	-0.8	-0.6	147	110	-25
08S 37W 21CCC 01	TO	3496	230	-24	-23.2	0.3	-0.5	-0.7	110	86	-22
08S 37W 32ABB 01	TO	3468	216	-17	-19.8	-1.4	-0.4	-0.6	133	116	-13
08S 38W 17CDD 01	TO	3603	293	-27	-27.8	-0.8	-0.6	-0.9	150	123	-18
08S 38W 24AAB 01	TO	3513	260	-15	-13.7	-0.5	-0.3	-0.4	150	135	-10
08S 39W 15CCC 01	TO	3642	272	-41	-33.1	-0.9	-0.9	-1.0	145	104	-28
08S 40W 12DBA 01	TO	3670	290	-48	-34.6	-1.3	-1.0	-1.1	170	122	-28
08S 40W 17CDB 01	TO	3727	277	-39	-33.3	-2.3	-0.8	-1.0	175	136	-22
08S 40W 25AAC 01	TO	3701	290	-53	-27.8	-2.3	-1.1	-0.9	157	104	-34
08S 41W 17CBA 01	TO	3843	300	-26	-25.5	-1.0	-0.5	-0.8	171	146	-15
08S 41W 25BBC 01	TO	3754	264	-34	-31.5	-1.3	-0.7	-1.0	170	137	-19
08S 42W 15DDB 01	TO	3859	274	-34	-33.4	-1.3	-0.7	-1.0	176	142	-19
08S 42W 31DCD 01	TO	3872	207	-39	-31.2	-1.0	-0.8	-1.0	157	118	-25
09S 37W 07DDB 01	TO	3496				0.2					
09S 38W 13BCC 01	TO	3510				0.2					
09S 39W 01DBA 01	TO	3619				-1.4					
09S 39W 02BAB 01	TO	3646	246	-49		-2.4	-1.0		113	64	-43
09S 39W 10CCB 01	TO	3661				-2.2					
09S 39W 19CCC 01	TO	3695	245	-39		-1.7	-0.8		140	101	-28
09S 40W 13CDC 01	TO	3722	260	-43	-41.0	-0.6	-0.9	-1.3	137	94	-31
09S 40W 29BBB 01	TO	3782	246	-45	-48.3	0.1	-0.9	-1.5	124	79	-36
09S 41W 05DCC 01	TO	3860	265	-45	-36.7	-0.9	-0.9	-1.1	137	92	-33
09S 41W 14BBC 01	TO	3835		-62		-2.1	-1.3				
09S 41W 34BAB 01	TO	3841	290	-46	-42.9	-0.9	-1.0	-1.3	179	133	-26
09S 42W 08AAA 01	TO	3943	271	-46	-35.1	-1.5	-1.0	-1.1	151	105	-30
09S 42W 14AAA 01	TO	3901	291	-60	-45.0	-2.2	-1.3	-1.4	175	115	-34
09S 42W 35ABB 01	TO	3916	268	-53	-51.7	-3.4	-1.1	-1.6	166	113	-32
10S 37W 23ABB 01	TO	3421	289	-28	-25.0	10.0	-0.6	-0.8	118	90	-24
10S 40W 10ADC 01	QA, TO	3624	68	-7	-2.6	-0.6	-0.1	-0.1	56	49	-13
10S 41W 15CAD 01	QA, TO	3762	117	-17	-17.2	-0.2	-0.4	-0.5	105	88	-16
10S 42W 20ABB 01	TO	3968				-1.1					
10S 42W 21BBB 01	TO	3963	223	-48	-35.1	-1.2	-1.0	-1.1	150	102	-32
10S 42W 24BAB 01	TO	3903	204	-34	-23.4	-1.3	-0.7	-0.7	131	97	-26

STAFFORD COUNTY

Well number			USGS site id	Depth of well (ft)	Depth to water by year (ft)							
					1944	1974	1992	1993	1994	1995	1996	1997
21S 11W 07BBB 01	381444098345101	50.0	20		24.8	21.2	10.1	16.2	14.6	15.5	14.6	
21S 13W 05CBD 01	381504098465101	74.0			33.6	28.4	23.9	27.0	26.5	26.0	25.6	
21S 13W 27DDD 02	381120098434802	21.0	11	0.6	13.0	10.0	4.3	8.2	7.4	7.7	6.6	
21S 14W 22AAC 01	381253098503401	125.0	16	4.8	25.9	25.8	21.3	23.3	23.3	22.8	22.8	
21S 14W 32BAC 01	381108098531801	125.0	22	16.2	34.3	35.0	32.1	32.7	33.0	32.8	32.8	
22S 11W 07BBB 01	380929098345101	54.0	10	3.3	5.4	4.7	3.8	4.8	4.4	4.3	4.2	
22S 12W 05BBD 01	381015098401201	140.0	21	8.9	23.2	20.5	11.4	16.2	15.0	15.5	14.3	
22S 12W 30BBD 01	380644098411901	100.0	13	7.0	19.3	16.7	10.1	14.9	13.3	14.2	12.6	
22S 12W 36BBB 02	380558098355802	63.0		0.7	7.9	3.3	2.9	4.8	4.0	3.3	1.4	
22S 13W 05CBC 01	380948098465901	96.0	6	3.1	21.5	19.3	13.3	16.6		17.0	15.8	
22S 13W 12CAC 01	380855098421601	105.0	20	8.6	24.0	20.9	12.4	17.7	16.4	17.6	16.1	
22S 13W 29DAD 01	380617098460101	30.0	17	5.2	22.2	20.9	12.8	17.3	17.4	17.6	16.5	
22S 14W 14CCA 01	380757098500901	100.0	12	0.8	27.2	25.8	19.8	23.1	22.8	23.4	22.6	
22S 14W 35DDB 01	380519098492701	130.0	20	11.1	33.1	33.0	26.0	28.9	29.4	30.0	30.4	
23S 11W 02BBB 01	380506098302901	30.0		1.0	4.1	0.1	1.1	2.6	1.9	1.7	0.0	
23S 11W 22BCC 01	380209098313501	100.0	5	17.4	24.7	21.0	18.8	21.8	20.1	19.1	18.1	
23S 11W 36CCA 01	380004098291501	90.0			22.6	19.9	13.8	18.2	16.3	15.1	13.8	
23S 12W 07DBD 01	380340098404601	60.0	1	0.5		9.4	4.6	9.6	8.3	7.5	5.3	
23S 12W 22BCC 01	380208098381001	91.0	4	5.4	17.8	14.3	9.3	13.7	11.9	10.8	9.9	
23S 12W 36BBC 01	380036098355801	77.0	8	11.7	20.6	15.5	11.6	15.1	13.8	12.8	12.5	
23S 13W 08CCB 01	380333098465901	126.0	8	4.4	16.6	15.7	9.8	13.4	13.3	13.3	12.3	
23S 13W 30CBB 01	380108098480501	50.0	11	7.9	15.5	14.2	11.8	13.6	13.5	13.3	12.9	
23S 13W 35CCA 01	380002098433201	92.0	19	7.3	23.6	22.6	16.0	19.2	17.8	17.9	17.7	
23S 14W 15ADD 01	380301098502501	70.0	7	3.3	15.1	14.6	10.3	13.2	12.3	11.6	12.3	
23S 14W 30BBB 01	380136098544001	156.0	24	34.4	46.2	45.2	42.0	43.3	43.2	42.8	43.0	
24S 11W 17DDB 01	375727098325701	69.0	23	22.8	25.3	22.9	19.4	22.3	21.9	21.1	20.7	
24S 12W 04CDB 01	375910098385901	135.0			26.9	23.3	14.9	20.8	18.9	19.2	19.6	
24S 12W 17CAB 01	375738098400601	103.0	22	16.8	33.0	29.6	20.6	27.1	25.2	25.7	25.5	
24S 12W 34ABC 01	375520098373701	70.0	29	20.0	25.6	23.9	16.8	20.7	20.9	20.6	21.0	
24S 13W 16ACA 01	375750098451101	85.0	18	8.6	25.2	24.8	18.9	21.4	20.4	20.0	19.8	
24S 13W 20CDD 01	375625098463401	85.0			25.7	25.7	21.1	23.2	22.2	22.3	22.2	
24S 13W 36DDD 01	375439098413701	38.0	21		25.5	23.9	16.1	21.4	21.2	21.9	21.5	
24S 14W 17AAC 01	375759098524501	108.0	27	21.7	36.8	34.9	32.4	34.7	34.2	34.4	33.9	
24S 14W 31BBD 01	375521098543201	90.0	23	7.8	25.0	24.3	18.4	22.8	19.5	18.6	18.5	
24S 15W 10BAB 01	375859098574001	110.0	24	14.6	33.6	33.3	30.0	31.8	30.7	30.2	29.6	
24S 15W 32DBC 01	375456098593401	88.0	21	9.9	31.1	29.9	24.9	27.8	24.3	23.1	20.2	
25S 11W 02ACB 01	375423098295601	65.0	10	10.3	11.9	11.0	10.9	11.9	11.5	11.2	10.5	
25S 11W 23DDD 01	375112098293101	84.0	13	12.9	17.5	17.0	12.8	17.0	16.0	17.1	16.8	
25S 12W 11AAA 01	375342098360701	92.0	16		18.3	14.8	11.2	17.0	16.6	15.3	14.7	
25S 12W 16DCA 01	375210098383501	90.0			16.3	13.5	9.9	15.1	14.7	13.2	11.8	
25S 12W 24DDB 01	375117098350901	60.0	17	10.2	14.7	13.4	11.0	14.3	13.9	13.5	12.6	
25S 13W 16AAC 01	375228098451901	130.0	22		31.9	30.2	21.8	29.5	29.7	27.1	24.8	
25S 13W 31DDA 01	374930098470601	51.0	38			25.5	18.6	26.1	25.0	21.8	18.1	
25S 13W 36DCC 01	374923098420201	48.0	22		16.1	14.8	11.4	16.1	15.2	12.5	10.9	
25S 14W 04AAD 01	375428098513101	68.0	24	9.2	16.1	14.6	12.0	14.7	13.5	12.2	12.4	
25S 14W 21DDB 01	375118098513901	98.0			17.3	15.3	11.8	15.9	14.6	11.7	10.0	
25S 14W 30CDB 01	375025098542401	105.0	14	7.2	18.4	16.5	13.6	16.9	16.6	14.1	11.9	
25S 15W 11BCB 01	375330098565101	57.0	16	11.7	20.8	21.8	17.8	18.2	12.3	12.7	12.9	
25S 15W 29BBD 01	375059098595801	96.0	16	4.3	14.0	11.0	9.1	11.9	10.4	6.6	6.0	

