WATER-QUALITY AND GROUND-WATER-LEVEL DATA, BERNALILLO COUNTY, CENTRAL NEW MEXICO, 1995

By Dale R. Rankin

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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
foot	0.3048	meter
mile	1.609	kilometer
square mile	2.590	square kilometer

Temperature in degrees Celsius (°C) can be converted to degrees Fahrenheit (°F) by the equation:

$$°F = 9/5\ (°C) + 32$$

Sea level: In this report sea level refers to the National Geodetic Vertical Datum of 1929--a geodetic datum derived from a general adjustment of the first-order level nets of the United States and Canada, formerly called Sea Level Datum of 1929.

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ABSTRACT

Water-quality and ground-water-level data were collected in two areas of eastern Bernalillo County in central New Mexico between March and July of 1995. Fifty-one wells, two springs, and the Ojo Grande Acequia in the east mountain area of Bernalillo County and nine wells in the northeast area of the city of Albuquerque were sampled. The water samples were analyzed for selected nutrient species; total organic carbon; major dissolved constituents; dissolved arsenic, boron, iron, and manganese; and methylene blue active substances. Analytical results were used to compute hardness, sodium adsorption ratio, and dissolved solids. Specific conductance, pH, temperature, and alkalinity were measured in the field at the time of sample collection. Ground-water-level and well-depth measurements were made at the time of sample collection when possible. Water-quality data, ground-water-level data, and well-depth data are presented in tabular form.

INTRODUCTION

Unincorporated areas of eastern Bernalillo County have undergone rapid development and a subsequent rise in population in recent years. As a result, the demand for ground-water supplies is greater and the potential for contamination has increased. The majority of homes in the unincorporated areas use septic systems for the disposal of wastewater. Bernalillo County officials recognize the importance of continuing and expanding monitoring efforts in these rapidly developing areas, with particular attention to the degradation of ground water that results from sewage disposal.

Accordingly, the Bernalillo County Environmental Health Department has entered into several cooperative agreements with the U.S. Geological Survey (USGS) since 1989 to collect ground-water data in the eastern part of Bernalillo County (fig. 1). In January 1990, the USGS began monitoring ground-water quality and ground-water levels in 20 domestic-supply wells in eastern Bernalillo County, referred to hereafter as the east mountain area. Water-quality samples were collected and ground-water-levels were measured monthly in the east mountain area between January 1990 and June 1993. Eleven domestic-supply wells in an unincorporated area northeast of the city of Albuquerque, referred to hereafter as the northeast area, were sampled once between December 1992 and September 1993 (Kues and Garcia, 1995). This report was prepared in cooperation with the Bernalillo County Environmental Health Department.

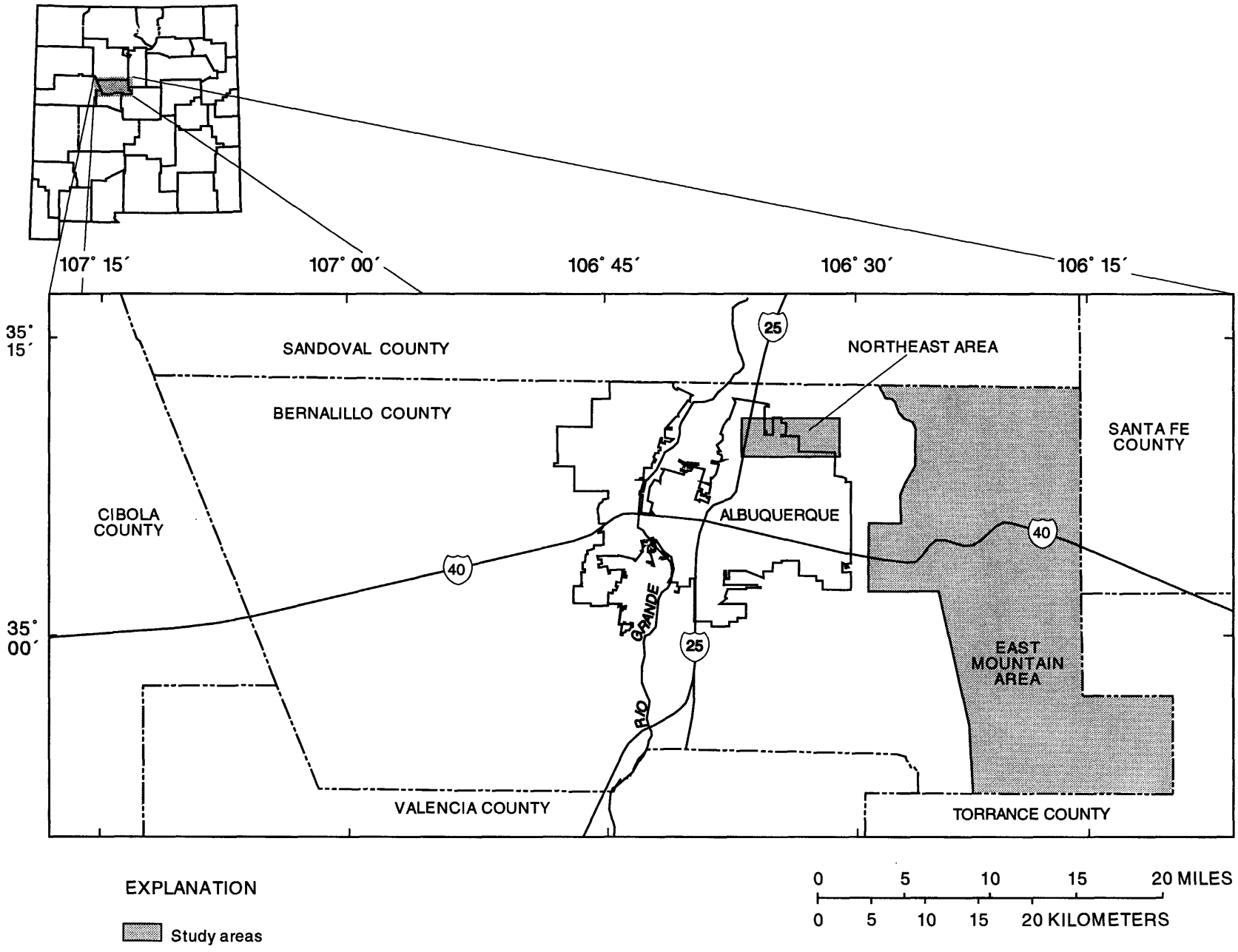

Figure 1.--Location of study areas, Bernalillo County, New Mexico.

