GROUND-WATER DATA FROM THE SAN MIGUEL RIVER BASIN, SOUTHWESTERN COLORADO

By D. J. Ackerman and Tom Brooks

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CONTENTS

ILLUSTRATIONS

TABLES

GLOSSARY

Aquifer--a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Sodium-adsorption ratio (SAR)--is the expression of relative activity of sodium ions in exchange reactions with soil. The formula used for the computation of SAR is

$$SAR = \frac{(Na+)}{\sqrt{\frac{(Ca^{+2}) + (Mg^{+2})}{2}}}$$

where solute concentrations are expressed in milliequivalents per liter.

Specific capacity-a measure of the productive capacity of the well. The specific capacity of a water well is expressed as the rate of discharge divided by the drawdown. For example: if the pumping rate is 20 gallons per minute and the drawdown is measured as 10 feet after 2 hours of pumping, the specific capacity is 2 gallons per minute per foot at the end of 2 hours:

$$\frac{20 \text{ gallons per minute}}{10 \text{ feet}} = 2 \text{ gallons per minute per foot}$$

Specific conductance--a measure of the ability of water to conduct an electrical current, expressed in microsiemens per centimeter at 25° Celsius.

METRIC CONVERSION FACTORS

Inch-pound units used in this report may be converted to International Systems of Units (SI) by using the following conversion factors:

Multiply inch-pound units	*By*	*To obtain SI units*
foot (ft)	0.3048	meter
gallon per minute (gal/min)	0.06309	liter per second
gallon per minute per foot [(gal/min)/ft]	0.01923	liter per second per meter

To convert degrees Fahrenheit (°F) to degrees Celsius (°C) use the following formula: °C = (°F-32)x5/9. To convert degrees Celsius (°C) to degrees Fahrenheit (°F) use the following formula: °F = (°Cx9/5)+32.

The following terms and abbreviations also are used in this report:

microgram per liter (µg/L)
microsiemen per centimeter (µs/cm) at 25° Celsius
milligram per liter (mg/L).

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ABSTRACT

Hydrologic data were collected from 35 wells and 82 springs in the San Miguel River basin from 1977 to 1979. Depth to water was measured for 22 wells and discharges were measured for 53 springs. Chemical analyses for water samples collected from 19 wells and 21 springs indicated larger dissolved solids concentrations in bedrock water samples than in alluvial water samples. Drillers' records obtained from the Colorado State Engineer's Office for 86 wells indicated generally larger yields from wells completed in alluvium than in bedrock.

INTRODUCTION

This report includes hydrologic data for wells and springs in the San Miguel River basin in southwestern Colorado (fig. 1) and supplements the interpretive report by Ackerman and Rush (1984). Most of the data were collected from 1977 to 1979.

Data in this report consists of:

1. Hydrologic data from 86 wells based on well drillers' records obtained from the Colorado State Engineer's office (table 1).

2. Hydrologic data obtained from U.S. Geological Survey ground-water site investigation records for 35 wells (table 2) and 82 springs (table 3). Data for these sites were verified by field visits.

3. Chemical analyses of water samples collected from 19 wells and 21 springs (table 4). The water samples were collected and analyzed according to the method in Skoukstad and others (1979) and all constituents were analysed for dissolved concentrations at the U.S. Geological Survey Central laboratory.

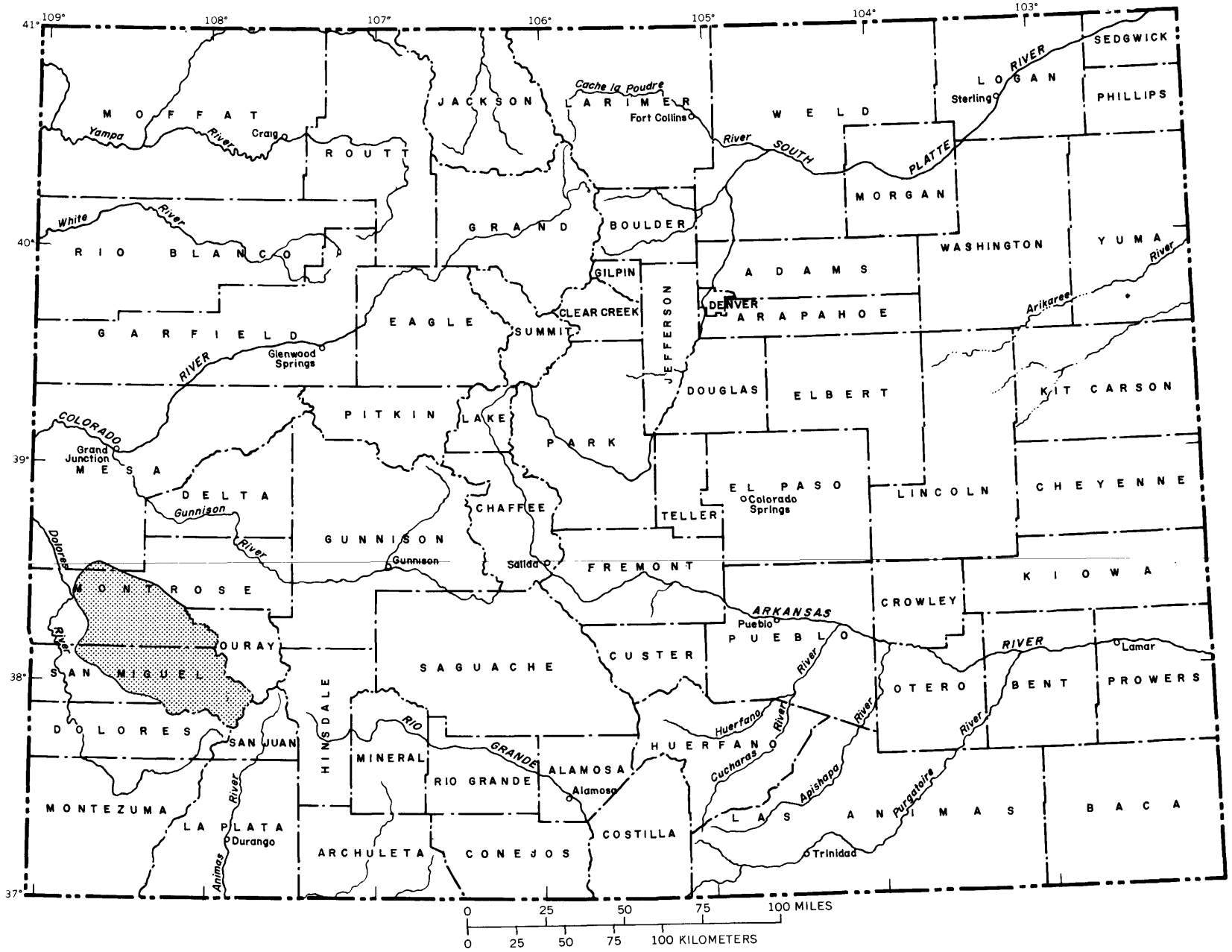

Figure 1.--Location of the San Miguel River basin.

Data tables 1, 2, 3, and 4 are in the "Hydrologic Data" section of this report. All data sites are shown on plate 1 (in pocket).

Reported yields for wells completed in bedrock ranged from 0 to 216 gallons per minute with most yields less than 10 gal/min. Reported yields for wells completed in alluvium ranged from 1.5 to 25 gal/min with most yields between 8 and 25 gal/min.

