

SELECTED GROUND-WATER-QUALITY DATA FOR THE WATER-RESOURCES INVESTIGATION OF MELLETTE AND TODD COUNTIES, SOUTH DAKOTA, 1990-96

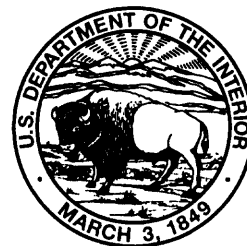
By Janet M. Carter

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WEST RIVER WATER DEVELOPMENT DISTRICT

Rapid City, South Dakota
1997



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CONVERSION FACTORS

Multiply	By	To Obtain
acre	4,047	square meter
acre	0.4047	hectares
feet	0.3048	meter
inch	25.4	millimeter
square miles	2.590	square kilometer

Selected Ground-Water-Quality Data for the Water-Resources Investigation of Mellette and Todd Counties, South Dakota, 1990-96

By Janet M. Carter

ABSTRACT

This report presents data on water quality that have been collected from 1990 through 1996 for the Water Resources Investigation of Mellette and Todd Counties, South Dakota. The investigation is a cooperative effort between the U.S. Geological Survey, the South Dakota Geological Survey, the Rosebud Sioux Tribe, Mellette County, and the West River Water Development District.

A total of 100 samples were collected by the U.S. Geological Survey and the Rosebud Sioux Tribe for a reconnaissance ground-water sampling program. During this sampling program, private domestic wells in Todd and Mellette Counties were sampled to determine general water-quality properties of the aquifers and to determine if any potential water-quality problems existed. All of the reconnaissance samples were analyzed for field measurements, common ions, and nitrates. Some of the samples were analyzed for trace elements, nutrients, and organic compounds.

During the reconnaissance sampling, an area in south-central Todd County was identified as having high nitrate concentrations. The U.S. Geological Survey investigated nitrate concentrations in south-central Todd County in independent studies during 1990-91 and 1994. These data have not been published previously and are presented in this report.

A comprehensive drilling program was initiated in cooperation with the South Dakota Geological Survey in 1992. Seventy-eight test holes were drilled and 56 observation wells were installed between 1992 and 1996. A total of 30

water-quality samples were collected from selected observation wells in 1994, and a total of 17 were collected in 1996. These samples were analyzed for field measurements, common ions, nutrients, trace elements, and radiochemicals.

This report presents the water-quality data that were collected during the reconnaissance, nitrate, and observation-well sampling programs. Quality-assurance data collected during the three sampling programs also are presented.

INTRODUCTION

The Water Resources Investigation of Todd and Mellette Counties, South Dakota, was initiated in 1992 as a cooperative effort between the U.S. Geological Survey (USGS), the South Dakota Geological Survey (SDGS), the Rosebud Sioux Tribe, Mellette County, and the West River Water Development District.

Prior to the water-resources investigation, a reconnaissance ground-water sampling program was accomplished during 1990 by the USGS and the Rosebud Sioux Tribe. The purpose of this sampling program was to sample private domestic wells in Todd and Mellette Counties to determine general water-quality properties of the aquifers and to determine if any potential water-quality problems existed. All of the reconnaissance samples were analyzed for field measurements, common ions, and nitrates. Some of the samples were analyzed for trace elements, nutrients, and organic compounds. A total of 100 samples were collected.

During 1990, the SDGS investigated nitrate concentrations in parts of Todd and Mellette Counties (Hammond, 1994). The USGS also investigated nitrate

concentrations in south-central Todd County in independent studies during 1990-91 and 1994 that were accomplished in cooperation with the Rosebud Sioux Tribe and the SDGS. These data have not been published previously and are presented in this report.

After the water-resources investigation started in 1992, a comprehensive drilling program was initiated in cooperation with the SDGS. Seventy-eight test holes were drilled and 56 observation wells were installed between 1992 and 1996. Water-quality samples were collected during 1994 and 1996 from selected observation wells. These samples were analyzed for field measurements, common ions, nutrients, trace elements, and radiochemicals. A total of 30 samples were collected during 1994 and a total of 17 were collected during 1996.

This report presents the water-quality data that were collected during the reconnaissance, nitrate, and observation-well sampling programs. Quality-assurance data collected during the three sampling programs also are presented.

Description of Study Area

Todd and Mellette Counties are located in south-central South Dakota (fig. 1). Todd County has an area of 1,388 square miles and Mellette County has an area of 1,306 square miles. The original boundaries of the Rosebud Indian Reservation included all or nearly all of Gregory (located east of Tripp County), Mellette, Todd, and Tripp Counties, and a small portion of Lyman County. In the early 1900's, the Rosebud Reservation was opened up for homesteading. As a result, scattered tracts of non-Indian land are present in both Todd and Mellette Counties. In 1975, the Rosebud Indian Reservation boundary was revised to include only Todd County.

Although the drilling was concentrated in Todd and Mellette Counties, a few of the wells were drilled in Bennett County just outside the western boundary of Todd County, in Jones County just outside the northern boundary of Mellette County, and in Tripp County just outside the eastern boundary of Todd County. The wells that were sampled for this study are completed in the aquifers of the following formations listed from oldest to youngest: Dakota Sandstone (Cretaceous age), Pierre Shale (Upper Cretaceous age), White River Group (Oligocene age), Arikaree Formation (Miocene age), Ogallala Formation (Pliocene age), and undifferentiated alluvial deposits (Pleistocene and Holocene age). Detailed descriptions of the formations and a

map showing the location of the surficial deposits in Todd and Mellette Counties are presented in Ellis and others (1971).

Acknowledgments

Many people have assisted with development and implementation of the water-resources investigation. In particular, Syed Huq, Charles Mack, and John Whiting of the Office of Water Resources for the Rosebud Sioux Tribe and Sena Lauritsen of the Mellette/Todd Water Resources Coordination Project provided valuable assistance including the collection of water-quality samples. The SDGS drilled the test holes and installed the observation wells. Dick Hammond and Patricia Hammond of the SDGS provided valuable insight and technical guidance. The author also acknowledges the cooperation of residents of Mellette and Todd Counties for providing information concerning their private wells.

SITE IDENTIFICATION

Three methods of station identification are presented in the water-quality tables in the Supplemental Information section at the end of the report. The first method is the station identification number, which is based on the international system of latitude and longitude. The number contains 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude north of the equator. The next seven digits denote the degrees, minutes, and seconds of longitude west of the prime (Greenwich) meridian. The last two digits are sequential numbers for wells within the same latitude and longitude.

The second identification method is the local number, which is based on the Federal land-survey system of western South Dakota (fig. 2). The local number consists of the township number followed by "N," range number followed by "W," and the section number followed by a maximum of four uppercase letters that indicate, respectively, the 160-, 40-, 10-, and 2.5-acre tract in which the well is located. These letters are assigned in a counterclockwise direction beginning with "A" in the northeast quarter. A serial number following the last letter is used to distinguish between wells in the same 2.5-acre tract. Thus, well 38N28W36ABCB is in the NW1/4 of the SW1/4 of the NW1/4 of the NE1/4 of section 36 in township 38 north and range 28 west.

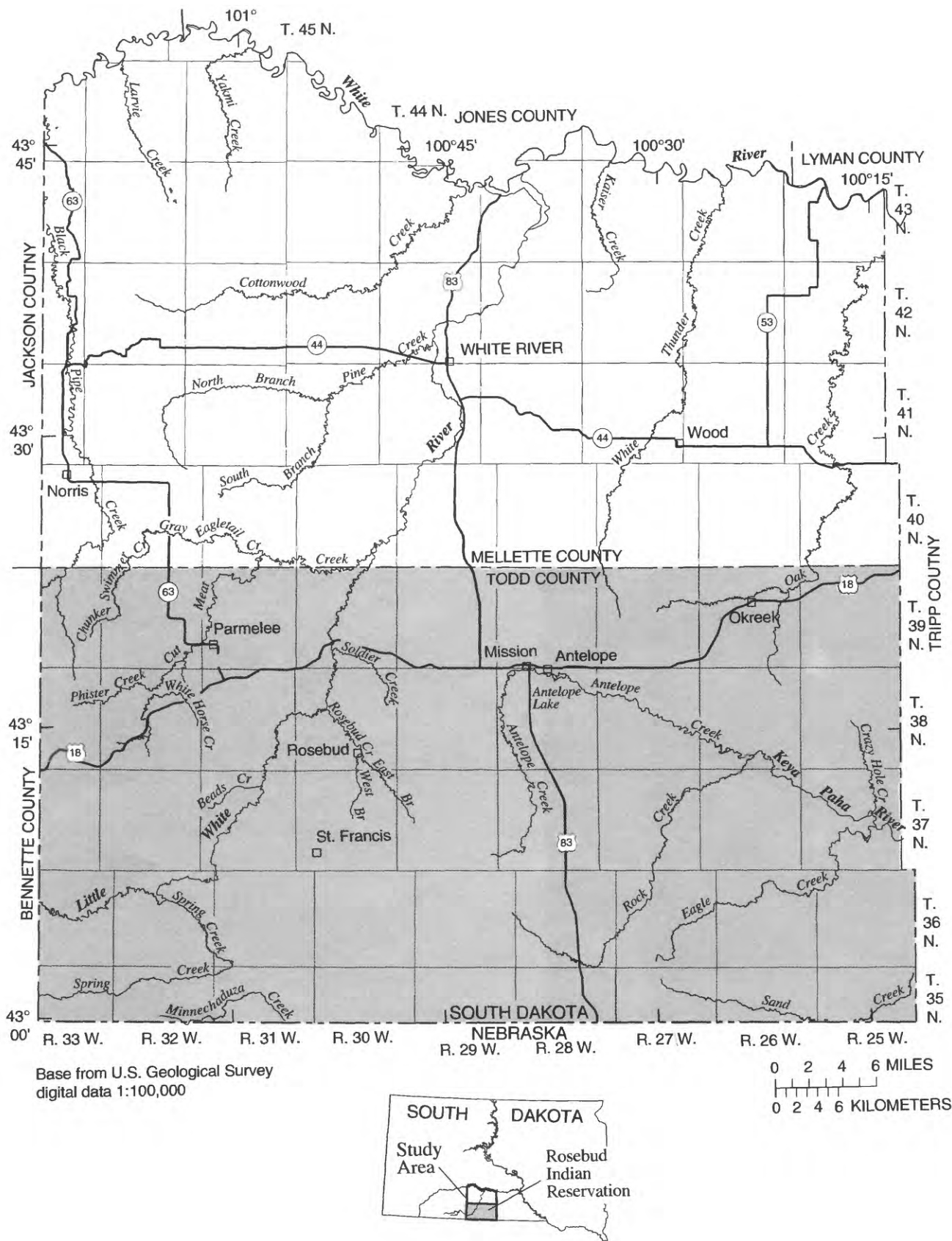


Figure 1. Location of study area.

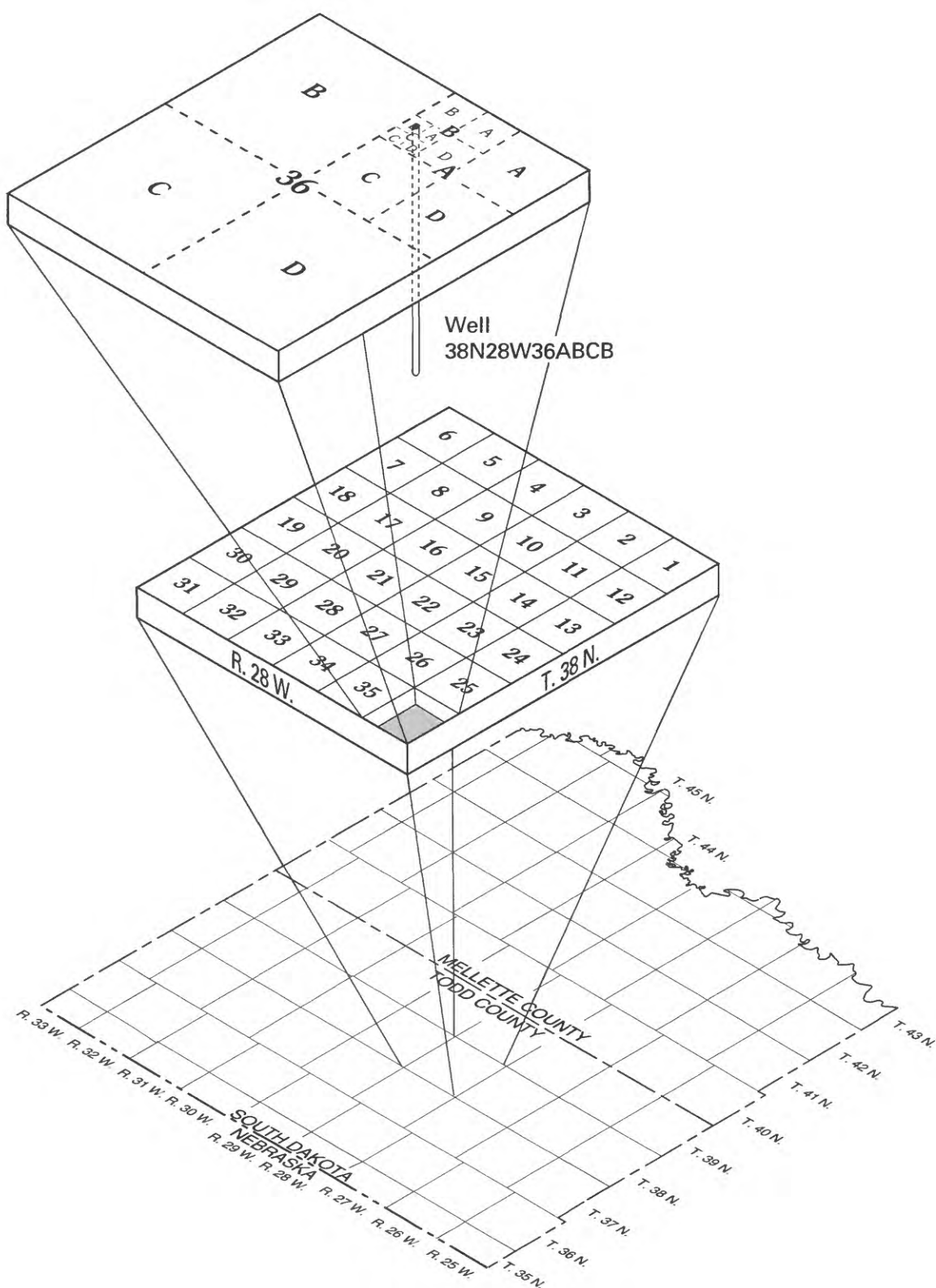


Figure 2. Well-location diagram. The well number consists of the township number, followed by "N," the range number followed by "W," and the section number followed by a maximum of four uppercase letters that indicate, respectively, the 160-, 40-, 10-, and 2 1/2-acre tract in which the well is located. These letters are assigned in a counter clockwise direction beginning with "A" in the northeast quarter. A serial number following the last letter is used to distinguish between wells in the same 2 1/2-acre tract.

The third identification method is the “other identifier.” For the observation wells that were installed by SDGS, the “other identifier” denotes the rig number followed by the year and sequence in which it was drilled. Thus, well R2-94-07 was the seventh well drilled in 1994 by rig #2. For the private wells that were sampled for the nitrate study, the owner’s name is used as the “other identifier.”

QUALITY-ASSURANCE PROGRAM

Quality-assurance samples were collected to evaluate the collection and field-processing methods of water-quality samples and to evaluate the precision and accuracy of the reported analytical results. These quality-assurance samples included blanks and duplicate water samples.

Blank samples, including laboratory and field blanks, were collected and analyzed to identify the presence and magnitude of contamination that potentially could bias analytical results. Laboratory blanks are samples of ultrapure deionized water that are processed through the sampling equipment used in this study within a laboratory or other controlled environment; laboratory blanks are used to identify sample contamination introduced from the sampling equipment. Field blanks are samples of ultrapure deionized water that are processed through the sampling equipment at the field collection site; field blanks are used to identify sample contamination introduced from the sampling equipment, and contamination introduced during collection and processing of samples in the field.

Duplicate samples are two samples collected as close in time as possible and are considered to be essentially identical in composition. After the collection and processing of the duplicate samples in the field, the samples were submitted concurrently to the USGS National Water Quality Laboratory (NWQL) in Arvada, Colorado, for analysis to provide information on the precision of the analytical results.

The precision of the analytical results for a specific constituent can be determined by calculating a standard deviation from the differences of pairs of duplicate measurements. The standard deviation is estimated by the following equation (Taylor, 1987):

$$S = \sqrt{\frac{\sum d^2}{2k}}$$

where:

- S = standard deviation of the difference in concentration between duplicate analyses;
- d = difference in concentration between each pair of duplicate analyses; and
- k = number of pairs of duplicate analyses.

Precision also can be expressed as a relative standard deviation (RSD), in percent, for a specific constituent. The RSD is calculated from the standard deviation and the mean concentration for all the duplicate analyses as given in the following equation (Taylor, 1987):

$$RSD = \frac{S}{\bar{x}} \times (100)$$

where:

- RSD = relative standard deviation, in percent;
- S = standard deviation; and
- \bar{x} = mean of all duplicate concentrations.

The quality-assurance data from the blanks and duplicate samples will be presented in the following sections. Precision data also is provided for the duplicate samples. The statistics for the precision of field duplicates were rounded to two significant figures. For constituents that had concentrations less than the minimum reporting level (censored values), a value of one-half the reporting level was substituted into the calculations. The data-quality objective for precision of the duplicate field samples is a maximum relative standard deviation of 20 percent.

WATER-QUALITY DATA

All of the samples collected were analyzed by the USGS NWQL. The collection of ground-water samples in 1990 and 1994 followed methods presented in Wood (1976). Many methods described by Horowitz and others (1994) for the collection and processing of surface-water samples were applied to samples collected after 1994. All ground-water sampling equipment that comes in contact with the sample water was cleaned prior to the sampling trip with a phosphate-free detergent, dilute hydrochloric acid, and deionized water by procedures described by Horowitz and others (1994). After samples were collected from a well, the sampling device and tubing were rinsed with deionized water before sampling the next well.

In order to assure that a representative sample from the aquifer at each well was collected, the samples were collected after purging a minimum of three casing volumes from the well and after field measurements of specific conductance, pH, temperature, and dissolved oxygen had stabilized (Wood, 1976). Samples were collected from the observation wells using a stainless-steel, submersible pump. Water from the observation wells was passed through a flow-through chamber without coming into contact with the atmosphere so that field measurements were measured in a closed system. The water-quality samples were collected in appropriate bottles directly from a collection tube.

Samples from the domestic wells were collected by connecting a tygon tube to a spigot located so that the samples were not influenced by any pressure, filtration, or chemical treatments. Sample collection was similar to the observation-well collection. The water passed through the instrument chamber without coming into contact with the atmosphere, and the sample water was collected directly from the collection tube.

Reconnaissance Water-Quality Data

The reconnaissance ground-water sampling program was accomplished during 1990 by the USGS and the Rosebud Sioux Tribe. A total of 100 samples were collected. Most of the sampling was done by personnel from the Office of Water Resources of the Rosebud Sioux Tribe and from the Mellette/Todd Water Resources Coordination Project, with some assistance from USGS personnel. All of the reconnaissance samples were analyzed for field measurements, common ions, and nitrates, and some of the samples were analyzed for trace elements, nutrients, and organic compounds. The locations of the sampling sites are shown in figure 3.

As much information as possible was obtained from driller's logs and the well owner for each of the private wells that was sampled. This information was used to determine the aquifer that supplies each well. Information concerning the well casing, well depth, and formation depths was unavailable or unknown for several of the wells that were sampled. In these cases, the aquifer could usually be determined based on its location and the availability of information from other wells located in the immediate vicinity. However, in some cases, the aquifer could not adequately be deter-

mined and no aquifer was assigned to these wells; these sites are listed as unidentified aquifers.

The physical properties and concentrations of inorganic and organic constituents are presented for 18 wells from alluvial aquifers (table 1 in the Supplemental Information section), 29 wells from the Ogallala aquifer (table 2), 14 wells from the Arikaree aquifer (table 3), 10 wells from the White River aquifer (table 4), 19 wells from the Pierre Shale aquifer (table 5), 1 well from the Dakota aquifer (table 6), and 9 wells from unidentified aquifers (table 7).

One quality-assurance field blank was collected for the reconnaissance samples, and the results are shown in table 8. The results of the blank sample indicate that external contamination did not substantially contribute to concentrations of constituents presented in this report.

Five pairs of field duplicate samples were collected and the paired chemical analyses of the field duplicates are presented in table 9. The estimated precision for each constituent, based on the results of the field duplicates, is presented in table 10.

The data-quality objective of 20 percent for the precision of field duplicates was exceeded for four of the constituents in table 10. The relative standard deviations for turbidity and phosphorus exceeded the 20-percent precision and resulted from generally low turbidities and from low phosphorus concentrations. The standard deviation was 0.13 NTU (nephelometric turbidity units) for turbidity and 0.01 mg/L (milligrams per liter) for phosphorus. The relative standard deviation for ammonia and iron also exceeded the precision of 20 percent. This exceedance resulted from substituting one-half of the minimum reporting level for several censored values, where the concentration for the paired duplicate sample was at the minimum reporting level.