Purpose and Scope

This report presents water-quality data, ground-water-level data, and well-depth data collected in two unincorporated areas of eastern Bernalillo County between March and July of 1995. Water-quality data for 51 domestic-supply wells, 2 springs (sites 44 and 45), and the Ojo Grande Acequia (site 38) in the east mountain area and for 9 domestic-supply wells in the northeast area are presented in tabular form. Ground-water-level data and well-depth data are reported where available. Twenty of 51 wells in the east mountain area and 9 of 11 wells in the northeast area were sampled previously by the USGS (Kues and Garcia, 1995).

Description of Study Areas

The east mountain area comprises approximately 150 square miles in the eastern quarter of Bernalillo County. The boundaries of the area are the county lines on the north, east, and south, the crest line of the Sandia Mountains on the northwest, and the Manzano Mountains on the southwest (fig. 2). Soils and unconsolidated alluvial deposits overlie shallow, fractured limestone in most of the study area. Fractured sandstones and shales underlie the center part of the area, and igneous and metamorphic rock crop out on the south slopes of the Sandia Mountains and north slopes of the Manzano Mountains. The ground-water system and geology of the area were described by Titus (1980) and Kues (1990).

The northeast area (fig. 3) is underlain by unconsolidated alluvium and basin-fill deposits of clay, silt, sand, and gravel. The deposits range from 2,000 to 3,500 feet thick along the western flanks of the Sandia Mountains. The geohydrologic framework and hydrologic conditions of the Albuquerque Basin were summarized by Thorn and others (1993).

Acknowledgments

The cooperation of the well owners, whose kind permission allowed sampling and ground-water-level data collection to be conducted, is gratefully acknowledged. Appreciation is also extended to Bernalillo County Environmental Health Department personnel, particularly Mr. Jeffery Peterson; to State Engineer Office personnel, who furnished information on wells that were sampled; and to Mr. Chris Jinzo, Mayordomo of the Ojo Grande Acequia, who provided access to and information regarding the spring and acequia samples.

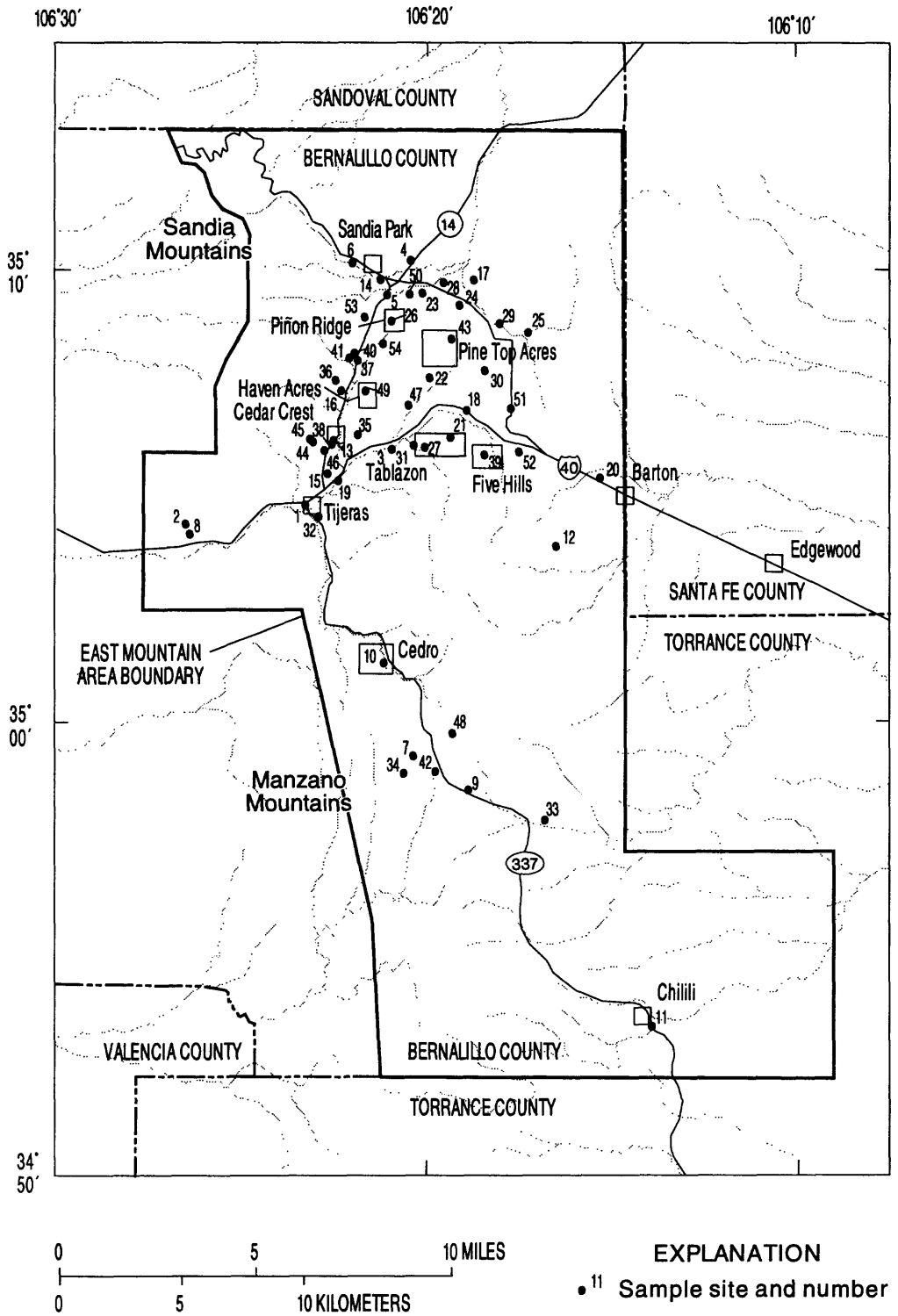

Figure 2.--Location of wells, springs, and acequia sampled in the east mountain area, Bernalillo County, New Mexico.