STAFFORD COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1944	1974	1997	1944	1974			
				-1998	-1998	-1998	-1998	-1998	1944	1998	-1998
21S 11W 07BBB 01	QU	1808	193	5		0.9	0.1		173	178	3
21S 13W 05CBD 01	QU	1893				0.4					
21S 13W 27DDD 02	QU	1877	152	4	-6.0	1.1	0.1	-0.3	141	145	3
21S 14W 22AAC 01	QU	1926	196	-7	-18.0	0.0	-0.1	-0.8	180	173	-4
21S 14W 32BAC 01	QU	1949	219	-11	-16.6	0.0	-0.2	-0.7	197	186	-6
22S 11W 07BBB 01	QU	1785	54	6	-0.9	0.1	0.1	0.0	44	50	14
22S 12W 05BBD 01	QU	1870	220	7	-5.4	1.2	0.1	-0.2	199	206	4
22S 12W 30BBD 01	QU	1872	162	0	-5.6	1.6	0.0	-0.2	149	149	0
22S 12W 36BBB 02	QU	1827	146		-0.7	1.9		0.0		145	
22S 13W 05CBC 01	QU	1905	165	-10	-12.7	1.2	-0.2	-0.5	159	149	-6
22S 13W 12CAC 01	QU	1885	180	4	-7.5	1.5	0.1	-0.3	160	164	3
22S 13W 29DAD 01	QU	1902	204	1	-11.3	1.1	0.0	-0.5	187	188	1
22S 14W 14CCA 01	QU	1930	200	-11	-21.8	0.8	-0.2	-0.9	188	177	-6
22S 14W 35DDDB 01	QU	1930	130	-10	-19.3	-0.4	-0.2	-0.8	110	100	-9
23S 11W 02BBB 01	QU	1789	125		1.0	1.7		0.0		125	
23S 11W 22BCC 01	QU	1802	172	-13	-0.7	1.0	-0.2	0.0	167	154	-8
23S 11W 36CCA 01	QU	1803				1.3					
23S 12W 07DBD 01	QU	1859	174	-4	-4.8	2.2	-0.1	-0.2	173	169	-2
23S 12W 22BCC 01	QU	1853	163	-6	-4.5	0.9	-0.1	-0.2	159	153	-4
23S 12W 36BBC 01	QU	1849	154	-5	-0.8	0.3	-0.1	0.0	146	142	-3
23S 13W 08CCB 01	QU	1895	120	-4	-7.9	1.0	-0.1	-0.3	112	108	-4
23S 13W 30CBB 01	QU	1906	86	-2	-5.0	0.4	0.0	-0.2	75	73	-3
23S 13W 35CCA 01	QU	1897	150	1	-10.4	0.2	0.0	-0.4	131	132	1
23S 14W 15ADD 01	QU	1927	76	-5	-9.0	-0.7	-0.1	-0.4	69	64	-7
23S 14W 30BBB 01	QU	1988	168	-19	-8.6	-0.2	-0.4	-0.4	144	125	-13
24S 11W 17DDB 01	QU	1833	133	2	2.1	0.4	0.0	0.1	110	112	2
24S 12W 04CDB 01	QU	1875				-0.4					
24S 12W 17CAB 01	QU	1893	144	-4	-8.7	0.2	-0.1	-0.4	122	119	-2
24S 12W 34ABC 01	QU	1880	150	8	-1.0	-0.4	0.1	0.0	121	129	7
24S 13W 16ACA 01	QU	1915	137	-2	-11.2	0.2	0.0	-0.5	119	117	-2
24S 13W 20CDD 01	QU	1932				0.1					
24S 13W 36DDD 01	QU	1907	155	-1		0.4	0.0		134	134	0
24S 14W 17AAC 01	QU	1982	132	-7	-12.2	0.5	-0.1	-0.5	105	98	-7
24S 14W 31BBD 01	QU	1998	158	5	-10.7	0.1	0.1	-0.4	135	140	4
24S 15W 10BAB 01	QU	2024	114	-6	-15.0	0.6	-0.1	-0.6	90	84	-7
24S 15W 32DBC 01	QU	2044	184	1	-10.3	2.9	0.0	-0.4	163	164	1
25S 11W 02ACB 01	QA, QU	1770	90	-1	-0.2	0.7	0.0	0.0	80	80	0
25S 11W 23DDD 01	QU	1796	156	-4	-3.9	0.3	-0.1	-0.2	143	139	-3
25S 12W 11AAA 01	QU	1846	81	1		0.6	0.0		65	66	2
25S 12W 16DCA 01	QU	1868				1.4					
25S 12W 24DDB 01	QU	1840	145	4	-2.4	0.9	0.1	-0.1	128	132	3
25S 13W 16AAC 01	QU	1940	142	-3		2.3	-0.1		120	117	-3
25S 13W 31DDA 01	QU	1973	221	20		3.7	0.4		183	203	11
25S 13W 36DCC 01	QU	1902	177	11		1.6	0.2		155	166	7
25S 14W 04AAD 01	QU	1969	149	12	-3.2	-0.2	0.2	-0.1	125	137	10
25S 14W 21DDB 01	QU	1980				1.7					
25S 14W 30CDB 01	QU	2004	214	2	-4.7	2.2	0.0	-0.2	200	202	1
25S 15W 11BCB 01	QU	2020	174	3	-1.2	-0.2	0.1	-0.1	158	161	2
25S 15W 29BBD 01	QU	2034	184	10	-1.7	0.6	0.2	-0.1	168	178	6

STANTON COUNTY

Well number			USGS site id	Depth of well (ft)	Depth to water by year (ft)							
					1940	1966	1992	1993	1994	1995	1996	1997
27S 39W 27BBA 01	374039101343701	379.0	68	102.2	200.7	209.1	205.5	215.9	230.2	229.6	230.7	
27S 40W 07ABB 01	374316101435901	521.0	63		138.3	138.6			191.6			
27S 40W 25CBC 01	374006101390601	320.0	73	85.8	189.7	187.5	185.4	189.5	199.2		189.2	
27S 41W 35CCC 01	373901101464301	332.0		135.0	187.1	185.9	188.1	189.7	192.8	192.6	187.8	
27S 42W 17CCC 01	374138101562901	504.0			236.3	236.7	238.2	240.9	248.2	245.3	245.7	
27S 43W 02BDD 01	374355101592201	385.0				259.4	258.6	257.8	269.7		262.3	
28S 39W 14BBC 01	373703101334001	419.0	53	97.1	155.5	156.7	158.3	162.1	163.3	165.2	166.6	
28S 39W 16CCC 01	373624101355001		49		185.5	182.7	183.6	190.6	199.2	199.0	190.5	
28S 39W 33ACC 01	373413101351701	430.0	82	120.1	191.2	202.3	203.9	209.9	199.4	204.6		
28S 39W 36ABB 02	373433101320202									227.2	224.5	
28S 40W 04CCC 01	373808101422201	320.0			230.7	233.6	235.1	232.6	250.2	238.2	236.5	
28S 40W 12DDD 02	373716101380902	280.0	83	107.4	219.0	217.9	218.9	225.3	228.0	222.6	220.7	
28S 40W 32CCB 01	373353101432801	435.0	158	172.5	255.9		257.6	253.2	254.7			
28S 41W 02CCC 01	373808101464301	365.0	141		236.8	236.5	236.1	234.3	236.9	235.5	239.2	
28S 42W 06DBB 01	373825101565801	300.0			245.1	246.6	247.1	253.7	257.8	259.8	255.9	
28S 42W 20BCC 01	373558101563001				251.3	251.0	250.9	251.4	253.1	252.5	251.5	
28S 42W 32BBB 01	373433101563101	443.0		215.9		209.4	209.3	209.5	210.4	211.6	211.8	
29S 39W 21DBD 01	373031101350901	390.0	62	82.6	200.8	203.5	204.1	210.3	215.2	217.5	219.9	
29S 39W 24DDA 01	373024101313601	300.0	62	80.0	187.0	189.0	194.7	200.2	203.6	204.0		
29S 40W 28ABB 01	373011101415001	520.0	132		261.7	257.1	278.6		268.6		275.0	
29S 41W 13ACC 01	373136101450601	423.0	176	192.6			288.8	292.6	297.7			
29S 42W 08CDB 01	373202101561501	367.0		186.9	191.4	187.8	193.5	188.5	190.7	191.0	189.7	
29S 42W 26BDC 01	372952101530001	516.0							231.6			
29S 43W 21DCDD01	373024102011701	280.0					92.4			104.9	105.2	
29S 43W 21DCDD02	373024102012002	415.0					109.9	113.5	123.2	121.1		
29S 43W 21DCDD03	373024102012003	270.0					89.6			101.6		
29S 43W 33CDB 01	372840102014101	300.0		119.8	111.8	115.1	115.5	121.2	126.3	125.4	127.4	
30S 39W 23BBB 01	372550101333801	405.0	72	89.5	164.7	163.0	162.3	160.8	160.9	162.4	160.1	
30S 40W 12BBB 01	372734101390601	405.0	138		257.6	257.8	262.5	260.9	268.9	266.7		
30S 40W 24CDC 01	372504101384901	295.0		115.3	177.8	168.0	183.3		183.4	184.6	185.8	
30S 40W 33CCB 01	372326101422301	245.0		164.3	190.7	190.2	190.3	191.1	193.0	192.5	194.5	
30S 41W 13CCC 02	372556101454002				203.6	199.6	200.9	199.7	198.5	199.0	199.7	
30S 41W 23DDB 01	372510101455601	325.0	178		198.3	192.8	192.8	191.6	197.4	191.9	193.2	
30S 42W 12ACC 01	372715101513901	410.0		188.0	194.2	194.3	193.8	193.1	193.6	193.4	194.4	
30S 42W 16BDB 01	372629101551101	220.0		187.8	173.8	174.4	176.8	172.1	172.5	172.7	173.0	
30S 43W 34BBA 01	372355102004101	110.0							87.8	85.7	85.1	
30S 43W 36BB 01	372402101584001	500.0		71.6	84.1	85.0	85.3		86.3	86.3	86.1	

