GROUND-WATER-QUALITY AND GROUND-WATER-LEVEL DATA, BERNALILLO COUNTY, CENTRAL NEW MEXICO, 1990-93

By G. E. Kues and Benjamin M. Garcia

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BRUCE BABBITT, *Secretary*

U.S. GEOLOGICAL SURVEY

Gordon P. Eaton, *Director*

For additional information
write to:

District Chief
U.S. Geological Survey
Water Resources Division
4501 Indian School Rd. NE, Suite 200
Albuquerque, New Mexico 87110-3929

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CONVERSION FACTORS, VERTICAL DATUM, AND ABBREVIATED WATER-QUALITY UNITS

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.

Abbreviated water-quality units used in this report:

mg/L milligrams per liter

µg/L micrograms per liter

GROUND-WATER-QUALITY AND GROUND-WATER-LEVEL DATA, BERNALILLO COUNTY, CENTRAL NEW MEXICO, 1990-93

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ABSTRACT

Ground-water-quality and ground-water-level data were collected in four unincorporated areas of Bernalillo County during 1990-93. Twenty wells in the east mountain area of Bernalillo County were sampled approximately monthly between January 1990 and June 1993. The water samples were analyzed for concentrations of chloride and selected nutrient species; many of the samples also were analyzed for concentrations of total organic carbon and dissolved boron and iron. Eleven wells northeast of the city of Albuquerque, 20 wells in the Rio Grande Valley immediately north of Albuquerque, and 30 wells in the Rio Grande Valley immediately south of Albuquerque were sampled once each between December 1992 and September 1993; all water samples were analyzed for chloride and selected nutrient species, and selected samples from wells in the north and south valley areas were also analyzed for major dissolved constituents, iron, manganese, and methylene blue active substances. Samples from 10 of the wells in the north and south valley areas were analyzed for 47 selected pesticides. Field measurements of specific conductance, pH, temperature, and alkalinity were made on most samples at the time of sample collection. Water levels also were measured at the time of sample collection when possible. Results of the monthly water-quality and water-level monitoring in the east mountain area of Bernalillo County are presented in graphical form. Water-quality and water-level data collected from the other areas are presented in tabular form.

INTRODUCTION

Unincorporated areas of Bernalillo County, especially those in the Rio Grande Valley north and south of the city of Albuquerque and in the eastern quarter of the county, have undergone rapid population growth and expanded development in recent years. Increasing population and development have placed increasing demands on water supplies and also have increased the potential for ground-water contamination. The majority of homes in unincorporated areas use septic systems to dispose of sewage effluent. As development expanded in the 1980's, Bernalillo County officials became concerned over the degradation of ground-water quality, in particular degradation resulting from sewage disposal, and they recognized the importance of monitoring ground-water quality in rapidly developing areas of the county.

Accordingly, the Bernalillo County Environmental Health Department entered into several cooperative agreements with the U.S. Geological Survey (USGS) between 1989 and 1993 to collect ground-water data in several areas in the 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 (fig. 2), referred to hereafter as the east mountain area. Water-quality samples were collected approximately monthly from these 20 wells through June 1992. After June 1992, the sampling frequency of four of the wells was reduced to quarterly because analytical results indicated that the water quality of the wells had not changed significantly during the previous 2 1/2 years; the other 16 wells continued to be sampled monthly. Data collection at the 20 wells continued through June 1993. Eleven wells in an unincorporated area northeast of Albuquerque (fig. 3), referred to as the northeast area, were sampled once each during the period December 1992 to September 1993. In addition, 50 wells in unincorporated areas of the Rio Grande Valley immediately north (north valley area) and south (south valley area) of Albuquerque (fig. 4) were sampled between April and September 1993.

The east mountain area comprises approximately 150 square miles in the eastern quarter of Bernalillo County (fig. 1). The boundaries of the area are the county lines on the north, east, and south sides, 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 sampling area. Fractured sandstones and shales underlie the center part of the area, and igneous and metamorphic rocks crop out on the north and south slopes of Tijeras Canyon. The depths of wells sampled in the area range from 73 to 680 feet (table 1; all tables are in the back of the report). The ground-water system in the area was described by Titus (1980) and Kues (1990).

The northeast area (fig. 3) and the north and south valley areas (fig. 4) are in the Albuquerque Basin and are 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 eastern margin of the basin to greater than 14,000 feet thick under the south valley area. Well depths were not available for all the wells sampled in these areas. The known depths in the northeast area range from 364 to 930 feet, and those in the valley areas range from 38.4 to 320 feet. The geohydrologic framework and hydrologic conditions of the Albuquerque Basin have been summarized by Thorn and others (1993).

All water samples collected from the 20 monitoring wells in the east mountain area were analyzed for chloride and nutrients such as nitrate, nitrite, and phosphorus, which are common indicators of ground-water contamination from sewage effluent. Many of the samples also were analyzed for other possible indicators of contamination by sewage effluent, including total organic carbon, dissolved boron, and dissolved iron. Some of the analytes can be indicative of contamination from sources besides sewage effluent; for example, nutrients may enter ground water as a result of agricultural practices. Additional ground-water samples were collected by the USGS in the east mountain area between January 1990 and September 1993, but analyses of these samples are beyond the scope of this report. Complete analytical results of these samples have been published in USGS annual water-data reports (Borland and others, 1991; 1992; Cruz and others, 1993; 1994).

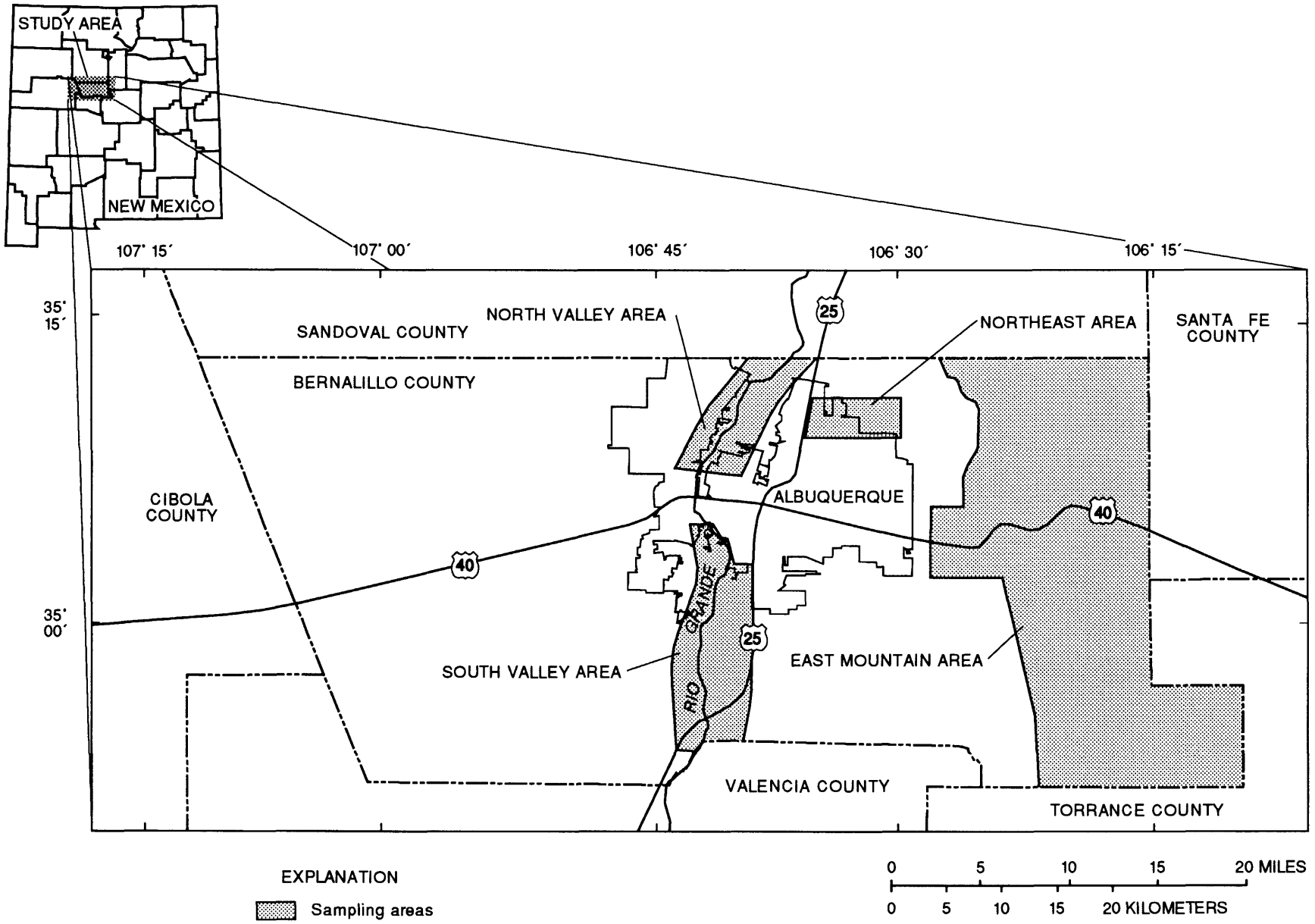

Figure 1.--Location of areas sampled in Bernalillo County, New Mexico.

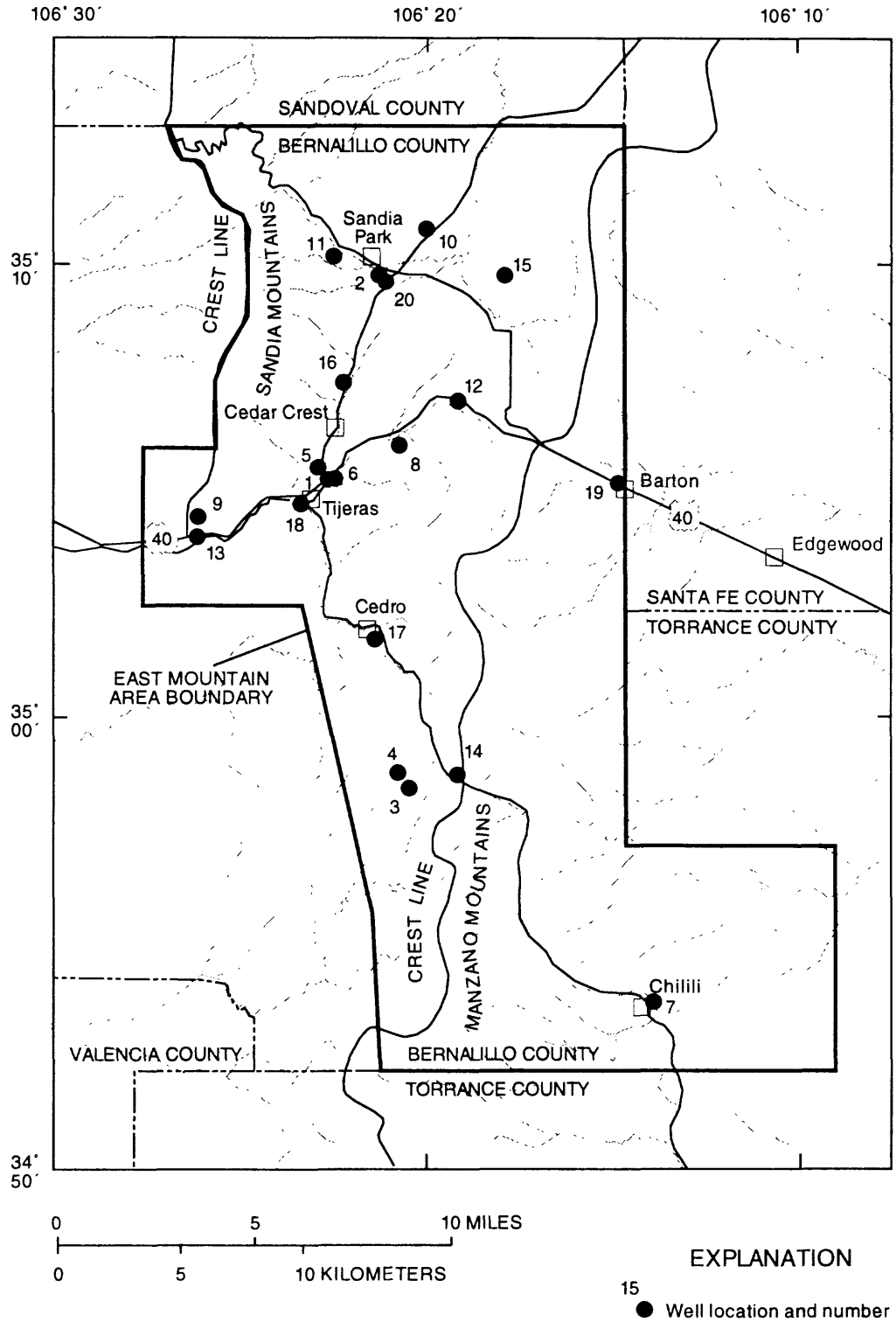

Figure 2.--Location of wells sampled in the east mountain area, Bernalillo County, New Mexico.

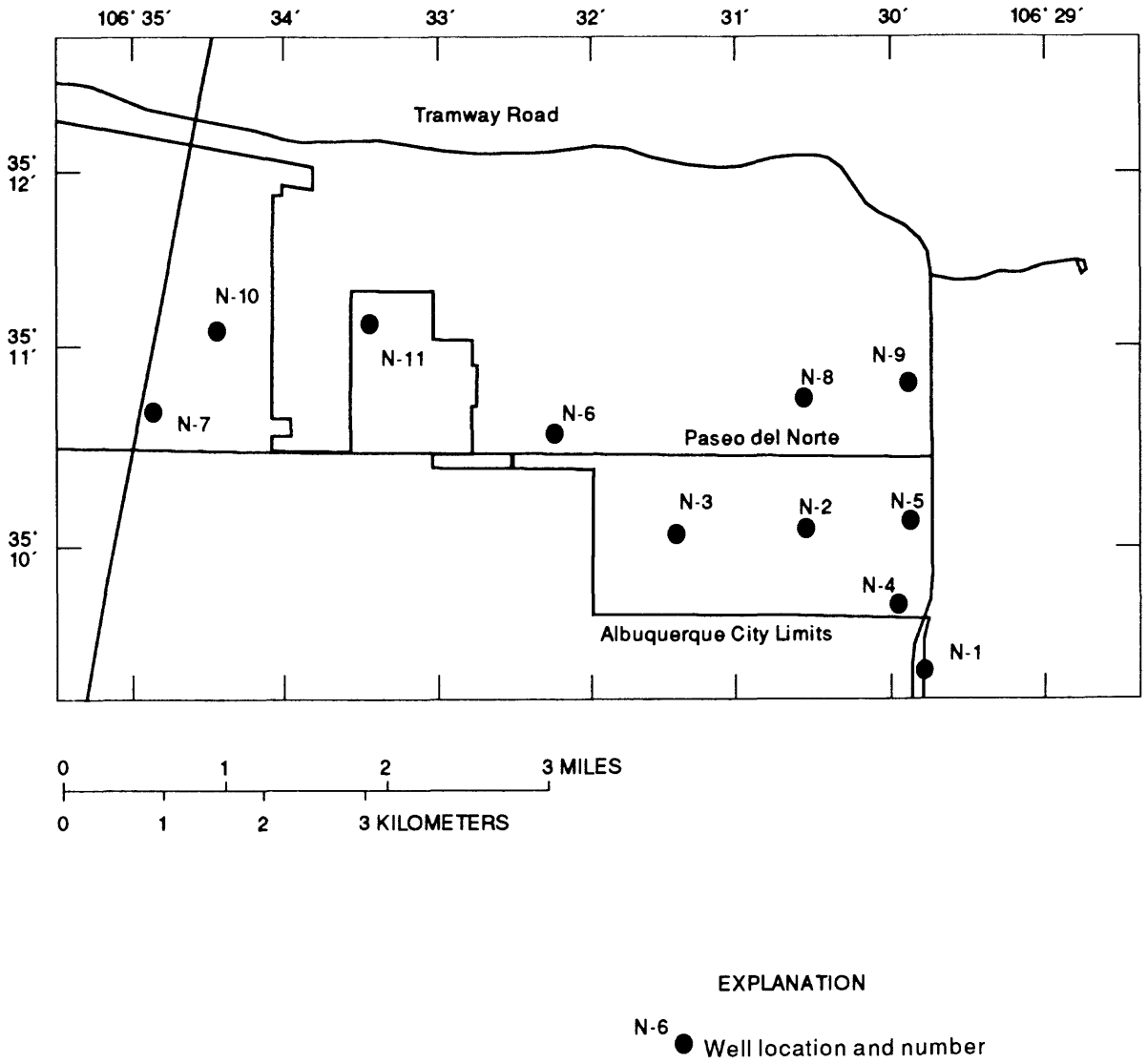

Figure 3.--Location of wells sampled northeast of Albuquerque, Bernalillo County, New Mexico.

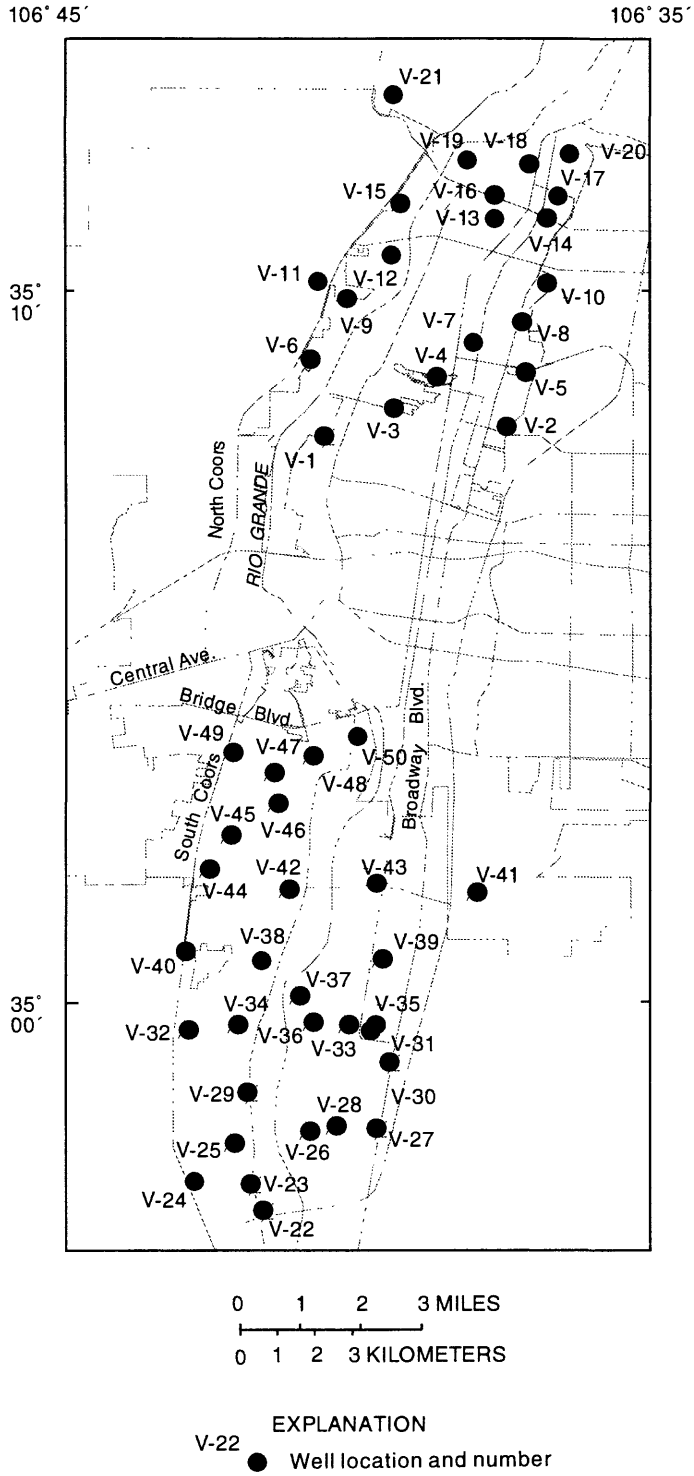

Figure 4.--Location of wells sampled in the north and south valley areas, Bernalillo County, New Mexico.

Water samples collected from wells in the northeast area were analyzed for chloride, nutrients, total organic carbon, and methylene blue active substances (MBAS), which are detergent additives used until about the mid-1970's. Samples collected from the wells in the north and south valley areas were analyzed for chloride, nutrients, and MBAS, and selected samples also were analyzed for major constituents such as calcium, magnesium, sodium, potassium, sulfate, fluoride, and silica. A second set of samples from 10 of the 50 wells in the valley areas were analyzed for a suite of pesticides. For most samples from the three areas, specific conductance, pH, temperature, and alkalinity were measured in the field at the time of sample collection.

Purpose and Scope

This report presents selected water-quality and water-level data collected in unincorporated areas of Bernalillo County during the period January 1990 through June 1993. Water-quality and water-level data for 20 monitoring wells in the east mountain area of the county are presented as graphs for the following constituents and properties: chloride, nitrite plus nitrate, total phosphorus and orthophosphate, total organic carbon, boron, iron, specific conductance, pH, and alkalinity. Water-quality and water-level data collected between December 1992 and September 1993 for 11 wells in the area northeast of Albuquerque are presented in tabular form. Similar data for the 20 wells in the north valley area and 30 wells in the south valley area collected between April and September 1993 also are presented in tabular form. Ten of the wells in the valley areas had been sampled previously by the USGS in 1984, 1985, or 1987, and analyses of these are included in the table for comparative purposes. Ten wells in the north and south valley areas were sampled and analyzed for 47 pesticides in September 1993, and the analytical results are presented in a table separate from the inorganic constituents.

Acknowledgments

Appreciation is extended to all the well owners who granted permission to sample their wells. Data collection would not have been possible without their cooperation. Appreciation also is extended to personnel in the New Mexico State Engineer Office in Albuquerque who helped locate information on the wells that were sampled.

METHODS

Wells sampled were selected to provide good spatial coverage of each area and, in the case of the east mountain area, to represent different geohydrologic units and land uses in the study area. All wells sampled were water-supply wells. Access to the wells and permission from the well owners were also principal factors in the site-selection process. Ten wells in the north and south valley areas were included among those sampled because they had been sampled previously by the USGS in the mid-1980's, and resampling the 10 wells in 1993 provided information on water quality that may have changed.

Ground-water samples were collected by using the submersible pumps installed in the wells. Samples were collected as close as possible to the well head and in all cases before the water underwent any treatment. Samples were processed in the field and were shipped to the USGS National Water Quality Laboratory (NWQL) for analysis. Samples were analyzed for all constituents, other than pesticides, by using standard USGS techniques described in Fishman and Friedman (1989). Samples for pesticides were analyzed by passing the filtered sample through a solid phase cartridge to extract any pesticides present in the water, eluting the pesticides from the cartridge through use of a solvent, and analyzing the extract with a gas chromatograph/mass spectrometer (S.D. Zaugg, U.S. Geological Survey, National Water Quality Laboratory, written commun., 1993). Water levels were measured prior to sample collection when access to the well casing was allowed. Water-quality field measurements, water levels, and analytical results from the NWQL were entered into the USGS National Water Information System water-quality data base.

When data collection began in January 1990, unfiltered ground-water samples were analyzed for total concentrations of nitrite, nitrate, ammonia, organic nitrogen, and total phosphorus. However, in 1992 the NWQL announced discontinuation of analyses of unfiltered water samples for the nutrients nitrite, nitrate, ammonia, and orthophosphate after determining that the analytical method used by the NWQL had no valid basis for distinguishing between unfiltered and filtered determinations of these species (David A. Rickert, U.S. Geological Survey, Office of Water Quality, written commun., 1992). Consequently, beginning in December 1992, all water samples collected for nutrient analyses were filtered before being analyzed for nitrite, nitrate, ammonia, and orthophosphate; analyses for total (unfiltered) concentrations of total phosphorus and total organic nitrogen were discontinued for this project at that time.

In August 1993, the NWQL identified a positive bias in MBAS analyses conducted by the lab from January 1, 1970, to August 29, 1993. The positive bias is caused by both nitrate and chloride in the samples (Mark Burkhardt and Jeff Pitt, U.S. Geological Survey, National Water Quality Laboratory, written commun., 1993). MBAS analyses presented in this report, therefore, have been adjusted to correct for that bias by using the following equation:

$$MBASCOR = M - [(0.0088) \times N + (0.00019) \times C] \qquad (1)$$

where MBASCOR = corrected MBAS concentration, in milligrams per liter (mg/L);

M = reported MBAS concentration, in mg/L;

N = dissolved-nitrite plus nitrate concentration, as nitrogen, in mg/L; and

C = dissolved-chloride concentration, in mg/L.

The minimum reporting level used for the corrected MBAS data was increased to 0.02 mg/L, whereas prior to the adjustment it was 0.01 mg/L.

DISCUSSION OF DATA

Water-quality and water-level hydrographs representing the 20 wells in the east mountain area are presented in figures 5-24 (located in the back of this report); USGS station identification numbers, well depths, and altitudes of the 20 wells are presented in table 1. Some constituents were present in some samples at concentrations below the minimum reporting level (mrl) of the analysis, and these values are represented on the graphs by solid symbols plotted at the mrl value; concentrations of constituents at or above the mrl are represented by open symbols. The mrl for a given analytical method was the same for all samples, with several exceptions. The mrl for iron differed among some samples, as illustrated in figure 7, and the mrl of the analytical method used for nitrite plus nitrate was reduced early in 1991, as illustrated in figure 5.

Concentrations of total nitrite plus nitrate, representing unfiltered samples, and of dissolved nitrite plus nitrate, representing filtered samples, are displayed on a single graph for a given well (figs. 5-24). Samples collected in the east mountain area in April 1990 were analyzed for both total and dissolved concentrations of nitrite plus nitrate. The concentrations reported by the two analytical methods for a given sample were identical or differed only by small amounts within the range of normal analytical variability. This is in agreement with the findings of the NWQL that no difference exists between the two methods of determination for these species, as indicated above. 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 are displayed in figures 5-24, rather than concentrations of nitrite and nitrate separately, because the concentration of nitrite in most samples was less than the mrl for the analytical method (0.01 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 mrl, however, the concentration of nitrate alone is approximately the same as that of nitrite plus nitrate.

Concentrations of total phosphorus and dissolved orthophosphate for a given well are displayed on a single graph (figs. 5-24). The analytical methods changed from that for total phosphorus, representing unfiltered samples, to that for dissolved orthophosphate, representing filtered samples, in December 1992. A comparison of data from before and after the change in methods indicates that the concentration of dissolved orthophosphate in water from a given well is approximately equal to the concentration of total phosphorus in the same water--that is, most or all of the phosphorus is present in ground water as orthophosphate in this area.

Water quality differs appreciably among the 20 wells monitored in the east mountain area. This is evident, for example, by the range of chloride concentrations of wells 8, 9, and 12 (figs. 12, 13, and 16) and the range of nitrite plus nitrate concentrations of wells 2, 10, and 20 (figs. 6, 14, and 24). Some sites exhibited a discernible trend in water quality during the 3 1/2 years of sampling, whereas others exhibited only random variability in water quality from month to month. For example, the graphs of chloride and of nitrite plus nitrate representing well 6 (fig. 10) display increasing concentrations of these constituents over time; graphs of these same constituents representing well 13 (fig. 17) do not display any apparent trend in concentration.