Most dissolved solids concentrations were greater than 400 mg/L for water samples collected from wells completed in bedrock or springs issuing from bedrock; concentrations were less than 400 mg/L for water samples collected from wells completed in alluvium or springs issuing from alluvium.

Acknowledgments

Basin residents gave information about their wells and springs, and permitted measurements and water sampling. Donald Fawcett and Andrew Wacinski of the State Engineer's Office, and Stanley Zawistowski, formerly of the State Engineer's Office, assisted in collecting and compiling data for this report.

System of numbering wells and springs

The well and spring locations in this report are given numbers based on the U.S. Bureau of Land Management system of land subdivision, and show the location of the well or spring by quadrant, township, range, section, and position within the section (fig. 2). The first letter "S" preceding the location number indicates that the well or spring is located in the area governed by the Sixth Principal Meridian. The second letter indicates the quadrant in which the well or spring is located. Four quadrants are formed by the intersection of the base line and the principal meridian--A indicates the northeast quadrant, B the northwest, C the southwest, and D the southeast.

The first three digits of the number indicate the township, the next three digits the range, and the last two digits the section in which the well or spring is located. The letters following the section number locate the well or spring within the section. The first letter denotes the quarter section, the second the quarter-quarter section, and the third the quarter-quarter-quarter section. The letters are assigned within the section in a counterclockwise direction, beginning with (A) in the northeast section and within each quarter-quarter section in the same manner. Where two or more locations are within the smallest subdivision, consecutive numbers beginning with 1 are added in the order in which the data from the wells or springs were collected.

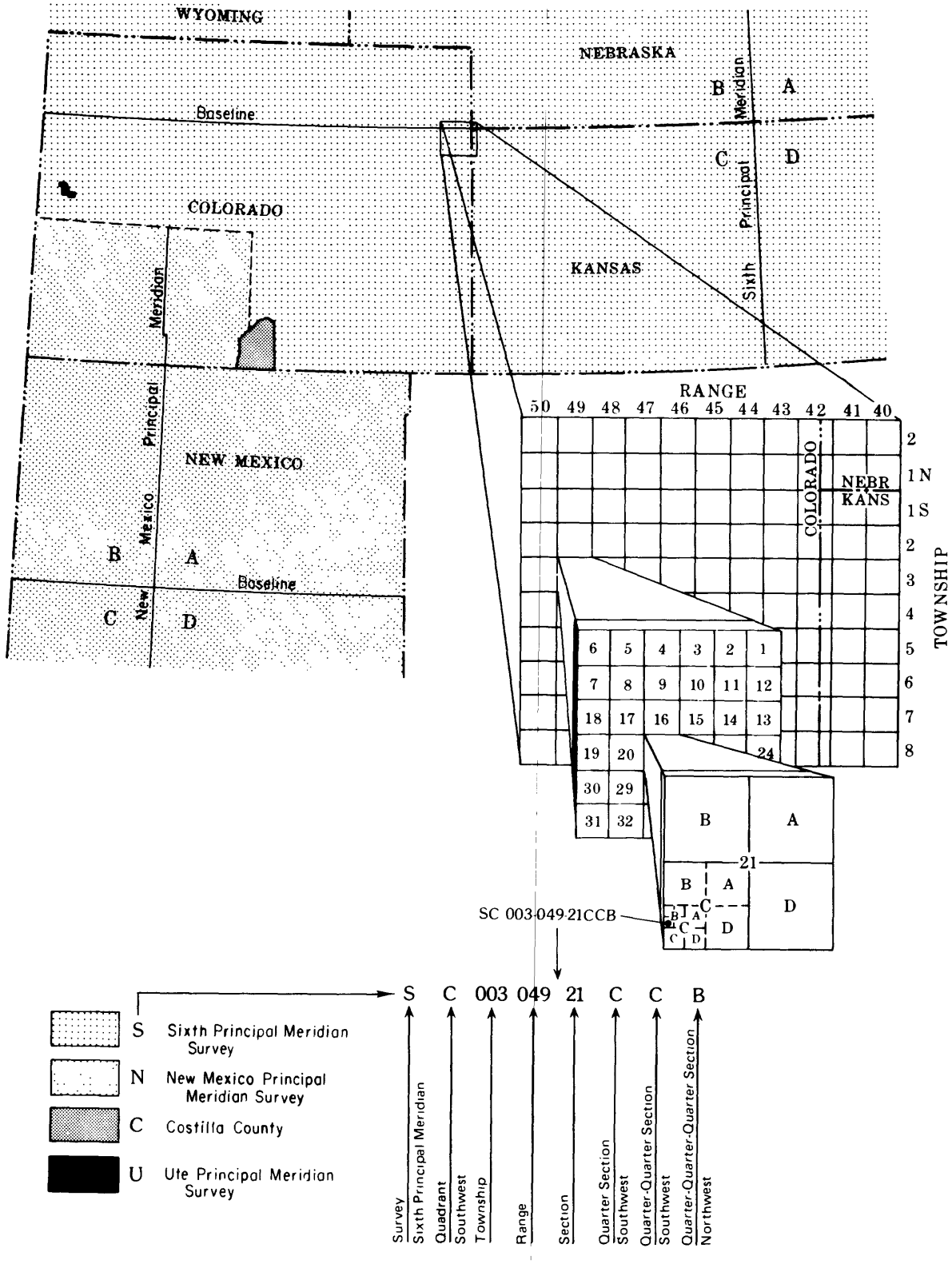

Figure 2.--System of numbering wells and springs.

REFERENCES

Ackerman, D. J., and Rush, F. E., 1984, Hydrogeologic reconnaissance of the San Miguel River basin, southwestern Colorado, U.S. Geological Survey Open-File 84-4133, 25 p.

Skougstad, M.W., Fishman, M.J., Friedman, L.C., Erdmann, D.E., and Duman, S.S., 1979, Methods for determination of inorganic substances in water and fluvial sediments: U.S. Geological Survey Techniques of Water Resources Investigations, Book 5, Chapter A1, 626 p.

HYDROLOGIC DATA

Table 1.--*Hydrologic data from wells based on drillers' records*
[dashes indicate no data]