STEVENS COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1940	1966	1992	1993	1994	1995	1996	1997	1998
31S 35W 15BAA 01	372128101065001	450.0	224	236.4	295.3	298.5	298.9	300.8		305.6	306.6
31S 36W 02CDD 01	372227101121501	410.0	139	155.1	180.6	182.2	183.5		194.1	191.8	195.7
31S 37W 09BBC 01	372214101211701				229.1	234.6	236.4	241.0	247.2	253.0	256.1
31S 37W 22BCC 01	372016101201201	440.0	106	128.4	236.8	241.5	242.0	247.1	252.8	258.5	262.3
31S 37W 30ddb 01	371904101223801	480.0	123		229.4	232.7	235.2	241.4	247.2	258.9	262.7
31S 39W 23BBB 01	372036101320601	338.0	98	116.9	177.0	179.0	181.5	182.6	185.3	186.3	188.6
32S 35W 08DDD 01	371621101082601	535.0	130		177.0	176.9	180.1	183.7	186.8	188.3	189.9
32S 36W 21AAC 01	371516101135901	400.0	125		195.5	193.9	195.8	186.3	192.5	200.4	207.3
32S 37W 10DCC 01	371621101194001	480.0	127	136.4	175.8	176.5	175.9		181.2	179.6	178.4
32S 37W 26BAC 01	371420101185501	145.0	124		123.7	122.2	123.7	124.5	127.7	132.6	132.2
32S 38W 11ADA 01	371654101244001	250.0	118	114.1	137.5	138.8	139.9	141.3	142.8	144.2	
32S 38W 23CAD 01	371503101251201	250.0		106.2		149.2	149.8	143.2	150.1		
32S 39W 02BBB 01	371800101320601	250.0	96	132.9	191.8	192.8	199.6	203.3	198.1		
32S 39W 14DDD 01	371530101320601	425.0			78.5	80.8	74.7	77.0	80.9	72.2	85.8
33S 35W 23CBB 01	370958101055501		104		143.6	141.8	145.3	149.9	157.5	164.3	165.8

STANTON COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1940	1966	1997	1940	1966	1940	1998	
				-1998	-1998	-1998	-1998	-1998	1940	1998	
27S 39W 27BBA 01	QU, TO	3175	395	-163	-128.5	-1.1	-2.8	-4.0	327	164	-50
27S 40W 07ABB 01	KD	3273	228								
27S 40W 25CBC 01	QU, TO	3228	328	-116	-103.4		-2.0	-3.2	255	139	-45
27S 41W 35CCC 01	QU, TO	3340			-52.8	4.8		-1.7			
27S 42W 17CCC 01	QU, TO, KJ	3496				-0.4					
27S 43W 02BDD 01	QU, TO, KD	3545									
28S 39W 14BBC 01	QU, TO	3158	408	-114	-69.5	-1.4	-2.0	-2.2	355	241	-32
28S 39W 16CCC 01	QU, TO, KD	3171	391	-142		8.5	-2.4		342	201	-41
28S 39W 33ACC 01	QU, TO	3201	428								
28S 39W 36ABB 02	QU, TO	3145				2.7					
28S 40W 04CCC 01	QU, TO	3289				1.7					
28S 40W 12DDD 02	QU, TO	3225	385	-138	-113.3	1.9	-2.4	-3.5	302	164	-46
28S 40W 32CCB 01	QU, TO	3320	446								
28S 41W 02CCC 01	QU, TO	3343	343	-98		-3.7	-1.7		202	104	-49
28S 42W 06DBB 01	QU, TO	3529				3.9					
28S 42W 20BCC 01	QU, TO	3553				1.0					
28S 42W 32BBB 01	QU, TO, KD	3540			4.1	-0.2		0.1			
29S 39W 21BBD 01	QU, TO	3183	413	-158	-137.3	-2.4	-2.7	-4.3	351	193	-45
29S 39W 24DDA 01	QU, TO	3154	449								
29S 40W 28ABB 01	QU, TO, KJ	3282	422	-143			-2.5		290	147	-49
29S 41W 13ACC 01	QU, TO	3344	400								
29S 42W 08CDC 01	KJ	3517			-2.8	1.3		-0.1			
29S 42W 26BDC 01	QU, TO, KD	3490									
29S 43W 21DCDD01	KD	3566				-0.3					
29S 43W 21DCDD02	JM	3568									
29S 43W 21DCDD03	KD	3566									
29S 43W 33CDB 01	KD	3654			-7.6	-2.0		-0.2			
30S 39W 23BBB 01	QU, TO	3179	404	-88	-70.6	2.3	-1.5	-2.2	332	244	-27
30S 40W 12BBB 01	QU, TO	3274	434								
30S 40W 24CDC 01	QU, TO, KD	3237			-70.5	-1.2		-2.2			
30S 40W 33CCB 01	QU, TO	3309			-30.2	-2.0		-0.9			
30S 41W 13CCC 02	QU, TO	3347				-0.7					
30S 41W 23ddb 01	QU, TO, KJ	3365	205	-15		-1.3	-0.3		27	12	-56
30S 42W 12ACC 01	KJ	3457			-6.4	-1.0		-0.2			
30S 42W 16BDB 01	KD	3524			14.8	-0.3		0.5			
30S 43W 34BBA 01	QU, TO, KD	3622				0.6					
30S 43W 36BB 01	QU, TO, KJ	3595			-14.5	0.2		-0.5			

STEVENS COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1940	1966	1997	1940	1966	1940	1998	
				-1998	-1998	-1998	-1998	-1998	1940	1998	
31S 35W 15BAA 01	QU, TO	3009	449	-83	-70.2	-1.0	-1.4	-2.2	225	142	-37
31S 36W 02CDD 01	QU, TO	3019	365	-57	-40.6	-3.9	-1.0	-1.3	226	169	-25
31S 37W 09BBC 01	QU, TO	3102				-3.1					
31S 37W 22BCC 01	QU, TO	3096	440	-156	-133.9	-3.8	-2.7	-4.2	334	178	-47
31S 37W 30ddb 01	TO	3138	498	-140		-3.8	-2.4		375	235	-37
31S 39W 23BBB 01	QU, TO	3199	259	-91	-71.7	-2.3	-1.6	-2.2	161	70	-57
32S 35W 08DDD 01	QU, TO	3012	502	-60		-1.6	-1.0		372	312	-16
32S 36W 21AAC 01	TO	3067	467	-82		-6.9	-1.4		342	260	-24
32S 37W 10DCC 01	QU, TO	3120	540	-51	-42.0	1.2	-0.9	-1.3	413	362	-12
32S 37W 26BAC 01	QU, TO	3118		-8		0.4	-0.1				
32S 38W 11ADA 01	QU, TO	3159	529								
32S 38W 23CAD 01	QU, TO	3175									
32S 39W 02BBB 01	QU, TO	3216	296								
32S 39W 14DDD 01	QU, TO	3202				-13.6					
33S 35W 23CBB 01	TO	2968		-62		-1.5	-1.1				

STEVENS COUNTY (cont'd)

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1940	1966	1992	1993	1994	1995	1996	1997	1998
33S 36W 26DDD 01	370831101114001	360.0	121	118.7	165.2	165.5	173.0	185.4	205.5		
33S 37W 17CCC 01	371015101222101	420.0	83	89.3	109.0	112.3	114.3	116.9	121.1	126.9	127.9
33S 37W 23CDB 01	370930101185001	420.0	87	83.8	101.5	100.5	101.0	102.9	106.0		
33S 38W 06AAB 01	371246101290701	360.0	93	94.7	94.2	93.8	95.0	95.4	96.4	96.1	96.4
33S 38W 10ACC 01	371135101260901	344.0	101	107.8	150.2	152.0	153.6	156.4	159.9	163.3	166.6
33S 38W 20DDB 01	370931101280201	405.0		124.9	154.9	146.9	154.3	154.6	158.9	161.4	164.0
34S 35W 26ACC 01	370352101055301	470.0	112		137.6	135.2	137.2	141.3	147.8	152.7	155.0
34S 36W 10CAC 01	370604101132901		135		169.2	170.6	170.8	173.5	177.5	180.4	184.9
34S 36W 21DBD 01	370422101140501	600.0	144		170.2	174.0	178.4	181.3	185.8	189.6	191.8
34S 37W 08DAC 01	370607101213201	165.0	133	113.0	137.3	138.8	140.4	142.6	144.7	146.9	
34S 37W 27ABC 02	370356101193902				129.0	131.2	133.0	135.6	139.8	141.3	143.8
34S 37W 29BBD 01	370356101221301	360.0	138		153.4	155.6	157.8		162.6	165.4	168.8
34S 37W 35AAD 01	370304101180901	328.0	129		129.4	133.0	131.0	138.6	141.7	143.2	145.7
34S 38W 02ADC 01	370714101244701				153.1	155.7	157.7			168.5	171.7
34S 38W 34CAA 01	370246101261701	568.0			169.0	171.7	174.1		180.1	183.5	187.5
34S 39W 02CCA 01	370655101315801	210.0	118	108.3	106.6	101.0	101.6	102.2	103.8	104.4	104.3
34S 39W 15CAD 01	370517101324601	420.0	141	141.7	138.1		139.3	140.5	142.0	143.2	144.4
35S 35W 15BCC 01	370012101070901	450.0	107		113.6	118.1	120.5	123.4	126.9	130.7	135.1
35S 36W 01AAA 01	370218101103301	400.0	120		134.1	138.4	142.2	139.1	144.6	147.3	153.0
35S 37W 16BCC 01	370014101211601	480.0			139.4	141.4	143.3	145.1	150.1	152.1	155.7
35S 39W 10CAD 01	370057101324601	530.0	183	188.0	199.6	204.5	203.1	208.0	213.1	216.0	218.3

