HYDROGEOLOGIC DATA FOR SELECTED TEST WELLS DRILLED IN THE FORT UNION COAL REGION, EASTERN MONTANA

By Wayne A. Wood

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CONVERSION FACTORS

The following factors can be used to convert inch-pound units in this report to the International System (SI) of units.

Multiply inch-pound unit	By	To obtain SI unit
foot	0.3048	meter
inch	25.40	millimeter
mile	1.609	kilometer

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ABSTRACT

Hydrologic and geologic data have been collected as part of energy-related projects conducted by the U.S. Geological Survey in 11 counties of eastern Montana. Records of 408 test wells are tabulated in this report. The data include well location, type of well, date drilled, well depth, type and diameter of casing, depth cased, interval open to well, principal aquifer, depth to water level, water-level-record dates, water-quality-sampling record, and type of logs available. Location of the wells is shown by county on maps at a scale of 1:500,000.

INTRODUCTION

During the past 10 years the U.S. Geological Survey has conducted many investigations in the coal area of eastern Montana. Most of these investigations were conducted in cooperation with the U.S. Bureau of Land Management and the Montana Bureau of Mines and Geology under funding by the EMRIA (Energy Minerals Rehabilitation Inventory and Analysis) program. Other investigations were conducted as part of a regional study of the northern Great Plains. This report, which was prepared under the EMRIA program, is intended to serve two purposes: (1) To summarize data on U.S. Geological Survey test wells in the coal areas of eastern Montana, and (2) to show approximate locations and densities of the wells. A summary of cased wells has been compiled to show the location and extent of drilling by the Geological Survey. The counties in which the wells were drilled are: Big Horn, Custer, Daniels, Dawson, Fallon, McCone, Musselshell, Powder River, Prairie, Richland, and Rosebud (fig. 1).

WELL-NUMBERING SYSTEM

In this report, locations are numbered according to geographic position within the rectangular grid system used by the U.S. Bureau of Land Management (fig. 2). The location consists of 14 characters. The first three characters specify the township and its position north (N) or south (S) of the Montana Base Line. The next three characters specify the range and its position east (E) of the Montana Principal Meridian. The next two characters are the section number. The next four characters designate the quarter section (160-acre tract), quarter-quarter section (40-acre tract), quarter-quarter-quarter section (10-acre tract), and quarter-quarter-quarter-quarter section (2.5-acre tract), respectively, in which the well is located. The subdivisions of the section are designated A, B, C, and D in a counterclockwise direction, beginning in the northeast quadrant. The last two digits form a sequence number based on the order of inventory of wells in the same 2.5-acre tract. For example, as shown in figure 2, well 08S43E14BCCA01 is the first well inventoried in the NE¼SW¼SW¼NW¼ sec. 14, T. 8 S., R. 43 E.

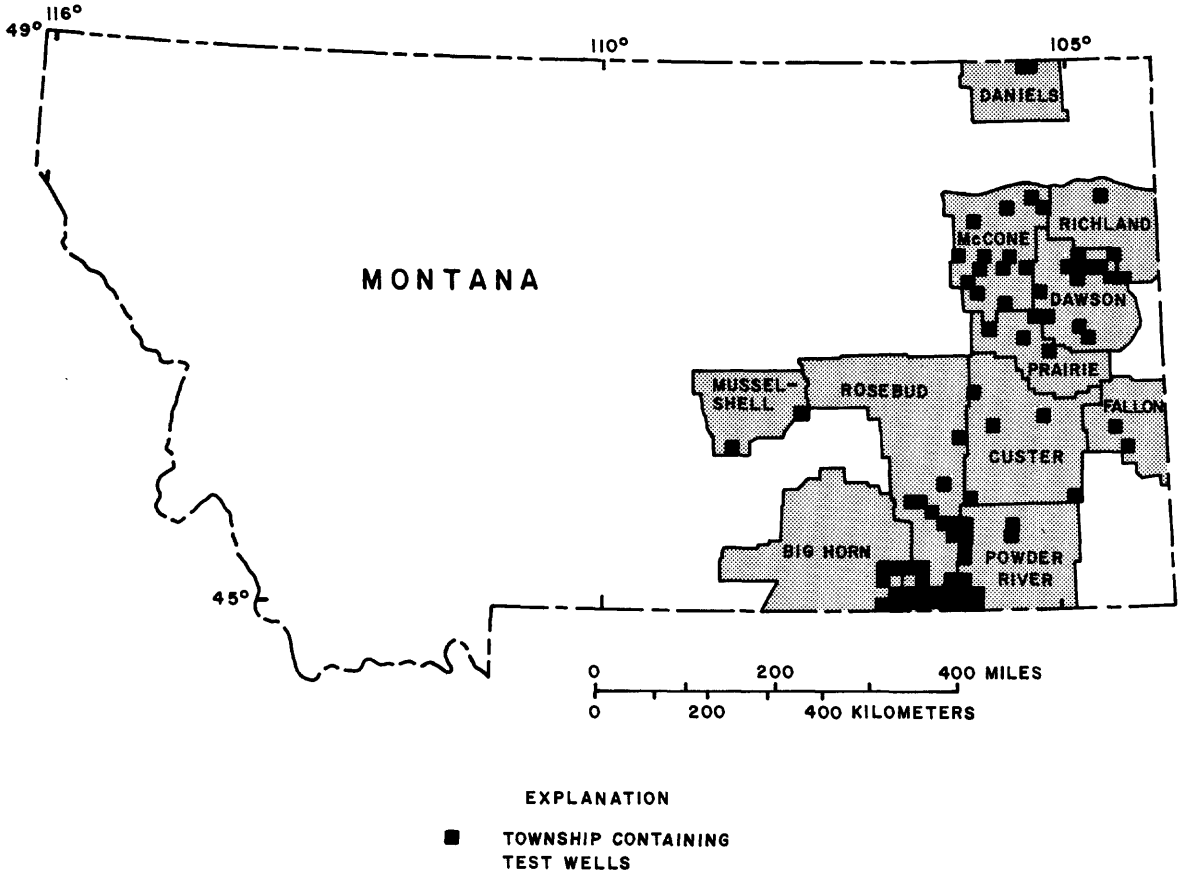

Figure 1.--Location of test wells described in this report.

RECORDS OF WELLS

This report includes records of 408 test wells in parts of 11 counties in eastern Montana. The data are for wells drilled from 1974 through 1983.

The geologic units penetrated by the wells range in age from Late Cretaceous to Holocene (table 1). These units contain the major strippable coal deposits and supply most of the ground water used for stock and domestic purposes.

Inventoried well data are listed by county (tables 2-12), and accompanying maps (figs. 3-13) show the well location corresponding to the data. Where well depth in the tabulated data is less than the depth cased, the well has filled partly by material coming through the slots, perforations, or screen into the well, or the casing has an obstruction and the total depth could not be measured. Where well depth is greater than the depth cased, the lower section is left open hole and is not cased.

Of the wells listed, water levels are being monitored yearly in 103 observation wells in what is termed the coal-area network. This network was established to provide long-term record of water-level fluctuations in selected wells directly related to coal studies in eastern Montana. The coal-area network includes wells that are completed in coal beds, sandstone, clinker, shale, alluvium, or spoils aquifers.

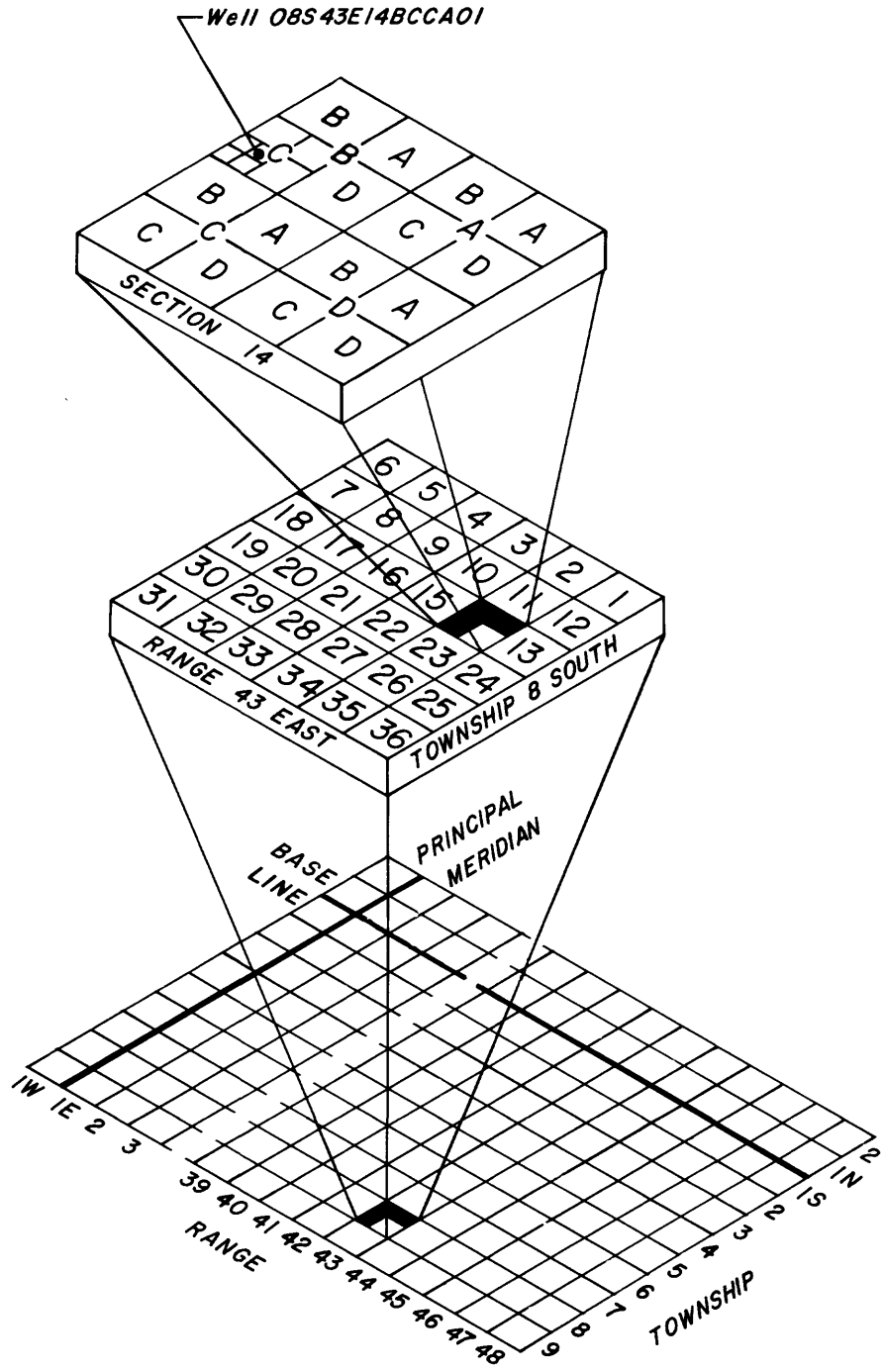

Figure 2.--Well-numbering system.

Observation wells can be deleted from or added to the coal-area network in response to the record obtained or changing needs for information.

Fifty-one of the wells listed are included in a statewide network. This network provides long-term record of fluctuations of water levels in representative wells

Table 1.--*Generalized section of geologic units*

Era-them	Sys-tem	Series	Geologic unit		Thickness (feet)	General description
Cenozoic	Quaternary	Pleistocene and Holocene	Mine spoils		0-200	Replaced overburden materials consisting primarily of fragments of sandstone, siltstone, and shale. A thin layer of coarse rubble composed of wasted coal and boulders that have rolled from nearby spoil piles commonly occurs near the base.
			Alluvium		0-130	Mostly unconsolidated sand, silt, and clay with local lenses of gravel.
			Terrace deposits		0-100	Mostly gravel and sand with some silt and clay.
			Glacial outwash		0-20	Sand and gravel interbedded with lenses of silt and clay. Contains numerous glacial erratics. Occurs as channels eroded into ground moraine.
	Tertiary	Paleocene	Fort Union Formation	Tongue River Member	0-2,500	Light-gray to brownish-gray fine- to medium-grained thick-bedded to massive lenticular sandstone and siltstone. Contains lenses of shaly siltstone and shale and thick extensive coal beds. Burning of coal along outcrops has baked overlying sandstone and shale to form red to lavender clinker.
				Lebo Shale Member	0-600	Predominantly dark shale interbedded with light-gray and brown to black carbonaceous shale, siltstone, and locally thin coal beds.
				Tullock Member	0-800	Interbedded medium-gray to light gray shale, light-gray sandstone and siltstone, and thin coal beds.
Mesozoic	Cretaceous	Upper Cretaceous	Hell Creek Formation		0-850	Gray to yellowish-gray shale, siltstone, and thin coal beds compose the upper part of the unit. Sandstone, commonly crossbedded, occurs near the base of the unit.
			Fox Hills Sandstone		0-400	Two members of the unit are recognized: Colgate Member--very light gray fine- to medium-grained massive sandstone; unnamed lower member--gray to brownish-gray fine-grained thin-bedded sandstone, with interbedded sandy shale and siltstone. Fox Hills Sandstone and lower part of Hell Creek -- considered to be one aquifer in the study area.

completed in various aquifers throughout the State. Water levels are measured annually. Wells can also be deleted or added to this network as necessary.

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_____1977, Resource and potential reclamation evaluation of Bear Creek study area, West Moorhead coalfield, Montana: EMRIA Report 8, 259 p.

_____1978, Resource and potential reclamation evaluation of Hanging Woman Creek study area [Montana]: EMRIA Report 12, 309 p.

_____1982, Resource and potential reclamation evaluation of Pumpkin Creek study area, East Pumpkin Creek coalfield, Montana: EMRIA Report 11, 64 p.

DATA

Tables 2-12 are presented in an identical format, by county, in alphabetical order. Each table is preceded by the corresponding county map showing the location of wells. Column headings and abbreviations that are not self-explanatory are described below.

Local number--well-numbering system described in text.

Site identification--unique 15-digit number.

Type of observation well--C, observation well in coal-area network;
P, project well: water levels measured intermittently;
S, observation well in statewide network.

Date drilled--month, day, year.

Well depth--in feet below land surface.

Type of casing--P, plastic (polyvinyl chloride);
S, steel

Size of casing--in inches.

Depth of casing--in feet below land surface.

Interval open to well--in feet below land surface.

Principal aquifer--The following codes for the principal aquifers are those used in the National Water Data Storage and Retrieval System and some may not follow current usage of the U.S. Geological Survey:

110 ALVM, Alluvium
111 SPBK, Mine spoils
112 OTSH, Glacial outwash
125 LEBO, Lebo Shale Member of Fort Union Formation
125 TGRV, Tongue River Member of Fort Union Formation
125 TLCK, Tullock Member of Fort Union Formation
211 FHHC, Fox Hills-lower Hell Creek aquifer
211 HLCK, Hell Creek Formation
211 FXHL, Fox Hills Sandstone

Depth to water level--in feet below land surface.

Water-level record--P, present (1984).

Type of sample--W, water; G, gas.

Sample analyzed by--MBMG, Montana Bureau of Mines and Geology laboratory, Butte, Mont.; USGS, U.S. Geological Survey laboratory, Denver, Colo.

Logs available--C, caliper; E, electric; J, gamma ray; U, gamma gamma;
D, driller; G, geologist; N, neutron; X, core.

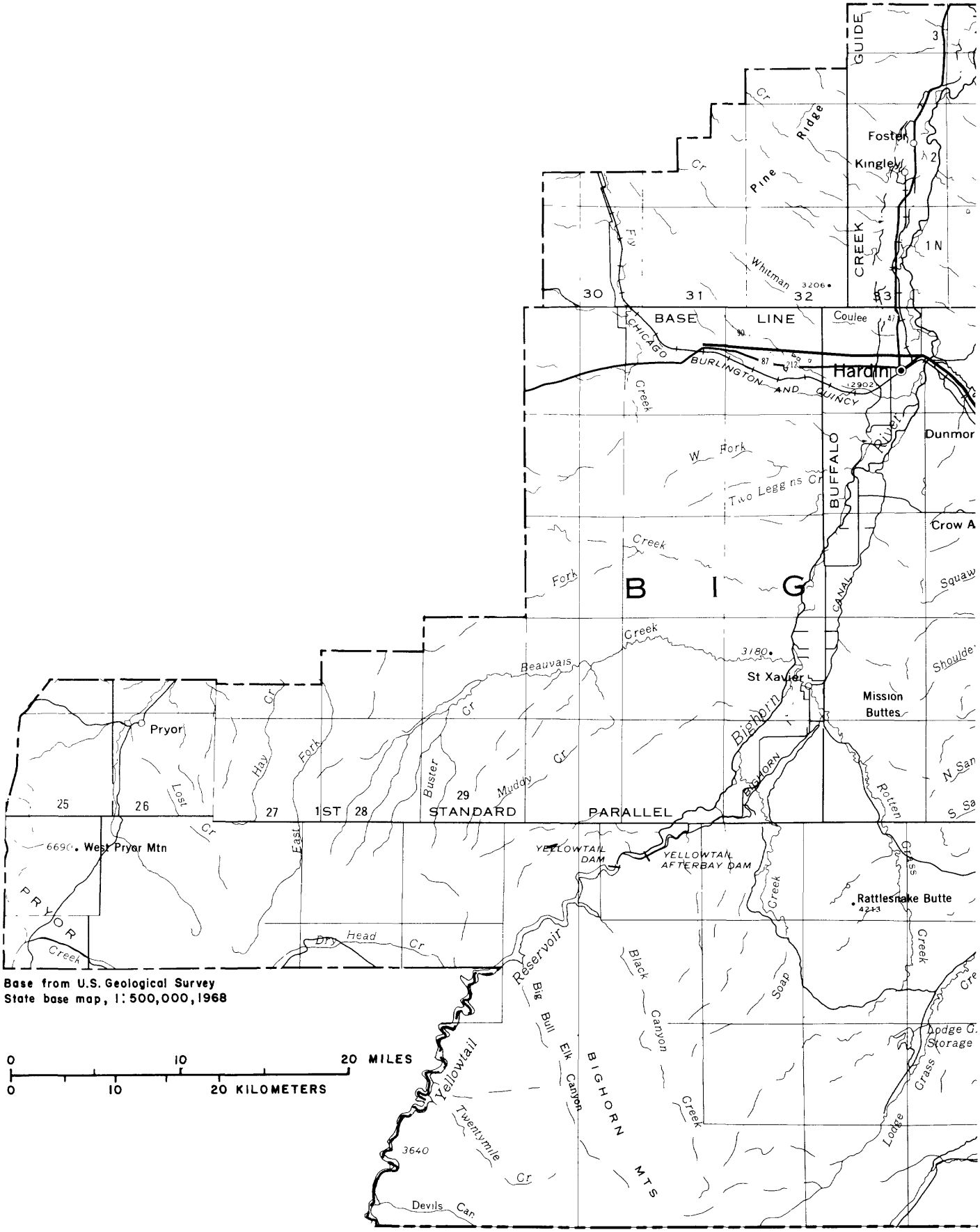
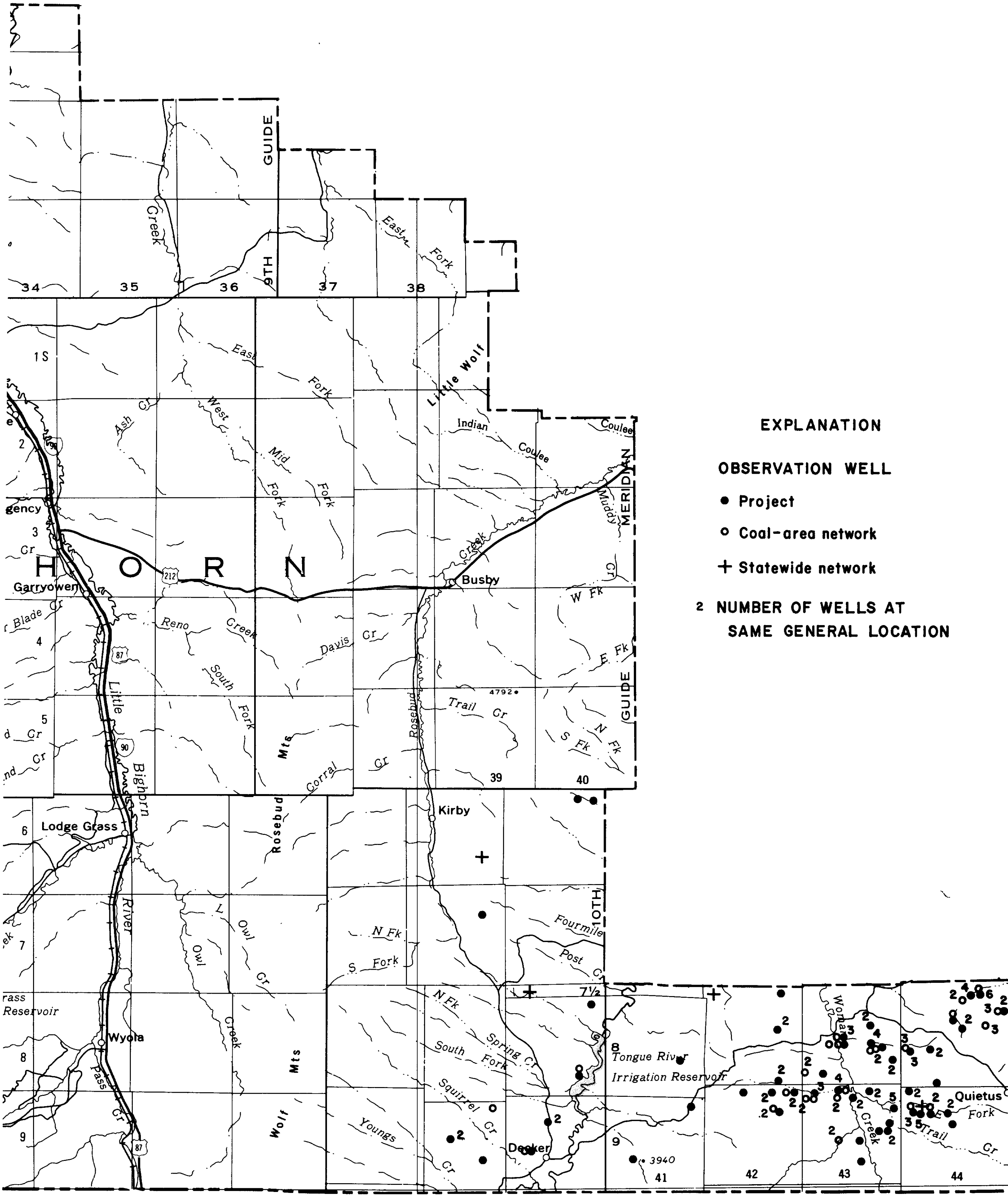


Figure 3.--Location of wells in Big Horn County.


