

# **HYDROGEOLOGIC DATA FOR BOONE COUNTY, ARKANSAS**

By J.V. Brahana, Gerard J. Gonthier, and Larry M. Remsing

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## CONVERSION FACTORS AND VERTICAL DATUM

<u>Multiply</u>	<u>By</u>	<u>To obtain</u>
square mile (mi <sup>2</sup> )	2.590	square kilometer
foot (ft)	0.3048	meter
gallon (gal)	3.785	liter
gallon per minute (gal/min)	0.06309	liter per second

Temperature in degrees Celsius (<sup>o</sup>C) can be converted to degrees Fahrenheit (<sup>o</sup>F) as follows:

$$^{\circ}\text{F} = 1.8 \times ^{\circ}\text{C} + 32$$

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.

# HYDROGEOLOGIC DATA FOR BOONE COUNTY, ARKANSAS

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## ABSTRACT

This report is a compilation of existing and new hydrogeologic data for Boone County, Arkansas. Data presented include water levels and water quality from selected wells, discharge and water quality from selected springs, geologic and geophysical data relevant to defining a hydrogeologic framework, and surface aspects of selected karst features. Water-quality data include (1) major constituents and properties, (2) trace constituents, and (3) nutrients, microorganisms, and miscellaneous constituents.

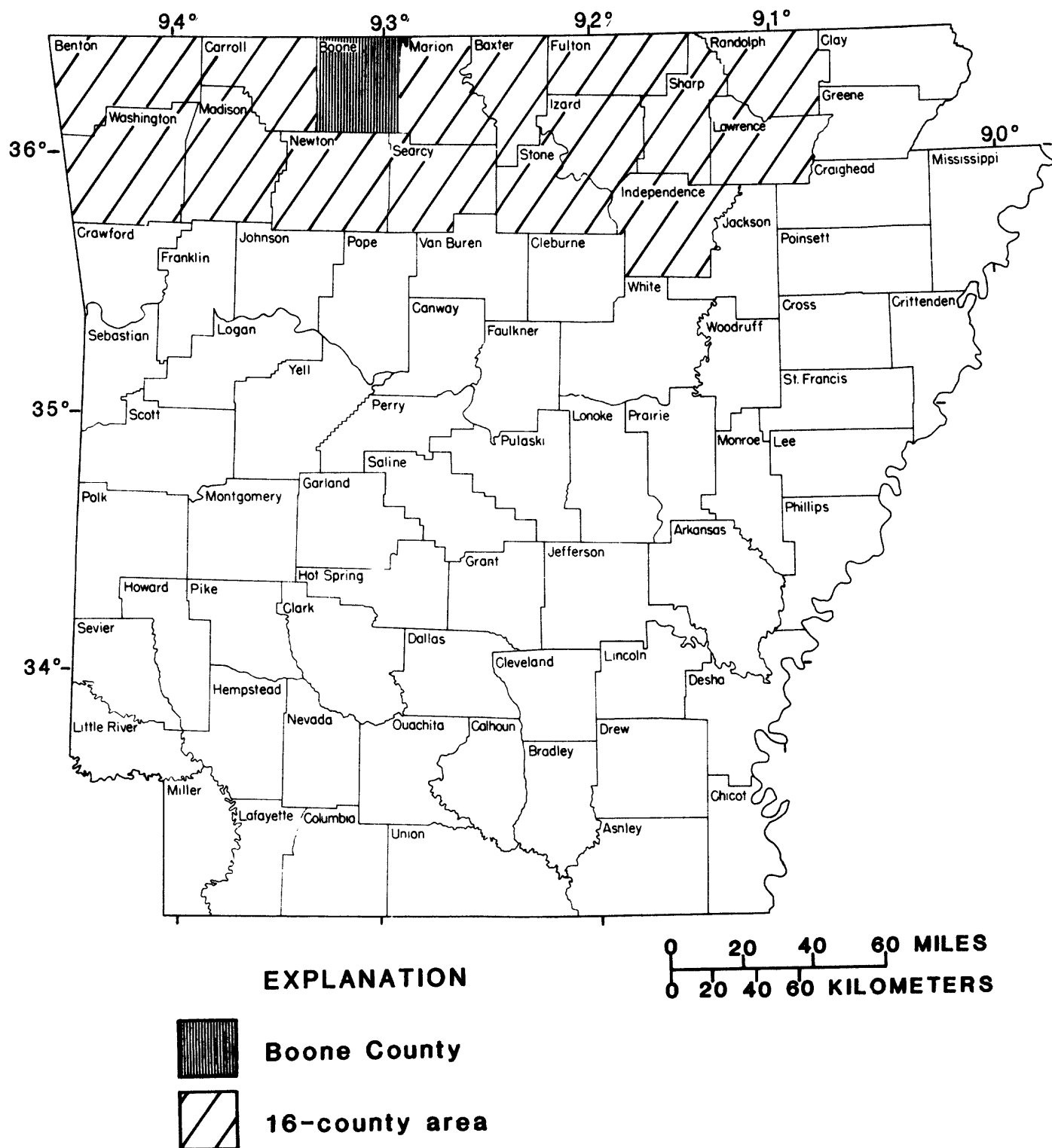
## INTRODUCTION

Boone County, with a total area of 604 mi<sup>2</sup>, is located in north-central Arkansas (fig. 1), bordered by Missouri on the north, Carroll County on the west, Newton and Searcy Counties on the south, and Marion County on the east. Ground water from wells and springs represents an important resource in Boone County, providing water for domestic, stock, and public supplies. Municipalities currently (1991) using ground water are Alpena, Bellefonte, Bergman, Diamond City, Everton, Lead Hill, Omaha, and Valley Springs (T.W. Holland, U.S. Geological Survey, written commun., 1991).

Recent population growth in Boone County has resulted in numerous changes in land use, many of which may affect the ground-water resources. In the last 20 years, population has increased about 150 percent, from 19,073 in 1970 (Harper and others, 1981) to 28,297 in 1990 (Santi, 1990). The economic base of the county is expanding as well. Historically, beef cattle production, small industry, and business were primary sources of income (Harper and others, 1981). Recently, tourism and poultry production are becoming more important. Chicken and turkey broiler production is expected to increase dramatically, which could have a significant effect on ground-water quality (Leidy and Morris, 1990).

## Objective and Scope

The objective of this report is to present a compilation of hydrogeologic data for Boone County, Arkansas, that can be used to better define and manage the ground-water resources. Prior to this compilation, existing data were scattered through numerous published and unpublished sources, many of which had limited distribution and were difficult to acquire. In anticipation of a needed data base that can be readily accessed and easily used, the Arkansas Soil and Water Conservation Commission and the U.S. Geological Survey entered into a cooperative agreement to compile existing data for a 16-county area of northern Arkansas, and to supplement areas where few data exist by collecting additional data. This report is the first in a series of reports; Boone County was chosen because it has more existing data than most of the nearby counties and its hydrogeology encompasses most conditions found in the 16-county area. Subsequent reports will present data from the remaining 15 counties.



**Figure 1.--Location of Boone County and the 16-county area of northern Arkansas.**

This report is restricted to basic data about ground water; no interpretations or explanations are included. The types of data in this report are: information about wells and springs from which data or samples were collected, ground-water levels, spring discharge measurements, water-quality analyses for wells and springs, and surface aspects of selected karst features. In addition, published references with geophysical log and geologic log descriptions necessary for understanding the hydrogeologic framework are included in the report.

The data presented herein have been selected from verifiable sources, including published reports, unpublished records from the files of the U.S. Geological Survey, and new data collected specifically for this study. Hydrogeologic data from sources outside the U.S. Geological Survey generally have not been included in the accompanying tables. However, reference to these original documents, many of which contain data tables, is included in the "Previous Investigations" and "Selected References" sections that follow.