SUMNER COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)							
			1950	1966	1992	1993	1994	1995	1996	1997
30S 04W 34BAA 01	372409097443201	89.0			28.3	27.3			24.4	
31S 04W 01DAC 01	372244097415201	70.0			22.0	20.3			16.4	
31S 04W 02BBB 01	372317097434801	50.0			11.4	8.9			8.2	

THOMAS COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
06S 31W 03ADB 01	393348100454501	196.0	109	115.0			115.0	115.1	113.9	114.9	114.5
06S 31W 19ABA 01	393127100490701	172.0				118.4	118.6			119.2	119.5
06S 31W 33CCD 01	392854100473701	131.0	18	10.0	29.7	34.7	37.7	34.7	36.1	35.4	35.8
06S 32W 12CBC 01	393236100505101	168.0	115	114.0	117.8	118.3	118.2	118.1	118.1	118.3	
06S 32W 29CDC 01	392946100550001	204.0	113	111.0	125.8	124.0	123.8		126.1	126.4	125.3
06S 33W 07BBB 01	393309101030601	168.0	137		141.5	141.8	139.5	140.1	144.1	139.6	142.9
06S 33W 23DDD 01	393039100574201	168.0	9		16.4	10.0	9.7	11.0	12.4	12.2	11.5
06S 34W 11CDD 01	393223101045601	254.0	158	156.0	163.9	163.1	163.7	164.2		164.8	165.2
06S 34W 17CBC 01	393144101084301	264.0	151	151.0	167.6	166.8	159.7	159.8	160.5	161.2	162.3
06S 34W 22DCA 01	393045101054701	210.0			132.5	130.5	131.7	131.1	130.5	132.1	
06S 34W 31CDB 01	392901101093401	253.0			135.9	134.9	136.1	136.3	136.4	138.2	139.4
06S 35W 02CDD 01	393316101113801	290.0	117	127.0	131.1	130.5	130.5	131.0	132.3	131.1	131.8
06S 35W 26ACB 01	393020101113101	250.0	151	150.0	159.7	158.0	161.5	159.5	158.8	160.4	161.6
06S 36W 07BBB 01	393310101231501	316.0					180.3	181.3	179.1	182.1	182.4
06S 36W 11ACC 01	393250101181301	290.0	168	161.0	171.4		172.0	173.6	174.8	178.3	
06S 36W 30DCB 01	392955101224301	285.0	152	147.0	156.9		157.3	162.6	158.9	159.6	159.6
06S 36W 34DDB 01	392903101190501	248.0	99	94.0	104.5	103.9	104.4	109.8	106.4	112.0	109.6
07S 31W 01DCA 01	392809100433901	246.0	108	101.0	122.4	122.5	119.2	126.3	122.5	124.0	123.1
07S 32W 07ACA 01	392736100554301	135.0	68	64.0			81.8	82.1	81.0	81.5	82.6
07S 32W 13DBD 01	392631100501201	223.0					115.6	114.1	115.5	115.6	115.7

STEVENS COUNTY (cont'd)

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1940	1966	1997	1940	1966	1940	1998	
				-1998	-1998	-1998	-1998	-1998			1940
											-1998
33S 36W 26DDD 01	QU, TO	3032	422								
33S 37W 17CCC 01	QU, TO	3124	554	-45	-38.6	-1.0	-0.8	-1.2	471	426	-10
33S 37W 23CDB 01	QU, TO	3092	562								
33S 38W 06AAB 01	QU, TO	3203	378	-3	-1.7	-0.3	-0.1	-0.1	285	282	-1
33S 38W 10ACC 01	QU, TO	3166	466	-66	-58.8	-3.3	-1.1	-1.8	365	299	-18
33S 38W 20DDB 01	QU, TO	3191			-39.1	-2.6		-1.2			
34S 35W 26ACC 01	TO	2977		-43		-2.3	-0.7				
34S 36W 10CAC 01	TO	3065		-50		-4.5	-0.9				
34S 36W 21DBD 01	TO	3079		-48		-2.2	-0.8				
34S 37W 08DAC 01	QU, TO	3162	642								
34S 37W 27ABC 02	QU, TO	3132				-2.5					
34S 37W 29BBD 01	TO	3170	550	-31		-3.4	-0.5		412	381	-8
34S 37W 35AAD 01	TO	3111	666	-17		-2.5	-0.3		537	520	-3
34S 38W 02ADC 01	TO	3171				-3.2					
34S 38W 34CAA 01	TO	3194				-4.0					
34S 39W 02CCA 01	QU, TO	3248	533	14	4.0	0.1	0.2	0.1	415	429	3
34S 39W 15CAD 01	QU, TO	3280	510	-3	-2.7	-1.2	-0.1	-0.1	369	366	-1
35S 35W 15BCC 01	TO	2978	618	-28		-4.4	-0.5		511	483	-5
35S 36W 01AAA 01	QU, TO	3022	590	-33		-5.7	-0.6		470	437	-7
35S 37W 16BCC 01	TO	3138				-3.6					
35S 39W 10CAD 01	QU, TO	3302	502	-35	-30.3	-2.3	-0.6	-0.9	319	284	-11

SUMNER COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	
				-1998	-1998	-1998	-1998	-1998			1950
											-1998
30S 04W 34BAA 01	QU	1460									
31S 04W 01DAC 01	QU	1441									
31S 04W 02BBB 01	QU	1435									

THOMAS COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	
				-1998	-1998	-1998	-1998	-1998			1950
											-1998
06S 31W 03ADB 01	TO	2957	192	-6	0.5	0.4	-0.1	0.0	83	78	-6
06S 31W 19ABA 01	TO	3010				-0.3					
06S 31W 33CCD 01	TO	2916	131	-18	-25.8	-0.4	-0.4	-0.8	113	95	-16
06S 32W 12CBC 01	TO	3020	210								
06S 32W 29CDC 01	TO	3077	204	-12	-14.3	1.1	-0.3	-0.4	91	79	-13
06S 33W 07BBB 01	TO	3177	234	-6		-3.3	-0.1		97	91	-6
06S 33W 23DDD 01	QA, TO	2997	81	-3		0.7	-0.1		72	70	-3
06S 34W 11CDD 01	TO	3218	253	-7	-9.2	-0.4	-0.1	-0.3	95	88	-7
06S 34W 17CBC 01	TO	3261	258	-11	-11.3	-1.1	-0.2	-0.4	107	96	-10
06S 34W 22DCA 01	TO	3207									
06S 34W 31CDB 01	TO	3255				-1.2					
06S 35W 02CDD 01	TO	3245	250	-15	-4.8	-0.7	-0.3	-0.2	133	118	-11
06S 35W 26ACB 01	TO	3300	255	-11	-11.6	-1.2	-0.2	-0.4	104	93	-11
06S 36W 07BBB 01	TO	3410				-0.3					
06S 36W 11ACC 01	TO	3360	280								
06S 36W 30DCB 01	TO	3417	307	-8	-12.6	0.0	-0.2	-0.4	155	147	-5
06S 36W 34DDB 01	TO	3334	246	-11	-15.6	2.4	-0.2	-0.5	147	136	-7
07S 31W 01DCA 01	TO	2956	246	-15	-22.1	0.9	-0.3	-0.7	138	123	-11
07S 32W 07ACA 01	TO	3056	146	-15	-18.6	-1.1	-0.3	-0.6	78	63	-19
07S 32W 13DBD 01	TO	3028				-0.1					

THOMAS COUNTY (cont'd)