Location number (see pl. 1)	Local identifier (see fig. 2)	State well permit number	Principal aquifer	Well depth (feet)	Depth to water (feet)	Well yield (gallons per minute)	Specific capacity of well (gallons per minute per foot)
1	NB04200906CA	78061	Alluvium	34	21	25	---
2	NB04200908AD	70780	Alluvium	80	45	1.5	.050
3	NB04200920BC	20512	Alluvium	122	18	5.5	.059
4	NB04200922DA	81835	Alluvium	105	38	6	.090
5	NB04200932DB	21340F	Alluvium	25	15	15	---
6	NB04201006BDA1	85585	Dakota Sandstone	180	74.1	9	5
7	NB042019007CD	93003	Cutler Formation	180	140	5	.125
8	NB04201103DD	94388	Mancos Shale	98	60	4	.160
9	NB04201110DDB	83678	Cutler Formation	405	250	2	.013
10	NB04300831DC	80859	Cutler Formation	305	100	1.5	.007
11	NB04300932AB	1866F	Dakota Sandstone	210	90	8	.400
12	NB04301007CD	88692	Cutler Formation	245	64	10	.055
13	NB04301012DD	89278	Alluvium	22	15	20	---
14	NB04301031CC	86350	Dakota Sandstone	250	65	2	.011
15	NB04301102BB	86172	Cutler Formation	150	50	5	.050
16	NB04301112DB	48964	Cutler Formation	50	30	8	1.143
17	NB04301112DC	69226	Cutler Formation	23	14	11	2.75
18	NB04301316CB	6341	Dakota Sandstone	60	--	10	.667
19	NB04301317CC	46298	Dakota Sandstone	36	--	1.5	.063
20	NB04301603BA	11607F	Dakota Sandstone	1226	150	216	.864
21	NB04401013CBB1	87076	Dakota Sandstone	168	52	20	---
22	NB04401103AA	64715	Mancos Shale	23	7.6	18	---
23	NB04401105BA	2041	Dakota Sandstone	70	20	20	---
24	NB04401126BD	15136F	Alluvium	120	67	3	.057
25	NB04401133AD	74956	Alluvium	33	20	15	---
26	NB04401134BC	52772	Alluvium	24	12	21	3.5
27	NB04401135BB	80849	Alluvium-Cutler Formation	127	50	5	.067
28	NB04401207AB	13558	Dakota Sandstone	51	15	3	.103
29	NB04401315AA	85584	Dakota Sandstone	120	90	5	.167
30	NB04401318BB	4805F	Morrison Formation	120	--	Dry	---

Table 1.--*Hydrologic data from wells based on drillers' records*--Continued

Location number (see pl. 1)	Local identifier (see fig. 2)	State well permit number	Principal aquifer	Well depth (feet)	Depth to water (feet)	Well yield (gallons per minute)	Specific capacity of well (gallons per minute per foot)
31	NB04401516CDC1	15167	Dakota Sandstone	57	20	25	1.042
32	NB04401523BB	11229	Dakota Sandstone	60	12	11	.289
33	NB04501007DA	84292	Dakota Sandstone	180	60	6	.050
34	NB04501104CB	7223	Dakota Sandstone	32	15	4	.308
35	NB04501111BA	75566	Dakota Sandstone	90	40	20	2
36	NB04501114CC	34436	Dakota Sandstone	66	25	6	.158
37	NB04501117CA	7040	Dakota Sandstone	150	15	--	---
38	NB04501228AA	41918	Morrison Formation	37	--	3	---
39	NB04501230CB	20918	Dakota Sandstone	38	19	3	.158
40	NB04501231DD	7674	Dakota Sandstone	100	35	4	.073
41	NB04501233AA	16026	Morrison Formation	80	65	6	.400
42	NB04501313CC	10586	Dakota Sandstone	58	38	3	.200
43	NB04501321CC	10415	Dakota Sandstone	35	15	8	.421
44	NB04501321DD	7225	Dakota Sandstone	40	10	6	.300
45	NB04501322AA	42707	Dakota Sandstone	57	--	3	---
46	NB04501324DD	75717	Dakota Sandstone	37	17	15	1.875
47	NB04501325BB	29036	Dakota Sandstone	34	--	20	---
48	NB04501326DC	69523	Alluvium-Dakota Sandstone	54	20	14	1.75
49	NB04501327BC	14707	Alluvium-Dakota Sandstone	50	20	25	1.00
50	NB04501328CC	11823	Dakota Sandstone	191	100	2	.025
51	NB04501333AA	10549	Dakota Sandstone	167	130	12	.600
52	NB04501336DB	22706F	Dakota Sandstone	217	Flowing	75	1.154
53	NB04501402CA	4022F	Dakota Sandstone	40	15	100	---
54	NB04501403CC	17287A	Dakota Sandstone	53	30	6	.600
55	NB04501404CB	59976	Dakota Sandstone	34	10	10	1.250
56	NB04501404CC	9475	Dakota Sandstone	45	18	3	.136
57	NB04501409AAA1	17281	Dakota Sandstone	50	20	15	---
58	NB04501410BD	6704F	Dakota Sandstone	40	20	35	1.944
59	NB04601021AD	90785	Dakota Sandstone	205	85	35	.292
60	NB04601029BC	94601	Alluvium	100	70	10	.333

Table 1.--*Hydrologic data from wells based on drillers' records*--Continued

Location number (see pl. 1)	Local identifier (see fig. 2)	State well permit number	Principal aquifer	Well depth (feet)	Depth to water (feet)	Well yield (gallons per minute)	Specific capacity of well (gallons per minute per foot)
61	NB04601228AC	74585	Dakota Sandstone	138	81	2	.034
62	NB04601232DB	27403	Dakota Sandstone	100	30	2	.029
63	NB04601430AD	7221	Dakota Sandstone	90	64	1	.039
64	NB04601431ABA1	72019	Dakota Sandstone	92	33	5	.091
65	NB04701432AA	45999	Dakota Sandstone	56	32	8.5	---
66	NB04601505CA	13592	Dakota Sandstone	116	10	5	---
67	NB04601506BC	85232	Dakota Sandstone	400	30	3	.008
68	NB04601508CD	58765	Dakota Sandstone	345	280	5	.100
69	NB04601509AA	77888	Dakota Sandstone	60	0	20	.909
70	NB04601511DCB1	39696	Dakota Sandstone	265	--	40	1.142
71	NB04601416CA	8987F	Dakota Sandstone	80	--	15	---
72	NB04601517ABB1	9241	Dakota Sandstone	335	150	8	.160
73	NB04601524CB	91069	Dakota Sandstone	190	26	5	.030
74	NB04601529AA	59872	Dakota Sandstone	145	102	15	.536
75	NB04601601BD	18275	Dakota Sandstone	220	192	10	---
76	NB04601612CD	10993	Dakota Sandstone	240	218	8	.571
77	NB04601614CDCI	18410	Alluvium	36	20	8	.615
78	NB04601625DAA	74597	Dakota Sandstone	140	70	10	.154
79	NB4701530BCB	11767	Dakota Sandstone	200	100	3	.038
80	NB04701612AC	58704	Dakota Sandstone	234	180	7	.233
81	NB04701623DBD1	75194	Dakota Sandstone	250	182	5	.074
82	NB04701625AAA	74237	Dakota Sandstone	190	80	10	.095
83	NB04701626Daa	11801	Dakota Sandstone	178	80	4	.050
84	NB04701634DAB	14481	Dakota Sandstone	72	35	25	---
85	NB04701701ABD1	17425F	Morrison Formation	200	106	130	2.5
86	NB04801520BDA	17617	Dakota Sandstone	294	282	5	.625

Table 2.--*Hydrologic data for wells*
[dashes indicate not available or no data]