### **Previous Investigations**

Purdue and Miser (1916) described ground water in a cursory manner in their geologic folio of Harrison-Eureka Springs. A short list of water-well depths and estimated yields was compiled by the Arkansas Geological Commission, as were major springs (Branner, 1937a; 1937b). Caplan (1957) provided structural interpretation of an area that included Boone County, thereby refining understanding of the hydrogeologic framework. Lamonds and Stephens (1969) presented hydrogeologic data from northern Arkansas, including Boone County, in a reconnaissance report of the Ozark Plateaus province; Lamonds (1972) interpreted these data in a hydrologic atlas. MacDonald and others (1975) conducted a ground-water inventory that focused on the deeper aquifers of northern Arkansas, specifically the Roubidoux, Gasconade, and Van Buren Formations. Hurley (1976) provided data and interpretations of the hydrogeology of the extreme southern part of Boone County that lies in the Buffalo River basin; the work is part of an unpublished M.S. thesis conducted at the University of Arkansas, Fayetteville. Ogden and others (1979) published a preliminary description of rural use of the aquifers in Boone County based on driller's lithologic logs from water wells. Leidy (1989) conducted the most intensive study to date, concentrating on the northwestern quarter of the county in an unpublished M.S. thesis at the University of Arkansas, Fayetteville. Significant conclusions of that work, including water-quality interpretations and the data on which the interpretations were based, have been published by the U.S. Geological Survey (Leidy and Morris, 1990).

In addition to the studies mentioned, the U.S. Geological Survey, in cooperation with the Arkansas Geological Commission and other local, State, and Federal agencies, has collected ground-water data from the county that are part of a statewide data base. Some of these data have not been published previously; many have been published in annual basic-data reports for the entire State. All are in computerized data bases of the U.S. Geological Survey (GWSI, WATSTORE), and may be accessed using U.S. Geological Survey retrieval programs.

### **Acknowledgements**

The authors would like to thank June Pond of the U.S. Soil Conservation Service, Boone County, for her excellent assistance in locating wells, springs and karst features in the county, and for her ability to secure permission to obtain data and to sample sites in areas where no data were previously available. In addition, the authors are truly grateful to those property owners throughout the county who allowed sampling and measuring of their wells and springs.



## DATA COMPILATION AND COLLECTION

As described previously, historic hydrogeologic data were collected by the U.S. Geological Survey as part of an ongoing program to assess the water resources of Arkansas. These data were collected using standard procedures (Carter and Davidian, 1968; Garber and Koopman, 1968; Keys and MacCary, 1971) and were entered into the data bases of the U.S. Geological Survey.

This historic data base was supplemented by new data collected specifically for this study. Potential data-collection sites were identified by personnel of the U.S. Soil Conservation Service in Boone County. Each site was field located by U.S. Geological Survey personnel, specific data requirements were assessed, and the site was ranked with respect to its effectiveness in filling data gaps, both areally and stratigraphically. Field verification and data collection at appropriate sites by U.S. Geological Survey personnel completed this data-collection phase.

Descriptive data for the wells in Boone County have been compiled in table 1 (tables 1 through 8 are located at end of report). As an aid to locating ground-water sites, the locations of 7.5-minute topographic quadrangles in the county are shown in figure 2, and the local well numbering system (fig. 3), which uses the township-range-section method of locating wells, has been included as an aid to those readers who may have a need to locate data on maps of varying scales. The local well number has been the most commonly used location identifier in previous studies in Boone County.

This report uses a site number, a one- to three-digit number whose general location is shown on figure 4; specific locations of wells can be determined from either the local well number or the site ID (table 1), the first 13 digits of which represent the latitude and longitude of the well. Sequential site numbers were assigned arbitrarily at the start of this project to all wells and springs that could potentially be included in this report. Those sites for which data could not be verified were omitted from subsequent tables and maps, and their site numbers were not reassigned. The decision to not reassign site numbers saved considerable time, but it resulted in gaps in site numbers on tables and figures.

Corresponding data for springs are compiled in table 2. Locations for springs are shown on figure 5.

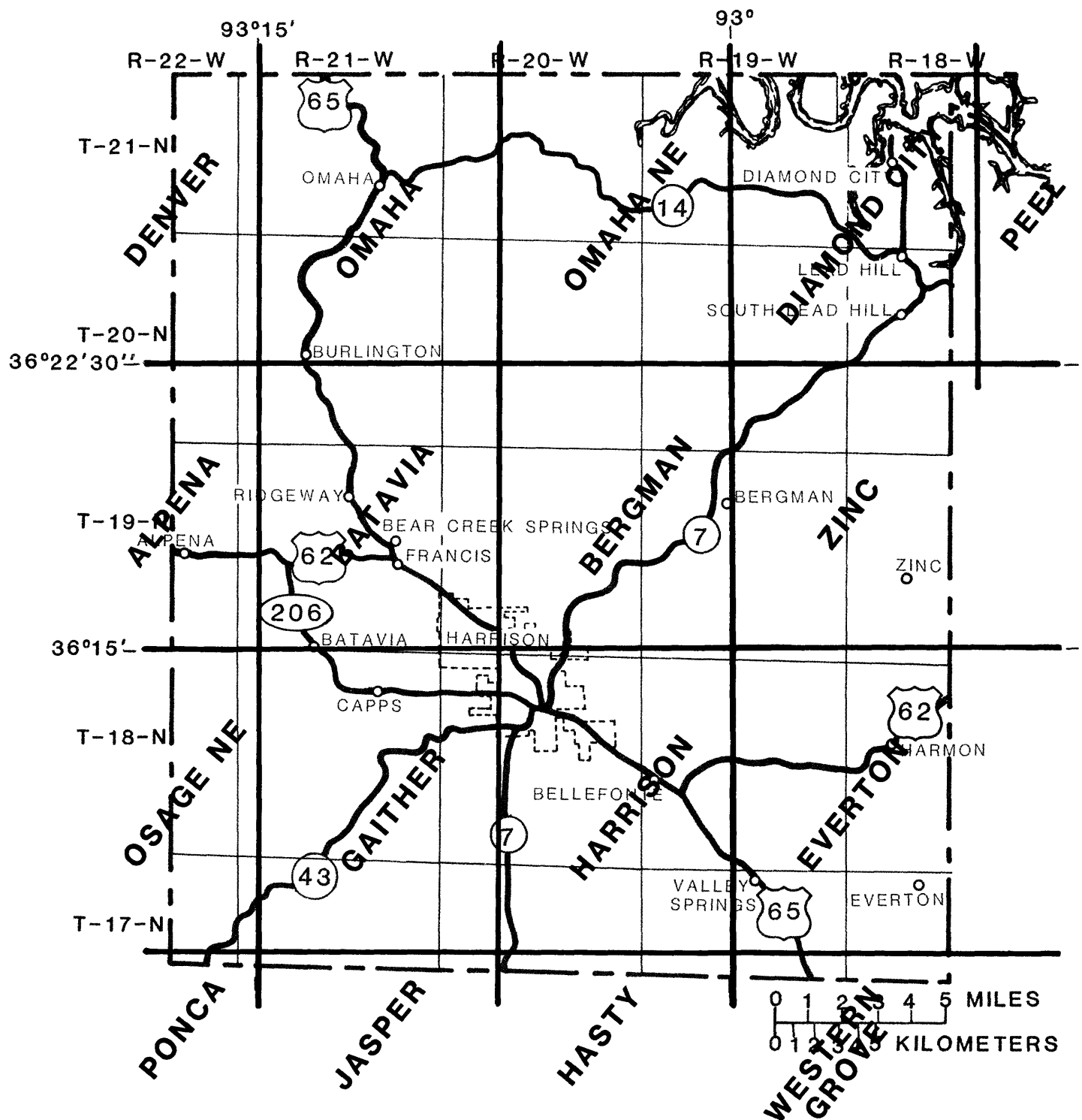
Available water levels in wells are given in table 3, along with supplemental data listing date of the measurement and the deepest hydrogeologic unit to which the well is open. Discharge data from individual springs are summarized in table 4.

Analyses of ground-water samples were provided by laboratories of the U.S. Geological Survey in Arvada, Colorado; Doraville, Georgia; Ocala, Florida; and Reston, Virginia. Samples were collected, treated, and analyzed using established procedures (Goerlitz and Brown, 1972; Greeson and others, 1977; Skougstad and others, 1979; Friedman and Erdmann, 1982; Claassen, 1982). Temperature, pH, and alkalinity (table 5) were determined in the field using established field procedures (Stevens and others, 1975; Wood, 1976).