Nitrate Study Water-Quality Data

High nitrate concentrations, exceeding the U.S. Environmental Protection Agency drinking water maximum contaminant level (MCL) of 10 mg/L (U.S. Environmental Protection Agency, 1994), were detected in an area in south central Todd County (fig. 4) during the reconnaissance sampling. The high nitrate concentrations had also been noted by the Rosebud Sioux Tribe (Huq, 1989) and by the SDGS (Hammond, 1994).

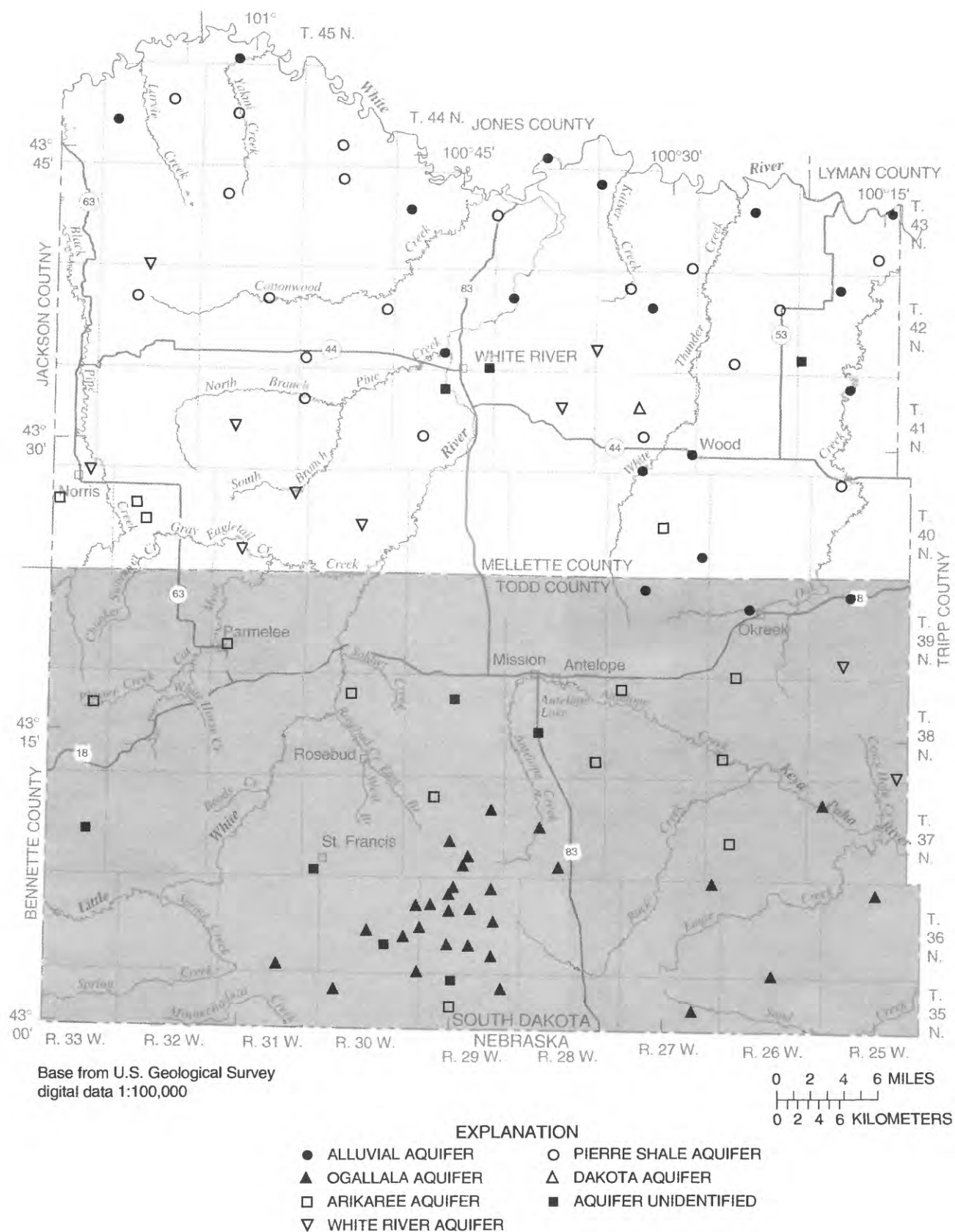


Figure 3. Location of sites sampled during the reconnaissance water-quality program.

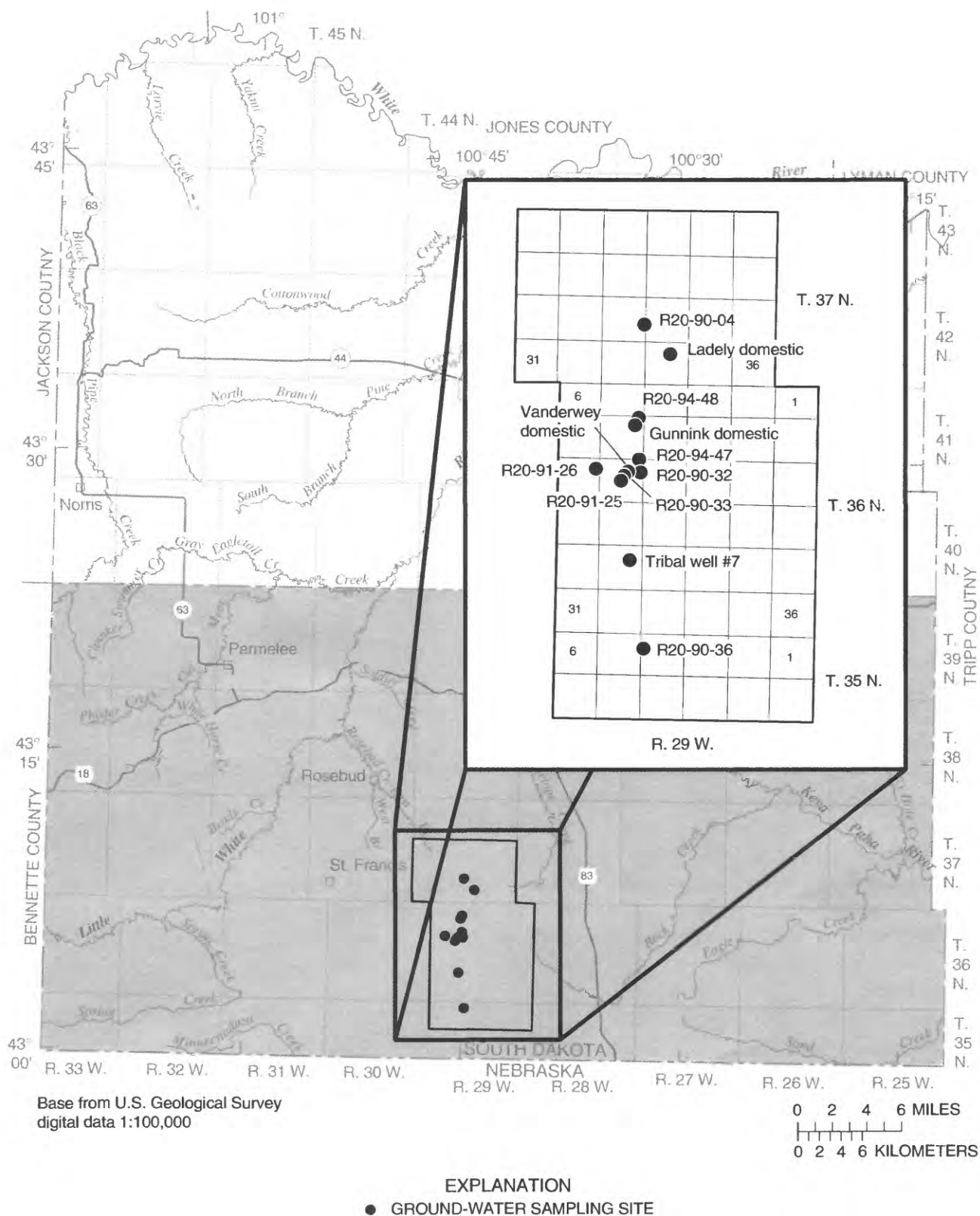


Figure 4. Location of sites sampled for the nitrate study.

The USGS investigated nitrate concentrations in part of Todd County in independent studies during 1990-91 and during 1994 in cooperation with the Rosebud Sioux Tribe and the SDGS. The purpose of these investigations was to monitor areas that had nitrate concentrations greater than 5 mg/L (as determined during previous studies) and to determine the source of nitrate contamination. The water-quality data collected for these nitrate investigations are presented in this section. The interpretive results of the studies have been informally presented to the Rosebud Sioux Tribe and will not be presented here.

A total of 19 ground-water samples were collected at 12 sites (fig. 4). The sites included eight observation wells installed by the SDGS, one Tribal monitoring well, and three private domestic wells. All of the wells sampled for the nitrate study were completed in the Ogallala aquifer. The wells were sampled by field personnel from the USGS, with some assistance from field personnel from the Office of Water Resources for the Rosebud Sioux Tribe.

Four ground-water samples were collected during 1990, six during 1991, and nine during 1994. The 1990 samples were analyzed for field measurements, common ions, and nitrates. One site was analyzed for trace elements and organic compounds. These same sites were re-sampled in 1991, along with two additional sites. The 1991 samples were analyzed for field measurements, nitrate concentrations, and nitrogen-isotope ratios. Two additional observation wells were installed specifically for the nitrate project in 1994. The 1994 samples were analyzed for field measurements and concentrations of chloride, nitrate, and Methylene Blue Active Substance (MBAS). The analytical results of all the samples collected from 1990-94 by the USGS are presented in table 11.

One field blank and one field duplicate were collected during 1994 for quality-assurance purposes. The chemical analyses of the blank sample are presented in table 12, and the chemical analyses of the paired duplicate samples are presented in table 13. The results of the blank sample indicate that external contamination did not substantially contribute to concentrations of constituents presented in this report. The results of the duplicate sample pair indicate reasonable consistency between the analyses. Precision statistics were not calculated for the duplicate samples because only one pair was collected.

Observation Well Water-Quality Data

Fifty-six observation wells were drilled and installed between 1992 and 1996 for the Water Resources Investigation of Mellette and Todd Counties. All completed observation wells have 2-inch PVC casing and screen. The wells were gravel packed with washed Platte River sand from Grand Island, Nebraska, and were sealed with bentonite to about 20 feet below land surface and with neat cement from the top of the bentonite to the land surface. The wells were developed using compressed air, after which 5-foot-tall metal protectors were installed over the top of each well.

Water samples were collected from as many of these observation wells as possible during 1994 and 1996. Wells were not sampled if their casing was bent or if the wells did not develop properly. All samples for the observation-well sampling program were collected by USGS personnel. These samples were analyzed for field measurements, common ions, nutrients, trace elements, and radiochemicals. Additionally, bacteria samples (fecal coliform and fecal streptococci) were collected at wells with depths less than 100 feet below land surface; triazine herbicide samples were collected at wells with depths less than 150 feet below land surface. Thirty samples were collected during 1994, and 17 samples were collected during 1996. The locations of the sampling sites are shown in figure 5.

The physical properties and concentrations of inorganic and organic constituents are presented for 5 wells from alluvial aquifers (table 14), 15 wells from the Ogallala aquifer (table 15), 18 wells from the Arikaree aquifer (table 16), and 9 wells from the White River aquifer (table 17).

Two quality-assurance laboratory blanks and two quality-assurance field blanks were collected during the observation-well sampling program. The results of the blank samples are shown in table 18. Low-level analyses were performed on the laboratory blanks. The results of all analyzed constituents in the laboratory blanks were below the reporting limits of the field samples. The results of the blank samples indicate that external contamination did not substantially contribute to concentrations of constituents presented in this report. Three pairs of duplicate samples were collected in the field for this sampling program. The paired chemical analyses of the field duplicates are presented in table 19 and the estimated precision for each constituent based on the results of the field duplicates is presented in table 20.

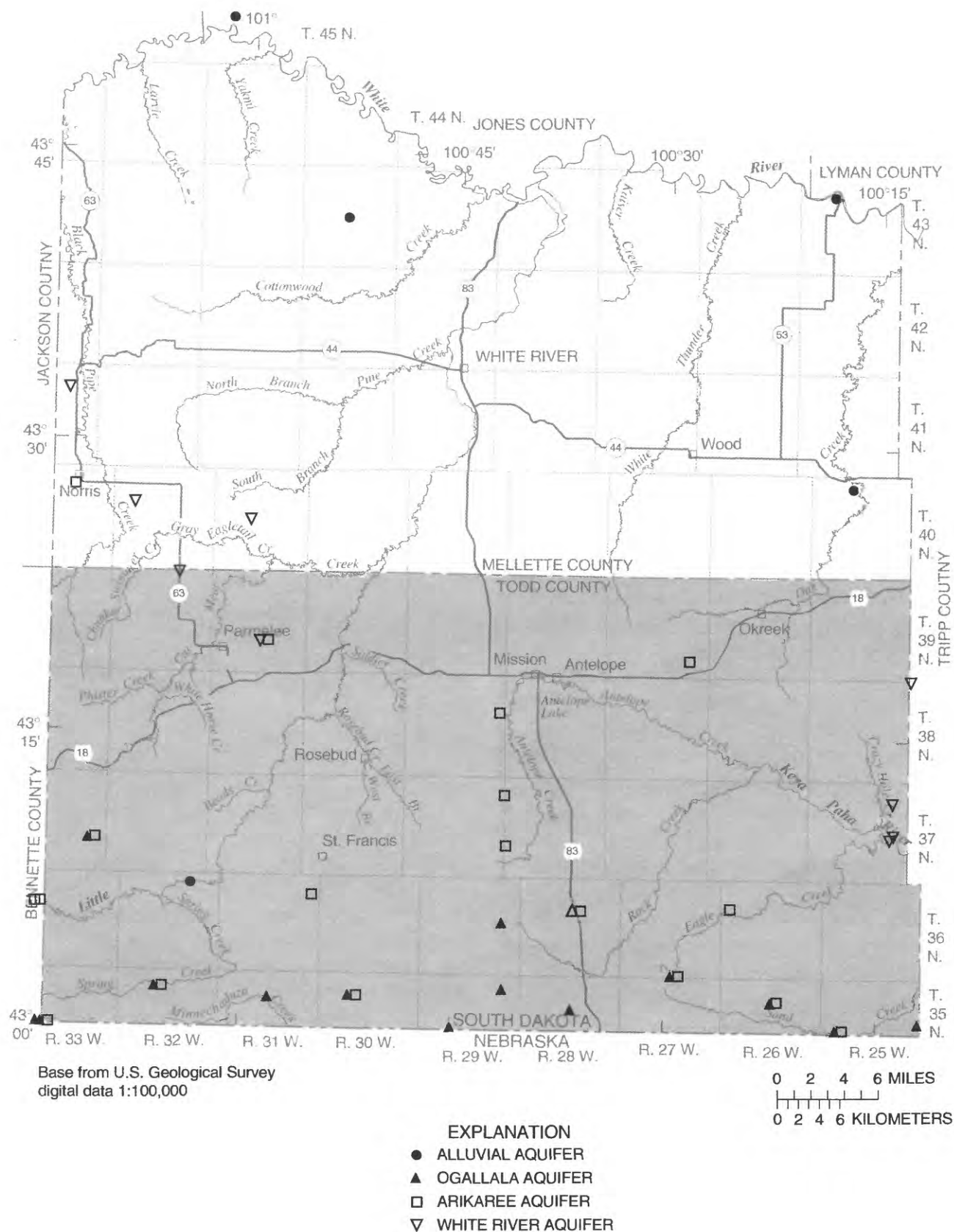


Figure 5. Location of sites sampled during the observation well water-quality program.

The data-quality objective of 20 percent for the precision of field duplicates was exceeded for two of the constituents in table 20. The relative standard deviation for selenium exceeded the 20-percent precision because of low concentrations. The large discrepancy of iron concentrations between one duplicate sample set accounts for the high relative standard deviation. The reason(s) for this discrepancy in iron concentrations is unknown but it possibly could have resulted from a data entry error. Because none of the other constituents for this duplicate sample set were in disagreement, the discrepancy between iron concentrations must be an isolated error.

In tables 14-19, 2 sigma refers to the 2 sigma precision estimate (2SPE), which is a measure of the error of the reported concentration. Generally, there is about 95 percent certainty that the true concentration for a sample is within the range of the reported value plus or minus the 2SPE, with the lower part of that range bounded by zero.

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SUPPLEMENTAL INFORMATION

Table 1. Physical properties and concentrations of inorganic constituents from reconnaissance sampling of alluvial aquifers

[Agency collecting or analyzing sample: RST, Rosebud Sioux Tribe. $\mu\text{S}/\text{cm}$, microsiemens per centimeter; mg/L , milligrams per liter; $\mu\text{g}/\text{L}$, micrograms per liter; deg C, degrees Celsius; NTU, nephelometric turbidity units; <, less than; --, no data]

Station identification number	Local number	County	Date	Depth of well (feet) (72008)	Agency collecting sample	Specific conduct- ance, field ($\mu\text{S}/\text{cm}$) (00095)	pH, field (standard units) (00400)
432428100273001	40N27W25DCAB	Mellette	07-31-90	30.0	RST	960	6.8
433255100173801	41N25W 3CCC	Mellette	10-03-90	30.0	RST	4,140	7.0
432728100283001	41N27W25DAD	Mellette	10-03-90	55.0	RST	¹ 3,450	¹ 7.3
432858100320002	41N27W33DDB	Mellette	07-31-90	80.0	RST	1,800	6.9
433822100175601	42N25W 4DCC	Mellette	08-16-90	60.0	RST	791	7.1
433716100312101	42N27W15BAC	Mellette	08-14-90	45.0	RST	3,460	6.6
433738100411901	42N28W 8CBC	Mellette	10-22-90	50.0	RST	2,780	7.3
433447100460401	42N29W27CDC	Mellette	08-06-90	48.0	RST	1,570	7.4
434216100142101	43N25W13ACC	Mellette	08-16-90	13.0	RST	2,010	7.4
434216100240501	43N26W15BDD	Mellette	08-16-90	50.0	RST	2,600	7.0
434333100514001	43N27W 6CCD	Mellette	08-15-90	30.0	RST	1,140	7.1
434214100484002	43N29W18ADD2	Mellette	09-17-90	55.0	RST	1,560	6.8
434457100385801	44N28W33ADDA	Mellette	08-15-90	30.0	RST	1,140	7.1
434547101081601	44N32W19ADDA	Mellette	09-05-90	10.0	RST	497	7.1
434939101011701	45N31W34CBCC	Mellette	09-05-90	20.0	RST	2,390	7.0
432228100170201	39N25W 9BAAA6	Todd	08-28-90	60.0	RST	1,620	7.0
432144100241201	39N26W 9CDDA	Todd	08-28-90	20.0	RST	833	6.9
432243100313701	39N27W 4CCAA2	Todd	08-28-90	15.0	RST	685	7.0

Table 1. Physical properties and concentrations of inorganic constituents from reconnaissance sampling of alluvial aquifers—Continued

Local number	Temperature, water (deg C) (00010)	Turbidity (NTU) (00076)	Alkalinity, lab (mg/L as CaCO ₃) (90410)	Calcium, dissolved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)	Sodium, dissolved (mg/L as Na) (00930)	Sodium, percent (00932)
40N27W25DCAB	15.0	0.20	461	140	7.8	72	28
41N25W 3CCC	12.0	7.0	323	420	170	410	33
41N27W25DAD	--	2.4	300	420	55	370	38
41N27W33DDB	14.0	0.40	327	240	23	130	28
42N25W 4DCC	16.5	0.40	263	97	20	38	19
42N27W15BAC	21.0	0.70	430	520	150	220	20
42N28W 8CBC	--	0.80	668	31	4.6	570	92
42N29W27CDC	16.5	1.0	370	34	6.2	320	85
43N25W13ACC	18.0	0.40	408	71	14	370	77
43N26W15BDD	18.5	0.20	234	190	57	310	48
43N27W 6CCD	16.5	0.60	215	120	14	100	37
43N29W18ADD2	13.5	1.0	321	200	46	70	18
44N28W33ADDA	17.0	0.40	325	63	5.7	190	68
44N32W19ADDA	20.5	0.60	220	58	6.0	38	32
45N31W34CBCC	17.5	0.20	256	220	51	350	49
39N25W 9BAAA6	15.5	0.30	316	190	42	110	26
39N26W 9CDDA	16.0	3.5	396	100	7.9	67	32
39N27W 4CCAA2	16.0	0.20	360	90	9.4	48	27

Table 1. Physical properties and concentrations of inorganic constituents from reconnaissance sampling of alluvial aquifers—Continued

Local number	Sodium adsorption ratio (00931)	Potassium, dissolved (mg/L as K) (00935)	Sulfate, dissolved (mg/L as SO ₄) (00945)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO ₂) (00955)	Solids, residue at 180 deg C, dissolved (mg/L) (70300)
40N27W25DCAB	2	14	44	21	0.30	49	610
41N25W 3CCC	4	19	2,000	7.3	0.10	22	3,820
41N27W25DAD	5	31	1,600	64	0.10	42	2,960
41N27W33DDB	2	14	650	25	<0.10	40	1,380
42N25W 4DCC	0.9	20	150	14	0.30	39	532
42N27W15BAC	2	20	1,800	24	0.10	14	3,180
42N28W 8CBC	25	11	480	160	2.2	27	1,720
42N29W27CDC	13	6.7	430	12	0.20	13	1,040
43N25W13ACC	11	8.7	600	16	0.70	25	1,390
43N26W15BDD	5	11	1,100	28	0.40	15	2,020
43N27W 6CCD	2	14	280	59	<0.10	32	766
43N29W18ADD2	1	19	500	30	0.20	35	1,180
44N28W33ADDA	6	8.7	250	12	0.50	27	764
44N32W19ADDA	1	8.0	32	11	0.30	44	320
45N31W34CBCC	6	19	1,100	49	0.60	30	1,900
39N25W 9BAAA6	2	19	530	7.1	0.80	35	1,230
39N26W 9CDDA	2	18	41	17	1.0	44	523
39N27W 4CCAA2	1	13	9.6	8.3	0.80	44	419