Map number (see pl. 1)	Local identifier (see fig. 2)	Owner	Principal aquifer	Altitude (feet)	Well depth (feet)	Depth to water (feet)	Date water level measured	Date sampled (see table 4)
87	NB04200901ACA1	Telluride	Alluvium	8,765	116	2.67	03/25/1980	02/22/1978
88	NB04200901ACA2	Telluride	Alluvium	8,768	89.75	4.22	03/25/1980	--
6	NB04201006BDA1	Riggs, Ann	Dakota Sandstone	9,230	180	73.10	10/04/1979	--
89	NB04201006CDB1	Defelice, Fred	Dakota Sandstone	8,960	180	41.75	08/22/1979	--
90	NB04201013CCC1	--	Dakota Sandstone	9,620	100	--	--	--
91	NB04301112ABC1	Berdelman, Lowry	Alluvium	7,555	80	--	--	05/09/1974
92	NB04301319ADA1	Colorado	Dakota Sandstone	7,730	65	--	--	05/01/1974
21	NB04401013CBB	--	Dakota Sandstone	9,515	61	40.00	08/22/1978	--
93	NB04401135CCC1	Esser, Henry	Alluvium	7,328	80	--	--	05/09/1974
94	NB04401212BAB1	U.S. Forest Service	Dakota Sandstone	8,030	61	4.45	06/27/1978	06/27/1978
95	NB04401514DCD1	Hughes Bros. Inc.	Brushy Basin Member*	6,880	448	106.00	05/00/1974	--
31	NB04401516CDC1	San Miguel County	Dakota Sandstone	6,545	57	--	--	08/24/1973
96	NB04401524AAA1	Hughes Bros. Inc.	Dakota Sandstone	7,125	80	7.00	05/00/1974	05/25/1974
97	NB04501232CBC1	Cornforth, Edgar	Dakota Sandstone	7,450	123	41.42	08/23/1979	--
98	NB04501311CCB1	Ringquist, Lofy	Dakota Sandstone	7,102	250	74.3	08/22/1979	--
99	NB04501314CCD1	Alexander, K.	Burro Canyon Formation	7,030	58	13.00	05/00/1974	--
100	NB04501334BDA1	Fritz, Charles	Dakota Sandstone	7,220	96.10	60.65	06/22/1978	06/22/1978
101	NB04501334DCA1	--	Dakota Sandstone	7,450	150	49.28	06/22/1978	--
102	NB04501335BBB1	Dillon, Dan	Dakota Sandstone	7,130	80	--	--	06/27/1978
103	NB04501404CDD1	Williams, Robert	Dakota Sandstone	6,470	50	32.00	02/21/1974	05/25/1974
104	NB04501404DCD1	Foster, Vinnie	Dakota Sandstone	6,485	40	--	--	05/25/1974
57	NB04501409AAA1	Barrett, C.	Alluvium	6,510	53	14.00	05/03/1974	05/03/1974
105	NB04601233ACC1	Montrose Schools	Burro Canyon Formation	7,830	80	34.00	05/03/1974	05/03/1974
64	NB04601431ABA1	Plutt, Martin	Dakota Sandstone	6,230	92	17.20	08/17/1979	--
106	NB04601508CCA1	Karo, Ronald	Dakota Sandstone	5,770	290	165.00	07/05/1973	--
70	NB04601511DCB1	Billingsly, C.	Brushy Basin Member*	5,650	265	--	--	05/03/1974
72	NB04601517ABB1	Brown, Bea	Dakota Sandstone	5,832	335	--	--	05/24/1974
77	NB04601614CDC1	Williams, Troy	Brushy Basin Member*	5,316	36	--	--	05/24/1974
107	NB04701602ABD1	Curtis, Bud	Dakota Sandstone	5,600	24	--	--	--
108	NB04701610DDB1	--	Salt Wash Member*	5,655	660	--	--	--
81	NB04071623DBD1	Foresman, Ernest	Dakota Sandstone	5,655	250	--	--	--
109	NB04701625ABB1	Ludeman, Pat	Burro Canyon Formation	5,802	202	92.00	05/02/1974	05/02/1974
85	NB04701701ABD1	Union Carbide	Salt Wash Member*	5,115	200	106.00	09/04/1979	--
110	NB04801734BBB1	Union Carbide	Wingate Sandstone	5,033	550	117.00	09/11/1974	06/26/1978
111	NB04901734DCB1	Union Carbide	Wingate Sandstone	5,020	516	58.00	02/ /1970	09/11/1974

*Morrison Formation

Table 3.--*Hydrologic data for springs*
[dashes indicate not available or no data]

Map number (see pl. 1)	Local identifier (see fig. 2)	Owner	Principal aquifer	Altitude (feet)	Discharge (gallons per minute)	Date discharge measured	pH	Specific conductance (micro-siemens per centimeter at 25° Celsius)	Date sampled
112	NB04200907DBA1	--	Entrada Sandstone	8,260	1	08/09/1978	7.8	500	08/09/1978
113	NB04200922CAA1	--	Alluvium	11,095	1	08/09/1978	6.5	180	08/09/1978
114	NB04200922CAC1	--	Eocene intrusive	11,070	30	08/09/1978	4.8	680	08/09/1978
115	NB04200934ADB1	--	Permian rock	9,680	20	08/09/1978	7.1	45	08/09/1978
116	NB04200935DAA1	--	Permian rock	9,930	20	08/09/1978	6.9	45	08/09/1978
117	NB04200936ACC1	--	Eocene intrusive	10,110	30	08/09/1978	5.9	1,200	08/09/1978
118	NB04200936ADD1	--	Eocene intrusive	10,400	20	08/09/1978	6.3	1,200	08/09/1978
119	NB04201006DDB1	--	Mancos Shale	9,215	--	--	7.0	230	06/28/1978
120	NB04201010CAB1	--	Mancos Shale	9,330	0.5	08/10/1978	7.4	275	08/10/1978
121	NB04201012BBB1	--	Mancos Shale	9,440	--	--	7.2	--	08/10/1978
122	NB04201013ADB1	--	Dakota Sandstone	9,070	0.5	08/10/1978	7.4	--	08/10/1978
123	NB04201027AAD1	--	Dakota Sandstone	9,420	5	08/10/1978	7.8	--	08/10/1978
124	NB04201136CBB1	--	Mancos Shale	11,620	5	08/21/1978	7.6	380	08/21/1978
125	NB04201203AAA1	--	Mancos Shale	9,350	--	--	6.7	260	08/22/1978
126	NB04201210DAB1	--	Mancos Shale	9,280	--	--	7.3	240	08/22/1978
127	NB04201216ABC1	--	Dakota Sandstone	9,400	20	06/29/1978	6.7	100	06/29/1978
128	NB04201223ABC1	U.S. Forest Service	Mancos Shale	9,230	1	06/29/1978	7.4	125	06/29/1978
129	NB04201312ADD1	--	Dakota Sandstone	10,300	--	--	7.0	140	06/29/1978
130	NB04201313ACD1	--	Dakota Sandstone	10,800	25	06/29/1978	7.6	210	06/29/1978
131	NB04201409DCB1	--	Mancos Shale	9,675	--	--	6.8	500	08/17/1978
132	NB04201409DCB2	--	Mancos Shale	9,635	--	--	6.1	140	08/17/1978
133	NB04300927ADB1	--	Morrison Formation	9,890	--	--	7.6	240	05/04/1974*
134	NB04300936DCB1	--	Permian rock	9,120	0.3	06/23/1978	8.3	240	06/23/1978*
135	NB04301004AAC1	--	Mancos Shale	9,470	2	08/23/1978	7.2	800	08/23/1978
136	NB04301015AAA1	--	Mancos Shale	9,920	4	06/21/1978	7.1	210	06/21/1978
137	NB04301017BAA1	--	Permian rock	7,820	6	01/05/1978	8.8	490	01/05/1978*
138	NB04301023ACB1	--	Alluvium	9,320	10	06/21/1978	8.1	105	06/21/1978
139	NB04301023DBD1	--	Alluvium	9,160	0.5	06/21/1978	7.1	115	06/21/1978*
140	NB04301027DCC1	--	Dakota Sandstone	9,200	1	08/10/1978	7.1	485	08/10/1978
141	NB04301028ABD1	--	Permian rock	7,840	--	--	7.7	425	05/09/1974*