Ion chromatography was used to determine the major anions. Trace-constituent concentrations (table 6) were determined by using inductively coupled plasma atomic emission spectroscopy (ICP). Nutrients, microorganisms, and miscellaneous constituents in water from selected wells and springs are summarized in table 7.

Most of the analytical values are in standard reporting units such as milligrams per liter or micrograms per liter. These data are stored in the U.S. Geological Survey's WATSTORE data base, and may be accessed using Geological Survey retrieval programs.

Well locations for tables 1, 3, 5, 6, and 7 are shown on figure 4, and spring locations for tables 2, 4, 5, 6, and 7 are shown on figure 5. Selected karst features in Boone County are summarized in table 8, and their locations are shown on figure 6.



#### EXPLANATION

— QUADRANGLE  
BOUNDARY

Figure 2.--7.5-minute topographic quadrangle coverage of Boone County.

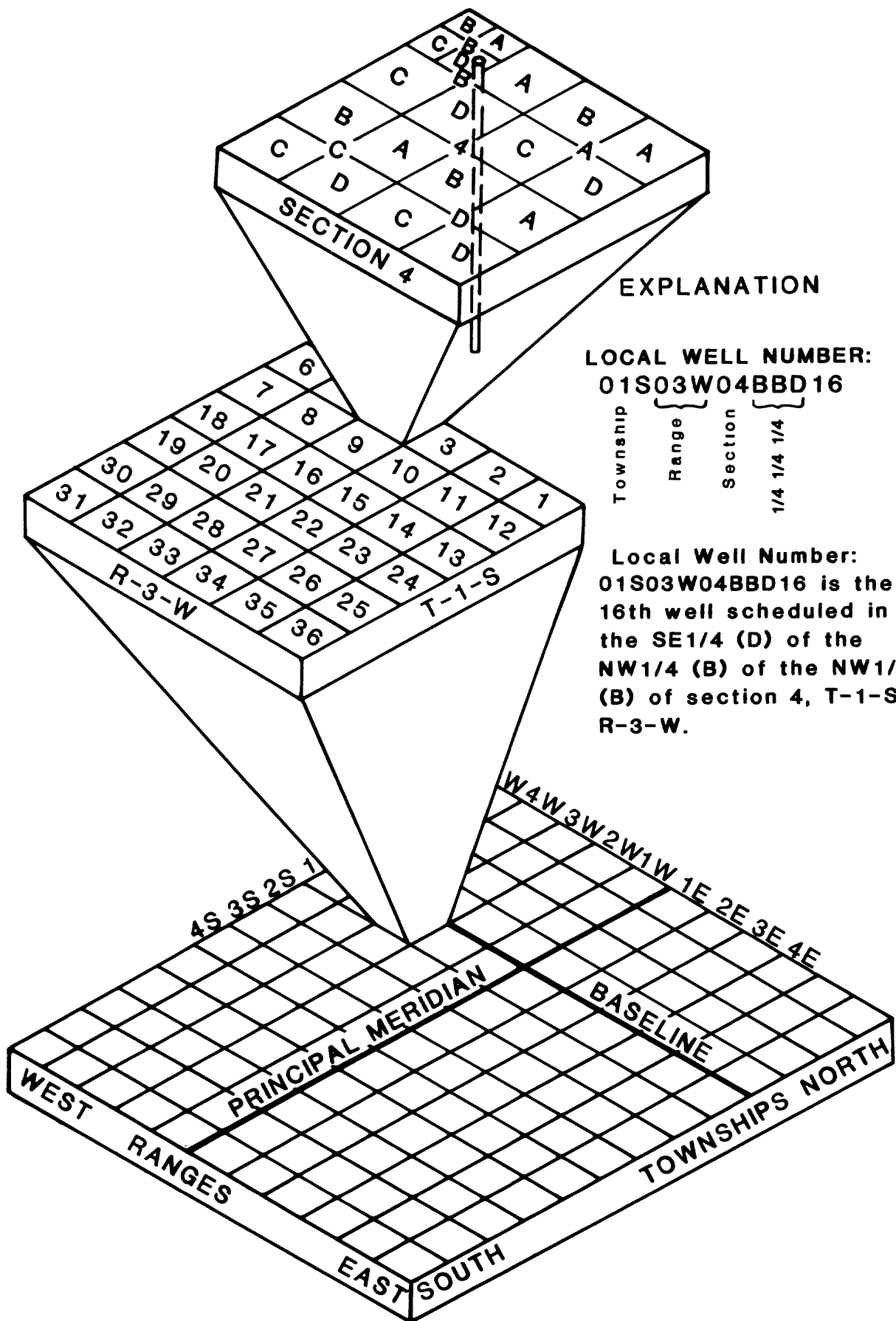
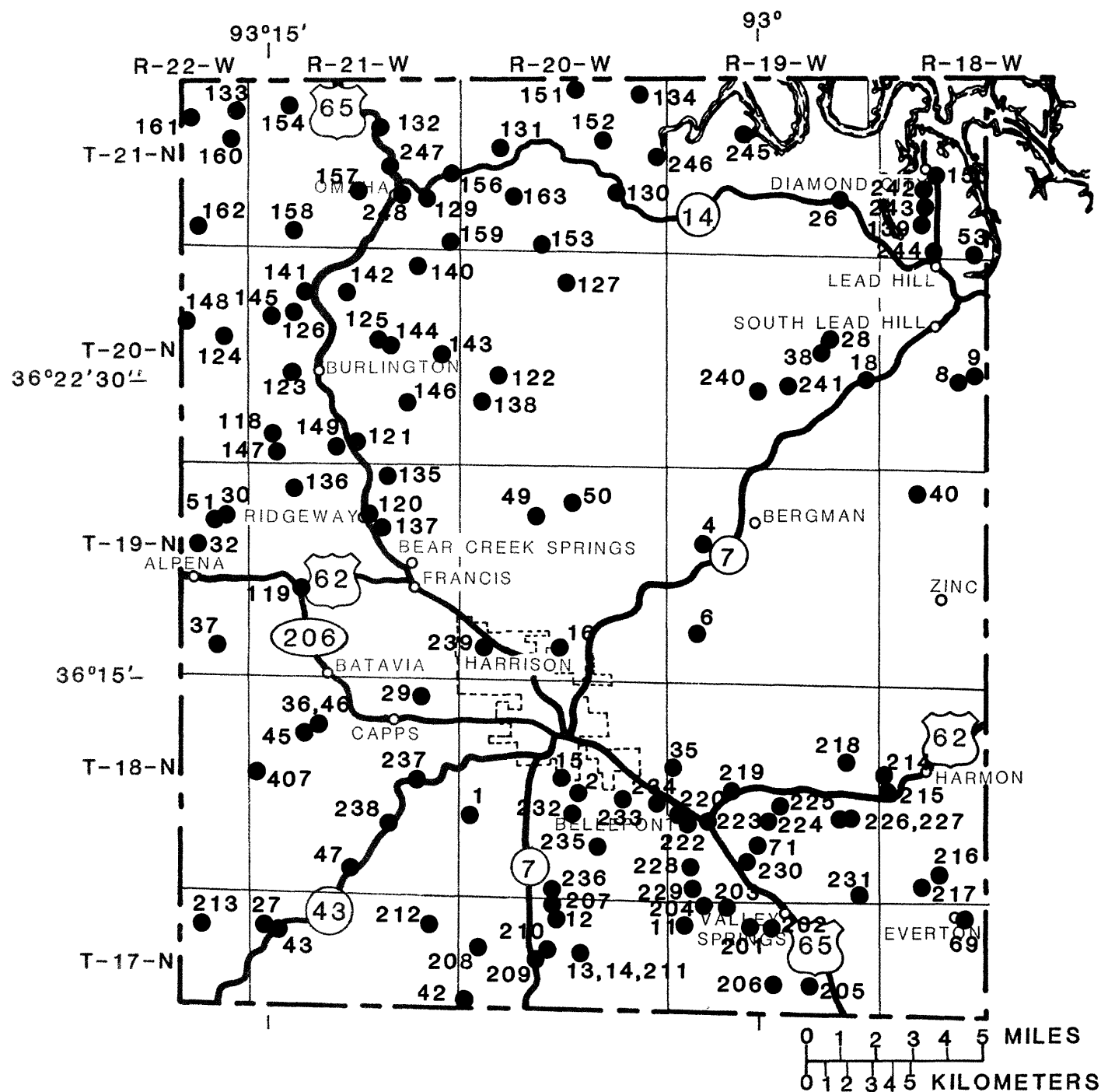


Figure 3.--Local well-numbering system.