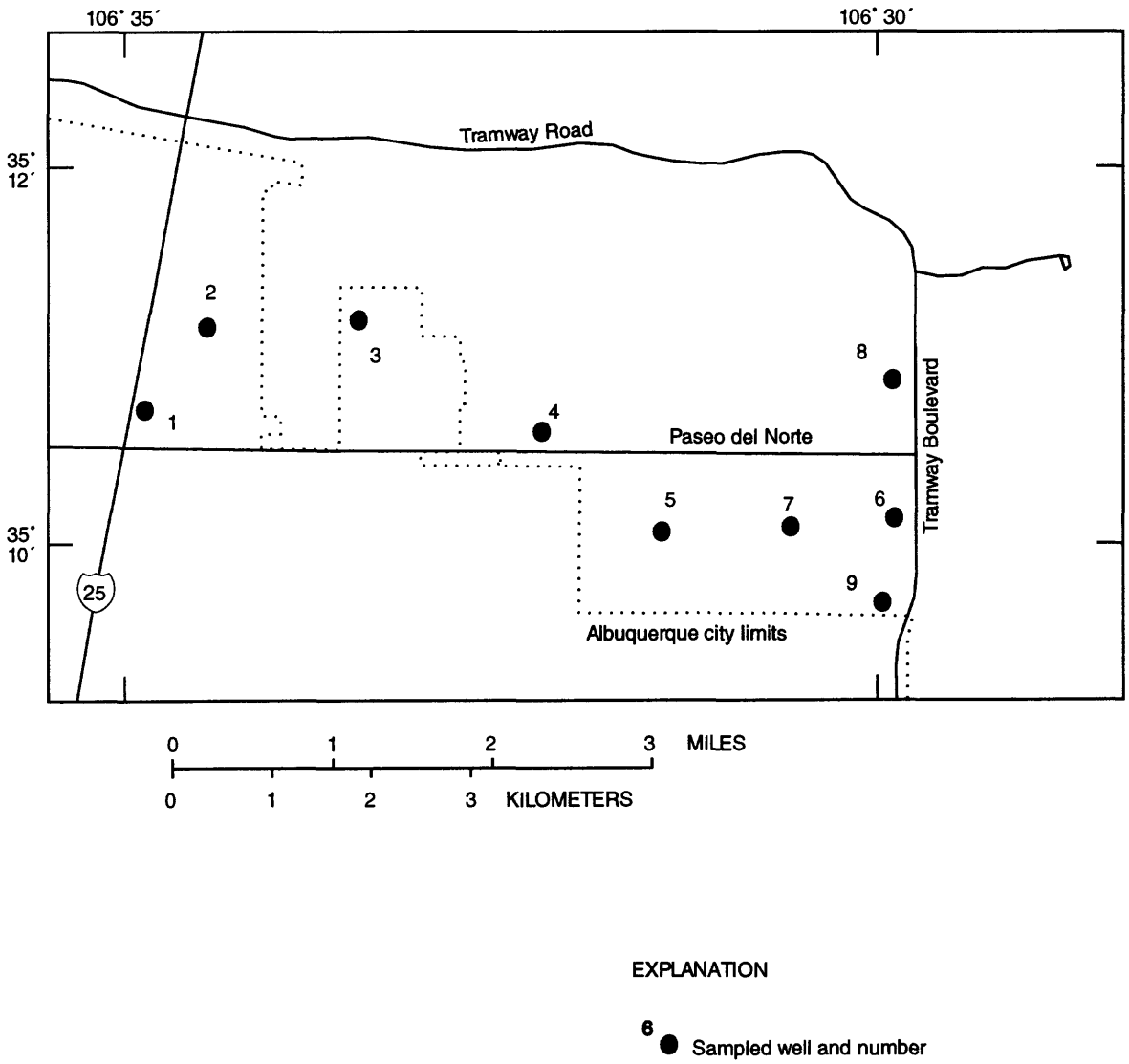

Figure 3.--Location of wells sampled in the northeast area, Bernalillo County, New Mexico.

METHODS

Ground-water samples and water-quality field measurements were collected using standard USGS techniques described by Wood (1976). Water samples were obtained using submersible pumps installed in the domestic-supply wells. Samples were collected as close as possible to the well head and in all cases were collected prior to water treatment. For all samples collected from both areas, specific conductance, pH, air and water temperature, and alkalinity were measured in the field at the time of sample collection. Samples were processed in the field and shipped the same day for analysis to the USGS National Water Quality Laboratory in Arvada, Colorado. Samples were analyzed for all constituents using standard USGS techniques described by Fishman and Friedman (1989). Prior to sample collection, ground-water levels were measured using a steel tape. In each case, a check measurement was made. Water-quality field measurements, including specific conductance, pH, air and water temperature, and alkalinity, and analytical results were entered into the USGS National Water Information System (NWIS) water-quality data base (QWDATA); ground-water levels, well-depth measurements, and land-surface altitudes were entered into the NWIS Ground-Water Site-Inventory data base (GWSI).

DISCUSSION OF DATA

All water samples collected from the east mountain area and northeast area were analyzed for nutrients, including nitrate, nitrite, phosphorus, orthophosphate, and ammonia, which are common indicators of ground-water contamination from sewage effluent. Additionally, the samples were analyzed for other possible indicators of ground-water contamination from sewage effluent, including total organic carbon, dissolved boron, dissolved iron, and methylene blue active substances, which are detergent additives that were used until about the mid-1970's. The samples were also analyzed for major dissolved constituents, including calcium, magnesium, sodium, potassium, chloride, sulfate, and fluoride, and for dissolved silica, manganese, and arsenic. Total hardness, sodium adsorption ratio, and dissolved solids were computed from analytical results. Water-quality data for 51 wells, 2 springs, and the Ojo Grande Acequia in the east mountain area are presented in table 1. Water-quality data for nine wells in the northeast area are presented in table 2. In addition to the results of chemical analyses, both tables include site number, station identification number, sample collection date, and land-surface altitude of each well; when possible, a ground-water level (in feet below land surface) and well depth are included.