Table 1. Physical properties and concentrations of inorganic constituents from reconnaissance sampling of alluvial aquifers—Continued

Local number	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Nitrogen, NO ₂ +NO ₃ dissolved (mg/L as N) (00631)	Phosphorus, ortho, dissolved (mg/L as P) (00671)	Arsenic, dissolved (µg/L as As) (01000)	Barium, dissolved (µg/L as Ba) (01005)	Cadmium, dissolved (µg/L as Cd) (01025)
40N27W25DCAB	--	--	0.80	--	8	330	<1
41N25W 3CCC	0.01	<0.01	0.50	<0.01	--	--	--
41N27W25DAD	<0.01	<0.01	9.20	0.04	--	--	--
41N27W33DDB	--	--	4.20	--	--	--	--
42N25W 4DCC	--	--	0.30	--	--	--	--
42N27W15BAC	--	--	0.30	--	--	--	--
42N28W 8CBC	1.50	<0.01	0.10	0.01	--	--	--
42N29W27CDC	--	--	<0.10	--	--	--	--
43N25W13ACC	--	--	<0.10	--	--	--	--
43N26W15BDD	--	--	1.10	--	<1	<100	<1
43N27W 6CCD	--	--	2.00	--	--	--	--
43N29W18ADD2	--	--	<0.10	--	--	--	--
44N28W33ADDA	--	--	<0.10	--	--	--	--
44N32W19ADDA	--	--	2.10	--	5	180	<1
45N31W34CBCC	--	--	0.90	--	--	--	--
39N25W 9BAAA6	--	--	3.20	--	2	12	<1
39N26W 9CDDA	--	--	<0.10	--	--	--	--
39N27W 4CCAA2	--	--	0.70	--	--	--	--

Table 1. Physical properties and concentrations of inorganic constituents from reconnaissance sampling of alluvial aquifers—Continued

Local number	Chromium, dissolved (µg/L as Cr) (01030)	Iron, dissolved (µg/L as Fe) (01046)	Lead, dissolved (µg/L as Pb) (01049)	Manganese, dissolved (µg/L as Mn) (01056)	Mercury, dissolved (µg/L as Hg) (71890)	Selenium, dissolved (µg/L as Se) (01145)	Zinc, dissolved (µg/L as Zn) (01090)
40N27W25DCAB	<1	4	2	<1	<0.1	3	12
41N25W 3CCC	--	--	--	--	--	--	--
41N27W25DAD	--	--	--	--	--	--	--
41N27W33DDB	--	--	--	--	--	--	--
42N25W 4DCC	--	--	--	--	--	--	--
42N27W15BAC	--	--	--	--	--	--	--
42N28W 8CBC	--	--	--	--	--	--	--
42N29W27CDC	--	--	--	--	--	--	--
43N25W13ACC	--	--	--	--	--	--	--
43N26W15BDD	<1	20	<1	<10	<0.1	6	30
43N27W 6CCD	--	--	--	--	--	--	--
43N29W18ADD2	--	--	--	--	--	--	--
44N28W33ADDA	--	--	--	--	--	--	--
44N32W19ADDA	1	6	<1	1	<0.1	3	25
45N31W34CBCC	--	--	--	--	--	--	--
39N25W 9BAAA6	2	12	<1	7	<0.1	25	120
39N26W 9CDDA	--	--	--	--	--	--	--
39N27W 4CCAA2	--	--	--	--	--	--	--

¹Laboratory value is given because field value was missing.

Table 2. Physical properties and concentrations of inorganic and organic constituents from reconnaissance sampling of the Ogallala aquifer

[Agency collecting or analyzing sample: RST, Rosebud Sioux Tribe; USGS, U.S. Geological Survey. $\mu\text{S}/\text{cm}$, microsiemens per centimeter; mg/L , milligrams per liter; $\mu\text{g}/\text{L}$, micrograms per liter; deg C , degrees Celsius; NTU, nephelometric turbidity units; unfltrd, unfiltered; recover, recoverable; <, less than; --, no data]

Station number	Local number	County	Date	Depth of well (feet) (72008)	Agency collecting sample	Specific conductance, field ($\mu\text{S}/\text{cm}$) (00095)	pH, field (standard units) (00400)	Temperature, water (deg C) (00010)
430057100275401	35N27W14BAAB	Todd	10-23-90	84.2	RST	387	7.4	12.5
430154100411801	35N29W 2DDDD	Todd	07-18-90	44.4	USGS	911	6.9	12.0
430159100531001	35N30W 6DDDD	Todd	08-01-90	83.5	USGS	334	7.4	13.0
430704100145901	36N25W10BABB	Todd	08-29-90	30.0	USGS	326	7.5	16.5
430245100223101	36N26W34CCC	Todd	10-23-90	--	RST	371	7.5	13.0
430728100135801	36N27W 1BDDD	Todd	08-29-90	58.1	RST	¹ 389	7.2	12.5
430712100421301	36N29W 2CDCC	Todd	09-19-90	200.0	RST	341	7.6	12.0
430714100445001	36N29W 4CCBC	Todd	07-19-90	150.0	USGS	336	7.4	14.0
430620100462301	36N29W 7DCC	Todd	10-23-90	--	RST	¹ 303	¹ 7.7	--
430652100450601	36N29W 8A	Todd	09-19-90	190.0	RST	¹ 417	¹ 7.6	--
430530100422501	36N29W14CDAB	Todd	09-19-90	200.0	RST	351	7.6	13.0
430555100433601	36N29W15BBB	Todd	10-15-90	160.0	RST	352	7.6	12.5
430600100450901	36N29W17ADBB	Todd	07-19-90	--	USGS	743	7.2	13.5
430504100471201	36N29W19BCBA	Todd	10-15-90	--	RST	328	7.6	12.5
430340100420501	36N29W26CDC	Todd	09-19-90	--	RST	381	7.4	12.0
430405100434201	36N29W28ADA	Todd	09-19-90	160.0	RST	383	7.5	13.5
430415100451401	36N29W29ACAA	Todd	07-18-90	133.5	USGS	385	7.4	13.5
430615100472701	36N30W12DDCD	Todd	10-15-90	285.0	RST	342	¹ 7.7	--
430501100504901	36N30W21DAAA	Todd	08-01-90	137.0	USGS	253	7.6	12.5
430418100480801	36N30W24CCDB	Todd	10-15-90	--	RST	583	7.5	14.0
430258100471401	36N30W36DDDA	Todd	08-01-90	123.0	USGS	356	7.4	13.5
430309100570901	36N31W34DBBC	Todd	10-23-90	90.5	RST	342	7.4	12.0
431137100185301	37N25W 7DAAD	Todd	08-29-90	100.0	RST	780	7.9	13.5
431021100384701	37N28W16CCDD	Todd	08-31-90	80.0	RST	323	7.4	13.0
430809100372401	37N28W34BDA2	Todd	10-23-90	171.1	RST	327	7.5	12.5
431116100422001	37N29W12CCD	Todd	07-18-90	--	USGS	365	7.3	14.5
430937100445801	37N29W21DDAD	Todd	10-15-90	--	RST	754	7.3	13.0
430852100435001	37N29W27DACD	Todd	10-15-90	180.0	RST	255	7.8	12.5
430823100441201	37N29W34ACA	Todd	07-19-90	150.0	USGS	710	6.9	14.5

Table 2. Physical properties and concentrations of inorganic and organic constituents from reconnaissance sampling of the Ogallala aquifer—Continued

Local number	Turbidity (NTU) (00076)	Alkalinity, lab (mg/L as CaCO ₃) (90410)	Calcium, dissolved (mg/L as Ca) (00915)	Magne- sium, dissolved (mg/L as Mg) (00925)	Sodium, dissolved (mg/L as Na) (00930)	Sodium, percent (00932)	Sodium adsorp- tion ratio (00931)	Potas- sium, dissolved (mg/L as K) (00935)	Sulfate, dissolved (mg/L as SO ₄) (00945)
35N27W14BAAB	35	199	52	10	9.9	10	0.3	10	5.7
35N29W 2DDDD	0.70	330	89	8.8	97	43	3	16	86
35N30W 6DDDD	0.40	174	62	2.6	3.0	4	0.1	6.5	<1.0
36N25W10BABB	0.20	153	32	4.8	29	36	1	9.8	14
36N26W34CCC	0.50	179	41	7.2	18	21	0.7	12	12
36N27W 1BDDD	42	184	77	2.4	1.7	2	0.0	5.9	14
36N29W 2CDCC	3.0	176	48	8.1	9.4	11	0.3	10	6.3
36N29W 4CCBC	0.30	160	50	7.7	5.8	7	0.2	6.9	2.8
36N29W 7DCC	0.20	158	44	7.7	3.9	5	0.1	8.8	1.6
36N29W 8A	0.40	175	61	10	5.3	5	0.2	7.3	5.7
36N29W14CDAB	3.0	163	41	9.5	14	16	0.5	11	9.7
36N29W15BBB	0.40	177	51	9.5	5.3	6	0.2	7.7	3.2
36N29W17ADBB	0.30	191	110	13	8.9	5	0.2	9.9	7.8
36N29W19BCBA	0.50	161	48	8.9	3.6	5	0.1	7.4	2.0
36N29W26CDC	0.60	190	57	9.8	5.1	5	0.2	7.5	2.1
36N29W28ADA	0.30	175	59	6.6	6.5	7	0.2	8.8	6.9
36N29W29ACAA	0.40	157	35	5.3	37	40	2	9.5	16
36N30W12DDCD	0.30	165	53	7.5	4.5	5	0.2	8.7	3.9
36N30W21DAAA	0.70	131	40	6.4	1.1	2	0.0	6.3	1.6
36N30W24CCDB	0.20	186	81	14	11	8	0.3	10	11
36N30W36DDDA	0.40	173	49	10	7.4	9	0.3	6.9	5.5
36N31W34DBBC	0.40	179	54	7.0	7.8	9	0.3	7.3	1.8
37N25W 7DAAD	0.40	340	7.3	0.78	180	93	17	8.0	63
37N28W16CCDD	0.30	165	46	9.7	5.8	7	0.2	7.6	2.2
37N28W34BDA2	3.4	168	43	11	4.1	5	0.1	7.9	2.1
37N29W12CCD	2.4	174	47	9.2	13	14	0.5	9.9	9.6
37N29W21DDAD	0.20	221	100	17	9.3	6	0.2	10	17
37N29W27DACD	0.30	129	36	6.8	2.8	5	0.1	6.7	2.3
37N29W34ACA	0.30	153	120	4.3	3.9	3	0.1	8.8	28

Table 2. Physical properties and concentrations of inorganic and organic constituents from reconnaissance sampling of the Ogallala aquifer—Continued

Local number	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO ₂) (00955)	Solids, residue at 180 deg C, dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Nitrogen, NO ₂ +NO ₃ dissolved (mg/L as N) (00631)	Phos- phorus, ortho, dissolved (mg/L as P) (00671)
35N27W14BAAB	3.3	0.30	67	262	0.02	<0.01	0.70	0.01
35N29W 2DDDD	8.1	1.1	57	619	--	--	16.0	--
35N30W 6DDDD	0.20	0.40	52	233	--	--	0.70	--
36N25W10BABB	3.8	0.70	67	237	--	--	1.80	--
36N26W34CCC	3.6	0.30	66	261	0.02	<0.01	1.10	0.02
36N27W 1BDDD	4.2	0.40	51	279	--	--	3.00	--
36N29W 2CDCC	4.1	0.40	64	239	--	--	0.90	--
36N29W 4CCBC	3.6	0.30	58	243	--	--	2.80	--
36N29W 7DCC	2.9	0.20	57	214	0.02	<0.01	0.90	0.02
36N29W 8A	8.0	0.30	54	282	--	--	9.10	--
36N29W14CDAB	2.9	0.40	67	255	--	--	3.40	--
36N29W15BBB	4.0	0.20	58	241	<0.01	<0.01	1.60	0.01
36N29W17ADBB	21	0.30	54	492	--	--	29.0	--
36N29W19BCBA	3.3	0.30	57	230	<0.01	<0.01	2.20	0.02
36N29W26CDC	3.2	0.30	60	235	--	--	1.20	--
36N29W28ADA	5.6	0.30	59	256	--	--	3.50	--
36N29W29ACAA	2.8	0.50	69	279	--	--	1.10	--
36N30W12DDCD	5.6	0.20	56	239	<0.01	<0.01	1.60	<0.01
36N30W21DAAA	0.20	0.30	53	189	--	--	0.70	--
36N30W24CCDB	20	0.20	58	414	0.01	<0.01	18.0	<0.01
36N30W36DDDA	4.7	0.20	65	258	--	--	1.60	--
36N31W34DBBC	3.0	0.30	53	231	0.03	<0.01	0.60	0.04
37N25W 7DAAD	15	0.90	58	505	--	--	<0.10	--
37N28W16CCDD	2.7	0.30	--	--	--	--	1.10	--
37N28W34BDA2	3.5	0.20	61	217	0.03	<0.01	1.00	0.02
37N29W12CCD	3.1	0.30	65	249	--	--	1.20	--
37N29W21DDAD	20	0.20	55	530	<0.01	<0.01	30.0	<0.01
37N29W27DACD	2.5	0.20	59	190	<0.01	<0.01	0.90	<0.01
37N29W34ACA	28	0.30	55	598	--	--	44.0	--

Table 2. Physical properties and concentrations of inorganic and organic constituents from reconnaissance sampling of the Ogallala aquifer—Continued

Local number	Arsenic, dissolved (µg/L as As) (01000)	Barium, dissolved (µg/L as Ba) (01005)	Cadmium, dissolved (µg/L as Cd) (01025)	Chromium, dissolved (µg/L as Cr) (01030)	Iron, dissolved (µg/L as Fe) (01046)	Lead, dissolved (µg/L as Pb) (01049)	Manga- nese, dissolved (µg/L as Mn) (01056)	Mercury, dissolved (µg/L as Hg) (71890)
35N27W14BAAB	--	--	--	--	--	--	--	--
35N29W 2DDDD	--	--	--	--	--	--	--	--
35N30W 6DDDD	--	--	--	--	--	--	--	--
36N25W10BABB	--	--	--	--	--	--	--	--
36N26W34CCC	--	--	--	--	--	--	--	--
36N27W 1BDDD	--	--	--	--	--	--	--	--
36N29W 2CDCC	--	--	--	--	--	--	--	--
36N29W 4CCBC	--	--	--	--	--	--	--	--
36N29W 7DCC	--	--	--	--	--	--	--	--
36N29W 8A	--	--	--	--	--	--	--	--
36N29W14CDAB	--	--	--	--	--	--	--	--
36N29W15BBB	--	--	--	--	--	--	--	--
36N29W17ADBB	--	--	--	--	--	--	--	--
36N29W19BCBA	--	--	--	--	--	--	--	--
36N29W26CDC	--	--	--	--	--	--	--	--
36N29W28ADA	--	--	--	--	--	--	--	--
36N29W29ACAA	--	--	--	--	--	--	--	--
36N30W12DDCD	--	--	--	--	--	--	--	--
36N30W21DAAA	--	--	--	--	--	--	--	--
36N30W24CCDB	--	--	--	--	--	--	--	--
36N30W36DDDA	--	--	--	--	--	--	--	--
36N31W34DBBC	--	--	--	--	--	--	--	--
37N25W 7DAAD	--	--	--	--	--	--	--	--
37N28W16CCDD	7	98	<1	1	3	<1	<1	<0.1
37N28W34BDA2	--	--	--	--	--	--	--	--
37N29W12CCD	--	--	--	--	--	--	--	--
37N29W21DDAD	1	360	<1	<1	3	1	<1	<0.1
37N29W27DACD	4	120	<1	<1	8	<1	<1	<0.1
37N29W34ACA	1	270	<1	1	10	<1	1	<0.1

Table 2. Physical properties and concentrations of inorganic and organic constituents from reconnaissance sampling of the Ogallala aquifer—Continued

Local number	Selenium, dissolved (µg/L as Se) (01145)	Zinc, dissolved (µg/L as Zn) (01090)	Alachlor, total, recover (µg/L) (77825)	Ametryne, total (µg/L) (82184)	Atrazine, unfltrd, recover (µg/L) (39630)	Cyana- zine, total (µg/L) (81757)	Dicamba (Mediben) (Banvel D), total (µg/L) (82052)	2,4,5-T, total (µg/L) (39740)	2,4-D, total (µg/L) (39730)
35N27W14BAAB	--	--	--	--	--	--	--	--	--
35N29W 2DDDD	--	--	--	--	--	--	--	--	--
35N30W 6DDDD	--	--	--	--	--	--	--	--	--
36N25W10BABB	--	--	--	--	--	--	--	--	--
36N26W34CCC	--	--	--	--	--	--	--	--	--
36N27W 1BDDD	--	--	--	--	--	--	--	--	--
36N29W 2CDCC	--	--	--	--	--	--	--	--	--
36N29W 4CCBC	--	--	--	--	--	--	--	--	--
36N29W 7DCC	--	--	<0.10	<0.10	<0.1	<0.10	<0.01	<0.01	<0.01
36N29W 8A	--	--	--	--	--	--	--	--	--
36N29W14CDAB	--	--	<0.10	<0.10	<0.1	<0.10	<0.01	<0.01	<0.01
36N29W15BBB	--	--	--	--	--	--	--	--	--
36N29W17ADBB	--	--	--	--	--	--	--	--	--
36N29W19BCBA	--	--	--	--	--	--	--	--	--
36N29W26CDC	--	--	--	--	--	--	--	--	--
36N29W28ADA	--	--	--	--	--	--	--	--	--
36N29W29ACAA	--	--	--	--	--	--	--	--	--
36N30W12DDCD	--	--	--	--	--	--	--	--	--
36N30W21DAAA	--	--	--	--	--	--	--	--	--
36N30W24CCDB	--	--	--	--	--	--	--	--	--
36N30W36DDDA	--	--	--	--	--	--	--	--	--
36N31W34DBBC	--	--	--	--	--	--	--	--	--
37N25W 7DAAD	--	--	--	--	--	--	--	--	--
37N28W16CCDD	<1	12	<0.10	<0.10	<0.1	<0.10	<0.01	<0.01	0.07
37N28W34BDA2	--	--	<0.10	<0.10	<0.1	<0.10	<0.01	<0.01	<0.01
37N29W12CCD	--	--	--	--	--	--	--	--	--
37N29W21DDAD	1	19	<0.10	<0.10	<0.1	<0.10	<0.01	<0.01	<0.01
37N29W27DACD	<1	20	<0.10	<0.10	<0.1	<0.10	<0.01	<0.01	<0.01
37N29W34ACA	1	54	<0.10	<0.10	<0.1	<0.10	<0.01	<0.01	0.05

Table 2. Physical properties and concentrations of inorganic and organic constituents from reconnaissance sampling of the Ogallala aquifer—Continued

Local number	2,4-DP, total (µg/L) (82183)	Picloram (Tordon), total (µg/L) (39720)	Prome- tone, total (µg/L) (39056)	Prome- tryne, total (µg/L) (39057)	Propazine, total (µg/L) (39024)	Silvex, total (µg/L) (39760)	Simazine, total (µg/L) (39055)	Simetryne, total (µg/L) (39054)
35N27W14BAAB	--	--	--	--	--	--	--	--
35N29W 2DDDD	--	--	--	--	--	--	--	--
35N30W 6DDDD	--	--	--	--	--	--	--	--
36N25W10BABB	--	--	--	--	--	--	--	--
36N26W34CCC	--	--	--	--	--	--	--	--
36N27W 1BDDD	--	--	--	--	--	--	--	--
36N29W 2CDCC	--	--	--	--	--	--	--	--
36N29W 4CCBC	--	--	--	--	--	--	--	--
36N29W 7DCC	<0.01	<0.01	<0.10	<0.10	<0.10	<0.01	<0.10	<0.10
36N29W 8A	--	--	--	--	--	--	--	--
36N29W14CDAB	<0.01	<0.01	<0.10	<0.10	<0.10	<0.01	<0.10	<0.10
36N29W15BBB	--	--	--	--	--	--	--	--
36N29W17ADBB	--	--	--	--	--	--	--	--
36N29W19BCBA	--	--	--	--	--	--	--	--
36N29W26CDC	--	--	--	--	--	--	--	--
36N29W28ADA	--	--	--	--	--	--	--	--
36N29W29ACAA	--	--	--	--	--	--	--	--
36N30W12DDCD	--	--	--	--	--	--	--	--
36N30W21DAAA	--	--	--	--	--	--	--	--
36N30W24CCDB	--	--	--	--	--	--	--	--
36N30W36DDDA	--	--	--	--	--	--	--	--
36N31W34DBBC	--	--	--	--	--	--	--	--
37N25W 7DAAD	--	--	--	--	--	--	--	--
37N28W16CCDD	<0.01	<0.01	<0.10	<0.10	<0.10	<0.01	<0.10	<0.10
37N28W34BDA2	<0.01	<0.01	<0.10	<0.10	<0.10	<0.01	<0.10	<0.10
37N29W12CCD	--	--	--	--	--	--	--	--
37N29W21DDAD	<0.01	<0.01	<0.10	<0.10	<0.10	<0.01	<0.10	<0.10
37N29W27DACD	<0.01	<0.01	<0.10	<0.10	<0.10	<0.01	<0.10	<0.10
37N29W34ACA	<0.01	<0.01	<0.10	<0.10	<0.10	<0.01	<0.10	<0.10

¹Laboratory value is given because field value was missing.