EXPLANATION
OBSERVATION WELL
● Project
○ Coal-area network
+ Statewide network
2 NUMBER OF WELLS AT SAME GENERAL LOCATION
GUIDE
9TH
MERIDIAN
10TH
H O R N
Busby
Garryowen
Lodge Grass
Wyola
Kirby
Decker
Quietus
Tongue River
Irrigation Reservoir
Little Wolf
Rosebud Mts
Wolf Mts
Little Bighorn River
34
35
36
37
38
39
40
41
42
43
44

Local number	Site identification	Type of observation well	Date drilled	Well depth (feet)	Casing			Interval open to well (feet)
					Type	Size (in.)	Depth (feet)	
06S39E26AABB01	451752106550201	S	06-17-77	130	P	4	130	105-125
06S40E01CDDC01	452021106465001	P	06-11-79	250	P	4	253	238-248
06S40E02DBDA01	452040106474201	P	08-24-78	278	P	4	278	227-273
07S39E11DDBB01	451432106545301	P	07-13-77	384	P	2	384	280-380
07½S40E32DBDA01	451027106511801	S	09-12-76	120	P	4	120	97-113
08S40E01BBCD01	450954106461101	P	09-13-76	298	P	2	298	243-260
08S40E26ACBC01	450622106473801	C	10-05-80	172	P	4	172	152-172
08S40E26ACBC02	450623106473801	P	10-06-80	27	P	4	27	7-27
08S41E23DBCA01	450650106401501	P	07-26-75	334	P	4	334	224-264
08S42E02ADDD01	451015106323301	P	07-31-77	168	P	4	168	154-167
08S42E06ADBA01	451020106374201	S	09-23-76	398	P	2	398	372-382
08S42E14DBAD01	450823106325301	P	08-03-75	187	P	4	187	171-183
08S42E14DBAD02	450823106325302	P	08-03-75	103	P	4	103	70-101
08S42E35DDDB01	450532106323801	P	01-05-81	285	P	4	287	274-279
08S42E35DDDB02	450532106323802	P	01-10-81	135	P	4	155	127-154
08S43E14BCCA01	450833106261401	P	12-07-80	203	P	4	218	191-202
08S43E14BCCA02	450833106261402	P	12-08-80	160.5	P	4	160	130-160
08S43E20DABA01	450714106285001	C	05-08-74	222	P	4	232	209-224
08S43E20DABA01	--	--	--	--	--	-	--	--
08S43E21BBDA01	450753106283001	P	09-15-80	20	P	4	20	7-17
08S43E21BBDA01	--	--	--	--	--	-	--	--
08S43E21BBDD01	450752106283001	P	09-16-80	20	P	4	20	7-15.5
08S43E21BBDD02	450750106283001	P	09-16-80	38	P	4	38	26-35
08S43E21BBDD02	--	--	--	--	--	-	--	--
08S43E21BBDD03	450752106283002	C	09-17-80	13	P	4	13	5-13
08S43E21BCAA01	450748106283101	P	09-17-80	35.5	P	4	35.5	25.5-35
08S43E21BDBB01	450747106282901	C	12-18-80	223	P	4	223.5	150-165
08S43E21BDBB01	--	--	--	--	--	-	--	178-185
08S43E21BDBB02	450747106282902	C	12-28-80	146	P	4	150	110-150
08S43E23CABD01	450729106255301	P	09-18-80	29.5	P	4	29.5	17-26
08S43E23CABD02	450730106255301	P	09-19-80	32	P	4	32	20-32
08S43E23CABD02	--	--	--	--	--	-	--	--
08S43E23CACA01	450726106255301	P	09-17-80	37	P	4	37	26-36.5
08S43E23CACA02	450728106255301	P	09-18-80	28	P	4	28	17.5-26
08S43E23CACA02	--	--	--	--	--	-	--	--
08S43E23CACA03	450729106255302	C	09-19-80	29	P	4	29	13-28.5
08S43E23CACA03	--	--	--	--	--	-	--	--
08S43E23CDAA01	450721106254401	C	12-08-80	78	P	4	82	66-80
08S43E23CDAA01	--	--	--	--	--	-	--	--
08S43E23CDAA02	450721106254402	C	12-10-80	329	P	4	342	306-334
08S43E23DBCC01	450723106254001	P	08-12-77	58	P	4	58	35-55
08S43E23DBCC01	--	--	--	--	--	-	--	--
08S43E25DBBB01	450641106242801	P	12-12-80	328	P	4	334	320-332
08S43E25DBBB01	--	--	--	--	--	-	--	--
08S43E25DBBB02	450641106242802	P	12-15-80	280.5	P	4	282	252-282
08S43E31BBDA01	450609106310001	C	12-30-80	131	P	4	133	106-133
08S43E31BBDA02	450609106310002	C	12-31-80	257	P	4	260	207-213
08S43E32BBDA01	450608106294401	P	07-30-77	169	P	2	170	131-164
08S44E02BACA01	451018106175001	P	10-03-80	38.5	P	4	40	15-30
08S44E02BACA01	--	--	--	--	--	-	--	--

Principal aquifer	Contributing unit	Depth to water level: Feet	Depth to water level: Date measured	Water-level record	Sample: Type	Sample: Date collected	Sample: Analyzed by	Logs available
125 TGRV	Sandstone	68.31	07-15-77	1977-P	-	--	--	E,J,U
125 TGRV	Lower Wall coal	108.47	07-10-79	1979-P	W	1979	MBMG	G,J,N
125 TGRV	Lower Wall coal	--	--	--	-	--	--	G,J,N
125 TGRV	Sandstone	288.3	07-15-77	1977-P	-	--	--	E,G,J,U
125 TGRV	Coal	71.2	09-13-76	1976-P	-	--	--	E,G,J,U
125 TGRV	Coal	--	--	--	-	--	--	D,J,U
125 TGRV	Canyon coal	53.51	01-11-81	1981-P	-	--	--	G,J
125 TGRV	Coal and silt	26.47	01-11-81	1981-P	-	--	--	G
125 TGRV	Coal	248.9	08-05-75	1975-P	-	--	--	E,G,J
125 TGRV	Coal	108.98	08-02-77	1977-P	-	--	--	--
125 TGRV	Coal	75.52	04-22-82	1976-P	-	--	--	D,E,J,U
125 TGRV	Dietz coal	154.07	08-05-75	1975-P	-	--	--	G
125 TGRV	Anderson coal	47.26	08-05-75	1975-P	-	--	--	G
125 TGRV	Dietz 1 coal	246.7	03-26-81	1981-P	W	1981	MBMG	G,J
125 TGRV	Anderson coal	124.5	05-10-81	1981-P	W	1981	MBMG	D,J
125 TGRV	Dietz coal	182.6	04-11-81	1981-P	W	1982	MBMG	G,J
125 TGRV	Anderson coal	Dry	--	1981-P	-	--	--	G,J
125 TGRV	Canyon coal	90.11	05-10-74	1974-P	W	1974	MBMG	E,G,J
--	--	--	--	--	W	1980	MBMG	--
110 ALVM	Sand and gravel	7.15	09-06-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1981	MBMG	--
110 ALVM	Sand and gravel	5.11	09-17-80	1980-P	W	1981	MBMG	D,G,J
110 ALVM	Sand and gravel	25.4	09-17-80	1980-P	W	1981	MBMG	D,G,J
--	--	--	--	--	W	1982	MBMG	--
110 ALVM	Sand and gravel	5.3	09-17-80	1980-P	W	1981	MBMG	D,J
110 ALVM	Sand and gravel	24.6	09-17-80	1980-P	W	1981	MBMG	D,J
125 TGRV	Sandstone	56.0	04-11-81	1981-P	W	1981	MBMG	G,J
--	--	--	--	--	-	--	--	--
125 TGRV	Sandstone	47.5	04-11-81	1981-P	W	1981	MBMG	G,J
110 ALVM	Sand and gravel	11.7	09-19-80	1980-P	W	1981	MBMG	D,G,J
110 ALVM	Sand and gravel	18.7	09-19-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1981	MBMG	--
110 ALVM	Sand and gravel	21.1	09-19-80	1980-P	W	1981	MBMG	D,G,J
110 ALVM	Sand and gravel	11.7	09-19-80	1980-P	W	1981	MBMG	D,G,J
--	--	--	--	--	W	1982	MBMG	--
110 ALVM	Sand and gravel	11.4	09-30-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1981	MBMG	--
125 TGRV	Dietz coal	46.5	04-11-81	1981-P	W	1981	MBMG	G,J
--	--	--	--	--	W	1982	MBMG	--
125 TGRV	Canyon coal	166.7	04-11-81	1981-P	W	1981	MBMG	G,J
125 TGRV	Dietz coal	35.12	08-16-77	1977-P	W	1981	MBMG	E,J,U
--	--	--	--	--	W	1982	MBMG	--
125 TGRV	Dietz coal	287	04-11-81	1981-P	W	1981	MBMG	G,J
--	--	--	--	--	W	1982	MBMG	--
125 TGRV	Anderson coal	230.9	04-11-81	1981-P	W	1981	MBMG	G,J
125 TGRV	Anderson coal	127.4	04-11-81	1981-P	W	1981	MBMG	G,J
125 TGRV	Dietz 1 coal	224.26	06-10-81	1981-P	W	1981	MBMG	G,J
125 TGRV	Sandstone	104.3	08-01-77	1977-P	-	--	--	J,N
125 TGRV	Dietz coal	6.5	10-06-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1982	USGS	--

Table 2.--*Record of wells,*

Local number	Site identification	Type of observation well	Date drilled	Well depth (feet)	Casing Type	Casing Size (in.)	Casing Depth (feet)	Interval open to well (feet)
08S44E02BACA02	451018106175002	P	10-03-80	15	P	4	15	8-14
08S44E02BACA02	--	--	--	--	--	-	--	--
08S44E02BACD01	451016106174901	C	10-06-80	15	P	4	15	11-14
08S44E02BACD01	--	--	--	--	--	-	--	--
08S44E02BACD02	451014106174801	P	10-04-80	19	P	4	19	14-19
08S44E02BACD02	--	--	--	--	--	-	--	--
08S44E02BACD03	451016106174902	P	10-06-80	16	P	4	16	10-16
08S44E02BACD04	451016106174903	P	10-06-80	13.5	P	4	13.5	11-13.5
08S44E02BDAB01	451012106174701	P	10-04-80	40	P	4	40	28-32.5
08S44E02BDAB01	--	--	--	--	--	-	--	--
08S44E03ADDB01	451003106182101	P	10-02-80	27	P	4	27	16-27
08S44E03ADDB01	--	--	--	--	--	-	--	--
08S44E03ADDB02	451005106182201	P	10-02-80	30	P	4	30	20-29
08S44E03ADDB02	--	--	--	--	--	-	--	--
08S44E03ADDC01	451002106182001	P	10-01-80	21	P	4	21	12-20
08S44E03ADDC01	--	--	--	--	--	-	--	--
08S44E03ADDC02	451001106181901	P	10-01-80	26	P	4	26	18.5-24.5
08S44E03ADDC02	--	--	--	--	--	-	--	--
08S44E03CBBD01	450947106191601	C	06-28-75	200	P	4	200	181-195
08S44E03CBBD02	450947106191602	C	06-29-75	129	P	4	129	92-127
08S44E09DABB01	450906106194501	C	09-30-80	28	P	4	28	18-27.5
08S44E09DABB01	--	--	--	--	--	-	--	--
08S44E09DABC02	450905106194401	P	09-30-80	26	P	4	26	16.5-25
08S44E12ACDC01	450909106161301	C	07-17-81	351	P	4	351	315-341
08S44E12ACDC01	--	--	--	--	--	-	--	--
08S44E12ACDC02	450909106161302	C	07-18-81	252	P	4	252	214-251
08S44E12ADBC02	450915106160202	C	09-29-80	14	P	4	14	4-14
08S44E12ADBD01	450915106160101	P	09-23-80	11	P	4	11	5-11
08S44E12ADCA01	450915106155901	P	09-29-80	24	P	4	24	12-22
08S44E14ABAB01	450839106172801	C	07-20-81	337	P	4	337	279-336
08S44E14ABAB02	450839106172802	C	07-20-81	250.5	P	4	250.5	231.5-249.5
08S44E14ABAB03	450839106172803	C	07-22-81	161	P	4	161	123-160
08S44E15BCDC01	450819106191501	P	07-23-81	289.5	P	4	289.5	258.5-276
08S44E15BCDC02	450819106191502	P	07-24-81	220	P	4	220	182-219
08S44E19CBBB01	450723106231301	C	07-02-75	194	P	4	194	177-189
08S44E19CBBB02	450723106231302	C	06-30-75	132	P	4	132	95-129
08S44E19CBCB01	450716106232801	P	09-20-80	29	P	4	29	12.5-28.5
08S44E19CBCB02	450717106232801	C	09-20-80	36	P	4	36	22.5-36
08S44E19CBCB03	450718106232801	P	09-22-80	31.5	P	4	31.5	19-29
08S44E19CBCC01	450715106232801	P	09-20-80	26	P	4	26	11.5-25.5
08S44E20CBCC01	450712106215401	P	09-22-80	17	P	4	17	8-16.5
08S44E20CCBB01	450711106215301	P	09-22-80	26	P	4	26	17.5-26
08S44E32DDAB01	450521106204801	P	05-10-77	183	P	4	183	147-178
09S39E01BCBA01	450439106542301	C	07-15-81	465	P	4	465	395-465
09S39E01BCBA01	--	--	--	--	--	-	--	--
09S39E16AABA01	450309106570201	P	08-14-75	305	P	4	305	249-300
09S39E16AABA01	--	--	--	--	--	-	--	--
09S39E16AABA02	450309106570301	P	08-15-75	166	P	4	166	130-161
09S39E23DACC01	450141106544801	P	08-13-75	381	P	4	381	291-376
09S39E23DACC01	--	--	--	--	--	-	--	--

Principal aquifer	Contributing unit	Depth to water level: Feet	Depth to water level: Date measured	Water-level record	Sample: Type	Sample: Date collected	Sample: Analyzed by	Logs available
110 ALVM	Sand and gravel	5.4	10-06-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1982	USGS	--
110 ALVM	Sand and gravel	6.1	10-06-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1982	USGS	--
110 ALVM	Sand and gravel	8.1	10-06-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1982	USGS	--
110 ALVM	Sand and gravel	6.2	10-06-80	1980-P	W	1982	USGS	D,G,J
110 ALVM	Sand and gravel	6.0	10-06-80	1980-P	W	1982	USGS	D,J
110 ALVM	Sand and gravel	18.0	10-06-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1982	USGS	--
110 ALVM	Sand and gravel	15.7	10-05-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1982	USGS	--
125 TGRV	Anderson coal	17.05	10-03-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1982	USGS	--
110 ALVM	Sand and gravel	9.91	10-02-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1982	USGS	--
110 ALVM	Sand and gravel	13.1	10-02-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1982	USGS	--
125 TGRV	Dietz coal	132.66	07-11-75	1975-P	W	1982	USGS	G,J
125 TGRV	Anderson coal	73.33	07-11-75	1975-P	W	1982	USGS	G,J
110 ALVM	Sand and gravel	21.47	10-05-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1982	MBMG	--
110 ALVM	Sand and gravel	18.83	10-01-80	1980-P	W	1982	MBMG	D,G,J
125 TGRV	Canyon coal	187.0	08-11-81	1981-P	W	1982	USGS	D,G,J
--	--	--	--	--	W	1983	MBMG	--
125 TGRV	Sandstone	126.1	08-11-81	1981-P	W	1982	USGS	D,J
110 ALVM	Sand and gravel	5.3	10-09-80	1980-P	W	1982	MBMG	D,G,J
110 ALVM	Sand and gravel	3.9	10-09-80	1980-P	W	1982	MBMG	D,G,J
110 ALVM	Sand and gravel	14.4	10-09-80	1980-P	W	1982	MBMG	D,G,J
125 TGRV	Sandstone	216.9	08-11-81	1981-P	W	1982	USGS	D,G,J
125 TGRV	Dietz coal	108.59	08-10-82	1982-P	W	1982	USGS	D,J
125 TGRV	Anderson coal	109.3	08-11-81	1981-P	W	1982	USGS	D,J
125 TGRV	Dietz coal	251.6	10-01-81	1981-P	W	1982	USGS	D,G,J
125 TGRV	Anderson coal	166.7	10-01-81	1981-P	W	1982	USGS	D,J
125 TGRV	Dietz coal	157.83	07-10-75	1975-P	W	1982	MBMG	G,J
125 TGRV	Anderson coal	79.24	07-10-75	1975-P	W	1982	MBMG	G,J
110 ALVM	Sand and gravel	11.0	09-22-80	1980-P	W	1982	MBMG	D,G,J
110 ALVM	Sand and gravel	21.2	09-22-80	1980-P	W	1982	MBMG	D,G,J
110 ALVM	Sand and gravel	24.16	09-30-80	1980-P	-	--	--	D,G,J
110 ALVM	Sand and gravel	11.43	09-22-80	1980-P	W	1982	MBMG	D,G,J
110 ALVM	Sand and gravel	8.38	09-23-80	1980-P	W	1981	MBMG	D,G,J
110 ALVM	Sand and gravel	17.74	10-05-80	1980-P	W	1981	MBMG	D,G,J
125 TGRV	Anderson coal	104.32	05-12-77	1977-P	W	1977	MBMG	G,J
125 TGRV	Anderson-Dietz coal.	425.4	08-04-81	1981-P	W	1981	MBMG	G,J
--		--	--	--	-	--	--	--
125 TGRV	Dietz 1 and 2 coal.	137.7	09-08-75	1975-P	W	1979	MBMG	G
--		--	--	--	-	--	--	--
125 TGRV	Anderson coal	111.2	09-18-75	1975-P	-	--	--	G
125 TGRV	Anderson-Dietz 1 and 2 coal.	235.62	09-18-75	1975-P	-	--	--	G
--		--	--	--	-	--	--	--