Water-quality and water-level data for wells in the northeast area are presented in table 2; well locations are shown in figure 3. The three largest concentrations of dissolved nitrite plus nitrate, which ranged from 2.5 to 2.8 mg/L as nitrogen, were in water from wells N-1, N-4, and N-9, located along Tramway Road (fig. 3) on the eastern edge of the northeast area. No other wells sampled in the area contained water with nitrite plus nitrate concentrations greater than 0.31 mg/L as nitrogen. The three smallest concentrations of nitrite plus nitrate, which were 0.051 mg/L or less as nitrogen, were in water from wells on the western edge of the area (wells N-7, N-10, and N-11).

Results of analyses for water from wells in the north and south valley areas are presented in table 3 for inorganic constituents and in table 4 for pesticides. Both sets of water-quality analyses for the 10 wells (V-1, V-2, V-4, V-5, V-34, V-37, V-38, V-39, V42, and V-45) sampled in the 1980's and again in 1993 are included in table 3. Concentrations of nitrite plus nitrate as nitrogen were greater than the mrl of 0.05 mg/L in water from only 17 of the 50 wells sampled in the valley areas. Water from two wells, however, contained notably high concentrations of these constituents. Well V-13 in the north valley area contained water with 39.0 mg/L of nitrite plus nitrate as nitrogen, and well V-35 in the south valley area contained water with 42.0 mg/L of nitrite plus nitrate as nitrogen. Samples from wells V-4 and V-38 contained large concentrations of dissolved iron and manganese.

Results of the pesticide analyses of samples from 10 wells in the north and south valley areas are presented in table 4. Each sample was analyzed for 47 selected pesticides. Pesticides were identified at concentrations greater than the mrl in only three samples as follows: (1) p,p'-DDE and trifluralin were identified in the sample from well V-12; (2) diazinon was detected in the sample from well V-16; and (3) diazinon, prometon, and simazine were detected in the sample from well V-37. Trifluralin, propanil, and p,p'-DDE were detected at concentrations less than established method detection limits for these compounds; those results are designated by "e" in table 4. The method detection limit is defined as the minimum concentration of a substance that can be identified, measured, and reported with 99-percent confidence that the concentration of the substance in the sample is greater than zero. A concentration is reported for measurements below the method detection limit if the compound is conclusively identified in the sample by the analyst. Concentrations below the method detection limit, however, are not reported with the same level of confidence as those above the method detection level.

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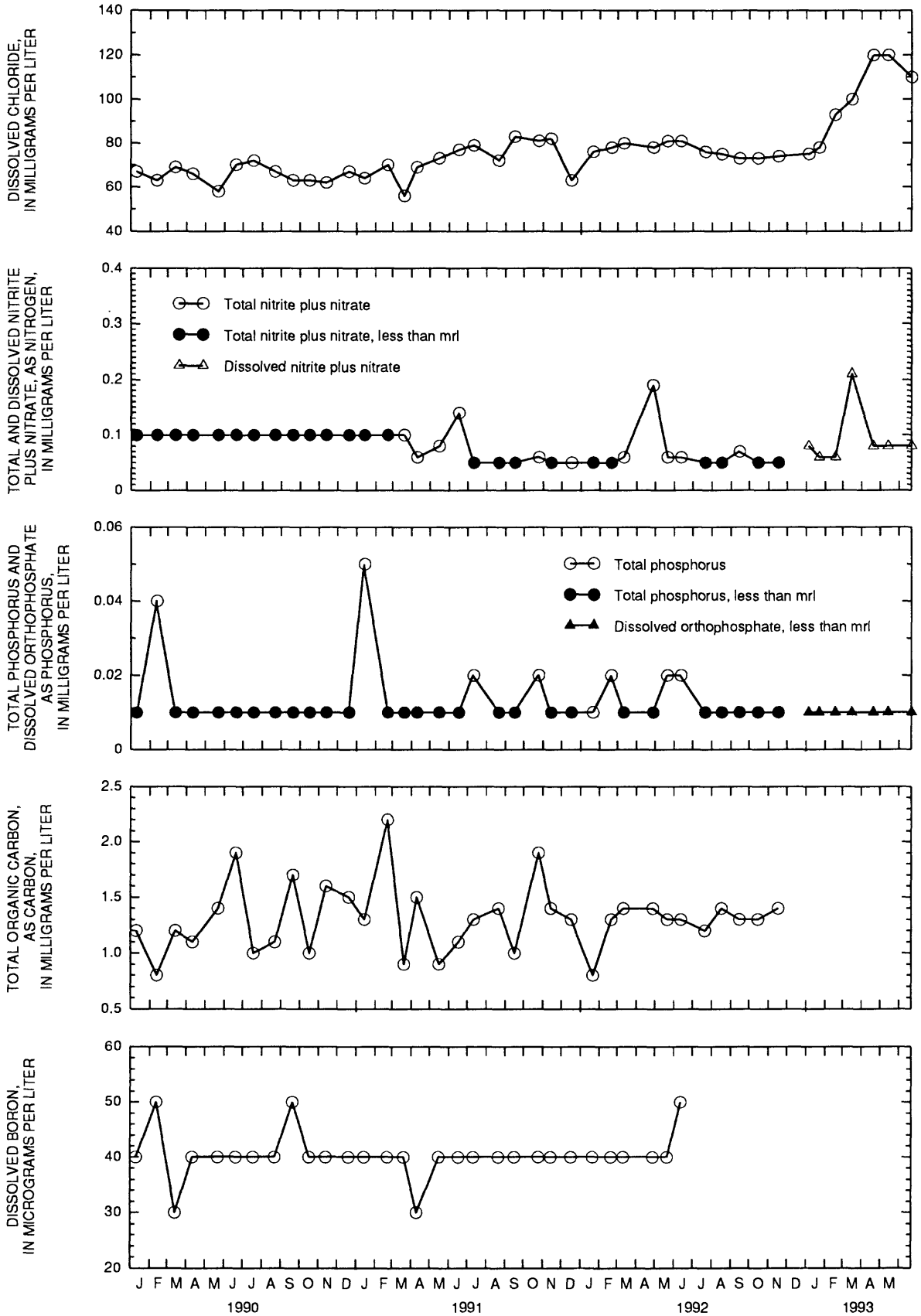

Figure 5.--Selected water-quality constituents and properties, and depth to water in well 1, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

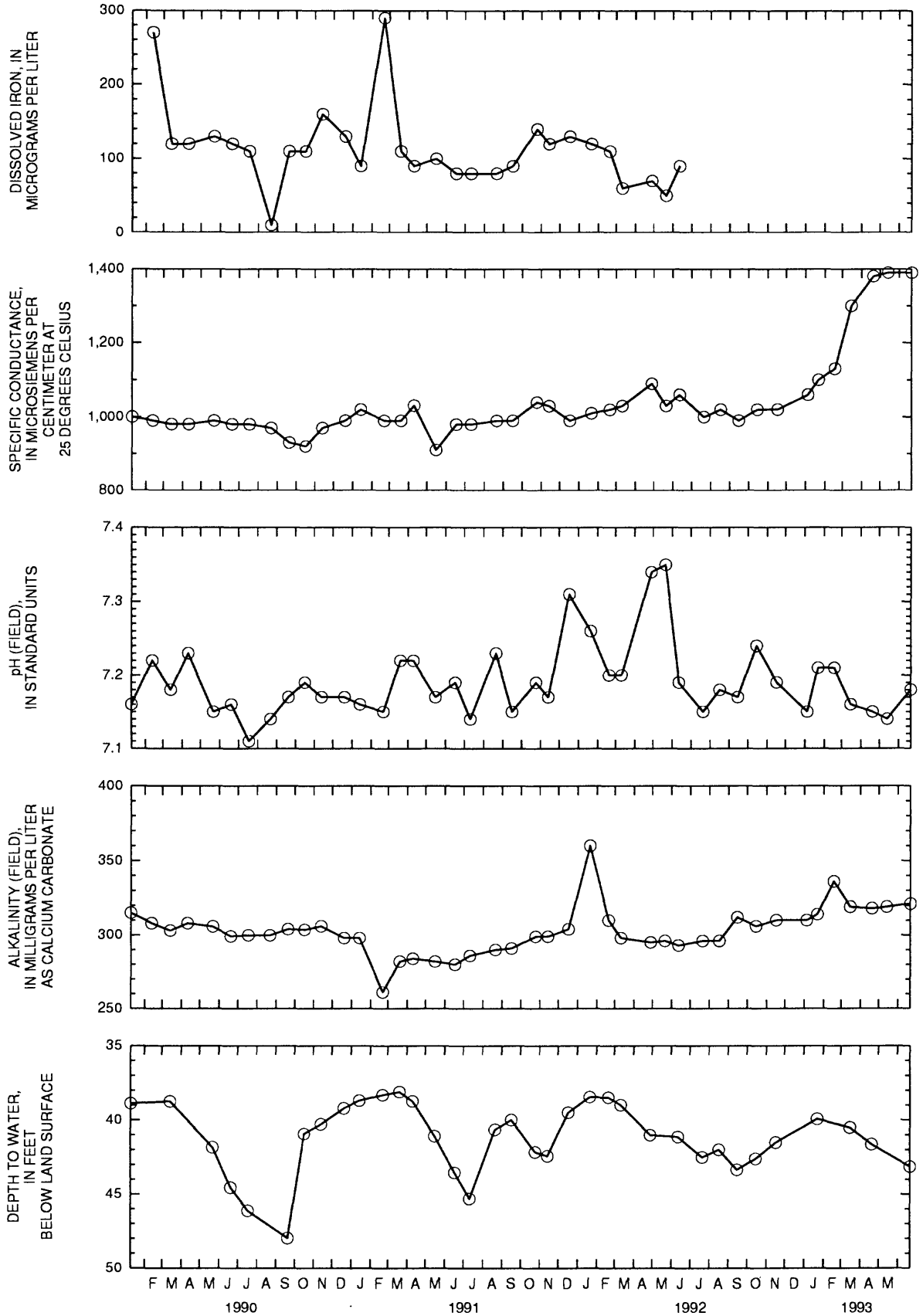

Figure 5.--Selected water-quality constituents and properties, and depth to water in well 1, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

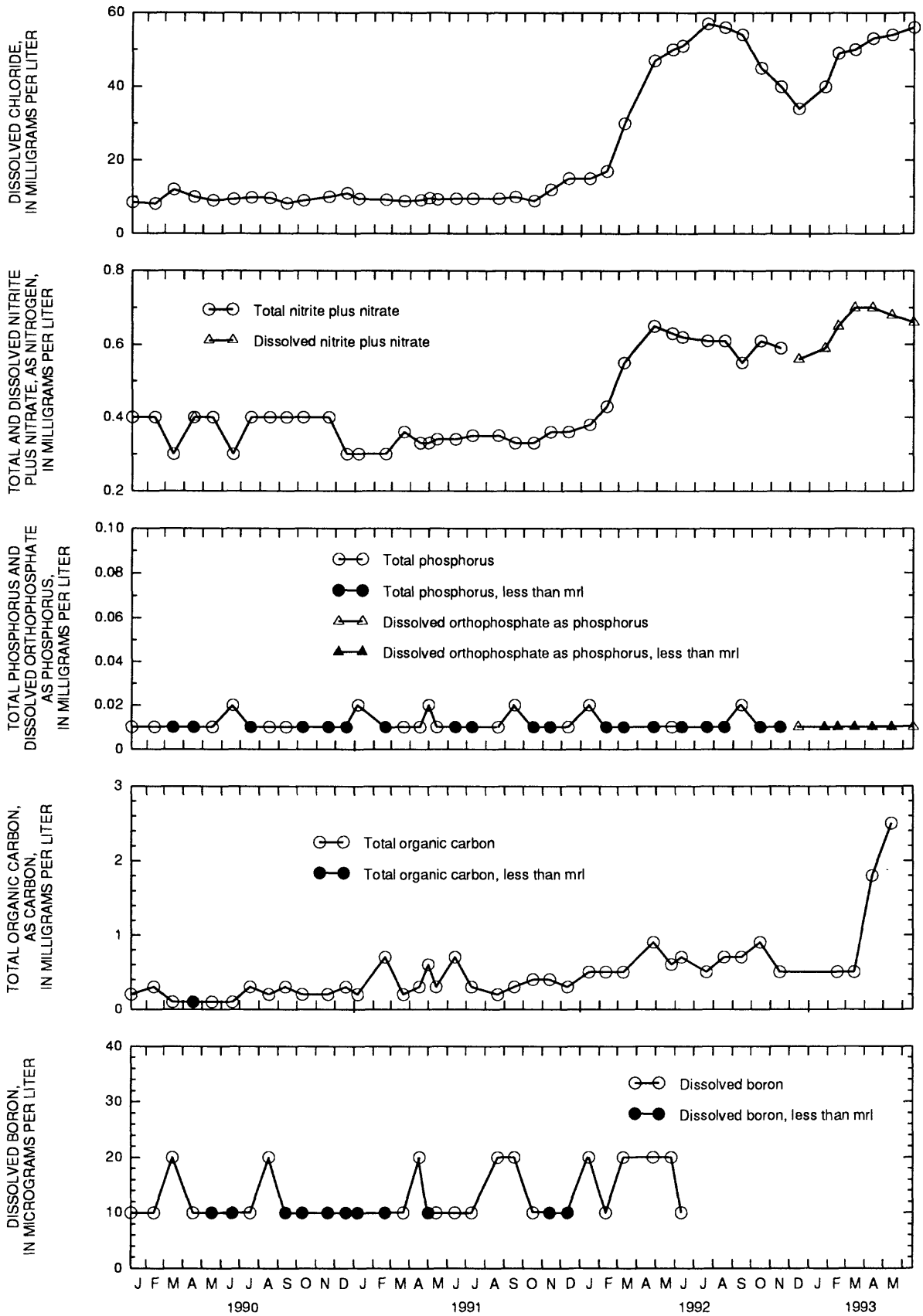

Figure 6.--Selected water-quality constituents and properties, and depth to water in well 2, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

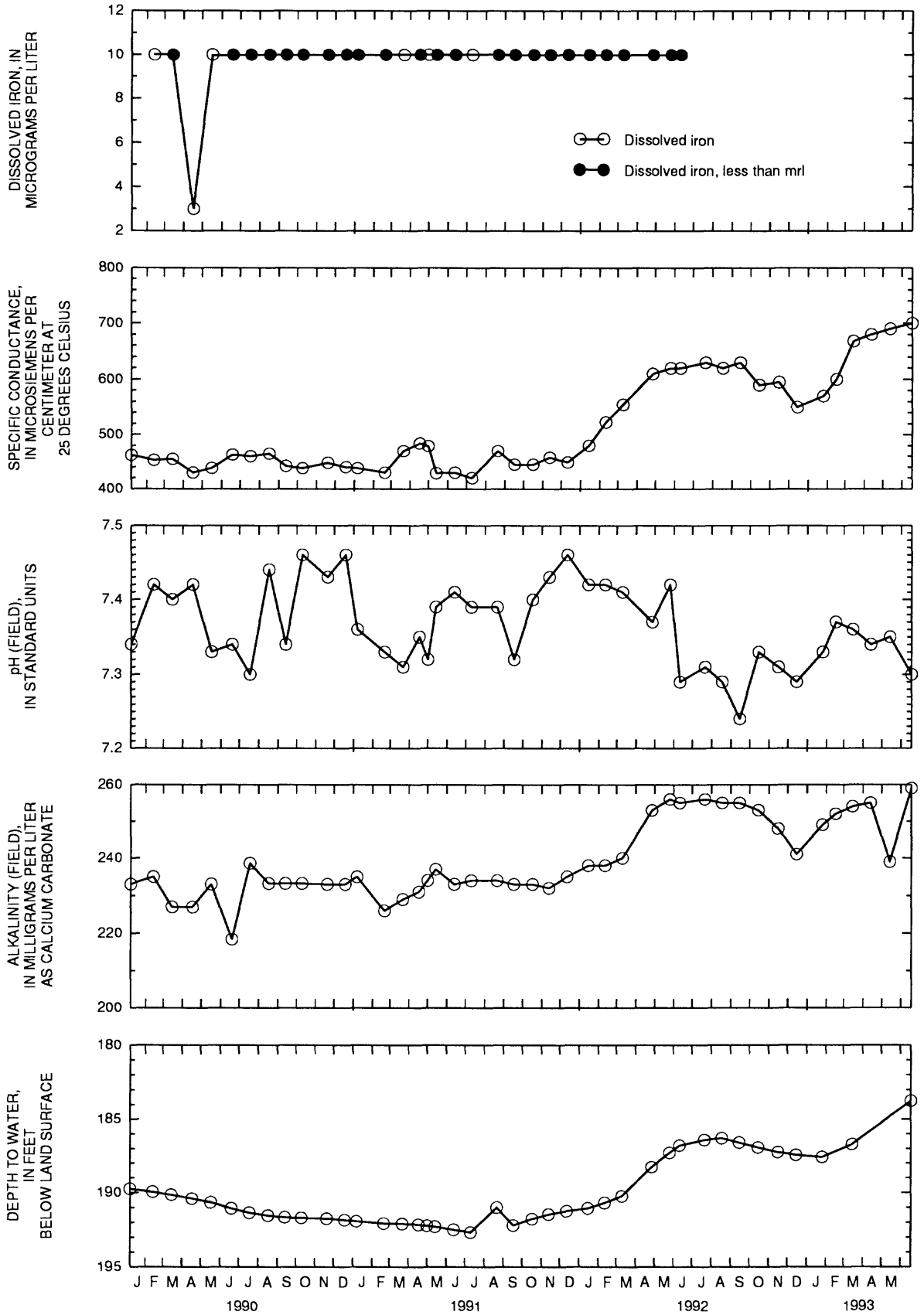

Figure 6.--Selected water-quality constituents and properties, and depth to water in well 2, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

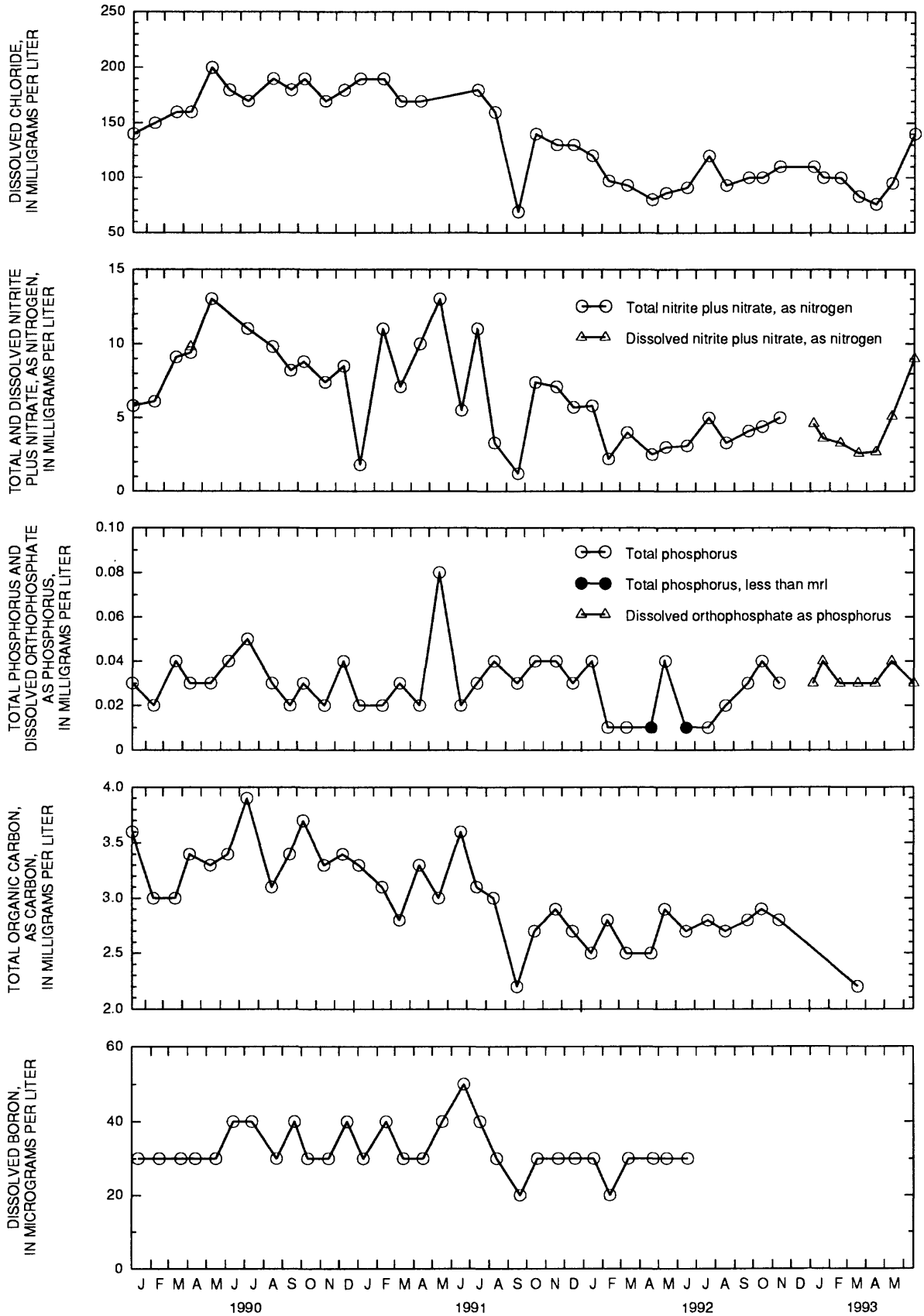

Figure 7.--Selected water-quality constituents and properties, and depth to water in well 3, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

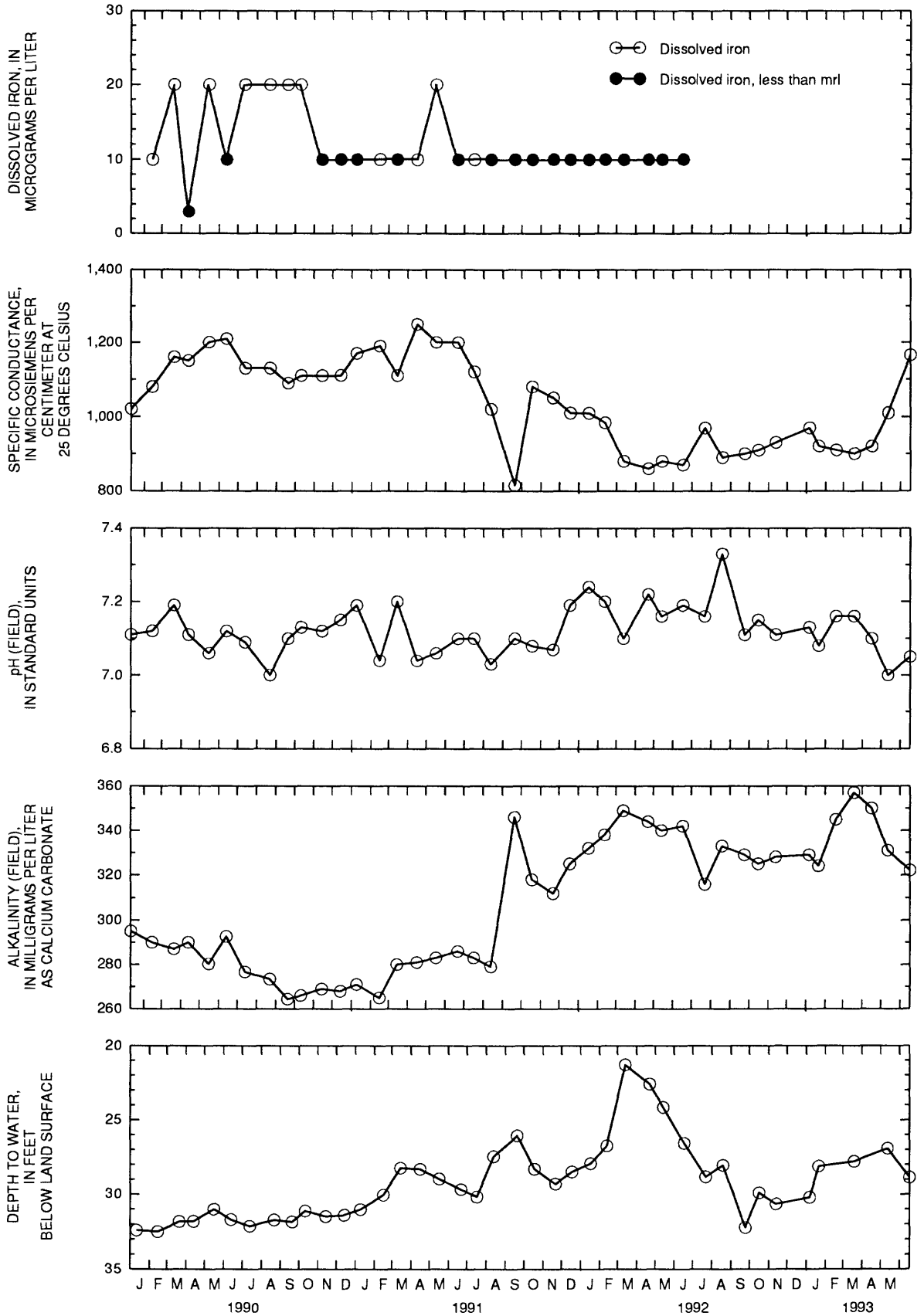

Figure 7.--Selected water-quality constituents and properties, and depth to water in well 3, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

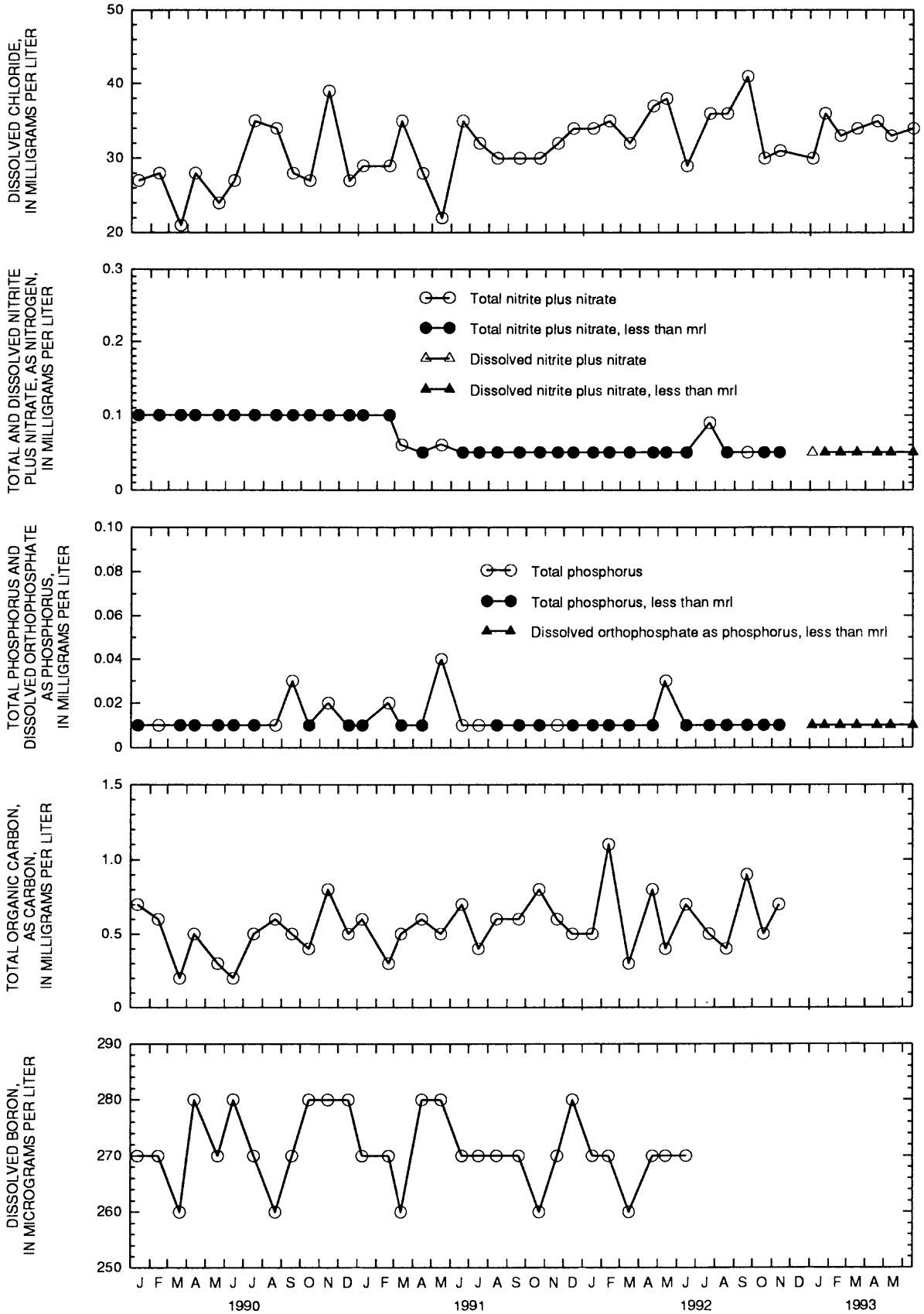

Figure 8.--Selected water-quality constituents and properties, and depth to water in well 4, east mountain area. (Location of well shown in figure 2; mlr indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