Table 3. Physical properties and concentrations of inorganic and organic constituents from reconnaissance sampling of the Arikaree aquifer

[Agency collecting or analyzing sample: RST, Rosebud Sioux Tribe; USGS, U.S. Geological Survey. $\mu\text{S}/\text{cm}$, microsiemens per centimeter; mg/L , milligrams per liter; $\mu\text{g}/\text{L}$, micrograms per liter; deg C, degrees Celsius; NTU, nephelometric turbidity units; unfltrd, unfiltered; recov, recoverable; <, less than; --, no data]

Station number	Local number	County	Date	Depth of well (feet) (72008)	Agency collecting sample	Specific conductance, field ($\mu\text{S}/\text{cm}$) (00095)	pH, field (standard units) (00400)
432600100303604	40N27W22BBA4	Mellette	07-31-90	90.0	USGS	817	7.3
432648101072401	40N32W17ABB	Mellette	10-16-90	100.0	RST	406	7.4
432554101065601	40N32W21BBBB	Mellette	10-02-90	162.5	RST	514	7.9
432654101130601	40N33W 9DDDA2	Mellette	10-02-90	90.0	RST	604	7.4
430105100445601	35N29W 8DDD2	Todd	07-19-90	250.0	RST	359	7.4
430925100251701	37N26W20CAAA3	Todd	08-29-90	--	RST	389	7.3
431149100462301	37N29W 8AADC	Todd	10-15-90	--	RST	302	7.7
431404100255401	38N26W30DADD	Todd	08-28-90	50.0	RST	395	7.5
431733100330901	38N27W 6DADC	Todd	08-28-90	100.0	RST	397	7.6
431648100521601	38N30W 9ABD	Todd	08-31-90	--	RST	283	7.5
431625101103001	38N33W12CCDC	Todd	09-18-90	150.0	RST	364	7.6
431830100250201	39N26W32DCDA	Todd	08-28-90	153.0	RST	349	7.4
431933101010501	39N31W29BCB	Todd	08-31-90	240.0	RST	405	8.5
431342100344101	38N28W36ABCB	Todd	08-02-90	73.0	USGS	238	7.7

Local number	Temperature, water (deg C) (00010)	Turbidity (NTU) (00076)	Alkalinity, lab (mg/L as CaCO_3) (90410)	Calcium, dissolved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)	Sodium, dissolved (mg/L as Na) (00930)	Sodium, percent (00932)
40N27W22BBA4	15.0	0.30	168	27	2.1	130	73
40N32W17ABB	14.5	0.50	196	41	2.8	37	39
40N32W21BBBB	14.0	6.3	244	11	0.59	110	86
40N33W 9DDDA2	16.0	0.50	300	25	1.1	120	76
35N29W 8DDD2	15.0	0.30	154	45	8.7	12	14
37N26W20CAAA3	13.5	0.40	186	62	6.1	8.9	9
37N29W 8AADC	13.5	0.30	146	39	6.1	12	16
38N26W30DADD	15.5	0.40	192	46	7.3	26	27
38N27W 6DADC	15.0	0.50	193	23	2.6	59	61
38N30W 9ABD	18.5	0.20	137	40	6.4	6.0	9
38N33W12CCDC	18.5	0.50	182	50	6.7	15	17
39N26W32DCDA	15.5	0.20	172	40	6.0	21	25
39N31W29BCB	15.5	0.50	192	4.6	0.19	87	90
38N28W36ABCB	13.5	1.6	113	34	4.9	4.7	8

Table 3. Physical properties and concentrations of inorganic and organic constituents from reconnaissance sampling of the Arikaree aquifer—Continued

Local number	Sodium adsorption ratio (00931)	Potassium, dissolved (mg/L as K) (00935)	Sulfate, dissolved (mg/L as SO ₄) (00945)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO ₂) (00955)	Solids, residue at 180 deg C, dissolved (mg/L) (70300)
40N27W22BBA4	6	24	70	110	0.50	36	468
40N32W17ABB	2	11	7.7	6.4	<0.10	64	288
40N32W21BBBB	9	7.0	16	5.7	0.40	64	338
40N33W 9DDDA2	6	11	20	7.9	<0.10	68	418
35N29W 8DDD2	0.4	9.9	11	6.7	0.40	70	261
37N26W20CAA3	0.3	10	13	4.5	0.60	64	270
37N29W 8AADC	0.5	8.2	6.5	3.3	0.40	59	222
38N26W30DADD	0.9	9.1	11	3.5	1.0	67	270
38N27W 6DADC	3	10	17	4.4	0.80	59	287
38N30W 9ABD	0.2	6.8	3.4	2.7	1.1	57	190
38N33W12CCDC	0.5	8.9	19	2.6	0.30	71	274
39N26W32DCDA	0.8	9.9	5.8	2.8	1.1	69	246
39N31W29BCB	11	6.3	9.3	8.8	0.40	62	268
38N28W36ABCB	0.2	5.4	3.0	2.0	0.30	62	186

Local number	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Nitrogen, NO ₂ +NO ₃ dissolved (mg/L as N) (00631)	Phosphorus, ortho, dissolved (mg/L as P) (00671)	Arsenic, dissolved (µg/L as As) (01000)	Barium, dissolved (µg/L as Ba) (01005)	Cadmium, dissolved (µg/L as Cd) (01025)
40N27W22BBA4	--	--	0.40	--	--	--	--
40N32W17ABB	<0.01	<0.01	2.00	0.02	2	150	<1
40N32W21BBBB	<0.01	<0.01	1.90	0.06	--	--	--
40N33W 9DDDA2	<0.01	<0.01	0.30	<0.01	3	39	<1
35N29W 8DDD2	--	--	3.40	--	--	--	--
37N26W20CAA3	--	--	2.10	--	--	--	--
37N29W 8AADC	0.02	<0.01	1.60	0.01	6	140	<1
38N26W30DADD	--	--	1.50	--	--	--	--
38N27W 6DADC	--	--	0.80	--	--	--	--
38N30W 9ABD	--	--	1.10	--	--	--	--
38N33W12CCDC	--	--	0.40	--	--	--	--
39N26W32DCDA	--	--	1.40	--	--	--	--
39N31W29BCB	--	--	1.20	--	--	--	--
38N28W36ABCB	--	--	1.50	--	--	--	--

Table 3. Physical properties and concentrations of inorganic and organic constituents from reconnaissance sampling of the Arikaree aquifer—Continued

Local number	Chromium, dissolved (µg/L as Cr) (01030)	Iron, dissolved (µg/L as Fe) (01046)	Lead, dissolved (µg/L as Pb) (01049)	Manganese, dissolved (µg/L as Mn) (01056)	Mercury, dissolved (µg/L as Hg) (71890)	Selenium, dissolved (µg/L as Se) (01145)	Zinc, dissolved (µg/L as Zn) (01090)
40N27W22BBA4	--	--	--	--	--	--	--
40N32W17ABB	1	3	<1	<1	<0.1	2	17
40N32W21BBBB	--	--	--	--	--	--	--
40N33W 9DDDA2	1	<3	<1	<1	--	1	6
35N29W 8DDD2	--	--	--	--	--	--	--
37N26W20CAAA3	--	--	--	--	--	--	--
37N29W 8AADC	2	3	<1	<1	0.1	<1	5
38N26W30DADD	--	--	--	--	--	--	--
38N27W 6DADC	--	--	--	--	--	--	--
38N30W 9ABD	--	--	--	--	--	--	--
38N33W12CCDC	--	--	--	--	--	--	--
39N26W32DCDA	--	--	--	--	--	--	--
39N31W29BCB	--	--	--	--	--	--	--
38N28W36ABCB	--	--	--	--	--	--	--

Local number	Alachlor, total, recover (µg/L) (77825)	Ametryne, total (µg/L) (82184)	Atrazine, unfiltrd, recover (µg/L) (39630)	Cyanazine, total (µg/L) (81757)	Dicamba (Mediben) (Banvel D), total (µg/L) (82052)	2,4,5-T, total (µg/L) (39740)	2,4-D, total (µg/L) (39730)
40N27W22BBA4	--	--	--	--	--	--	--
40N32W17ABB	<0.10	<0.10	<0.1	<0.10	<0.01	<0.01	<0.01
40N32W21BBBB	--	--	--	--	--	--	--
40N33W 9DDDA2	--	--	--	--	--	--	--
35N29W 8DDD2	--	--	--	--	--	--	--
37N26W20CAAA3	--	--	--	--	--	--	--
37N29W 8AADC	<0.10	<0.10	<0.1	<0.10	<0.01	<0.01	0.04
38N26W30DADD	--	--	--	--	--	--	--
38N27W 6DADC	--	--	--	--	--	--	--
38N30W 9ABD	--	--	--	--	--	--	--
38N33W12CCDC	--	--	--	--	--	--	--
39N26W32DCDA	--	--	--	--	--	--	--
39N31W29BCB	--	--	--	--	--	--	--
38N28W36ABCB	--	--	--	--	--	--	--

Table 3. Physical properties and concentrations of inorganic and organic constituents from reconnaissance sampling of the Arikaree aquifer—Continued

Local number	2,4-DP, total (µg/L) (82183)	Picloram (Tordon), total (µg/L) (39720)	Prome- tone, total (µg/L) (39056)	Prome- tryne, total (µg/L) (39057)	Propazine, total (µg/L) (39024)	Silvex, total (µg/L) (39760)	Simazine, total (µg/L) (39055)	Simetryne, total (µg/L) (39054)
40N27W22BBA4	--	--	--	--	--	--	--	--
40N32W17ABB	<0.01	<0.01	<0.10	<0.10	<0.10	<0.01	<0.10	<0.10
40N32W21BBBB	--	--	--	--	--	--	--	--
40N33W 9DDDA2	--	--	--	--	--	--	--	--
35N29W 8DDD2	--	--	--	--	--	--	--	--
37N26W20CAAA3	--	--	--	--	--	--	--	--
37N29W 8AADC	<0.01	<0.01	<0.10	<0.10	<0.10	<0.01	<0.10	<0.10
38N26W30DADD	--	--	--	--	--	--	--	--
38N27W 6DADC	--	--	--	--	--	--	--	--
38N30W 9ABD	--	--	--	--	--	--	--	--
38N33W12CCDC	--	--	--	--	--	--	--	--
39N26W32DCDA	--	--	--	--	--	--	--	--
39N31W29BCB	--	--	--	--	--	--	--	--
38N28W36ABCB	--	--	--	--	--	--	--	--

Table 4. Physical properties and concentrations of inorganic constituents from reconnaissance sampling of the White River aquifer

[Agency collecting or analyzing sample: RST, Rosebud Sioux Tribe. $\mu\text{S}/\text{cm}$, microsiemens per centimeter; mg/L , milligrams per liter; $\mu\text{g}/\text{L}$, micrograms per liter; deg C, degrees Celsius; NTU, nephelometric turbidity units; <, less than; --, no data]

Station number	Local number	County	Date	Depth of well (feet) (72008)	Agency collecting sample	Specific conductance, field ($\mu\text{S}/\text{cm}$) (00095)	pH, field (standard units) (00400)
432558100513303	40N30W22BAB	Mellette	10-16-90	60.0	RST	480	7.3
432728100562703	40N31W12BDB3	Mellette	10-16-90	40.0	RST	910	7.1
432440100575501	40N31W28CAA	Mellette	10-16-90	--	RST	896	6.9
432832101105201	40N33W 2AAB	Mellette	10-02-90	110.0	RST	567	7.1
433206100374301	41N28W14BBB	Mellette	08-14-90	47.0	RST	820	6.9
433055101004902	41N31W21BDB2	Mellette	10-02-90	40.0	RST	1,040	6.8
433506100351401	42N27W30CBAA	Mellette	08-14-90	70.0	RST	¹ 2,890	6.7
433907101070601	43N32W34CCC	Mellette	09-05-90	8.0	RST	708	7.1
431314100130501	38N25W36CACD	Todd	08-29-90	90.0	RST	296	7.5
431902100174201	39N25W33BBAA	Todd	08-28-90	30.0	RST	651	7.0

Local number	Temperature, water (deg C) (00010)	Turbidity (NTU) (00076)	Alkalinity, lab (mg/L as CaCO_3) (90410)	Calcium, dissolved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)	Sodium, dissolved (mg/L as Na) (00930)	Sodium, percent (00932)
40N30W22BAB	16.0	0.40	213	58	6.1	29	26
40N31W12BDB3	16.5	0.40	422	44	2.5	160	72
40N31W28CAA	11.0	0.30	469	68	3.3	130	59
40N33W 2AAB	13.5	0.40	288	66	3.0	58	40
41N28W14BBB	20.0	0.40	421	86	8.6	87	42
41N31W21BDB2	15.5	17	589	95	7.7	130	50
42N27W30CBAA	17.5	0.40	396	360	55	290	35
43N32W34CCC	20.0	0.70	387	46	2.4	120	67
38N25W36CACD	16.5	0.40	137	44	7.1	5.1	7
39N25W33BBAA	18.5	0.40	211	45	5.6	83	54

Table 4. Physical properties and concentrations of inorganic constituents from reconnaissance sampling of the White River aquifer—Continued

Local number	Sodium adsorption ratio (00931)	Potassium, dissolved (mg/L as K) (00935)	Sulfate, dissolved (mg/L as SO ₄) (00945)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO ₂) (00955)	Solids, residue at 180 deg C, dissolved (mg/L) (70300)
40N30W22BAB	1	11	16	6.1	0.30	48	299
40N31W12BDB3	6	11	37	21	0.20	47	575
40N31W28CAA	4	11	14	13	0.20	47	567
40N33W 2AAB	2	9.0	18	5.3	<0.10	65	383
41N28W14BBB	2	12	21	13	0.50	42	513
41N31W21BDB2	3	8.0	<1.0	10	0.10	48	674
42N27W30CBAA	4	20	1,300	16	0.30	29	2450
43N32W34CCC	5	5.3	18	7.6	0.40	33	439
38N25W36CACD	0.2	6.1	11	2.7	0.70	62	220
39N25W33BBAA	3	16	110	9.5	1.1	33	420

Local number	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Nitrogen, NO ₂ +NO ₃ dissolved (mg/L as N) (00631)	Phosphorus, ortho, dissolved (mg/L as P) (00671)	Arsenic, dissolved (µg/L as As) (01000)	Barium, dissolved (µg/L as Ba) (01005)	Cadmium, dissolved (µg/L as Cd) (01025)
40N30W22BAB	0.01	<0.01	4.40	0.14	10	270	<1
40N31W12BDB3	0.02	<0.01	2.30	0.03	--	--	--
40N31W28CAA	<0.01	<0.01	0.60	0.18	--	--	--
40N33W 2AAB	<0.01	<0.01	<0.10	0.02	--	--	--
41N28W14BBB	--	--	0.80	--	--	--	--
41N31W21BDB2	0.25	<0.01	<0.10	0.40	--	--	--
42N27W30CBAA	--	--	1.60	--	--	--	--
43N32W34CCC	--	--	<0.10	--	7	120	1
38N25W36CACD	--	--	2.90	--	--	--	--
39N25W33BBAA	--	--	0.20	--	--	--	--

Table 4. Physical properties and concentrations of inorganic constituents from reconnaissance sampling of the White River aquifer—Continued

Local number	Chromium, dissolved (µg/L as Cr) (01030)	Iron, dissolved (µg/L as Fe) (01046)	Lead, dissolved (µg/L as Pb) (01049)	Manganese, dissolved (µg/L as Mn) (01056)	Mercury, dissolved (µg/L as Hg) (71890)	Selenium, dissolved (µg/L as Se) (01145)	Zinc, dissolved (µg/L as Zn) (01090)
40N30W22BAB	2	3	<1	<1	<0.1	4	11
40N31W12BDB3	--	--	--	--	--	--	--
40N31W28CAA	--	--	--	--	--	--	--
40N33W 2AAB	--	--	--	--	--	--	--
41N28W14BBB	--	--	--	--	--	--	--
41N31W21BDB2	--	--	--	--	--	--	--
42N27W30CBAA	--	--	--	--	--	--	--
43N32W34CCC	<1	42	<1	810	<0.1	<1	4
38N25W36CACD	--	--	--	--	--	--	--
39N25W33BBAA	--	--	--	--	--	--	--

¹Lab value is given because field value was missing.

Table 5. Physical properties and concentrations of inorganic and organic constituents from reconnaissance sampling of the Pierre Shale aquifer

[Agency collecting or analyzing sample: RST, Rosebud Sioux Tribe. $\mu\text{S}/\text{cm}$, microsiemens per centimeter; mg/L , milligrams per liter; $\mu\text{g}/\text{L}$, micrograms per liter; deg C, degrees Celsius; NTU, nephelometric turbidity units; recover, recoverable; unfltrd, unfiltered; <, less than; --, no data]

Station number	Local number	County	Date	Depth of well (feet) (72008)	Agency collecting sample	Specific conductance, field ($\mu\text{S}/\text{cm}$) (00095)	pH, field (standard units) (00400)	Temperature, water (deg C) (00010)
432805100174501	40N25W 5ADC	Mellette	10-03-90	35.0	RST	1911	17.5	--
433033100315201	41N27W21DDD	Mellette	10-22-90	21.0	RST	2,930	6.7	13.0
433027100471601	41N29W20DDD2	Mellette	08-14-90	--	RST	1,130	7.1	14.5
433229100563101	41N30W 7DDBD	Mellette	10-16-90	32.0	RST	1,310	7.2	15.5
433717100221701	42N26W14AABA	Mellette	08-16-90	50.0	RST	1,560	6.8	12.0
433427100252601	42N26W33BDC	Mellette	08-16-90	30.0	RST	1,840	7.0	17.0
433815100325501	42N27W 9BBB	Mellette	10-22-90	--	RST	2,380	7.0	15.5
433650100501701	42N30W13ACDB	Mellette	09-06-90	--	RST	2,870	8.0	22.5
433426100563602	42N30W31ADC2	Mellette	09-06-90	24.0	RST	1,500	7.0	16.0
433726100584501	42N31W11CCB	Mellette	09-06-90	20.0	RST	1,740	7.1	19.0
433729101072802	42N32W 9CDB	Mellette	09-05-90	250.0	RST	3,170	7.7	22.0
433956100221702	43N25W35AAA	Mellette	08-16-90	35.0	RST	1,620	7.2	11.5
433821100285201	43N27W36CDDD	Mellette	10-22-90	40.0	RST	711	7.1	16.0
434202100422601	43N28W18CCBC	Mellette	08-15-90	65.0	RST	1,550	7.2	18.5
434345100532701	43N30W 4DAD	Mellette	09-17-90	42.0	RST	4,260	6.8	16.5
434246101014001	43N31W 8DBDC	Mellette	09-05-90	68.0	RST	5,430	6.6	18.0
434529100535003	44N30W28DAC	Mellette	09-17-90	42.0	RST	6,200	6.7	15.0
434652101010801	44N31W16CCC	Mellette	09-05-90	70.0	RST	2,680	7.0	16.5
434734101054001	44N32W14BABC	Mellette	09-05-90	10.0	RST	658	7.0	20.0

Table 5. Physical properties and concentrations of inorganic and organic constituents from reconnaissance sampling of the Pierre aquifer—Continued

Local number	Turbidity (NTU) (00076)	Alkalinity, lab (mg/L as CaCO ₃) (90410)	Calcium, dissolved (mg/L as Ca) (00915)	Magne- sium, dissolved (mg/L as Mg) (00925)	Sodium, dissolved (mg/L as Na) (00930)	Sodium, percent (00932)	Sodium adsorption ratio (00931)	Potassium, dissolved (mg/L as K) (00935)	Sulfate, dissolved (mg/L as SO ₄) (00945)
40N25W 5ADC	1.0	227	160	13	18	8	0.4	6.5	240
41N27W21DDD	0.50	526	490	54	140	17	2	24	1,200
41N29W20DDD2	0.60	366	130	17	91	33	2	11	200
41N30W 7DDBD	0.40	330	74	13	200	63	6	9.7	330
42N26W14AABA	1.6	349	200	46	82	20	1	11	530
42N26W33BDC	78	122	280	51	41	9	0.6	33	780
42N27W 9BBB	0.40	244	350	64	110	17	1	24	1,100
42N30W13ACDB	5.5	405	7.6	1.4	570	98	50	5.4	930
42N30W31ADC2	4.0	329	130	23	160	44	3	19	430
42N31W11CCB	0.50	326	160	28	200	45	4	8.8	600
42N32W 9CDB	0.80	191	26	0.90	580	94	30	4.3	<1.0
43N25W35AAA	0.20	282	130	27	180	47	4	10	470
43N27W36CDDD	0.40	241	110	13	13	8	0.3	8.7	110
43N28W18CCBC	0.30	320	82	18	250	65	7	12	420
43N30W 4DAD	0.50	454	470	130	430	35	5	28	1,800
43N31W 8DBDC	1.5	549	390	170	770	49	8	33	2,800
44N30W28DAC	1.0	550	430	280	830	45	8	18	3,000
44N31W16CCC	1.3	298	160	34	390	60	7	25	920
44N32W14BABC	0.30	257	100	10	14	9	0.3	12	29