Local number	Site identification	Type of observation well	Date drilled	Well depth (feet)	Casing			Interval open to well (feet)
					Type	Size (in.)	Depth (feet)	
09S40E09DBAD01	450330106500101	P	08-01-81	120	P	5	120	100-120
09S40E09DBAD02	450331106500201	P	08-01-81	120	P	5	120	100-120
09S40E20BDAC01	450159106513701	C	07-12-81	380	P	4	380	334-380
09S40E20BDAC01	--	--	--	--	--	-	--	--
09S40E20BDAC02	450159106513601	P	07-13-81	380	P	4	380	334-380
09S40E20BDAC02	--	--	--	--	--	-	--	--
09S41E01CBAC01	450422106393901	P	07-27-75	372	P	4	372	337-372
09S41E20DDDD01	450128106433501	P	07-29-75	230	P	2	230	200-230
09S42E01BCAD01	450505106321601	P	09-08-80	36.5	P	4	36.5	17-36
09S42E01BCAD01	--	--	--	--	--	-	--	--
09S42E01BCAD02	450507106321501	C	09-09-80	33.5	P	4	33.5	14-33
09S42E01BCAD02	--	--	--	--	--	-	--	--
09S42E01BCAD03	450508106321401	P	09-09-80	36	P	4	36	16.5-35.5
09S42E01BCAD03	--	--	--	--	--	-	--	--
09S42E02BBBD01	450520106333901	P	09-10-80	25.5	P	4	25.5	15.5-25
09S42E02BBCA01	450518106333601	P	09-10-80	36	P	4	36	17-36
09S42E04BABA01	450523106354801	P	01-07-81	212.5	P	4	233	196-233
09S42E11BDAA01	450417106330901	C	08-01-75	221	P	4	221	189-218
09S42E11BDCA01	450409106331801	P	09-05-80	34	P	4	34	14-33
09S42E11BDCA02	450410106331801	C	09-08-80	42.5	P	4	42.5	23-42
09S42E11BDCA02	--	--	--	--	--	-	--	--
09S43E02BBBB01	450524106261601	P	08-27-76	217	P	4	217	200-211
09S43E02BBBB02	450524106261602	P	08-27-76	145	P	4	145	113-143
09S43E03CBCD01	450447106272601	P	06-06-74	296	P	4	296	273-290
09S43E03CBCD01	--	--	--	--	--	-	--	--
09S43E03CBCD02	450447106272602	P	05-14-74	108	P	4	108	91-104
09S43E03CBCD02	--	--	--	--	--	-	--	--
09S43E04ABDB01	450516106275801	P	12-18-79	18	P	4	19	4-17
09S43E04ABDD01	450512106275601	P	12-12-79	27	P	4	28	14-27
09S43E04ABDD02	450512106275602	C	12-12-79	26	P	4	27	14-27
09S43E04ABDD03	450514106275701	P	12-18-79	23.5	P	4	25	5-24
09S43E04ACAA01	450510106275501	P	12-13-79	33.5	P	4	34	17-33
09S43E04CBAB01	450458106283501	C	12-20-79	186	P	4	187	175-183
09S43E04CBAB02	450458106283502	C	12-21-79	97	P	4	97	66-94
09S43E06DDBD01	450441106301101	P	09-03-80	31	P	4	31	12-31
09S43E06DDBD02	450441106301102	C	09-04-80	61	P	4	61	21.5-60
09S43E06DDBD02	--	--	--	--	--	-	--	--
09S43E06DDBD03	450442106301201	P	09-04-80	30.5	P	4	30.5	11-30
09S43E06DDCA01	450440106301001	P	09-04-80	30	P	4	30	11-30
09S43E06DDCA01	--	--	--	--	--	-	--	--
09S43E07CADB01	450438106301301	C	08-01-77	165	P	4	165	140-160
09S43E07CADB02	450359106304402	C	01-02-81	217.5	P	4	222	179-213
09S43E12AACC01	450424106240701	P	06-10-77	61	P	4	61	27-57
09S43E12AACC02	450424106240702	P	06-14-77	22.5	P	4	22.5	12-22.5
09S43E12ADBB01	450418106241001	P	06-14-77	32	P	4	32	16-32
09S43E12ADBB02	450418106240902	P	06-15-77	40.5	P	4	40.5	27-40
09S43E12ADBD01	450415106240501	P	06-16-77	39	P	4	39	22-36
09S43E13BCAA01	450327106245101	P	09-21-76	82	P	4	82	51-77
09S43E13BCAA01	--	--	--	--	--	-	--	--
09S43E13CAAA01	450314106243301	P	07-15-75	184	P	4	184	173-182

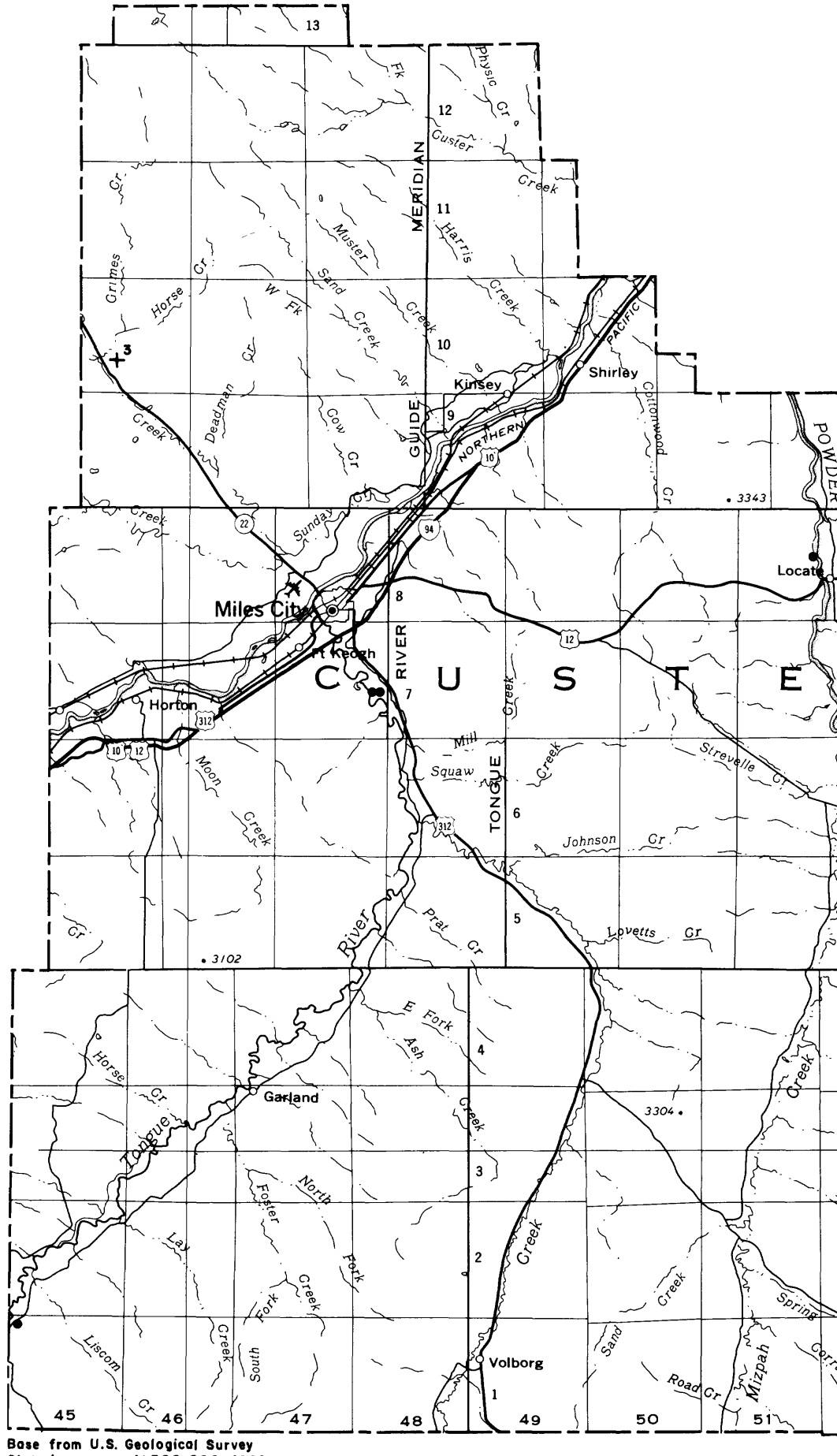
Principal aquifer	Contributing unit	Depth to water level: Feet	Depth to water level: Date measured	Water-level record	Sample: Type	Sample: Date collected	Sample: Analyzed by	Logs available
111 SPBK	Mine spoils	103.41	08-07-81	1981-P	W	1981	MBMG	J
111 SPBK	Mine spoils	104.55	08-08-81	1981-P	W	1981	MBMG	J
125 TGRV	Anderson-Dietz	241.29	08-06-81	1981-P	W	1981	MBMG	G,J
--	coal.	--	--	--	-	--	--	--
125 TGRV	Anderson-Dietz	241.21	08-06-81	1981-P	W	1981	MBMG	G,J
--	coal.	--	--	--	-	--	--	--
125 TGRV	Coal	323.8	08-05-75	1975-P	-	--	--	E,G,J
125 TGRV	Coal	155.4	07-29-75	1975-P	-	--	--	E,G,J,U
110 ALVM	Sand and gravel	25.4	09-09-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1981	MBMG	--
110 ALVM	Sand and gravel	23.5	09-10-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1981	MBMG	--
110 ALVM	Sand and gravel	28.3	09-10-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1981	MBMG	--
110 ALVM	Sand and gravel	15.8	09-12-80	1980-P	W	1980	MBMG	D,G,J
110 ALVM	Sand and gravel	27.9	09-10-80	1980-P	W	1980	MBMG	D,G,J
125 TGRV	Smith coal	61.0	03-26-81	1981-P	W	1981	MBMG	G,J
125 TGRV	Anderson coal	145.22	08-05-75	1975-P	W	1980	MBMG	G,J
110 ALVM	Sand and gravel	30.3	09-13-80	1980-P	-	--	--	D,G,J
110 ALVM	Sand and gravel	31.9	09-09-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1981	MBMG	--
125 TGRV	Dietz coal	166.49	09-21-76	1976-P	-	--	--	G,J
125 TGRV	Anderson coal	125.87	09-21-76	1976-P	-	--	--	G,J,N
125 TGRV	Canyon coal	82.21	06-06-74	1974-P	W	1974	MBMG	G,J
--	--	--	--	--	W	1975	USGS	--
125 TGRV	Dietz coal	30.48	06-06-74	1974-P	W	1975	USGS,MBMG	G
--	--	--	--	--	W	1976	USGS	--
110 ALVM	Sand and gravel	3.7	02-28-80	1980-P	W	1980	MBMG	G,J
110 ALVM	Sand and gravel	12.7	02-28-80	1980-P	W	1980	MBMG	G,J
110 ALVM	Sand and gravel	12.9	02-28-80	1980-P	W	1980	MBMG	G,J
110 ALVM	Sand and gravel	5.3	02-28-80	1980-P	W	1980	MBMG	G,J
110 ALVM	Sand and gravel	13.3	02-28-80	1980-P	W	1980	MBMG	G,J
125 TGRV	Dietz 1 coal	69.3	02-28-80	1980-P	W	1980	MBMG	G,J
125 TGRV	Anderson coal	40.2	02-28-80	1980-P	W	1980	MBMG	G,J
110 ALVM	Sand and gravel	10.0	09-04-80	1980-P	W	1981	MBMG	D,G,J
110 ALVM	Sand and gravel	10.4	09-05-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1981	MBMG	--
110 ALVM	Sand and gravel	9.4	09-05-80	1980-P	W	1981	MBMG	D,G,J
110 ALVM	Sand and gravel	9.5	09-05-80	1980-P	W	1980	MBMG	D,G,J
--	--	--	--	--	W	1981	MBMG	--
125 TGRV	Sandstone	61.3	08-05-77	1977-P	W	1980	MBMG	E,J,N
125 TGRV	Anderson coal	84.7	03-26-81	1981-P	W	1981	MBMG	D,G,J
125 TGRV	Anderson coal	3.45	06-20-77	1977-P	W	1977	USGS,MBMG	G
110 ALVM	Sand and gravel	6.35	09-19-77	1977-P	W	1977	USGS,MBMG	G
110 ALVM	Gravel	9.63	06-14-77	1977-P	-	--	--	G
110 ALVM	Sand and gravel	18.16	11-16-77	1977-P	-	--	--	G
110 ALVM	Sand and gravel	24.27	11-16-77	1977-P	-	--	--	G
125 TGRV	Anderson coal	49.04	09-21-76	1976-P	W	1976	MBMG	G,J,U
--	--	--	--	--	W	1977	USGS,MBMG	--
125 TGRV	Dietz coal	64.5	08-05-75	1975-P	-	--	--	G

Table 2.--*Record of wells,*

Local number	Site identification	Type of observation well	Date drilled	Well depth (feet)	Casing			Interval open to well (feet)
					Type	Size (in.)	Depth (feet)	
09S43E13CAAA02	450313106243401	P	07-16-75	66	P	4	66	37-65
09S43E14DDBB01	450300106252501	P	02-15-77	264	P	4	264	231-259
09S43E21BADA01	450240106281101	C	07-22-75	229	P	4	229	183-185
09S43E21BADA02	450240106281102	C	07-28-75	135	P	4	135	107-133
09S43E22ACCA01	450227106264901	P	08-04-76	129	P	4	129	100-126
09S43E27DABB01	450129106263401	P	09-20-76	375	P	4	375	343-370
09S44E06BAAC01	450511106230501	P	09-04-76	172	P	4	172	138-167
09S44E06BAAC02	450511106230502	P	09-14-76	201	P	4	201	187-196
09S44E07AADD01	450410106215801	P	05-27-77	22	P	4	22	11-22
09S44E07ADAB01	450407106215901	P	06-01-77	24	P	4	24	8-23
09S44E07ADAD01	450405106220001	P	06-02-77	27	P	4	27	14-27
09S44E07ADAD01	--	--	--	--	--	-	--	--
09S44E07ADDC01	450357106220401	S	07-18-75	200	P	4	200	184-194
09S44E07ADDC02	450354106220102	P	07-20-75	132	P	4	132	99-127
09S44E07ADDC03	450354106220101	P	08-20-76	129	P	4	129	93-122
09S44E07BBCC01	450411106231701	P	05-13-77	94	P	4	94	57-89
09S44E07BBCC02	450411106231702	P	05-13-77	98	P	4	98	62-93
09S44E07BBCC03	450411106231703	C	05-14-77	92	P	4	92	57-87
09S44E07BBCC04	450411106231704	P	05-17-77	90	P	4	90	54-84
09S44E08BBAA01	450415106214001	C	09-23-76	180	P	4	180	165-177
09S44E08BBAA02	450415106214002	C	09-28-76	110	P	4	110	73-105
09S44E08BDDD01	450354106212201	P	08-11-76	243	P	4	243	216-239
09S44E09CBBD01	450352106203301	P	05-26-77	49	P	4	49	38-49
09S44E09CBBD01	--	--	--	--	--	-	--	--
09S44E09CCAB01	450342106203001	P	05-17-77	186	P	4	186	153-183
09S44E16ABCC01	450317106200201	P	08-13-76	183	P	4	183	148-178

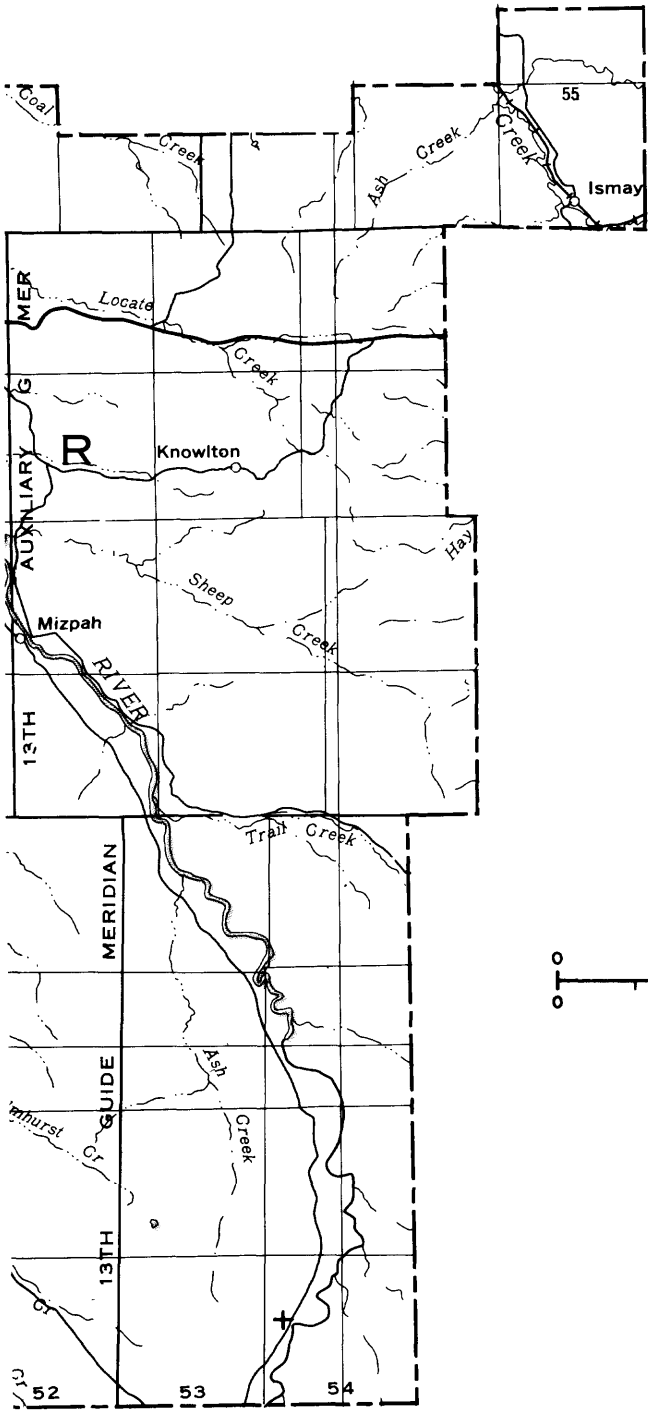
Big Horn County--Continued

Principal aquifer	Contributing unit	Depth to water level: Feet	Depth to water level: Date measured	Water-level record	Sample: Type	Sample: Date collected	Sample: Analyzed by	Logs available
125 TGRV	Anderson coal	27.92	08-05-75	1975-P	W	1977	USGS,MBMG	G
125 TGRV	Anderson coal	133.38	02-15-77	1977-P	W	1977	MBMG	G,J
125 TGRV	Dietz coal	104.85	08-05-75	1975-P	-	--	--	G,J
125 TGRV	Anderson coal	51.27	08-05-75	1975-P	-	--	--	G,J
125 TGRV	Anderson coal	29.15	09-15-76	1976-P	W	1977	MBMG	G,J
125 TGRV	Anderson coal	57.49	09-20-76	1976-P	W	1977	MBMG	G,J
125 TGRV	Anderson coal	138.77	10-08-76	1976-P	-	--	--	G,J
125 TGRV	Dietz coal	183.6	10-19-77	1977-P	-	--	--	G,J,N
110 ALVM	Sand and gravel	4.47	11-16-77	1977-P	-	--	--	G
110 ALVM	Sand and gravel	4.43	11-16-77	1977-P	W	1977	MBMG	G
110 ALVM	Sand, gravel,	4.46	06-07-77	1977-P	W	1977	MBMG	G
--	clay.	--	--	--	-	--	--	--
125 TGRV	Dietz coal	126.86	04-13-77	1977-P	W	1977	USGS,MBMG	G,J,U
125 TGRV	Anderson coal	55.52	03-11-76	1976-P	-	--	--	G,J
125 TGRV	Anderson coal	56.09	09-21-76	1976-P	W	1977	USGS,MBMG	G,J
125 TGRV	Anderson coal	45.87	09-27-77	1977-P	W	1977	MBMG	G,J,U
125 TGRV	Anderson coal	48.88	09-27-77	1977-P	-	--	--	G
125 TGRV	Anderson coal	51.54	05-12-77	1977-P	-	--	--	G
125 TGRV	Anderson coal	41.26	09-27-77	1977-P	-	--	--	G
125 TGRV	Dietz coal	101.05	02-15-77	1977-P	-	--	--	G,J
125 TGRV	Anderson coal	54.87	10-08-76	1976-P	W	1977	MBMG	G,J
125 TGRV	Anderson coal	20.40	09-21-76	1976-P	W	1977	USGS,MBMG	G,J
110 ALVM	Sand, gravel,	29.0	06-08-77	1977-P	-	--	--	G
--	clay.	--	--	--	-	--	--	
125 TGRV	Anderson coal	54.0	06-07-77	1977-P	-	--	--	G
125 TGRV	Anderson coal	--	--	--	G	1976	--	G,J



Base from U.S. Geological Survey
State base map, 1:500,000, 1968

Figure 4.--Location of wells in Custer County.