Nitrate concentrations are determined by analyzing the sample for the sum of nitrite plus nitrate and for nitrite separately, then calculating the concentration of nitrate by the difference. The sum concentrations of nitrite plus nitrate as nitrogen and the concentration of nitrite are displayed in tables 1 and 2, rather than the concentration of nitrite and nitrate separately, because the concentration of nitrite in most cases was less than the minimum reporting level (the minimum concentration of an analyte that can be reliably measured and reported by the laboratory) for the analytical method (0.01 milligram per liter (mg/L) as nitrogen); therefore, the concentration of nitrate could not be calculated. Because the concentration of nitrite in most samples was less than or near the minimum reporting level, the concentration of nitrate alone is approximately the same as that of nitrite plus nitrate.

Water quality differs appreciably among the 51 wells sampled in the east mountain area. This is evident, for example, by the ranges of pH (from 6.4 in well 49 to 9.3 in well 16), specific conductance (from 385 microsiemens per centimeter at 25 degrees Celsius (µS/cm) in well 35 to 2,960 µS/cm in well 47), dissolved solids (from 229 mg/L in well 38 to 3,210 mg/L in well 35), and nitrite plus nitrate (from less than 0.050 mg/L in wells 15, 22, 43, 47, 49, and 54 to 21.0 mg/L in well 5); other constituents display similar variability. Water from well 5 had the largest concentration of nitrite plus nitrate in 1995, and the concentration of this constituent is similar to concentrations reported for this well by Kues and Garcia (1995).

In the northeast area, the largest concentrations of dissolved nitrite plus nitrate were from well 8 (2.80 mg/L) and well 9 (2.40 mg/L) located along Tramway Road (fig. 3) on the eastern edge of the study area. Concentrations of dissolved nitrite plus nitrate in water from the seven other northeast area wells were less than or equal to 0.28 mg/L. Results from this study are similar to results obtained in 1992-93 (Kues and Garcia, 1995, table 2). The nitrite plus nitrate concentration in well 1 exhibited the most change, increasing from 0.051 mg/L in 1993 to 0.170 mg/L in 1995.

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Table 1.--Water-quality and ground-water-level data for wells, springs, and an acequia in the east mountain area, Bernalillo County, New Mexico, 1995

[Analyses are for dissolved constituents unless otherwise noted; µS/cm, microsiemens per centimeter at 25 degrees Celsius; deg C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; <, less than; --, no data; NA, not applicable; depth to water: A, artesian well]