Table 5. Physical properties and concentrations of inorganic and organic constituents from reconnaissance sampling of the Pierre aquifer—Continued

Local number	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO ₂) (00955)	Solids, residue at 180 deg C, dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Nitrogen, NO ₂ +NO ₃ dissolved (mg/L as N) (00631)	Phos- phorus, ortho, dissolved (mg/L as P) (00671)
40N25W 5ADC	18	<0.10	31	650	<0.01	<0.01	3.10	0.07
41N27W21DDD	83	0.30	34	2,600	0.04	<0.01	22.0	0.02
41N29W20DDD2	23	0.40	37	726	--	--	4.30	--
41N30W 7DDBD	7.5	0.20	27	872	0.01	<0.01	1.00	0.01
42N26W14AABA	25	0.50	17	1,150	--	--	0.20	--
42N26W33BDC	77	2.4	28	1,480	--	--	<0.10	--
42N27W 9BBB	51	0.30	35	1,940	0.03	<0.01	1.20	0.01
42N30W13ACDB	35	2.5	25	1,920	--	--	<0.10	--
42N30W31ADC2	26	0.70	19	1,030	--	--	<0.10	--
42N31W11CCB	5.6	0.60	28	1,280	--	--	<0.10	--
42N32W 9CDB	790	0.60	11	1,640	--	--	<0.10	--
43N25W35AAA	67	<0.10	14	1,100	--	--	<0.10	--
43N27W36CDDD	11	0.20	45	490	0.01	<0.01	3.10	0.12
43N28W18CCBC	32	0.30	12	1,040	--	--	0.20	--
43N30W 4DAD	93	0.40	12	3,750	--	--	1.70	--
43N31W 8DBDC	59	0.50	13	4,350	--	--	1.70	--
44N30W28DAC	36	0.60	15	5,990	--	--	0.50	--
44N31W16CCC	210	0.40	13	1,880	--	--	0.20	--
44N32W14BABC	15	0.40	43	431	--	--	11.0	--

Table 5. Physical properties and concentrations of inorganic and organic constituents from reconnaissance sampling of the Pierre aquifer—Continued

Local number	Arsenic, dissolved (µg/L as As) (01000)	Barium, dissolved (µg/L as Ba) (01005)	Cadmium, dissolved (µg/L as Cd) (01025)	Chromium, dissolved (µg/L as Cr) (01030)	Iron, dissolved (µg/L as Fe) (01046)	Lead, dissolved (µg/L as Pb) (01049)	Manganese, dissolved (µg/L as Mn) (01056)	Mercury, dissolved (µg/L as Hg) (71890)
40N25W 5ADC	--	--	--	--	--	--	--	--
41N27W21DDD	--	--	--	--	--	--	--	--
41N29W20DDD2	--	--	--	--	--	--	--	--
41N30W 7DDBD	--	--	--	--	--	--	--	--
42N26W14AABA	--	--	--	--	--	--	--	--
42N26W33BDC	--	--	--	--	--	--	--	--
42N27W 9BBB	--	--	--	--	--	--	--	--
42N30W13ACDB	<1	<100	<1	<1	1,700	<1	40	<0.1
42N30W31ADC2	--	--	--	--	--	--	--	--
42N31W11CCB	--	--	--	--	--	--	--	--
42N32W 9CDB	--	--	--	--	--	--	--	--
43N25W35AAA	--	--	--	--	--	--	--	--
43N27W36CDDD	--	--	--	--	--	--	--	--
43N28W18CCBC	<1	18	<1	<1	10	<1	100	<0.1
43N30W 4DAD	<1	100	<1	2	80	<1	500	<0.1
43N31W 8DBDC	<1	<100	<1	2	40	<1	360	<0.1
44N30W28DAC	--	--	--	--	--	--	--	--
44N31W16CCC	--	--	--	--	--	--	--	--
44N32W14BABC	5	280	2	<1	5	<1	<1	<0.1

Table 5. Physical properties and concentrations of inorganic and organic constituents from reconnaissance sampling of the Pierre aquifer—Continued

Local number	Selenium, dissolved (µg/L as Se) (01145)	Zinc, dissolved (µg/L as Zn) (01090)	Alachlor, total, recover (µg/L) (77825)	Ametryne, total (µg/L) (82184)	Atrazine, unfltrd, recover (µg/L) (39630)	Cyanazine, total (µg/L) (81757)	Dicamba (Mediben) (Banvel D), total (µg/L) (82052)	2,4,5-T, total (µg/L) (39740)
40N25W 5ADC	--	--	--	--	--	--	--	--
41N27W21DDD	--	--	--	--	--	--	--	--
41N29W20DDD2	--	--	--	--	--	--	--	--
41N30W 7DDBD	--	--	--	--	--	--	--	--
42N26W14AABA	--	--	--	--	--	--	--	--
42N26W33BDC	--	--	--	--	--	--	--	--
42N27W 9BBB	--	--	<0.10	<0.10	<0.1	<0.10	<0.01	<0.01
42N30W13ACDB	<1	10	--	--	--	--	--	--
42N30W31ADC2	--	--	--	--	--	--	--	--
42N31W11CCB	--	--	--	--	--	--	--	--
42N32W 9CDB	--	--	--	--	--	--	--	--
43N25W35AAA	--	--	--	--	--	--	--	--
43N27W36CDDD	--	--	--	--	--	--	--	--
43N28W18CCBC	4	55	--	--	--	--	--	--
43N30W 4DAD	3	390	--	--	--	--	--	--
43N31W 8DBDC	3	360	--	--	--	--	--	--
44N30W28DAC	--	--	--	--	--	--	--	--
44N31W16CCC	--	--	--	--	--	--	--	--
44N32W14BABC	7	41	--	--	--	--	--	--

Table 5. Physical properties and concentrations of inorganic and organic constituents from reconnaissance sampling of the Pierre aquifer—Continued

Local number	2,4-D, total (µg/L) (39730)	2,4-DP, total (µg/L) (82183)	Picloram (Tordon), total (µg/L) (39720)	Prome- tone, total (µg/L) (39056)	Prome- tryne, total (µg/L) (39057)	Propazine, total (µg/L) (39024)	Silvex, total (µg/L) (39760)	Simazine, total (µg/L) (39055)	Simetryne, total (µg/L) (39054)
40N25W 5ADC	--	--	--	--	--	--	--	--	--
41N27W21DDD	--	--	--	--	--	--	--	--	--
41N29W20DDD2	--	--	--	--	--	--	--	--	--
41N30W 7DDBD	--	--	--	--	--	--	--	--	--
42N26W14AABA	--	--	--	--	--	--	--	--	--
42N26W33BDC	--	--	--	--	--	--	--	--	--
42N27W 9BBB	<0.01	<0.01	<0.01	<0.10	<0.10	<0.10	<0.01	<0.10	<0.10
42N30W13ACDB	--	--	--	--	--	--	--	--	--
42N30W31ADC2	--	--	--	--	--	--	--	--	--
42N31W11CCB	--	--	--	--	--	--	--	--	--
42N32W 9CDB	--	--	--	--	--	--	--	--	--
43N25W35AAA	--	--	--	--	--	--	--	--	--
43N27W36CDDD	--	--	--	--	--	--	--	--	--
43N28W18CCBC	--	--	--	--	--	--	--	--	--
43N30W 4DAD	--	--	--	--	--	--	--	--	--
43N31W 8DBDC	--	--	--	--	--	--	--	--	--
44N30W28DAC	--	--	--	--	--	--	--	--	--
44N31W16CCC	--	--	--	--	--	--	--	--	--
44N32W14BABC	--	--	--	--	--	--	--	--	--

¹Laboratory value is given because field value was missing.

Table 6. Physical properties and concentrations of inorganic constituents from reconnaissance sampling of the Dakota aquifer

[Agency collecting or analyzing sample: RST, Rosebud Sioux Tribe. $\mu\text{S}/\text{cm}$, microsiemens per centimeter; mg/L , milligrams per liter; $\mu\text{g}/\text{L}$, micrograms per liter; deg C, degrees Celsius; NTU, nephelometric turbidity units; <, less than; --, no data]

Station number	Local number	County	Date	Depth of well (feet) (72008)	Agency collecting sample	Specific conductance, field ($\mu\text{S}/\text{cm}$) (00095)	pH, field (standard units) (00400)
433157100320501	41N27W16BAA2	Mellette	10-03-90	2,140	RST	2,750	7.5

Temperature, water (deg C) (00010)	Turbidity (NTU) (00076)	Alkalinity, lab (mg/L as CaCO_3) (90410)	Calcium, dissolved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)	Sodium, dissolved (mg/L as Na) (00930)	Sodium, percent (00932)	Sodium adsorption ratio (00931)	Potassium, dissolved (mg/L as K) (00935)	Sulfate, dissolved (mg/L as SO_4) (00945)
20.0	10	303	27	4.9	580	92	27	12	870

Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO_2) (00955)	Solids, residue at 180 deg C, dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Nitrogen, NO_2+NO_3 , dissolved (mg/L as N) (00631)	Phosphorus, ortho, dissolved (mg/L as P) (00671)	Arsenic, dissolved ($\mu\text{g}/\text{L}$ as As) (01000)
48	2.2	27	1,890	1.60	<0.01	<0.10	<0.01	<1

Barium, dissolved ($\mu\text{g}/\text{L}$ as Ba) (01005)	Cadmium, dissolved ($\mu\text{g}/\text{L}$ as Cd) (01025)	Chromium, dissolved ($\mu\text{g}/\text{L}$ as Cr) (01030)	Iron, dissolved ($\mu\text{g}/\text{L}$ as Fe) (01046)	Lead, dissolved ($\mu\text{g}/\text{L}$ as Pb) (01049)	Manganese, dissolved ($\mu\text{g}/\text{L}$ as Mn) (01056)	Mercury, dissolved ($\mu\text{g}/\text{L}$ as Hg) (71890)	Selenium, dissolved ($\mu\text{g}/\text{L}$ as Se) (01145)	Zinc, dissolved ($\mu\text{g}/\text{L}$ as Zn) (01090)
<100	<1	<1	1,500	<1	90	<0.1	<1	20

Table 7. Physical properties and concentrations of inorganic constituents from reconnaissance sampling of unidentified aquifers

[Agency collecting or analyzing sample: RST, Rosebud Sioux Tribe; USGS, U.S. Geological Survey. $\mu\text{S}/\text{cm}$, microsiemens per centimeter; mg/L , milligrams per liter; $\mu\text{g}/\text{L}$, micrograms per liter; deg C , degrees Celsius; NTU, nephelometric turbidity units; <, less than; --, no data]

Station number	Local number	County	Date	Depth of well (feet) (72008)	Agency collecting sample	Specific conductance ($\mu\text{S}/\text{cm}$) (00095)	pH, field (standard units) (00400)	Temperature, water (deg C) (00010)
433256100460001	41N29W10BAB	Mellette	08-14-90	--	RST	608	7.0	17.0
433438100204201	42N25W31BBD	Mellette	08-16-90	--	RST	1,310	9.5	23.0
433355100425301	42N29W36DCD	Mellette	08-14-90	--	RST	2,760	6.8	21.0
430226100445501	35N29W 5ADDA	Todd	07-19-90	--	USGS	342	7.4	13.0
430415100493801	36N30W27ADAA	Todd	08-01-90	--	USGS	1,190	7.0	15.5
431253100535201	37N30W31DAB	Todd	10-23-90	--	RST	322	7.6	13.5
430958101104701	37N33W23ADCA	Todd	09-18-90	--	RST	306	7.6	20.0
431450100385501	38N28W21BCBD	Todd	08-31-90	100.0	RST	548	7.7	18.0
431653100445801	38N29W10BCB	Todd	09-19-90	--	RST	401	7.6	15.5

Local number	Turbidity (NTU) (00076)	Alkalinity, lab (mg/L as CaCO_3) (90410)	Calcium, dissolved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)	Sodium, dissolved (mg/L as Na) (00930)	Sodium, percent (00932)	Sodium adsorption ratio (00931)	Potassium, dissolved (mg/L as K) (00935)	Sulfate, dissolved (mg/L as SO_4) (00945)
41N29W10BAB	12	298	83	8.8	32	21	0.9	11	27
42N25W31BBD	1.0	88	76	58	120	37	3	20	550
42N29W36DCD	2.5	256	420	70	190	23	2	33	1,400
35N29W 5ADDA	0.30	162	46	9.2	8.8	11	0.3	8.2	5.8
36N30W27ADAA	0.30	208	170	14	18	7	0.4	14	14
37N30W31DAB	12	162	41	4.5	16	21	0.6	11	4.7
37N33W23ADCA	0.40	155	47	7.3	3.4	5	0.1	5.5	2.6
38N28W21BCBD	1.2	216	19	1.7	98	75	6	14	63
38N29W10BCB	2.5	190	30	3.7	49	51	2	11	18

Table 7. Physical properties and concentrations of inorganic constituents from reconnaissance sampling of aquifers that could not be identified—Continued

Local number	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO ₂) (00955)	Solids, residue at 180 deg C, dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Nitrogen, NO ₂ +NO ₃ dissolved (mg/L as N) (00631)	Phos- phorus, ortho, dissolved (mg/L as P) (00671)
41N29W10BAB	4.8	0.40	39	332	--	--	<0.10	--
42N25W31BBD	7.6	0.30	0.60	964	--	--	<0.10	--
42N29W36DCD	26	0.30	13	2,400	--	--	0.80	--
35N29W 5ADDA	5.5	0.30	77	239	--	--	1.30	--
36N30W27ADAA	37	0.30	59	992	--	--	77.0	--
37N30W31DAB	3.2	0.20	70	235	0.02	<0.01	0.60	0.01
37N33W23ADCA	3.3	0.30	50	188	--	--	1.30	--
38N28W21BCBD	4.3	0.60	62	386	--	--	1.30	--
38N29W10BCB	4.3	0.50	72	291	--	--	0.90	--

Table 8. Quality-assurance results of field blank sample collected during the reconnaissance sampling program[$\mu\text{S}/\text{cm}$, microsiemens per centimeter; mg/L , milligrams per liter; deg C , degrees Celsius; NTU, nephelometric turbidity units; <, less than; --, no data]

Station name	Local number	Date	Specific conductance, lab ($\mu\text{S}/\text{cm}$) (00095)	pH, lab (standard units) (00400)	Turbidity (NTU) (00076)	Alkalinity, lab (mg/L as CaCO_3) (90410)	Calcium, dissolved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)
431253100535201	37N30W31DAB	10-23-90	6	6.6	0.40	4.4	0.20	0.06

Sodium, dissolved (mg/L as Na) (00930)	Potassium, dissolved (mg/L as K) (00935)	Sulfate, dissolved (mg/L as SO_4) (00945)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO_2) (00955)	Solids, residue at 180 deg C , dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Nitrogen, NO_2+NO_3 , dissolved (mg/L as N) (00631)	Phosphorus, ortho, dissolved (mg/L as P) (00671)
1.1	0.10	1.0	0.40	0.10	1.1	2	0.02	<0.01	<0.10	0.02

Table 9. Chemical analyses of field duplicates for reconnaissance water samples

[$\mu\text{S}/\text{cm}$, microsiemens per centimeter; mg/L , milligrams per liter; $\mu\text{g}/\text{L}$, micrograms per liter; deg C, degrees Celsius; NTU, nephelometric turbidity units; <, less than; --, no data]

Station name	Local number	Sample type	Aquifer	Date	Specific conductance, ($\mu\text{S}/\text{cm}$) (00095)	pH, (standard units) (00400)	Turbidity (NTU) (00076)	Alkalinity, (mg/L as CaCO_3) (90410)
430504100471201	36N29W19BCBA	Sample	Ogallala	10-15-90	328	7.6	0.50	161
430504100471201	36N29W19BCBA	Duplicate	--	10-15-90	325	7.8	0.40	161
432558100513303	40N30W22BAB	Sample	White R	10-16-90	480	7.3	0.40	213
432558100513303	40N30W22BAB	Duplicate	--	10-16-90	464	7.6	0.60	213
432728100562703	40N31W12BDB3	Sample	White R	10-16-90	910	7.1	0.40	422
432728100562703	40N31W12BDB3	Duplicate	--	10-16-90	906	7.5	0.60	423
432832101105201	40N33W 2AAB	Sample	White R	10-02-90	567	7.1	0.40	288
432832101105201	40N33W 2AAB	Duplicate	--	10-02-90	572	7.5	0.70	288
433033100315201	41N27W21DDD	Sample	Pierre	10-22-90	2,930	6.7	0.50	526
433033100315201	41N27W21DDD	Duplicate	--	10-22-90	2,880	7.0	0.50	368

Local number	Calcium, dissolved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)	Sodium, dissolved (mg/L as Na) (00930)	Potassium, dissolved (mg/L as K) (00935)	Sulfate, dissolved (mg/L as SO_4) (00945)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)
36N29W19BCBA	48	8.9	3.6	7.4	2.0	3.3	0.30
36N29W19BCBA	48	8.9	3.5	7.5	1.9	3.2	0.30
40N30W22BAB	58	6.1	29	11	16	6.1	0.30
40N30W22BAB	58	6.1	29	11	15	6.2	0.20
40N31W12BDB3	44	2.5	160	11	37	21	0.20
40N31W12BDB3	45	2.7	160	11	37	22	0.20
40N33W 2AAB	66	3.0	58	9.0	18	5.3	<0.10
40N33W 2AAB	64	2.9	56	8.9	17	5.6	<0.10
41N27W21DDD	490	54	140	24	1,200	83	0.30
41N27W21DDD	500	55	140	24	1,200	83	0.30

Table 9. Chemical analyses of field duplicates for reconnaissance water samples—Continued

Local number	Silica, dissolved (mg/L as SiO ₂) (00955)	Solids, residue at 180 deg C, dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Nitrogen, NO ₂ +NO ₃ dissolved (mg/L as N) (00631)	Phosphorus, ortho, dissolved (mg/L as P) (00671)	Arsenic, dissolved (µg/L as As) (01000)
36N29W19BCBA	57	230	<0.01	<0.01	2.20	0.02	--
36N29W19BCBA	57	229	<0.01	<0.01	2.20	0.02	--
40N30W22BAB	48	299	0.01	<0.01	4.40	0.14	10
40N30W22BAB	48	304	0.01	<0.01	4.50	0.18	10
40N31W12BDB3	47	575	0.02	<0.01	2.30	0.03	--
40N31W12BDB3	47	595	0.01	<0.01	2.20	0.03	--
40N33W 2AAB	65	383	<0.01	<0.01	<0.10	0.02	--
40N33W 2AAB	65	391	<0.01	<0.01	<0.10	0.01	--
41N27W21DDD	34	2,600	0.04	<0.01	22.0	0.02	--
41N27W21DDD	34	2,440	0.04	<0.01	22.0	0.03	--

Local number	Barium, dissolved (µg/L as Ba) (01005)	Cadmium, dissolved (µg/L as Cd) (01025)	Chromium, dissolved (µg/L as Cr) (01030)	Iron, dissolved (µg/L as Fe) (01046)	Lead, dissolved (µg/L as Pb) (01049)	Manga- nese, dissolved (µg/L as Mn) (01056)	Mercury, dissolved (µg/L as Hg) (71890)	Selenium, dissolved (µg/L as Se) (01145)	Zinc, dissolved (µg/L as Zn) (01090)
36N29W19BCBA	--	--	--	--	--	--	--	--	--
36N29W19BCBA	--	--	--	--	--	--	--	--	--
40N30W22BAB	270	<1	2	3	<1	<1	<0.1	4	11
40N30W22BAB	280	<1	2	<3	<1	<1	<0.1	4	10
40N31W12BDB3	--	--	--	--	--	--	--	--	--
40N31W12BDB3	--	--	--	--	--	--	--	--	--
40N33W 2AAB	--	--	--	--	--	--	--	--	--
40N33W 2AAB	--	--	--	--	--	--	--	--	--
41N27W21DDD	--	--	--	--	--	--	--	--	--
41N27W21DDD	--	--	--	--	--	--	--	--	--

Table 10. Precision of chemical analyses of field duplicates for reconnaissance water samples

[µS/cm, microsiemens per centimeter; NTU, nephelometric turbidity units; mg/L, milligrams per liter; µg/L, micrograms per liter]

Constituent and reporting unit	Number of duplicate pairs	Standard deviation, in units	Relative standard deviation, in percent
Specific conductance, µS/cm	5	16.8	1.6
Turbidity, NTU	5	0.13	27
Alkalinity, mg/L as calcium carbonate	5	50	16
Calcium, mg/L	5	3.2	2.3
Magnesium, mg/L	5	0.32	2.2
Sodium, mg/L	5	0.63	0.81
Potassium, mg/L	5	0.04	0.36
Sulfate, mg/L	5	0.45	0.18
Chloride, mg/L	5	0.33	1.4
Fluoride, mg/L	5	0.03	14
Silica, mg/L	5	0.0	0.0
Solids, mg/L	5	51	6.4
Ammonia, mg/L as N	5	0.003	21
Nitrite, mg/L as N	5	0.0	0.0
Nitrite + Nitrate, mg/L as N	5	0.04	0.72
Phosphorus, ortho, mg/L as P	5	0.01	26
Arsenic, µg/L	1	0.0	0.0
Barium, µg/L	1	7.1	2.6
Cadmium, µg/L	1	0.0	0.0
Chromium, µg/L	1	0.0	0.0
Iron, µg/L	1	1.1	47
Lead, µg/L	1	0.0	0.0
Manganese, µg/L	1	0.0	0.0
Mercury, µg/L	1	0.0	0.0
Selenium, µg/L	1	0.0	0.0
Zinc, µg/L	1	0.71	6.7