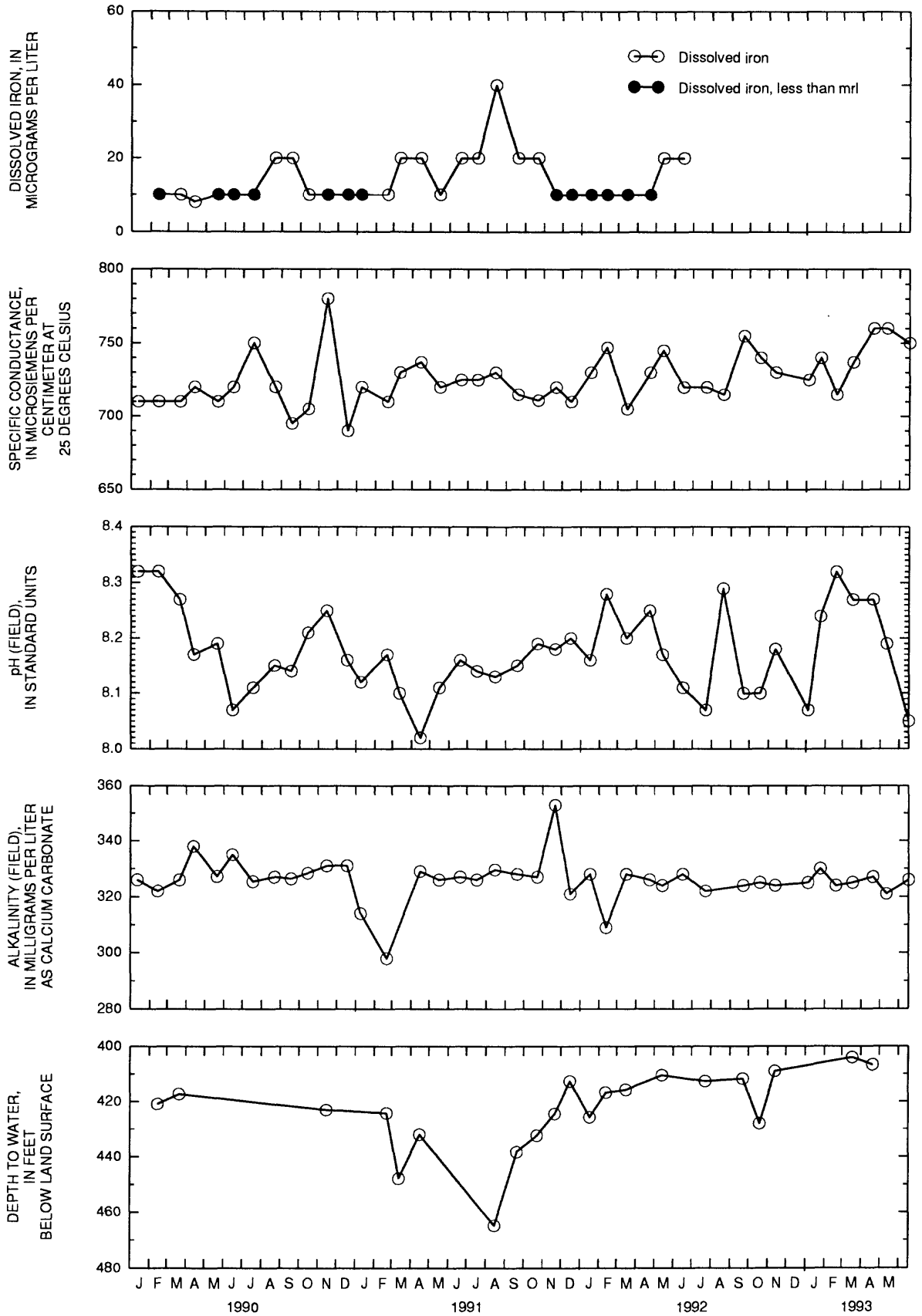

Figure 8.--Selected water-quality constituents and properties, and depth to water in well 4, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

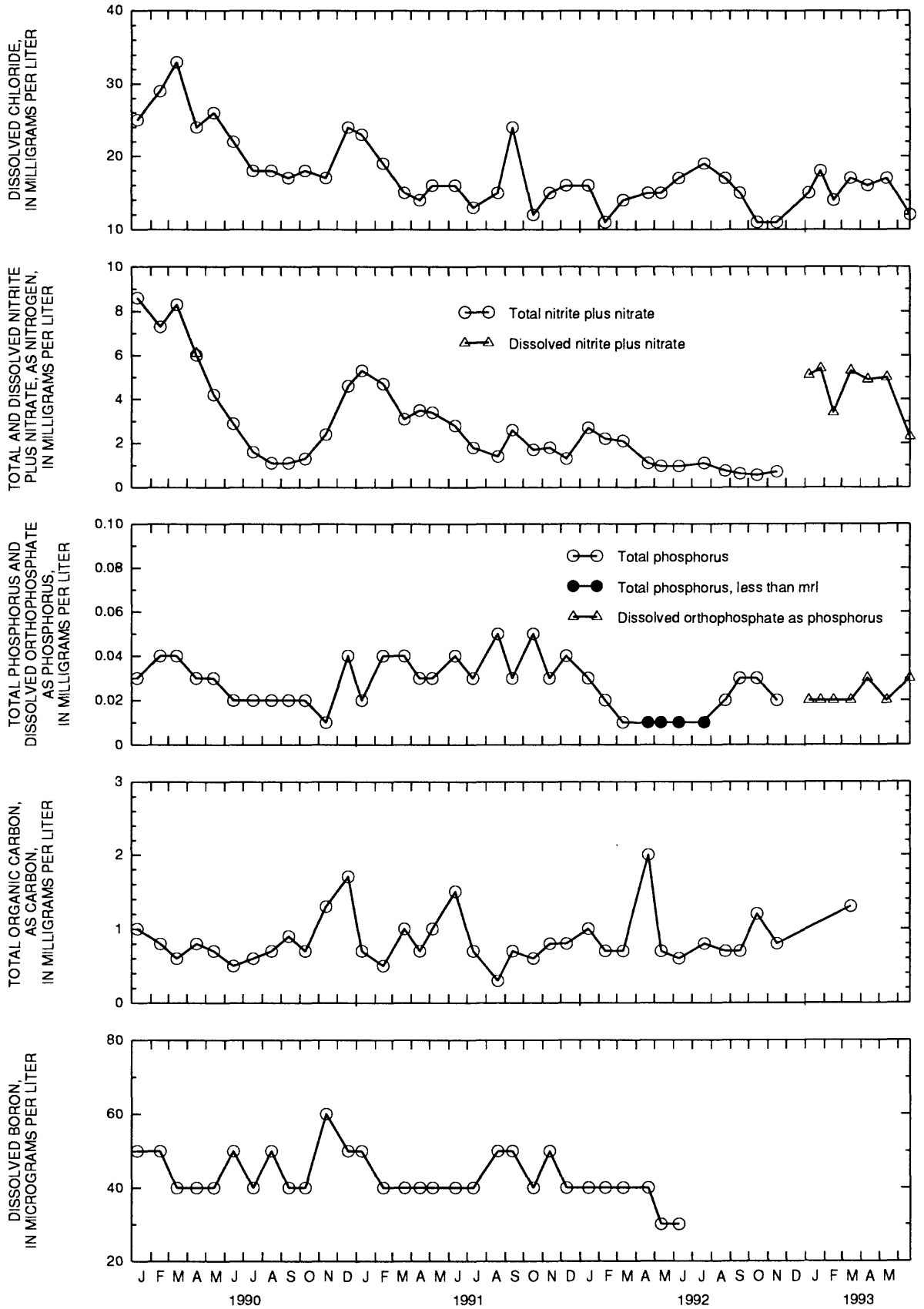

Figure 9.--Selected water-quality constituents and properties, and depth to water in well 5, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

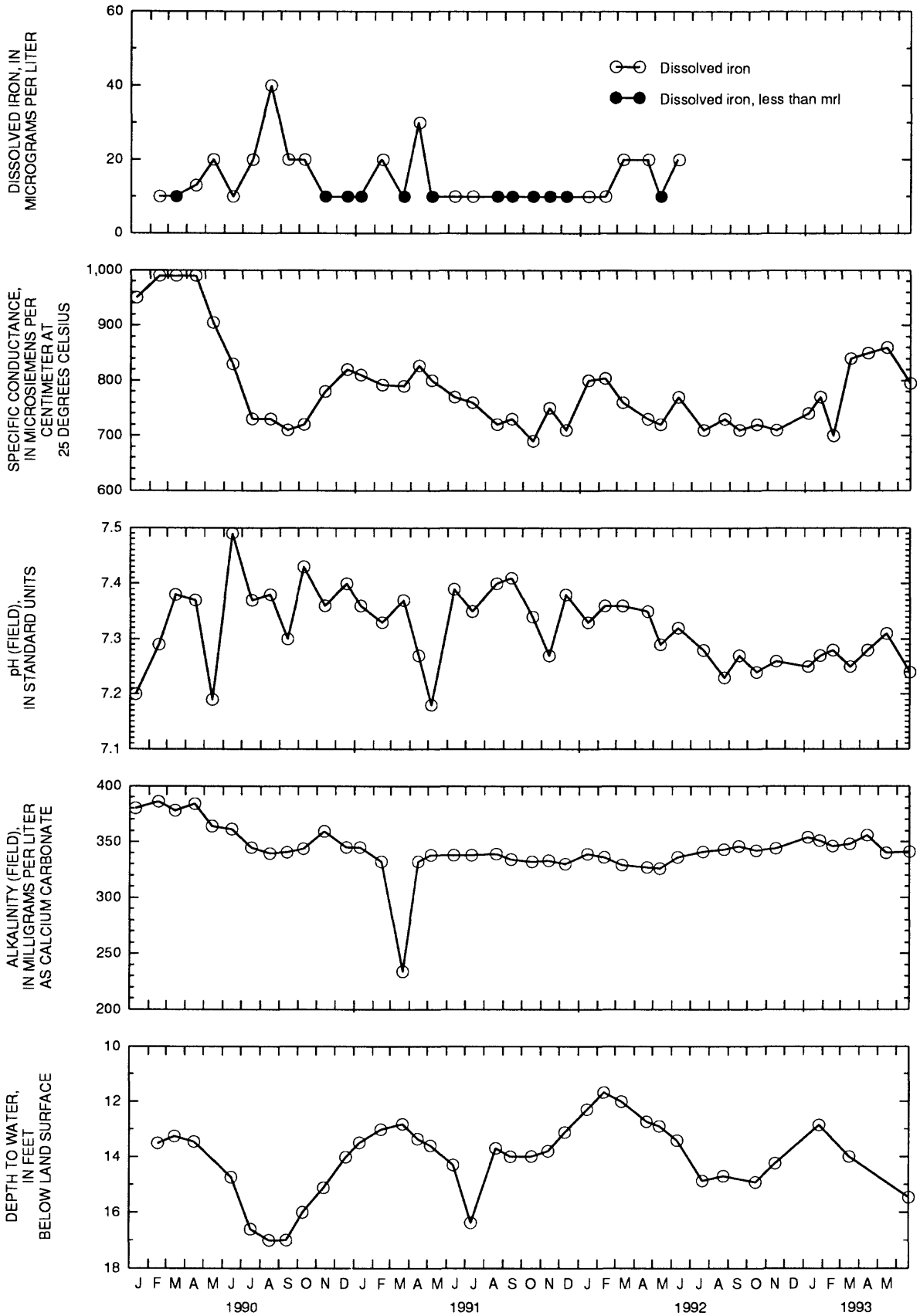

Figure 9.--Selected water-quality constituents and properties, and depth to water in well 5, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

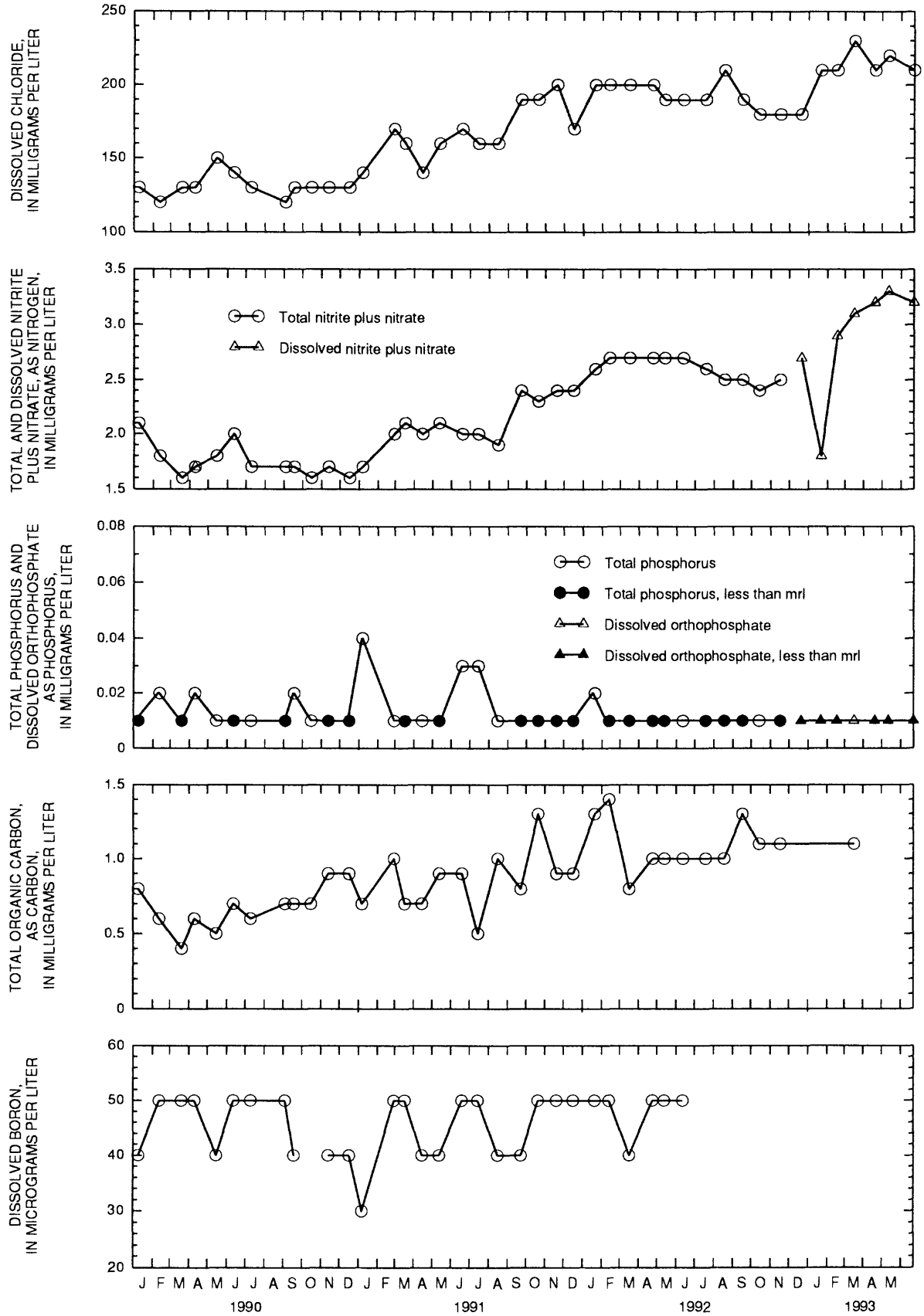

Figure 10.--Selected water-quality constituents and properties, and depth to water in well 6, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

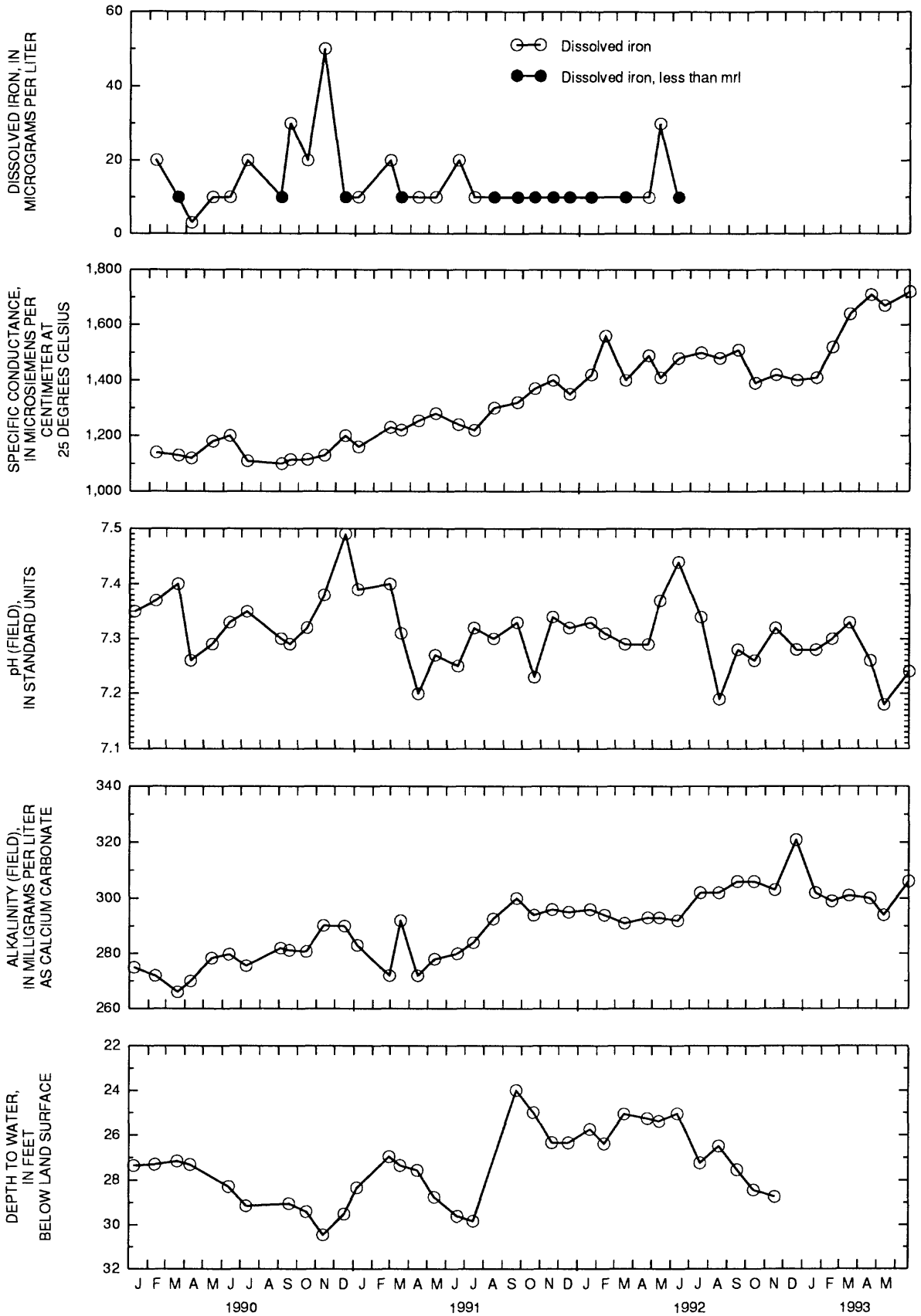

Figure 10.--Selected water-quality constituents and properties, and depth to water in well 6, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

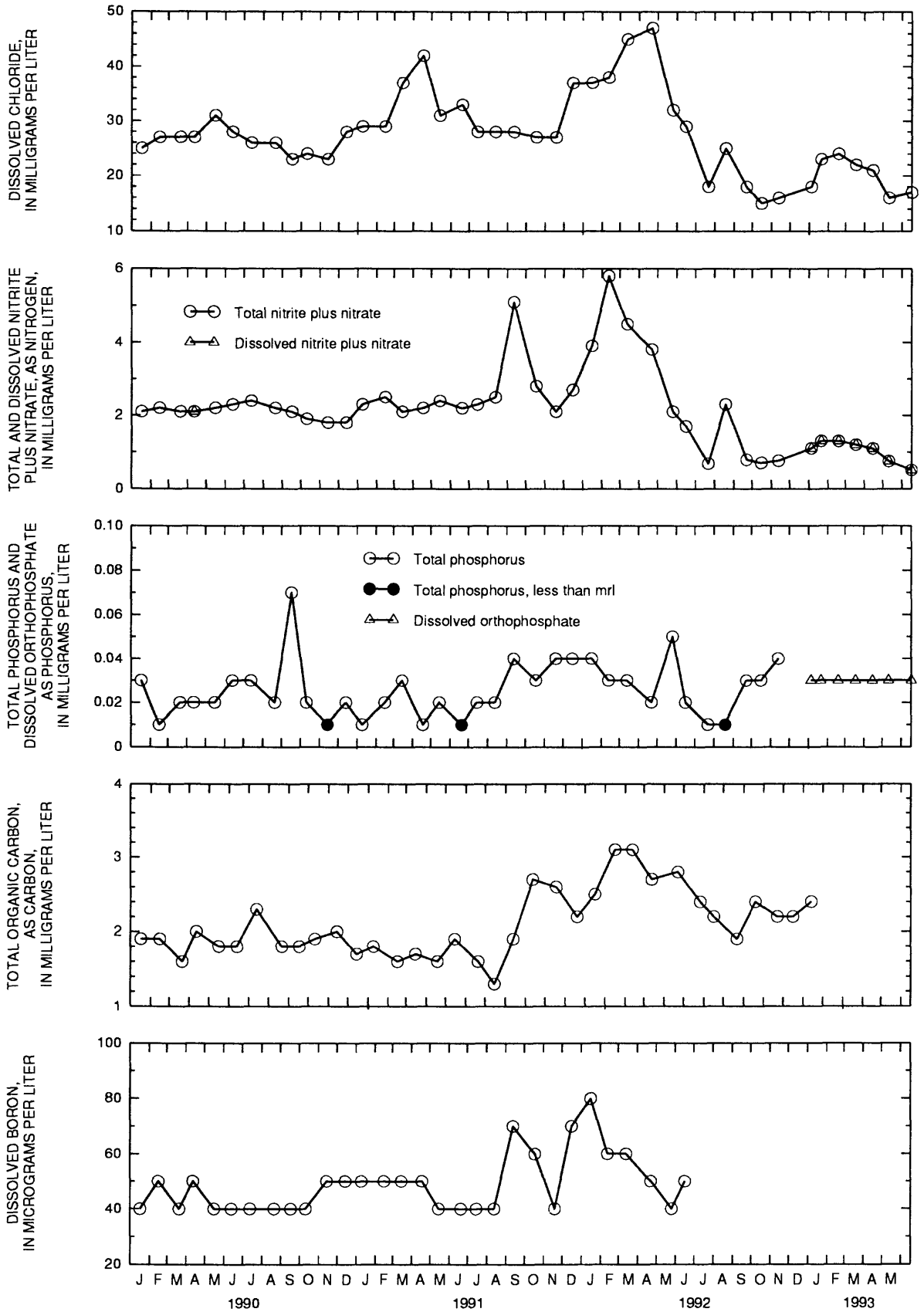

Figure 11.--Selected water-quality constituents and properties, and depth to water in well 7, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

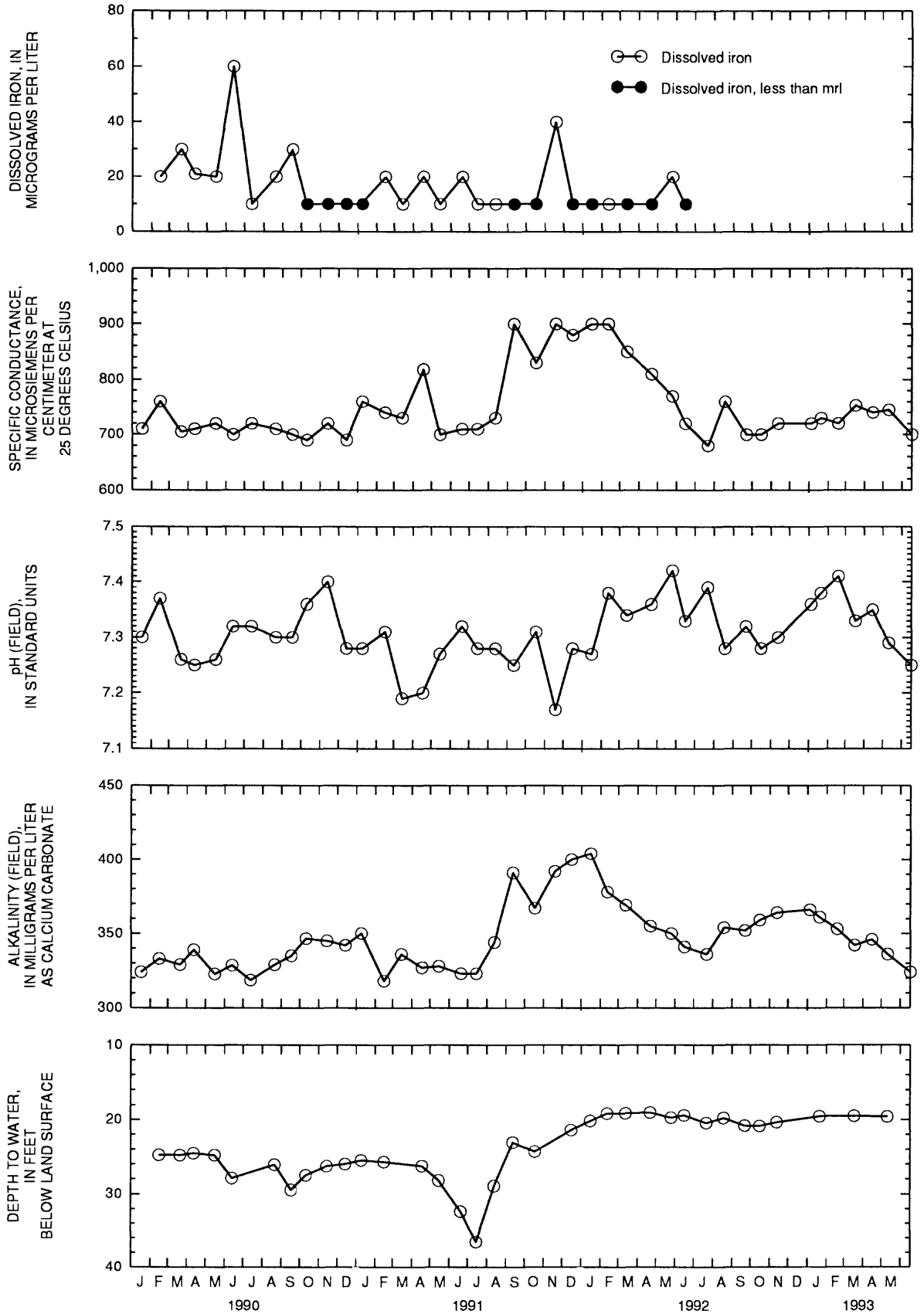

Figure 11.--Selected water-quality constituents and properties, and depth to water in well 7, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