Site number (figure 2)	Station identification number	Date sampled	Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Phosphorus (mg/L as P)	Orthophosphate (mg/L as P)	Ammonia (mg/L as N)	Ammonia plus organic nitrogen (mg/L as N)	Total organic carbon (mg/L)	Boron (mg/L)	Iron (mg/L)	Methylene blue active substances (mg/L)
1	350449106231901	03-14-95	0.660	0.010	<0.010	<0.010	<0.015	<0.20	3.3	190	100	<0.02
2	350423106263301	03-17-95	0.720	<0.010	<0.010	<0.010	<0.015	<0.20	4.9	30	8	<0.02
3	350604106205801	03-22-95	9.20	<0.010	0.010	0.020	0.020	<0.20	12	110	7	<0.02
4	351014106202801	03-23-95	2.70	<0.010	0.010	0.010	<0.015	<0.20	6.0	50	<3	<0.02
5	350930106210701	03-23-95	21.0	<0.010	0.020	0.020	<0.015	<0.20	4.2	60	<3	<0.02
6	351011106220401	03-24-95	0.130	<0.010	<0.010	<0.010	<0.015	<0.20	4.5	20	<3	<0.02
7	345918106202001	03-28-95	0.050	<0.010	<0.010	<0.010	<0.015	<0.20	3.4	280	13	<0.02
8	350410106262601	03-28-95	14.0	<0.010	<0.010	<0.010	<0.015	<0.20	1.0	50	5	<0.02
9	345833106185101	03-28-95	1.30	<0.010	0.020	0.030	<0.015	0.20	9.9	120	29	0.02
10	350119106210901	03-29-95	4.50	<0.010	0.010	0.020	<0.015	<0.20	5.6	40	7	<0.02
11	345319106135101	03-31-95	3.10	<0.010	0.050	0.030	<0.015	<0.20	2.7	60	6	0.04
12	350356106162901	03-31-95	0.080	<0.010	<0.010	<0.010	0.030	<0.20	12	320	14	0.03
13	350615106223301	04-05-95	7.20	0.020	0.020	0.020	<0.015	<0.20	0.8	50	4	<0.02
14	350949106211801	04-12-95	0.630	<0.010	<0.010	<0.010	<0.015	<0.20	3.4	20	<3	<0.02
15	350531106224301	04-12-95	<0.050	<0.010	<0.010	<0.010	<0.015	<0.20	11	50	19	<0.02
16	350721106222101	04-13-95	0.330	0.020	0.030	0.020	<0.015	<0.20	1.5	10	9	<0.02
17	350949106184501	04-14-95	1.20	<0.010	<0.010	<0.010	<0.015	<0.20	3.9	70	7	<0.02
18	350655106185601	04-24-95	9.40	<0.010	<0.010	<0.010	<0.015	0.20	12	50	5	0.04
19	350522106222501	04-24-95	2.60	<0.010	<0.010	0.010	<0.015	<0.20	8.9	50	5	<0.02
20	350525106151701	04-25-95	7.60	<0.010	<0.010	0.010	<0.015	0.20	12	50	10	0.02
21	350620106192201	04-25-95	0.560	<0.010	<0.010	<0.010	<0.015	<0.20	4.2	150	5	<0.02
22	350739106195601	04-25-95	<0.050	<0.010	<0.010	<0.010	0.210	0.30	8.5	180	360	0.02
23	350931106200901	04-26-95	2.00	<0.010	0.030	0.020	0.020	<0.20	1.8	30	5	<0.02
24	350908106190601	04-26-95	0.180	<0.010	0.020	0.010	<0.015	<0.20	5.2	70	15	<0.02
25	350840106171601	04-26-95	5.80	<0.010	0.030	0.030	<0.015	<0.20	2.4	50	<3	<0.02
26	350854106210001	04-28-95	5.20	<0.010	<0.010	<0.010	<0.015	<0.20	8.6	80	<3	0.04
27	350606106200401	05-30-95	0.480	<0.010	<0.010	<0.010	<0.015	2.1	1.5	60	<3	<0.02
28	350946106193501	05-31-95	3.20	<0.010	<0.010	<0.010	0.020	<0.20	0.9	150	<3	0.02
29	350851106180301	05-31-95	4.20	<0.010	<0.010	0.020	0.020	0.20	0.5	40	<3	<0.02
30	350748106182601	05-31-95	4.40	<0.010	<0.010	<0.010	0.020	<0.20	1.5	70	<3	<0.02
31	350609106202201	06-01-95	1.70	0.020	<0.010	0.010	0.020	<0.20	2.6	230	<3	<0.02
32	350434106225701	06-01-95	1.20	<0.010	<0.010	<0.010	<0.015	<0.20	0.4	70	10	0.04
33	345754106164601	06-02-95	3.70	<0.010	<0.010	<0.010	0.020	<0.20	2.3	70	<3	0.04
34	345855106203601	06-02-95	4.70	<0.010	<0.010	0.020	0.020	<0.20	2.4	50	<3	0.03
35	350623106215301	06-02-95	1.20	<0.010	<0.010	<0.010	0.080	<0.20	3.1	140	70	<0.02
36	350735106223001	06-06-95	0.320	<0.010	<0.010	<0.010	<0.015	<0.20	1.0	250	3	0.07
37	350802106215401	06-06-95	7.00	0.030	<0.010	<0.010	<0.015	<0.20	2.2	230	16	0.03
[1]38	350610106223501	06-06-95	0.140	<0.010	<0.010	<0.010	0.020	<0.20	3.2	20	<3	0.04
39	350557106182701	06-07-95	7.20	0.010	0.010	0.010	0.030	<0.20	1.7	50	4	0.05
40	350812106220001	06-07-95	3.30	<0.010	0.050	0.040	0.030	<0.20	1.1	90	<3	0.02
41	350805106220801	06-07-95	7.90	<0.010	0.010	0.020	0.030	<0.20	1.5	100	<3	<0.02
42	345858106194601	06-08-95	8.10	<0.010	<0.010	0.040	0.030	<0.20	3.3	50	8	<0.02
43	350831106192301	06-08-95	<0.050	<0.010	<0.010	<0.010	1.10	0.90	0.9	230	2,100	<0.02
[2]44	350617106231101	06-08-95	0.180	<0.010	<0.010	<0.010	0.020	<0.20	0.7	<10	<3	0.02
[2]45	350613106230601	06-08-95	0.170	<0.010	<0.010	<0.010	0.020	<0.20	1.3	20	<3	<0.02
46	350602106224701	06-09-95	5.10	0.020	<0.010	<0.010	0.020	<0.20	1.0	60	<3	0.03
47	350702106203101	06-12-95	<0.050	<0.010	<0.010	<0.010	0.380	0.50	1.9	260	700	0.04
48	345948106191701	06-12-95	0.560	<0.010	0.020	0.010	0.020	<0.20	1.3	60	4	<0.02
49	350721106214101	06-14-95	<0.050	<0.010	0.020	<0.010	0.100	<0.20	1.2	70	<10	<0.02
50	350930106203001	06-14-95	1.90	<0.010	0.050	0.010	0.020	<0.20	1.1	20	<3	<0.02
51	350658106174401	06-14-95	0.790	0.010	0.030	<0.010	0.030	<0.20	2.7	100	<10	<0.02
52	350601106173101	07-25-95	0.100	<0.010	<0.010	<0.010	0.030	<0.20	3.3	130	70	<0.02
53	350859106214301	07-26-95	9.70	<0.010	0.040	0.020	<0.015	<0.20	3.7	120	<3	<0.02
54	350825106211101	07-27-95	<0.050	<0.010	<0.010	0.010	0.430	0.50	0.9	480	140	<0.02

Table 1.--Water-quality and ground-water-level data for wells, springs, and an acequia in the east mountain area, Bernalillo County, New Mexico, 1995--Continued