Table 11. Selected water-quality data from observation wells and private wells completed in the Ogallala aquifer sampled by the U.S. Geological Survey for the nitrate studies

[$\mu\text{S}/\text{cm}$, microsiemens per centimeter; mg/L , milligrams per liter; mm , millimeter; $\mu\text{g}/\text{L}$, micrograms per liter; $^{\circ}\text{C}$, degrees Celsius; FET, fixed end point titration; IT, incremental titration; NTU, nephelometric turbidity units; recover, recoverable; unfiltrd, unfiltered; <, less than; --, no data]

Station number	Local number	Other identifier	Date	Depth of well (feet) (72008)	Water level (feet) (72019)	Specific conductance, field ($\mu\text{S}/\text{cm}$) (00095)	pH, field (standard units) (00400)
430226100445203	35N29W 4BCCB3	R20-90-36	08-12-91	27.0	--	822	7.1
430652100450601	36N29W 8A	Gunnink domestic	09-19-90	190.0	--	¹ 417	¹ 7.6
			08-06-91	190.0	--	424	7.3
			09-14-94	190.0	--	397	7.4
430705100450201	36N29W 8AABA	R20-94-48	09-14-94	77.0	66.05	411	7.4
430613100445901	36N29W17AAAB	R20-94-47	09-13-94	69.0	57.56	270	7.4
430604100445403	36N29W17AADD3	R20-90-32	09-13-94	78.0	69.86	383	7.3
430600100450801	36N29W17ACAA	R20-90-33	09-13-94	107.0	95.58	460	7.3
430556100452501	36N29W17ACBC2	R20-91-25	09-14-94	108.0	92.62	445	7.4
430600100450901	36N29W17ADBB	Vanderwey domestic	07-19-90	--	--	743	7.2
			08-06-91	--	--	616	7.3
			09-13-94	--	--	590	7.4
430603100460501	36N29W18AADD	R20-91-26	09-12-94	123.0	98.94	340	7.4
430415100451401	36N29W29ACAA	Tribal well #7	07-18-90	133.5	--	385	7.4
			08-06-91	133.5	--	382	7.5
430858100445503	37N29W27CBBC3	R20-90-04	08-12-91	78.0	--	444	7.5
430823100441201	37N29W34ACA	Ladely domestic	07-19-90	150.0	--	710	6.9
			08-06-91	150.0	--	688	6.8
			09-12-94	150.0	--	598	7.1

Table 11. Selected water-quality data from observation wells and private wells completed in the Ogallala aquifer sampled by the U.S. Geological Survey for the nitrate studies—Continued

Local number	Date	Temperature, air, field (deg C) (00020)	Temperature, water (deg C) (00010)	Turbidity, field (NTU) (00076)	Baro- metric pressure, field (mm of Hg) (00025)	Dis- solved oxygen, field (mg/L) (00300)	Dissolved oxygen, percent saturation, field (00301)	Alkalinity, field, dissolved, IT (mg/L as CaCO ₃) (39086)	Alkalinity, dissolved, FET, field (mg/L as CaCO ₃) (00418)
35N29W 4BCCB3	08-12-91	23.5	13.0	--	--	--	--	--	--
36N29W 8A	09-19-90	--	--	0.40	--	--	--	--	--
	08-06-91	33.0	15.5	--	--	--	--	--	--
	09-14-94	31.5	13.5	--	677	9.7	105	167	168
36N29W 8AABA	09-14-94	31.5	14.5	--	674	6.5	72	156	156
36N29W17AAAB	09-13-94	17.5	12.0	--	679	10.3	108	147	148
36N29W17AADD3	09-13-94	21.5	12.5	--	681	9.8	103	220	213
36N29W17ACAA	09-13-94	27.5	13.0	--	679	10.3	110	194	190
36N29W17ACBC2	09-14-94	29.5	13.0	--	676	10.5	112	162	162
36N29W17ADBB	07-19-90	21.0	13.5	0.30	--	--	--	--	--
	08-06-91	32.0	15.5	--	--	--	--	--	--
	09-13-94	27.5	13.5	--	678	9.5	102	173	173
36N29W18AADD	09-12-94	29.0	13.5	--	676	11.6	126	149	150
36N29W29ACAA	07-18-90	29.0	13.5	0.40	--	--	--	--	--
	08-06-91	31.0	13.5	--	--	--	--	--	--
37N29W27CBBC3	08-12-91	21.0	14.0	--	--	--	--	--	--
37N29W34ACA	07-19-90	22.0	14.5	0.30	--	--	--	--	--
	08-06-91	33.0	14.5	--	--	--	--	--	--
	09-12-94	34.0	14.5	--	678	7.0	78	144	144

Table 11. Selected water-quality data from observation wells and private wells completed in the Ogallala aquifer sampled by the U.S. Geological Survey for the nitrate studies—Continued

Local number	Date	Calcium, dissolved (mg/L as Ca) (00915)	Magne- sium, dissolved (mg/L as Mg) (00925)	Sodium, dissolved (mg/L as Na) (00930)	Potassium, dissolved (mg/L as K) (00935)	Bicar- bonate, field, dissolved, IT (mg/L as HCO ₃) (00453)	Car- bonate, field, dissolved, IT (mg/L as CO ₃) (00452)	Sulfate, dissolved (mg/L as SO ₄) (00945)
35N29W 4BCCB3	08-12-91	--	--	--	--	--	--	--
36N29W 8A	09-19-90	61	10	5.3	7.3	--	--	5.7
	08-06-91	--	--	--	--	--	--	--
	09-14-94	--	--	--	--	0	204	--
36N29W 8AABA	09-14-94	--	--	--	--	0	190	--
36N29W17AAAB	09-13-94	--	--	--	--	0	180	--
36N29W17AADD3	09-13-94	--	--	--	--	0	268	--
36N29W17ACAA	09-13-94	--	--	--	--	0	237	--
36N29W17ACBC2	09-14-94	--	--	--	--	0	453	--
36N29W17ADBB	07-19-90	110	13	8.9	9.9	--	--	7.8
	08-06-91	--	--	--	--	--	--	--
	09-13-94	--	--	--	--	0	211	--
36N29W18AADD	09-12-94	--	--	--	--	0	182	--
36N29W29ACAA	07-18-90	35	5.3	37	9.5	--	--	16
	08-06-91	--	--	--	--	--	--	--
37N29W27CBBC3	08-12-91	--	--	--	--	--	--	--
37N29W34ACA	07-19-90	120	4.3	3.9	8.8	--	--	28
	08-06-91	--	--	--	--	--	--	--
	09-12-94	--	--	--	--	0	176	--

Table 11. Selected water-quality data from observation wells and private wells completed in the Ogallala aquifer sampled by the U.S. Geological Survey for the nitrate studies—Continued

Local number	Date	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/l as F) (00950)	Silica, dissolved (mg/L as SiO ₂) (00955)	Solids, residue at 180 deg C, dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Nitrogen, NO ₂ + NO ₃ , dissolved (mg/L as N) (00631)
35N29W 4BCCB3	08-12-91	--	--	--	--	<0.01	<0.01	31.0
36N29W 8A	09-19-90	8.0	0.30	54	282	--	--	9.10
	08-06-91	--	--	--	--	0.02	<0.01	8.10
	09-14-94	4.0	--	--	--	<0.002	--	5.70
36N29W 8AABA	09-14-94	3.0	--	--	--	0.003	--	7.80
36N29W17AAAB	09-13-94	1.3	--	--	--	<0.002	--	3.10
36N29W17AADD3	09-13-94	1.7	--	--	--	<0.002	--	6.70
36N29W17ACAA	09-13-94	6.9	--	--	--	<0.002	--	23.0
36N29W17ACBC2	09-14-94	9.6	--	--	--	<0.002	--	5.50
36N29W17ADBB	07-19-90	21	0.30	54	492	--	--	29.0
	08-06-91	--	--	--	--	0.02	<0.01	25.0
	09-13-94	12	--	--	--	<0.002	--	23.0
36N29W18AADD	09-12-94	2.4	--	--	--	<0.002	--	1.50
36N29W29ACAA	07-18-90	2.8	0.50	69	279	--	--	1.10
	08-06-91	--	--	--	--	0.01	<0.01	1.10
37N29W27CBBC3	08-12-91	--	--	--	--	<0.01	<0.01	3.70
37N29W34ACA	07-19-90	28	0.30	55	598	--	--	44.0
	08-06-91	--	--	--	--	0.02	<0.01	30.0
	09-12-94	18	--	--	--	<0.002	--	23.0

Table 11. Selected water-quality data from observation wells and private wells completed in the Ogallala aquifer sampled by the U.S. Geological Survey for the nitrate studies—Continued

Local number	Date	Phos- phorus ortho, dissolved (mg/L as P) (00671)	Arsenic, dissolved (µg/L as As) (01000)	Barium, dissolved (µg/L as Ba) (01005)	Cadmium, dissolved (µg/L as Cd) (01025)	Chro- mium, dissolved (µg/L as Cr) (01030)	Iron, dissolved (µg/L as Fe) (01046)	Lead, dissolved (µg/L as Pb) (01049)	Manga- nese, dissolved (µg/L as Mn) (01056)
35N29W 4BCCB3	08-12-91	0.02	--	--	--	--	--	--	--
36N29W 8A	09-19-90	--	--	--	--	--	--	--	--
	08-06-91	<0.01	--	--	--	--	--	--	--
	09-14-94	--	--	--	--	--	--	--	--
36N29W 8AABA	09-14-94	--	--	--	--	--	--	--	--
36N29W17AAAB	09-13-94	--	--	--	--	--	--	--	--
36N29W17AADD3	09-13-94	--	--	--	--	--	--	--	--
36N29W17ACAA	09-13-94	--	--	--	--	--	--	--	--
36N29W17ACBC2	09-14-94	--	--	--	--	--	--	--	--
36N29W17ADBB	07-19-90	--	--	--	--	--	--	--	--
	08-06-91	0.04	--	--	--	--	--	--	--
	09-13-94	--	--	--	--	--	--	--	--
36N29W18AADD	09-12-94	--	--	--	--	--	--	--	--
36N29W29ACAA	07-18-90	--	--	--	--	--	--	--	--
	08-06-91	0.02	--	--	--	--	--	--	--
37N29W27CBBC3	08-12-91	0.05	--	--	--	--	--	--	--
37N29W34ACA	07-19-90	--	1	270	<1	1	10	<1	1
	08-06-91	0.08	--	--	--	--	--	--	--
	09-12-94	--	--	--	--	--	--	--	--

Table 11. Selected water-quality data from observation wells and private wells completed in the Ogallala aquifer sampled by the U.S. Geological Survey for the nitrate studies—Continued

Local number	Date	Mercury, dissolved ($\mu\text{g/L}$ as Hg) (71890)	Selenium, dissolved ($\mu\text{g/L}$ as Se) (01145)	Zinc, dissolved ($\mu\text{g/L}$ as Zn) (01090)	Methy- lene blue active substance (mg/L) (38260)	N-15/N-14 stable isotope ratio per mil (82084)	Alachlor, total, recover ($\mu\text{g/L}$) (77825)	Ametryne, total ($\mu\text{g/L}$) (82184)	Atrazine, unfltrd, recover ($\mu\text{g/L}$) (39630)
35N29W 4BCCB3	08-12-91	--	--	--	--	10.60	--	--	--
36N29W 8A	09-19-90	--	--	--	--	--	--	--	--
	08-06-91	--	--	--	--	7.30	--	--	--
	09-14-94	--	--	--	0.03	--	--	--	--
	09-14-94	--	--	--	<0.02	--	--	--	--
36N29W 8AABA	09-14-94	--	--	--	<0.02	--	--	--	--
36N29W17AAAB	09-13-94	--	--	--	0.03	--	--	--	--
36N29W17AADD3	09-13-94	--	--	--	<0.02	--	--	--	--
36N29W17ACAA	09-13-94	--	--	--	0.02	--	--	--	--
36N29W17ACBC2	09-14-94	--	--	--	<0.02	--	--	--	--
36N29W17ADBB	07-19-90	--	--	--	--	--	--	--	--
	08-06-91	--	--	--	--	7.90	--	--	--
	09-13-94	--	--	--	<0.02	--	--	--	--
36N29W18AADD	09-12-94	--	--	--	0.04	--	--	--	--
36N29W29ACAA	07-18-90	--	--	--	--	--	--	--	--
	08-06-91	--	--	--	--	3.70	--	--	--
37N29W27CBBC3	08-12-91	--	--	--	--	1.40	--	--	--
37N29W34ACA	07-19-90	<0.1	1	54	--	--	<0.10	<0.10	<0.1
	08-06-91	--	--	--	--	11.80	--	--	--
	09-12-94	--	--	--	0.03	--	--	--	--

Table 11. Selected water-quality data from observation wells and private wells completed in the Ogallala aquifer sampled by the U.S. Geological Survey for the nitrate studies—Continued

Local number	Date	Cyan- azine, total (µg/L) (81757)	Dicamba (Mediben) (Banvel D), total (µg/L) (82052)	2,4,5-T, total (µg/L) (39740)	2,4-D, total (µg/L) (39730)	2,4-DP, total (µg/L) (82183)	Metri- buzin, whole, total. recover (µg/L) (82611)	Metola- chlor, whole total recover (82612)	Picloram (Tordon) (Amdon), total (µg/L) (39720)
35N29W 4BCCB3	08-12-91	--	--	--	--	--	--	--	--
36N29W 8A	09-19-90	--	--	--	--	--	--	--	--
	08-06-91	--	--	--	--	--	--	--	--
	09-14-94	--	--	--	--	--	--	--	--
36N29W 8AABA	09-14-94	--	--	--	--	--	--	--	--
36N29W17AAAB	09-13-94	--	--	--	--	--	--	--	--
36N29W17AADD3	09-13-94	--	--	--	--	--	--	--	--
36N29W17ACAA	09-13-94	--	--	--	--	--	--	--	--
36N29W17ACBC2	09-14-94	--	--	--	--	--	--	--	--
36N29W17ADBB	07-19-90	--	--	--	--	--	--	--	--
	08-06-91	--	--	--	--	--	--	--	--
	09-13-94	--	--	--	--	--	--	--	--
36N29W18AADD	09-12-94	--	--	--	--	--	--	--	--
36N29W29ACAA	07-18-90	--	--	--	--	--	--	--	--
	08-06-91	--	--	--	--	--	--	--	--
37N29W27CBBC3	08-12-91	--	--	--	--	--	--	--	--
37N29W34ACA	07-19-90	<0.10	<0.01	<0.01	0.05	<0.01	<0.10	<0.10	<0.01
	08-06-91	--	--	--	--	--	--	--	--
	09-12-94	--	--	--	--	--	--	--	--

Table 11. Selected water-quality data from observation wells and private wells completed in the Ogallala aquifer sampled by the U.S. Geological Survey for the nitrate studies—Continued

Local number	Date	Prome- tone, total (µg/L) (39056)	Prome- tryne, total (µg/L) (39057)	Propazine, total (µg/L) (39024)	Silvex, total (µg/L) (39760)	Simazine, total (µg/L) (39055)	Simetryne, total (µg/L) (39054)	Trifluralin, total, recover (µg/L) (39030)
35N29W 4BCCB3	08-12-91	--	--	--	--	--	--	--
36N29W 8A	09-19-90	--	--	--	--	--	--	--
	08-06-91	--	--	--	--	--	--	--
	09-14-94	--	--	--	--	--	--	--
36N29W 8AABA	09-14-94	--	--	--	--	--	--	--
36N29W17AAAB	09-13-94	--	--	--	--	--	--	--
36N29W17AADD3	09-13-94	--	--	--	--	--	--	--
36N29W17ACAA	09-13-94	--	--	--	--	--	--	--
36N29W17ACBC2	09-14-94	--	--	--	--	--	--	--
36N29W17ADBB	07-19-90	--	--	--	--	--	--	--
	08-06-91	--	--	--	--	--	--	--
	09-13-94	--	--	--	--	--	--	--
36N29W18AADD	09-12-94	--	--	--	--	--	--	--
36N29W29ACAA	07-18-90	--	--	--	--	--	--	--
	08-06-91	--	--	--	--	--	--	--
37N29W27CBBC3	08-12-91	--	--	--	--	--	--	--
37N29W34ACA	07-19-90	<0.10	<0.10	<0.10	<0.01	<0.10	<0.10	<0.10
	08-06-91	--	--	--	--	--	--	--
	09-12-94	--	--	--	--	--	--	--

¹Laboratory value is given because parameter was not measured in the field

Table 12. Quality-assurance results of blank sample collected during the nitrate study

[mg/L, milligrams per liter; <, less than]

Station number	Local number	Date	Chloride, dissolved (mg/L as Cl) (00940)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, NO ₂ + NO ₃ , dissolved (mg/L as N) (00631)	Methylene blue active substance (mg/L) (38260)
430603100460501	36N29W18AADD	09-12-94	<0.10	<0.002	0.054	<0.02

Table 13. Chemical analyses of field duplicates for nitrate study water samples

[mg/L, milligrams per liter; <, less than]

Station number	Local number	Sample type	Date	Chloride, dissolved (mg/L as Cl) (00940)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, NO ₂ + NO ₃ , dissolved (mg/L as N) (00631)	Methylene blue active substance (mg/L) (38260)
430600100450801	36N29W17ACAA	Sample	09-13-94	6.9	<0.002	23.0	0.02
		Duplicate	09-13-94	6.9	<0.002	23.0	0.03

Table 14. Selected water-quality data from observation wells completed in alluvial aquifers sampled by the U.S. Geological Survey

[µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; mm, millimeter; mL, milliliter; µg/L, micrograms per liter; pci/L, picocuries per liter; deg C, degrees Celsius; dis, dissolved; FET, fixed end point titration; IT, incremental titration; NTU, nephelometric turbidity units; µm-mf, micrometer-membrane filter; cols, colonies; rec, recoverable; <, less than; --, no data]

Station number	Local number	Other identifier	County	Date	Depth of well (feet) (72008)	Water level (feet) (72019)	Specific conductance, field (µS/cm) (00095)	pH, field (standard units) (00400)
435132101023001	2S26E20BCCB	R2-96-26	Jones	10-01-96	23.0	6.48	2,530	7.0
432746100172201	40N25W 4CCDD	R2-96-32	Mellette	09-30-96	37.5	6.99	1,830	7.3
434253100181301	43N25W 9CACA	R2-96-33	Mellette	09-30-96	22.0	13.49	1,720	7.4
434141100523601	43N30W22ABAB	R2-96-23	Mellette	10-01-96	107.0	94.25	422	7.3
430715101031901	36N32W 2CDBD	R2-93-23	Todd	09-07-94	44.0	9.47	229	7.7

Temperature, air (deg C) (00020)	Temperature, water (deg C) (00010)	Turbidity (NTU) (00076)	Barometric pressure (mm of Hg) (00025)	Oxygen, dissolved (mg/L) (00300)	Oxygen, dissolved (percent saturation) (00301)	Alkalinity, dissolved, IT, field (mg/L as CaCO ₃) (39086)	Alkalinity, dissolved, FET, field (mg/L as CaCO ₃) (00418)	Coliform, fecal, 0.7 µm-mf (cols./100 mL) (31625)	Streptococci, fecal, KF agar (cols./100 mL) (31673)	Calcium, dissolved (mg/L as Ca) (00915)
13.0	11.5	--	710	0.6	6	355	355	0	0	240
29.0	11.5	--	7	0.1	1	257	259	--	--	270
22.5	12.5	--	721	0.6	6	288	291	--	--	110
9.0	13.0	--	699	11.2	116	173	173	--	--	58
17.0	13.0	0.30	692	1.1	11	96	98	0	0	25

Magnesium, dissolved (mg/L as Mg) (00925)	Sodium, dissolved (mg/L as Na) (00930)	Sodium, percent (00932)	Sodium adsorption ratio (00931)	Potassium, dissolved (mg/L as K) (00935)	Bicarbonate, dissolved, IT, field (mg/L as HCO ₃) (00453)	Carbonate, dissolved, IT, field (mg/L as CO ₃) (00452)	Sulfate, dissolved (mg/L as SO ₄) (00945)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)
50	370	49	6	14	433	0	1,200	17	0.20
54	72	15	1	16	314	0	810	22	0.20
15	310	66	7	8.7	351	0	590	100	0.40
9.3	8.1	8	0.3	7.5	211	0	22	4.3	0.20
3.5	14	26	0.7	6.5	117	0	5.9	0.90	0.30

Table 14. Selected water-quality data from observation wells completed in alluvial aquifers sampled by the U.S. Geological Survey—Continued

Silica, dissolved (mg/L as SiO ₂) (00955)	Solids, residue at 180 deg C, dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Nitrogen, NO ₂ +NO ₃ dissolved (mg/L as N) (00631)	Phos- phorus, ortho, dissolved (mg/L as P) (00671)	Arsenic, dissolved (µg/L as As) (01000)	Boron, dissolved (µg/L as B) (01020)	Iron, dissolved (µg/L as Fe) (01046)	Manga- nese, dissolved (µg/L as Mn) (01056)
27	2,220	0.150	<0.010	<0.050	0.010	3	443	530	960
37	1,540	0.080	<0.010	0.700	0.070	3	191	230	250
27	1,380	<0.020	0.010	1.20	0.030	<1	354	<3	83
39	273	<0.015	<0.010	4.60	0.120	7	38	<3	2.0
60	175	0.002	0.002	0.662	0.053	6	20	<3	6