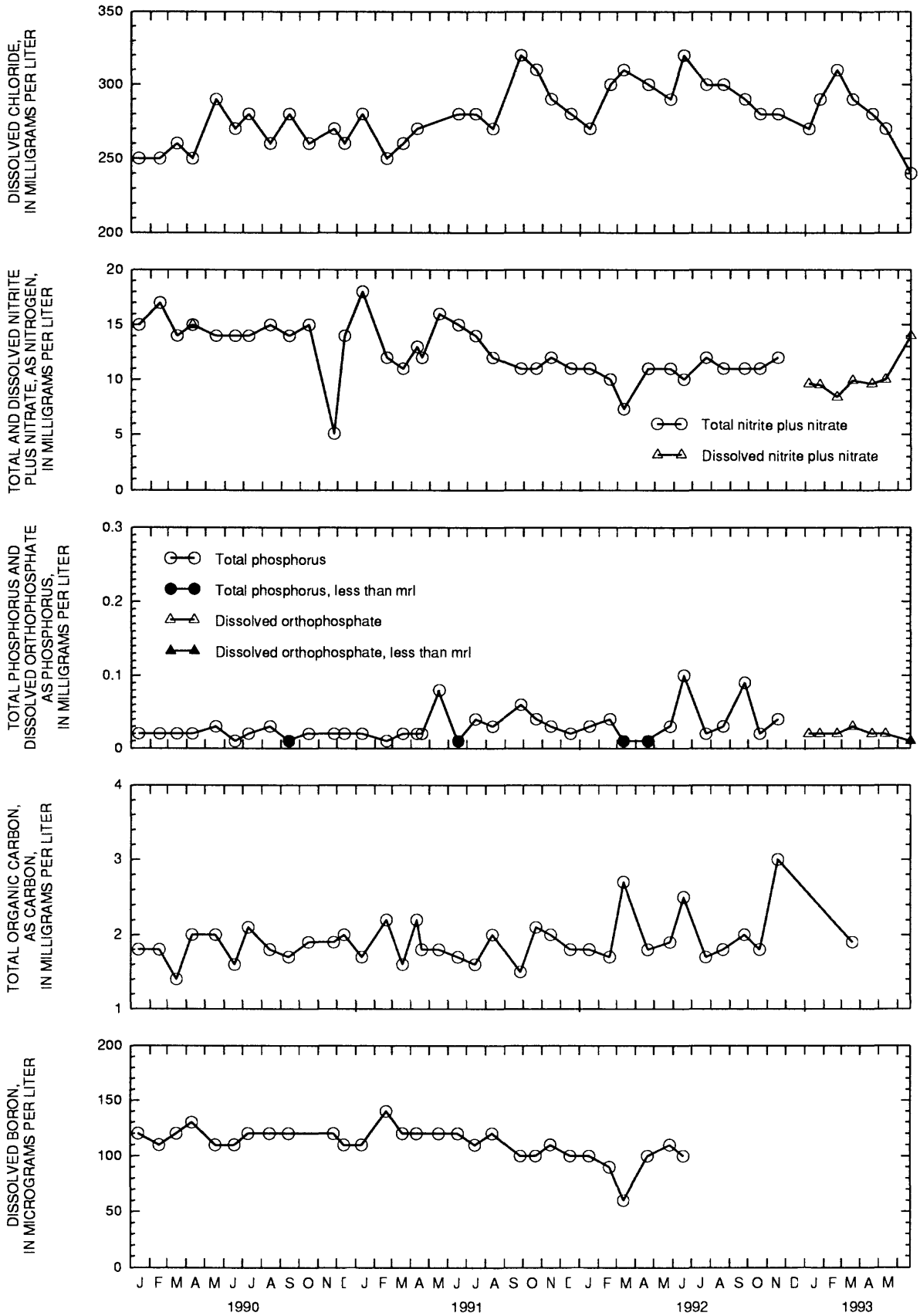

Figure 12.--Selected water-quality constituents and properties, and depth to water in well 8, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

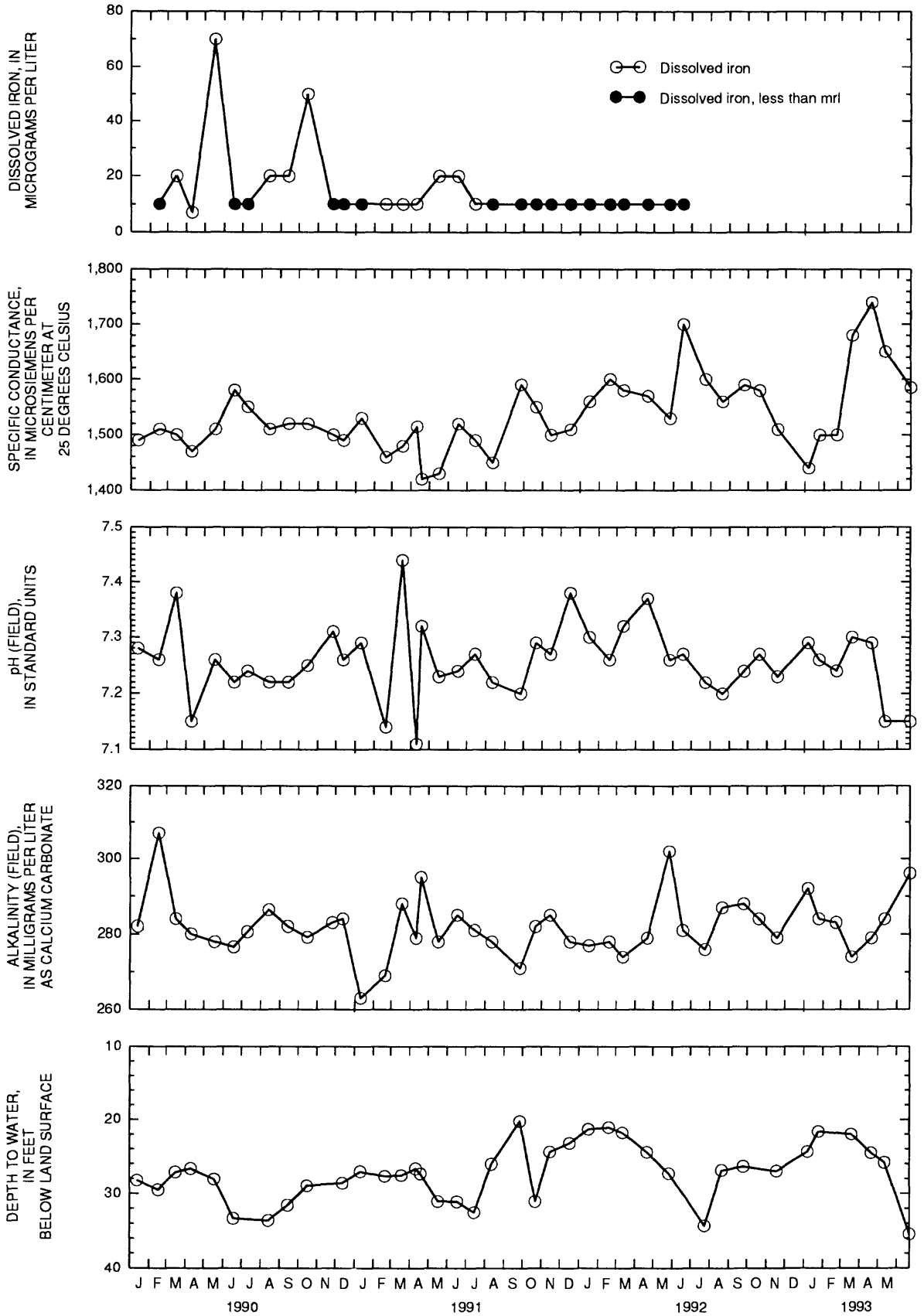

Figure 12.--Selected water-quality constituents and properties, and depth to water in well 8, east mountain area. (Location of well shown in figure 2 (mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

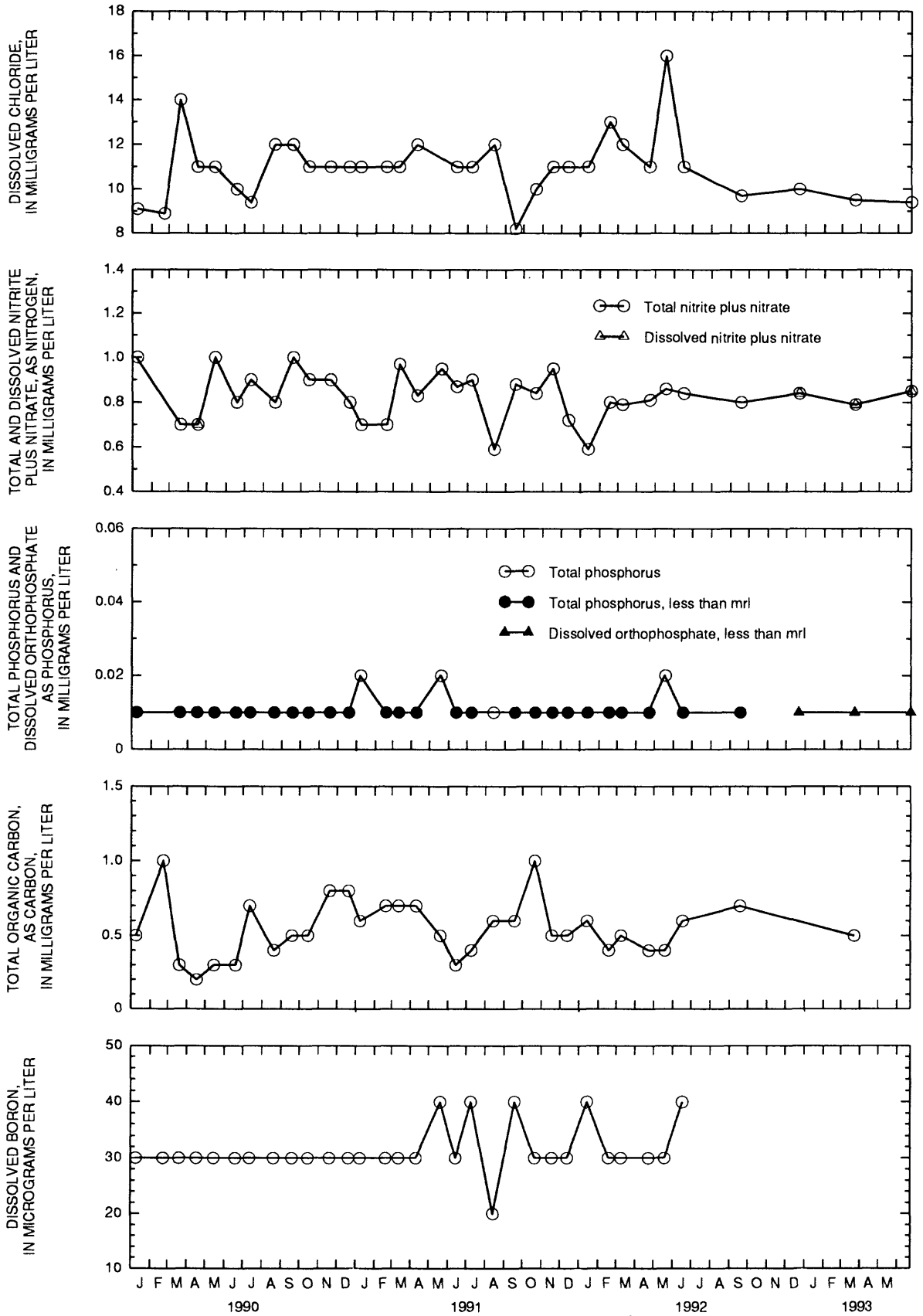

Figure 13.--Selected water-quality constituents and properties, and depth to water in well 9, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

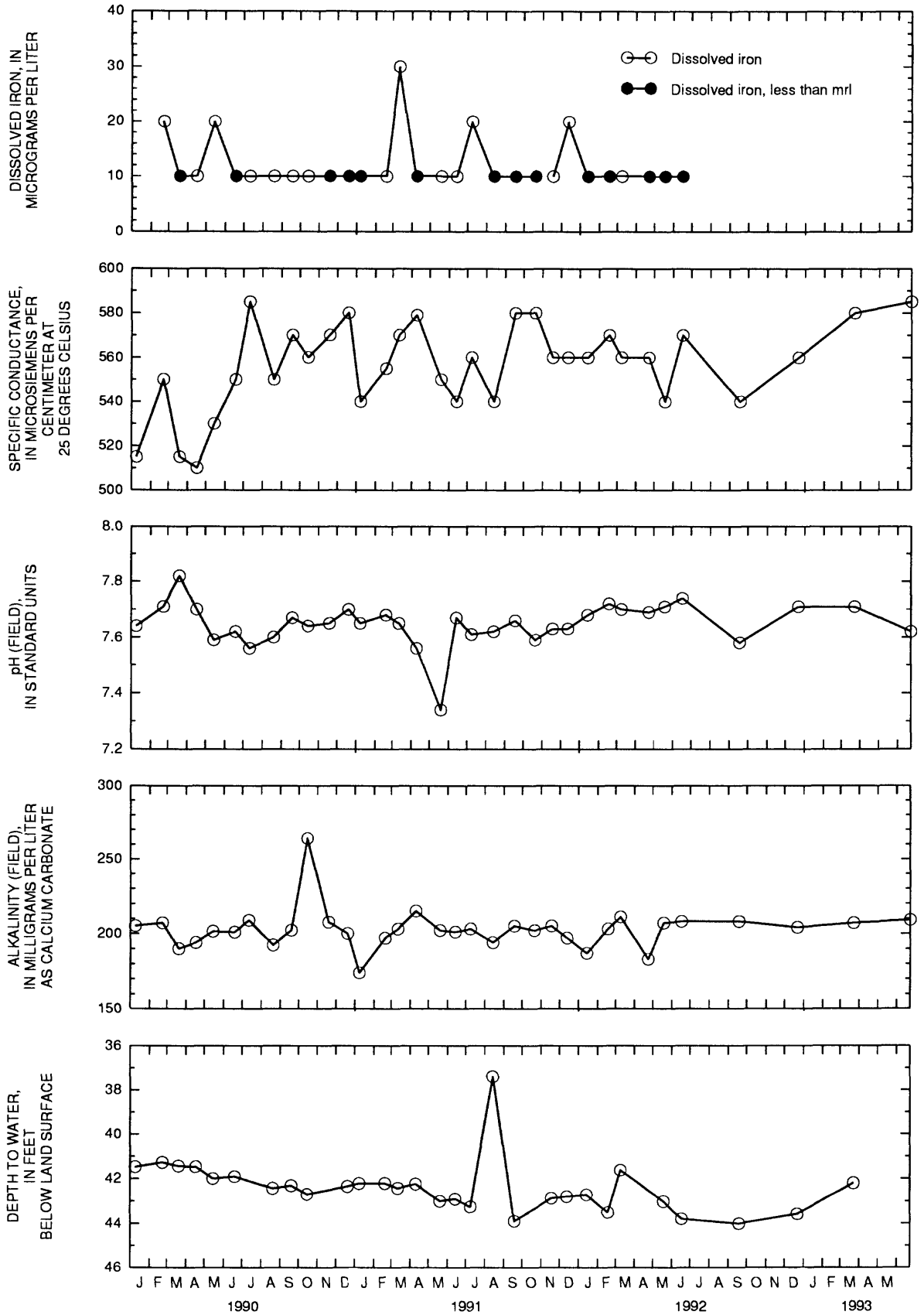

Figure 13.--Selected water-quality constituents and properties, and depth to water in well 9, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

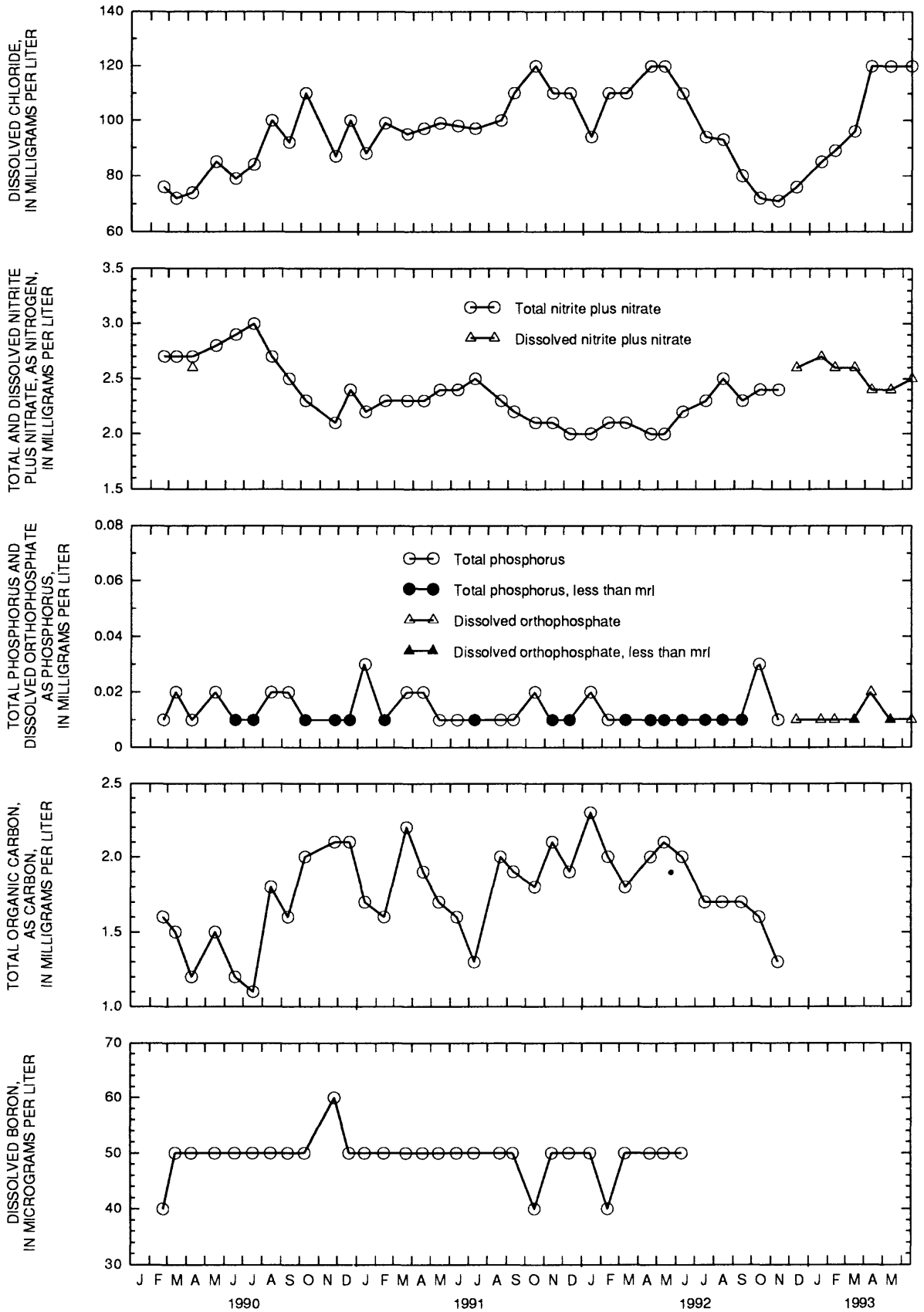

Figure 14.--Selected water-quality constituents and properties, and depth to water in well 10, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

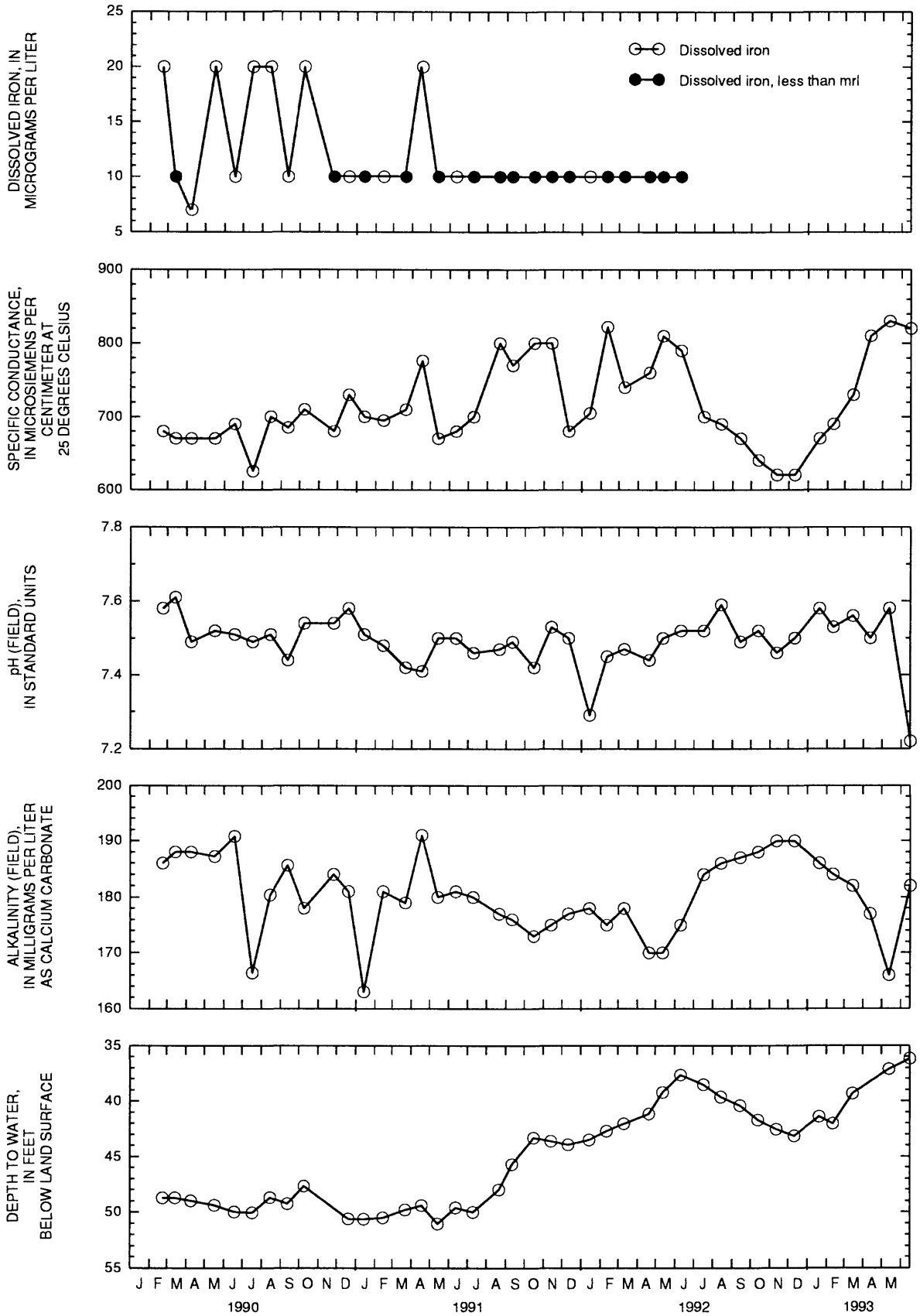

Figure 14.--Selected water-quality constituents and properties, and depth to water in well 10, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

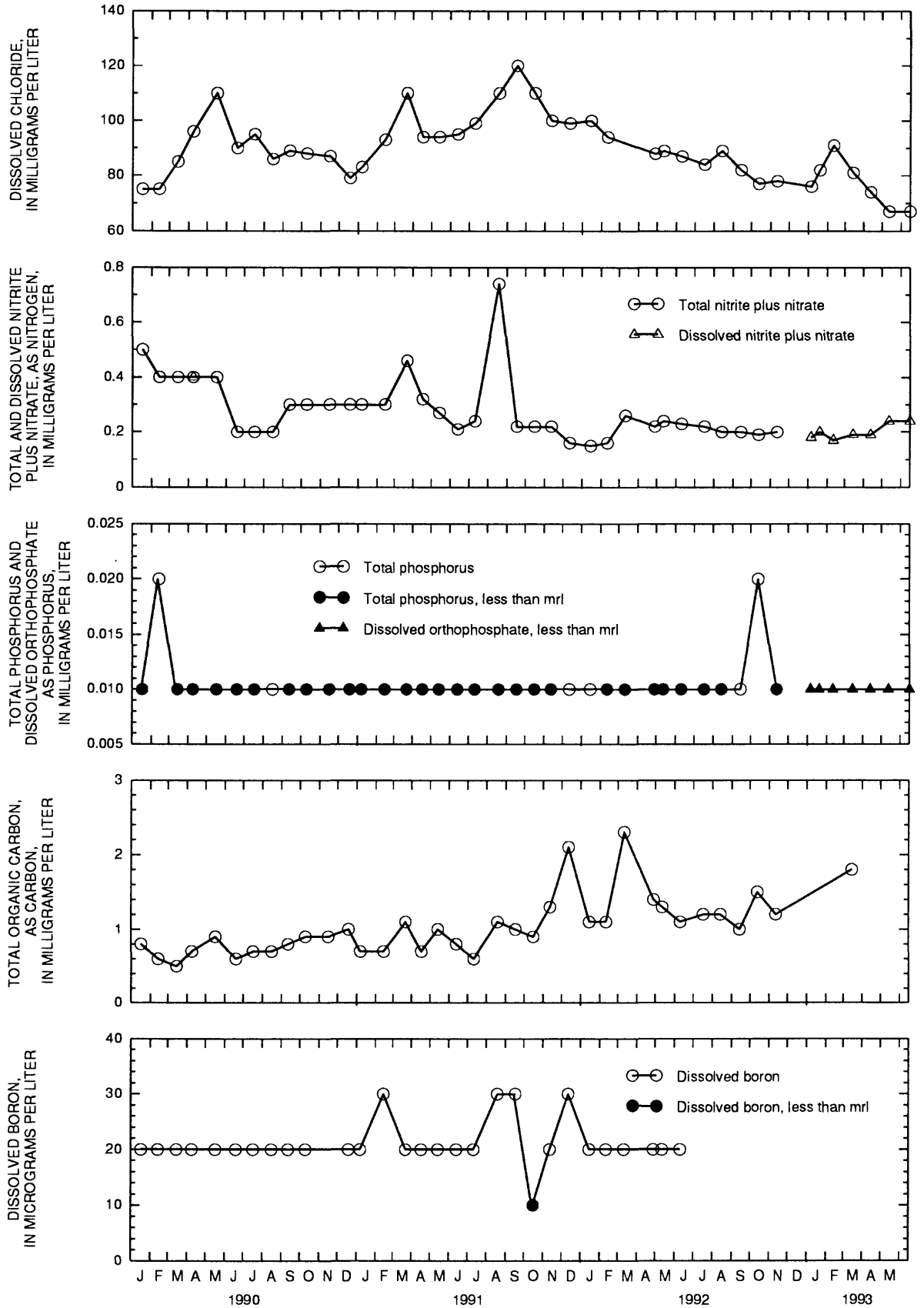

Figure 15.--Selected water-quality constituents and properties, and depth to water in well 11, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