Site number (figure 2)	Station identification number	Date sampled	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Potassium (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Fluoride (mg/L)	Silica (mg/L)	Manganese (mg/L)
1	350449106231901	03-14-95	74	46	56	5.3	130	88	0.20	17	19
2	350423106263301	03-17-95	73	18	24	3.7	8.9	74	2.1	19	<1
3	350604106205801	03-22-95	180	45	71	2.9	310	67	0.20	20	<1
4	351014106202801	03-23-95	110	21	16	1.3	120	39	0.30	26	<1
5	350930106210701	03-23-95	190	21	31	1.2	160	31	0.20	29	<1
6	351011106220401	03-24-95	130	13	30	1.1	80	34	0.60	17	<1
7	345918106202001	03-28-95	8.7	7.3	160	4.1	34	21	4.9	10	<1
8	350410106262601	03-28-95	190	37	48	4.0	180	160	1.8	21	1
9	345833106185101	03-28-95	160	32	140	3.7	160	170	1.1	20	8
10	350119106210901	03-29-95	160	29	47	1.9	140	51	0.40	15	3
11	345319106135101	03-31-95	130	15	41	2.1	31	49	0.20	18	<1
12	350356106162901	03-31-95	27	22	170	4.8	55	83	4.8	11	6
13	350615106223301	04-05-95	140	26	30	0.80	19	100	0.20	20	1
14	350949106211801	04-12-95	110	9.3	12	0.80	49	25	0.30	16	<1
15	350531106224301	04-12-95	200	34	39	1.9	97	270	0.30	19	4
16	350721106222101	04-13-95	1.1	0.0	170	0.10	14	40	0.90	10	4
17	350949106184501	04-14-95	83	29	23	1.3	23	56	0.30	27	2
18	350655106185601	04-24-95	200	52	63	4.1	290	150	0.20	16	<1
19	350522106222501	04-24-95	190	36	77	2.1	190	240	0.20	20	<1
20	350525106151701	04-25-95	260	42	57	1.8	450	130	0.30	19	<10
21	350620106192201	04-25-95	50	24	84	5.5	45	69	1.2	10	2
22	350739106195601	04-25-95	160	66	60	5.3	35	290	0.40	23	18
23	350931106200901	04-26-95	310	17	19	1.8	20	660	0.30	23	<1
24	350908106190601	04-26-95	120	21	22	2.1	3.9	210	0.30	21	2
25	350840106171601	04-26-95	140	20	21	1.9	140	100	0.30	18	<1
26	350854106210001	04-28-95	130	41	26	3.8	97	94	0.30	22	6
27	350606106200401	05-30-95	84	19	22	1.8	21	66	0.40	16	<1
28	350946106193501	05-31-95	52	26	47	2.1	51	80	0.90	23	2
29	350851106180301	05-31-95	92	15	14	1.7	20	25	0.30	19	3
30	350748106182601	05-31-95	120	35	33	2.2	200	68	0.30	18	<1
31	350609106202201	06-01-95	49	27	82	4.3	27	69	0.80	12	10
32	350434106225701	06-01-95	72	38	24	2.5	36	70	0.50	17	<1
33	345754106164601	06-02-95	170	28	38	2.0	130	130	0.30	18	4
34	345855106203601	06-02-95	150	17	32	1.5	82	76	0.20	19	<1
35	350623106215301	06-02-95	400	200	310	50	180	1,800	0.50	19	30
36	350735106223001	06-06-95	77	20	52	0.90	43	42	0.30	16	<1
37	350802106215401	06-06-95	210	43	40	2.6	210	250	0.20	19	2
[1]38	350610106223501	06-06-95	70	9.6	6.7	0.70	4.0	15	0.20	18	<1
39	350557106182701	06-07-95	190	45	42	2.5	210	200	0.40	14	5
40	350812106220001	06-07-95	110	15	26	0.80	53	28	0.30	25	<1
41	350805106220801	06-07-95	120	21	31	0.70	77	45	0.30	24	<1
42	345858106194601	06-08-95	190	13	26	0.90	140	43	0.20	19	<1
43	350831106192301	06-08-95	60	55	190	4.4	17	270	0.30	18	12
[2]44	350617106231101	06-08-95	84	9.5	6.6	0.70	4.0	14	0.20	17	<1
[2]45	350613106230601	06-08-95	87	9.6	6.6	0.70	3.9	14	0.20	17	<1
46	350602106224701	06-09-95	100	19	55	2.0	12	98	0.20	16	4
47	350702106203101	06-12-95	280	150	230	7.4	190	1,000	0.40	18	60
48	345948106191701	06-12-95	120	34	22	3.7	45	63	0.30	13	<1
49	350721106214101	06-14-95	430	140	45	4.2	50	1,200	0.30	24	140
50	350930106203001	06-14-95	86	4.4	12	0.70	20	10	0.20	18	2
51	350658106174401	06-14-95	220	85	150	3.3	520	220	0.40	16	<10
52	350601106173101	07-25-95	310	140	73	5.0	470	640	0.30	19	30
53	350859106214301	07-26-95	180	31	24	1.5	220	29	0.20	27	12
54	350825106211101	07-27-95	3.0	1.7	290	1.9	6.5	150	0.60	9.6	5

Table 1.--Water-quality and ground-water-level data for wells, springs, and an acequia in the east mountain area, Bernalillo County, New Mexico, 1995--Continued