EXPLANATION

OBSERVATION WELL

- Project
- + Statewide network

3 NUMBER OF WELLS AT SAME GENERAL LOCATION

0 10 20 MILES

0 10 20 KILOMETERS

Table 3.--*Record of wells,*

Local number	Site identification	Type of observation well	Date drilled	Well depth (feet)	Casing Type	Casing Size (in.)	Casing Depth (feet)	Interval open to well (feet)
01N45E06BCBA01	455220106112201	P	07-25-75	27	P	2	27	8-26
01N54E18DDBA01	455004105024302	S	11-27-76	400	S	4	400	310-400
07N47E24CABB01	462047105474202	P	07-28-75	22	P	4	21	6-16
07N47E24DBAB01	462047105471201	P	07-28-75	23	P	4	22	12-22
08N51E14CBBD01	462656105184901	P	07-29-75	25	P	2	24	4-24
10N45E28BBBA01	463602106044601	S	08-14-74	951	S	4	832	832-951
10N45E28BBBA02	463559106044501	S	08-15-79	362	P	4	362	280-360
10N45E28BBBA02	--	--	--	--	--	-	--	--
10N45E28BBBB01	463602106044801	S	02-07-80	762	S	4	678	678-762

Principal aquifer	Contributing unit	Depth to water level: Feet	Depth to water level: Date measured	Water-level record	Sample: Type	Sample: Date collected	Sample: Analyzed by	Logs available
110 ALVM	--	7.49	08-05-75	1975-P	-	--	--	G
211 FHHC	Sandstone	44.56	11-14-77	1977-P	-	--	--	D
110 ALVM	--	5.02	08-05-75	1975-P	-	--	--	G
110 ALVM	--	5.12	08-05-75	1975-P	-	--	--	G
110 ALVM	--	8.46	08-06-75	1975-P	-	--	--	G
211 FHHC	Sandstone	222.70	09-05-79	1979-P	W	1980	MBMG	E,G,J,N
125 TLCK	Sandstone and shale.	220.09	09-05-79	1979-P	-	--	--	E,G,J,N
--	--	--	--	--	-	--	--	--
211 HLCK	Sandstone	225.78	04-18-80	1980-P	W	1980	MBMG	G,J

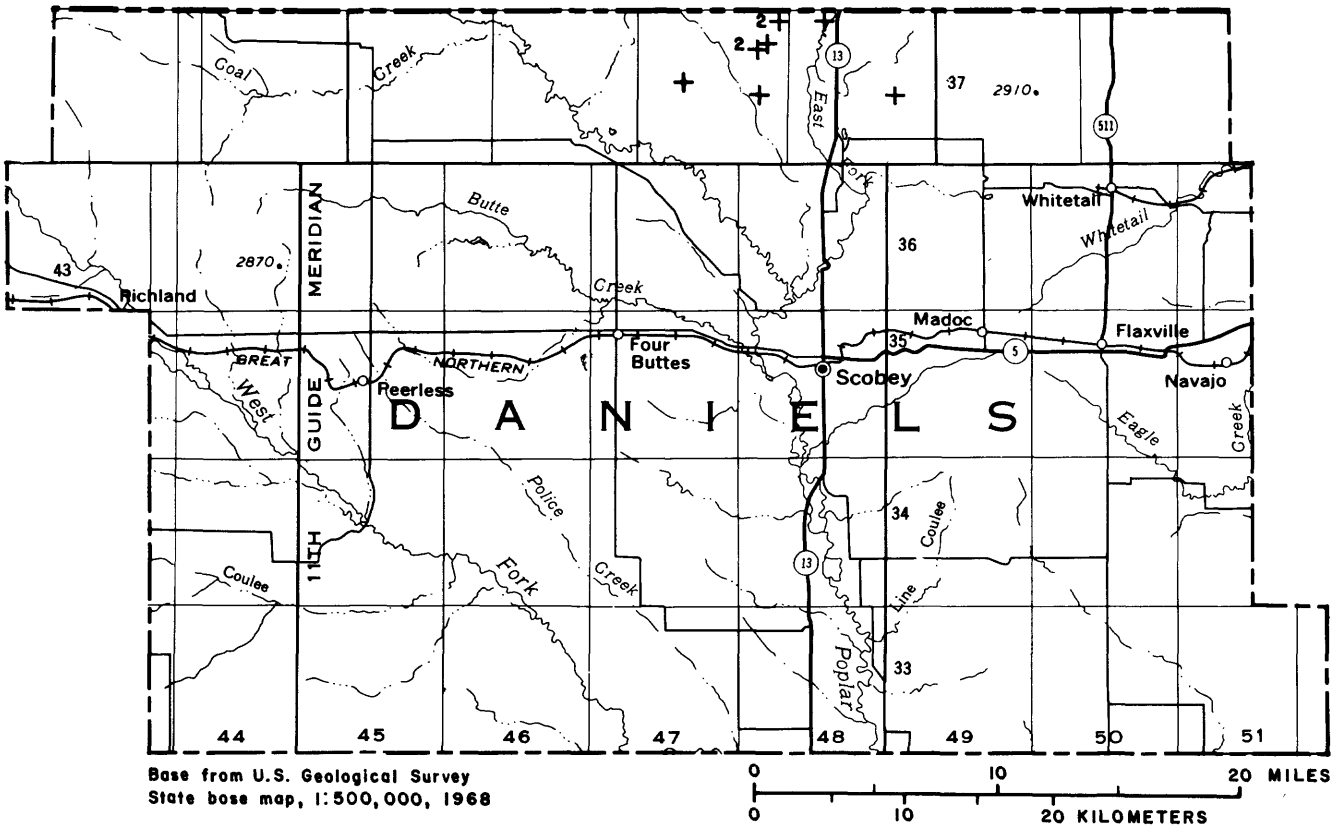


Figure 5.--Location of wells in Daniels County.

EXPLANATION

OBSERVATION WELL

+ Statewide network

2 NUMBER OF WELLS AT SAME GENERAL LOCATION

Table 4.--*Record of wells,*

Local number	Site identification	Type of observation well	Date drilled	Well depth (feet)	Casing			Interval open to well (feet)
					Type	Size (in.)	Depth (feet)	
37N47E01ABBB01	485958105274901	S	06-06-78	53	P	4	53	31-50
37N47E01ABBB02	485958105274801	S	06-07-78	83	P	4	83	63-82
37N47E12BBBB01	485859105282801	S	06-01-78	147	P	4	147	128-146
37N47E13AADD01	485754105271001	S	05-26-78	208	P	4	208	53-203
37N47E13AADD01	--	--	--	--	--	-	--	--
37N47E13ADAA01	485753105271001	S	05-30-78	45	P	4	45	36-44
37N47E17DABB02	485741105324202	S	05-29-78	266	P	1.5	266	257-261
37N47E23AADD02	485704105282902	S	06-05-78	120	P	1.5	120	112-116
37N48E05BABB01	485957105252901	S	06-09-78	43	P	4	43	24-42
37N48E23BBDC01	485703105214301	S	05-26-78	400	P	1.5	340	336-340
37N48E23BBDC01	--	--	--	--	--	-	--	340-400

Principal aquifer	Contributing unit	Depth to water level: Feet	Depth to water level: Date measured	Water-level record	Sample: Type	Sample: Date collected	Sample: Analyzed by	Logs available
112 OTSH	Sand and gravel	21.53	06-07-78	1978-P	W	1978	USGS,MBMG	G
125 TGRV	Coal	22.26	06-09-78	1978-P	W	1978	USGS,MBMG	E,G,J
125 TGRV	Coal	79.52	06-05-78	1978-P	W	1978	MBMG	G,J
125 TGRV	Sedimentary rock	14.63	06-05-78	1978-P	W	1978	MBMG	G
--	--	--	--	--	W	1981	MBMG	--
112 OTSH	Sand and gravel	14.08	06-05-78	1978-P	-	--	--	G
125 TGRV	Coal	117.72	06-09-78	1978-P	-	--	--	D,E,G
125 TGRV	Coal	82.46	06-05-78	1978-P	W	1978	MBMG	D,E,G
112 OTSH	Gravel and coal	6.47	06-09-78	1978-P	W	1978	MBMG	E,G,J
211 FHHC	Sandstone	61.14	05-29-78	1978-P	W	1978	MBMG	D,E,G
--	--	--	--	--	-	--	--	--

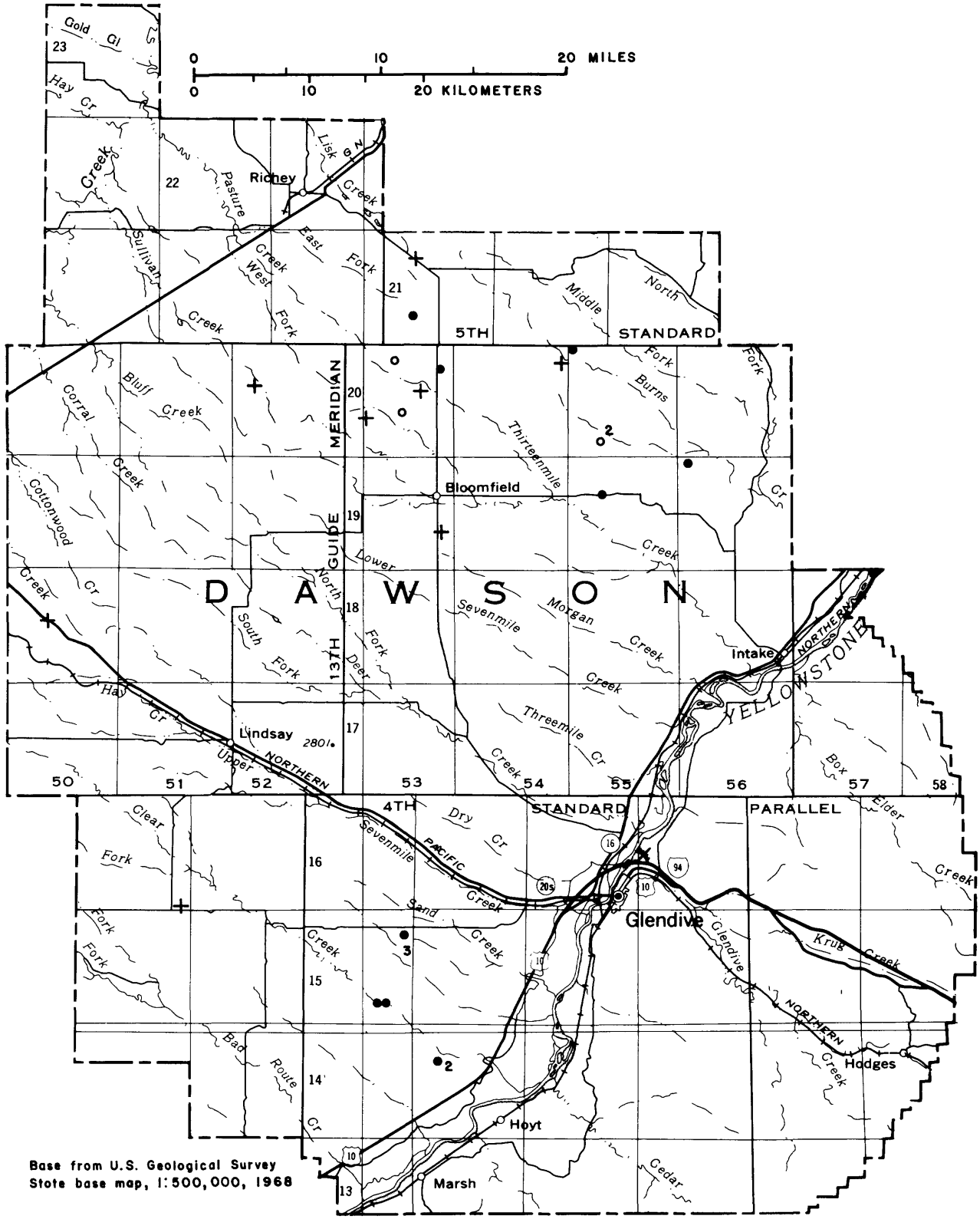


Figure 6.--Location of wells in Dawson County.

EXPLANATION

OBSERVATION WELL

- ● Project
- o Coal-area network
- + Statewide network

3 NUMBER OF WELLS AT SAME GENERAL LOCATION

Local number	Site identification	Type of observation well	Date drilled	Well depth (feet)	Casing			Interval open to well (feet)
					Type	Size (in.)	Depth (feet)	
14N54E08CDDC01	465840104544401	P	04-07-81	246	P	4	245	217-244
14N54E08CDDC02	465840104544402	P	04-08-81	174	P	4	175	163-174
15N53E12ABAB01	470446104565501	P	09-03-81	317.5	P	4	317.5	240-297
15N53E12ABAB02	470446104565502	P	09-04-81	193	P	4	193	174-192
15N53E12ABAB03	470446104565503	P	09-05-81	172	P	4	172	114-171
15N53E26CABC01	470138104584101	P	09-02-81	221	P	4	221	170-220
15N53E26DABC01	470140104580501	P	05-09-81	39	P	4	41	27-38
16N51E36DCCC01	470535105122201	S	09-01-81	201.5	P	4	201.5	163-200.5
18N50E16CBBB01	471906105214701	S	09-01-81	160.5	P	4	160.5	141.5-159.5
18N50E16CBBB01	--	--	--	--	--	-	--	--
19N53E24CCDC01	472302104544801	S	08-11-81	220	P	4	220	180-220
19N55E08DDDA01	472452104433401	P	03-26-81	105	P	4	105	80-100
19N55E08DDDA01	--	--	--	--	--	-	--	--
19N56E06ABCD01	472621104374401	P	04-01-81	210	P	4	210	195-205
19N56E06ABCD01	--	--	--	--	--	-	--	--
20N52E17BBBB01	472959105074601	S	08-11-81	180	P	4	180	118-138
20N52E17BBBB01	--	--	--	--	--	-	--	158-178
20N53E04DAAA01	473117104573601	C	08-09-81	280	P	4	280	201-221
20N53E04DAAA01	--	--	--	--	--	-	--	--
20N53E12BBAB01	473051104545101	P	03-15-81	118	P	4	118	111-116
20N53E12BBAB01	--	--	--	--	--	-	--	--
20N53E14BBCC01	472948104561701	S	03-16-81	206	P	4	206	195-203
20N53E14BBCC01	--	--	--	--	--	-	--	--
20N53E20CCCC01	472816105000901	S	03-17-81	259	P	4	259	222-228
20N53E20CCCC01	--	--	--	--	--	-	--	--
20N53E22BCCC01	472843104573201	C	08-10-81	240	P	4	240	220-240
20N53E22BCCC01	--	--	--	--	--	-	--	--
20N54E01DCDD01	473052104463001	S	10-06-75	220	P	4	220	176-210
20N55E06BBBB01	473144104460501	P	03-13-81	255	P	4	255	216-243
20N55E06BBBB01	--	--	--	--	--	-	--	--
20N55E32AAAA01	472721104433401	C	08-08-81	200	P	4	200	170-200
20N55E32AAAA01	--	--	--	--	--	-	--	--
20N55E32AAAA02	472721104433402	C	08-08-81	112	P	4	112	82-112
20N55E32AAAA02	--	--	--	--	--	-	--	--
21N53E08ADCC01	473542104562701	S	10-04-75	70	P	4	70	36-51
21N53E29ADAD01	473314104560801	P	08-09-81	170	P	4	170	136-160
21N53E29ADAD01	--	--	--	--	--	-	--	--

Principal aquifer	Contributing unit	Depth to water level: Feet	Depth to water level: Date measured	Water-level record	Sample: Type	Sample: Date collected	Sample: Analyzed by	Logs available
125 TLCK	Sand	125.1	04-08-81	1981-P	W	1981	MBMG	J
125 TGRV	Coal	135	04-08-81	1981-P	W	1982	USGS	J
125 TGRV	Sandstone	130	09-05-81	1981-P	W	1982	USGS	D,G,J
125 TGRV	Peuse coal	87	09-05-81	1981-P	W	1982	USGS	D,G,J
125 TGRV	Sand	82	09-05-81	1981-P	W	1982	USGS	D,G,J
125 TLCK	Sandstone	77	09-05-81	1981-P	W	1982.	USGS	D,J
125 TGRV	Peuse coal	28.87	05-07-81	1981-P	W	1982	USGS	D,E,J,U
125 TLCK	Sandstone	151.7	09-05-81	1981-P	-	--	--	D,J
125 LEBO	Sandstone and	46.72	03-18-82	1982-P	-	--	--	G,J
--	coal.	--	--	--	-	--	--	--
125 TGRV	Sandstone	144.21	04-27-82	1982-P	W	1981	MBMG	G,J
125 TGRV	Sandstone and	67.18	09-10-81	1981-P	-	--	--	D,E,J,N
--	shale.	--	--	--	-	--	--	--
125 TGRV	Sandstone and	153.83	09-10-81	1981-P	-	--	--	D,E,J,N
--	shale.	--	--	--	-	--	--	--
125 TGRV	Coal	74.46	04-27-82	1982-P	-	--	--	G
--	--	--	--	--	-	--	--	--
125 TGRV	Sandstone and	141.40	09-11-81	1981-P	W	1981	MBMG	D
--	shale.	--	--	--	-	--	--	--
125 TGRV	Sandstone and	87.99	09-12-81	1981-P	-	--	--	D,E,J,N
--	shale.	--	--	--	-	--	--	--
125 TGRV	Sandstone and	88.13	09-13-81	1981-P	W	1981	MBMG	D,E,J,N
--	shale.	--	--	--	-	--	--	--
125 TGRV	Sandstone and	142.31	03-30-81	1981-P	W	1981	MBMG	D,E,J,N
--	shale.	--	--	--	-	--	--	--
125 TGRV	Sandstone and	107.15	09-12-81	1981-P	W	1981	MBMG	D
--	shale.	--	--	--	-	--	--	--
125 TGRV	Coal	57.80	10-8-75	1975-P	W	1976	USGS	--
125 TGRV	Sandstone and	55.35	09-10-81	1981-P	-	--	--	E,J,U
--	shale.	--	--	--	-	--	--	--
125 TGRV	Sandstone and	156.78	09-09-81	1981-P	W	1981	MBMG	D
--	shale.	--	--	--	-	--	--	--
125 TGRV	Sandstone and	58.31	09-09-81	1981-P	W	1981	MBMG	D
--	shale.	--	--	--	-	--	--	--
125 TGRV	Coal	26.56	10-08-75	1975-P	W	1976	USGS	--
125 TGRV	Sandstone and	109.75	09-10-81	1981-P	W	1981	MBMG	D
--	shale.	--	--	--	-	--	--	--

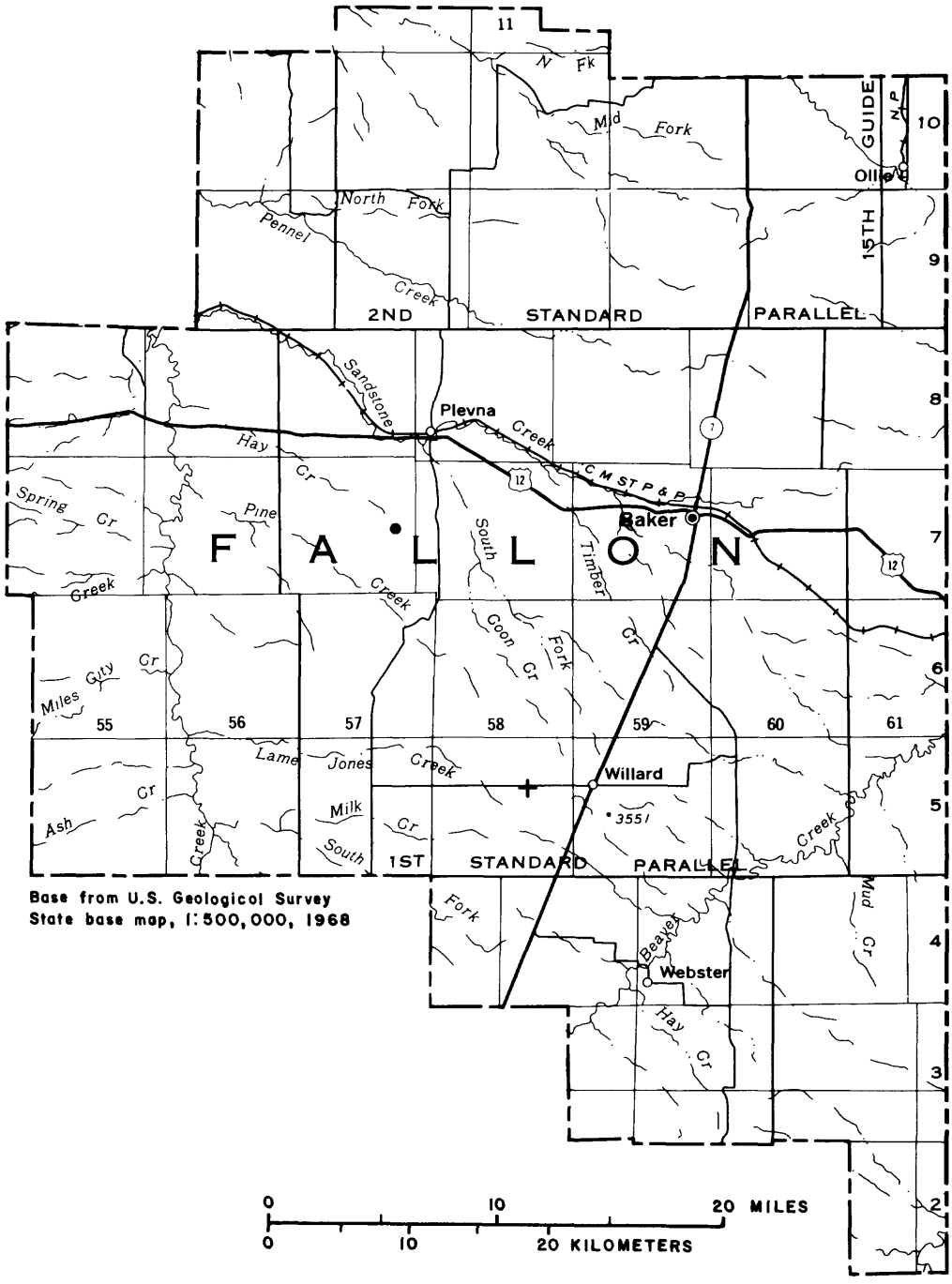


Figure 7.--Location of wells in Fallon County.