Selenium, dissolved (µg/L as Se) (01145)	Gross alpha, dissolved (µg/L as natural uranium) (80030)	Alpha, count, 2 sigma, dissolved as natural uranium (µg/L) (75986)	Alpha radio, dissolved as Th-230 (pci/L) (04126)	Alpha count, 2 sigma, dissolved as Th-230 (pci/L) (75987)	Gross beta, dissolved (pci/L as Cs-137) (03515)	Beta, 2 sigma, dissolved as Cs-137 (pci/L) (75989)	Gross beta, dissolved (pci/L as Sr/Yt-90) (80050)	Beta, 2 sigma, dissolved as Sr90/Y90 (pci/L) (75988)
4	--	--	17	2.6	39	18	--	--
11	--	--	3.9	0.92	22	10	--	--
7	--	--	6.1	1.2	20	9.4	--	--
3	--	--	<3.0	0.62	12	3.5	--	--
<1	1.8	0.83	1.3	0.58	8.5	2.0	6.4	1.9

Table 15. Selected water-quality data from observation wells completed in the Ogallala aquifer sampled by the U.S. Geological Survey

[µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; mm, millimeter; mL, milliliter; µg/L, micrograms per liter; pci/L, picocuries per liter; deg C, degrees Celsius; FET, fixed end point titration; IT, incremental titration; NTU, nephelometric turbidity units; µm-mf, micrometer-membrane filter; cols, colonies; rec, recoverable; <, less than; --, no data; K, results based on colony count outside the acceptance range (non-ideal colony count)]

Station number	Local number	Other identifier	County	Date	Depth of well (feet) (72008)	Water level (feet) (72019)	Specific conductance, field (µS/cm) (00095)	pH, field (standard units) (00400)
425956101134502	35N33W20ABCC2	R2-93-30	Bennett	09-08-94	64.0	7.89	218	7.6
425956101134503	35N33W20ABCC3	R2-93-29	Bennett	09-08-94	165.0	7.96	337	7.7
430023100115602	35N25W13DADD2	R20-93-54	Todd	08-17-94	160.0	9.30	367	7.5
430002100174801	35N25W20BBBC	R2-94-02	Todd	08-30-94	46.5	4.93	395	7.4
430126100222001	35N26W10CBBA2	R2-94-05	Todd	08-31-94	82.0	46.56	394	7.5
430245100292801	35N27W 3BBBB	R2-93-37	Todd	08-24-94	47.0	11.58	385	7.4
430055100362702	35N28W15BBBD2	R2-93-36	Todd	08-31-94	76.0	11.53	368	7.4
430156100411901	35N29W 2DDDD2	R2-94-09	Todd	08-24-94	37.0	8.99	840	7.1
425957100445302	35N29W20AADD2	R2-94-08	Todd	08-24-94	106.0	81.24	603	7.3
430153100521303	35N30W 5DDCC3	R2-96-38	Todd	10-03-96	108.0	21.30	356	7.6
430120100574901	35N31W10CBBC	R2-93-31	Todd	09-07-94	57.0	4.33	393	7.4
430152101054803	35N32W 9BABB3	R2-93-22	Todd	¹ 09-20-94	67.0	7.53	187	7.3
430614100362503	36N28W15BABB3	R2-96-42	Todd	10-02-96	75.3	24.61	283	7.4
430522100411902	36N29W14DDDD2	R2-94-12	Todd	08-17-94	225.0	71.81	361	7.5
430929101104203	37N33W26AAAA3	R2-92-52	Todd	08-16-94	236.0	77.38	364	7.5

Table 15. Selected water-quality data from observation wells completed in the Ogallala aquifer sampled by the U.S. Geological Survey—Continued

Local number	Temperature, air (deg C) (00020)	Temperature, water (deg C) (00010)	Turbidity (NTU) (00076)	Baro- metric pressure (mm of Hg) (00025)	Oxygen, dissolved (mg/L) (00300)	Oxygen, dissolved (percent satur- ation) (00301)	Alkalinity, dissolved, IT, field (mg/L as CaCO ₃) (39086)	Alkalinity, dissolved, FET, field (mg/L as CaCO ₃) (00418)	Coliform, fecal, 0.7 µm-mf (cols./ 100 mL) (31625)
35N33W20ABCC2	16.5	12.0	0.20	680	8.5	89	102	100	0
35N33W20ABCC3	23.0	13.0	0.10	679	8.3	88	140	142	--
35N25W13DADD2	18.0	13.0	1.4	775	8.9	83	169	169	--
35N25W20BBBC	16.0	12.0	0.10	772	6.3	57	185	180	0
35N26W10CBBA2	15.5	12.5	0.10	700	9.7	99	155	155	0
35N27W 3BBBB	33.0	12.0	0.70	767	8.9	83	184	184	0
35N28W15BBBD2	11.0	11.0	0.20	696	5.8	57	176	176	0
35N29W 2DDDD2	23.0	11.0	2.1	767	5.9	53	300	296	--
35N29W20AADD2	18.0	12.5	0.30	767	9.3	87	177	178	--
35N30W 5DDCC3	2.0	12.0	--	701	3.4	35	168	168	--
35N31W10CBBC	26.0	12.0	0.20	687	7.2	74	177	177	0
35N32W 9BABB3	18.0	12.5	0.30	684	0.1	1	84	84	--
36N28W15BABB3	2.0	11.5	--	706	7.5	75	153	149	0
36N29W14DDDD2	26.0	14.5	1.4	762	7.5	73	163	164	--
37N33W26AAAA3	36.0	14.5	0.10	752	8.4	84	162	163	--

Table 15. Selected water-quality data from observation wells completed in the Ogallala aquifer sampled by the U.S. Geological Survey—Continued

Local number	Strep- tococci, fecal, KF agar (cols./ 100 mL) (31673)	Calcium, dissolved (mg/L as Ca) (00915)	Magne- sium, dissolved (mg/L as Mg) (00925)	Sodium, dissolved (mg/L as Na) (00930)	Sodium, percent (00932)	Sodium adsorption ratio (00931)	Potassium, dissolved (mg/L as K) (00935)	Bicar- bonate, dissolved, IT, field (mg/L as HCO ₃) (00453)
35N33W20ABCC2	0	34	3.7	2.8	5	0.1	4.6	124
35N33W20ABCC3	--	39	6.8	16	20	0.6	7.7	171
35N25W13DADD2	--	43	8.5	17	19	0.6	8.9	206
35N25W20BBBC	0	41	7.7	22	25	0.8	10	226
35N26W10CBBA2	0	53	8.8	3.7	4	0.1	9.7	189
35N27W 3BBBB	0	55	6.3	9.8	11	0.3	11	225
35N28W15BBBD2	0	53	6.8	3.7	4	0.1	11	215
35N29W 2DDDD2	--	100	7.6	45	24	1	24	366
35N29W20AADD2	--	99	6.5	3.4	3	0.1	8.9	216
35N30W 5DDCC3	--	46	6.9	10	12	0.4	8.8	205
35N31W10CBBC	0	50	7.0	17	18	0.6	7.7	216
35N32W 9BABB3	--	24	2.5	5.5	13	0.3	6.3	103
36N28W15BABB3	K2	46	7.3	2.4	3	0.1	7.3	187
36N29W14DDDD2	--	42	11	11	13	0.4	10	199
37N33W26AAAA3	--	36	7.4	27	31	1	9.9	198

Table 15. Selected water-quality data from observation wells completed in the Ogallala aquifer sampled by the U.S. Geological Survey—Continued

Local number	Carbonate, dissolved, IT, field (mg/L as CO ₃) (00452)	Sulfate, dissolved (mg/L as SO ₄) (00945)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO ₂) (00955)	Solids, residue at 180 deg C, dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)
35N33W20ABCC2	0	1.2	0.80	0.20	59	148	<0.002	<0.001
35N33W20ABCC3	0	17	0.80	0.50	64	248	<0.002	<0.001
35N25W13DADD2	0	7.2	0.80	0.50	65	265	--	--
35N25W20BBBC	0	11	1.6	0.50	69	262	0.002	<0.001
35N26W10CBBA2	0	7.0	2.3	0.30	62	275	<0.002	<0.001
35N27W 3BBBB	0	4.3	2.8	0.40	61	260	<0.002	<0.001
35N28W15BBBD2	0	3.4	1.0	0.30	59	251	<0.002	<0.001
35N29W 2DDDD2	0	46	2.3	0.60	50	538	0.011	0.001
35N29W20AADD2	0	11	2.0	0.20	55	439	0.003	0.001
35N30W 5DDCC3	0	5.2	1.3	0.40	57	252	<0.015	<0.010
35N31W10CBBC	0	15	0.70	0.30	62	277	<0.002	<0.001
35N32W 9BABB3	0	4.3	0.50	0.30	62	154	0.011	0.001
36N28W15BABB3	0	3.2	2.9	0.30	59	228	<0.015	<0.010
36N29W14DDDD2	0	8.6	1.7	0.50	64	253	<0.002	0.002
37N33W26AAAA3	0	14	0.90	0.40	63	216	<0.002	0.002

Table 15. Selected water-quality data from observation wells completed in the Ogallala aquifer sampled by the U.S. Geological Survey—Continued

Local number	Nitrogen, NO ₂ +NO ₃ dissolved (mg/L as N) (00631)	Phos- phorus, ortho, dissolved (mg/L as P) (00671)	Arsenic, dissolved (µg/L as As) (01000)	Boron, dissolved (µg/L as B) (01020)	Iron, dissolved (µg/L as Fe) (01046)	Manga- nese, dissolved (µg/L as Mn) (01056)	Selenium, dissolved (µg/L as Se) (01145)	Gross alpha, dissolved (µg/L as natural uranium) (80030)
35N33W20ABCC2	0.804	0.692	3	10	<3	<1	<1	0.7
35N33W20ABCC3	1.90	0.020	15	40	<3	<1	<1	3.6
35N25W13DADD2	--	--	8	40	<3	<1	<1	3.4
35N25W20BBBC	0.979	0.012	12	50	<3	<1	<1	6.1
35N26W10CBBA2	7.30	0.044	2	20	<3	<1	<1	2.6
35N27W 3BBBB	1.50	0.057	4	30	<3	4	<1	3.1
35N28W15BBBD2	0.935	0.123	2	<10	<3	1	<1	4.7
35N29W 2DDDD2	18.0	0.233	7	70	<3	<1	3	97
35N29W20AADD2	26.0	0.096	2	10	<3	<1	1	3.4
35N30W 5DDCC3	1.30	0.030	8	18	<3.0	1.0	<1	--
35N31W10CBBC	1.60	0.041	8	50	8	4	<1	4.8
35N32W 9BABB3	0.124	0.202	9	30	130	90	<1	<0.6
36N28W15BABB3	2.50	0.100	2	20	<3.0	<1.0	1	--
36N29W14DDDD2	0.744	0.478	8	30	12	2	<1	3.4
37N33W26AAAA3	0.744	0.021	8	50	5	<1	<1	4.9

Table 15. Selected water-quality data from observation wells completed in the Ogallala aquifer sampled by the U.S. Geological Survey—Continued

Local number	Alpha, count, 2 sigma, dissolved as natural uranium (µg/L) (75986)	Alpha radio, dissolved as Th-230 (pci/L) (04126)	Alpha count, 2 sigma, dissolved as Th-230 (pci/L) (75987)	Gross beta, dissolved (pci/L as Cs-137) (03515)	Beta, 2 sigma, dissolved as Cs-137 (pci/L) (75989)	Gross beta, dissolved (pci/L as Sr/Yt-90) (80050)	Beta, 2 sigma, dissolved as Sr90/Y90 (pci/L) (75988)	Triazine screen (ELISA) whole, rec, as atrazine (µg/L) (34757)
35N33W20ABCC2	0.55	<0.6	0.35	5.2	1.5	4.0	0.87	<1
35N33W20ABCC3	1.2	2.6	0.83	9.7	2.2	7.0	1.2	--
35N25W13DADD2	1.2	2.1	0.77	12	2.0	8.8	1.5	--
35N25W20BBBC	1.6	4.5	1.2	16	2.5	12	1.9	<1
35N26W10CBBA2	0.95	1.8	0.65	11	2.0	8.4	1.5	<1
35N27W 3BBBB	1.1	2.2	0.75	14	2.2	10	1.7	<1
35N28W15BBBD2	1.4	3.3	0.97	12	2.1	9.3	1.5	<1
35N29W 2DDDD2	11	71	8.2	72	9.0	54	6.8	<1
35N29W20AADD2	1.2	2.4	0.87	11	2.1	8.2	1.5	<1
35N30W 5DDCC3	--	<3.0	0.76	8.6	3.2	--	--	--
35N31W10CBBC	1.4	3.0	0.95	9.4	1.7	7.0	1.3	<1
35N32W 9BABB3	0.47	<0.6	0.33	6.6	1.3	5.4	1.0	<1
36N28W15BABB3	--	<3.0	0.81	10	3.4	--	--	--
36N29W14DDDD2	1.1	2.3	0.73	12	2.7	8.5	1.4	--
37N33W26AAAA3	1.3	3.3	0.95	13	2.1	9.5	1.6	--

¹Well may be completed in the Ash Hollow aquifer.

Table 16. Selected water-quality data from observation wells completed in the Arikaree aquifer sampled by the U.S. Geological Survey

[µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; mm, millimeter; mL, milliliter; µg/L, micrograms per liter; pci/L, picocuries per liter; deg C, degrees Celsius; FET, fixed end point titration; IT, incremental titration; NTU, nephelometric turbidity units; µm-mf, micrometer-membrane filter; cols, colonies; rec, recoverable; <, less than; --, no data; K, results based on colony count outside the acceptance range (non-ideal colony count)]

Station number	Local number	Other identifier	County	Date	Depth of well (feet) (72008)	Water level (feet) (72019)	Specific conductance, field (µS/cm) (00095)	pH, field (standard units) (00400)
425956101134501	35N33W20ABCC	R2-93-28	Bennett	09-08-94	580.0	7.24	664	8.0
430605101135701	36N33W17BACA	R2-92-54	Bennett	¹ 09-20-94	215.6	--	509	7.7
430605101135702	36N33W17BACA2	R2-92-55	Bennett	¹ 09-20-94	290.5	--	592	8.0
432742101115802	40N33W 3DDDC2	R2-94-81	Mellette	10-03-96	116.0	23.51	598	8.1
430003100174802	35N25W20BBBC3	R2-94-04	Todd	08-30-94	120.0	4.20	399	7.5
430126100221901	35N26W10CBBA3	R2-94-06	Todd	08-31-94	492.0	48.55	729	8.2
430245100292701	35N27W 3BBBB4	R2-94-07	Todd	08-24-94	202.0	11.80	422	7.4
430153100521302	35N30W 5DDCC2	R2-96-37	Todd	10-03-96	323.0	20.69	500	7.6
430153101054902	35N32W 9BABB5	R2-92-56	Todd	09-20-94	452.0	8.62	505	7.6
430614100244802	36N26W18AAAA2	R2-96-44	Todd	10-02-96	232.0	10.82	695	8.1
430614100362502	36N28W15BABB2	R2-96-41	Todd	10-02-96	432.0	24.95	460	7.6
430613100544901	36N31W12DCCD	R2-96-39	Todd	10-02-96	194.0	57.16	321	7.1
431159100412102	37N28W 7BBBC2	R20-94-45	Todd	09-21-94	243.0	78.83	355	7.5
430922100410302	37N28W30BBAA2	R2-94-14	Todd	08-15-94	320.5	70.42	399	7.4
430929101104202	37N33W26AAAA2	R2-92-51	Todd	08-16-94	395.0	77.98	526	7.4
431600100413203	38N29W13ADDC3	R2-94-70	Todd	10-02-96	112.5	6.65	365	7.1
431903100282002	39N27W35AAAB2	R20-93-46	Todd	08-23-94	91.0	40.20	353	7.5
431949100584602	39N31W27BBBB2	R2-95-27	Todd	10-01-96	95.0	59.95	354	7.5

Table 16. Selected water-quality data from observation wells completed in the Arikaree aquifer sampled by the U.S. Geological Survey—Continued

Local number	Temperature, air (deg C) (00020)	Temperature, water (deg C) (00010)	Turbidity (NTU) (00076)	Barometric pressure (mm of Hg) (00025)	Oxygen, dissolved (mg/L) (00300)	Oxygen, dissolved (percent saturation) (00301)	Alkalinity, dissolved, IT, field (mg/L as CaCO ₃) (39086)	Alkalinity, dissolved, FET, field (mg/L as CaCO ₃) (00418)	Coliform, fecal, 0.7 µm-mf (cols./ 100 mL) (31625)
35N33W20ABCC	25.5	17.5	0.50	679	0.1	1	252	245	--
36N33W17BACA	30.0	17.0	0.80	684	3.0	34	197	197	--
36N33W17BACA2	28.0	18.0	0.20	684	0.5	6	213	213	--
40N33W 3DDDC2	20.0	14.5	--	705	5.2	55	272	267	--
35N25W20BBBC3	19.0	13.0	0.20	773	6.0	56	172	172	--
35N26W10CBBA3	12.5	17.0	0.50	700	0.4	4	282	277	--
35N27W 3BBBB4	36.0	15.0	0.20	766	7.4	72	192	191	--
35N30W 5DDCC2	2.0	15.5	--	701	0.3	3	232	231	--
35N32W 9BABB5	19.0	16.0	38	684	0.7	7	219	209	--
36N26W18AAAA2	7.0	14.0	--	710	0.1	1	280	280	--
36N28W15BABB2	2.0	18.0	--	706	0.1	1	217	213	--
36N31W12DCCD	7.0	13.5	--	704	7.4	77	143	142	--
37N28W 7BBBC2	14.0	13.5	0.50	701	7.0	73	178	178	--
37N28W30BBAA2	15.0	1.0	0.40	765	6.2	43	175	175	--
37N33W26AAAA2	33.0	16.0	0.20	754	6.4	66	189	189	--
38N29W13ADDC3	7.5	13.0	--	711	6.9	70	180	181	--
39N27W35AAAB2	26.0	12.5	1.6	768	10.1	95	150	150	0
39N31W27BBBB2	23.0	13.5	--	696	8.8	93	168	168	K1

Table 16. Selected water-quality data from observation wells completed in the Arikaree aquifer sampled by the U.S. Geological Survey—Continued

Local number	Strep- tococci, fecal, KF agar (cols./ 100 mL) (31673)	Calcium, dissolved (mg/L as Ca) (00915)	Magne- sium, dissolved (mg/L as Mg) (00925)	Sodium, dissolved (mg/L as Na) (00930)	Sodium, percent (00932)	Sodium adsorption ratio (00931)	Potassium, dissolved (mg/L as K) (00935)	Bicar- bonate, dissolved, IT, field (mg/L as HCO ₃) (00453)
35N33W20ABCC	--	9.5	0.61	130	88	11	9.9	308
36N33W17BACA	--	5.2	0.33	110	90	13	9.8	240
36N33W17BACA2	--	5.8	0.25	120	90	13	10	245
40N33W 3DDDC2	--	4.8	0.19	130	93	16	7.2	331
35N25W20BBBC3	--	41	7.3	21	24	0.8	10	210
35N26W10CBBA3	--	8.0	0.81	150	89	14	12	344
35N27W 3BBBB4	--	44	8.3	25	25	0.9	13	234
35N30W 5DDCC2	--	29	3.2	74	60	3	17	283
35N32W 9BABB5	--	25	2.9	75	64	4	15	262
36N26W18AAAA2	--	4.7	0.43	150	92	18	13	341
36N28W15BABB2	--	5.0	0.51	100	89	11	9.6	265
36N31W12DCCD	--	34	6.0	21	28	0.9	7.4	174
37N28W 7BBBC2	--	37	7.2	28	31	1	9.6	217
37N28W30BBAA2	--	41	7.0	31	32	1	11	214
37N33W26AAAA2	--	27	3.4	80	63	4	15	230
38N29W13ADDC3	--	44	6.0	20	23	0.8	9.9	220
39N27W35AAAB2	0	52	8.1	4.1	5	0.1	7.0	183
39N31W27BBBB2	0	31	2.7	41	47	2	8.3	205

Table 16. Selected water-quality data from observation wells completed in the Arikaree aquifer sampled by the U.S. Geological Survey—Continued