Site number (figure 2)	Station identification number	Date sampled	Arsenic (µg/L)	Total hardness (mg/L as $CaCO_3$)	Sodium adsorption ratio	Dissolved solids (mg/L)	Specific conductance (µS/cm)	pH (units)	Temperature air (deg C)	Temperature water (deg C)	Alkalinity (mg/L as $CaCO_3$)
1	350449106231901	03-14-95	2	370	1	558	952	7.4	13.0	14.0	222
2	350423106263301	03-17-95	<1	260	0.7	353	577	7.3	24.0	17.0	208
3	350604106205801	03-22-95	<1	630	1	908	1,620	7.1	15.0	13.5	278
4	351014106202801	03-23-95	2	360	0.4	452	825	7.2	11.5	12.0	174
5	350930106210701	03-23-95	1	560	0.6	738	1,270	7.0	11.0	13.0	298
6	351011106220401	03-24-95	<1	380	0.7	488	856	6.9	10.0	9.0	300
7	345918106202001	03-28-95	<1	52	10	445	784	7.9	-0.5	11.0	--
8	350410106262601	03-28-95	<1	630	0.8	845	1,450	7.3	6.0	14.0	--
9	345833106185101	03-28-95	28	530	3	938	1,580	7.1	0.0	11.0	--
10	350119106210901	03-29-95	<1	520	0.9	674	1,220	7.1	0.0	10.0	354
11	345319106135101	03-31-95	<1	390	0.9	527	890	7.1	8.0	11.0	376
12	350356106162901	03-31-95	<1	160	6	602	1,040	7.6	9.0	15.5	372
13	350615106223301	04-05-95	<1	460	0.6	582	935	7.3	15.5	12.0	348
14	350949106211801	04-12-95	<1	310	0.3	380	666	7.0	9.0	7.0	247
15	350531106224301	04-12-95	<1	640	0.7	831	1,300	6.8	18.0	15.0	322
16	350721106222101	04-13-95	2	3	43	432	730	9.3	18.5	14.0	312
17	350949106184501	04-14-95	1	330	0.6	424	713	7.3	20.5	13.5	286
18	350655106185601	04-24-95	<1	710	1	976	1,750	6.7	12.0	13.0	274
19	350522106222501	04-24-95	<1	620	1	948	1,530	7.1	10.0	12.0	288
20	350525106151701	04-25-95	<1	820	0.9	1,120	2,090	7.0	12.5	8.0	198
21	350620106192201	04-25-95	4	220	2	466	800	7.3	13.0	15.0	286
22	350739106195601	04-25-95	<1	670	1	935	1,440	6.9	15.0	--	514
23	350931106200901	04-26-95	<1	840	0.3	1,160	1,470	7.0	16.0	12.5	140
24	350908106190601	04-26-95	1	390	0.5	541	826	7.0	14.5	11.0	228
25	350840106171601	04-26-95	<1	430	0.4	566	989	7.1	11.0	13.5	161
26	350854106210001	04-28-95	<1	490	0.5	628	1,100	6.8	17.0	13.0	318
27	350606106200401	05-30-95	<1	290	0.6	374	690	6.8	20.0	16.0	232
28	350946106193501	05-31-95	2	240	1	413	700	7.1	20.5	15.0	185
29	350851106180301	05-31-95	<1	290	0.4	365	530	6.5	20.0	15.0	258
30	350748106182601	05-31-95	<1	440	0.7	600	1,110	6.8	21.5	16.5	169
31	350609106202201	06-01-95	1	230	2	464	790	6.9	18.5	17.5	299
32	350434106225701	06-01-95	<1	340	0.6	427	730	6.8	22.0	17.0	260
33	345754106164601	06-02-95	<1	540	0.7	708	1,220	6.6	22.0	17.0	286
34	345855106203601	06-02-95	<1	440	0.7	583	989	6.5	21.0	12.5	296
35	350623106215301	06-02-95	<1	1,800	3	3,210	385	6.6	32.0	14.5	496
36	350735106223001	06-06-95	2	270	1	433	760	6.7	21.5	14.0	287
37	350802106215401	06-06-95	<1	700	0.7	937	1,570	6.7	26.0	15.0	213
[1]38	350610106223501	06-06-95	<1	210	0.2	229	421	7.6	24.0	19.0	202
39	350557106182701	06-07-95	<1	660	0.7	894	1,510	6.8	21.5	18.5	255
40	350812106220001	06-07-95	2	340	0.6	445	768	6.7	22.5	14.0	278
41	350805106220801	06-07-95	1	390	0.7	526	905	6.7	23.0	14.0	275
42	345858106194601	06-08-95	<1	530	0.5	663	1,180	6.5	16.5	13.0	314
43	350831106192301	06-08-95	<1	380	4	931	451	6.9	19.0	16.0	510
[2]44	350617106231101	06-08-95	<1	250	0.2	287	484	6.8	20.0	14.5	250
[2]45	350613106230601	06-08-95	<1	260	0.2	290	486	7.0	20.0	15.0	243
46	350602106224701	06-09-95	<1	330	1	522	842	6.8	13.0	17.0	318
47	350702106203101	06-12-95	<1	1,300	3	2,150	2,960	6.6	28.0	16.0	448
48	345948106191701	06-12-95	<1	440	0.5	516	872	6.9	27.0	15.0	342
49	350721106214101	06-14-95	<1	1,700	0.5	2,150	2,580	6.4	22.0	17.0	410
50	350930106203001	06-14-95	1	230	0.3	290	508	6.8	32.0	18.0	210
51	350658106174401	06-14-95	<1	900	2	1,360	2,400	6.6	31.0	18.0	220
52	350601106173101	07-25-95	<1	1,400	0.9	1,830	2,790	7.2	31.0	16.5	270
53	350859106214301	07-26-95	<1	580	0.4	709	1,280	7.7	29.5	16.0	245
54	350825106211101	07-27-95	<1	14	33	761	1,240	8.4	32.0	19.0	494

Table 1.--Water-quality and ground-water-level data for wells, springs, and an acequia in the east mountain area, Bernalillo County, New Mexico, 1995--Concluded

Site number (figure 2)	Station identification number	Date sampled	Land-surface altitude (feet above sea level)	Depth to water (feet below land surface)	Total depth of well (feet)
1	350449106231901	03-14-95	6,355	26.17	--
2	350423106263301	03-17-95	6,255	40.84	146
3	350604106205801	03-22-95	6,520	--	--
4	351014106202801	03-23-95	6,798	--	--
5	350930106210701	03-23-95	6,860	--	--
6	351011106220401	03-24-95	7,100	12.28	--
7	345918106202001	03-28-95	7,660	--	--
8	350410106262601	03-28-95	6,030	--	--
9	345833106185101	03-28-95	7,420	--	--
10	350119106210901	03-29-95	7,060	--	--
11	345319106135101	03-31-95	6,790	--	--
12	350356106162901	03-31-95	7,030	--	--
13	350615106223301	04-05-95	6,580	--	--
14	350949106211801	04-12-95	6,940	188.61	--
15	350531106224301	04-12-95	6,540	41.52	160
16	350721106222101	04-13-95	6,765	60.80	200
17	350949106184501	04-14-95	6,700	--	--
18	350655106185601	04-24-95	6,880	--	--
19	350522106222501	04-24-95	6,400	--	--
20	350525106151701	04-25-95	6,775	141.42	275
21	350620106192201	04-25-95	6,880	--	--
22	350739106195601	04-25-95	6,800	--	--
23	350931106200901	04-26-95	6,740	--	--
24	350908106190601	04-26-95	6,800	155.07	178
25	350840106171601	04-26-95	6,780	109	20
26	350854106210001	04-28-95	6,960	--	450
27	350606106200401	05-30-95	6,730	--	--
28	350946106193501	05-31-95	6,690	109.80	--
29	350851106180301	05-31-95	6,720	--	185
30	350748106182601	05-31-95	6,880	--	--
31	350609106202201	06-01-95	6,580	--	137
32	350434106225701	06-01-95	6,350	-37.5A	253
33	345754106164601	06-02-95	7,220	--	125
34	345855106203601	06-02-95	7,570	--	--
35	350623106215301	06-02-95	6,540	--	225
36	350735106223001	06-06-95	6,840	51.70	245
37	350802106215401	06-06-95	6,855	37.90	200
[1]38	350610106223501	06-06-95	6,580	NA	NA
39	350557106182701	06-07-95	7,200	--	--
40	350812106220001	06-07-95	6,860	38.30	100
41	350805106220801	06-07-95	6,900	74.80	--
42	345858106194601	06-08-95	7,490	32.40	100
43	350831106192301	06-08-95	6,886	--	--
[2]44	350617106231101	06-08-95	6,800	NA	NA
[2]45	350613106230601	06-08-95	6,760	NA	NA
46	350602106224701	06-09-95	6,600	41.74	--
47	350702106203101	06-12-95	6,660	140	--
48	345948106191701	06-12-95	7,680	--	--
49	350721106214101	06-14-95	7,300	--	--
50	350930106203001	06-14-95	6,810	--	--
51	350658106174401	06-14-95	6,990	98.54	205
52	350601106173101	07-25-95	6,960	--	--
53	350859106214301	07-26-95	6,980	--	--
54	350825106211101	07-27-95	6,920	125.00	150