### EXPLANATION

- 16 WELL, FIELD INVENTORIED--  
Number is keyed to tables 1,  
3, 5, 6, and 7

Figure 4.--Locations of wells in Boone County for which hydrogeologic data are available.

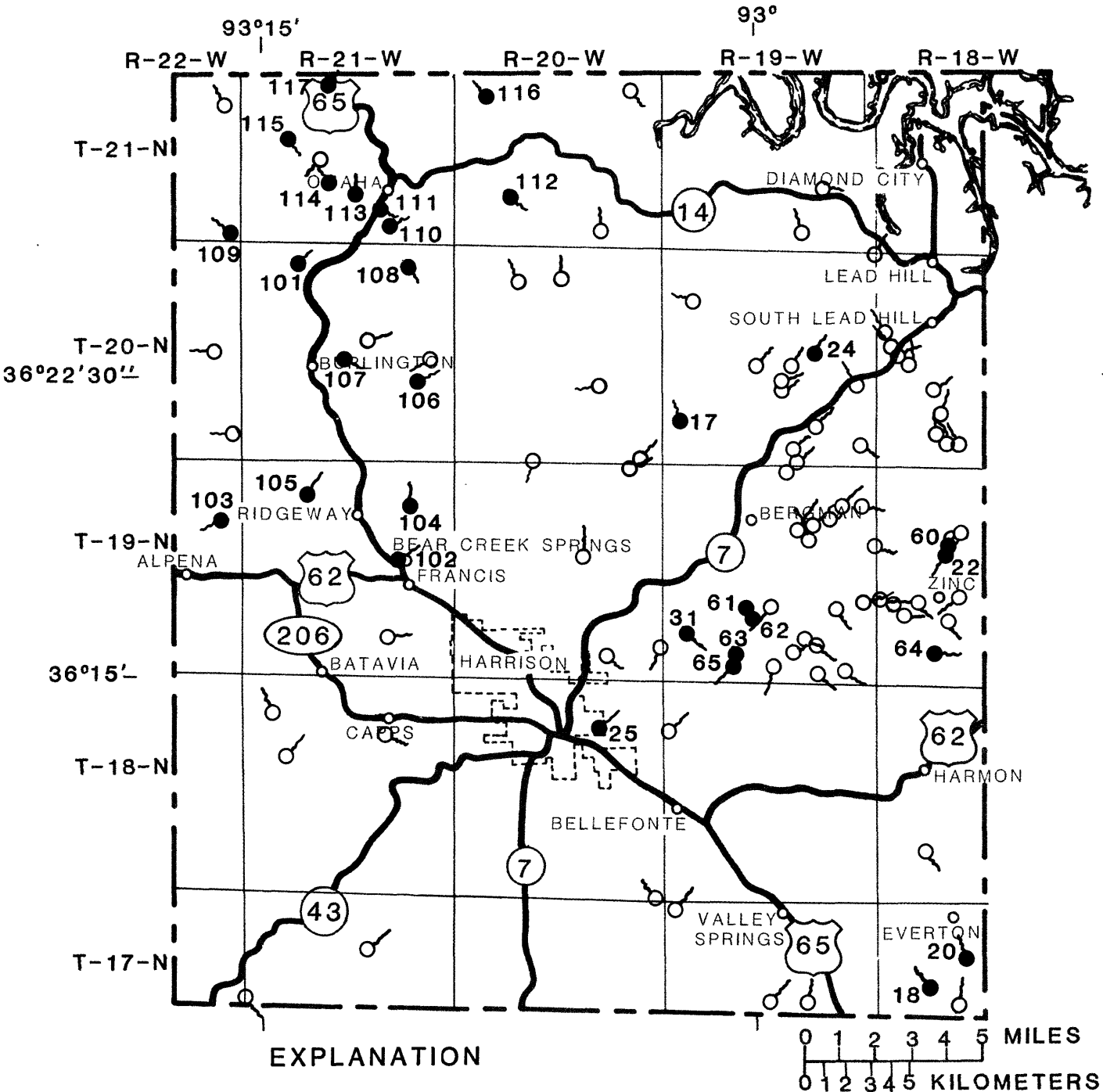
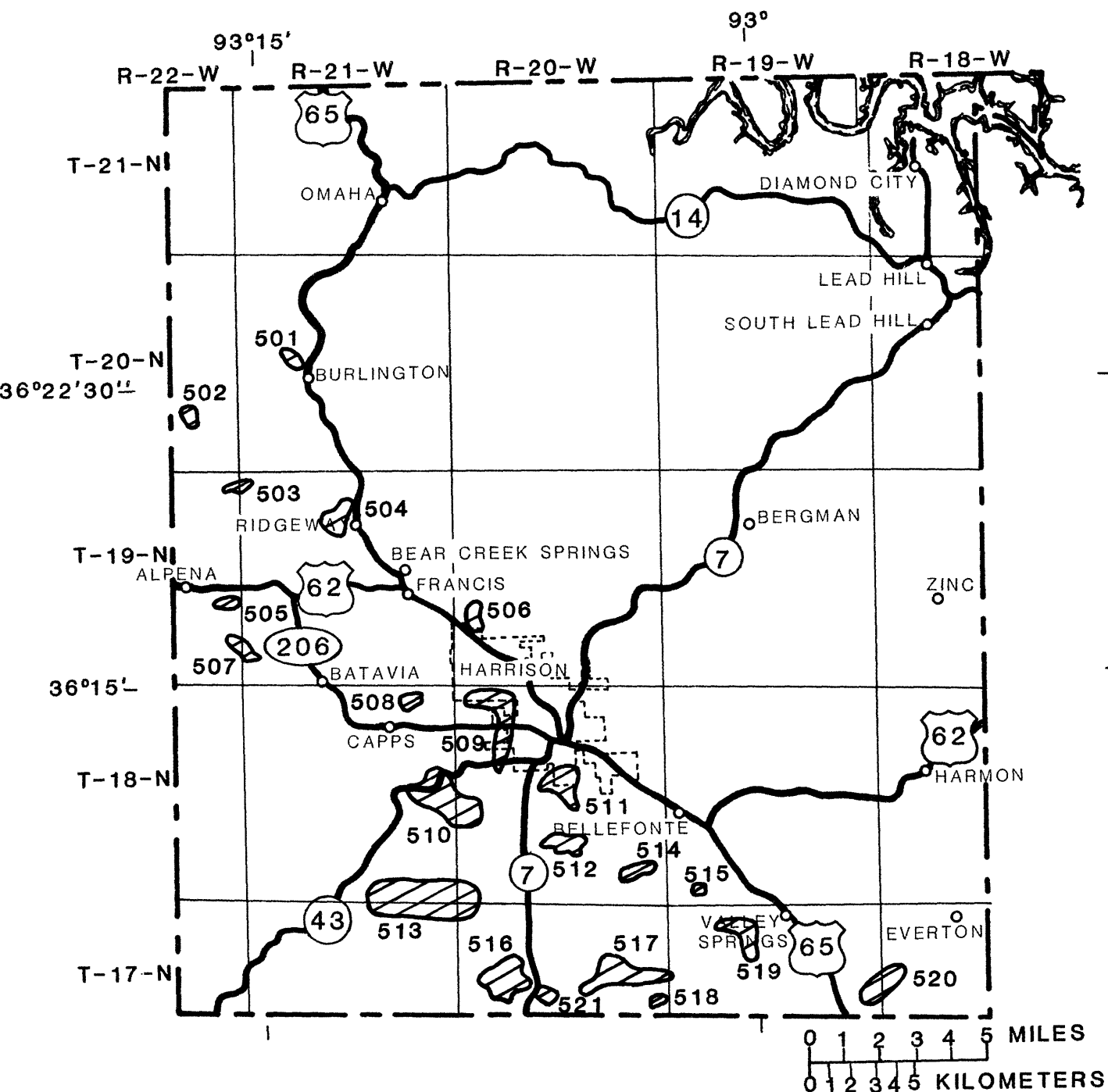



Figure 5.--Locations of selected springs in Boone County.