EXPLANATION

OBSERVATION WELL

- Project
- + Statewide network

Table 6.--*Record of wells,*

Local number	Site identification	Type of observation well	Date drilled	Well depth (feet)	Casing			Interval open to well (feet)
					Type	Size (in.)	Depth (feet)	
05N58E14BBBB01	461120104253501	S	04-27-77	360	P	2	360	160-180
05N58E14BBBB01	--	--	--	--	--	-	--	200-220
05N58E14BBBB01	--	--	--	--	--	-	--	280-300
07N57E24BBCB01	462057104325501	P	04-28-77	362	P	2	362	212-282
07N57E24BBCB01	--	--	--	--	--	-	--	302-322
07N57E24BBCB01	--	--	--	--	--	-	--	342-362

Principal aquifer	Contributing unit	Depth to water level: Feet	Depth to water level: Date measured	Water-level record	Sample: Type	Sample: Date collected	Sample: Analyzed by	Logs available
125 TGRV	Coal	99.67	06-02-77	1977-P	-	--	--	E,G,J,U
--	--	--	--	--	-	--	--	--
--	--	--	--	--	-	--	--	--
125 TGRV	--	150.79	06-02-77	1977-P	-	--	--	E,G,J,U
--	--	--	--	--	-	--	--	--
--	--	--	--	--	-	--	--	--

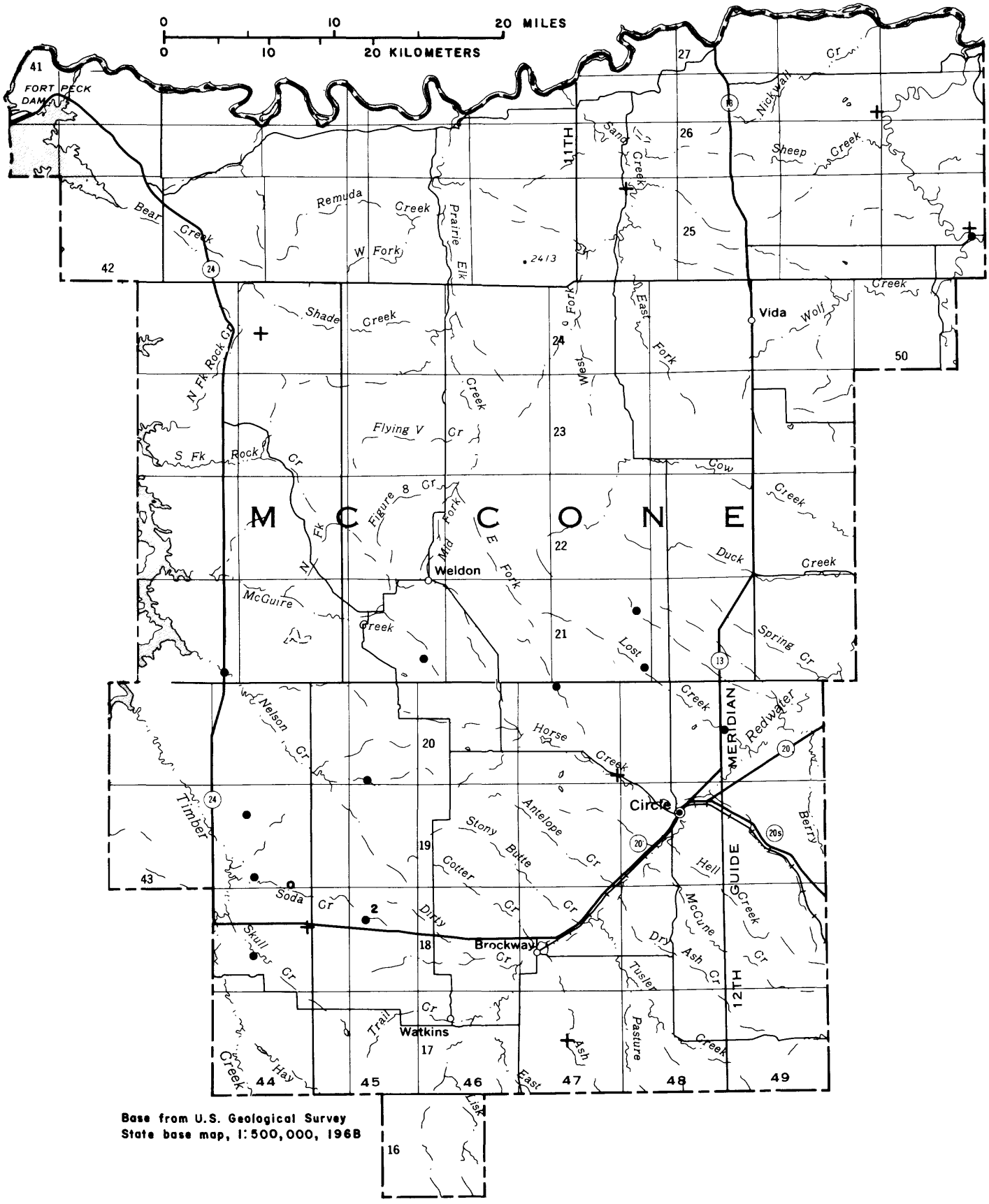


Figure 8.--Location of wells in McCone County.

EXPLANATION

OBSERVATION WELL

- ● Project
- o Coal-area network
- + Statewide network

2 NUMBER OF WELLS AT SAME GENERAL LOCATION

Table 7.--*Record of wells,*

Local number	Site identification	Type of observation well	Date drilled	Well depth (feet)	Casing			Interval open to well (feet)
					Type	Size (in.)	Depth (feet)	
17N47E16DDDD01	471329105432801	S	08-28-81	241.5	P	4	241.5	219-236.5
18N44E13AAAC01	471925106023501	S	11-19-75	278	P	4	278	248-258
18N44E21DCDD01	471748106064501	P	08-18-81	100	P	4	100	80-92
18N44E21DCDD01	--	--	--	--	--	-	--	--
18N45E10CCBB01	471942105584101	P	08-27-81	310	P	4	310	291-309
18N45E10CCBB01	--	--	--	--	--	-	--	--
18N45E10CCBB02	471942105584102	P	08-27-81	119	P	4	119	104-116
19N44E09CBAA01	472507106072301	P	10-15-80	191	P	4	191	166-181
19N44E09CBAA01	--	--	--	--	--	-	--	--
19N44E33ACCD01	472143106065501	P	08-18-81	60	P	4	60	45-60
19N44E33ACCD01	--	--	--	--	--	-	--	--
19N44E35DDDD01	472118106135001	C	08-19-81	140	P	4	140	128-135
19N44E35DDDD01	--	--	--	--	--	-	--	--
20N45E34CAAB01	472655105575501	P	11-20-75	278	P	4	278	234-258
20N45E34CAAB01	--	--	--	--	--	-	--	--
20N47E04BBBB01	473138105443601	P	05-26-76	247	P	4	247	228-242
20N47E36ADDD01	472700105394501	S	12-29-75	220	P	4	220	196-217
20N49E18CCDC01	472905105315001	P	12-30-75	120	P	4	120	98-112
20N49E18CCDC01	--	--	--	--	--	-	--	--
21N43E36BCCD01	473213106090701	P	10-03-75	18	P	4	15	0-11
21N45E26DAAD01	473231105534001	P	05-26-76	95	P	4	95	78-95
21N47E12CCCC01	473259105544001	P	05-27-76	213	P	4	213	200-208
21N47E36ABBC01	473220105374501	P	12-30-75	140	P	4	140	123-134
24N44E20CABD01	474929106061401	S	08-17-81	300	P	4	300	260-300
25N47E04DAAB01	475652105385701	S	08-16-81	200	P	4	200	150-190
25N50E24CABC01	475407105125401	P	10-05-75	33	P	4	31	14-23
25N50E24CBDA01	475408105123901	S	08-14-81	220	P	4	220	130-220
26N49E13ACAB01	480034105195401	S	08-15-81	180	P	4	180	120-180

Principal aquifer	Contributing unit	Depth to water level: Feet	Depth to water level: Date measured	Water-level record	Sample: Type	Sample: Date collected	Sample: Analyzed by	Logs available
125 TGRV	Sandstone	145.4	09-05-81	1981-P	-	--	--	G,J
125 TGRV	Coal	94.88	11-21-75	1975-P	W	1976	USGS	--
125 TGRV	Sandstone and	31.32	09-15-81	1981-P	-	--	--	D
--	shale.	--	--	--	-	--	--	--
125 TGRV	Sandstone and	98.75	09-14-81	1981-P	W	1981	MBMG	D
--	shale.	--	--	--	-	--	--	--
125 TGRV	Sand	51.52	09-14-81	1981-P	W	1981	MBMG	D
125 TGRV	Sandstone and	138.90	09-16-81	1981-P	W	1981	MBMG	D
--	shale.	--	--	--	-	--	--	--
125 TGRV	Sandstone and	24.98	09-15-81	1981-P	W	1981	MBMG	D
--	shale.	--	--	--	-	--	--	--
125 TGRV	Sandstone and	40.0	09-14-81	1981-P	W	1981	MBMG	D
--	shale.	--	--	--	-	--	--	--
125 TGRV	Coal	43.0	02-11-76	1976-P	W	1976	USGS	--
--	--	--	--	--	W	1979	MBMG	--
125 TGRV	Coal	41.74	10-06-76	1976-P	-	--	--	D,E,J,U
125 TGRV	Coal	46.1	02-11-76	1976-P	W	1976	USGS	--
125 TGRV	Coal	25.6	02-11-76	1976-P	W	1976	USGS	--
--	--	--	--	--	W	1979	MBMG	--
110 ALVM	--	6.40	11-04-75	1975-P	-	--	--	G
125 TGRV	Coal	50.43	10-06-76	1976-P	-	--	--	D,E,J,U
125 TGRV	Coal	55.82	10-07-76	1976-P	-	--	--	D,E,J,U
125 TGRV	Coal	6.6	02-11-76	1976-P	-	--	--	--
211 FHHC	Sandstone	120.56	05-06-82	1982-P	-	--	--	D,J
211 FHHC	Sandstone	71.04	05-06-82	1982-P	-	--	--	D
110 ALVM	--	16.50	11-05-75	1975-P	-	--	--	G
125 LEBO	Sandstone	10.87	05-03-82	1982-P	-	--	--	D,J
211 FHHC	Sandstone	43.40	05-04-82	1982-P	-	--	--	D,J

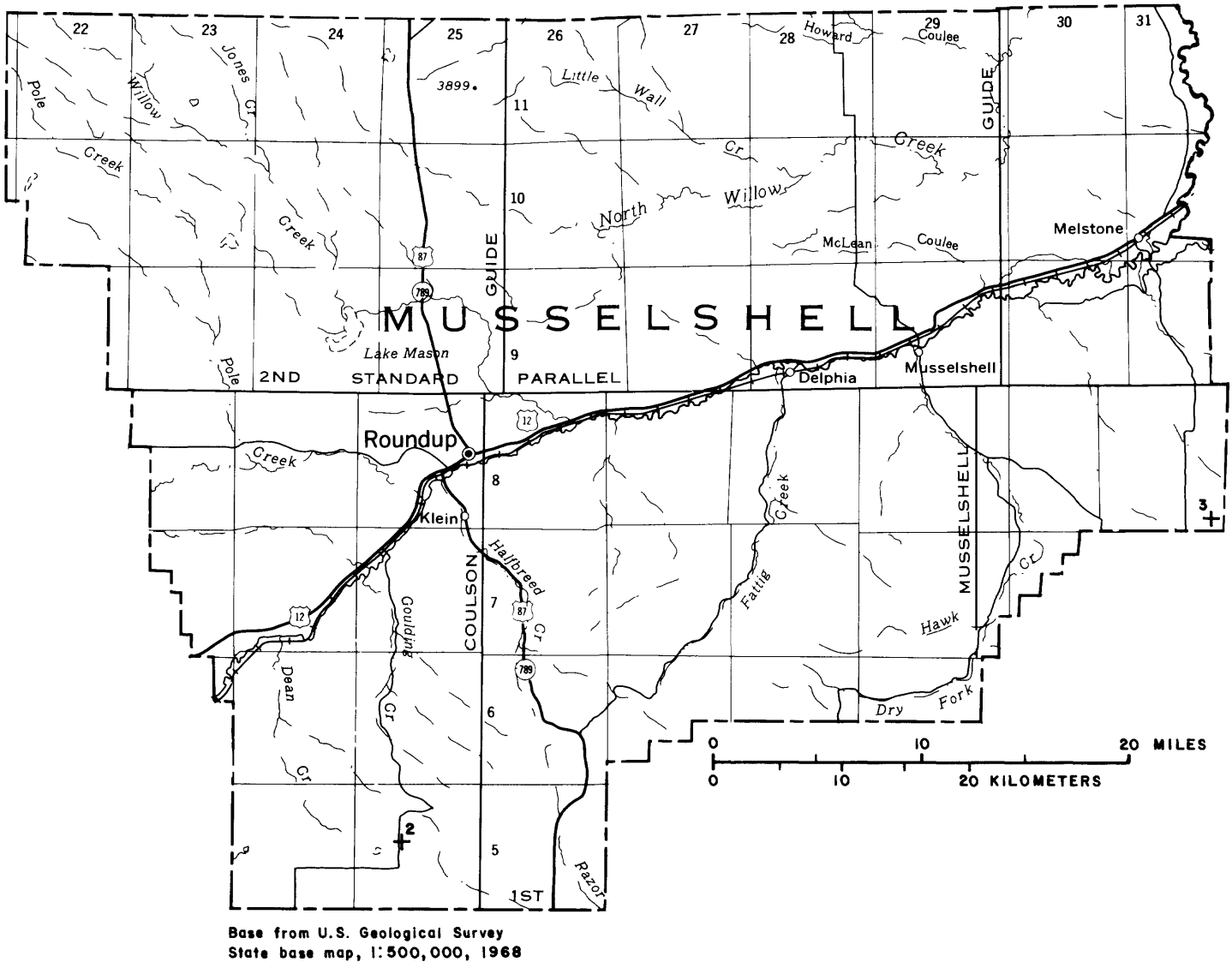


Figure 9.--Location of wells in Musselshell County.

EXPLANATION

OBSERVATION WELL

+ Statewide network

3 NUMBER OF WELLS AT SAME GENERAL LOCATION

Table 8.--*Record of wells,*

Local number	Site identification	Type of observation well	Date drilled	Well depth (feet)	Casing			Interval open to well (feet)
					Type	Size (in.)	Depth (feet)	
05N25E16CCCC01	461035108364401	S	11-22-80	1,350	P	4	18	1,118-1,350
05N25E16CCCC01	--	--	--	--	S	4	1,118	--
05N25E16CCCC02	461035108364402	S	11-26-80	427	P	4	3	362-427
05N25E16CCCC02	--	--	--	--	S	4	362	--
08N31E36DDDD01	462343107465501	S	09-05-80	1,175	S	4	903	904-1,175
08N31E36DDDD01	--	--	--	--	--	-	--	--
08N31E36DDDD02	462343107465502	S	09-10-80	850	S	4	803	803-850
08N31E36DDDD03	462343107465503	S	11-04-80	486	S	4	431	431-486

Principal aquifer	Contributing unit	Depth to water level		Water-level record	Sample			Logs available
		Feet	Date measured		Type	Date collected	Analyzed by	
211 FXHL	Sandstone	499.17	12-15-80	1980-P	W	1981	MBMG	E,G,J
--	--	--	--	--	-	--	--	--
211 HLCK	Sandstone and shale.	163.97	12-09-80	1980-P	W	1981	MBMG	G
--		--	--	--	-	--	--	--
211 FHHC	Sandstone and shale.	213.58	12-12-80	1980-P	W	1981	MBMG	E,G,J
--		--	--	--	-	--	--	--
211 HLCK	Shale	207.94	12-12-80	1980-P	W	1981	MBMG	G
211 HLCK	Shale	127.46	12-12-80	1980-P	W	1981	MBMG	G

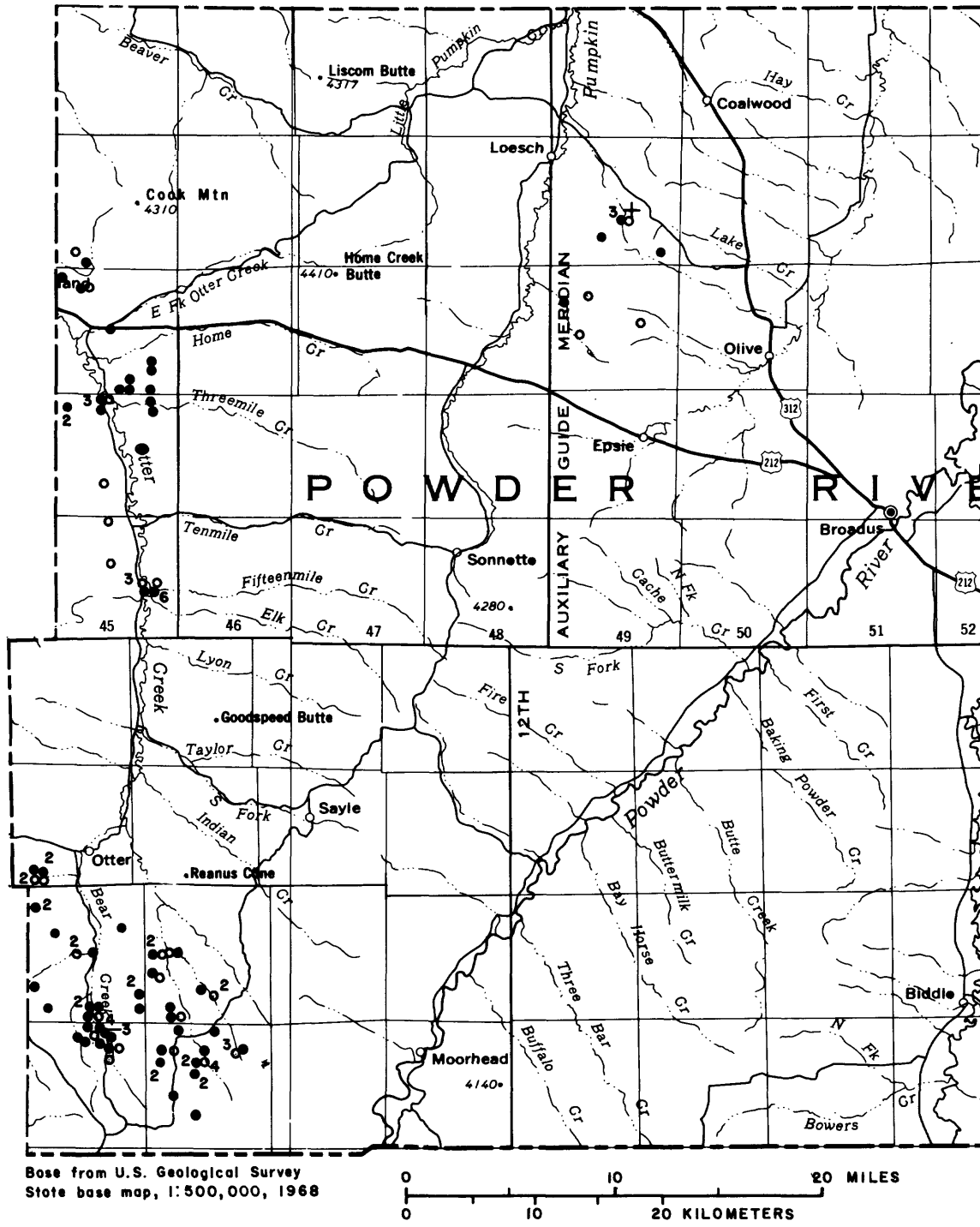
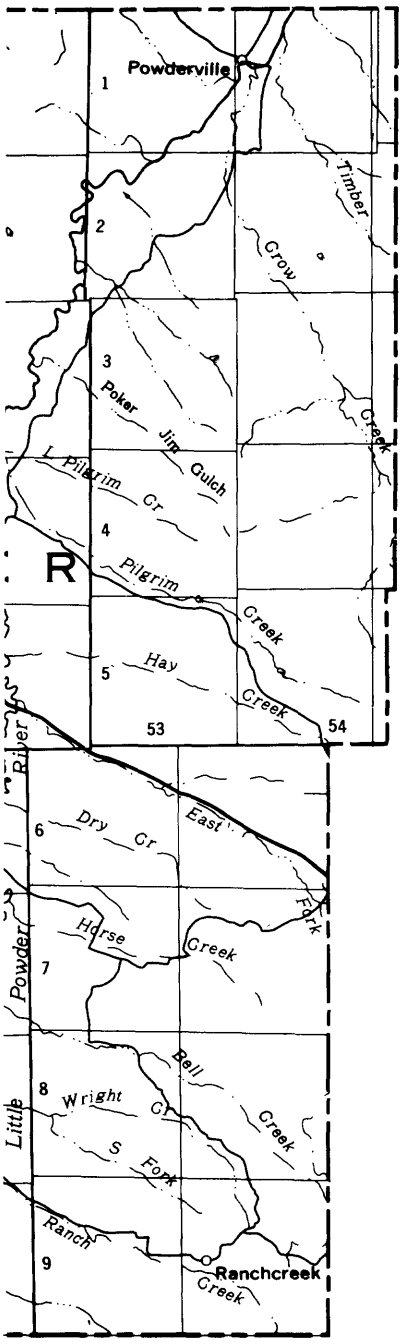


Figure 10.--Location of wells in Powder River County.