Table 3.--*Hydrologic data for springs*--Continued

Map number (see pl. 1)	Local identifier (see fig. 2)	Owner	Principal aquifer	Altitude (feet)	Discharge (gallons per minute)	Date discharge measured	pH	Specific conductance (micro-siemens per centimeter at 25° Celsius)	Date sampled
142	NB04301030DBB1	Lunis, Mark	Dakota Sandstone	9,142	--	--	6.7	50	06/28/1978
143	NB04301033DAA1	--	Mancos Shale	9,400	1	08/10/1978	7.0	700	08/10/1978
144	NB04301034ADA1	--	Mancos Shale	9,280	0.5	08/10/1978	7.8	--	08/10/1978*
145	NB04301035DAA1	--	Dakota Sandstone	9,160	1	08/10/1978	7.4	460	08/10/1978*
146	NB04301120CDB1	--	Dakota Sandstone	9,005	30	06/28/1978	6.7	400	06/28/1978
147	NB04301131BBA1	--	Dakota Sandstone	8,885	10	06/29/1978	6.6	325	06/29/1978
148	NB04301327CDA1	--	Dakota Sandstone	8,230	2	01/11/1978	7.4	290	01/11/1978*
149	NB04301429AAD1	--	Terrace deposits	8,385	10	04/21/1978	7.9	498	04/21/1978*
150	NB04301513AAA1	--	Mancos Shale	7,315	0.3	01/11/1978	7.6	2,380	01/11/1978
151	NB04401038CAA1	Figure 4 Ranch	Mancos Shale	8,840	10	06/21/1978	7.4	475	06/21/1978*
152	NB04401030DCA1	--	Dakota Sandstone	8,740	1	08/22/1978	8.1	580	08/22/1978
153	NB04401030DCB1	--	Dakota Sandstone	8,770	0.5	08/22/1978	7.2	480	08/22/1978
154	NB04401030DCB1	--	Morrison Formation	8,930	1	08/23/1978	6.8	390	08/23/1978
155	NB04401031ACB2	--	Mancos Shale	9,000	2	08/23/1978	7.6	320	08/23/1978
156	NB04401031CDC1	--	Mancos Shale	9,240	--	--	6.9	330	08/23/1978
157	NB04401032ADD1	--	Dakota Sandstone	9,160	2	08/22/1978	7.2	580	08/22/1978
158	NB04401032DCC1	--	Mancos Shale	9,190	--	--	--	680	08/23/1978
159	NB04401105BDD1	--	Dakota Sandstone	8,165	--	--	7.4	650	08/18/1978
160	NB04401105CAA1	--	Dakota Sandstone	8,185	--	--	7.4	660	08/18/1978
161	NB04401125BDD1	--	Dakota Sandstone	9,010	1	08/23/1978	6.3	180	08/23/1978
162	NB04401134DDD1	Anderson, Stella	Permian rock	7,320	50	01/05/1978	7.2	3,550	01/05/1978*
163	NB04401135CCB1	--	--	7,392	--	--	--	--	-- *
164	NB04401201ADD1	--	Dakota Sandstone	8,105	--	--	6.9	535	08/18/1978
165	NB04401308DAD1	U.S. Forest Service	Burro Canyon Formation	7,780	0.3	06/22/1978	7.0	417	06/22/1978*
166	NB04401424CAD1	U.S. Forest Service	Morrison Formation	7,490	2	04/05/1978	7.3	680	04/05/1978*
167	NB04401436BBD1	U.S. Forest Service	Dakota Sandstone	7,798	4	04/05/1978	7.2	420	04/05/1978
168	NB04401525DBD1	--	Alluvium	--	--	--	--	--	-- *
169	NB04501106ABA1	--	Dakota Sandstone	8,145	--	--	8.5	240	08/24/1978
170	NB04501201ABD1	U.S. Forest Service	Burro Canyon Formation	8,050	0.3	04/25/1978	6.5	330	04/25/1978*
171	NB04501206BCD1	U.S. Forest Service	Dakota Sandstone	7,870	--	--	7.2	600	01/08/1978*

Table 3.--*Hydrologic data for springs*--Continued

Map number (see pl. 1)	Local identifier (see fig. 2)	Owner	Principal aquifer	Altitude (feet)	Discharge (gallons per minute)	Date discharge measured	pH	Specific conductance (micro-siemens per centimeter at 25° Celsius)	Date sampled
172	NB04501215BCB1	U.S. Forest Service	Burro Canyon Formation	7,935	3	04/25/1978	6.5	385	04/25/1978
173	NB04501226CCD1	--	Dakota Sandstone	7,755	--	--	6.9	580	08/18/1978
174	NB04601020CAA1	U.S. Forest Service	Dakota Sandstone	9,075	2	06/20/1978	5.6	63	06/20/1978
175	NB04601031CAB1	--	Dakota Sandstone	8,515	--	--	8.3	500	08/24/1978
176	NB04601122ADA1	U.S. Forest Service	Mancos Shale	8,618	1	07/03/1978	7.7	100	06/20/1978
177	NB04601125BAD1	U.S. Forest Service	Mancos Shale	9,260	1	06/20/1978	7.2	373	06/20/1978
178	NB04601136DDB1	--	Mancos Shale	8,575	--	--	6.2	120	08/24/1978
179	NB04601222DAC1	U.S. Forest Service	Burro Canyon Formation	7,946	15	04/24/1978	6.5	103	04/24/1978*
180	NB04601230DDB1	U.S. Forest Service	Dakota Sandstone	7,655	2	04/24/1978	7.3	365	04/24/1978*
181	NB04601233AAA1	Marolf, Everett	Mancos Shale	7,870	8	04/24/1978	7.7	790	04/24/1978*
182	NB04601401ACA1	--	Dakota Sandstone	6,235	3	04/06/1978	7.1	775	04/06/1978*
183	NB04601515BDC1	--	Dakota Sandstone	5,795	2	01/12/1978	7.4	1,400	01/12/1978*
184	NB04601215CCA1	U.S. Forest Service	Dakota Sandstone	9,620	10	10/11/1978	5.0	<50	10/11/1978
185	NB04701223BCA1	U.S. Forest Service	Dakota Sandstone	9,585	5	10/11/1978	5.5	45	10/11/1978
186	NB04701318ABD1	--	Mancos Shale	8,425	--	--	5.8	220	08/11/1978
187	NB04701729ABD1	--	Morrison Formation	6,615	--	--	8.1	700	08/16/1978
188	NB04801335DCD1	--	Morrison Formation	9,485	--	--	--	180	08/11/1978
189	NB04801406DAA1	--	Dakota Sandstone	8,925	--	--	5.4	100	08/10/1978
190	NB04801511BDB1	--	Dakota Sandstone	9,265	--	--	7.4	600	08/16/1978
191	NB04801516DCA1	Lawhead, Phillip	Dakota Sandstone	7,400	--	--	7.3	490	08/16/1978
192	NB04801614BCB1	--	Dakota Sandstone	6,470	--	--	7.4	600	08/09/1978
193	NB04901533BBC1	U.S. Forest Service	Dakota Sandstone	9,385	5	08/16/1978	7.2	440	08/16/1978

*Chemical analysis in table 4.