### EXPLANATION

 520

AREA OF SINKHOLES AND  
INTERNALLY-DRAINED,  
CLOSED DEPRESSIONS--  
Number is keyed to table 8

Figure 6.--General areas of sinkholes and internally-drained, closed depressions identified on 7.5-minute topographic quadrangle maps of Boone County.

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Table 1.--Description of selected wells for which hydrogeologic data are available, Boone County, Arkansas

[WATER BEARING FORMATION: 326ATOK, Atoka Formation; 330B00N, Boone Formation; 364EVRN, Everton Formation; 367STPR, St. Peter Sandstone; 367CTTR, Cotter Dolomite; 367GNTR, Gunter Sandstone Member of the Van Buren Formation; 367RBDX, Roubidoux Formation; 368PMLL, Powell Dolomite; 368JFRC, Jefferson City Dolomite; 371POTS, Potosi Dolomite; WATER USE: H, domestic; U, unused; P, public supply; I, irrigation; R, recreation; DATA AVAILABILITY: QW, water-quality analysis; WL, water-level measurements; --, not determined; SOURCE OF DATA: 1, this study, 2, unpublished U.S. Geological Survey records; 3, Leidy and Morris, 1990; 4, Lamonds and Stephens, 1969; 5, Lamonds, 1972; 6, MacDonald and others, 1975]

SITE NO.	SITE NAME	LOCAL WELL NO.	SITE ID	7 1/2 MINUTE TOPOGRAPHIC QUADRANGLE	WATER BEARING FORMATION	TOP OF OPEN INTER-VAL (FEET BELOW SURFACE)	BOTTOM OF OPEN INTER-VAL (FEET BELOW SURFACE)	WELL DEPTH (FEET)	LAND SURFACE	WATER SURFACE	USE	DATA AVAIL-	SOURCE OF DATA
1	CLAUDE WITHERS	18N20W19CAD1	361140093090401	GAITHER	367CTTR	--	--	595	H	WL	H	WL	1
2	GEORGE DEARING, JR.	18N20W22BAA1	361209093054601	HARRISON	367CTTR	--	--	625	H	QW, WL	H	QW, WL	1
4	AUTRY REESE	19N19W18AAA1	361816093015701	BERGMAN	367CTTR	--	--	430	H	WL	H	WL	1
6	DOROTHY NORVELL	19N19W30DAA1	361604093020201	BERGMAN	367CTTR	--	--	330	H	QW, WL	H	QW, WL	1
8	JOHN E. MILLIGAN	20N18W21BCC1	362238092541601	ZINC	367CTTR	--	--	150	H	WL	H	WL	1
9	DON WOOLDRIDGE	20N18W21ACA1	362221092533201	ZINC	367CTTR	--	--	200	H	QW, WL	H	QW, WL	1
11	HERB KEELE	17N19W06CDA1	360856093024001	HARRISON	330B00N	--	--	91	H	WL	H	WL	1
12	DARRELL STEVENS	17N20W04DDA1	360900093062201	HARRISON	330B00N	--	--	30	U	WL	U	WL	1
13	NORTON	17N20W10BDA2	360831093055101	HARRISON	330B00N	--	--	46	U	WL	U	WL	1
14	NORTON	17N20W10BDA3	360830093055001	HARRISON	330B00N	--	--	110	H	WL	H	WL	1
15	RICHARD HUDSON	18N20W15CBB1	361230093061101	HARRISON	330B00N	--	--	--	U	WL	U	WL	1
16	DUANE NOFSINGER	19N20W34DBB1	361517093003701	BERGMAN	330B00N	--	--	70	H	WL	H	WL	1
18	JOE PATTIE	20N19W24AAC1	36224092565001	ZINC	367CTTR	--	--	460	H	WL	H	WL	1
26	DOVAL TURNER	21N19W26ADB1	362648092573801	LEADHILL	367CTTR	--	--	200	H	QW, WL	H	QW, WL	1
27	ROBERT CUTBERTH	17N21W06DCC1	360858093151301	OSAGE NE	326ATOK	--	--	35	H	WL	H	WL	1
28	PAUL EPPS	20N19W14ABC1	362319092580101	DIAMOND CITY	367GNTR	20	2,205	2,412	U	QW	U	QW	2
29	C.H. BROWN	18N21W02ADD1	361438093102901	GAITHER	368PMLL	--	--	505	H	QW, WL	H	QW, WL	1
30	ROY POORE	19N22W12BCA1	361914093163001	ALPENA	367CTTR	--	--	450	H	WL	H	WL	1
32	JAMES E. STANPHILL	19N22W14BAD1	361827093171901	ALPENA	368PMLL	--	--	110	U	WL	U	WL	1
34	DORIS RUFF	17N20W10ACB1	360828093053901	HARRISON	330B00N	--	--	109	H	QW, WL	H	QW, WL	1
35	RAY BOLIN	18N19W18BBD1	361252093024801	HARRISON	367CTTR	--	--	430	U	WL	U	WL	1
36	A.F. BYBLE	18N21W09BCB1	361352093134001	GAITHER	367CTTR	--	--	700	H	WL	H	WL	1
37	KENNY SNOW	19N22W36BDA1	361619093154201	ALPENA	364EVRN	--	--	450	H	WL	H	WL	1
38	DAN VAUGHN	20N19W14CAA1	362304092581201	DIAMOND CITY	367CTTR	--	--	226	H	WL	H	WL	1
40	BOBBY WOODS	19N18W05CDB1	361924092551801	ZINC	367CTTR	--	90	580	H	WL	H	WL	1
42	V.L. HENDERSON	17N20W18CBC1	360720093092901	JASPER	364EVRN	--	--	475	H	WL	H	WL	1
43	PAUL TRUEBLOOD	17N21W06CDC1	360905093153401	OSAGE NE	326ATOK	--	--	40	U	WL	U	WL	1
45	LEO WALTON	18N21W08DBB1	361340093140101	GAITHER	330B00N	--	--	365	H	WL	H	WL	1
46	A.F. BYBLE	18N21W09BCB2	361352093134002	GAITHER	330B00N	--	--	--	U	WL	U	WL	1
47	LEWIS RAPES	18N21W33ADC1	361017093125301	GAITHER	326ATOK	--	--	92	H	WL	H	WL	1
49	COTTONWOOD FIRE ASSOC.	19N20W09BCD1	361851093070201	BERGMAN	367CTTR	--	--	450	H	WL	H	WL	1
50	WILTON MARTIN	19N20W10BBA1	361913093055301	BERGMAN	367CTTR	--	--	635	H	WL	H	WL	1
51	TOMMY STEPHENS	19N22W11DAA1	361906093164901	ALPENA	367CTTR	--	--	865	H	WL	H	WL	1
53	CHARLES BEAR	21N18W33DDC1	362517092532701	DIAMOND CITY	367CTTR	--	--	128	H	WL	H	WL	1
69	WICKEY JONES	17N18W04BBD1	360918092541601	EVERTON	367CTTR	--	--	24	H	WL	H	WL	1
71	HOWARD YOUNG	18N19W28CAA1	361053093002901	HARRISON	364EVRN	--	--	285	H	WL	H	WL	1
118	JACK BURNS	20N21W31BAC1	362106093151201	ALPENA	330B00N	--	--	40	H	QW	H	QW	3
119	BILLY WILSON	19N21W20BDC1	361722093141401	BATAVIA	367CTTR	--	--	460	H	QW	H	QW	3
120	WINFRED TRAMWELL	19N21W10BCA1	361915093122001	BATAVIA	367CTTR	--	--	550	H	QW	H	QW	3
121	DONALD NOBLE	20N21W33ACD1	362053093123801	BATAVIA	367CTTR	--	--	400	H	QW, WL	H	QW, WL	3

Table 1.--Description of selected wells for which hydrogeologic data are available, Boone County, Arkansas--Continued