[1]Acequia
[2]Spring

Table 2.--Water-quality and ground-water-level data for wells in the northeast area, Bernalillo County, New Mexico, 1995

[Analyses are for dissolved constituents unless otherwise noted; µS/cm, microsiemens per centimeter at 25 degrees Celsius; deg C, degrees Celsius; mg/L, milligrams per liter; --, no data; <, less than]

Well number (figure 3)	Station identification number	Date sampled	Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Phos-phorus (mg/L as P)	Ortho-phos-phate (mg/L as P)	Ammonia (mg/L as N)	Ammonia plus organic nitrogen (mg/L as N)	Total organic carbon (mg/L)	Boron (mg/L)	Iron (mg/L)	Methy-lene blue active sub-stances (mg/L)
1	351034106345601	03-13-95	0.170	<0.010	0.050	0.020	0.015	<0.20	2.5	40	4	–
2	351106106343601	03-14-95	0.060	<0.010	<0.010	<0.010	<0.015	<0.20	3.1	50	23	<0.02
3	351108106333601	03-15-95	0.050	<0.010	<0.010	<0.010	<0.015	<0.20	1.7	90	340	<0.02
4	351029106322001	03-15-95	0.160	<0.010	<0.010	<0.010	<0.015	<0.20	1.8	220	6	<0.02
5	351001106312201	03-15-95	0.280	<0.010	<0.010	<0.010	<0.015	<0.20	3.9	20	7	<0.02
6	351020106282001	03-16-95	0.120	<0.010	<0.010	<0.010	<0.015	<0.20	2.1	20	<3	<0.02
7	350957106304301	03-16-95	0.240	<0.010	<0.010	<0.010	<0.015	<0.20	1.4	20	8	<0.02
8	351055106295401	03-22-95	2.80	<0.010	<0.010	<0.010	0.020	<0.20	12	20	13	<0.02
9	351005106295701	03-24-95	2.40	<0.010	<0.010	<0.010	<0.015	<0.20	1.9	20	12	<0.02

Well number (figure 3)	Station identification number	Date sampled	Calcium (mg/L)	Magne-sium (mg/L)	Sodium (mg/L)	Potas-sium (mg/L)	Chlor-ride (mg/L)	Sulfate (mg/L)	Fluo-ride (mg/L)	Silica (mg/L)	Manga-nese (mg/L)
1	351034106345601	03-13-95	83	13	23	3.6	17	92	0.30	27	200
2	351106106343601	03-14-95	73	13	21	3.6	17	83	0.20	29	94
3	351108106333601	03-15-95	27	6.7	32	6.1	9.9	31	0.70	64	12
4	351029106322001	03-15-95	59	5.2	54	2.4	84	32	0.80	32	<1
5	351001106312201	03-15-95	43	3.4	19	1.3	5.1	17	0.50	26	3
6	351020106282001	03-16-95	83	13	20	2.2	5.8	41	2.0	25	<1
7	350957106304301	03-16-95	50	3.8	17	1.3	4.8	15	0.60	26	1
8	351055106295401	03-22-95	53	7.1	20	1.5	10	33	1.5	26	<1
9	351005106295701	03-24-95	71	8.2	14	1.7	6.5	26	1.8	23	1

Table 2.--Water-quality and ground-water-level data for wells in the northeast area, Bernalillo County, New Mexico, 1995--Concluded

Well number (figure 3)	Station identification number	Date sampled	Arsenic (µg/L)	Total hardness (mg/L as $CaCO_3$)	Sodium adsorption ratio	Dissolved solids (mg/L)	Specific conductance (µS/cm)	pH (units)	Temperature air (deg C)	Temperature water (deg C)	Alkalinity (mg/L as $CaCO_3$)
1	351034106345601	03-13-95	1	260	0.6	373	600	7.5	22.0	16.5	180
2	351106106343601	03-14-95	4	240	0.6	340	527	8.1	19.0	15.5	162
3	351108106333601	03-15-95	18	95	1	252	344	7.6	21.0	17.5	124
4	351029106322001	03-15-95	2	170	2	354	604	7.4	17.0	15.5	138
5	351001106312201	03-15-95	<1	120	0.8	199	317	7.6	11.5	13.5	134
6	351020106282001	03-16-95	<1	260	0.5	344	567	7.7	15.0	14.0	252
7	350957106304301	03-16-95	<1	140	0.6	211	376	7.7	21.0	18.0	150
8	351055106295401	03-22-95	<1	160	0.7	253	416	7.3	12.0	18.0	144
9	351005106295701	03-24-95	<1	210	0.4	279	454	7.5	15.0	17.0	190

Well number (figure 3)	Station identification number	Date sampled	Land-surface altitude (feet above sea level)	Depth to water (feet below land surface)	Total depth of well (feet)
1	351034106345601	03-13-95	5,190	265.94	--
2	351106106343601	03-14-95	5,230	--	364
3	351108106333601	03-15-95	5,385	472.39	575
4	351029106322001	03-15-95	5,500	--	670
5	351001106312201	03-15-95	5,745	--	930
6	351020106282001	03-16-95	6,455	--	--
7	350957106304301	03-16-95	5,868	--	655
8	351055106295401	03-22-95	6,040	--	632
9	351005106295701	03-24-95	6,020	--	515

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