Table 4.--*Chemical analyses of water samples from wells and springs*

[ft, feet; µS/cm = microsiemens per centimeter at 25° Celsius; °C, degrees Celsius; mg/L = milligrams per liter; µg/L = micrograms per liter; < = less than; dashes indicate no data; ND = Not detected]

Map number (see pl. 1)	Local identifier (see fig. 2)	Principal aquifer	Site type	Date of sample	Well depth (ft)	Specific conductance (µS/cm)	pH	Water temperature (°C)	Hardness (mg/L)	Calcium (mg/L)	Magnesium (mg/L)
87	NB04200901ACA1	Alluvium	well	78-02-09	116	466	7.2	6.0	220	81	5.2
		Alluvium	well	78-02-22	116	450	7.4	6.0	210	77	5.1
		Alluvium	well	78-03-06	116	425	7.2	.5	220	78	5.1
133	NB04300927ADB1	Brushy Basin Member[1]	spring	74-05-04	--	240	7.6	7.0	100	34	4.8
134	NB04300936DCB1	Permian rock	spring	78-06-23	--	240	8.3	11.0	120	43	2.9
137	NB04301017BAA1	Permian rock	spring	78-01-05	--	490	8.8	1.0	270	74	21
139	NB04301023DBD1	Alluvium	spring	78-06-21	--	115	7.1	8.0	51	17	2
141	NB04301028ABD1	Permian rock	spring	74-05-09	--	426	7.7	6.0	220	64	14
144	NB04301112ABC1	Alluvium	well	74-05-09	80	648	7.5	9.0	320	99	17
145	NB04301319ADA1	Dakota Sandstone	well	74-05-25	65	613	7.2	9.0	280	76	21
148	NB04301327CDA1	Dakota Sandstone	spring	78-01-11	--	290	7.4	8.5	150	42	11
149	NB04301429AAD1	Terrace deposits	spring	78-04-21	--	498	7.9	7.0	280	82	19
151	NB04401028CAA1	Mancos Shale	spring	78-06-21	--	475	7.4	9.0	260	81	15
162	NB04401134DDD1	Permian rock	spring	75-09-16	--	405	--	31.0	400	140	11
		Permian rock	spring	76-01-21	--	3,500	6.5	33.0	420	150	10
		Permian rock	spring	76-04-15	--	3,600	6.2	33.0	420	150	11
		Permian rock	spring	78-01-05	--	3,550	7.2	33.0	420	150	11
163	NB04401135CCB1	Permian rock	spring	74-05-09	--	954	7.8	10.0	350	51	55
93	NB04401135CCC1	Alluvium	well	74-05-09	80	644	7.5	10.0	310	86	22
94	~~NB04401212BAB1~~	~~Dakota Sandstone~~	~~well~~	~~78-06-27~~	~~61~~	~~519~~	~~6.7~~	~~9.5~~	~~310~~	~~100~~	~~14~~
165	NB04401308DAD1	Burro Canyon Formation	spring	78-06-22	--	417	7.0	17.0	230	66	16
166	NB04401424CAD1	Brushy Basin Member*	spring	78-04-05	--	680	7.3	6.5	320	97	19
167	NB04401436BBD1	Dakota Sandstone	spring	74-05-25	--	590	--	7.5	200	79	1.6
		Dakota Sandstone	spring	78-04-05	--	420	7.2	6.5	270	81	15
31	NB04401516CDC1	Dakota Sandstone	well	73-08-24	57	5,770	7.6	16	810	190	81
96	NB04401524AAA1	Dakota Sandstone	well	74-05-25	80	1,590	7.2	9	880	210	87
168	NB04401525DBD1	Alluvium	spring	73-08-24	--	931	7.6	--	400	110	31
170	NB04501201ABD1	Burro Canyon Formation	spring	78-04-25	--	330	6.5	6.5	170	45	13
171	NB04501206BCD1	Dakota Sandstone	spring	78-01-08	--	600	7.2	3.5	300	94	17
100	NB04501334BDA1	Dakota Sandstone	well	78-06-22	96	960	7.2	16.0	430	130	24
102	NB04501335BBB1	Dakota Sandstone	well	78-06-27	80	660	7.0	17.0	370	98	30
104	NB04501404DCD1	Dakota Sandstone	well	74-05-25	40	2,210	6.4	12.0	1,200	250	150
57	NB04501409AAA1	Alluvium	well	74-05-03	--	897	7.7	11.0	390	59	60
179	NB04601222DAC1	Burro Canyon Formation	spring	78-04-24	--	103	6.5	6.5	49	15	2.7
180	NB04601230DDB1	Dakota Sandstone	spring	78-04-24	--	365	7.3	9.0	180	57	10

Table 4.--*Chemical analyses of water samples from wells and springs*--Continued

Local identifier (see fig. 2)	Date of sample	Sodium (mg/L)	Percent sodium	Sodium adsorb-tion ratio	Potas-sium (mg/L)	Bicar-bonate (mg/L)	Field alka-linity (mg/L)	Sulfate (mg/L)	Chlo-ride (mg/L)	Fluo-ride (mg/L)
NB04200901ACA1	78-02-09	9.6	9	.3	.90	65	53	170	3.0	.10
	78-02-22	8.9	8	.3	1.0	64	52	160	2.7	.10
	78-03-06	8.8	8	.3	1.0	66	54	150	1.3	.10
NB04300927ADB1	74-05-04	3.6	7	.2	.60	130	105	12	1.4	<.10
NB04300936DCB1	78-06-23	2.7	5	.1	.30	94	77	41	1.6	.10
NB04301017BAA1	78-01-05	9.4	7	.3	2.4	240	200	60	8.1	.30
NB04301023DBD1	78-06-21	3.0	11	.2	.30	51	42	13	1.2	.10
NB04301028ABD1	74-05-09	5.1	5	.2	1.7	200	164	63	2.3	.40
NB04301112ABC1	74-05-09	15	9	.4	2.0	250	205	140	6.0	.50
NB04301319ADA1	74-05-25	19	13	.5	1.4	250	201	92	22	.50
NB04301327CDA1	78-01-11	5.6	7	.2	.90	170	140	12	1.9	.30
NB04301429AAD1	78-04-21	13	9	.3	2.3	330	270	23	7.8	.20
NB04401028CAA1	78-06-21	8.5	7	.2	1.2	230	190	68	2.7	.20
NB04401134DDD1	75-09-16	730	76	17	84	1,100	902	880	260	4.7
	76-01-21	780	77	17	80	1,100	902	860	280	4.9
	76-04-15	760	76	17	84	1,110	910	810	270	5.0
	78-01-05	760	76	17	83	1,090	890	840	270	4.6
NB04401135CCB1	74-05-09	75	30	1.7	17	496	407	120	13	.5
NB04401135CCC1	74-05-09	17	11	.4	3.0	300	244	96	6.0	.20
NB04401212BAB1	78-06-27	20	12	.5	1.0	320	260	35	19	.60
NB04401308DAD1	78-06-22	30	22	.9	.60	250	210	51	18	.60
NB04401424CAD1	78-04-05	42	22	1	1.6	400	330	62	14	.40
NB04401436BBD1	74-05-25	29	23	.9	1.8	320	266	46	11	.40
	78-04-05	28	19	.8	1.8	320	260	46	10	.40
NB04401516CDC1	73-08-24	1,400	79	22	14	590	484	3,300	87	.60
NB04401524AAA1	74-05-25	44	10	.7	1.0	450	370	580	11	.80
NB04401525DBD1	73-08-24	62	25	1.3	3.3	443	363	170	14	.50
NB04501201ABD1	78-04-25	14	15	.5	5.0	200	160	24	3.5	.40
NB04501206BCD1	78-01-08	24	15	.6	.90	330	270	57	21	.50
NB04501334BDA1	78-06-22	70	26	2	1.5	370	300	170	46	.40
NB04501335BBB1	78-06-27	30	15	.7	.80	340	280	89	21	.70
NB04501404DCD1	74-05-25	84	13	1	1.7	260	213	1,200	9.1	2.5
NB04501409AAA1	74-05-03	48	21	1	.40	420	340	150	10	1.9
NB04601222DAC1	78-04-24	1.8	7	.1	1.8	55	45	8.1	1.8	.10
NB04601230DDB1	78-04-24	15	15	.5	1.0	210	170	16	8.9	.30