EXPLANATION

OBSERVATION WELL

- ● Project
- o Coal-area network
- + Statewide network

6 NUMBER OF WELLS AT SAME GENERAL LOCATION

Local number	Site identification	Type of observation well	Date drilled	Well depth (feet)	Casing			Interval open to well (feet)
					Type	Size (in.)	Depth (feet)	
02S45E32BBBB01	453728106124201	C	07-26-79	305.5	P	4	313	228-288
02S45E32DABD01	453657106114301	P	07-20-79	246.5	P	4	252	178-238
02S49E22DCCA01	453832105393901	C	10-25-76	118	P	4	118	77-108
02S49E22DCCA02	453832105393902	P	10-26-76	119	P	2	119	83-111
02S49E22DCCA03	453832105393903	P	10-26-76	119	P	2	119	79-109
02S49E22DCCA04	453832105393904	S	11-03-76	118	P	4	118	81-110
02S49E22DCCA05	453832105393905	P	11-03-76	115	P	2	115	75-105
02S49E28CBDC01	453749105502801	P	11-05-76	165	P	4	165	129-159
02S49E36BCCB01	453713105375401	P	10-25-76	178	P	4	178	148-178
02S49E36BCCB01	--	--	--	--	--	-	--	--
03S45E05DBAA01	453608106114901	C	07-17-79	148	P	4	168	94-154
03S45E05DBAA01	--	--	--	--	--	-	--	--
03S45E05DBBB01	453608106120301	P	07-18-79	19	P	4	20	1-20
03S45E05DBBB01	--	--	--	--	--	-	--	--
03S45E06BABB01	453638106133901	P	07-27-79	60	P	4	60	40-60
03S45E16DDDB01	453404106102201	P	06-04-83	65	P	4	65	25-65
03S45E26ADAC01	453252106075900	P	10-10-74	222	P	4	195	128-190
03S45E26DBCB01	453234106082700	P	09-20-74	334	P	2	195	119-179
03S45E26DBCB01	--	--	--	--	--	-	--	--
03S45E34AACD01	453208106092100	P	09-20-74	220	P	4	187	107-167
03S45E34CACD01	453142106095600	P	08-09-74	410	P	2	268	200-260
03S45E34DDDA01	453132106081000	P	11-05-74	414	P	4	270	201-265
03S45E34DDDA01	--	--	--	--	--	-	--	265-414
03S45E35DABA01	453151106080600	P	02-07-74	321	P	4	321	257-317
03S45E35DABA01	--	--	--	--	--	-	--	--
03S49E07DBDA01	453518105431301	P	11-05-76	138	P	4	138	88-138
03S49E08ADAC01	453534105414401	C	10-13-76	165	P	4	165	150-165
03S49E14CDBA01	453418105384201	C	10-22-76	139	P	4	139	79-109
03S49E14CDBA01	--	--	--	--	--	-	--	129-139
03S49E20BBAB01	453406105424201	C	10-15-76	105	P	2	105	80-100
04S45E02BDDD01	453106106083600	P	12-02-74	248	P	4	233	170-228
04S45E02BDDD01	--	--	--	--	--	-	--	--
04S45E02BDDD01	--	--	--	--	--	-	--	--
04S45E02DADC01	453052106080901	P	12-12-74	142	P	4	141.5	62-122
04S45E02DADC01	--	--	--	--	--	-	--	--
04S45E04BADD01	453115106110401	P	12-04-79	69.5	P	4	71	14-65
04S45E04BDAA01	453112106110501	P	12-05-79	53.5	P	4	67	8-63
04S45E04BDDB01	453107106110601	P	12-06-79	68	P	4	72	7-70
04S45E04BDDB02	453107106110801	C	12-07-79	63	P	4	73	8-72
04S45E04CAAC01	453058106110901	P	12-11-79	53.5	P	4	61	21-61
04S45E06DBDB01	453053106131801	P	05-10-77	295	P	4	295	219-289
04S45E06DBDB01	--	--	--	--	--	-	--	--
04S45E06DBDB02	453053106131802	P	06-21-78	311	P	2	314.5	220-280
04S45E14CACC01	452905106084901	P	06-04-83	225	P	4	225	165-225
04S45E28BDDD01	452738106110801	C	05-11-77	269	P	4	269	146-236
04S45E28BDDD01	--	--	--	--	--	-	--	256-266
05S45E04ABCC01	452606106110101	C	05-11-77	223	P	4	223	143-192
05S45E04ABCC01	--	--	--	--	--	-	--	212-223
05S45E16ADDD01	452409106102801	C	06-06-83	320	P	4	320	295-315
05S45E23ABCA01	452332106082801	P	11-14-79	33	P	4	34	24-32

Principal aquifer	Contributing unit	Depth to water level: Feet	Depth to water level: Date measured	Water-level record	Sample: Type	Sample: Date collected	Sample: Analyzed by	Logs available
125 TGRV	Knobloch coal	168.88	08-14-79	1979-P	W	1979	USGS	G,J,N
125 TGRV	Knobloch coal	97.84	08-14-79	1979-P	W	1979	USGS	G,J,N
125 TGRV	Sawyer and A coals	74.49	11-10-76	1976-P	W	1977	USGS	G,J,N,U
125 TGRV	Sawyer and A coals	77.07	03-23-77	1977-P	-	--	--	--
125 TGRV	Sawyer and A coals	73.96	03-23-77	1977-P	-	--	--	--
125 TGRV	Sawyer and A coals	75.96	03-23-77	1977-P	W	1977	USGS	J
125 TGRV	Sawyer and A coals	72.78	03-23-77	1977-P	-	--	--	--
125 TGRV	Sawyer and A coals	152.09	05-23-77	1977-P	-	--	--	G,J,N,U,X
125 TGRV	Shale and	178	10-25-76	1976-P	-	--	--	G,N
--	sandstone.	--	--	--	-	--	--	--
125 TGRV	Knobloch coal	55.29	08-14-79	1979-P	W	1979	USGS	G,J,N
--	--	--	--	--	W	1980	MBMG	--
110 ALVM	--	6.29	08-14-79	1979-P	W	1979	USGS	G,J,N
--	--	--	--	--	W	1980	MBMG	--
110 ALVM	--	34.44	08-14-79	1979-P	W	1979	USGS	G,J,N
110 ALVM	--	40.14	06-08-83	1983-P	W	1983	MBMG	G
125 TGRV	Knobloch coal	134.9	10-17-74	1974-P	W	1975	USGS	C,G,N
125 TGRV	Knobloch coal	120.2	11-06-74	1974-P	W	1975	USGS	C,E,G,J,
--	--	--	--	--	-	--	--	N,U,X.
125 TGRV	Knobloch coal	123.44	10-17-74	1974-P	W	1974	USGS	G,N
125 TGRV	Knobloch coal	229.6	08-09-74	1974-P	W	1975	USGS	C,G,N
125 TGRV	Knobloch coal	156.01	12-12-74	1974-P	W	1975	USGS	C,E,G,N
--	--	--	--	--	W	1976	USGS	--
125 TGRV	Knobloch coal	193.40	03-18-75	1975-P	W	1975	USGS	G
--	--	--	--	--	W	1976	USGS	--
125 TGRV	Sandstone	92.7	03-22-77	1977-P	W	1977	USGS	G,J,N,U
125 TGRV	Shale	115.86	03-22-77	1977-P	W	1977	USGS,MBMG	G,J,N,U
125 TGRV	Sandstone	97.18	03-23-77	1977-P	-	--	--	G,J,N,U,X
--	--	--	--	--	-	--	--	--
125 TGRV	Sawyer and A coals	93.92	03-23-77	1977-P	-	--	--	G,J,X
125 TGRV	Knobloch coal	157.04	01-09-75	1975-P	W	1974	USGS	G,J,N,U
--	--	--	--	--	W	1975	USGS	--
--	--	--	--	--	W	1976	USGS	--
125 TGRV	Knobloch coal	43.18	01-22-75	1975-P	W	1975	USGS	G,J,N,U
--	--	--	--	--	W	1976	USGS	--
110 ALVM	Sand and gravel	3.6	12-05-79	1979-P	W	1980	MBMG	G,J
110 ALVM	Sand and gravel	4.0	12-06-79	1979-P	W	1980	MBMG	G,J
110 ALVM	Sand and gravel	5.8	12-07-79	1979-P	W	1980	MBMG	G
110 ALVM	Sand and gravel	7.6	12-08-79	1979-P	W	1980	MBMG	G,J
110 ALVM	Sand	21.0	12-12-79	1979-P	W	1980	MBMG	G,J
125 TGRV	Knobloch coal	224.6	11-10-77	1977-P	W	1977	USGS	J,U
--	--	--	--	--	W	1980	MBMG	--
125 TGRV	Knobloch coal	226.0	06-21-78	1978-P	-	--	--	G
125 TGRV	Knobloch coal	117.59	06-09-83	1983-P	W	1983	MBMG	G,J
125 TGRV	Knobloch coal	128.6	05-11-77	1977-P	W	1977	USGS	D,E,J,U
--	--	--	--	--	W	1980	MBMG	--
125 TGRV	Knobloch coal	56.5	11-08-77	1977-P	W	1977	USGS	E,G,J,U
--	--	--	--	--	W	1980	MBMG	--
125 TGRV	Sandstone	144.47	06-10-83	1983-P	W	1983	MBMG	G,J
110 ALVM	Gravel	13.4	11-28-79	1979-P	W	1980	MBMG	G,J

Table 9.--*Record of wells,*

Local number	Site identification	Type of observation well	Date drilled	Well depth (feet)	Casing Type	Casing Size (in.)	Casing Depth (feet)	Interval open to well (feet)
05S45E23ABCA02	452333106083101	P	11-15-79	44	P	4	45	19-28
05S45E23ABCA02	--	--	--	--	--	-	--	32-44
05S45E23ABCB01	452333106083501	C	11-27-79	41.5	P	4	43	20-40
05S45E23ABCB02	452333106083502	P	11-28-79	37.5	P	4	38	18-38
05S45E23ABDA01	452332106081901	P	11-08-79	180	P	4	192	152-172
05S45E23ABDA02	452332106081902	P	11-08-79	81.5	P	4	82	72-78.5
05S45E23ABDA03	452332106081903	P	11-09-79	39	P	4	39	27-33
05S45E23BBAA01	452341106085801	C	11-02-79	169	P	4	172	151-167
05S45E23BBAA02	452341106085802	C	11-06-79	106	P	4	111	96-111
05S45E23BBAA03	452341106085803	C	11-06-79	65	P	4	66	57-62
05S45E23BBAA04	452339106085501	P	11-07-79	29	P	4	31.5	15-28
07S45E32BDAB01	451124106150201	P	10-07-80	31	P	4	31	19-30
07S45E32CADD01	451102106145801	C	12-05-80	207	P	4	210	184-205
07S45E32CADD02	451102106145802	C	12-06-80	42	P	4	44.5	23-41
07S45E32DCBA01	451057106145101	P	10-07-80	14	P	4	14	4-12
07S45E32DCBA02	451058106145201	C	10-07-80	18	P	4	18	9-18
07S45E32DCBA03	451059106145201	P	10-08-80	24	P	4	24	15-22
08S45E06BCDA01	451006106153501	P	10-08-80	20	P	4	20	8.5-14
08S45E06BCDB01	451006106153701	P	10-08-80	21	P	4	21	13-21
08S45E08DCBB01	450854106135701	P	06-25-75	212	P	4	212	186-208
08S45E08DCBB01	--	--	--	--	--	-	--	--
08S45E11ADDA01	450913106094401	P	08-15-77	180	P	2	180	112-180
08S45E15CAAB01	450813106113801	P	09-04-75	108	P	4	108	74-99
08S45E16DBCB01	450806106124401	C	06-26-75	188	P	4	188	153-183
08S45E16DBCB02	450806106124402	C	06-27-75	66	P	4	66	35-64
08S45E25DACD01	450622106084201	P	06-23-83	288	P	4	288	269-287
08S45E25DACD02	450622106084202	P	06-24-83	252	P	4	252	213.5-251
08S45E30ABAA01	450657106145501	P	09-09-75	130	P	4	130	85-120
08S45E32BCAD01	450548106142001	P	09-10-75	90	P	4	90	47-78
08S45E34ABDA01	450557106111501	P	02-25-76	175	P	4	175	71-101
08S45E34ABDA01	--	--	--	--	--	-	--	157-167
08S45E34BBBB01	450604106120801	P	07-08-75	67	P	4	245	58-69
08S45E34BBBB01	--	--	--	--	--	-	--	192-216
08S45E34BCBC01	450548106120301	P	09-11-75	253	P	4	253	220-244
08S45E34CABC01	450534106114801	P	08-02-75	35	P	4	35	15-30
08S45E34DADD01	450527106105501	C	11-01-75	262	P	4	262	243-262
08S45E34DADD01	--	--	--	--	P	1.25	155	--
08S45E36ADBA01	450552106084001	P	06-23-83	20	P	4	20	12.5-19
08S46E17CBCD01	450804106071001	C	06-09-83	18	P	4	18	4.5-12
08S46E17CBCD01	--	--	--	--	--	-	--	15-18
08S46E17CBCD02	450805106071001	P	06-09-83	11.5	P	4	11.5	4-11
08S46E18DDAD01	450759106072001	P	06-09-83	34	P	4	34	14-22
08S46E18DDAD01	--	--	--	--	--	-	--	26-33
08S46E18DDAC01	450759106072201	C	06-09-83	18.5	P	4	18.5	2-16
08S46E18DDAC01	--	--	--	--	--	-	--	17-18
08S46E18DDAC02	450800106072501	P	06-10-83	20	P	4	20	9-19
08S46E19DCBC01	450705106074801	P	06-24-83	19	P	4	19	4-18
08S46E19DCCA01	450705106074802	C	06-24-83	32	P	4	32	18-31
08S46E27CDAB01	450616106042001	C	06-10-83	233	P	4	233	155.5-193
08S46E27CDAB01	--	--	--	--	--	-	--	214-232

Principal aquifer	Contributing unit	Depth to water level: Feet	Depth to water level: Date measured	Water-level record	Sample: Type	Sample: Date collected	Sample: Analyzed by	Logs available
110 ALVM	Sand and gravel	9.9	11-28-79	1979-P	W	1980	MBMG	G,J
--	--	--	--	--	-	--	--	--
110 ALVM	Sand and gravel	6.9	11-28-79	1979-P	W	1980	MBMG	G,J
110 ALVM	Sand and gravel	7.3	11-28-79	1979-P	-	--	--	G,J
125 TGRV	Sandstone	14.8	11-28-79	1979-P	W	1980	MBMG	G,J
125 TGRV	Knobloch coal	22.4	11-28-79	1979-P	W	1980	MBMG	G,J
125 TGRV	Clinker	24.5	11-28-79	1979-P	W	1980	MBMG	G,J
125 TGRV	Sandstone	35.3	11-07-79	1979-P	W	1980	MBMG	G,J
125 TGRV	Knobloch coal	44.3	11-07-79	1979-P	W	1980	MBMG	G,J
125 TGRV	Sandstone	45.0	11-07-79	1979-P	W	1980	MBMG	G,J
110 ALVM	Sand and gravel	9.1	11-07-79	1979-P	W	1980	MBMG	G,J
110 ALVM	Clinker-gravel	Dry	03-25-81	1981-P	-	--	--	D
125 TGRV	Cook coal	150.9	03-25-81	1981-P	W	1982	USGS	G,J
125 TGRV	Sandstone	27.8	03-25-81	1981-P	W	1982	USGS	G,J
110 ALVM	Sand and gravel	2.8	10-09-80	1980-P	W	1982	USGS	D,G,J
110 ALVM	Sand and gravel	8.7	10-09-80	1980-P	W	1982	USGS	D,G,J
110 ALVM	Sand and gravel	11.7	10-09-80	1980-P	W	1982	USGS	D,G,J
110 ALVM	Sand and gravel	7.8	10-09-80	1980-P	W	1982	MBMG	D,G,J
110 ALVM	Sand and gravel	14.3	10-09-80	1980-P	W	1982	USGS	D,G,J
125 TGRV	Dietz coal	103.08	06-26-75	1975-P	W	1975	USGS	G,J
--	--	--	--	--	W	1982	USGS	--
125 TGRV	Sandstone	59.20	08-16-77	1977-P	-	--	--	E,J,N
125 TGRV	Canyon coal	--	--	--	-	--	--	D,J
125 TGRV	Canyon coal	81.82	07-01-75	1975-P	W	1975	USGS	G
125 TGRV	Sandstone	33.48	07-01-75	1975-P	W	1975	USGS	G,J
125 TGRV	Cook coal	227.5	06-27-83	1983-P	W	1983	MBMG	D,G,J
125 TGRV	Sandstone	Dry	06-24-83	1983-P	G	1983	USGS	D,G,J
125 TGRV	Anderson coal	--	--	--	-	--	--	E,G,J
125 TGRV	Anderson coal	--	--	--	-	--	--	E,G,J
125 TGRV	Anderson and	91.08	09-29-76	1976-P	W	1976	USGS	G
--	Dietz coal.	--	--	--	-	--	--	--
125 TGRV	Dietz coal	17.2	07-08-75	1975-P	W	1976	USGS	G
--	--	--	--	--	-	--	--	--
125 TGRV	Canyon coal	126.79	09-22-76	1976-P	W	1976	USGS	E,G,J
110 ALVM	--	11.5	08-02-75	1975-P	W	1976	USGS	G
125 TGRV	Canyon coal	194.08	11-20-75	1975-P	-	--	--	E,G,J
--	--	--	--	--	-	--	--	--
110 ALVM	Sand and gravel	14.58	06-27-83	1983-P	-	--	--	D,G,J
110 ALVM	Sand and gravel	3.43	06-10-83	1983-P	-	--	--	D,G,J
--	--	--	--	--	-	--	--	--
110 ALVM	Sand and gravel	2.42	06-10-83	1983-P	-	--	--	D,J
110 ALVM	Sand and gravel	10.04	06-10-83	1983-P	-	--	--	D,J
125 TGRV	Cook coal	--	--	--	-	--	--	--
110 ALVM	Sand and gravel	5.21	06-10-83	1983-P	-	--	--	D,J
--	--	--	--	--	-	--	--	--
110 ALVM	Sand and gravel	12.66	06-27-83	1983-P	-	--	--	D,J
110 ALVM	Sand and gravel	12.75	06-25-83	1983-P	-	--	--	D,G,J
110 ALVM	Sand and gravel	18.88	06-25-83	1983-P	-	--	--	D,G,J
125 TGRV	Sandstone	125.72	06-26-83	1983-P	W	1983	MBMG	D,G,J
--	--	--	--	--	-	--	--	--

Local number	Site identification	Type of observation well	Date drilled	Well depth (feet)	Casing Type	Casing Size (in.)	Casing Depth (feet)	Interval open to well (feet)
08S46E27CDAB02	450616106042002	C	06-11-83	138	P	4	138	114-137
08S46E28ADCB03	450636106050601	P	06-11-83	35.5	P	4	35.5	21-35
08S46E32BDBA01	450553106064901	P	06-25-83	30	P	4	30	16-29
08S46E32DDAC01	450524106061001	C	06-25-83	30	P	4	30	11-29
08S46E32DDAC02	450524106060801	P	06-25-83	30	P	4	30	11-29
09S45E02CBAD01	450443106103801	P	10-07-75	299	P	4	299	153-191
09S45E02CBAD01	--	--	--	--	--	-	--	272-279
09S45E03ADCC03	450448106111101	P	03-25-76	64	P	2	64	47-56
09S45E03ADCC04	450448106111102	P	03-24-76	68	P	2	68	50-59
09S45E03BBBB01	450513106120501	P	03-18-76	168	P	4	168	45-75
09S45E03BBBB01	--	--	--	--	--	-	--	139-149
09S45E03CCBC01	450430106120701	P	01-21-76	317	P	4	317	202-233
09S45E03CCBC01	--	--	--	--	--	-	--	281-291
09S45E03DABB01	450447106111101	P	08-24-75	144	P	4	144	41-52
09S45E03DABB01	--	--	--	--	--	-	--	112-124
09S45E03DABB02	450447106111102	P	03-31-76	141	P	2	141	116-127
09S45E03DABB03	450447106111103	C	04-01-76	63	P	2	63	48-56
09S45E03DABB04	450447106111104	P	03-26-76	65	P	2	65	47-55
09S45E03DABB05	450447106111105	P	03-30-76	71	P	2	71	48-55
09S45E04DCAB01	450434106123501	P	09-16-75	120	P	4	120	74-104
09S45E11ADDB01	450400106094801	C	08-10-75	307	P	4	307	139-154
09S45E11ADDB01	--	--	--	--	--	-	--	286-297
09S45E11BCCB01	450358106105101	P	09-19-75	92	P	4	92	48-78
09S45E11CCAA01	450343106103701	C	09-10-75	218	P	4	218	41-61
09S45E11CCAA01	--	--	--	--	--	-	--	189-198
09S46E03BCCC01	450450106043801	P	09-20-75	340	P	2	340	290-310
09S46E05ABAB01	450513106062801	P	12-05-74	180	P	4	180	150-170
09S46E07AADA01	450415106071801	P	06-22-83	33.5	P	4	33.5	18-31
09S46E07AADA01	--	--	--	--	--	-	--	32.5-33
09S46E07DCBB01	450342106075001	P	09-21-75	430	P	4	419	379-409
09S46E07DCBB02	450342106075002	P	09-22-75	293	P	4	293	277-290
09S46E08BACB01	450413106065701	C	12-03-74	240	P	4	240	140-160
09S46E08BACB01	--	--	--	--	--	-	--	210-240
09S46E09ADCD01	450356106050201	C	06-15-83	176	P	4	176	138-175
09S46E09BAAD01	450417106052701	P	12-02-74	120	P	4	120	90-120
09S46E09DABA01	450357106050201	C	12-01-74	110	P	4	110	85-110
09S46E09DABA01	--	--	--	--	--	-	--	--
09S46E09DABA02	450355106050202	C	06-15-83	209.5	P	4	209.5	178-181.5
09S46E09DABA02	--	--	--	--	--	-	--	190.5-208.5
09S46E09DBAB01	450355106051501	P	06-22-83	34	P	4	34	8-33
09S46E09DBAB02	450355106051301	C	06-22-83	30	P	4	30	19-30
09S46E09DBBA01	450355106051601	P	06-22-83	36	P	4	36	20-36
09S46E11BACC01	450412106031501	P	06-14-83	20	P	4	20	8-17
09S46E11BACC01	--	--	--	--	--	-	--	18-20
09S46E11BACC02	450412106031601	C	06-14-83	18	P	4	18	8-17
09S46E11BBAB01	450419106032601	C	06-13-83	262	P	4	262	232-237
09S46E11BBAB01	--	--	--	--	--	-	--	243-261
09S46E11BBAB02	450419106032602	C	06-14-83	208	P	4	208	150-207
09S46E16BBBC01	450325106060001	P	06-16-83	15.5	P	4	15.5	6-13
09S46E16BBBD01	450324106055701	P	06-16-83	30	P	4	30	21.5-27
09S46E20BCAA01	450223106070301	P	12-04-74	450	P	4	450	420-440
09S46E20BCAA01	--	--	--	--	--	-	--	--
09S46E28BAAD01	450142106052801	P	12-02-74	435	P	2	430	405-430