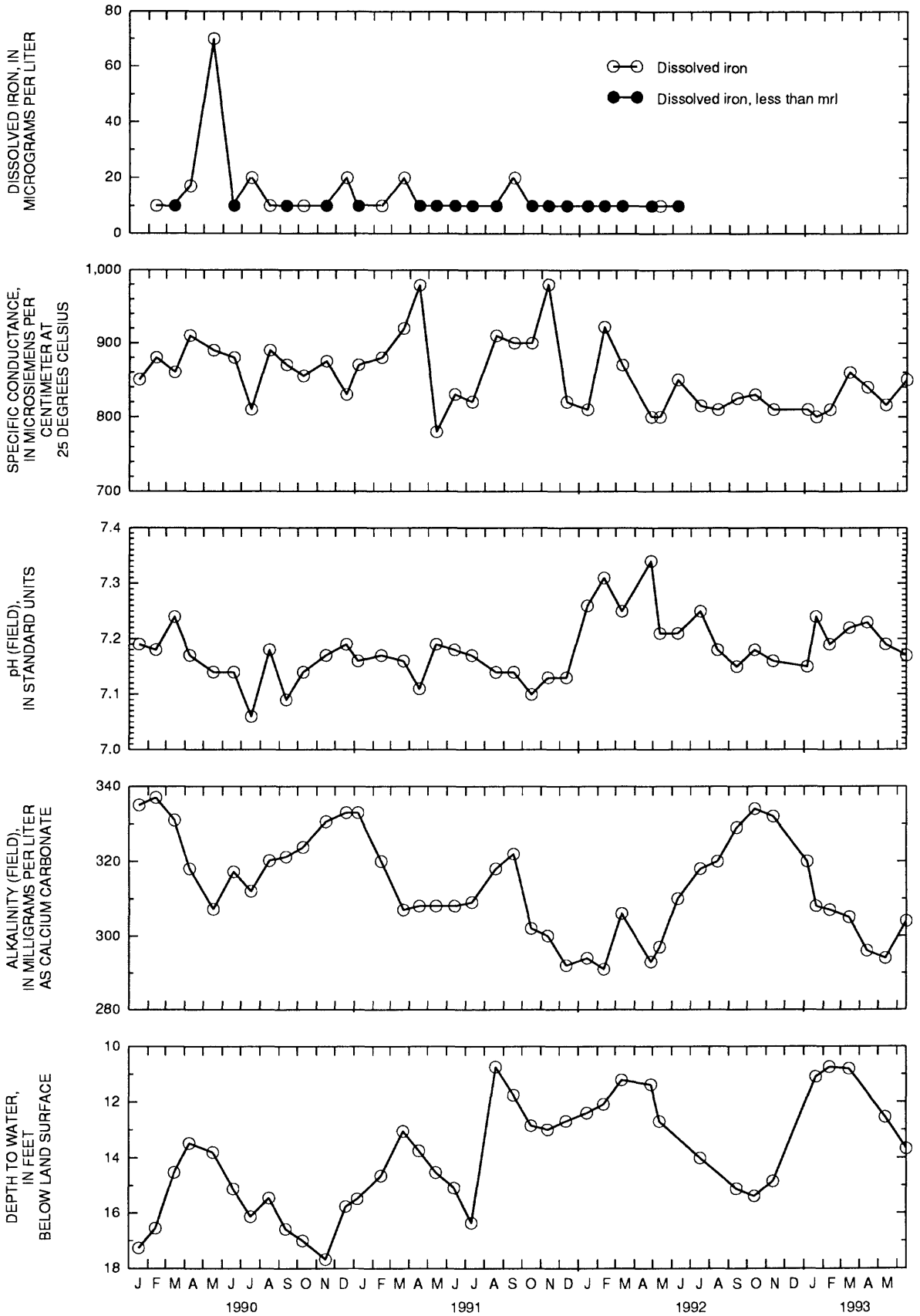

Figure 15.--Selected water-quality constituents and properties, and depth to water in well 11, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

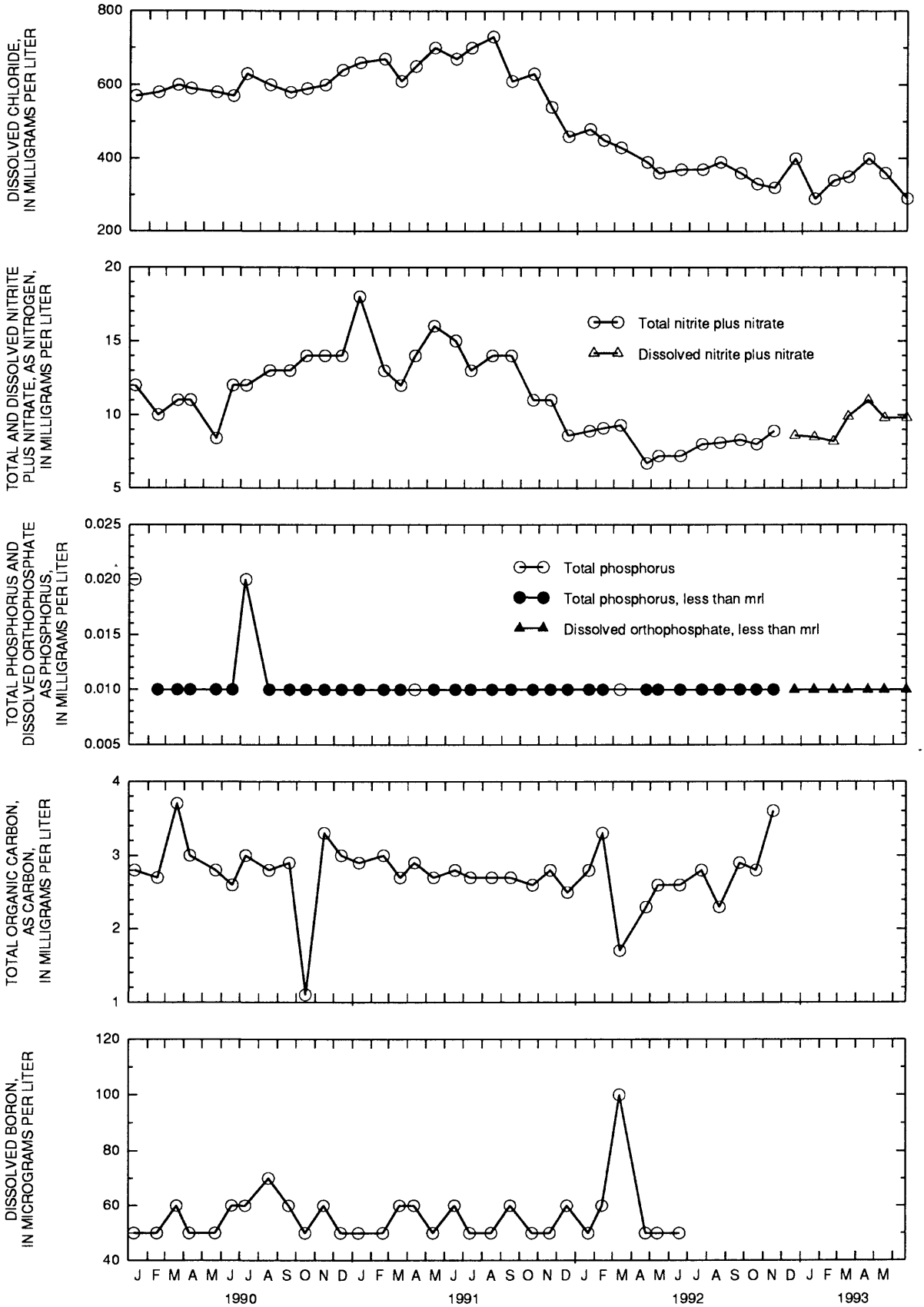

Figure 16.--Selected water-quality constituents and properties, and depth to water in well 12, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

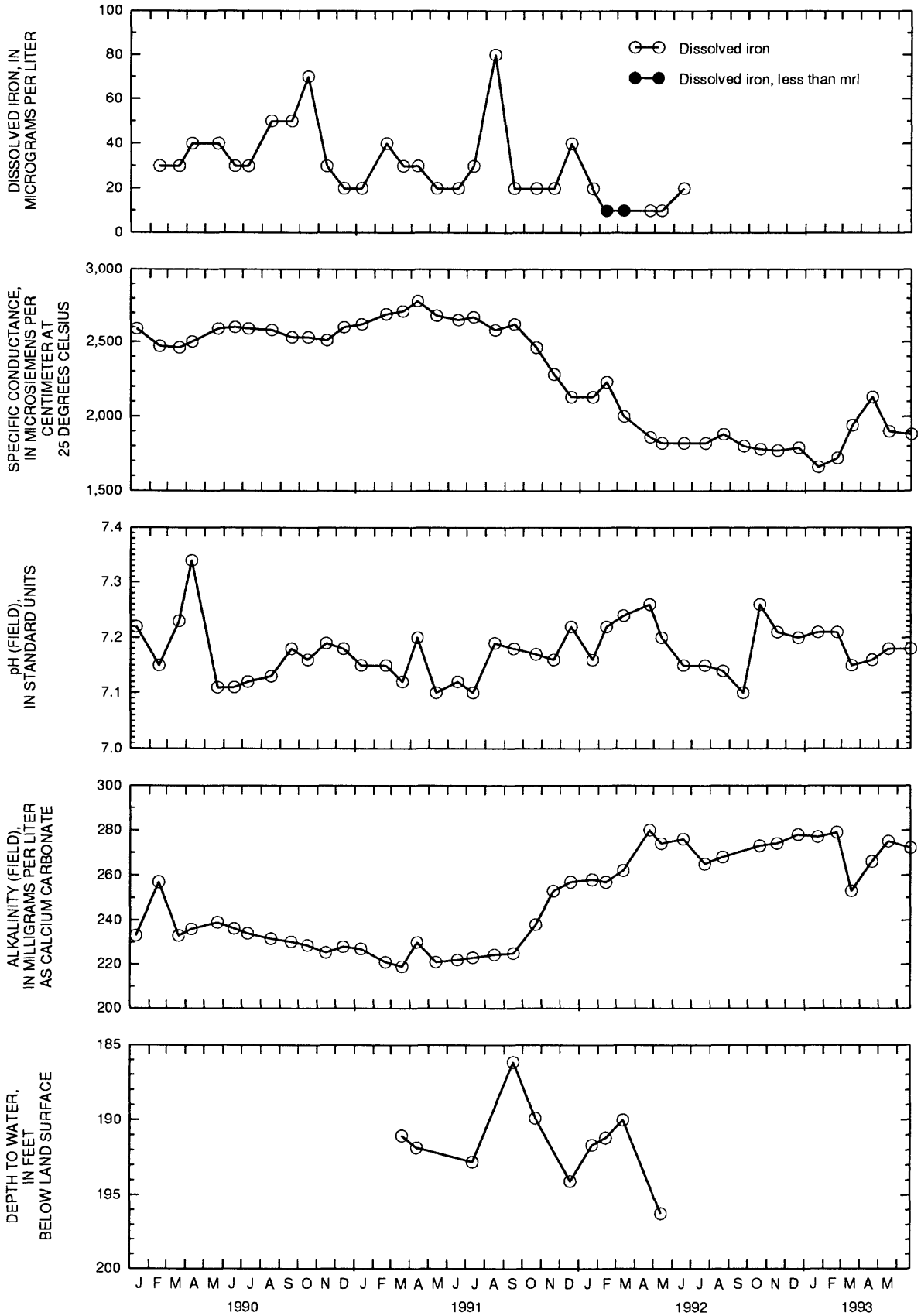

Figure 16.--Selected water-quality constituents and properties, and depth to water in well 12, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

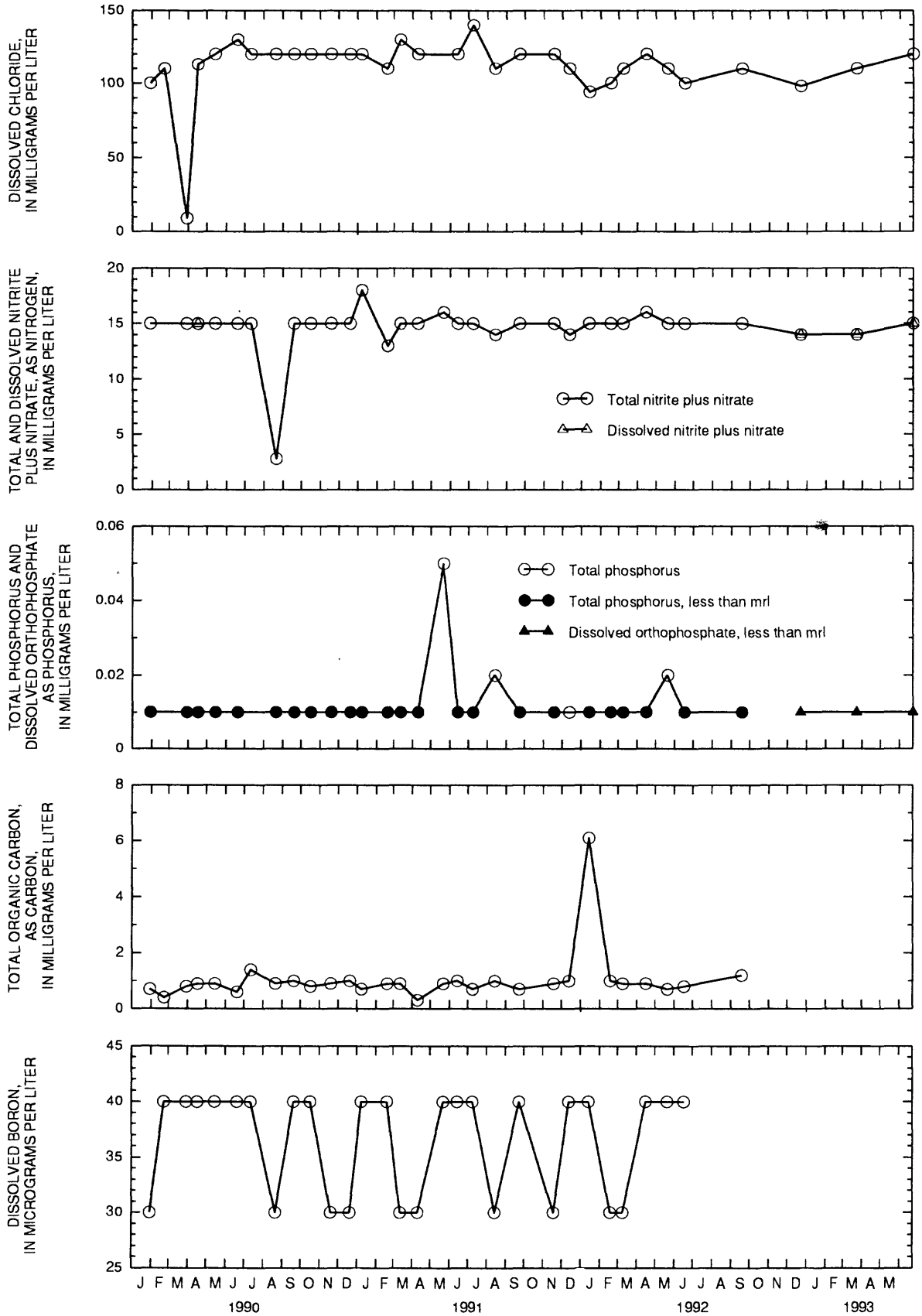

Figure 17.--Selected water-quality constituents and properties, and depth to water in well 13, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

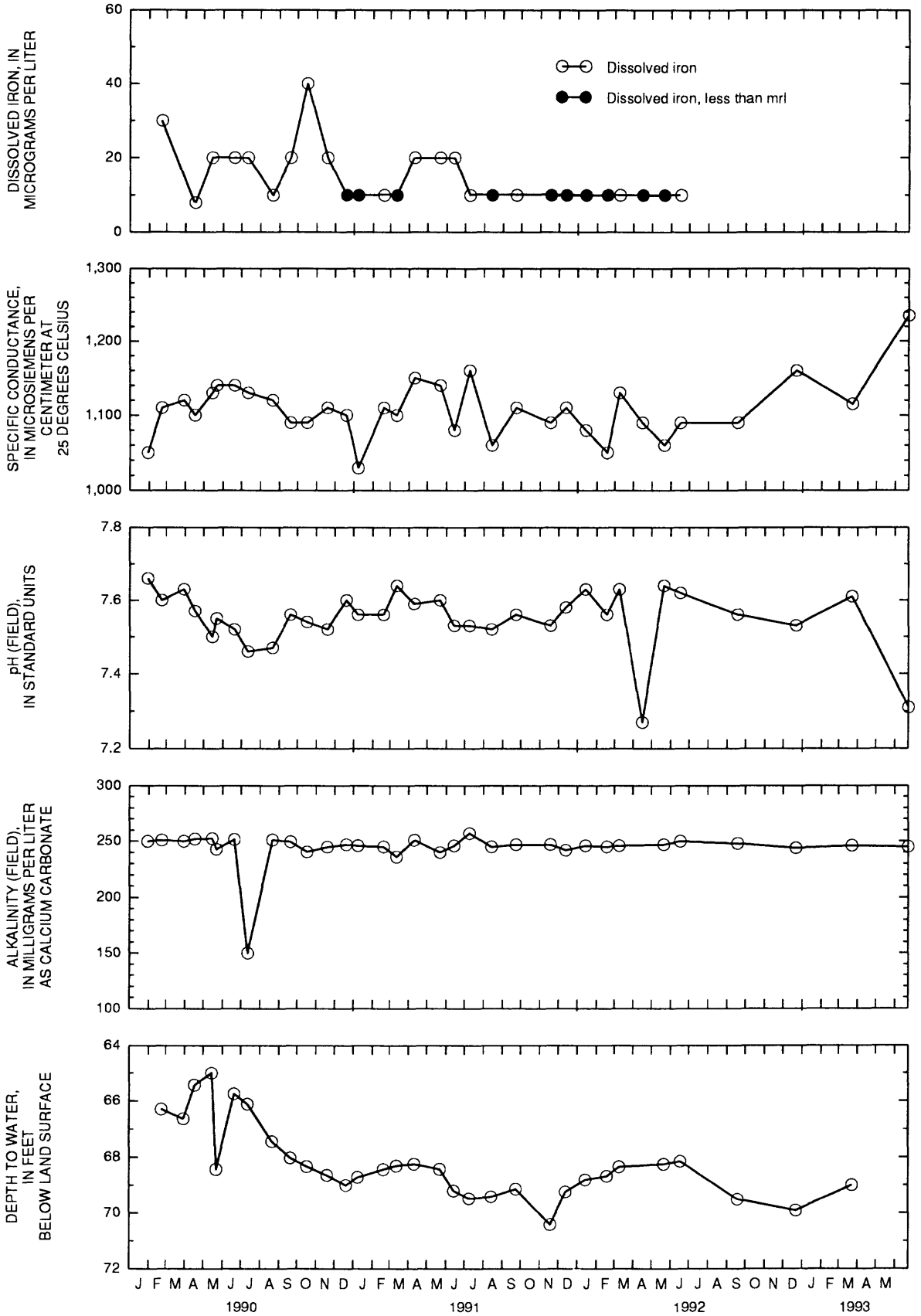

Figure 17.--Selected water-quality constituents and properties, and depth to water in well 13, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

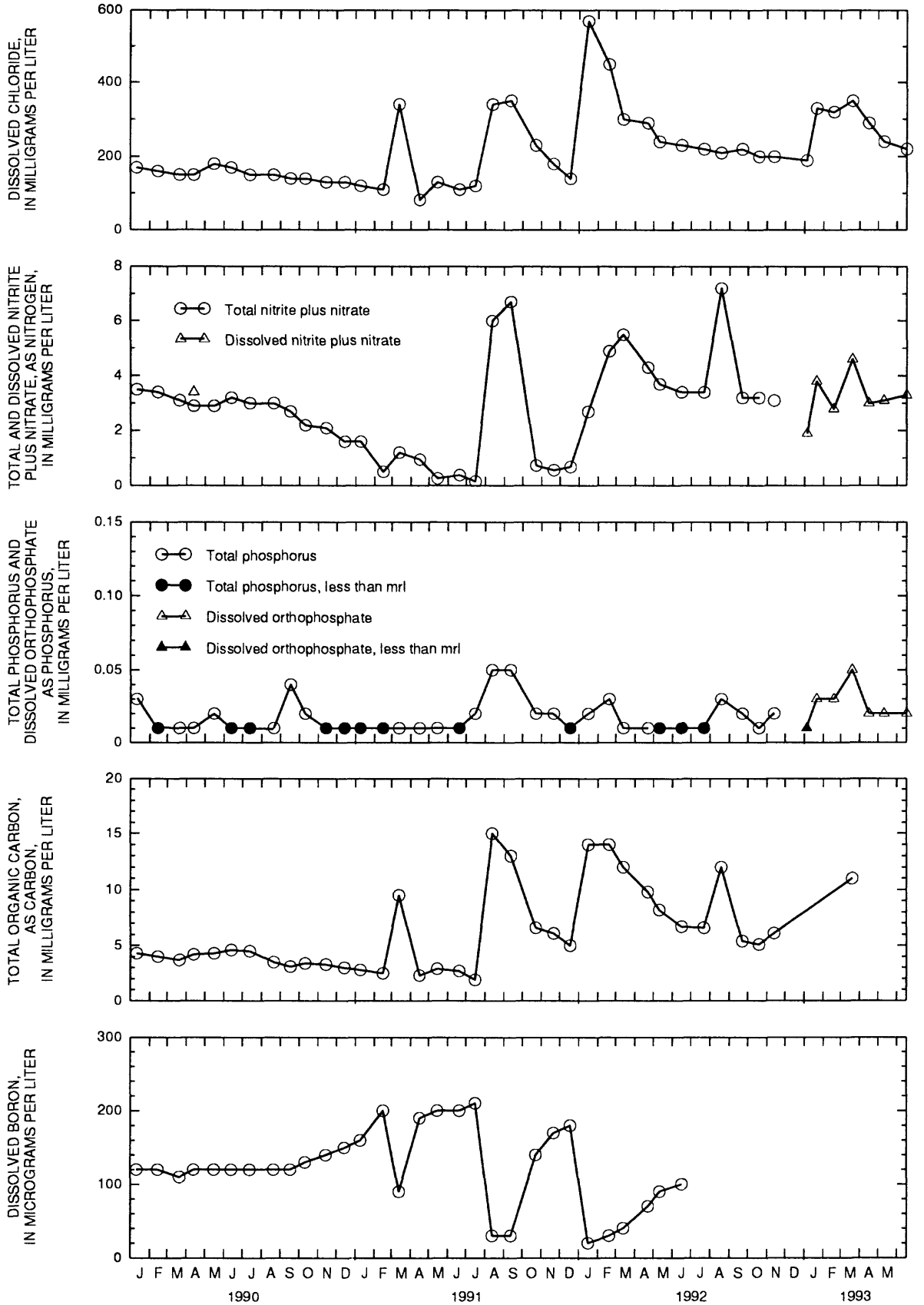

Figure 18.--Selected water-quality constituents and properties, and depth to water in well 14, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

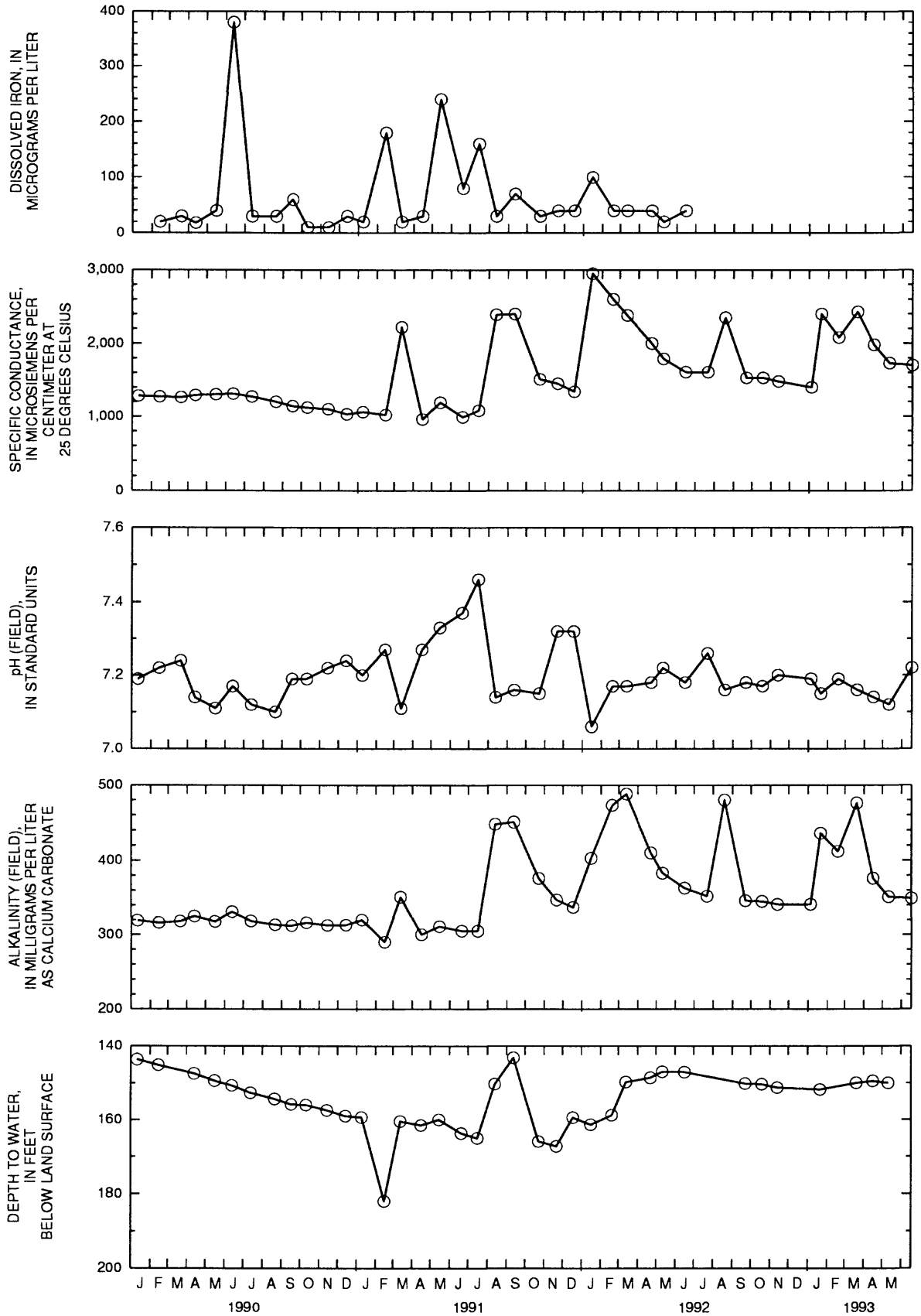

Figure 18.--Selected water-quality constituents and properties, and depth to water in well 14, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