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
07S 32W 33BCB 01	392414100541201	270.0			121.7	119.7	121.0	122.1	126.1	127.3	122.7
07S 33W 07BDA 01	392743101024401	256.0	141	149.0	156.2		155.4	156.1	156.8	157.8	157.8
07S 34W 25AAA 01	392520101031901	240.0	106	106.0	121.7	120.5	114.3	115.2	115.5	127.2	118.7
07S 34W 26DBD 01	392448101044301	234.0	104	104.0	127.2		127.6	123.6	121.8	130.1	127.4
07S 35W 09CCC 01	392712101142001	137.0	124			131.8	127.6	127.3	132.7	133.4	133.9
07S 36W 17CCC 01	392620101221101	275.0	139	134.0	153.8	149.3	149.7	149.7	148.7	150.2	150.8
08S 31W 03CDD 01	392249100461301	275.0	110		148.3	146.2	145.8	146.1	147.8	148.0	147.9
08S 31W 20CDD 01	392013100483101	223.0	98	101.0	130.3	132.0	122.9	126.8	127.8	127.9	130.0
08S 32W 07BAA 01	392243100560301	190.0	98	99.0	129.8	128.3	127.3	127.6	128.1	128.4	128.9
08S 32W 12DBC 01	392210100502301	220.0	110	108.0	125.9	126.9	126.0			128.5	128.5
08S 32W 27DAB 01	391940100521901	156.0	112	110.0	129.2	129.3	128.8	128.1	129.0	129.2	130.5
08S 33W 34BBC 01	391908100595301	200.0	130	130.0	162.0	160.7	160.9		161.0	161.2	162.2
08S 34W 01BAC 01	392329101040201	175.0	113	116.0	131.0	130.8	129.9	130.5	130.5	130.6	131.5
08S 34W 06CBC 01	392303101095401	227.0	130	135.0	145.5	137.9	138.4	141.5	139.8	139.9	140.9
08S 34W 23CBD 01	392027101051901	235.0	162	155.0	182.9		185.0	185.8	186.1	186.3	187.2
08S 34W 29CCC 01	391922101084901	280.0					212.6	213.2	213.5	213.0	213.8
08S 35W 04CCC 01	392252101142201	192.0			95.3	95.4	95.1	94.7	95.4	95.1	
08S 36W 15CBB 01	392127101195901	216.0			87.5	87.2	86.6	86.7	86.4	87.0	87.3
08S 36W 18ABA 02	392153101223802	140.0	120		132.1	132.5	131.5	132.1	131.3	132.9	134.6
08S 36W 31BCD 01	391858101231301	135.0					38.0	38.1	37.5	43.7	43.7
09S 31W 17CCC 01	391552100485901	290.0			94.1	92.6	89.5	90.1	90.5	91.6	93.0
09S 31W 36AAB 01	391401100433101	227.0	130	131.0	152.6	148.3	146.6	149.1	156.7	149.7	158.8
09S 32W 03AAA 01	391822100521201	165.0			103.6	100.6	100.3	100.8	101.3	101.6	102.7
09S 32W 27BCD 01	391434100530301	210.0	97	98.0	126.6	125.4	122.0	124.4	124.2	125.7	126.7
09S 33W 35AAD 01	391355100574901	244.0	125	129.0	166.4		166.4	168.0	168.3	169.3	170.8
09S 34W 11CCC 01	391646101052901	257.0			136.8	137.9	136.9	131.7	131.1	132.8	134.0
09S 34W 12ADA 01	391718101032301		134		190.0	170.7	171.0	171.0	171.3	172.2	173.9
09S 34W 17ABA 01	391639101080801	198.0			160.2	159.1	159.1	160.2		159.3	160.3
09S 35W 32DAA 01	391339101143501	238.0	182	188.0	211.2	209.6	194.0	186.0	193.7	185.1	186.7
10S 31W 26AAA 01	390940100443201	31.0	11	5.0	14.5	11.0	10.3	10.9	10.5	9.7	10.4
10S 31W 29AAB 01	390940100480901	190.0	82	82.0	92.7	92.3	91.8	91.0		91.2	91.3
10S 32W 11BAA 01	391217100514101	185.0	110	105.0	123.0	123.7	123.8	125.3	124.9	125.8	126.7
10S 32W 29DCB 01	390901100545201	185.0	78	80.0	98.6	105.2	96.5	97.1	101.3	104.8	105.6
10S 33W 06BBC 01	391303101031701	316.0	136		181.5		177.8	175.2	177.9	176.9	180.0
10S 33W 11BAB 01	391217100583201	299.0					160.4	159.8	158.3	157.9	160.4
10S 33W 19CBD 01	391001101031001	168.0	100	99.0	107.3	105.9	102.8	101.7	107.0	112.5	117.2
10S 34W 12BCD 01	391200101041601	300.0	157	169.0	179.7		175.4	172.8	178.6	171.3	176.0
10S 34W 29BBC 01	390936101085301	185.0			88.7		82.6	84.5	83.3	87.7	
10S 35W 09ABB 01	391221101135301	189.0			112.4	112.2	111.8	110.5	111.4	110.6	111.1
10S 36W 16CCC 01	391043101211101	179.0			133.1	133.9	134.1	134.1	133.8	134.3	135.7

TREGO COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
12S 23W 20CCC 01	385919099542601	65.0					16.5		17.2	16.3	16.4
14S 25W 13ABC 01	385026100025601	88.0							15.4	15.2	14.1

WABAUNSEE COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
10S 10E 15DCC 01	391029096171301	39.0		15.5		14.9				13.9	15.2
10S 12E 29ADD 01	390909096053101	37.0				15.8				18.8	21.2

THOMAS COUNTY (cont'd)

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1950 -1998
				1950 -1998	1966 -1998	1997 -1998	1950 -1998	1966 -1998	1950	1998	
07S 32W 33BCB 01	TO	3082				4.6					
07S 33W 07BDA 01	TO	3203	254	-17	-8.8	0.0	-0.4	-0.3	113	96	-15
07S 34W 25AAA 01	TO	3167	240	-13	-12.7	8.5	-0.3	-0.4	134	121	-10
07S 34W 26DBD 01	TO	3177	230	-23	-23.4	2.7	-0.5	-0.7	126	103	-18
07S 35W 09CCC 01	TO	3315	265	-10		-0.5	-0.2		141	131	-7
07S 36W 17CCC 01	TO	3417	267	-12	-16.8	-0.6	-0.3	-0.5	128	116	-9
08S 31W 03CDD 01	TO	3003		-38		0.1	-0.8				
08S 31W 20CDD 01	TO	3026	220	-32	-29.0	-2.1	-0.7	-0.9	122	90	-26
08S 32W 07BAA 01	TO	3102	272	-31	-29.9	-0.5	-0.6	-0.9	174	143	-18
08S 32W 12DBC 01	TO	3057	217	-19	-20.5	0.0	-0.4	-0.6	107	89	-17
08S 32W 27DAB 01	TO	3078	228	-19	-20.5	-1.3	-0.4	-0.6	116	98	-16
08S 33W 34BBC 01	TO	3168	197	-32	-32.2	-1.0	-0.7	-1.0	67	35	-48
08S 34W 01BAC 01	TO	3177	270	-19	-15.5	-0.9	-0.4	-0.5	157	139	-11
08S 34W 06CBC 01	TO	3266	227	-11	-5.9	-1.0	-0.2	-0.2	97	86	-11
08S 34W 23CBD 01	TO	3232	235	-25	-32.2	-0.9	-0.5	-1.0	73	48	-34
08S 34W 29CCC 01	TO	3283				-0.8					
08S 35W 04CCC 01	TO	3302									
08S 36W 15CBB 01	TO	3365				-0.3					
08S 36W 18ABA 02	TO	3428		-15		-1.7	-0.3				
08S 36W 31BCD 01	TO	3369				0.0					
09S 31W 17CCC 01	TO	3016				-1.4					
09S 31W 36AAB 01	TO	3013	209	-29	-27.8	-9.1	-0.6	-0.9	79	50	-37
09S 32W 03AAA 01	TO	3051				-1.1					
09S 32W 27BCD 01	TO	3076	207	-30	-28.7	-1.0	-0.6	-0.9	110	80	-27
09S 33W 35AAD 01	TO	3145	250	-46	-41.8	-1.5	-1.0	-1.3	125	79	-37
09S 34W 11CCC 01	TO	3180				-1.2					
09S 34W 12ADA 01	TO	3199	269	-40		-1.7	-0.8		135	95	-30
09S 34W 17ABA 01	TO	3229				-1.0					
09S 35W 32DAA 01	TO	3361	235	-5	1.3	-1.6	-0.1	0.0	53	48	-9
10S 31W 26AAA 01	TO	2891	31	1	-5.4	-0.7	0.0	-0.2	20	21	5
10S 31W 29AAB 01	TO	2997	190	-9	-9.3	-0.1	-0.2	-0.3	108	99	-8
10S 32W 11BAA 01	TO	3072	171	-17	-21.7	-0.9	-0.4	-0.7	61	44	-28
10S 32W 29DCB 01	TO	3064	184	-28	-25.6	-0.8	-0.6	-0.8	106	78	-26
10S 33W 06BBC 01	TO	3191	315	-44		-3.1	-0.9		179	135	-25
10S 33W 11BAB 01	TO	3140				-2.5					
10S 33W 19CBD 01	TO	3161	166	-17	-18.2	-4.7	-0.4	-0.6	66	49	-26
10S 34W 12BCD 01	TO	3220	297	-19	-7.0	-4.7	-0.4	-0.2	140	121	-14
10S 34W 29BBC 01	TO	3208									
10S 35W 09ABB 01	TO	3290				-0.5					
10S 36W 16CCC 01	TO	3366				-1.4					

TREGO COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1950 -1998
				1950 -1998	1966 -1998	1997 -1998	1950 -1998	1966 -1998	1950	1998	
12S 23W 20CCC 01	QA, TO	2374				-0.1					
14S 25W 13ABC 01	QA	2245				1.1					

WABAUNSEE COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1950 -1998
				1950 -1998	1966 -1998	1997 -1998	1950 -1998	1966 -1998	1950	1998	
10S 10E 15DCC 01	QA	971			0.3	-1.3		0.0			
10S 12E 29ADD 01	QA	944				-2.4					