Table 4.--*Chemical analyses of water samples from wells and springs*--Continued

Local identifier (see fig. 2)	Date of sample	Dissolved solids (mg/L)	Nitrite and nitrate as nitrogen (mg/L)	Ortho phosphorus (mg/L)	Ortho phosphate (mg/L)	Aluminum (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Chromium (µg/L)	Copper (µg/L)
NB04200901ACA1	78-02-09	310	--	--	--	<100	<20	ND	140	ND
	78-02-22	290	1.80	<.010	.00	<100	<20	ND	160	<2
	78-03-06	280	1.60	1.40	4.3	20	40	<2	160	2
NB04300927ADB1	74-05-04	130	.140	<.010	.00	--	<20	--	--	--
NB04300936DCB1	78-06-23	150	.070	.010	.03	10	0	ND	--	ND
NB04301017BAA1	78-01-05	310	.910	.010	.03	--	--	--	--	--
NB04301023DBD1	78-06-21	70	.220	.010	.03	20	<20	ND	--	<2
NB04301028ABD1	74-05-09	260	.170	<.010	.00	--	<20	--	--	--
NB04301112ABC1	74-05-09	410	.340	.020	.06	--	50	--	--	--
NB04301319ADA1	74-05-25	370	.590	.010	.03	--	60	--	--	--
NB04301327CDA1	78-01-11	180	.320	.010	.03	--	--	--	--	--
NB04301429AAD1	78-04-21	350	.390	.050	.15	<100	<20	<2	--	ND
NB04401028CAA1	78-06-21	300	1.10	.010	.03	20	<20	ND	--	<2
NB04401134DDD1	75-09-16	2,800	<.100	.050	.15	80	1,200	ND	<20	<4
	76-01-21	2,800	.080	.080	.25	--	490	--	--	--
	76-04-15	2,700	.010	1.40	4.3	--	2,500	--	--	--
	78-01-05	2,800	.020	.020	.06	--	--	--	--	--
NB04401135CCB1	74-05-09	589	.11	<.010	.00	--	60	--	--	--
NB04401135CCC1	74-05-09	390	.110	<.010	.00	--	<20	--	--	--
NB04401212BAB1	78-06-27	360	2.60	<.010	.00	<100	30	<2	--	ND
NB04401308DAD1	78-06-22	320	.200	.010	.03	30	50	ND	--	2
NB04401424CAD1	78-04-05	450	.180	.040	.12	<100	80	<2	--	<2
NB04401436BBD1	74-05-25	350	.230	1.0	3.1	--	90	--	--	--
	78-04-05	350	.680	.010	.03	<100	70	<2	--	<2
NB04401516CDC1	73-08-24	5,400	1.30	.030	.09	--	440	--	--	--
NB04401524AAA1	74-05-25	1,200	.230	.010	.03	--	180	--	--	--
NB04401525DBD1	73-08-24	639	.31	.02	.06	--	70	--	--	--
NB04501201ABD1	78-04-25	210	.020	.010	.03	20	40	<2	--	ND
NB04501206BCD1	78-01-08	400	.030	.010	.03	--	--	--	--	--
NB04501334BDA1	78-06-22	640	.230	.010	.03	10	80	ND	--	12
NB04501335BBB1	78-06-27	460	4.10	.020	.06	<100	90	<2	--	<20
NB04501404DCD1	74-05-25	1,900	1.00	.030	.09	--	290	--	--	--
NB04501409AAA1	74-05-03	570	1.00	.040	.12	--	160	--	--	--
NB04601222DAC1	78-04-24	68	.020	<.010	.00	<100	<20	<2	--	<2
NB04601230DDB1	78-04-24	230	1.80	.010	.03	<100	<20	<2	--	ND

Table 4.--*Chemical analyses of water samples from wells and springs*--Continued

Local identifer (see fig. 2)	Date of sample	Iron (µg/L)	Lead (µg/L)	Manganese (µg/L)	Mercury (µg/L)	Nickel (µg/L)	Selenium (µg/L)	Zinc (µg/L)	Carbon (mg/L)
NB04200901ACA1	78-02-09	20	ND	<10	<.1	<2	--	<20	--
	78-02-22	20	5	<10	<.1	4	--	<20	1.3
	78-03-06	<10	ND	<10	<.1	2	--	ND	2.6
NB04300927ADB1	74-05-04	50	--	<10	--	--	--	--	--
NB04300936DCB1	78-06-23	30	5	<10	<.1	2	<1	<20	1.4
NB04301017BAA1	78-01-05	20	--	<10	--	--	3	--	--
NB04301023DBD1	78-06-21	<10	5	<10	<.1	2	<1	ND	.80
NB04301028ABD1	74-05-09	20	--	<10	--	--	--	--	--
NB04301112ABC1	74-05-09	60	--	<10	--	--	--	--	--
NB04301319ADA1	74-05-25	70	--	120	--	--	--	--	--
NB04301327CDA1	78-01-11	40	--	<10	--	--	<1	--	--
NB04301429AAD1	78-04-21	<10	5	<10	<.1	ND	1	<20	2.4
NB04401028CAA1	78-06-21	20	5	<10	<.1	3	3	<20	2.5
NB04401134DDD1	75-09-16	600	<17	160	<.5	<17	<1	ND	--
	76-01-21	890	--	380	--	--	--	--	--
	76-04-15	840	--	390	--	--	--	--	--
	78-01-05	890	--	360	--	--	<1	--	--
NB04401135CCB1	74-05-09	20	--	0	--	--	--	--	--
NB04401135CCC1	74-05-09	40	--	20	--	--	--	--	--
NB04401212BAB1	78-06-27	720	3	20	<.1	<2	1	20	3.8
NB04401308DAD1	78-06-22	<10	6	<10	<.1	2	3	<20	5.3
NB04401424CAD1	78-04-05	20	ND	<10	<.1	2	1	<20	1.1
NB04401436BBD1	74-05-25	40	--	<10	--	--	--	--	--
	78-04-05	20	2	<10	<.1	3	<1	ND	.90
NB04401516CDC1	73-08-24	<10	--	130	--	--	--	--	--
NB04401524AAA1	74-05-25	70	--	60	--	--	--	--	--
NB04401525DBD1	73-08-24	0	--	40	--	--	--	--	--
NB04501201ABD1	78-04-25	730	4	80	<.1	ND	<1	20	4.6
NB04501206BCD1	78-01-08	130	--	<10	--	--	1	--	--
NB04501334BDA1	78-06-22	30	6	<10	<.1	3	3	80	2.6
NB04501335BBB1	78-06-27	50	<2	<10	<.1	4	1	40	4.4
NB04501404DCD1	74-05-25	36,000	--	2,400	--	--	--	--	--
NB04501409AAA1	74-05-03	20	--	110	--	--	--	--	--
NB04601222DAC1	78-04-24	30	3	<10	<.1	<2	<1	80	7.3
NB04601230DDB1	78-04-24	20	6	<10	<.1	<2	1	<20	2.5