Local number	Carbonate, dissolved, IT, field (mg/L as CO ₃) (00452)	Sulfate, dissolved (mg/L as SO ₄) (00945)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO ₂) (00955)	Solids, residue at 180 deg C, dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)
35N33W20ABCC	0	65	6.0	0.70	22	356	0.009	0.015
36N33W17BACA	0	37	2.6	0.40	80	370	<0.002	<0.001
36N33W17BACA2	7	63	5.9	0.60	75	408	<0.002	<0.001
40N33W 3DDDC2	0	22	4.5	0.20	60	398	0.050	<0.010
35N25W20BBBC3	0	11	1.7	0.50	69	266	0.002	<0.001
35N26W10CBBA3	0	74	2.8	1.8	71	505	0.084	0.003
35N27W 3BBBB4	0	13	1.4	0.50	68	293	<0.002	0.001
35N30W 5DDCC2	0	47	1.1	0.50	68	388	<0.015	<0.010
35N32W 9BABB5	0	39	1.3	0.40	77	351	0.245	<0.001
36N26W18AAAA2	0	62	4.4	1.5	61	480	0.020	<0.010
36N28W15BABB2	0	32	1.5	0.90	69	405	<0.015	0.020
36N31W12DCCD	0	14	0.40	0.50	65	256	<0.015	<0.010
37N28W 7BBBC2	0	9.3	1.6	0.40	62	260	<0.002	<0.001
37N28W30BBAA2	0	9.4	1.7	0.50	73	275	0.021	0.003
37N33W26AAAA2	0	60	3.1	0.40	77	374	<0.002	0.002
38N29W13ADDC3	0	9.0	1.4	0.40	67	285	<0.015	<0.010
39N27W35AAAB2	0	7.7	2.1	<0.10	59	262	<0.002	<0.001
39N31W27BBBB2	0	7.2	3.9	0.30	65	256	0.020	<0.010

Table 16. Selected water-quality data from observation wells completed in the Arikaree aquifer sampled by the U.S. Geological Survey—Continued

Local number	Nitrogen, NO ₂ +NO ₃ dissolved (mg/L as N) (00631)	Phos- phorus, ortho, dissolved (mg/L as P) (00671)	Arsenic, dissolved (µg/L as As) (01000)	Boron, dissolved (µg/L as B) (01020)	Iron, dissolved (µg/L as Fe) (01046)	Manga- nese, dissolved (µg/L as Mn) (01056)	Selenium, dissolved (µg/L as Se) (01145)	Gross alpha, dissolved (µg/L as natural uranium) (80030)
35N33W20ABCC	1.50	0.117	36	360	45	21	<5	9.2
36N33W17BACA	1.40	5.70	21	230	63	3	3	2.8
36N33W17BACA2	0.548	0.007	23	310	<3	<1	1	6.4
40N33W 3DDDC2	0.580	0.180	3	120	<3.0	<1.0	2	--
35N25W20BBBC3	1.00	0.041	12	50	<3	<1	<1	6.4
35N26W10CBBA3	0.975	0.489	110	340	<3	14	<1	4.4
35N27W 3BBBB4	1.40	0.213	18	60	<3	5	<1	8.2
35N30W 5DDCC2	0.550	0.470	13	105	7.0	13	1	--
35N32W 9BABB5	<0.005	0.121	14	150	130	86	<1	9.4
36N26W18AAAA2	<0.050	0.600	58	254	3.0	32	<1	--
36N28W15BABB2	0.950	1.10	20	174	56	43	10	--
36N31W12DCCD	1.80	0.680	16	43	7.0	8.0	<1	--
37N28W 7BBBC2	1.50	0.360	7	30	<3	<1	<1	5.6
37N28W30BBAA2	0.827	0.143	13	60	8	1	1	5.9
37N33W26AAAA2	0.829	0.028	11	130	<3	14	2	11
38N29W13ADDC3	1.10	<0.010	7	52	<3.0	<1.0	<1	--
39N27W35AAAB2	4.00	0.007	4	30	<3	<1	1	2.8
39N31W27BBBB2	0.520	0.050	2	78	<3.0	<1.0	<1	--

Table 16. Selected water-quality data from observation wells completed in the Arikaree aquifer sampled by the U.S. Geological Survey—Continued

Local number	Alpha, count, 2 sigma, dissolved as natural uranium (µg/L) (75986)	Alpha radio, dissolved as Th-230 (pci/L) (04126)	Alpha count, 2 sigma, dissolved as Th-230 (pci/L) (75987)	Gross beta, dissolved (pci/L as Cs-137) (03515)	Beta, 2 sigma, dissolved as Cs-137 (pci/L) (75989)	Gross beta, dissolved (pci/L as Sr/Yt-90) (80050)	Beta, 2 sigma, dissolved as Sr90/Y90 (pci/L) (75988)	Triazine screen (ELISA) whole, rec, as atrazine (µg/L) (34757)
35N33W20ABCC	2.0	6.6	1.5	11	2.0	8.3	1.5	--
36N33W17BACA	1.0	2.0	0.72	12	2.1	8.9	1.5	--
36N33W17BACA2	1.5	4.4	1.0	13	2.1	9.3	1.6	--
40N33W 3DDDC2	--	15	2.2	22	5.9	--	--	--
35N25W20BBBC3	1.7	4.0	1.1	14	2.3	11	1.7	<1
35N26W10CBBA3	1.3	3.1	0.93	14	2.5	11	1.9	--
35N27W 3BBBB4	1.8	5.6	1.2	15	2.4	11	1.8	--
35N30W 5DDCC2	--	8.8	1.5	28	6.7	--	--	--
35N32W 9BABB5	2.0	6.6	1.4	14	2.3	11	1.7	--
36N26W18AAAA2	--	<3.0	0.70	22	6.0	--	--	--
36N28W15BABB2	--	<3.0	0.63	12	4.0	--	--	--
36N31W12DCCD	--	<3.0	0.79	9.8	3.3	--	--	--
37N28W 7BBBC2	1.5	3.9	1.1	9.9	2.3	7.3	1.3	--
37N28W30BBAA2	1.6	3.7	1.1	14	2.2	10	1.7	--
37N33W26AAAA2	2.1	7.5	1.5	19	2.9	14	2.1	--
38N29W13ADDC3	--	5.8	1.2	13	3.8	--	--	--
39N27W35AAAB2	1.0	2.0	0.74	8.1	1.9	5.8	1.1	<1
39N31W27BBBB2	--	<3.0	0.76	11	3.2	--	--	--

¹Indicates flowing well.

Table 17. Selected water-quality data from observation wells completed in the White River aquifer sampled by the U.S. Geological Survey

[µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; mm, millimeter; mL, milliliter; µg/L, micrograms per liter; pci/L, picocuries per liter; deg C, degrees Celsius; FET, fixed end point titration; IT, incremental titration; NTU, nephelometric turbidity units; µm-mf, micrometer-membrane filter; cols, colonies; rec, recoverable; <, less than; --, no data]

Station number	Local number	Other identifier	County	Date	Depth of well (feet) (72008)	Water level (feet) (72019)	Specific conductance, field (µS/cm) (00095)	pH, field (standard units) (00400)
432555100591302	40N31W21AAAA2	R2-92-47	Mellette	10-01-96	81.2	57.73	628	7.4
432649101081801	40N32W17BBBB	R2-94-76	Mellette	10-03-96	552.5	14.12	2,540	7.7
433248101121502	41N33W11ABDD2	R2-96-19	Mellette	10-04-96	265.0	135.61	3,280	7.9
431203100135902	37N25W12BBBB2	R20-93-49	Todd	08-30-94	48.0	8.67	307	7.6
431005100140001	37N25W24BCBB	R20-93-38	Todd	08-30-94	59.0	8.22	334	7.8
431005100140002	37N25W24BCBB2	R20-93-39	Todd	09-21-94	107.0	--	607	7.9
431949100584601	39N31W27BBBB	R2-95-26	Todd	10-01-96	565.0	85.06	1,670	7.7
432320101044101	39N32W 3AAAA2	R2-92-45	Todd	08-16-94	526.5	74.89	1,520	8.0
431811100125001	98N79W17DCBA	R20-93-43	Tripp	08-23-94	37.0	13.87	360	7.4

Local number	Temperature, air (deg C) (00020)	Temperature, water (deg C) (00010)	Turbidity (NTU) (00076)	Barometric pressure (mm of Hg) (00025)	Oxygen, dissolved (mg/L) (00300)	Oxygen, dissolved (percent saturation) (00301)	Alkalinity, dissolved, IT, field (mg/L as CaCO ₃) (39086)	Alkalinity, dissolved, FET, field (mg/L as CaCO ₃) (00418)	Coliform, fecal, 0.7 µm-mf (cols./100 mL) (31625)
40N31W21AAAA2	20.5	13.5	--	694	9.8	103	152	152	0
40N32W17BBBB	15.0	19.0	--	706	0.1	1	327	326	--
41N33W11ABDD2	8.0	16.0	--	705	0.1	1	250	250	--
37N25W12BBBB2	26.5	13.0	1.1	777	8.9	83	132	132	0
37N25W24BCBB	26.0	12.5	0.10	699	6.4	66	147	147	0
37N25W24BCBB2	9.5	12.5	1.0	704	0.1	1	267	260	--
39N31W27BBBB	23.0	20.5	--	696	0.1	1	428	421	--
39N32W 3AAAA2	22.0	17.5	0.40	766	0.0	1	384	384	--
98N79W17DCBA	23.0	13.0	0.20	773	6.7	62	164	165	0

Table 17. Selected water-quality data from observation wells completed in the White River aquifer sampled by the U.S. Geological Survey—Continued

Local number	Strep- tococci, fecal, KF agar (cols./ 100 mL) (31673)	Calcium, dissolved (mg/L as Ca) (00915)	Magne- sium, dissolved (mg/L as Mg) (00925)	Sodium, dissolved (mg/L as Na) (00930)	Sodium, percent (00932)	Sodium adsorption ratio (00931)	Potassium, dissolved (mg/L as K) (00935)	Bicar- bonate, dissolved, IT, field (mg/L as HCO ₃) (00453)
40N31W21AAAA2	0	58	3.8	78	49	3	10	185
40N32W17BBBB	--	19	1.1	520	94	31	12	399
41N33W11ABDD2	--	24	1.5	650	95	35	8.4	305
37N25W12BBBB2	0	40	6.9	6.0	9	0.2	7.2	161
37N25W24BCBB	0	12	1.2	52	71	4	9.1	179
37N25W24BCBB2	--	6.4	0.65	130	91	13	8.3	326
39N31W27BBBB	--	10	0.60	350	95	29	11	523
39N32W 3AAAA2	--	8.9	0.43	330	95	29	8.4	469
98N79W17DCBA	0	51	7.3	9.3	11	0.3	8.4	200

Local number	Carbonate, dissolved, IT, field (mg/L as CO ₃) (00452)	Sulfate, dissolved (mg/L as SO ₄) (00945)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO ₂) (00955)	Solids, residue at 180 deg C, dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)
40N31W21AAAA2	0	170	5.9	<0.10	63	502	<0.015	<0.010
40N32W17BBBB	0	0.50	610	1.2	13	1,400	0.550	<0.010
41N33W11ABDD2	0	2.6	860	1.0	11	1,710	0.620	<0.010
37N25W12BBBB2	0	4.2	1.0	0.30	63	211	0.002	<0.001
37N25W24BCBB	0	9.2	1.2	0.40	64	239	0.002	<0.001
37N25W24BCBB2	0	14	16	1.4	13	363	0.090	0.002
39N31W27BBBB	0	0.10	300	1.4	16	952	0.450	<0.010
39N32W 3AAAA2	0	18	230	1.7	17	856	0.275	0.007
98N79W17DCBA	0	3.2	0.70	0.20	61	253	<0.002	<0.001

Table 17. Selected water-quality data from observation wells completed in the White River aquifer sampled by the U.S. Geological Survey—Continued

Local number	Nitrogen, NO ₂ +NO ₃ dissolved (mg/L as N) (00631)	Phos- phorus, ortho, dissolved (mg/L as P) (00671)	Arsenic, dissolved (µg/L as As) (01000)	Boron, dissolved (µg/L as B) (01020)	Iron, dissolved (µg/L as Fe) (01046)	Manga- nese, dissolved (µg/L as Mn) (01056)	Selenium, dissolved (µg/L as Se) (01145)	Gross alpha, dissolved (µg/L as natural uranium) (80030)
40N31W21AAAA2	2.80	0.260	3	92	<3.0	<1.0	5	--
40N32W17BBBB	<0.050	0.030	2	2,170	46	21	<1	--
41N33W11ABDD2	<0.050	0.760	4	2,160	11	24	<1	--
37N25W12BBBB2	1.50	0.022	8	20	<3	<1	<1	2.6
37N25W24BCBB	1.20	0.015	14	90	<3	<1	1	5.6
37N25W24BCBB2	<0.005	0.045	<1	950	92	15	<1	<0.6
39N31W27BBBB	<0.050	0.030	1	2,120	18	19	<1	--
39N32W 3AAAA2	<0.005	0.041	9	2,100	89	9	<1	1.8
98N79W17DCBA	1.20	0.017	7	30	6	1	<1	6.2

Local number	Alpha, count, 2 sigma, dissolved as natural uranium (µg/L) (75986)	Alpha radio, dissolved as Th-230 (pci/L) (04126)	Alpha count, 2 sigma, dissolved as Th-230 (pci/L) (75987)	Gross beta, dissolved (pci/L as Cs-137) (03515)	Beta, 2 sigma, dissolved as Cs-137 (pci/L) (75989)	Gross beta, dissolved (pci/L as Sr/Yt-90) (80050)	Beta, 2 sigma, dissolved as Sr90/Y90 (pci/L) (75988)	Triazine screen (ELISA) whole, rec, as atrazine (µg/L) (34757)
40N31W21AAAA2	--	5.3	1.1	18	5.0	--	--	--
40N32W17BBBB	--	<3.0	0.46	21	11	--	--	--
41N33W11ABDD2	--	<3.0	0.66	19	12	--	--	--
37N25W12BBBB2	1.0	1.8	0.72	8.7	2.1	6.3	1.1	<1
37N25W24BCBB	1.5	3.9	1.1	12	2.6	8.8	1.4	<1
37N25W24BCBB2	0.50	<0.6	0.35	9.9	1.8	7.4	1.4	<1
39N31W27BBBB	--	6.1	1.2	26	9.1	--	--	--
39N32W 3AAAA2	1.4	1.3	0.94	11	2.9	7.8	2.2	--
98N79W17DCBA	1.6	4.3	1.1	11	2.5	7.8	1.3	--

¹Indicates flowing well.

Table 18. Quality-assurance results of blank samples collected during the observation well sampling program

[$\mu\text{S/cm}$, microsiemens per centimeter; mg/L , milligrams per liter; $\mu\text{g/L}$, micrograms per liter; pci/L , picocuries per liter; deg C , degrees Celsius; IT, incremental titration; NTU, nephelometric turbidity units; <, less than; --, no data]

Station number	Sample type	Date	Specific conductance, lab ($\mu\text{S/cm}$) (00095)	pH, lab (standard units) (00400)	Turbidity (NTU) (00076)	Alkalinity, dissolved, IT, lab (mg/L as CaCO_3) (90410)	Calcium, dissolved (mg/L as Ca) (00915)
430023100115602	Field blank	10-06-94	8	5.9	0.20	2.7	0.42
442142098130700	Laboratory blank	02-10-94	--	--	--	--	0.03
442142098130700	Laboratory blank	09-20-96	--	--	--	--	0.033
434141100523601	Field blank	10-01-96	2	7.8	--	1.5	0.12

Magnesium, dissolved (mg/L as Mg) (00925)	Sodium, dissolved (mg/L as Na) (00930)	Potassium, dissolved (mg/L as K) (00935)	Sulfate, dissolved (mg/L as SO_4) (00945)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO_2) (00955)	Solids, residue at 180 deg C, dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)
0.02	<0.20	<0.10	0.70	<0.10	<0.10	<0.10	5	0.005	0.001
0.004	0.027	--	--	--	--	--	--	<0.002	0.001
0.005	0.031	--	--	--	--	--	--	--	--
0.02	<0.20	<0.10	<0.10	<0.10	<0.10	<0.01	<1	<0.015	<0.010

Nitrogen, NO_2+NO_3 dissolved (mg/L as N) (00631)	Phosphorus, ortho, dissolved (mg/L as P) (00671)	Arsenic, dissolved ($\mu\text{g/L}$ as As) (01000)	Boron, dissolved ($\mu\text{g/L}$ as B) (01020)	Iron, dissolved ($\mu\text{g/L}$ as Fe) (01046)	Manganese, dissolved ($\mu\text{g/L}$ as Mn) (01056)	Selenium, dissolved ($\mu\text{g/L}$ as Se) (01145)	Alpha radio, dissolved as Th-230 (pci/L) (04126)	Gross beta, dissolved (pci/L as Cs-137) (03515)
0.005	0.024	<1	<10	5	9	<1	--	--
<0.005	<0.001	--	<20	4.8	<0.10	--	--	--
--	--	--	4.1	<3.0	2.9	--	--	--
<0.050	<0.010	<1	9.7	3.0	<1.0	<1	<3.0	<4.0

Table 19. Chemical analyses of field duplicates for observation well water samples

[μS/cm, microsiemens per centimeter; mg/L, milligrams per liter; μg/L, micrograms per liter; pci/L, picocuries per liter; deg C, degrees Celsius; IT, incremental titration; NTU, nephelometric turbidity units; <, less than; --, no data]

Station number	Local number	Sample type	Aquifer	Date	Specific conductance, field (μS/cm) (00095)	Alkalinity, dissolved, IT, field (mg/L as CaCO ₃) (39086)
431159100412102	37N28W 7BBBC2	Sample	Arikaree	09-21-94	355	178
		Duplicate	--	09-21-94	¹ 373	¹ 183
431949100584601	39N31W27BBBB	Sample	White River	10-01-96	1,670	428
		Duplicate	--	10-01-96	¹ 1,690	¹ 413
432746100172201	40N25W 4CCDD	Sample	Alluvial	09-30-96	¹ 1,830	257
		Duplicate	--	09-30-96	¹ 1,810	¹ 251

Calcium, dissolved (mg/L as Ca) (00915)	Magnesium, dissolved (mg/L as Mg) (00925)	Sodium, dissolved (mg/L as Na) (00930)	Potassium, dissolved (mg/L as K) (00935)	Sulfate, dissolved (mg/L as SO ₄) (00945)	Chloride, dissolved (mg/L as Cl) (00940)	Fluoride, dissolved (mg/L as F) (00950)	Silica, dissolved (mg/L as SiO ₂) (00955)
37	7.2	28	9.6	9.3	1.6	0.40	62
38	7.3	28	9.4	9.3	1.7	0.40	62
10	0.60	350	11	0.10	300	1.4	16
9.7	0.57	340	11	0.20	300	1.4	16
270	54	72	16	810	22	0.20	37
270	55	73	17	810	22	0.20	36

Solids, residue at 180 deg C, dissolved (mg/L) (70300)	Nitrogen, ammonia, dissolved (mg/L as N) (00608)	Nitrogen, nitrite, dissolved (mg/L as N) (00613)	Nitrogen, NO ₂ +NO ₃ , dissolved (mg/L as N) (00631)	Phosphorus, ortho, dissolved (mg/L as P) (00671)	Arsenic, dissolved (μg/L as As) (01000)	Boron, dissolved (μg/L as B) (01020)
260	<0.002	<0.001	1.50	0.360	7	30
269	<0.002	<0.001	1.50	0.352	6	40
952	0.450	<0.010	<0.050	0.030	1	2,120
948	0.440	<0.010	<0.050	0.030	1	2,030
1,540	0.080	<0.010	0.700	0.070	3	191
1,550	0.080	<0.010	0.660	0.070	4	185

Table 19. Chemical analyses of field duplicates for observation well water samples—Continued

Iron, dissolved (µg/L as Fe) (01046)	Manganese, dissolved (µg/L as Mn) (01056)	Selenium, dissolved (µg/L as Se) (01145)	Gross alpha, dissolved (µg/L as natural uranium) (80030)	Alpha radio, dissolved as Th-230 (pci/L) (04126)	Gross beta, dissolved (pci/L as Cs-137) (03515)	Gross beta, dissolved (pci/L as Sr/Yt-90) (80050)
<3	<1	<1	5.6	3.9	9.9	7.3
<3	<1	<1	4.2	2.6	9.4	6.9
18	19	<1	--	6.1	26	--
17	18	<1	--	4.9	30	--
230	250	11	--	3.9	22	--
50	240	14	--	4.7	25	--

¹Indicates laboratory value

Table 20. Precision of chemical analyses of field duplicates for observation well water samples

[μS/cm, microsiemens per centimeter; mg/L, milligrams per liter; μg/L, micrograms per liter; pci/L, picocuries per liter]

Constituent and reporting unit	Number of duplicate pairs	Standard deviation in units	Relative standard deviation, in percent
Specific conductance, μS/cm	3	13.7	1.1
Alkalinity, mg/L as calcium carbonate	3	6.9	2.4
Calcium, mg/L	3	0.43	0.41
Magnesium, mg/L	3	0.41	2.0
Sodium, mg/L	3	4.1	2.8
Potassium, mg/L	3	0.42	3.4
Sulfate, mg/L	3	0.04	0.02
Chloride, mg/L	3	0.04	0.04
Fluoride, mg/L	3	0.0	0.0
Silica, mg/L	3	0.41	1.1
Solids, mg/L	3	5.7	0.62
Ammonia, mg/L as N	3	0.004	2.3
Nitrite, mg/L as N	3	0.0	0.0
Nitrite + Nitrate, mg/L as N	3	0.02	2.7
Phosphorus, ortho, mg/L as P	3	0.003	2.0
Arsenic, μg/L	3	0.58	16
Boron, μg/L	3	37	4.8
Iron, μg/L	3	73	140
Manganese, μg/L	3	4.1	4.7
Selenium, μg/L	3	1.2	27
Gross alpha, pci/L as natural uranium	1	0.99	20
Alpha, pci/L as Th-230	3	0.79	18
Gross beta, pci/L as Cs-137	3	2.1	10
Gross beta, pci/L as Sr/Yt-90	1	0.28	3.9