SITE NO.	SITE NAME	LOCAL WELL NO.	SITE ID	7 1/2 MINUTE TOPOGRAPHIC QUADRANGLE	WATER BEARING FORMATION	TOP OF OPEN VAL (FEET BELOW SURFACE)	BOTTOM OF OPEN INTERVAL (FEET BELOW SURFACE)	WELL DEPTH (FEET)	LAND SURFACE	WATER USE	DATA AVAIL-	SOURCE OF DATA
122	GLADIS SUBLETT	20N20W20BCA1	362227093080401	BATAVIA	367CTTR	--	--	444	H	H	QW	3
123	DEE FANCHER	20N21W19ADD1	362231093142901	OMAHA	367CTTR	--	--	510	H	H	QW	3
124	BOB SKAGGS	20N22W13C8D1	362318093162701	DENVER	367CTTR	--	--	475	H	H	QW	3
125	DANNY EDWARDS	20N21W15CAA1	362319093115001	OMAHA	367CTTR	--	--	455	H	H	QW, WL	3
126	JAMES P. GEARHART	20N21W17BBB1	362351093142101	OMAHA	367CTTR	--	--	520	H	H	QW	3
127	STEPHEN HORENSKY	20N20W03CCA1	362436093055301	OMAHA NE	367CTTR	--	--	240	H	H	QW, WL	3
129	J.R. COBB	21N21W26ADB1	362854093101601	OMAHA	367CTTR	--	--	675	H	H	QW	3
130	JAKE KATN	21N20W23CDD1	362706093043501	OMAHA NE	367CTTR	--	--	--	H	H	QW	3
131	RICHARD A. SANDERS	21N20W17CCC1	362807093081101	OMAHA	367CTTR	--	--	755	H	H	QW	3
132	REAL ESTATE OFFICE	21N21W15BDA1	362841093115101	OMAHA	367CTTR	--	--	--	H	H	QW, WL	3
133	DAVID ARNOLD	21N22W12DCC1	362911093160201	DENVER	367CTTR	--	--	550	H	H	QW	3
134	JOHN DONNELLY	21N20W12BBA1	362935093034501	OMAHA NE	367CTTR	--	--	185	H	H	QW, WL	3
135	TURKEY FARM	19N21W03AAC1	362009093113001	BATAVIA	367CTTR	--	--	300	H	H	WL	2
136	PAUL HENDERSON	19N21W05C8D1	361948093142501	BATAVIA	367CTTR	--	--	--	H	H	WL	2
137	GAY GILBERT	19N21W10DCA1	361847093114301	BATAVIA	367CTTR	--	--	445	H	H	WL	2
138	---	20N20W30AAB1	362152093083201	BATAVIA	367CTTR	--	--	--	H	H	WL	2
139	H.W. DIETZ	21N18W29CCA1	362614092550701	DIAMOND CITY	368JFRC	--	--	531	R	--	--	2
140	DEAN HUFFMAN	20N21W02ACC1	362501093103301	OMAHA	367CTTR	--	--	375	H	H	WL	2
141	HERB EDWARDS	20N21W08BDA1	362424093135901	OMAHA	367CTTR	--	--	--	H	H	WL	2
142	GEORGE JONES	20N21W09ACC1	362419093124401	OMAHA	367CTTR	--	--	600	H	H	WL	2
143	---	20N21W13CD81	362258093094701	OMAHA	367CTTR	--	--	--	H	H	WL	2
144	EDWARDS	20N21W15D8D1	362312093113301	OMAHA	367CTTR	--	--	--	H	H	WL	2
145	GARY MAHLER	20N21W18BAA1	362347093150301	DENVER	367CTTR	--	--	605	H	H	WL	2
146	ALBERT CHILSON	20N21W26BDC1	362138093105701	BATAVIA	367CTTR	--	--	325	H	H	WL	2
147	TYSONS CHICKEN HOUSE	20N21W31DBC1	362040093150301	ALPENA	367CTTR	--	--	142	H	H	WL	2
148	BILL HODGES	20N22W14BBC1	362343093174201	DENVER	367CTTR	--	--	--	H	H	WL	2
149	---	20N21W33DAC1	362043093123101	BATAVIA	367CTTR	--	--	--	H	H	WL	2
150	H.W. DIETZ	21N18W20CAA1	362719092544701	DIAMOND CITY	367RBDX	100	604	604	P	P	QW, WL	2
151	FLOYD BUTEL	21N20W03CDD1	362940093054001	OMAHA NE	367CTTR	--	--	645	H	H	WL	2
152	PAUL BILTY	21N20W15ADD1	362824093050201	OMAHA NE	367CTTR	--	--	250	H	H	WL	2
153	GARY MATLOCK	21N20W33CAC1	3625370930365501	OMAHA NE	367CTTR	--	--	425	H	H	WL	2
154	CLIFFORD STORY	21N21W07DAD1	362922093142401	OMAHA	367CTTR	--	--	485	H	H	WL	2
156	---	21N21W24D8A1	362730093092801	OMAHA	367CTTR	--	--	--	H	H	WL	2
157	---	21N21W28AAD1	362703093121701	OMAHA	367CTTR	--	--	--	H	H	WL	2
158	---	21N21W32BCC1	362604093142001	OMAHA	367CTTR	--	--	--	H	H	WL	2
159	SOLOMON POTTS	21N21W36DCA1	362534093092601	OMAHA	367CTTR	--	--	590	H	H	WL	2
160	---	21N22W13CAD1	362832093161401	DENVER	367CTTR	--	--	405	H	H	WL	2
161	TABLE ROCK PARK	21N22W14BAB1	362904093172901	DENVER	367CTTR	--	--	--	H	H	WL	2
162	TYSONS FARM	21N22W35BDD1	362611093171401	DENVER	367CTTR	--	--	100	H	H	WL	2
163	---	21N20W29BDA1	362851093074801	OMAHA	367CTTR	--	--	700	H	H	WL	2
201	MRS. G. ROWLAND	17N19W04CDB1	360851093003901	HARRISON	330800N	--	--	--	H	H	WL	4
202	MRS. W. WEEKER	17N19W04D8A1	360852092595301	EVERTON	330800N	--	--	130	H	H	WL	4
203	PAUL TURNEY	17N19W05ABC1	360926093012501	HARRISON	330800N	140	220	220	H	H	WL	4
204	M.O. WENDIKE	17N19W06AAD1	360929093020801	HARRISON	330800N	--	--	180	H	H	WL	4
205	---	17N19W14BCB1	360734092584801	EVERTON	330800N	--	--	--	U	--	WL	4

Table 1.--Description of selected wells for which hydrogeologic data are available, Boone County, Arkansas--Continued