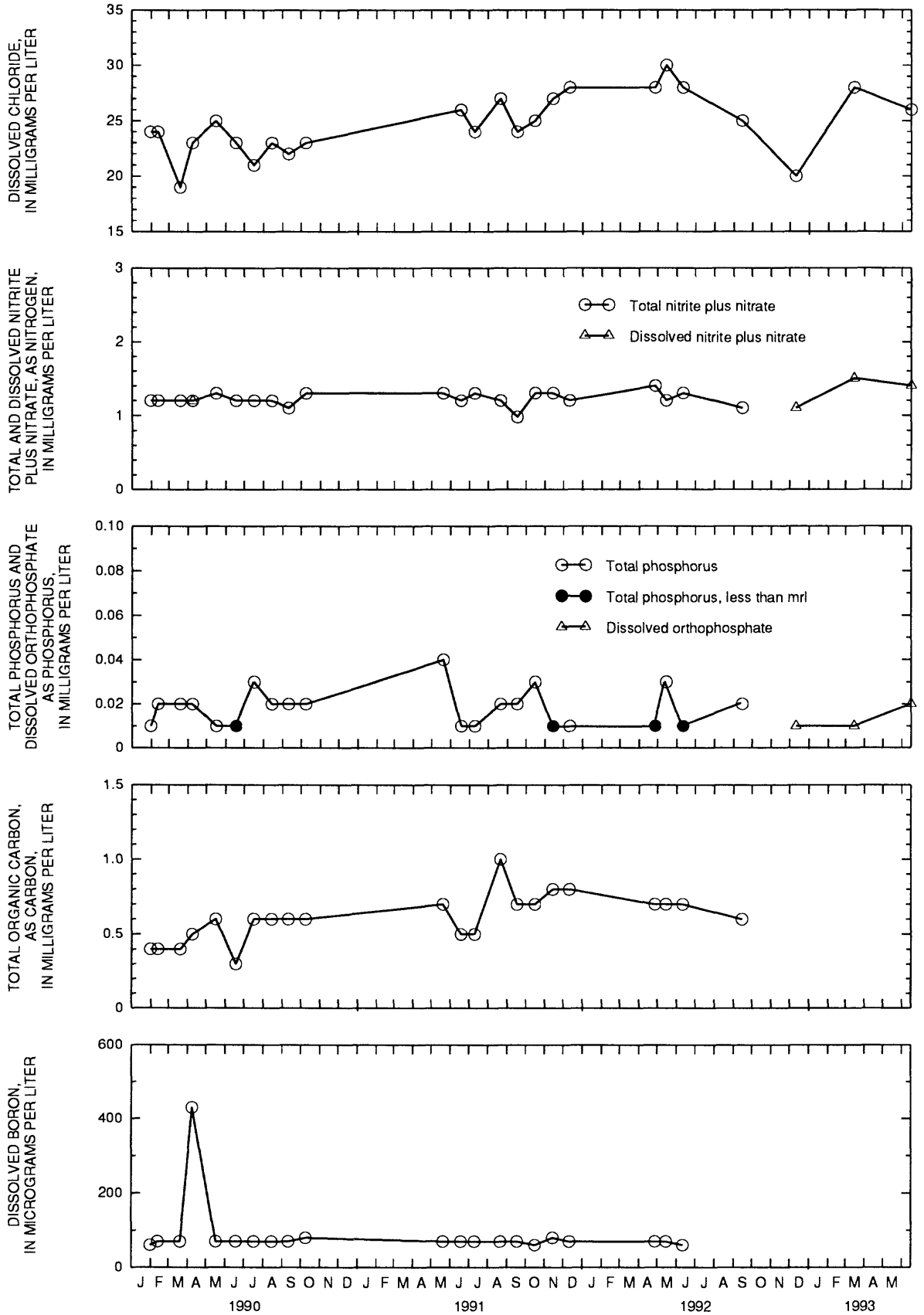

Figure 19.--Selected water-quality constituents and properties, and depth to water in well 15, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

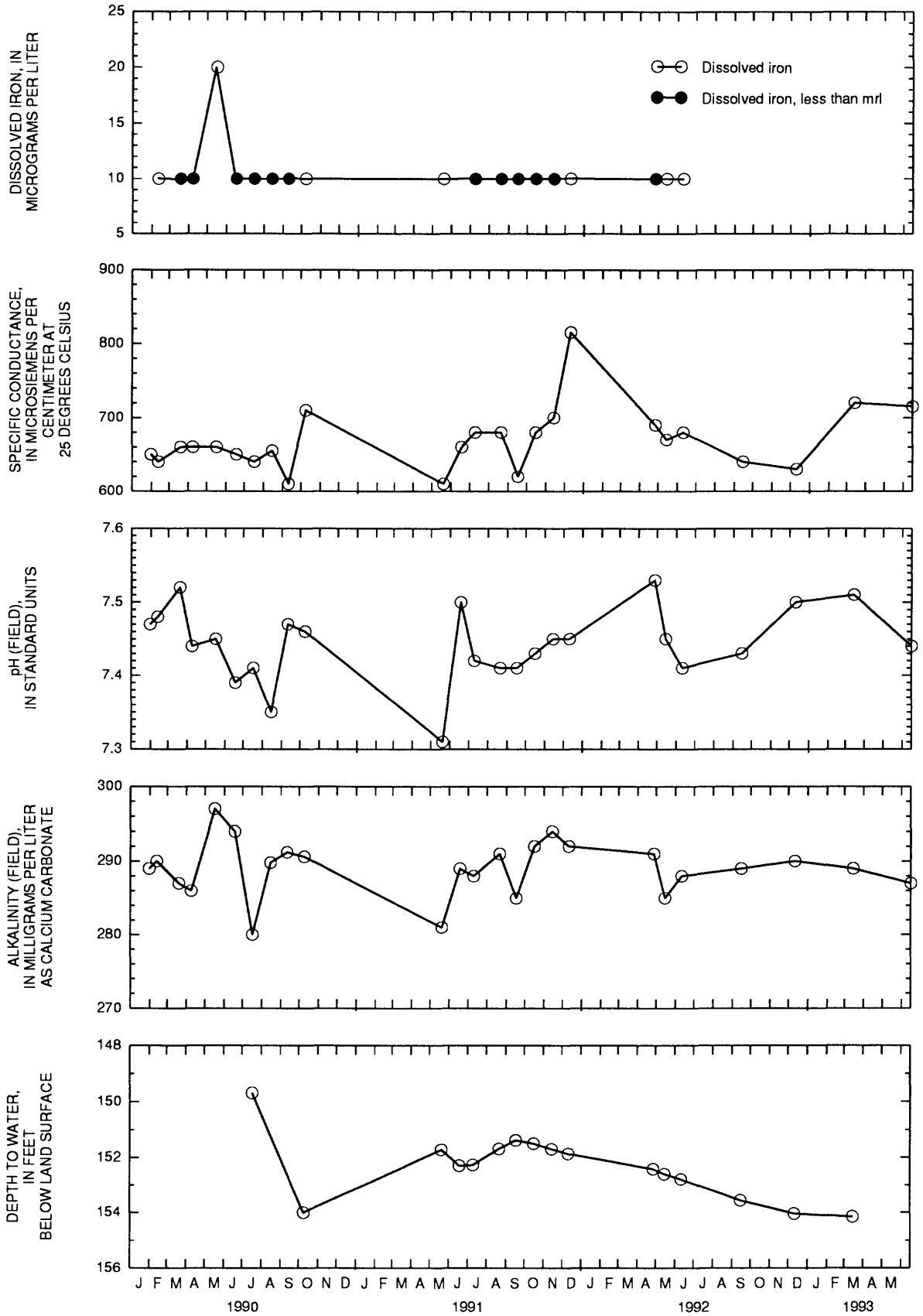

Figure 19.--Selected water-quality constituents and properties, and depth to water in well 15, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

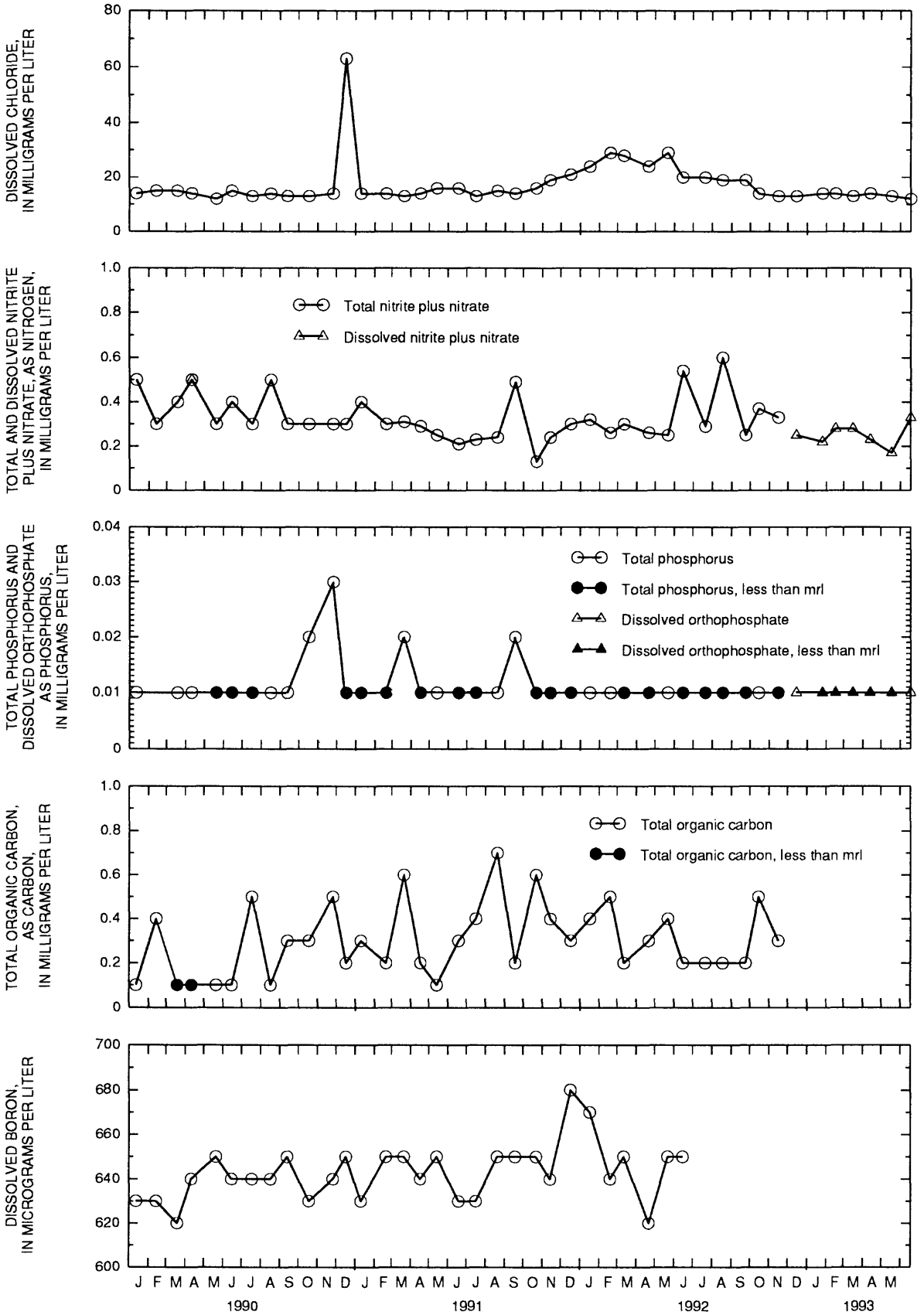

Figure 20.--Selected water-quality constituents and properties, and depth to water in well 16, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

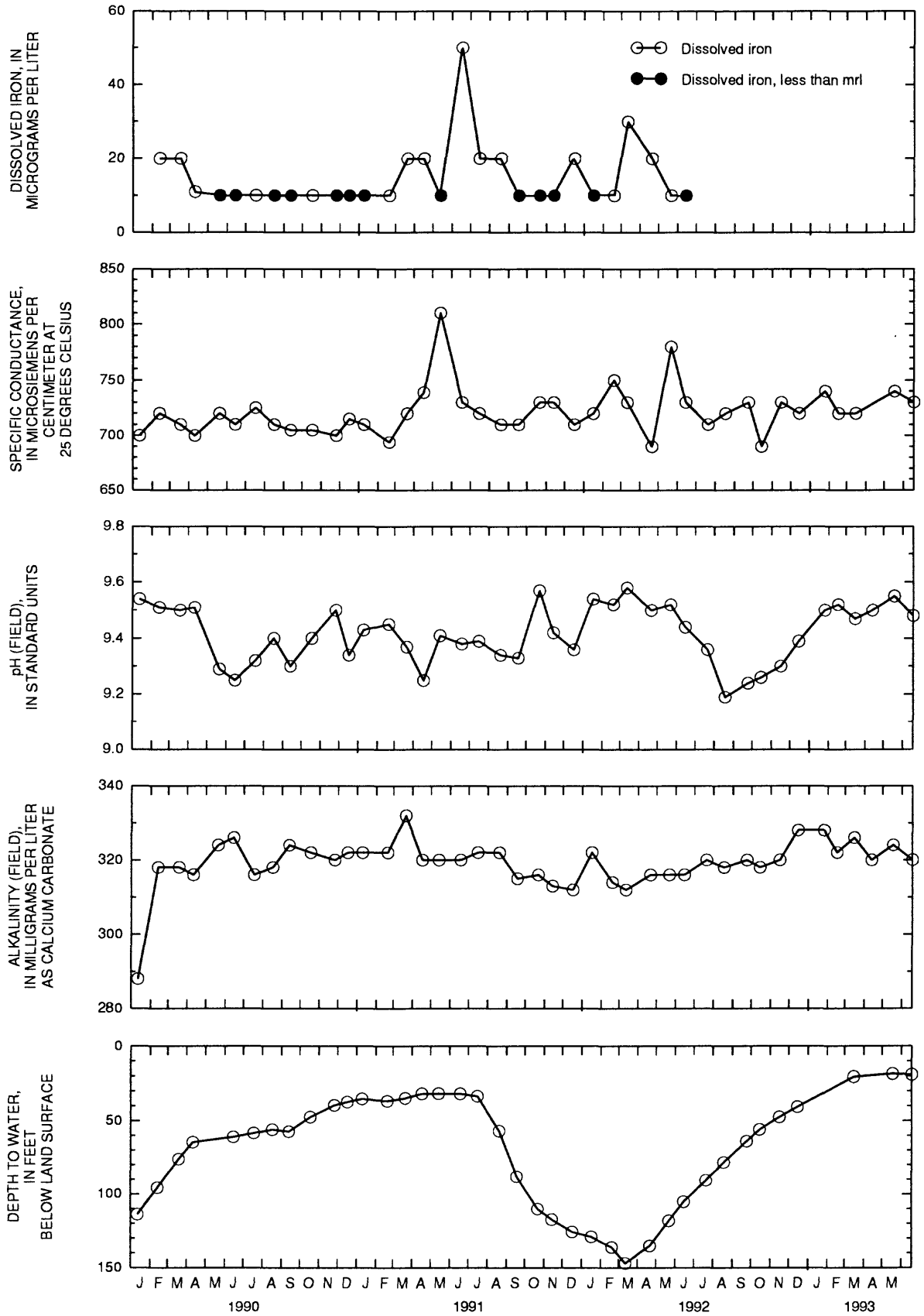

Figure 20.--Selected water-quality constituents and properties, and depth to water in well 16, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

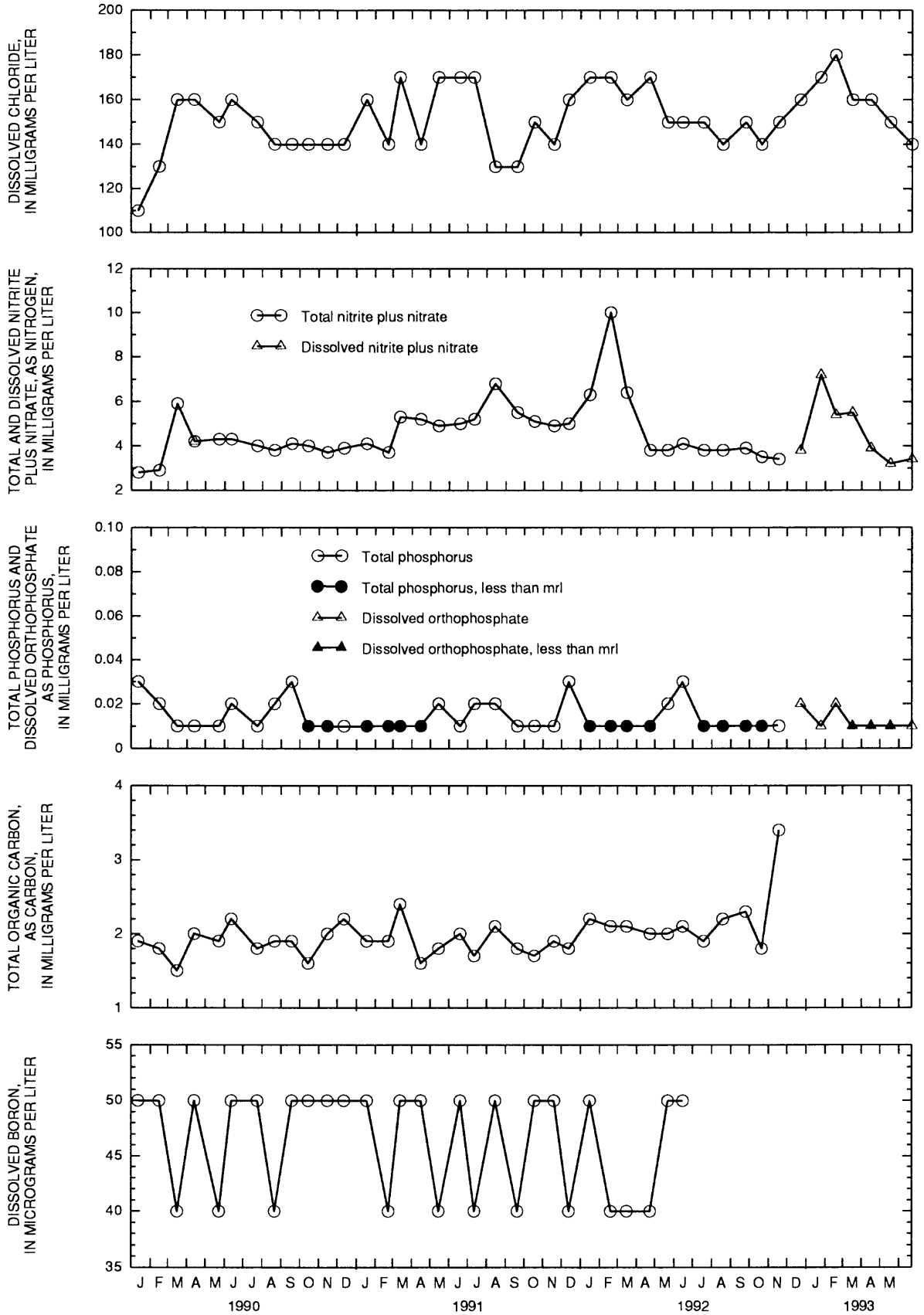

Figure 21.--Selected water-quality constituents and properties, and depth to water in well 17, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

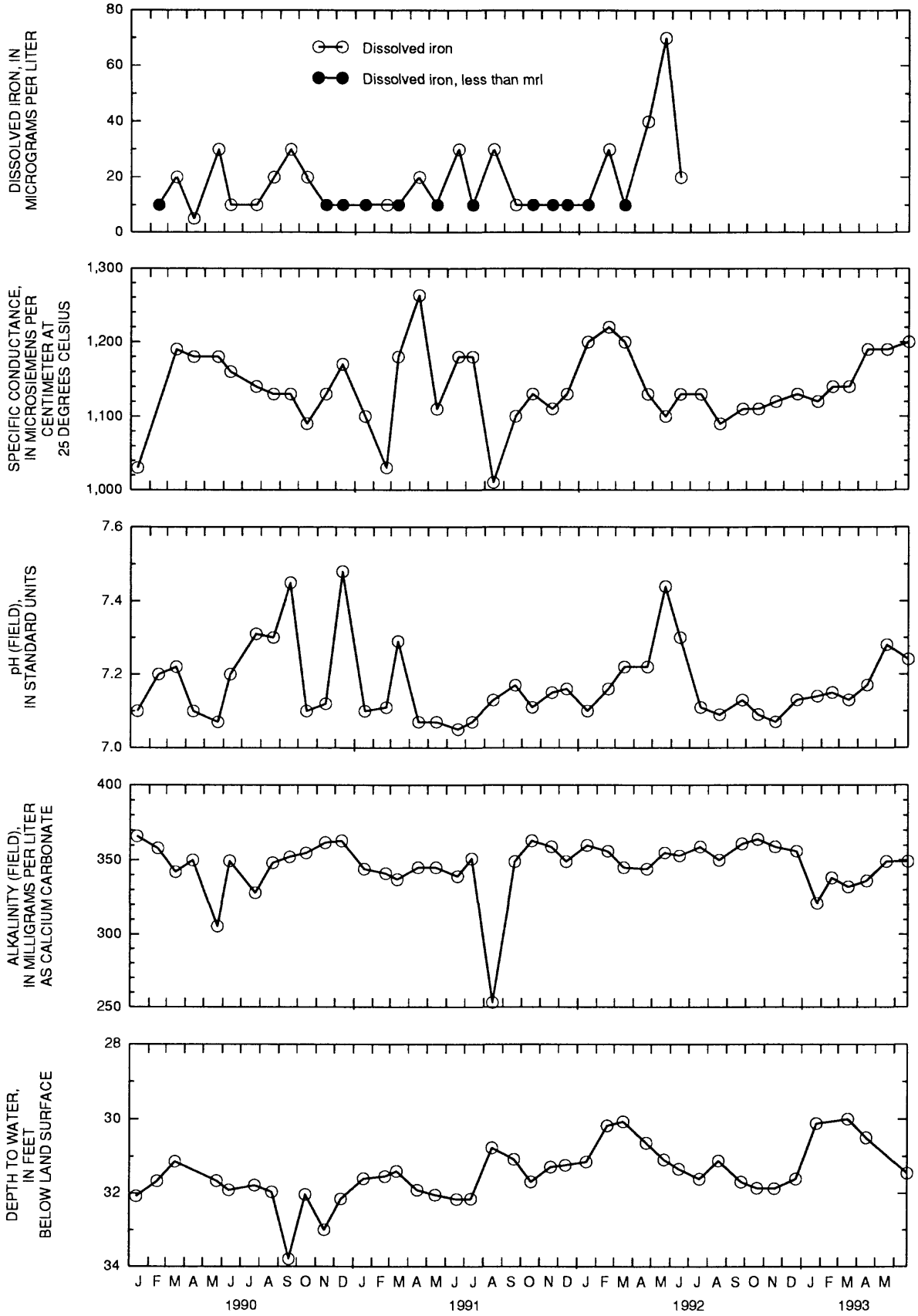

Figure 21.--Selected water-quality constituents and properties, and depth to water in well 17, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

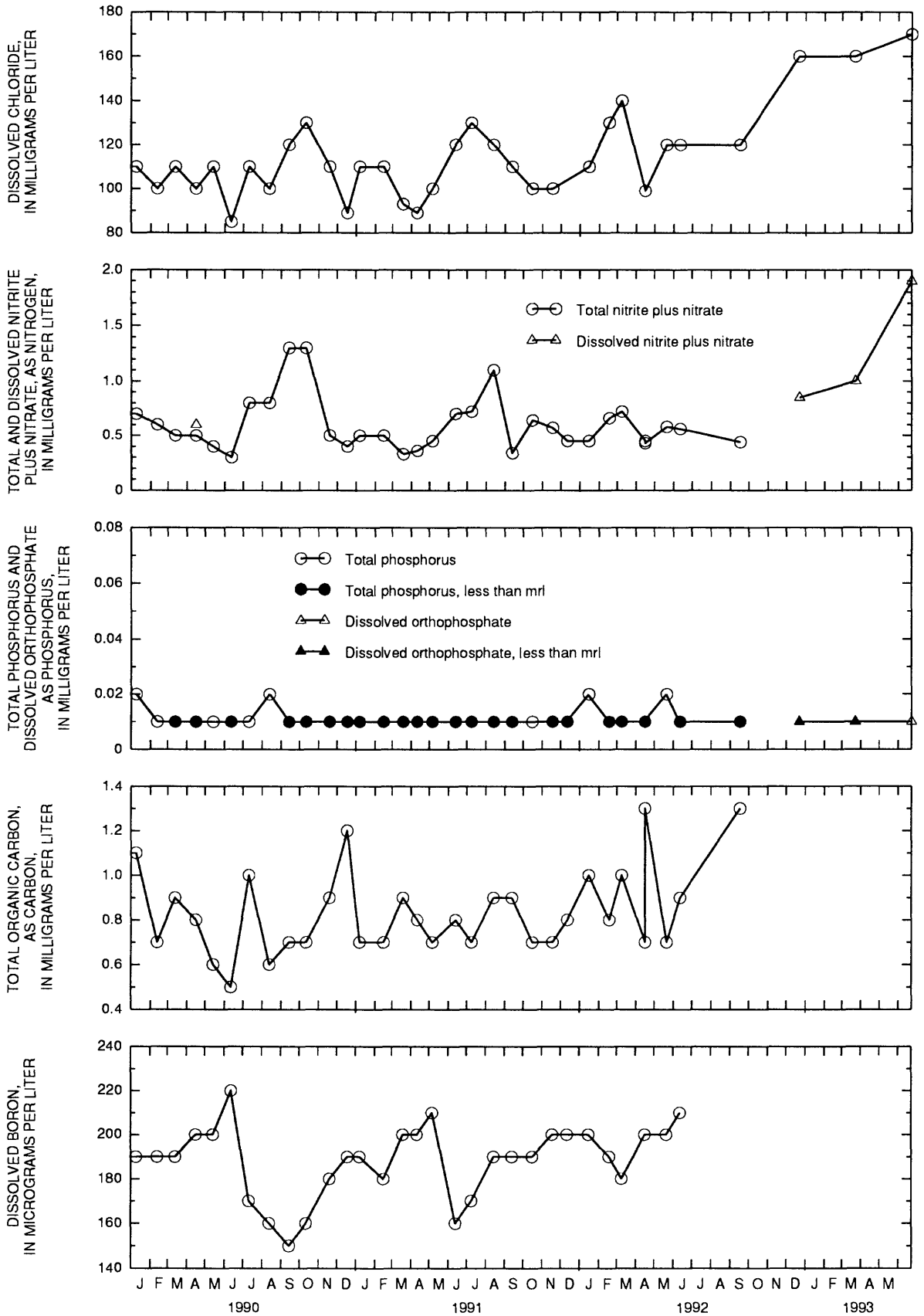

Figure 22.--Selected water-quality constituents and properties, and depth to water in well 18, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