Principal aquifer	Contributing unit	Depth to water level: Feet	Depth to water level: Date measured	Water-level record	Sample: Type	Sample: Date collected	Sample: Analyzed by	Logs available
125 TGRV	Canyon coal	60.69	06-26-83	1983-P	W	1983	MBMG	G,J
110 ALVM	Sand and gravel	15.67	06-13-83	1983-P	-	--	--	D,G,J
110 ALVM	Sand and gravel	21.81	06-27-83	1983-P	-	--	--	D,G,J
110 ALVM	Sand and gravel	14.94	06-26-83	1983-P	-	--	--	D,G,J
110 ALVM	Sand and gravel	15.49	06-26-83	1983-P	-	--	--	D,G,J
125 TGRV	Anderson and	158.20	11-20-75	1975-P	W	1975	USGS	E,G,J
--	Dietz coals.	--	--	--	-	--	--	--
125 TGRV	Anderson coal	17.27	09-23-76	1976-P	-	--	--	G
125 TGRV	Anderson coal	18.98	09-23-76	1976-P	-	--	--	G
125 TGRV	Anderson and	76.83	09-21-76	1976-P	W	1976	USGS	G
--	Dietz coals.	--	--	--	-	--	--	--
125 TGRV	Anderson coal	153.01	02-04-76	1976-P	-	--	--	C,E,G,J,
--	--	--	--	--	-	--	--	N,U.
125 TGRV	Anderson and	20.18	09-03-75	1975-P	W	1975	USGS	E,G,J
--	Dietz coals.	--	--	--	-	--	--	--
125 TGRV	Dietz coal	38.36	09-23-76	1976-P	-	--	--	D
125 TGRV	Anderson coal	17.69	09-23-76	1976-P	-	--	--	D
125 TGRV	Anderson coal	20.73	09-23-76	1976-P	-	--	--	D
125 TGRV	Anderson coal	19.65	09-23-76	1976-P	-	--	--	G
125 TGRV	Anderson coal	75.64	09-29-76	1976-P	W	1976	USGS	E,G,J
125 TGRV	Anderson and	224.07	09-03-75	1975-P	W	1976	USGS	E,G,J
--	Dietz coals.	--	--	--	-	--	--	--
125 TGRV	Anderson coal	29.01	12-29-76	1976-P	-	--	--	G
125 TGRV	Anderson and	38.39	02-11-76	1976-P	W	1976	USGS	E,G,J
--	Dietz coals.	--	--	--	-	--	--	--
125 TGRV	Canyon coal	202.47	07-24-83	1983-P	-	--	--	E,G,J
125 TGRV	Canyon coal	81.20	06-17-75	1975-P	W	1975	USGS	D,J,U
110 ALVM	Sand and gravel	26.13	06-27-83	1983-P	-	--	--	D,G,J
--	--	--	--	--	-	--	--	--
125 TGRV	Canyon coal	276.67	03-28-83	1983-P	W	1983	MBMG	E,G,J
125 TGRV	Dietz coal	--	--	--	-	--	--	E,G,J
125 TGRV	Dietz coal	149.3	09-19-75	1975-P	W	1975	USGS	D,J,U
--	--	--	--	--	W	1983	MBMG	--
125 TGRV	Sandstone	115.28	06-26-83	1983-P	-	--	--	G,J
125 TGRV	Dietz coal	71.96	06-17-75	1975-P	W	1975	USGS	D,J,U
125 TGRV	Dietz coal	93.85	06-17-75	1975-P	W	1975	USGS	D,J,U
--	--	--	--	--	W	1983	MBMG	--
125 TGRV	Canyon coal	153.31	06-16-83	1983-P	W	1983	MBMG	D,G,J
--	--	--	--	--	-	--	--	--
110 ALVM	Sand and gravel	15.47	06-22-83	1983-P	-	--	--	D,G,J
110 ALVM	Sand and gravel	17.94	06-22-83	1983-P	-	--	--	D,G,J
110 ALVM	Sand and gravel	15.62	06-22-83	1983-P	-	--	--	D,G,J
110 ALVM	Sand and gravel	10.98	06-14-83	1983-P	-	--	--	D,G,J
--	--	--	--	--	-	--	--	--
110 ALVM	Sand and gravel	12.45	06-26-83	1983-P	-	--	--	D,J
125 TGRV	Canyon coal	146.91	06-26-83	1983-P	W	1983	MBMG	D,G,J
--	--	--	--	--	-	--	--	--
125 TGRV	Sandstone	141.8	06-26-83	1983-P	W	1983	MBMG	G,J
110 ALVM	Sand and gravel	11.11	06-26-83	1983-P	-	--	--	D,G,J
110 ALVM	Sand and gravel	29.8	06-26-83	1983-P	-	--	--	D,G,J
125 TGRV	Dietz coal	388.2	09-19-75	1975-P	W	1975	USGS	D,J,U
--	--	--	--	--	W	1983	MBMG	--
125 TGRV	Dietz coal	290.4	09-19-75	1975-P	-	--	--	D,J,U

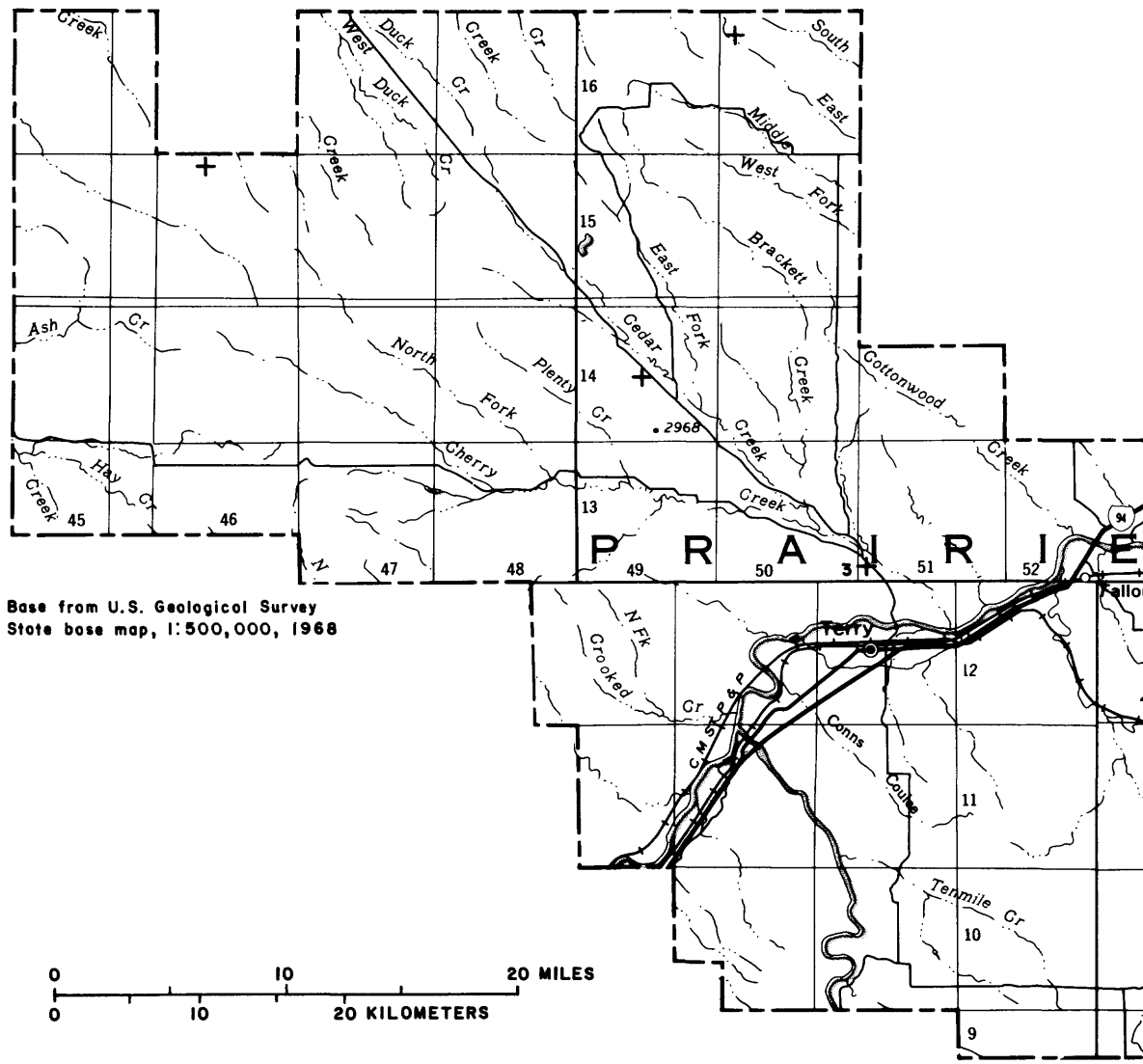
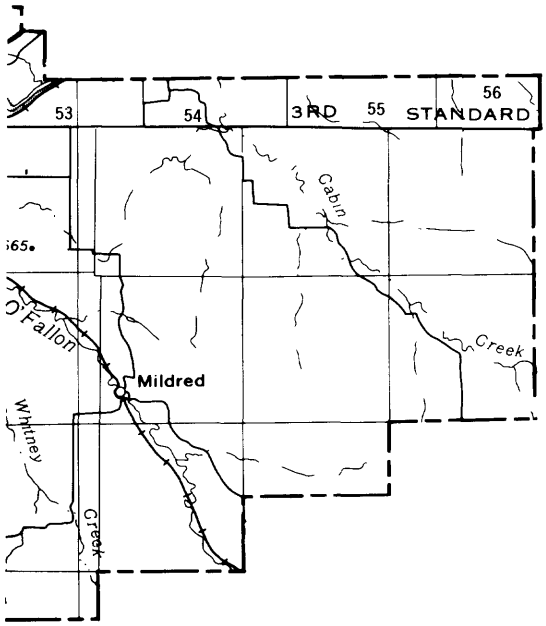


Figure 11.--Location of wells in Prairie County.



EXPLANATION

OBSERVATION WELL

+ Statewide network

3 NUMBER OF WELLS AT SAME GENERAL LOCATION

Table 10.--*Record of wells,*

Local number	Site identification	Type of observation well	Date drilled	Well depth (feet)	Casing			Interval open to well (feet)
					Type	Size (in.)	Depth (feet)	
13N51E31BCDD01	465024105190701	S	08-01-79	565	S	4	440	440-565
13N51E31BCDD01	--	--	--	--	--	-	--	--
13N51E31BCDD02	465026105190701	S	08-03-79	340	P	4	340	243-330
13N51E31BCDD02	--	--	--	--	--	-	--	--
13N51E31BDCB01	465026105190401	S	07-27-79	860	S	4	778	778-860
14N49E21AAAA01	465745105305501	S	08-30-81	440	P	4	440	401-439
15N46E04BBBC01	470531105545901	S	08-19-81	160	P	4	160	136-160
16N50E06DDCD01	470958105260401	S	08-31-81	380	P	4	380	341.5-379

Principal aquifer	Contributing unit	Depth to water level: Feet	Depth to water level: Date measured	Water-level record	Sample: Type	Sample: Date collected	Sample: Analyzed by	Logs available
211 HLCK	Sandstone and	-1.8	09-04-79	1979-P	-	--	--	E,G,J
--	shale.	--	--	--	-	--	--	--
125 TLCK	Sandstone and	85.56	09-04-79	1979-P	W	1979	USGS,MBMG	E,G,J
--	shale.	--	--	--	-	--	--	--
211 FHHC	Sandstone	19.58	09-04-79	1979-P	W	1979	USGS,MBMG	E,G,J,N
125 TLCK	Sandstone	125.6	09-05-81	1981-P	-	--	--	G,J
125 TGRV	Coal	95.40	05-01-82	1982-P	-	--	--	G,J
125 TGRV	Sandstone	187.0	09-05-81	1981-P	W	1982	MBMG	G,J

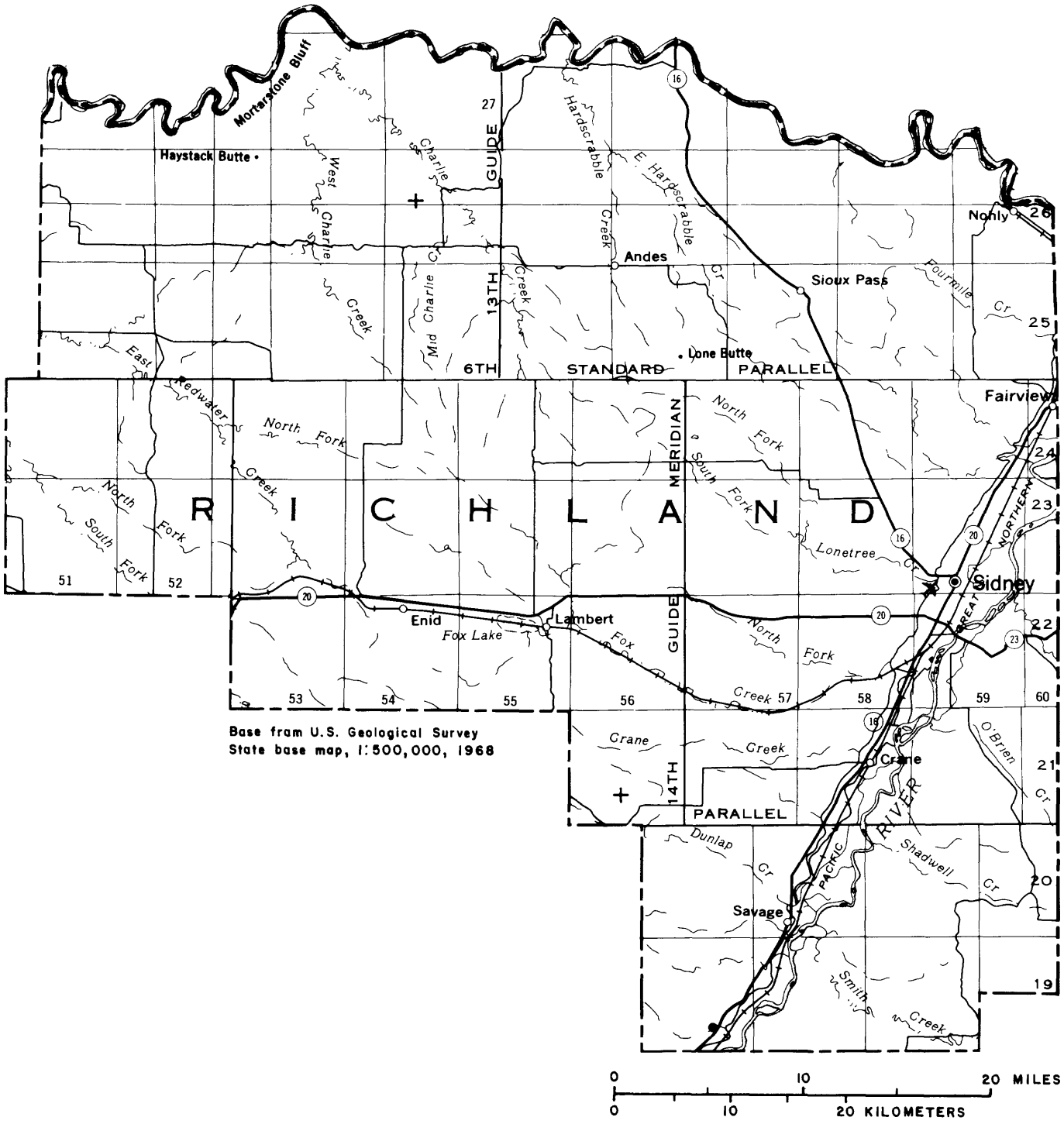


Figure 12.--Location of wells in Richland County.

EXPLANATION

OBSERVATION WELL

- Project
- + Statewide network

Table 11.--*Record of wells,*

Local number	Site identification	Type of observation well	Date drilled	Well depth (feet)	Casing			Interval open to well (feet)
					Type	Size (in.)	Depth (feet)	
19N57E27DDAC01	472218104254501	P	10-04-75	17	P	4	17	6-15
21N56E28ADDC01	473306104315001	S	10-07-75	220	P	2	220	190-202
26N54E17DCAA01	480005104460401	S	08-14-81	240	P	4	240	220-240

Principal aquifer	Contributing unit	Depth to water level: Feet	Depth to water level: Date measured	Water-level record	Sample: Type	Sample: Date collected	Sample: Analyzed by	Logs available
110 ALVM	--	8.48	11-06-75	1975-P	-	--	--	G
125 TGRV	Pust coal	50.64	05-04-76	1976-P	W	1975	USGS	E,G,J,U
125 TGRV	Sandstone	98.66	05-04-82	1982-P	-	--	--	D,J