SITE NO.	SITE NAME	LOCAL WELL NO.	SITE ID	7 1/2 MINUTE TOPOGRAPHIC QUADRANGLE	WATER BEARING FORMATION	TOP OF OPEN INTER-VAL (FEET BELOW SURFACE)	BOTTOM OF OPEN INTER-VAL (FEET BELOW SURFACE)	WELL DEPTH (FEET BELOW LAND SURFACE)	WATER USE	DATA AVAILABILITY	SOURCE OF DATA
206	CROSSROAD CH.	17N19W16ADA1	360739092595501	EVERTON	330800N	--	--	--	U	WL	4
207	M.H. CLARK	17N20W03CCB1	360857093061901	HARRISON	330800N	23	285	285	H	WL	4
208	N.W. VILLINES	17N20W07DBB1	360822093084901	GAITHER	330800N	65	140	140	H	WL	4
209	ROBERT ROBERSON	17N20W09ACB1	360832093062001	HARRISON	330800N	--	--	250	H	WL	4
210	J.W. BOAZ	17N20W09BCD1	360842093071801	HARRISON	330800N	145	208	208	H	WL	4
211	BILLO WATTS	17N20W10BDA1	360830093062101	HARRISON	330800N	--	--	46	H	WL	4
212	SHERMAN PARKER	17N21W01CCD1	360857093102301	GAITHER	330800N	--	--	71	U	WL	4
213	ELMO KNOCH	17N22W02DCB1	360912093172601	OSAGE NE	364EVRN	20	558	942	H	WL	4
214	HARRIS	18N18W18CBA1	361230092562401	EVERTON	330800N	--	--	125	H	WL	4
215	MRS. F. ROGERS	18N18W19BAB1	36120092561601	EVERTON	330800N	--	--	25	H	WL	4
216	G. BERKELEY	18N18W32ADB1	361005092562401	EVERTON	364EVRN	35	400	400	H	WL	4
217	---	18N18W32CBB1	361005092544001	EVERTON	364EVRN	--	--	--	H	WL	4
218	DEAN	18N19W14AAA1	361257092574101	EVERTON	330800N	--	--	26	H	WL	4
219	---	18N19W17DDC1	361217093010201	HARRISON	330800N	--	--	249	H	WL	2
220	CITY OF BELLEFONTE	18N19W19BCD1	361150093025601	HARRISON	367GNTR	--	--	1,649	P	QM, WL	2
221	---	18N19W19CDA1	361136093023801	HARRISON	364STPR	--	--	--	U	WL	2
222	---	18N19W19CDA2	361134093020601	HARRISON	364STPR	--	--	38	U	WL	2
223	ARKANSAS HWY DEPARTMENT	18N19W19DDO1	361257093052501	HARRISON	367GNTR	--	--	2,000	-	WL	2
224	---	18N19W21DCA1	361131093000501	HARRISON	330800N	--	--	29	U	WL	2
225	COCHRAN	18N19W22BCB1	361154092594501	EVERTON	330800N	--	--	120	H	WL	2
226	LUTHER STARKEY	18N19W23DBD1	361132092575702	EVERTON	330800N	--	--	24	H	WL	2
227	LUTHER STARKEY	18N19W23DBD2	361132092575701	EVERTON	330800N	51	80	80	H	WL	2
228	---	18N19W31BAA1	361026093023201	HARRISON	330800N	--	--	--	H	WL	2
229	M.D. STARKEY	18N19W31DBC1	360953093022401	HARRISON	330800N	50	215	215	H	WL	2
230	VALLEY SPRING	18N19W33BBB1	361025093005101	HARRISON	367GNTR	500	2,055	2,055	P	QM, WL	2
231	BOB MCFERRIN	18N19W36DCC1	360944092570801	HARRISON	330800N	--	--	150	H	WL	2
232	MRS. KISSICK	18N20W22CAC1	361138093055601	HARRISON	330800N	--	--	517	H	WL	2
233	HORACE TUCKER	18N20W23ABD1	361204093042601	HARRISON	330800N	50	200	200	H	WL	2
234	RENFROW	18N20W24BDB1	361200093031601	HARRISON	330800N	--	--	55	H	WL	2
235	H. MCKINNEY	18N20W26CBB1	361055093051201	HARRISON	330800N	20	500	500	H	WL	2
236	---	18N20W33DCA1	360947093063801	HARRISON	330800N	--	--	24	H	WL	2
237	LEON TERRY	18N21W14DDB1	361232093103801	HARRISON	330800N	--	--	430	H	WL	2
238	BOONE CO.	18N21W22DDO1	361132093113501	GAITHER	364EVRN	500	1,000	1,000	P	QM, WL	2
239	HOOT GIBSON FARM	19N20W31AAA1	361546093082201	BATAVIA	367RBDX	--	--	1,000	U	WL	2
240	PODDOCK	20N19W21DBC1	362206093001501	BERGMAN	368PWLL	10	345	345	U	WL	2
241	JACKSON	20N19W22BDD1	362215092591501	ZINC	367CTTR	10	455	455	U	WL	2
242	DIAMOND CITY	21N18W20CCD1	362702092550301	DIAMOND CITY	371POTS	500	1,415	1,415	P	QM, WL	2
243	H.W. DIETZ	21N18W29BDC1	362633092550001	DIAMOND CITY	367RBDX	43	703	703	I	WL	2
244	LEAD HILL TOWN	21N18W32CDD1	362507092545301	DIAMOND CITY	367RBDX	90	602	602	P	QM, WL	2
245	TUCKER LODGE	21N19W16BBB1	362836093003201	OMAHA NE	367CTTR	30	305	305	H	WL	2
246	USCE	21N20W13BDB1	362809093031401	OMAHA NE	367RBDX	178	308	308	P	WL	2
247	EVA VARNER	21N21W22ACD1	362743093113001	OMAHA	367CTTR	47	673	673	H	WL	2
248	OMAHA CITY	21N21W27AAD1	362708093111301	OMAHA	367RBDX	64	1,315	1,315	P	QM, WL	2
407	ARK. WEST GAS LADD NO.2	18N21W18CCB1	--	--	--	--	--	--	--	--	6

Table 2.--Description of selected springs in Boone County, Arkansas

[GEOLOGIC SOURCE OF SPRING: 330800N, Boone Formation; 367EVRN, Everton Formation; 367CITR, Cotter Dolomite; 331BSVL, Batesville Sandstone; WATER USE: S, stock; H, domestic; U, unused; R, recreation; DATA AVAILABILITY: QM, water-quality analyses; WD, discharge measurement; SOURCE OF DATA: 1, this study; 3, Leidy and Morris (1990); 4, Lamonds (1972); Unnumbered -- open circles on figure 5 are springs identified from U.S. Geological Survey 7.5-minute topographic quadrangles; --, not identified]

SITE NO.	SPRING NAME	LOCAL SPRING NO.	SITE ID	7 1/2 MINUTE TOPOGRAPHIC QUADRANGLE	GEOLOGIC SOURCE OF SPRING	WATER USE	DATA AVAILABILITY	SOURCE OF DATA	COMMENTS
17	ARCHER SPRING	20N19W30DA1SP	362122093022001	BERGMAN	330800N	S	QM, WD	1	
18	BENNY GREEN SPRING	17N18W17ACB1SP	360732092550001	EVERTON	364EVRN	H	--	1	
20	LEWIS SPRING	17N18W09ACC1SP	360812092535501	EVERTON	364EVRN	H	QM, WD	1	
22	JACKPOT SPRING	19N18W16BBB1SP	361812092542101	ZINC	364EVRN	U	QM, WD	1	
24	VAUGHN SPRING	20N19W14CAA1SP	362304092581202	DIAMOND CITY	367CITR	U	--	1	
25	WILSON SPRING	18N20W11BDB1SP	361353093045601	HARRISON	330800N	U	--	1, 4	
31	MORVELL SPRING	19N19W30ACD1SP	361611093021201	BERGMAN	330800N	H	QM, WD	1	
60	BROWN SPRING	19N18W09CCD1SP	361820092541701	ZINC	364EVRN	H	--	1	
61	UNNAMED SPRING	19N19W21CAB1SP	361656093002701	BERGMAN	364EVRN	U	--	1	
62	UNNAMED SPRING	19N19W21DCC1SP	361637093001301	BERGMAN	364EVRN	U	--	1	
63	BLEVINS SPRING	19N19W33BBB1SP	361540093004601	BERGMAN	364EVRN	U	WD	1	2 SPRINGS
64	TABOR SPRING	19N18W29DCD1SP	361543092544201	ZINC	364EVRN	H	WD	1	
65	NEER SPRING	19N19W33BCC1SP	361522093000501	BERGMAN	364EVRN	H	WD	1	
101	ISOM BLEVINS SPRING	20N21W05CAA1SP	362506093135701	OMAHA	331BSVL	H	QM, WD	3	
102	BEAR CREEK SPRING	19N21W14CDB1SP	361753093110401	BATAVIA	330800N	R	QM, WD	3	TROUT FARM
103	SYCAMORE SPRING	19N22W12CAB1SP	361900093162201	ALPENA	330800N	H	QM, WD	3	
104	DELMA THOMPSON SPRING	19N21W11ABD1SP	361923093103801	BATAVIA	330800N	S	QM, WD	3	
105	LICK BRANCH SPRING	19N21W05DDB1SP	361942093134701	BATAVIA	330800N	S	QM, WD	3	
106	TELMAN ROBERTS SPRING	20N21W23DAB1SP	362226093102201	BATAVIA	330800N	S	QM, WD	3	
107	TROY BOWMAN SPRING	20N21W16DDC1SP	362304093123001	OMAHA	330800N	H	QM, WD	3	
108	DEAN HUFFMAN SPRING	20N21W02DBA1SP	362455093103201	OMAHA	330800N	U	QM, WD	3	
109	JAMES SKAGGS SPRING	21N22W36DBD1SP	362556093155401	DENVER	330800N	H	QM, WD	3	
110	WALNUT CREEK SPRING	21N21W35BBC1SP	362607093111001	OMAHA	330800N	U	QM, WD	3	
111	TRAIN TUNNEL	21N21W27DBD1SP	362638093113101	OMAHA	330800N	U	QM, WD	3	
112	HAROLD BARNES SPRING	21N20W29ACA1SP	362648093072801	OMAHA NE	330800N	H	QM, WD	3	SPRING INTERCEPT
113	CRICKET SPRING	21N21W27BCB1SP	362658093121001	OMAHA	330800N	U	QM, WD	3	
114	SPRING NEAR ARKWOOD	21N21W28BAA1SP	362714093125101	OMAHA	330800N	S	QM, WD	3	
115	JIM WILLIAMSON SPRING	21N21W17CAC1SP	362823093140401	OMAHA	330800N	H	QM, WD	3	
116	JOE ROBERTSON SPRING	21N20W08BCB1SP	362923093081001	OMAHA	330800N	U	QM, WD	3	
117	REBECCA EDSON SPRING	21N21W09BAD1SP	362945093124801	OMAHA	330800N	H	QM, WD	3	