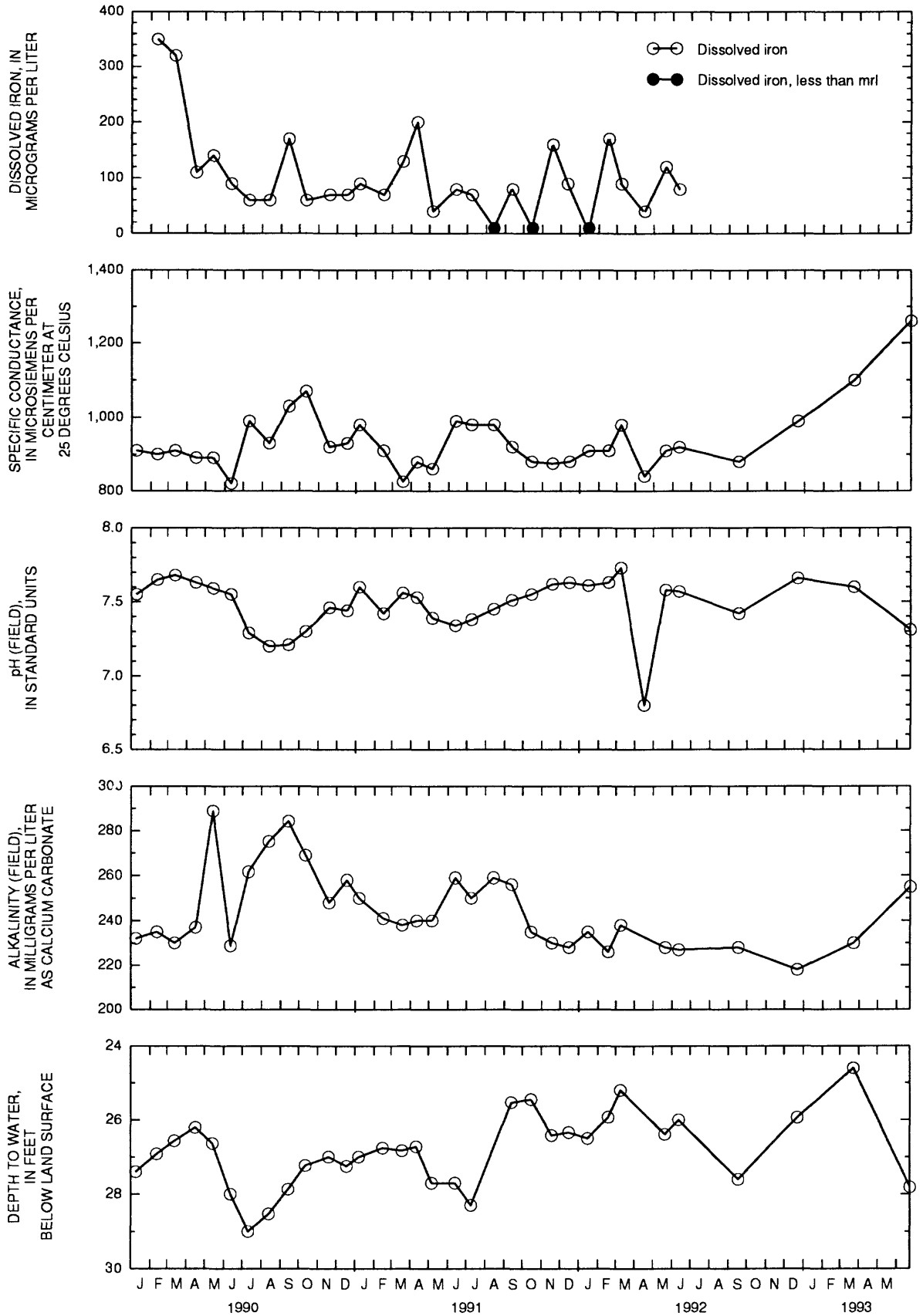

Figure 22.--Selected water-quality constituents and properties, and depth to water in well 18, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

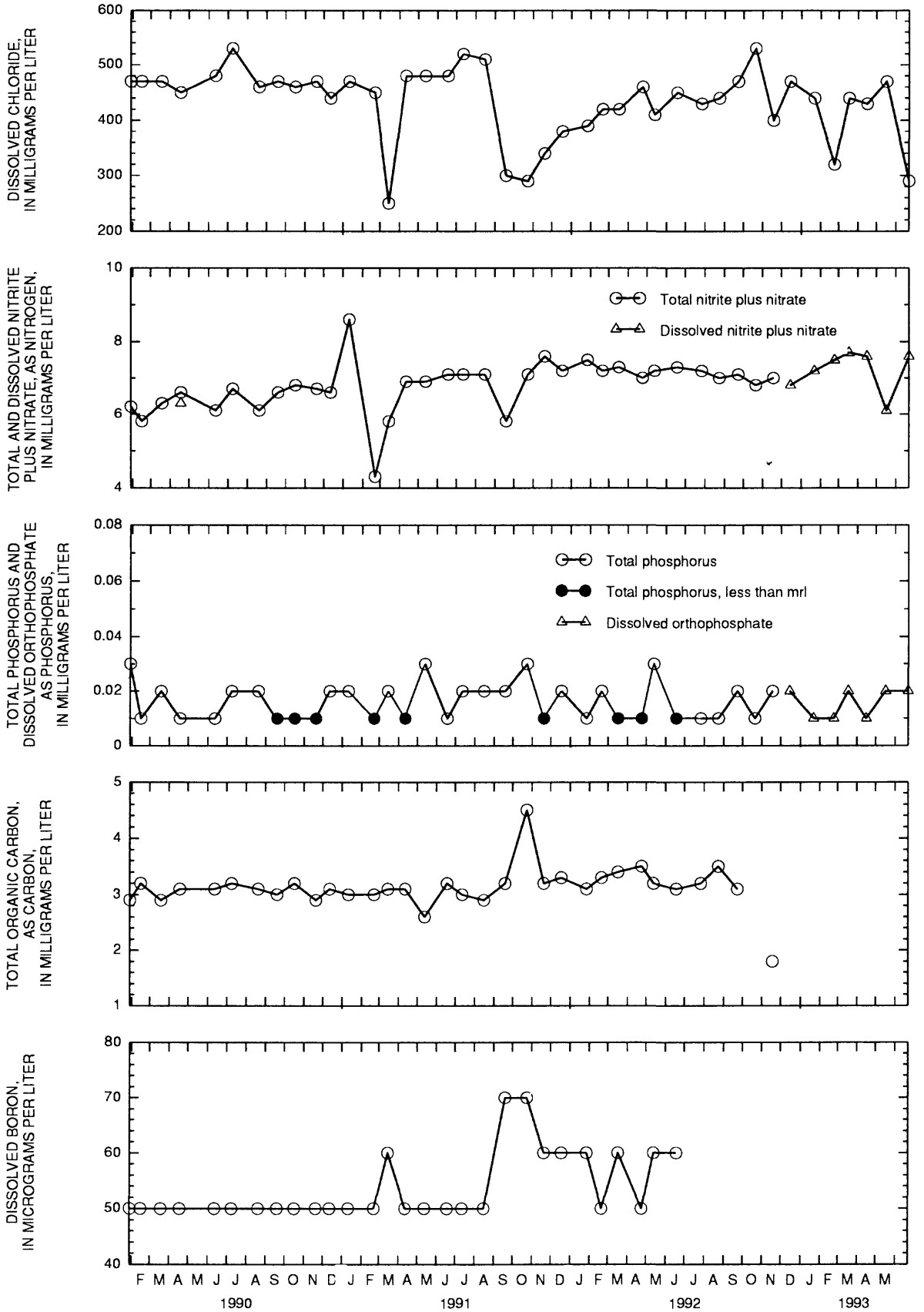

Figure 23.--Selected water-quality constituents and properties, and depth to water in well 19, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

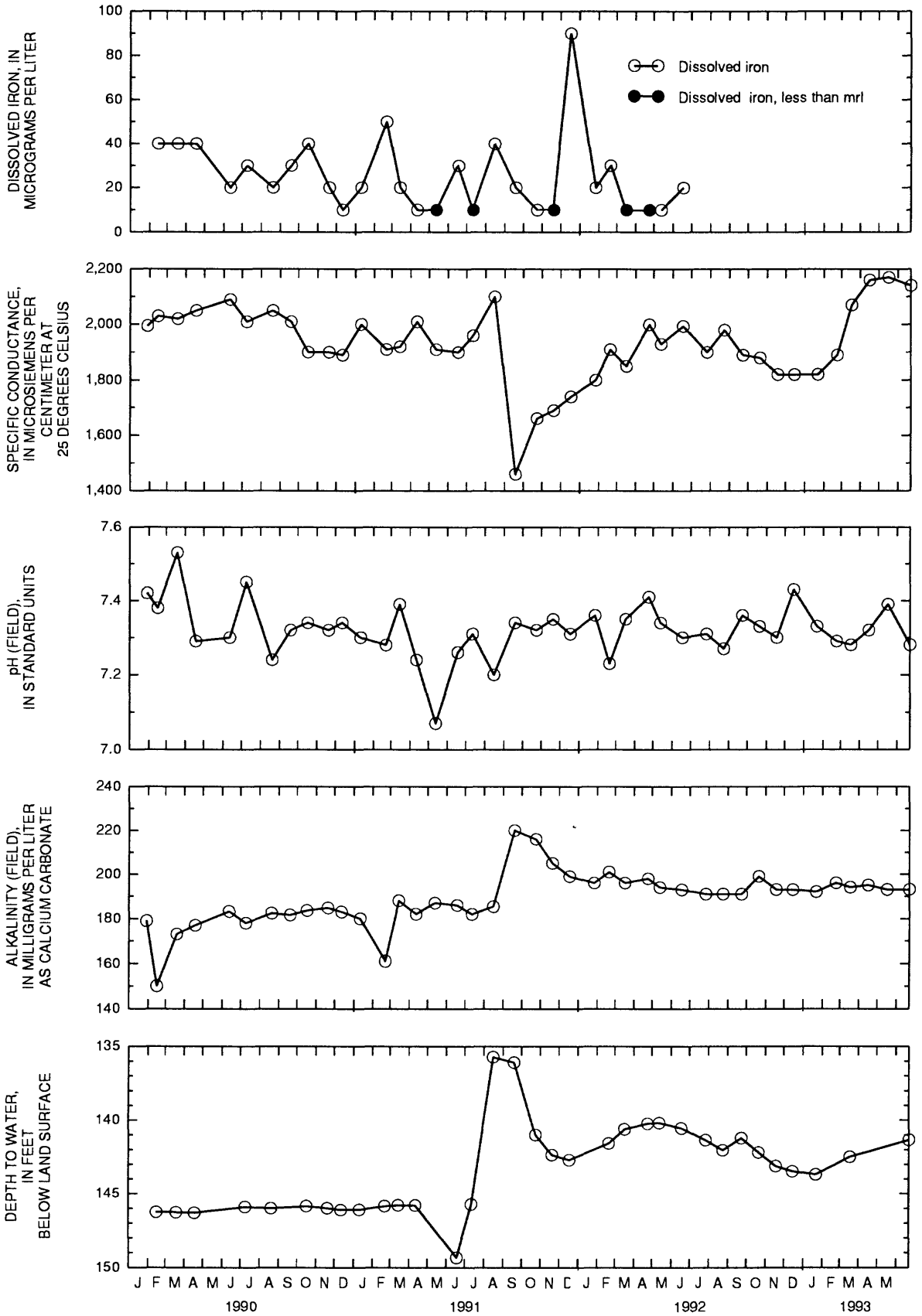

Figure 23.--Selected water-quality constituents and properties, and depth to water in well 19, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

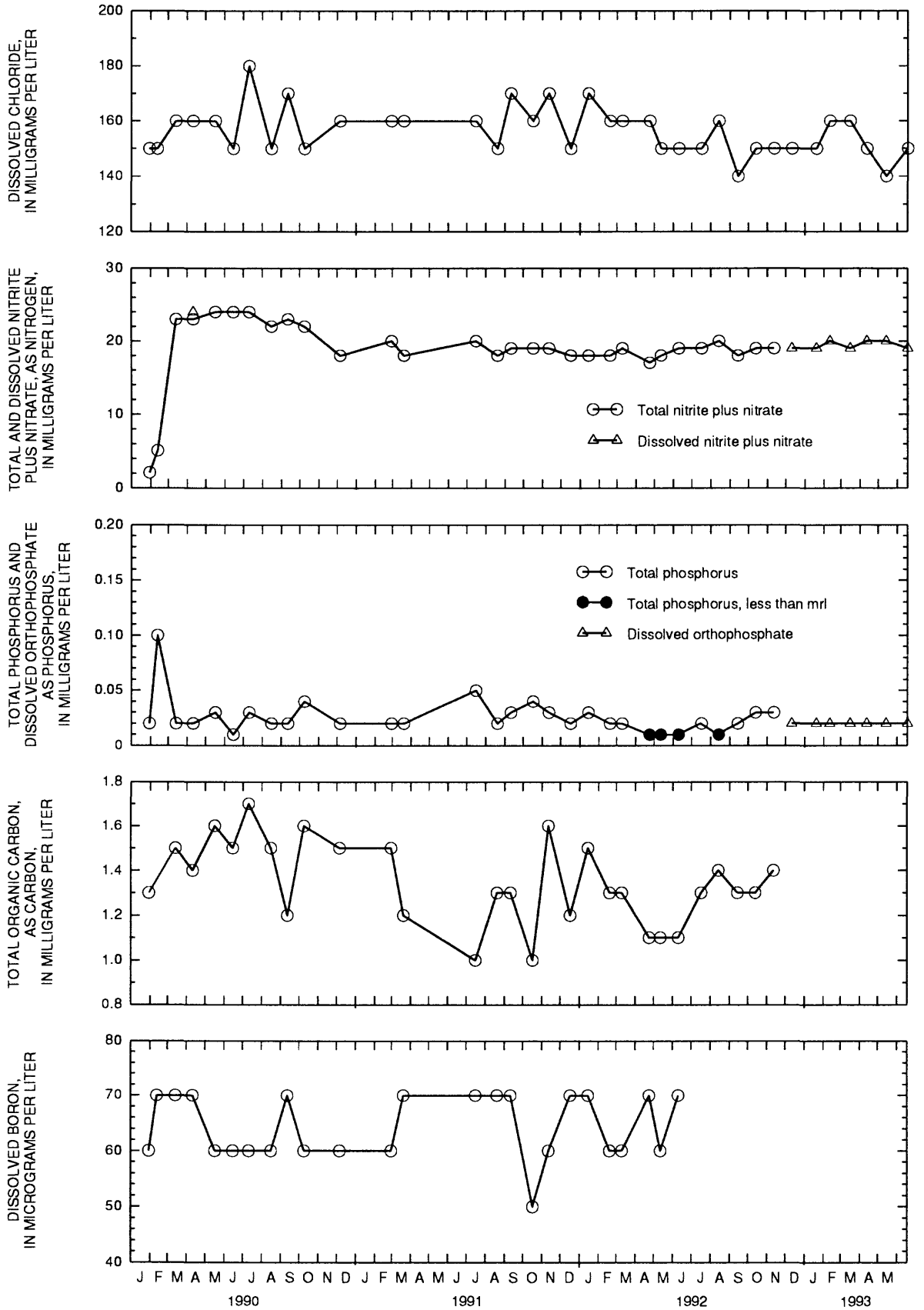

Figure 24.--Selected water-quality constituents and properties, and depth to water in well 20, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)

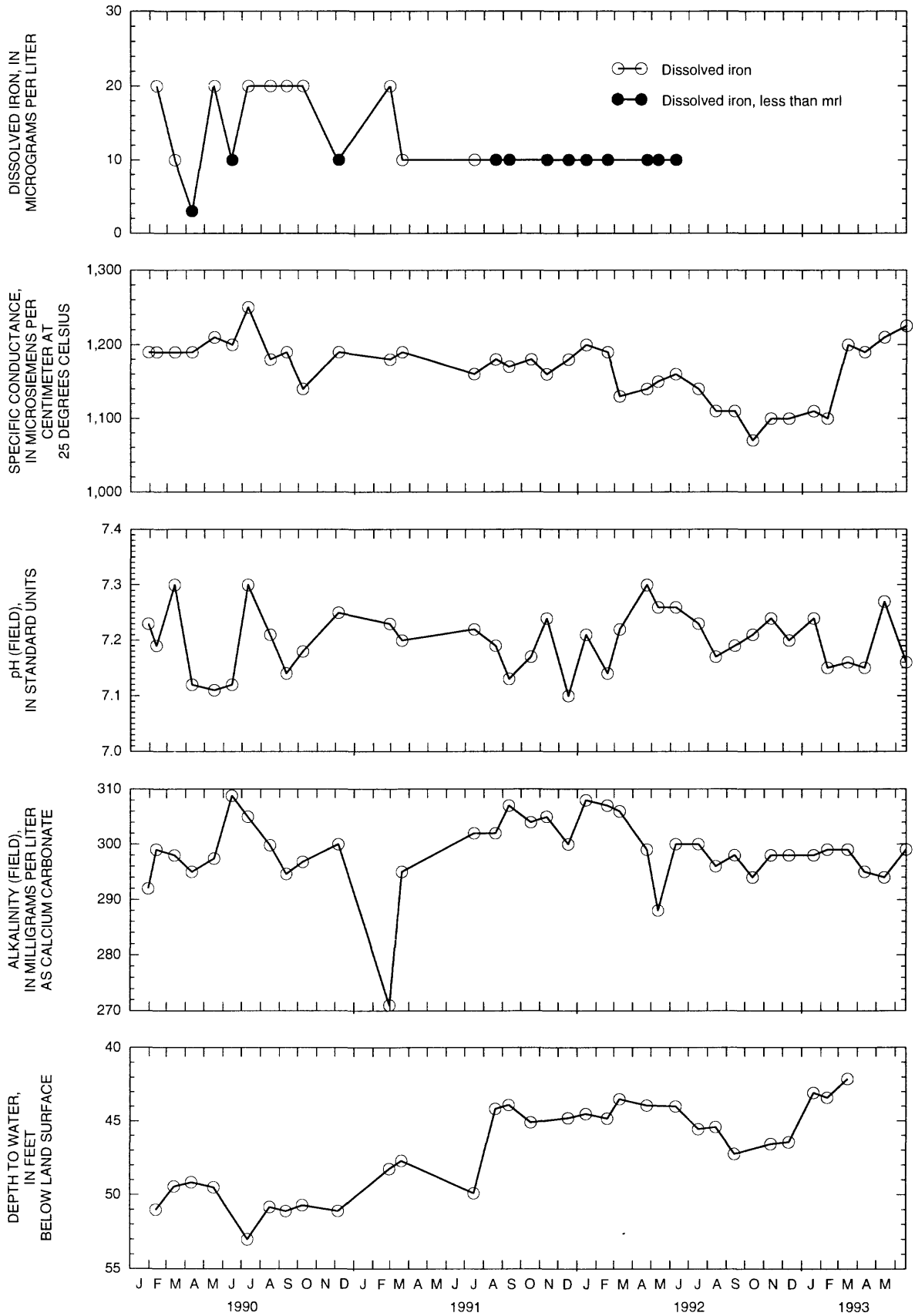

Figure 24.--Selected water-quality constituents and properties, and depth to water in well 20, east mountain area. (Location of well shown in figure 2; mrl indicates minimum reporting level; concentrations below mrl are plotted at the mrl.)--Concluded.

Table 1.--Description of wells sampled in the east mountain area, Bernalillo County, New Mexico, 1990-93

[--, no data]

Well number (figure 2)	Station identification number	Total depth of well (feet)	Land-surface altitude (feet above sea level)
1	3505311062243	160	6,540
2	3509491062118	260	6,940
3	3458581061946	100	7,490
4	3459181062020	680	7,660
5	3506151062233	80	6,580
6	3505221062225	73	6,400
7	3453191061351	100	6,790
8	3506041062058	85	6,520
9	3504271062631	146	6,255
10	3510141062028	--	6,798
11	3510111062204	--	7,100
12	3506551061856	300	6,880
13	3504001062629	120	6,030
14	3458331061851	315	7,420
15	3509491061845	280	6,700
16	3507211062221	200	6,765
17	3501191062109	--	7,060
18	3504491062319	--	6,355
19	3505251061517	275	6,775
20	3509301062107	120	6,860

Table 2.--Chemical analyses of water samples and depth to water for wells in an area northeast of Albuquerque, Bernalillo County, New Mexico, 1992-93

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

Well number (figure 3)	Station identification number	Date sampled	Specific conductance (µS/cm)	pH (units)	Water temperature (°C)	Alkalinity, whole water (mg/L as $CaCO_3$)	Chloride (mg/L)	Nitrite plus nitrate (mg/L as N)	Nitrate (mg/L as N)
N-1	350935106295801	02-24-93	380	7.9	15.5	170	5.5	2.50	--
N-2	350957106304301	02-26-93	325	7.8	20.5	150	5.2	0.29	0.28
N-3	351001106312201	02-26-93	299	8.0	--	140	5.4	0.31	0.30
N-4	351005106295701	02-23-93	428	7.9	16.5	190	6.3	2.60	--
N-5	351020106282001	09-09-93	577	7.1	--	--	7.6	0.14	--
N-6	351029106322001	02-19-93	600	7.9	--	140	86	0.16	0.15
N-7	351034106345601	02-24-93	540	7.9	16.0	180	16	0.051	--
N-8	351049106303801	02-17-93	280	8.0	20.5	120	4.4	0.21	--
N-9	351055106295401	12-10-92	390	7.6	19.5	140	15	2.80	--
N-10	351106106343601	12-10-92	500	7.9	16.0	160	16	<0.05	--
N-11	351108106333601	02-25-93	330	8.0	19.0	120	9.6	<0.05	--

Table 2.--Chemical analyses of water samples and depth to water for wells in an area northeast of Albuquerque, Bernalillo County, New Mexico, 1992-93--Concluded

Well number (figure 3)	Date sampled	Nitrite (mg/L as N)	Ammonia (mg/L as N)	Ortho-phos-phate (mg/L as P)	Total organic carbon (mg/L)	Methy-lene blue active sub-stances (mg/L)	Depth of water below land surface (feet)	Total depth of well (feet)	Land-surface alti-tude (feet above sea level)	Pumping period prior to sam-pling (minutes)
N-1	02-24-93	<0.01	<0.01	<0.01	--	<0.02	--	480	6,010	5
N-2	02-26-93	0.01	<0.01	<0.01	--	<0.02	--	655	5,868	11
N-3	02-26-93	0.01	<0.01	<0.01	--	<0.02	--	930	5,745	6
N-4	02-23-93	<0.01	<0.01	<0.01	--	<0.02	--	515	6,020	6
N-5	09-09-93	<0.01	0.02	<0.01	--	--	--	--	6,455	--
N-6	02-19-93	0.01	<0.01	<0.01	0.3	<0.02	--	670	5,500	--
N-7	02-24-93	<0.01	0.01	0.01	1.2	<0.02	261.20	--	5,190	8
N-8	02-17-93	<0.01	<0.01	<0.01	0.1	<0.02	315.39	660	5,865	14
N-9	12-10-92	<0.01	<0.01	<0.01	--	--	426.32	632	6,040	9
N-10	12-10-92	<0.01	<0.01	<0.01	--	0.03	290.04	364	5,230	5
N-11	02-25-93	<0.01	0.02	<0.01	--	<0.02	--	575	5,385	10

Table 3.--Chemical analyses of water samples and depth to water for wells in the north and south valley areas, Bernalillo County, New Mexico, 1984, 1985, 1987, and 1993

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

Well number (figure 4)	Station identification number	Date sampled	Specific conductance (µS/cm)	pH (units)	Water temperature (°C)	Alkalinity, whole water (mg/L as $CaCO_3$)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)
V-1	350807106403301	08-22-84	630	7.4	14.0	180	71	13	44
		06-09-93	673	7.8	13.5	240	75	13	41
V-2	350815106372201	08-09-84	590	7.9	17.5	76	63	11	23
		06-09-93	418	8.0	17.5	78	44	7.8	20
V-3	350831106392001	09-09-93	841	--	--	--	--	--	--
V-4	350858106383501	08-10-84	1,490	7.4	16.0	380	220	31	110
		06-04-93	1,530	7.5	16.0	430	190	29	120
V-5	350902106370201	08-21-84	1,100	7.5	17.0	240	180	27	59
		06-11-93	1,180	7.6	16.5	280	140	19	89
V-6	350911106404801	08-27-93	414	8.0	15.0	120	--	--	--
V-7	350927106375701	08-31-93	1,340	7.4	16.0	360	--	--	--
V-8	350944106370601	09-04-93	735	7.6	--	--	--	--	--
V-9	351004106401001	08-26-93	538	7.8	15.0	150	--	--	--

Table 3.--Chemical analyses of water samples and depth to water for wells in the north and south valley areas, Bernalillo County, New Mexico, 1984, 1985, 1987, and 1993--Continued

Well number (figure 4)	Station identification number	Date sampled	Specific conductance (µS/cm)	pH (units)	Water temperature (°C)	Alkalinity, whole water (mg/L as $CaCO_3$)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)
V-10	351018106364001	08-23-93	869	7.6	17.0	300	--	--	--
V-11	351019106404001	09-03-93	433	7.7	--	--	--	--	--
V-12	351043106392301	08-27-93	421	8.0	15.5	120	--	--	--
V-13	351114106373501	08-31-93	687	7.7	15.5	210	--	--	--
V-14	351116106364101	09-02-93	--	--	--	--	--	--	--
V-15	351128106391401	09-04-93	468	7.9	--	--	--	--	--
V-16	351134106373501	08-24-93	530	7.9	16.0	160	--	--	--
V-17	351135106362802	08-18-93	290	8.1	15.0	102	--	--	--
V-18	351203106365901	08-24-93	491	8.0	14.5	140	--	--	--
V-19	351204106380501	08-28-93	429	8.0	15.0	130	--	--	--
V-20	351211106361701	08-28-93	434	8.0	12.0	140	--	--	--
V-21	351300106392201	08-26-93	907	7.6	19.0	210	--	--	--
V-22	345659106413101	04-14-93	354	7.9	17.0	120	--	--	--
V-23	345723106414401	04-14-93	672	7.8	16.0	200	--	--	--
V-24	345724106424601	04-27-93	438	8.0	17.0	100	--	--	--

Table 3.--Chemical analyses of water samples and depth to water for wells in the north and south valley areas, Bernalillo County, New Mexico, 1984, 1985, 1987, and 1993--Continued

Well number (figure 4)	Station identification number	Date sampled	Specific conductance (µS/cm)	pH (units)	Water temperature (°C)	Alkalinity, whole water (mg/L as $CaCO_3$)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)
V-25	345758106420201	04-30-93	330	8.0	17.0	97	--	--	--
		09-07-93	--	--	--	--	--	--	--
V-26	345808106404201	05-05-93	349	7.9	15.5	120	--	--	--
V-27	345812106393201	05-05-93	534	9.0	25.0	108	--	--	--
V-28	345814106401501	05-05-93	1,800	7.5	15.5	270	--	--	--
V-29	345841106414901	05-07-93	545	7.9	15.5	140	--	--	--
V-30	345909106392001	04-30-93	356	7.9	23.0	110	--	--	--
		09-01-93	355	7.7	23.0	--	--	--	--
V-31	345935106393701	09-02-93	850	7.5	24.5	110	--	--	--
V-32	345935106425101	05-04-93	496	7.9	18.0	120	--	--	--
V-33	345939106400201	05-24-93	829	7.6	19.0	200	--	--	--
V-34	345939106415901	11-02-87	482	--	--	--	52	9.5	26
		04-29-93	494	8.0	16.0	100	--	--	--
		09-08-93	--	--	--	--	--	--	--
V-35	345940106393401	05-07-93	992	7.7	20.5	110	--	--	--

Table 3.--Chemical analyses of water samples and depth to water for wells in the north and south valley areas, Bernalillo County, New Mexico, 1984, 1985, 1987, and 1993--Continued

Well number (figure 4)	Station identification number	Date sampled	Specific conductance (µS/cm)	pH (units)	Water temperature (°C)	Alkalinity, whole water (mg/L as $CaCO_3$)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)
V-36	345943106404001	05-21-93	3,200	8.1	16.5	510	--	--	--
V-37	350005106405401	08-08-85	420	7.7	15.0	136	42	6.5	42
		05-21-93	446	7.8	15.0	130	43	6.4	38
V-38	350035106413401	09-15-85	1,100	7.6	16.0	321	140	20	89
		05-27-93	1,120	7.5	15.5	310	130	16	93
V-39	350037106392701	08-05-85	580	7.6	20.5	156	82	13	24
		05-24-93	592	7.6	20.5	160	73	11	22
V-40	350043106425501	05-25-93	495	7.9	18.5	140	--	--	--
V-41	350135106374801	04-26-93	351	7.9	23.5	110	--	--	--
V-42	350137106410503	05-16-85	480	7.0	18.0	220	64	7.8	30
		05-11-93	--	--	--	--	--	--	--
V-43	350142106393401	04-26-93	406	8.0	19.0	100	--	--	--
V-44	350154106423101	05-27-93	278	8.3	17.0	76	--	--	--