WALLACE COUNTY

	Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
				1950	1966	1992	1993	1994	1995	1996	1997	1998
+	11S 38W 35CCC 02	390254101305402	189.0	81	76.0	118.7	116.5	113.8	114.3	115.0	116.3	114.6
	11S 42W 08DDC 01	390618102000301	166.0	98		112.7	111.8	111.3	112.0	113.8	112.8	112.5
	11S 42W 10AAD 01	390657101573901	202.0			132.5	130.6	130.4	130.4	131.6	130.9	131.2
	13S 39W 33BBB 01	385314101395701	62.0			27.2	26.8	25.8	27.0	26.7	25.4	24.7
	13S 43W 36ABB 01	385314102024201	270.0	149	149.0	184.4	189.2	189.2	191.9	193.7	198.1	203.6
	14S 38W 21DCC 01	384900101324801	94.0	82	80.1	82.4		82.8	82.7	82.8	82.8	
	14S 39W 28CAA 01	384828101393701	208.0			149.9		150.7	151.6	152.8	152.6	153.3
	14S 40W 14CCC 01	384952101442601	160.0								115.6	117.1
	14S 40W 29ABA 01	384854101470601	230.0	137		184.0	185.1	185.9	187.2	188.6	192.0	195.8
	14S 41W 18DCB 01	384959101545901	391.0	106		167.6	167.5	168.0	167.9	171.6	176.1	175.7
	14S 41W 22BBC 01	384946101521301	218.0	84	86.1	144.4	144.3	144.5	147.2	150.3	153.1	152.9
	14S 42W 10BAA 01	385130101584201	406.0	133		195.6	196.5	196.2	206.3	199.7	204.0	205.3
	14S 43W 25ABA 01	384854102023701	290.0			205.2		206.0	211.2	210.9	212.5	214.3
	15S 38W 05CCB 01	384630101343101	152.0	76		106.3		106.6	107.0	107.5	108.0	108.0
	15S 38W 14CCD 01	384441101310301	150.0	70	81.1	106.5	107.4	108.0	108.5	109.2	109.8	110.4
	15S 38W 21CCC 01	384347101332601	187.0			151.4	150.4	150.7	153.4	154.4	157.0	157.1
	15S 39W 02BCA 01	384651101374201	195.0	109	125.0	154.7		150.3	151.4	155.5	157.3	153.5
	15S 39W 06CBC 01	384644101420801	227.0	106	118.8	162.8			167.8	168.3	173.0	169.2
	15S 39W 08ACC 01	384558101403701	222.0	113	129.9	169.3		171.6	169.4	167.8	171.9	172.3
	15S 39W 26ACC 01	384323101372101	239.0	90	111.5	159.8		163.7	170.7	185.2	169.8	170.6
	15S 40W 03BAB 01	384710101451901	254.0	86	85.0	134.0	133.6	134.1	137.2	139.0	142.7	143.7
	15S 40W 09DCB 01	384539101461101	261.0	85	90.8			143.8	145.6	147.4	150.4	152.4
	15S 41W 02AAA 01	384710101501101	297.0			215.9	214.7	214.6	216.3	222.8	225.0	223.3
	15S 41W 05ACB 01	384657101535501	235.0	136	147.2	200.7	201.2	197.2	203.4	204.9	214.8	207.6
	15S 41W 27CBC 01	384310101521901		145		200.1	199.2	199.6	203.1	204.6	205.6	206.2
	15S 41W 36DDB 02	384212101491702	265.0	104	113.1	155.4	154.0	154.6	157.8	157.5	160.0	160.9
	15S 42W 02BBB 01	384711101574701	225.0	159	166.9	206.0	207.3	208.7	209.4	210.6	211.8	211.9
+	15S 42W 32BDA 01	384238102004501		216	233.9	244.6		244.4	246.1	250.3	273.4	248.1
	15S 42W 36CDC 01	384206101562901	270.0	194	214.1	250.7	250.6	251.4	252.3	259.7	253.0	257.8

WASHINGTON COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
01S 05E 05ADA 01	395948096524601	75.0			42.6	39.5	32.9		35.9	35.3	35.9
04S 02E 14CCC 01	394155097104501	150.0			46.9	47.8	45.6		43.8	44.1	
05S 01E 20DAA 01	393611097195301	150.0							47.7	47.4	49.0
05S 01E 31DDD 01	393407097205901	63.0			19.8	16.9	13.0		16.6	16.8	17.9

WICHITA COUNTY

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)								
			1950	1966	1992	1993	1994	1995	1996	1997	1998
16S 35W 06AAB 01	384200101132301	108.0	71	81.5	77.6	81.5	81.5	79.5	79.1	78.6	77.3
16S 35W 13CCC 01	383929101084101	176.0	118	126.6		161.2	160.7	162.6	161.6	161.9	162.1
16S 35W 20CCC 01	383837101130601	189.0	103	124.6	159.1	159.4		160.3	161.2		160.3
16S 36W 07BCB 01	384054101204801	130.0	80	91.8	120.3	121.5	122.3		123.4	123.6	124.0
16S 36W 30CBC 01	383757101204701	218.0	87	109.3	157.1	156.3	156.1	157.2	158.0	158.4	158.6
16S 36W 34CCC 02	383652101172902	187.0			143.8		145.8	144.5	145.4	146.0	146.6
16S 37W 17BBB 01	384014101261501	200.0	86	101.0	151.7	151.4	151.3	153.3	154.6	156.1	155.7
16S 37W 30BAB 01	383829101270401				160.3	160.0		163.7	163.2	164.2	164.0
16S 38W 10ABB 01	384106101300501	210.0	83	96.3	153.8		150.0	154.7	156.2	157.3	
16S 38W 26BBB 01	383829101293201	197.0	75	112.0	142.8		146.9	147.4	147.6	148.3	148.7
17S 35W 02ABC 01	383639101091301						165.1	157.9	158.9	158.6	159.2
17S 35W 18DCC 01	383416101133801	200.0				157.1	155.8	158.2	159.5	159.4	159.0
17S 35W 27CCC 01	383231101105201	210.0	91	109.6	151.3	149.7	146.8	149.3	153.3	151.0	149.9
17S 35W 30CBB 01	383251101141001	218.0	94	126.6	169.6	166.2	162.6	168.8	171.6	169.3	168.3
17S 36W 33BCB 01	383210101183401	187.0	98	113.3	149.6	154.0	151.3	153.4	154.0	158.5	156.4

WALLACE COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1950-1998
				1950	1966	1997	1950	1966	1950	1998	
				-1998	-1998	-1998	-1998	-1998	-1998	-1998	
11S 38W 35CCC 02	TO	3372	189	-34	-38.6	1.7	-0.7	-1.2	108	74	-31
+ 11S 42W 08DDC 01	TO	3953	98	-15		0.3	-0.3		0	-15	
11S 42W 10AAD 01	TO	3948				-0.3					
13S 39W 33BBB 01	QA	3322				0.7					
13S 43W 36ABB 01	TO	3894	270	-55	-54.6	-5.5	-1.1	-1.7	121	66	-45
14S 38W 21DCC 01	TO	3538	94								
14S 39W 28CAA 01	TO	3602				-0.7					
14S 40W 14CCC 01	TO	3610				-1.5					
14S 40W 29ABA 01	TO	3702	230	-59		-3.8	-1.2		93	34	-63
14S 41W 18DCB 01	TO	3778	387	-70		0.4	-1.5		281	211	-25
14S 41W 22BBC 01	TO	3729	218	-69	-66.8	0.2	-1.4	-2.1	134	65	-51
14S 42W 10BAA 01	TO	3838	403	-72		-1.3	-1.5		270	198	-27
14S 43W 25ABA 01	TO	3885				-1.8					
15S 38W 05CCB 01	TO	3531	144	-32		0.0	-0.7		68	36	-47
15S 38W 14CCD 01	TO	3486	150	-40	-29.3	-0.6	-0.8	-0.9	80	40	-50
15S 38W 21CCC 01	TO	3510				-0.1					
15S 39W 02BCA 01	TO	3585	195	-45	-28.5	3.8	-0.9	-0.9	86	42	-51
15S 39W 06CBC 01	TO	3631	223	-63	-50.4	3.8	-1.3	-1.6	117	54	-54
15S 39W 08ACC 01	TO	3623	222	-59	-42.4	-0.4	-1.2	-1.3	109	50	-54
15S 39W 26ACC 01	TO	3561	239	-81	-59.1	-0.8	-1.7	-1.8	149	68	-54
15S 40W 03BAB 01	TO	3636	254	-58	-58.7	-1.0	-1.2	-1.8	168	110	-35
15S 40W 09DCB 01	TO	3653	261	-67	-61.6	-2.0	-1.4	-1.9	176	109	-38
15S 41W 02AAA 01	TO	3766				1.7					
15S 41W 05ACB 01	TO	3794	235	-72	-60.4	7.2	-1.5	-1.9	99	27	-73
15S 41W 27CBC 01	TO	3750	230	-61		-0.6	-1.3		85	24	-72
15S 41W 36DDB 02	TO	3695	265	-57	-47.8	-0.9	-1.2	-1.5	161	104	-35
15S 42W 02BBB 01	TO	3854	225	-53	-45.0	-0.1	-1.1	-1.4	66	13	-80
+ 15S 42W 32BDA 01	TO	3901	271	-32	-14.2	25.3	-0.7	-0.4	55	23	-58
15S 42W 36CDC 01	TO	3844	270	-64	-43.7	-4.8	-1.3	-1.4	76	12	-84

WASHINGTON COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1950-1998
				1950	1966	1997	1950	1966	1950	1998	
				-1998	-1998	-1998	-1998	-1998	-1998	-1998	
01S 05E 05ADA 01	KD	1370				-0.6					
04S 02E 14CCC 01	KD	1485									
05S 01E 20DAA 01	KD	1329				-1.6					
05S 01E 31DDD 01	QU	1278				-1.1					

WICHITA COUNTY

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness 1950-1998
				1950	1966	1997	1950	1966	1950	1998	
				-1998	-1998	-1998	-1998	-1998	-1998	-1998	
16S 35W 06AAB 01	TO	3208	118	-6	4.2	1.3	-0.1	0.1	47	41	-13
16S 35W 13CCC 01	TO	3182	170	-44	-35.5	-0.2	-0.9	-1.1	52	8	-85
16S 35W 20CCC 01	TO	3228	189	-57	-35.7		-1.2	-1.1	86	29	-66
16S 36W 07BCB 01	TO	3319	140	-44	-32.2	-0.4	-0.9	-1.0	60	16	-73
16S 36W 30CBC 01	TO	3319	218	-72	-49.3	-0.2	-1.5	-1.5	131	59	-55
16S 36W 34CCC 02	TO	3275				-0.6					
16S 37W 17BBB 01	TO	3399	194	-70	-54.7	0.4	-1.5	-1.7	108	38	-65
16S 37W 30BAB 01	TO	3404				0.2					
16S 38W 10ABB 01	TO	3458	208								
16S 38W 26BBB 01	TO	3424	197	-74	-36.7	-0.4	-1.5	-1.1	122	48	-61
17S 35W 02ABC 01	TO	3185				-0.6					
17S 35W 18DCC 01	TO	3227				0.4					
17S 35W 27CCC 01	TO	3195	210	-59	-40.3	1.1	-1.2	-1.3	119	60	-50
17S 35W 30CBB 01	TO	3235	218	-74	-41.7	1.0	-1.5	-1.3	124	50	-60
17S 36W 33BCB 01	TO	3286	208	-58	-43.1	2.1	-1.2	-1.3	110	52	-53