Table 4.--*Chemical analyses of water samples from wells and springs*--Continued

Map number (see pl. 1)	Local identifier (see fig. 2)	Principal aquifer	Site type	Date of sample	Well depth (ft)	Specific conductance (µS/cm)	pH	Water temperature (°C)	Hardness (mg/L)	Calcium (mg/L)	Magnesium (mg/L)
181	NB04601233AAA1	Mancos Shale	spring	78-04-24	80	790	7.7	5.5	420	130	23
105	NB04601233ACC1	Burro Canyon Formation	well	74-05-03	--	468	7.3	8.0	230	82	6.7
182	NB04601401ACA1	Dakota Sandstone	spring	78-04-06	--	775	7.1	8.0	440	110	40
70	NB04601511DCB1	Brushy Basin Member*	well	74-05-03	265	1,770	8.3	15.0	34	9.1	2.8
183	NB04601515BDC1	Dakota Sandstone	spring	78-01-12	--	1,400	7.4	10.0	940	270	64
72	NB04601517ABB1	Dakota Sandstone	well	74-05-24	335	2,270	7.8	12.0	220	59	17
77	NB04601614CDC1	Brushy Basin Member*	well	74-05-24	36	1,420	7.8	12.0	200	57	15
109	NB04701625ABB1	Burro Canyon Formation	well	74-05-02	202	1,180	7.7	14.0	150	32	16
85	NB04701701ABD1	Salt Wash Member*	well	74-09-11	--	601	--	19.5	210	48	21
		Salt Wash Member*	well	78-06-26	180	600	7.3	17.0	240	54	25
110	NB04801734BBB1	Wingate Sandstone	well	74-09-11	550	920	--	16.0	370	72	47
		Wingate Sandstone	well	78-06-26	408	415	7.6	25.0	110	22	13
111	NB04801734DCB1	Wingate Sandstone	well	74-09-11	516	1,470	--	15.5	470	140	30

Local identifier (see fig. 2)	Date of sample	Sodium (mg/L)	Percent sodium	Sodium adsorbtion ratio	Potassium (mg/L)	Bicarbonate (mg/L)	Field alkalinity (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Fluoride (mg/L)
NB04601233AAA1	78-04-24	31	14	.7	.80	320	260	78	72	.50
NB04601233ACC1	74-05-03	7.3	6	.2	.80	250	206	19	9.4	.30
NB04601401ACA1	78-04-06	22	10	.5	2.2	310	250	210	5.8	.10
NB04601511DCB1	74-05-03	420	94	32	17	920	758	190	21	3.3
NB04601515BDC1	78-01-12	16	4	.2	.50	300	250	660	2.5	2.6
NB04601517ABB1	74-05-24	420	80	13	8.3	220	178	910	29	.40
NB04601614CDC1	74-05-24	240	71	8	4.4	390	318	340	26	.70
NB04701625ABB1	74-05-02	210	73	8	15	490	401	220	7.7	.80
NB04701701ABD1	74-09-11	41	27	1	28	300	249	47	19	1.5
	78-06-26	40	25	1	22	320	260	47	16	1.1
NB04801734BBB1	74-09-11	39	18	.9	14	230	190	180	61	.90
	78-06-26	46	42	2	22	230	190	13	18	1.1
NB04801734DCB1	74-09-11	90	28	2	15	230	191	62	310	1.3

Table 4.--*Chemical analyses of water samples from wells and springs*--Continued

Local identifier (see fig. 2)	Date of sample	Dissolved solids (mg/L)	Nitrite and nitrate as nitrogen (mg/L)	Ortho phosphorus (mg/L)	Ortho phosphate (mg/L)	Aluminum (µg/L)	Boron (µg/L)	Cadmium (µg/L)	Chromium (µg/L)	Copper (µg/L)
NB04601233AAA1	78-04-24	510	8.40	.010	.03	<100	30	3	--	ND
NB04601233ACC1	74-05-03	260	2.10	.010	.03	--	<20	--	--	--
NB04601401ACA1	78-04-06	550	1.40	.010	.03	<100	70	2	--	<2
NB04601511DCB1	74-05-03	1,100	.180	.020	.06	--	660	--	--	--
NB04601515BDC1	78-01-12	1,200	.600	.030	.09	--	--	--	--	--
NB04601517ABB1	74-05-24	1,600	.030	.010	.03	--	170	--	--	--
NB04601614CDC1	74-05-24	880	.240	.010	.03	--	200	--	--	--
NB04701625ABB1	74-05-02	750	.080	.010	.03	--	250	--	--	--
NB04701701ABD1	74-09-11	360	.490	.010	.03	--	240	--	--	--
	78-06-26	370	.230	<.010	.00	20	200	<2	--	2
NB04801734BBB1	74-09-11	540	<.100	<.010	.00	--	120	--	--	--
	78-06-26	250	.060	.020	.06	20	210	<2	--	ND
NB04801734DCB1	74-09-11	770	.010	.010	.03	--	180	--	--	--

Local identifer (see fig. 2)	Date of sample	Iron (µg/L)	Lead (µg/L)	Manganese (µg/L)	Mercury (µg/L)	Nickel (µg/L)	Selenium (µg/L)	Zinc (µg/L)	Carbon (mg/L)
NB04601233AAA1	78-04-24	60	7	<10	<.1	2	<1		
NB04701233ACC1	74-05-03	50	--	<10	--	--	--	--	--
NB04601401ACA1	78-04-06	20	ND	<10	<.1	2	1	<20	2.5
NB04601511DCB1	74-05-03	30	--	280	--	--	--	--	--
NB04601515BDC1	78-01-12	20	--	<10	--	--	3	--	--
NB04601517ABB1	74-05-24	80	--	70	--	--	--	--	--
NB04601614CDC1	74-05-24	780	--	70	--	--	--	--	--
NB04601625ABB1	74-05-02	2,300	--	60	--	--	--	--	--
NB04701701ABD1	74-09-11	80	--	30	--	--	<1	--	--
	78-06-26	110	2	<10	<.1	3	<1	20	.50
NB04801734BBB1	74-09-11	30	--	130	--	--	<1	--	--
	78-06-26	60	<2	30	<.1	ND	<1	70	.40
NB04801734DCB1	74-09-11	20	--	40	--	--	<1	--	

*Morrison Formation