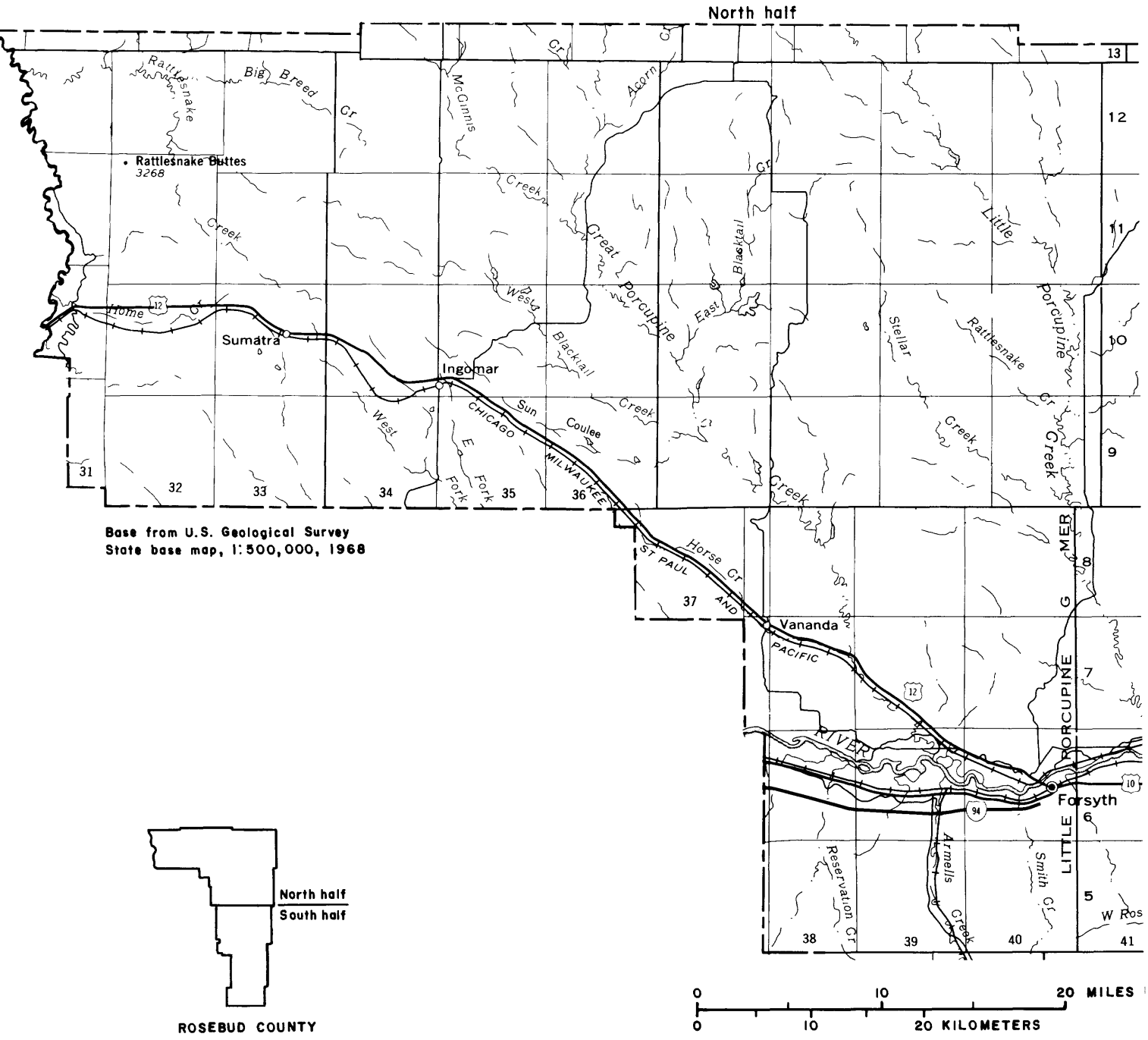
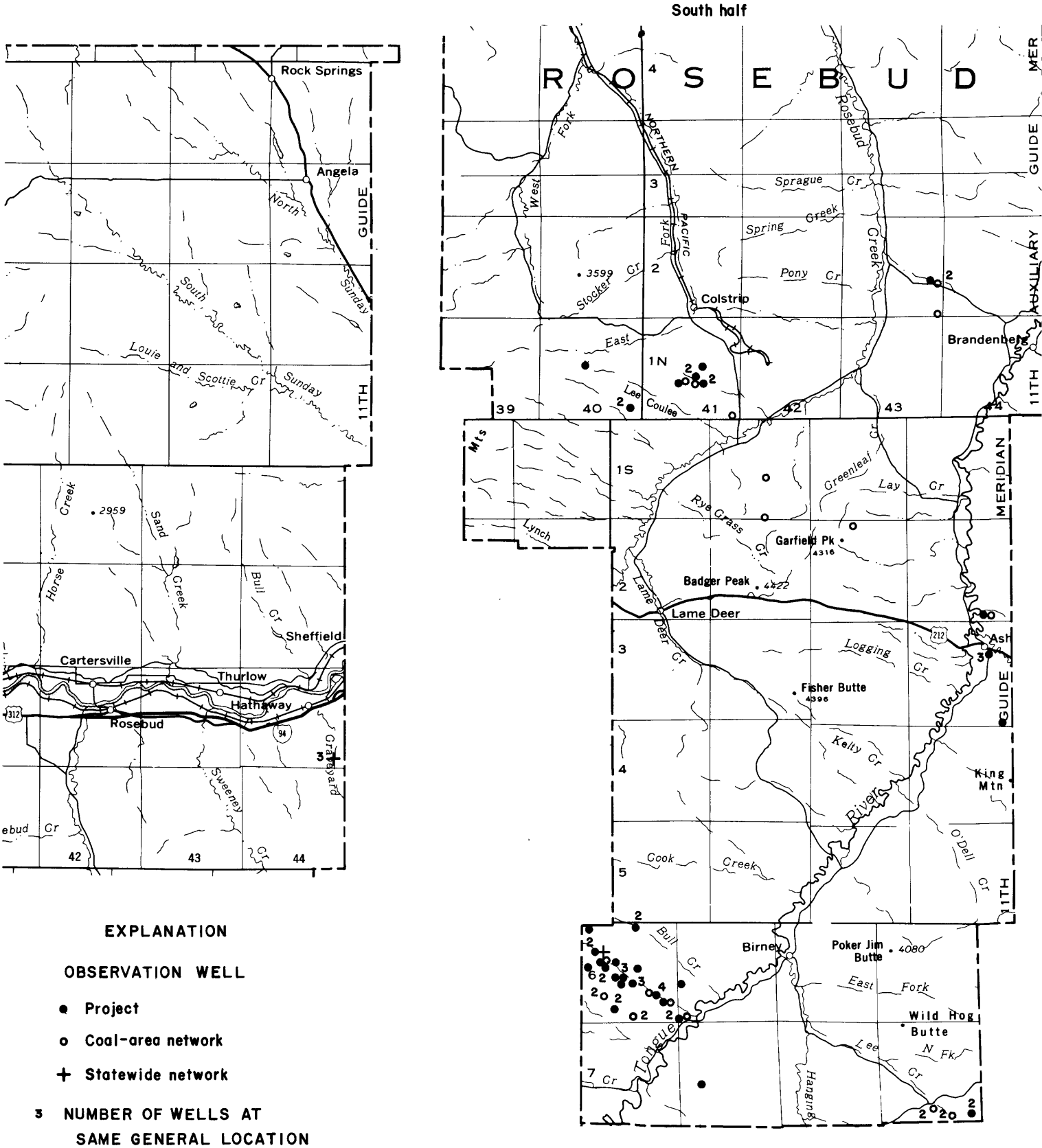


Figure 13.--Location of wells in Rosebud County.



EXPLANATION

OBSERVATION WELL

- Project
- Coal-area network
- + Statewide network

3 NUMBER OF WELLS AT SAME GENERAL LOCATION

Table 12.--*Record of wells,*

Local number	Site identification	Type of observation well	Date drilled	Well depth (feet)	Casing Type	Casing Size (in.)	Casing Depth (feet)	Interval open to well (feet)
01N40E16DDBD01	455002106451601	P	11-19-80	350	P	4	350	332-340
01N40E36BDBC01	454752106421801	P	11-18-80	265	P	4	265	252-260
01N40E36BDBC02	454751106421801	P	11-19-80	205	P	4	205	181-201
01N41E15DDCD01	454958106364101	P	09-15-81	40	P	4	40	30-40
01N41E21DBDB01	454921106380601	C	08-04-81	125	P	4	125	98-125
01N41E21DBDB02	454922106380501	P	08-04-81	125	P	4	125	98-125
01N41E22CCAD01	454914106372401	C	08-05-81	72	P	4	72	33-72
01N41E22CCAD02	454913106372501	P	08-06-81	72	P	4	72	33-72
01N41E22CCAD03	454915106372301	P	08-05-81	20	P	4	20	4-20
01N41E22CDDC01	454900106365001	P	09-15-81	35	P	4	35	25-35
01N41E22CDDD01	454859106365201	P	09-15-81	30	P	4	30	12-21
01N41E36DCBA01	454732106342801	C	11-11-80	150	P	4	150	138-146
02N43E24CCBA01	455426106200701	P	08-01-79	68.5	P	4	77	40-68
02N43E24CCBA01	--	--	--	--	--	-	--	--
02N43E24CCBC01	455424106200801	C	08-02-79	60.5	P	4	66	30-60
02N43E24CDDA01	455419106193701	C	08-02-79	21	P	4	22	3-13
02N43E36DBDD01	455248106192101	C	08-01-79	185	P	4	189	97-137
06N44E36CACD01	461341106100301	S	08-06-80	902	S	4	760	760-902
06N44E36CACD02	461341106100302	S	08-20-80	609	S	4	508	508-609
06N44E36CACD02	--	--	--	--	--	-	--	--
06N44E36CACD03	461341106100303	S	08-22-80	316	P	4	316	290-314
06N44E36CACD03	--	--	--	--	--	-	--	--
01S42E22BDDA01	454421106320301	C	10-09-81	395	P	2	395	315-375
01S42E34CDCC01	454206106321801	C	10-07-81	460	P	2	460	440-460
02S43E04AABB01	454158106252601	C	10-10-81	401	P	2	401	381-401
02S44E35DAAB01	453709106152101	C	07-28-79	84	P	4	87	35-62
02S44E35DAAB02	453710106152001	P	07-30-79	69	P	4	73	31-51
02S44E35DAAB02	--	--	--	--	--	-	--	--
03S44E11DAAA01	453525106151801	P	06-02-83	80	P	4	80	30-70
03S44E11DAAC01	453522106152301	P	06-03-83	75	P	4	75	30-70
03S44E11DACB01	453517106152801	P	06-05-83	40	P	4	40	15-35
03S44E36DACA01	453147106141501	P	06-01-83	330	P	4	330	260-320
06S41E03BADD01	452054106414301	P	06-01-79	195	P	4	210	180-195
06S41E03BADD01	--	--	--	--	--	-	--	--
06S41E03BADD02	452054106414302	P	06-05-79	79.5	P	4	80	38-73
06S41E06ABBC01	452101106452401	P	06-18-79	347.5	P	2	368	331-367
06S41E08CCAC01	451930106443801	S	09-08-76	128	P	4	130	70-110
06S41E08CCBA01	451933106443801	P	05-01-79	383	P	2	386	356.5-376.5
06S41E08CCBA01	--	--	--	--	--	-	--	--
06S41E08CCBD01	451930106443901	P	05-16-79	19.5	P	4	20	6-18
06S41E15DCDA01	451834106412501	P	05-23-79	322.5	P	2	329	269-309
06S41E16BBCC01	451910106433101	P	08-15-78	143.5	P	4	143.5	98-138
06S41E17ADDD01	451857106433301	C	05-15-79	19	P	4	19.5	9-19
06S41E17ADDD02	451858106433301	P	05-16-79	19	P	4	19	6-18
06S41E17DAAA01	451856106433301	P	05-12-79	54	P	4	53	23-48
06S41E17DAAA02	451856106433302	P	05-14-79	12.5	P	4	14	6-13
06S41E18DCBA01	451842106451501	P	07-23-79	213.5	P	2	214	154-194
06S41E21ADBA01	451815106423001	P	07-21-79	30	P	4	30	19-29
06S41E21ADBD01	451813106423201	P	05-17-79	20	P	4	20.5	7.5-19.5
06S41E21ADBD02	451814106423101	P	05-21-79	22	P	4	23	7-22

Principal aquifer	Contributing unit	Depth to water level: Feet	Depth to water level: Date measured	Water-level record	Sample: Type	Sample: Date collected	Sample: Analyzed by	Logs available
125 TGRV	McKay coal	170.34	01-11-81	1981-P	-	--	--	J
125 TGRV	McKay coal	207.29	01-11-81	1981-P	-	--	--	G,J
125 TGRV	Rosebud coal	184.79	01-11-81	1981-P	-	--	--	G
111 SPBK	Mine spoils	32.32	05-03-82	1981-P	-	--	--	D
125 TGRV	Rosebud coal	72.24	08-09-81	1981-P	W	1981	MBMG	G,J
125 TGRV	Rosebud coal	71.27	08-09-81	1981-P	W	1981	MBMG	G,J
111 SPBK	Mine spoils	14.90	08-09-81	1981-P	W	1981	MBMG	G,J
111 SPBK	Mine spoils	14.74	08-09-81	1981-P	W	1981	MBMG	G,J
111 SPBK	Mine spoils	13.41	08-09-81	1981-P	-	--	--	--
111 SPBK	Mine spoils	13.64	05-03-82	1981-P	-	--	--	--
110 ALVM	--	6.66	05-03-82	1981-P	-	--	--	--
125 TGRV	McKay coal	130.45	11-20-80	1980-P	-	--	--	G,J
110 ALVM	--	23.79	08-16-79	1979-P	W	1979	USGS	G,J,N
--	--	--	--	--	W	1980	MBMG	--
110 ALVM	--	12.40	08-16-79	1979-P	W	1979	USGS	G,J,N
110 ALVM	--	10.05	08-16-79	1979-P	-	--	--	G,J,N
125 TGRV	Shale and coal	115.59	08-16-79	1979-P	-	--	--	G,J,N
211 FXHL	Sandstone	130.36	08-06-80	1980-P	W	1981	MBMG	E,G,J
211 HLCK	Sandstone and	130.1	08-22-80	1980-P	W	1981	MBMG	G
--	shale.	--	--	--	-	--	--	--
211 HLCK	Sandstone and	138.67	03-19-81	1981-P	W	1981	MBMG	G
--	shale.	--	--	--	-	--	--	--
125 TGRV	--	303.44	11-17-82	1981-P	-	--	--	C,E,U
125 TGRV	--	328.42	11-17-82	1981-P	-	--	--	C,E,U
125 TGRV	Knobloch coal	344.90	11-19-82	1981-P	-	--	--	C,E,U
110 ALVM	--	21.94	08-14-79	1979-P	W	1979	USGS	G,J,N
110 ALVM	--	22.07	08-14-79	1979-P	W	1979	USGS	G,J,N
--	--	--	--	--	W	1980	MBMG	--
110 ALVM	Gravel	6.59	06-10-83	1983-P	W	1983	MBMG	G,J
110 ALVM	Gravel	8.75	06-10-83	1983-P	W	1983	MBMG	G
110 ALVM	Gravel	12.03	06-09-83	1983-P	W	1983	MBMG	G
125 TGRV	Knobloch coal	233.93	06-08-83	1983-P	W	1983	MBMG	G,J
125 TGRV	Brewster-Arnold	109.1	06-05-79	1979-P	W	1979	MBMG	G,J,N
--	coal.	--	--	--	-	--	--	--
125 TGRV	Sandstone	33.57	06-05-79	1979-P	W	1979	MBMG	G,J,N
125 TGRV	Wall coal	289.5	07-26-79	1979-P	-	--	--	D,G,J,N
125 TGRV	Wall coal	41.5	09-09-76	1976-P	W	1978	USGS	D,J,U
125 TGRV	Brewster-Arnold	85.05	05-09-79	1979-P	-	--	--	D,G,J,N
--	coal.	--	--	--	-	--	--	--
110 ALVM	Sand and gravel	9.2	06-04-79	1979-P	W	1979	MBMG	G,J,N
125 TGRV	Wall coal	301.7	06-04-79	1979-P	-	--	--	D,G,J,N
125 TGRV	Wall coal	103.33	08-16-78	1978-P	W	1978	USGS	G,J,N
110 ALVM	Sand and gravel	8.72	05-23-79	1979-P	W	1979	USGS	G,J,N
110 ALVM	Sand and gravel	10.0	05-23-79	1979-P	W	1979	USGS	G,J,N
125 TGRV	Wall coal	9.6	05-23-79	1979-P	W	1979	USGS	G,J,N
110 ALVM	Sand and gravel	8.7	05-23-79	1979-P	W	1979	MBMG	G,J
125 TGRV	Wall coal	120.2	07-24-79	1979-P	-	--	--	D,G,J,N
110 ALVM	Sand and gravel	19.2	05-23-79	1979-P	W	1979	USGS	G,J,N
110 ALVM	Sand and gravel	12.89	05-23-79	1979-P	W	1979	MBMG	G,J,N
110 ALVM	Sand and gravel	13.06	05-23-79	1979-P	W	1979	MBMG	G,J,N

Table 12.--*Record of wells,*

Local number	Site identification	Type of observation well	Date drilled	Well depth (feet)	Casing Type	Casing Size (in.)	Casing Depth (feet)	Interval open to well (feet)
06S41E21BBCD01	451818106432701	P	11-20-78	258.5	P	2	274	170-200
06S41E21BBCD01	--	--	--	--	--	-	--	--
06S41E21DDDC01	451739106422401	P	06-14-79	50.5	P	4	51	26-51
06S41E22CABC01	451758106415801	P	05-08-79	21	P	4	21	9-19
06S41E22CABD01	451757106415501	P	08-14-78	20	P	4	20	15-20
06S41E22CACB01	451756106415601	P	05-08-79	20	P	4	20	8-18
06S41E25CCBB01	451658106394901	P	08-25-78	28	P	4	28	21-28
06S41E25CCBB01	--	--	--	--	--	-	--	--
06S41E25CDAC01	451653106392401	C	08-29-78	144	P	4	145	122-141
06S41E25CDAC01	--	--	--	--	--	-	--	--
06S41E26BACC01	451728106404301	P	05-04-79	23	P	4	24	10-17
06S41E26BBDA01	451729106405001	P	08-10-78	21.5	P	4	22	6-20
06S41E26BBDA02	451729106405002	P	05-04-79	20.5	P	4	22	5-22
06S41E26BBDC01	451726106405201	P	08-11-78	22	P	4	23.5	9.5-22.5
06S41E26BBDD01	451728106405101	C	08-10-78	23	P	4	23	7-22
06S41E26BBDD01	--	--	--	--	--	-	--	--
06S41E29ADCA01	451717106434601	C	08-31-78	393	P	4	394	328-389
06S41E29ADCA02	451717106434602	C	09-11-78	322	P	4	323	258-318
06S41E33BBBD01	451640106432701	P	09-14-78	297.5	P	4	298	242-293
06S41E33BBBD02	451640106432702	P	09-25-78	165.5	P	4	166	146-166
06S41E34CDAA01	451604106414701	C	09-28-78	363	P	4	363	341-360
06S41E34CDAA02	451604106414702	C	06-06-79	154.5	P	4	154	103-153
06S42E19CDBC01	451745106381501	P	05-24-79	207	P	4	208	186-205
06S42E19CDBC01	--	--	--	--	--	-	--	--
06S42E31DBBA01	451617106375201	C	05-01-79	68	P	4	69	21-61
06S42E31DBBA02	451616106375301	P	05-02-79	56	P	4	56	33-53
06S42E31DBBD01	451615106375401	P	05-03-79	46	P	4	47	17-45
07S42E20CAAA01	451247106365201	P	09-24-76	125	P	4	125	106-116
07S44E34BAAD01	451137106194901	C	01-14-75	86	P	4	86	66-81
07S44E34BAAD01	--	--	--	--	--	-	--	--
07S44E34BAAD02	451137106194902	C	01-15-75	272	P	4	272	232-264
07S44E34BAAD02	--	--	--	--	--	-	--	--
07S44E35DCCA01	451051106182901	C	07-24-81	212.5	P	4	212.5	180-198
07S44E35DCCA01	--	--	--	--	--	-	--	--
07S44E35DCCA02	451051106182902	C	07-25-81	132	P	4	132	93.5-131
07S44E36DADB01	451107106165201	P	01-12-75	93.5	P	4	95	75-90
07S44E36DADB02	451107106165202	P	01-13-75	18	P	4	19.5	7-15.5

Principal aquifer	Contributing unit	Depth to water level: Feet	Depth to water level: Date measured	Water-level record	Sample: Type	Sample: Date collected	Sample: Analyzed by	Logs available
125 TGRV	Sandstone and	24.3	04-25-79	1979-P	-	--	--	D,G,N
--	coal.	--	--	--	-	--	--	--
125 TGRV	Lower Wall coal	35.63	06-27-79	1979-P	W	1979	USGS	G,J,N
110 ALVM	Sand and gravel	13.6	05-09-79	1979-P	-	--	--	G,J,N
110 ALVM	Sand and gravel	13.21	08-16-78	1978-P	-	--	--	G,J,N
110 ALVM	Sand and gravel	12.12	06-04-79	1979-P	-	--	--	G,J,N
110 ALVM	Clinker, gravel,	24.2	08-25-78	1978-P	W	1978	MBMG	G,J,N
--	sand.	--	--	--	-	--	--	--
125 TGRV	Brewster-Arnold	58.79	08-30-78	1978-P	W	1978	USGS	G,J,N
--	coal.	--	--	--	-	--	--	--
110 ALVM	Sand and gravel	11.0	05-09-79	1979-P	W	1979	USGS	G,J,N
110 ALVM	Sand and gravel	10.80	08-15-78	1978-P	W	1979	USGS,MBMG	G,J,N
110 ALVM	Sand and gravel	9.4	05-09-79	1979-P	-	--	--	G,J,N
110 ALVM	Sand and gravel	17.0	08-15-78	1978-P	-	--	--	G,J,N
110 ALVM	Sand and gravel	12.14	08-15-78	1978-P	W	1978	MBMG	G,J,N
--	--	--	--	--	W	1979	USGS	--
125 TGRV	Wall coal	263.3	09-14-78	1978-P	W	1978	USGS	G,J,N
125 TGRV	Sandstone	239.0	09-11-78	1978-P	W	1978	USGS	G,J,N
125 TGRV	Wall coal	248.0	09-14-78	1978-P	-	--	--	G,J,N
125 TGRV	Sandstone	163.9	10-03-78	1978-P	-	--	--	G,J,N
125 TGRV	Sandstone	187.64	10-03-78	1978-P	W	1978	USGS	G,J,N
125 TGRV	Wall coal	92.50	06-27-79	1979-P	W	1979	MBMG	G,J,N
125 TGRV	Brewster-Arnold	179.1	06-05-79	1979-P	W	1979	USGS	G,J,N
--	coal.	--	--	--	-	--	--	--
110 ALVM	Sand and gravel	14.8	05-10-79	1979-P	W	1979	USGS	G,J,N
110 ALVM	Sand and gravel	16.4	05-10-79	1979-P	W	1979	MBMG	G,J,N
110 ALVM	Sand and gravel	17.1	05-10-79	1979-P	W	1979	USGS	G,J,N
125 TGRV	Coal	97.6	09-24-76	1976-P	-	--	--	D,E,J,U
125 TGRV	Dietz coal	55.57	02-05-75	1975-P	W	1975	USGS	G
--	--	--	--	--	W	1976	USGS	--
125 TGRV	Canyon coal	185.84	02-05-75	1975-P	W	1975	USGS	G,J
--	--	--	--	--	W	1976	USGS	--
125 TGRV	Dietz coal	149.2	10-01-81	1981-P	W	1982	USGS	D,G,J
--	--	--	--	--	W	1983	MBMG	--
125 TGRV	Anderson coal	103.3	10-01-81	1981-P	W	1982	USGS	D,J
125 TGRV	Dietz coal	52.28	02-05-75	1975-P	W	1982	USGS	G,J
110 ALVM	Clinker-gravel	6.42	02-05-75	1975-P	W	1982	USGS	G,J