WICHITA COUNTY (cont'd)

Well number	USGS site id	Depth of well (ft)	Depth to water by year (ft)									
			1950	1966	1992	1993	1994	1995	1996	1997	1998	
17S 37W 08BAA 01	383551101255001	180.0	84	101.2	144.1		140.4		141.4	142.6	142.9	
17S 37W 13CDD 01	383414101212801	175.0	70		116.7	115.8	116.9	118.5	118.6	120.5	121.2	
17S 37W 28CBC 01	383241101250901	200.0					142.4	144.0	143.4	144.7	144.2	
17S 37W 36BCC 01	383202101215201								144.4	145.6	145.5	
17S 38W 21BBB 01	383406101314401	165.0	100	100.3	126.9	126.8	127.0	127.6	127.7	128.7	128.8	
17S 38W 28CCC 01	383227101314401	200.0	105	113.6	150.5	146.2		148.2		147.6	147.2	
18S 35W 08BBC 02	383033101130402	150.0	82		139.4	138.8	137.4	140.1	142.8	138.8	138.5	
18S 35W 14DCD 01	382902101090301	139.0	80	91.1	116.9	115.5	116.1	115.2	114.7	116.6	116.4	
18S 35W 31DDD 01	382625101131101	142.0			100.5	98.7	99.6	98.8	99.4	99.7	99.4	
18S 37W 21BBB 01	382852101250901	195.0	85	113.6	159.5	158.6	158.6	156.6	160.1	159.3	157.2	
18S 37W 25ABC 01	382753101211901				124.1	128.9	123.1	128.3	123.7	124.5	124.4	
18S 38W 02BCC 01	383109101293201		95	115.7	156.9	156.2	155.3	159.1	156.9	160.4	156.9	
18S 38W 20ACC 02	382831101321702	169.0	90	108.7	133.2	129.8	133.0	134.3	135.4	135.3	134.1	
18S 38W 23BAB 01	382851101291601	119.0	23		36.0	45.7		76.0	71.6	71.1	57.0	
18S 38W 31DBC 01	382633101332401	148.0	109	108.7	119.7	123.3	117.8	118.5	118.1	118.7		
19S 35W 01ABB 01	382618101080501	130.0			110.9	102.0	101.8	102.1	102.2	102.1	101.6	
19S 35W 08BBB 01	382526101130201		85		99.8	99.4	99.6	99.9	100.4	100.3	100.0	
19S 36W 15BAA 01	382431101170201	112.0	71		80.3		80.5	80.4	80.9	80.9	80.5	
19S 37W 22AAB 01	382337101231301	138.0	98		104.7	103.8	102.4	103.6	104.1	104.4	104.0	
19S 37W 28ABB 01	382244101243501	136.0			105.1	104.3	103.9	104.6		109.3	109.8	
19S 38W 26CCB 01	382204101293301		96		99.7		101.3	98.1	99.5	98.2		
19S 38W 31CBC 01	382118101335801	205.0	140		140.8		140.8	140.9	141.3	141.1	140.9	
20S 35W 15BBB 01	381920101104901	88.0			68.0	68.1	67.9	68.1	68.1	70.0		
20S 36W 24ACC 01	381804101144001	115.0					100.3			100.1	100.0	
20S 37W 29DCC 01	381643101254101	147.0	98		103.7	108.2	103.1	103.0	102.7	102.7	102.0	
20S 38W 17CBD 01	381840101324401		135		141.9		138.5	139.0	139.2	138.5	138.4	
20S 38W 33BBA 01	381635101313701	205.0	126	134.0	138.9	138.8	138.0	137.9	137.8	137.5	136.9	

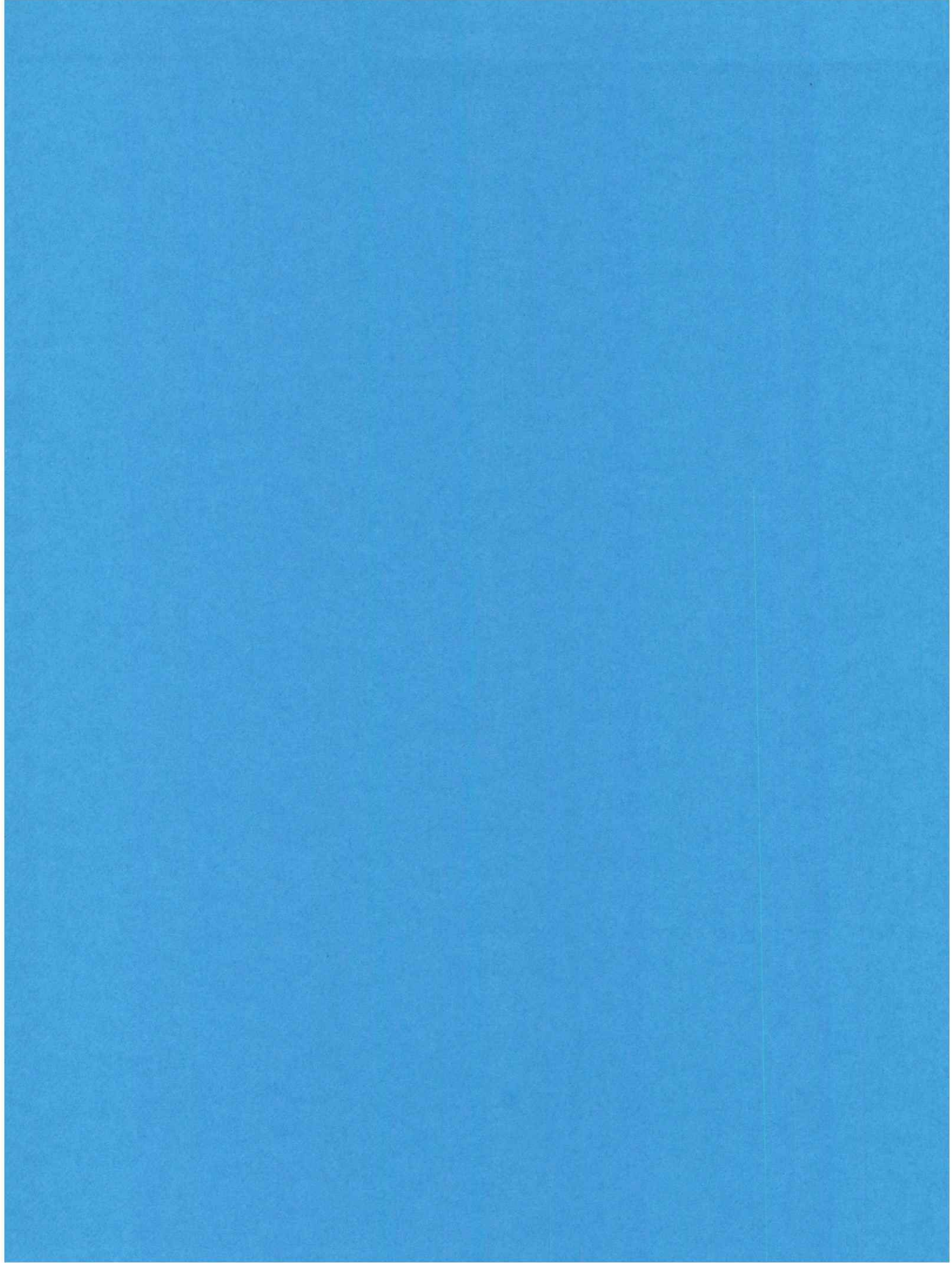
WICHITA COUNTY (cont'd)

Well number	Geologic Unit	Land surface altitude (ft)	Depth to bedrock (ft)	Water-level change(ft)			Average annual water-level change (ft/yr)		Saturated thickness (ft)		% change saturated thickness
				1950	1966	1997	1950	1966	1950	1998	
				-1998	-1998	-1998	-1998	-1998			-1998
17S 37W 08BAA 01	TO	3374	196	-59	-41.7	-0.3	-1.2	-1.3	112	53	-53
17S 37W 13CDD 01	TO	3300	175	-51		-0.7	-1.1		105	54	-49
17S 37W 28CBC 01	TO	3359				0.5					
17S 37W 36BCC 01	TO	3316				0.1					
17S 38W 21BBB 01	TO	3446	165	-29	-28.5	-0.1	-0.6	-0.9	65	36	-45
17S 38W 28CCC 01	TO	3446	190	-42	-33.6	0.4	-0.9	-1.1	85	43	-49
18S 35W 08BBC 02	TO	3217	186	-57		0.3	-1.2		104	48	-54
18S 35W 14DCD 01	TO	3171	137	-36	-25.3	0.2	-0.8	-0.8	57	21	-63
18S 35W 31DDD 01	TO	3210				0.3					
18S 37W 21BBB 01	TO	3360	175	-72	-43.6	2.1	-1.5	-1.4	90	18	-80
18S 37W 25ABC 01	TO	3302				0.1					
18S 38W 02BCC 01	TO	3414	199	-62	-41.2	3.5	-1.3	-1.3	104	42	-60
18S 38W 20ACC 02	TO	3440	169	-44	-25.4	1.2	-0.9	-0.8	79	35	-56
18S 38W 23BAB 01	QA, TO	3340	108	-34		14.1	-0.7		85	51	-40
18S 38W 31DBC 01	TO	3450	148								
19S 35W 01ABB 01	TO	3158				0.5					
19S 35W 08BBB 01	TO	3217	135	-15		0.3	-0.3		50	35	-30
19S 36W 15BAA 01	TO	3236	112	-10		0.4	-0.2		41	32	-22
19S 37W 22AAB 01	TO	3330	138	-6		0.4	-0.1		40	34	-15
19S 37W 28ABB 01	TO	3357				-0.5					
19S 38W 26CCB 01	TO	3408	173								
19S 38W 31CBC 01	TO	3463	205	-1		0.2	0.0		65	64	-2
20S 35W 15BBB 01	TO	3129									
20S 36W 24ACC 01	TO	3200				0.1					
20S 37W 29DCC 01	TO	3359	139	-4		0.7	-0.1		41	37	-10
20S 38W 17CBD 01	TO	3442	232	-3		0.1	-0.1		97	94	-3
20S 38W 33BBA 01	TO	3424	205	-11	-2.9	0.6	-0.2	-0.1	79	68	-14