Table 3.--Chemical analyses of water samples and depth to water for wells in the north and south valley areas, Bernalillo County, New Mexico, 1984, 1985, 1987, and 1993--Continued

Well number (figure 4)	Station identification number	Date sampled	Specific conductance (µS/cm)	pH (units)	Water temperature (°C)	Alkalinity, whole water (mg/L as $CaCO_3$)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)
V-45	350223106420801	09-19-85	825	7.6	17.0	278	85	13	88
		05-25-93	872	7.7	17.0	310	92	13	75
V-46	350250106411901	06-02-93	1,140	7.6	17.5	300	--	--	--
V-47	350317106412401	05-28-93	505	8.2	17.5	99	--	--	--
V-48	350331106404301	05-04-93	1,420	7.4	16.5	330	--	--	--
V-49	350334106420501	06-08-93	457	7.9	20.5	130	--	--	--
V-50	350349106395601	06-04-93	349	8.1	18.0	120	--	--	--

Table 3. --Chemical analyses of water samples and depth to water for wells in the north and south valley areas, Bernalillo County, New Mexico, 1984, 1985, 1987, and 1993--Continued

Well number (figure 4)	Date sampled	Potassium (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Silica (mg/L)	Nitrite plus nitrate (mg/L as N)	Nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)
V-1	08-22-84	5.7	110	20	0.50	37	<0.100	--	<0.010	0.080
	06-09-93	5.6	99	15	0.50	37	<0.050	--	<0.010	0.070
V-2	08-09-84	4.3	110	55	0.30	35	0.450	--	<0.010	<0.010
	06-09-93	3.8	67	36	0.30	39	0.440	--	<0.010	0.010
V-3	09-09-93	--	--	10	--	--	<0.050	--	<0.010	0.030
V-4	08-10-84	8.6	460	36	0.40	39	<0.100	--	<0.010	0.280
	06-04-93	9.2	390	43	0.40	44	<0.050	--	<0.010	0.240
V-5	08-21-84	4.9	410	39	0.20	31	<0.100	--	<0.010	0.020
	06-11-93	4.9	340	15	0.20	32	<0.050	--	<0.010	0.030
V-6	08-27-93	--	--	11	--	--	<0.050	--	<0.010	0.020
V-7	08-31-93	--	--	33	--	--	<0.050	--	<0.010	0.120
V-8	09-04-93	--	--	18	--	--	<0.050	--	<0.010	0.030
V-9	08-26-93	--	--	17	--	--	<0.050	--	<0.010	0.020
V-10	08-23-93	--	--	22	--	--	2.20	2.13	0.070	0.020

Table 3. --Chemical analyses of water samples and depth to water for wells in the north and south valley areas, Bernalillo County, New Mexico, 1984, 1985, 1987, and 1993--Continued

Well number (figure 4)	Date sampled	Potassium (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Silica (mg/L)	Nitrite plus nitrate (mg/L as N)	Nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)
V-11	09-03-93	--	--	15	--	--	<0.050	--	<0.010	0.030
V-12	08-27-93	--	--	12	--	--	<0.050	--	<0.010	0.090
V-13	08-31-93	--	--	61	--	--	39.0	--	<0.010	0.020
V-14	09-02-93	--	--	11	--	--	<0.050	--	<0.010	0.030
V-15	09-04-93	--	--	15	--	--	<0.050	--	<0.010	0.090
V-16	08-24-93	--	--	14	--	--	<0.050	--	<0.010	0.080
V-17	08-18-93	--	--	7.9	--	--	<0.050	--	<0.010	0.030
V-18	08-24-93	--	--	14	--	--	<0.050	--	<0.010	0.050
V-19	08-28-93	--	--	12	--	--	<0.050	--	<0.010	0.070
V-20	08-28-93	--	--	9.0	--	--	<0.050	--	<0.010	0.030
V-21	08-26-93	--	--	13	--	--	0.120	--	<0.010	0.020
V-22	04-14-93	--	--	11	--	--	<0.050	--	<0.010	0.120
V-23	04-14-93	--	--	28	--	--	<0.050	--	0.010	<0.010
V-24	04-27-93	--	--	19	--	--	<0.050	--	<0.010	<0.010

Table 3. --Chemical analyses of water samples and depth to water for wells in the north and south valley areas, Bernalillo County, New Mexico, 1984, 1985, 1987, and 1993--Continued

Well number (figure 4)	Date sampled	Potassium (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Silica (mg/L)	Nitrite plus nitrate (mg/L as N)	Nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)
V-25	04-30-93	--	--	10	--	--	--	--	--	--
	09-07-93	--	--	--	--	--	<0.050	--	<0.010	0.040
V-26	05-05-93	--	--	13	--	--	0.110	--	<0.010	<0.010
V-27	05-05-93	--	--	35	--	--	<0.050	--	<0.010	0.020
V-28	05-05-93	--	--	160	--	--	0.570	--	<0.010	<0.010
V-29	05-07-93	--	--	19	--	--	<0.050	--	<0.010	0.080
V-30	04-30-93	--	--	25	--	--	--	--	--	--
	09-01-93	--	--	--	--	--	0.099	--	<0.010	0.020
V-31	09-02-93	--	--	18	--	--	<0.050	--	<0.010	0.050
V-32	05-04-93	--	--	13	--	--	0.250	--	<0.010	<0.010
V-33	05-24-93	--	--	50	--	--	4.80	--	<0.010	0.010
V-34	11-02-87	7.0	90	22	0.30	50	<0.100	--	--	--
	04-29-93	--	--	24	--	--	--	--	--	--
	09-08-93	--	--	--	--	--	<0.050	--	<0.010	0.050
V-35	05-07-93	--	--	75	--	--	42.0	--	<0.010	<0.010

Table 3. --Chemical analyses of water samples and depth to water for wells in the north and south valley areas, Bernalillo County, New Mexico, 1984, 1985, 1987, and 1993--Continued

Well number (figure 4)	Date sampled	Potassium (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Silica (mg/L)	Nitrite plus nitrate (mg/L as N)	Nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)
V-36	05-21-93	--	--	8.9	--	--	<0.050	--	<0.010	0.030
V-37	08-08-85	4.5	56	16	0.50	36	<0.100	--	<0.010	0.080
	05-21-93	4.4	68	18	0.50	32	<0.050	--	<0.010	0.070
V-38	09-15-85	7.9	250	52	0.60	37	<0.100	--	<0.010	0.290
	05-27-93	8.3	220	48	0.70	33	<0.050	--	<0.010	0.260
V-39	08-05-85	7.8	78	47	0.40	63	<0.100	--	<0.010	0.030
	05-24-93	7.4	79	43	0.30	66	0.130	--	<0.010	0.020
V-40	05-25-93	--	--	18	--	--	<0.050	--	<0.010	0.030
V-41	04-26-93	--	--	24	--	--	0.150	--	<0.010	<0.010
V-42	05-16-85	4.7	67	9.5	0.50	31	<0.100	--	<0.010	0.020
	05-11-93	--	67	10	0.50	30	<0.050	--	<0.010	0.040
V-43	04-26-93	--	--	37	--	--	0.430	--	<0.010	<0.010
V-44	05-27-93	--	--	29	--	--	<0.050	--	<0.010	0.030

Table 3. --Chemical analyses of water samples and depth to water for wells in the north and south valley areas, Bernalillo County, New Mexico, 1984, 1985, 1987, and 1993--Continued

Well number (figure 4)	Date sampled	Potassium (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Silica (mg/L)	Nitrite plus nitrate (mg/L as N)	Nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)
V-45	09-19-85	6.3	160	29	0.60	38	<0.100	--	<0.010	0.110
	05-25-93	7.1	140	15	0.50	40	<0.050	--	<0.010	0.090
V-46	06-02-93	--	--	51	--	--	<0.050	--	<0.010	0.120
V-47	05-28-93	--	--	14	--	--	0.750	--	<0.010	0.020
V-48	05-04-93	--	--	77	--	--	0.098	--	<0.010	0.070
V-49	06-08-93	--	--	20	--	--	0.720	--	<0.010	<0.010
V-50	06-04-93	--	--	8.7	--	--	0.150	--	<0.010	0.020

Table 3.--Chemical analyses of water samples and depth to water for wells in the north and south valley areas, Bernalillo County, New Mexico, 1984, 1985, 1987, and 1993--Continued

Well number (figure 4)	Date sampled	Organic nitrogen (mg/L as N)	Phosphorus (mg/L as P)	Orthophosphate (mg/L as P)	Iron (µg/L)	Manganese (µg/L)	Methylene blue active substances (mg/L)	Depth of water below land surface (feet)	Total depth of well (feet)	Land-surface altitude (feet above sea level)
V-1	08-22-84	0.22	0.030	0.030	230	880	--	--	60	--
	06-09-93	--	--	0.020	42	990	<0.02	--	--	--
V-2	08-09-84	--	0.010	<0.010	<3	3	--	--	159	--
	06-09-93	--	--	<0.010	18	12	<0.02	90.81	--	--
V-3	09-09-93	--	--	0.010	--	--	--	--	--	4,975
V-4	08-10-84	0.42	0.010	<0.010	730	3,400	--	--	60	--
	06-04-93	--	--	0.030	1,100	3,700	0.02	31.60	--	--
V-5	08-21-84	0.28	<0.010	<0.010	39	66	--	--	208	--
	06-11-93	--	--	0.020	<3	130	<0.02	106.96	--	--
V-6	08-27-93	--	--	0.010	--	--	--	13.83	--	4,988
V-7	08-31-93	--	--	0.020	--	--	--	37.63	75	4,985
V-8	09-04-93	--	--	<0.010	--	--	--	--	--	5,005
V-9	08-26-93	--	--	0.010	--	--	--	--	--	4,985
V-10	08-23-93	--	--	0.030	--	--	--	68.05	--	5,015

Table 3.--Chemical analyses of water samples and depth to water for wells in the north and south valley areas, Bernalillo County, New Mexico, 1984, 1985, 1987, and 1993--Continued

Well number (figure 4)	Date sampled	Organic nitrogen (mg/L as N)	Phosphorus (mg/L as P)	Orthophosphate (mg/L as P)	Iron (µg/L)	Manganese (µg/L)	Methylene blue active substances (mg/L)	Depth of water below land surface (feet)	Total depth of well (feet)	Land-surface altitude (feet above sea level)
V-11	09-03-93	--	--	<0.010	--	--	--	--	274	5,064
V-12	08-27-93	--	--	0.040	--	--	--	7.20	--	4,988
V-13	08-31-93	--	--	0.010	--	--	--	19.91	190	4,995
V-14	09-02-93	--	--	0.020	--	--	--	--	130	4,998
V-15	09-04-93	--	--	0.050	--	--	--	--	148	5,032
V-16	08-24-93	--	--	0.040	--	--	--	14.36	--	4,995
V-17	08-18-93	--	--	0.010	--	--	--	32.00	--	5,000
V-18	08-24-93	--	--	0.030	--	--	--	11.38	--	4,998
V-19	08-28-93	--	--	0.040	--	--	--	9.63	--	4,998
V-20	08-28-93	--	--	0.050	--	--	--	15.60	--	4,988
V-21	08-26-93	--	--	0.020	--	--	--	155.76	--	5,135
V-22	04-14-93	--	--	0.030	--	--	0.13	3.10	180	4,899
V-23	04-14-93	--	--	0.010	--	--	<0.02	--	72	4,899
V-24	04-27-93	--	--	<0.010	--	--	<0.02	7.82	180	4,898

Table 3.--Chemical analyses of water samples and depth to water for wells in the north and south valley areas, Bernalillo County, New Mexico, 1984, 1985, 1987, and 1993--Continued

Well number (figure 4)	Date sampled	Organic nitrogen (mg/L as N)	Phosphorus (mg/L as P)	Orthophosphate (mg/L as P)	Iron (µg/L)	Manganese (µg/L)	Methylene blue active substances (mg/L)	Depth of water below land surface (feet)	Total depth of well (feet)	Land-surface altitude (feet above sea level)
V-25	04-30-93	--	--	--	--	--	<0.02	6.78	200	4,905
	09-07-93	--	--	0.020	--	--	--	--	200	4,905
V-26	05-05-93	--	--	<0.010	--	--	--	3.87	230	4,907
V-27	05-05-93	--	--	<0.010	--	--	--	--	255	4,980
V-28	05-05-93	--	--	<0.010	--	--	--	4.66	--	4,910
V-29	05-07-93	--	--	0.020	--	--	--	5.54	135	4,908
V-30	04-30-93	--	--	--	--	--	<0.02	--	260	5,035
	09-01-93	--	--	<0.010	--	--	--	--	260	5,035
V-31	09-02-93	--	--	0.020	--	--	--	--	--	4,980
V-32	05-04-93	--	--	<0.010	--	--	--	6.50	48	4,915
V-33	05-24-93	--	--	0.020	--	--	--	29.83	--	4,939
V-34	11-02-87	--	--	--	46	800	--	--	140	4,915
	04-29-93	--	--	--	--	--	<0.02	--	140	4,915
	09-08-93	--	--	0.020	--	--	--	--	140	4,915
V-35	05-07-93	--	--	<0.010	--	--	--	72.22	125	4,976

Table 3.--Chemical analyses of water samples and depth to water for wells in the north and south valley areas, Bernalillo County, New Mexico, 1984, 1985, 1987, and 1993--Continued

Well number (figure 4)	Date sampled	Organic nitrogen (mg/L as N)	Phosphorus (mg/L as P)	Orthophosphate (mg/L as P)	Iron (µg/L)	Manganese (µg/L)	Methylene blue active substances (mg/L)	Depth of water below land surface (feet)	Total depth of well (feet)	Land-surface altitude (feet above sea level)
V-36	05-21-93	--	--	<0.010	--	--	--	5.43	--	4,918
V-37	08-08-85	0.12	0.700	0.660	5	520	--	--	50	--
	05-21-93	--	--	0.450	11	560	--	--	50	--
V-38	09-15-85	0.41	0.030	<0.010	760	1,700	--	--	59	--
	05-27-93	--	--	0.020	630	1,700	0.03	--	59	--
V-39	08-05-85	0.57	<0.010	0.010	42	4	--	--	103	--
	05-24-93	--	--	0.010	35	2	<0.02	60.49	103	--
V-40	05-25-93	--	--	<0.010	--	--	--	13.74	--	4,928
V-41	04-26-93	--	--	<0.010	--	--	<0.02	81.77	320	4,975
V-42	05-16-85	1.8	0.030	0.010	37	320	--	10.20	38.4	4,931
	05-11-93	--	--	0.030	--	--	--	--	38.4	4,931
V-43	04-26-93	--	--	<0.010	--	--	<0.02	11.71	--	4,929

Table 3.--Chemical analyses of water samples and depth to water for wells in the north and south valley areas, Bernalillo County, New Mexico, 1984, 1985, 1987, and 1993--Concluded

Well number (figure 4)	Date sampled	Organic nitrogen (mg/L as N)	Phosphorus (mg/L as P)	Orthophosphate (mg/L as P)	Iron (µg/L)	Manganese (µg/L)	Methylene blue active substances (mg/L)	Depth of water below land surface (feet)	Total depth of well (feet)	Land-surface altitude (feet above sea level)
V-44	05-27-93	--	--	<0.010	--	--	--	9.98	157	4,935
V-45	09-19-85	0.29	0.040	0.040	210	870	--	--	70	--
	05-25-93	--	--	0.030	75	930	0.03	17.67	70	--
V-46	06-02-93	--	--	0.010	--	--	--	--	--	4,936
V-47	05-28-93	--	--	<0.010	--	--	--	9.57	235	4,937
V-48	05-04-93	--	--	0.030	--	--	--	--	55	4,941
V-49	06-08-93	--	--	<0.010	--	--	--	35.03	105	4,958
V-50	06-04-93	--	--	<0.010	--	--	--	7.16	--	4,941

Table 4.--Pesticide analyses of water samples from wells in the north and south valley areas, Bernalillo County, New Mexico, 1993

[Analyses are for dissolved constituents; µg/L, micrograms per liter; <, less than; e, detected at concentrations less than established method detection limits]

Well number (figure 4)	Station identification number	Date	Ala-chlor (µg/L)	Alpha BHC (µg/L)	Atra-zine (µg/L)	Ben-flur-alin (µg/L)	Butyl-ate (µg/L)	Car-baryl (µg/L)	Carbo-furan (µg/L)
V-1	350807106403301	09-08-93	<0.009	<0.007	<0.017	<0.013	<0.008	<0.046	<0.013
V-4	350858106383501	09-08-93	<0.009	<0.007	<0.017	<0.013	<0.008	<0.046	<0.013
V-7	350927106375701	09-07-93	<0.009	<0.007	<0.017	<0.013	<0.008	<0.046	<0.013
V-12	351043106392301	09-09-93	<0.009	<0.007	<0.017	<0.013	<0.008	<0.046	<0.013
V-16	351134106373501	09-09-93	<0.009	<0.007	<0.017	<0.013	<0.008	<0.046	<0.013
V-22	345659106413101	09-07-93	<0.009	<0.007	<0.017	<0.013	<0.008	<0.046	<0.013
V-25	345758106420201	09-07-93	<0.009	<0.007	<0.017	<0.013	<0.008	<0.046	<0.013
V-37	350005106405401	09-08-93	<0.009	<0.007	<0.017	<0.013	<0.008	<0.046	<0.013
V-38	350035106413401	09-08-93	<0.009	<0.007	<0.017	<0.013	<0.008	<0.046	<0.013
V-48	350331106404301	09-07-93	<0.009	<0.007	<0.017	<0.013	<0.008	<0.046	<0.013

Table 4.--Pesticide analyses of water samples from wells in the north and south valley areas, Bernalillo County, New Mexico, 1993--Continued

Well number (figure 4)	Station identification number	Date	Chlor-pyri-fos (µg/L)	Cyana-zine (µg/L)	DCPA (µg/L)	Deethyl atra-zine (µg/L)	Diaz-inon (µg/L)	Diel-drin (µg/L)	2,6-Di-ethyl ani-line (µg/L)
V-1	350807106403301	09-08-93	<0.005	<0.013	<0.004	<0.020	<0.008	<0.020	<0.006
V-4	350858106383501	09-08-93	<0.005	<0.013	<0.004	<0.020	<0.008	<0.020	<0.006
V-7	350927106375701	09-07-93	<0.005	<0.013	<0.004	<0.020	<0.008	<0.020	<0.006
V-12	351043106392301	09-09-93	<0.005	<0.013	<0.004	<0.020	<0.008	<0.020	<0.006
V-16	351134106373501	09-09-93	<0.005	<0.013	<0.004	<0.020	0.021	<0.020	<0.006
V-22	345659106413101	09-07-93	<0.005	<0.013	<0.004	<0.020	<0.008	<0.020	<0.006
V-25	345758106420201	09-07-93	<0.005	<0.013	<0.004	<0.020	<0.008	<0.020	<0.006
V-37	350005106405401	09-08-93	<0.005	<0.013	<0.004	<0.020	0.009	<0.020	<0.006
V-38	350035106413401	09-08-93	<0.005	<0.013	<0.004	<0.020	<0.008	<0.020	<0.006
V-48	350331106404301	09-07-93	<0.005	<0.013	<0.004	<0.020	<0.008	<0.020	<0.006

Table 4.--Pesticide analyses of water samples from wells in the north and south valley areas, Bernalillo County, New Mexico, 1993--Continued

Well number (figure 4)	Station identification number	Date	Dimeth-oate (µg/L)	Disul-foton (µg/L)	EPTC (µg/L)	Ethal-flur-alin (µg/L)	Etho-prop (µg/L)	Fonofos (µg/L)	Lin-dane (µg/L)
V-1	350807106403301	09-08-93	<0.024	<0.020	<0.005	<0.013	<0.012	<0.008	<0.011
V-4	350858106383501	09-08-93	<0.024	<0.020	<0.005	<0.013	<0.012	<0.008	<0.011
V-7	350927106375701	09-07-93	<0.024	<0.020	<0.005	<0.013	<0.012	<0.008	<0.011
V-12	351043106392301	09-09-93	<0.024	<0.020	<0.005	<0.013	<0.012	<0.008	<0.011
V-16	351134106373501	09-09-93	<0.024	<0.020	<0.005	<0.013	<0.012	<0.008	<0.011
V-22	345659106413101	09-07-93	<0.024	<0.020	<0.005	<0.013	<0.012	<0.008	<0.011
V-25	345758106420201	09-07-93	<0.024	<0.020	<0.005	<0.013	<0.012	<0.008	<0.011
V-37	350005106405401	09-08-93	<0.024	<0.020	<0.005	<0.013	<0.012	<0.008	<0.011
V-38	350035106413401	09-08-93	<0.024	<0.020	<0.005	<0.013	<0.012	<0.008	<0.011
V-48	350331106404301	09-07-93	<0.024	<0.020	<0.005	<0.013	<0.012	<0.008	<0.011

Table 4.--Pesticide analyses of water samples from wells in the north and south valley areas, Bernalillo County, New Mexico, 1993--Continued

Well number (figure 4)	Station identification number	Date	Linuron (µg/L)	Malathion (µg/L)	Methyl azinphos (µg/L)	Methyl parathion (µg/L)	Metolachlor (µg/L)	Metribuzin (µg/L)	Molinate (µg/L)
V-1	350807106403301	09-08-93	<0.039	<0.010	<0.038	<0.035	<0.009	<0.012	<0.007
V-4	350858106383501	09-08-93	<0.039	<0.010	<0.038	<0.035	<0.009	<0.012	<0.007
V-7	350927106375701	09-07-93	<0.039	<0.010	<0.038	<0.035	<0.009	<0.012	<0.007
V-12	351043106392301	09-09-93	<0.039	<0.010	<0.038	<0.035	<0.009	<0.012	<0.007
V-16	351134106373501	09-09-93	<0.039	<0.010	<0.038	<0.035	<0.009	<0.012	<0.007
V-22	345659106413101	09-07-93	<0.039	<0.010	<0.038	<0.035	<0.009	<0.012	<0.007
V-25	345758106420201	09-07-93	<0.039	<0.010	<0.038	<0.035	<0.009	<0.012	<0.007
V-37	350005106405401	09-08-93	<0.039	<0.010	<0.038	<0.035	<0.009	<0.012	<0.007
V-38	350035106413401	09-08-93	<0.039	<0.010	<0.038	<0.035	<0.009	<0.012	<0.007
V-48	350331106404301	09-07-93	<0.039	<0.010	<0.038	<0.035	<0.009	<0.012	<0.007

Table 4.--Pesticide analyses of water samples from wells in the north and south valley areas, Bernalillo County, New Mexico, 1993--Continued

Well number (figure 4)	Station identification number	Date	Naprop-amide (µg/L)	p,p′ -DDE (µg/L)	Para-thion (µg/L)	Peb-ulate (µg/L)	Pendi-meth-alin (µg/L)	Per-methrin cis (µg/L)	Phor-ate (µg/L)
V-1	350807106403301	09-08-93	<0.010	<0.010	<0.022	<0.009	<0.018	<0.016	<0.020
V-4	350858106383501	09-08-93	<0.010	<0.010	<0.022	<0.009	<0.018	<0.016	<0.020
V-7	350927106375701	09-07-93	<0.010	<0.010	<0.022	<0.009	<0.018	<0.016	<0.020
V-12	351043106392301	09-09-93	<0.010	0.002e	<0.022	<0.009	<0.018	<0.016	<0.020
V-16	351134106373501	09-09-93	<0.010	<0.010	<0.022	<0.009	<0.018	<0.016	<0.020
V-22	345659106413101	09-07-93	<0.010	<0.010	<0.022	<0.009	<0.018	<0.016	<0.020
V-25	345758106420201	09-07-93	<0.010	<0.010	<0.022	<0.009	<0.018	<0.016	<0.020
V-37	350005106405401	09-08-93	<0.010	<0.010	<0.022	<0.009	<0.018	<0.016	<0.020
V-38	350035106413401	09-08-93	<0.010	<0.010	<0.022	<0.009	<0.018	<0.016	<0.020
V-48	350331106404301	09-07-93	<0.010	<0.010	<0.022	<0.009	<0.018	<0.016	<0.020

Table 4.--Pesticide analyses of water samples from wells in the north and south valley areas, Bernalillo County, New Mexico, 1993---Continued

Well number (figure 4)	Station identification number	Date	Prometon (µg/L)	Pronamide (µg/L)	Propachlor (µg/L)	Propanil (µg/L)	Propargite (µg/L)	Simazine (µg/L)
V-1	350807106403301	09-08-93	<0.008	<0.009	<0.015	<0.016	<0.010	<0.010
V-4	350858106383501	09-08-93	<0.008	<0.009	<0.015	0.002e	<0.010	<0.010
V-7	350927106375701	09-07-93	<0.008	<0.009	<0.015	<0.016	<0.010	<0.010
V-12	351043106392301	09-09-93	<0.008	<0.009	<0.015	<0.016	<0.010	<0.010
V-16	351134106373501	09-09-93	<0.008	<0.009	<0.015	<0.016	<0.010	<0.010
V-22	345659106413101	09-07-93	<0.008	<0.009	<0.015	<0.016	<0.010	<0.010
V-25	345758106420201	09-07-93	<0.008	<0.009	<0.015	<0.016	<0.010	<0.010
V-37	350005106405401	09-08-93	0.010	<0.009	<0.015	<0.016	<0.010	0.014
V-38	350035106413401	09-08-93	<0.008	<0.009	<0.015	<0.016	<0.010	<0.010
V-48	350331106404301	09-07-93	<0.008	<0.009	<0.015	<0.016	<0.010	<0.010

Table 4.--Pesticide analyses of water samples from wells in the north and south valley areas, Bernalillo County, New Mexico, 1993--Concluded

Well number (figure 4)	Station identification number	Date	Tebu-thi-uron (µg/L)	Ter-bacil (µg/L)	Ter-bufos (µg/L)	Thio-bencarb (µg/L)	Trial-late (µg/L)	Tri-flur-alin (µg/L)
V-1	350807106403301	09-08-93	<0.015	<0.030	<0.012	<0.008	<0.008	<0.012
V-4	350858106383501	09-08-93	<0.015	<0.030	<0.012	<0.008	<0.008	<0.012
V-7	350927106375701	09-07-93	<0.015	<0.030	<0.012	<0.008	<0.008	<0.012
V-12	351043106392301	09-09-93	<0.015	<0.030	<0.012	<0.008	<0.008	0.003e
V-16	351134106373501	09-09-93	<0.015	<0.030	<0.012	<0.008	<0.008	<0.012
V-22	345659106413101	09-07-93	<0.015	<0.030	<0.012	<0.008	<0.008	<0.012
V-25	345758106420201	09-07-93	<0.015	<0.030	<0.012	<0.008	<0.008	<0.012
V-37	350005106405401	09-08-93	<0.015	<0.030	<0.012	<0.008	<0.008	<0.012
V-38	350035106413401	09-08-93	<0.015	<0.030	<0.012	<0.008	<0.008	<0.012
V-48	350331106404301	09-07-93	<0.015	<0.030	<0.012	<0.008	<0.008	<0.012