Appendix E: Wells Not Appearing in this Report Because of No Recent Measurements

01S 03W 09CBD 01	11S 35W 01DCC 01	20S 33W 02DBB 01
01S 04W 15AAA 01	12S 22E 21BCD 01	20S 33W 17BAB 01
02S 36W 15CDD 01	12S 22E 25BCCB01	20S 33W 21ABD 01
02S 39W 27BBB 01	12S 27W 12ABB 01	20S 33W 35DBA 01
03S 27W 32ABA 01	14S 40W 23ADD 01	20S 36W 14DAD 01
03S 31W 23BBB 01	14S 42W 14DBD 01	21S 12W 10CDD 01
03S 42W 04AAA 01	14S 42W 30BCA 01	21S 29W 36CCB 01
04S 31W 25DDD 01	15S 37W 29AAA 01	21S 30W 05BBB 01
04S 33W 18DDA 01	15S 38W 28DBB 01	21S 31W 08ABB 01
04S 35W 06DCD 01	15S 38W 36CBB 01	21S 32W 08ABD 01
04S 35W 13DAD 01	15S 40W 26CAB 01	21S 33W 07DDAA01
04S 41W 25BCB 01	15S 41W 10BAB 01	21S 34W 16AADA02
05S 01E 20ADA 01	16S 30W 34DAB 01	22S 05W 17BCC 01
05S 29W 11BAA 01	16S 33W 19CBB 01	22S 05W 33DBD 01
05S 35W 10CDD 01	16S 36W 03DCC 01	22S 08W 33CCD 01
05S 39W 18CCC 01	16S 36W 21CCC 01	22S 15W 09CCA 01
05S 41W 20DAA 01	16S 36W 36CBC 01	22S 15W 20CDC 01
06S 22W 28ACA 01	16S 41W 20BAD 01	22S 23W 31ADD 01
06S 24W 35DDD 01	16S 41W 33AAB 01	22S 24W 16ADB 02
06S 27W 27BCC 01	17S 09W 31ADC 01	22S 31W 16ADD 01
06S 34W 01DDD 01	17S 29W 03BDC 01	22S 31W 29DCC 01
06S 36W 06BCD 01	17S 32W 31BCB 01	22S 33W 36AAA 02
06S 38W 09ABD 01	17S 33W 07BBB 01	22S 36W 28DCC 01
06S 41W 01ABB 01	17S 35W 02BBB 01	22S 39W 03BBB 01
07S 17W 24BBB 01	17S 35W 15CDC 01	22S 39W 08DDD 01
07S 23W 17BBC 01	17S 35W 18ACB 01	23S 01W 19AAC 01
07S 28W 08BDC 01	17S 36W 10CBB 01	23S 06W 15BAC 01
07S 32W 13AAA 01	17S 36W 23BCC 01	23S 07W 01ABA 01
07S 33W 35ADD 01	17S 37W 28CCC 01	23S 07W 05ABA 01
07S 36W 35CBB 01	17S 38W 24ACC 01	23S 10W 02BAB 01
08S 28W 09ABC 01	17S 42W 27CBB 01	23S 15W 18DDB 01
08S 40W 20CCC 01	18S 29W 04DAD 01	23S 15W 21DCC 01
09S 11E 27CAA 01	18S 33W 11ABB 01	23S 16W 16BAB 01
09S 11E 35DDD 01	18S 33W 15DDD 01	23S 17W 10CDB 01
09S 22W 19BBB 01	18S 33W 26DAD 02	23S 17W 25ADC 01
09S 24W 12BCC 01	18S 33W 34ADB 01	23S 17W 33CCA 01
09S 31W 10BBB 01	18S 36W 15DAD 01	23S 25W 22DBB 01
09S 41W 28AAA 01	18S 37W 01BBB 01	23S 27W 12CCC 01
09S 42W 29CBB 01	18S 37W 36ABB 01	23S 31W 35CCC 01
10S 08E 14CBA 01	18S 38W 08BBD 01	23S 32W 11ADC 01
10S 11E 03BCA 01	18S 38W 12BCC 01	23S 33W 17BBB 01
10S 26W 08BAA 01	18S 38W 36DDD 01	23S 35W 12CCC 01
10S 33W 03DBC 01	18S 39W 23CCB 01	23S 35W 25BBB 02
10S 36W 36ACC 01	19S 03W 31BBA 01	23S 37W 19CCC 01
11S 24E 14BDA 01	19S 12W 06ADA 01	24S 04W 14DAC 01
11S 27W 04CCD 01	19S 14W 06BBB 01	24S 04W 31DAB 01
11S 27W 13ABB 01	19S 14W 29DDB 01	24S 11W 14CAB 01
11S 28W 17DDC 01	19S 33W 12DDC 01	24S 28W 36ACA 01
11S 28W 26ABA 01	19S 35W 01AAA 01	24S 30W 15CCC 01
11S 32W 04ACD 01	20S 01W 29DDD 01	24S 32W 03DAC 01

24S 32W 35DD 01	27S 37W 11ABA 01	30S 43W 34BBB 01
24S 35W 13CCC 02	27S 38W 22CBB 01	31S 04W 01BBB 01
25S 02W 16DDA 01	27S 38W 32BCC 01	31S 31W 08BCC 01
25S 02W 23DBD 01	27S 39W 02BBB 01	31S 31W 13BBC 01
25S 23W 14ADD 01	27S 40W 16CCC 01	31S 31W 32DCC 01
25S 24E 36ADB 01	27S 41W 31CCB 02	31S 32W 03DAD 01
25S 29W 27CCB 01	27S 42W 11DBD 01	31S 35W 19CCC 01
25S 31W 21CAB 01	27S 42W 31CCC 01	31S 35W 26DCC 01
25S 31W 35DBA 01	27S 43W 02BBD 01	31S 36W 27BCB 01
25S 33W 35DBD 01	28S 12W 34CCC 01	31S 37W 09BCC 01
25S 36W 28BBD 01	28S 17W 05DDB 01	31S 38W 17CDA 01
25S 37W 25BAD 02	28S 18W 09BAC 01	31S 39W 33BCC 01
25S 38W 02BDA 01	28S 18W 26DCA 01	31S 40W 01DA 01
25S 38W 26ACC 01	28S 26W 10BAA 01	31S 41W 31CBB 01
25S 43W 21AAB 01	28S 28W 07CDD 01	32S 29W 05CC 01
26S 02W 13ACA 01	28S 28W 20ADD 02	32S 30W 28BBC 01
26S 07W 21DDC 01	28S 32W 18BBB 01	32S 31W 02BBB 01
26S 08W 30DCB 01	28S 33W 20DDD 01	32S 33W 04BAA 01
26S 12W 02DBD 01	28S 33W 29CD 01	32S 34W 17DCC 01
26S 14W 17DCB 01	28S 34W 13BBB 01	32S 36W 27DDD 01
26S 15W 18DAB 01	28S 34W 15DAB 01	32S 43W 17DCC 01
26S 17W 04AAC 01	28S 35W 15CBB 01	33S 30W 21ACC 01
26S 19W 31BAC 01	28S 36W 02CDD 02	33S 30W 35CBB 01
26S 24W 32CBA 01	28S 36W 21CDD 01	33S 31W 28ddb 01
26S 27W 13BBC 01	28S 37W 10BCD 02	33S 36W 03ACA 01
26S 29W 15BCA 01	28S 38W 12DDD 01	33S 38W 20DAD 01
26S 33W 26ABB 01	28S 38W 17AAA 01	33S 41W 03AAD 01
26S 34W 30BD 01	28S 39W 36ABB 01	33S 41W 33DDD 01
26S 35W 06ACC 01	28S 40W 23ACC 01	33S 43W 08BDA 01
26S 41W 12DCC 01	28S 41W 19CBB 01	34S 33W 04BCD 01
26S 41W 36CCC 01	28S 41W 31BDD 01	34S 35W 03DCC 01
26S 42W 22CDB 01	28S 42W 08CCC 01	34S 35W 07CBB 01
26S 42W 22DCC 01	29S 26W 01CDD 01	34S 37W 27ABC 01
26S 43W 10DBB 01	29S 26W 20BDD 01	34S 38W 02CAC 01
27S 08W 25DAD 01	29S 31W 34BCA 01	34S 43W 07BDD 01
27S 09W 15ABA 01	29S 34W 11CCC 01	35S 31W 18BBA 01
27S 18W 36CCA 01	29S 39W 17BCB 01	35S 34W 03CBC 01
27S 19W 28CBD 01	29S 41W 31CBD 01	35S 36W 15AAD 01
27S 22W 09DAB 01	29S 42W 24CCC 01	
27S 23W 28AAA 01	30S 31W 24BBC 01	
27S 27W 25CCD 01	30S 32W 11BBB 01	
27S 30W 23BBA 01	30S 33W 06DBD 01	
27S 33W 29DAA 01	30S 33W 30CBD 01	
27S 36W 18DCB 01	30S 37W 20CBC 01	
27S 36W 25CC 01	30S 39W 18BBB 01	





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