Table 3.--Water-level data from wells, Boone County, Arkansas

[WATER BEARING FORMATION--326ATOK, Atoka Formation; 330B00N, Boone Formation; 364EVRN, Everton Formation; 367STPR, St. Peter Sandstone; 367CTTR, Cotter Dolomite; 367GNTR, Gunter Sandstone Member of the Van Buren Formation; 330CTNG, Chattanooga Shale; 367RBDX, Roubidoux Formation; 368PWLL, Powell Dolomite; 368JFRC, Jefferson City Dolomite; 371POTS, Potosi Dolomite]

SITE NO.	SITE NAME	ALTITUDE OF LAND SURFACE (FEET ABOVE SEA LEVEL)	DEPTH TO WATER (FEET BELOW LAND SURFACE)	DATE WATER LEVEL MEASURED	ALTITUDE OF WATER LEVEL (FEET ABOVE SEA LEVEL)	AQUIFER CODE
1	CLAUDE WITHERS	1,225	140.49	03-01-90	1,084.51	367CTTR
2	GEORGE DEARING, JR.	1,246	233.00	02-28-90	1,013.00	367CTTR
2	GEORGE DEARING, JR.	1,246	210.37	11-14-90	1,035.63	367CTTR
4	AUTRY REESE	1,296	265.38	02-27-90	1,030.62	367CTTR
6	DOROTHY NORVELL	1,040	26.15	02-27-90	1,013.85	367CTTR
6	DOROTHY NORVELL	1,040	23.19	12-12-90	1,016.81	367CTTR
8	JOHN E. MILLIGAN	839	22.71	04-12-90	816.29	367CTTR
8	JOHN E. MILLIGAN	839	23.36	02-21-91	815.64	367CTTR
9	DON WOOLDRIDGE	879	35.14	06-07-90	843.86	367CTTR
9	DON WOOLDRIDGE	879	41.00	12-12-90	838.00	367CTTR
12	DARRELL STEVENS	1,173	20.00	02-28-90	1,153.00	330B00N
12	DARRELL STEVENS	1,173	19.54	02-20-91	1,153.46	330B00N
13	NORTON	1,225	25.40	02-28-90	1,199.60	330B00N
14	NORTON	1,230	29.49	02-28-90	1,200.51	330B00N
15	RICHARD HUDSON	1,215	24.38	04-17-90	1,190.62	330B00N
16	DUANE NOFSINGER	1,255	44.09	02-27-90	1,210.91	330B00N
16	DUANE NOFSINGER	1,255	45.17	02-21-91	1,209.83	330B00N
18	JOE PATTIE	1,012	122.70	04-26-90	889.30	367CTTR
18	JOE PATTIE	1,012	151.99	02-21-91	860.01	367CTTR
26	DOYAL TURNER	804	101.35	03-15-90	702.65	367CTTR
26	DOYAL TURNER	804	96.24	12-11-90	707.76	367CTTR
27	ROBERT CUTBERTH	2,149	3.00	05-08-90	2,146.00	326ATOK
27	ROBERT CUTBERTH	2,149	9.68	02-20-91	2,139.32	326ATOK
29	C.H. BROWN	1,419	248.70	05-10-90	1,170.30	368PWLL
29	C.H. BROWN	1,419	320.31	11-07-90	1,098.69	368PWLL
30	ROY POORE	1,286	175.90	03-02-90	1,110.10	367CTTR
32	JAMES E. STANPHILL	1,138	39.93	03-02-90	1,098.07	368PWLL
32	JAMES E. STANPHILL	1,138	45.62	02-21-91	1,092.38	368PWLL
34	DORIS RUFF	1,240	38.00	12-10-90	1,202	330B00N
35	RAY BOLIN	1,223	126.40	04-05-90	1,096.60	367CTTR
35	RAY BOLIN	1,223	148.18	02-21-91	1,074.82	367CTTR
36	A.F. BIBLE	1,480	149.35	05-15-90	1,330.65	367CTTR
37	KENNY SNOW	1,419	255.22	05-22-90	1,163.78	364EVRN
38	DAN VAUGHN	840	56.87	03-15-90	783.13	367CTTR
38	DAN VAUGHN	840	44.90	02-21-91	795.10	367CTTR
40	BOBBY WOODS	1,260	108.80	04-26-90	1,151.20	367CTTR
42	V.L. HENDERSON	1,395	37.26	02-28-90	1,357.74	364EVRN
42	V.L. HENDERSON	1,395	43.22	02-20-91	1,351.78	364EVRN
43	PAUL TRUEBLOOD	2,142	2.80	05-08-90	2,139.2	326ATOK
45	LEO WALTON	1,319	31.60	05-15-90	1,287.40	367CTTR
45	LEO WALTON	1,319	131.64	02-20-91	1,187.36	367CTTR
46	A.F. BIBLE	1,475	1.80	05-15-90	1,473.20	330B00N
47	LEWIS RAPES	2,105	3.75	05-08-90	2,101.25	326ATOK
47	LEWIS RAPES	2,105	11.89	02-20-91	2,093.11	326ATOK
48	AUTRY REESE	1,296	265.38	02-27-90	1,030.62	367CTTR
49	COTTONWOOD FIRE ASSOC.	1,370	217.60	04-24-90	1,152.40	367CTTR
50	MILTON MARTIN	1,320	241.80	04-24-90	1,078.20	367CTTR
51	TOMMY STEPHENS	1,303	237.14	03-02-90	1,065.86	367CTTR
53	CHARLES BEAR	680	40.02	04-19-90	639.98	367CTTR
53	CHARLES BEAR	680	63.48	02-21-91	616.52	367CTTR
69	MICKEY JONES	815	4.25	05-24-90	810.75	367CTTR
69	MICKEY JONES	815	11.47	06-19-90	803.53	367CTTR
71	HOWARD YOUNG	1,198	98.60	05-24-90	1,099.40	364EVRN
71	HOWARD YOUNG	1,198	165.58	06-19-90	1,032.42	364EVRN
121	DONALD NOBLE	1,360	334.00	08-07-87	1,026.00	367CTTR

Table 3.--Water-level data from wells, Boone County, Arkansas--Continued

SITE NO.	SITE NAME	ALTITUDE OF LAND SURFACE (FEET ABOVE SEA LEVEL)	DEPTH TO WATER (FEET BELOW LAND SURFACE)	DATE WATER LEVEL MEASURED	ALTITUDE OF WATER LEVEL (FEET ABOVE SEA LEVEL)	AQUIFER CODE
125	DANNY EDWARDS	1,320	180.00	08-08-87	1,140.00	367CTTR
127	STEPHEN HORENSKY	950	123.25	05-08-87	826.75	367CTTR
132	REAL ESTATE OFFICE	1,360	254.00	08-04-87	1,106.00	367CTTR
134	JOHN DONNELLY	890	22.40	03-12-87	867.60	367CTTR
135	TURKEY FARM	1,260	200.00	08-07-87	1,060.00	367CTTR
136	PAUL HENDERSON	1,350	73.00	08-08-87	1,277.00	367CTTR
137	GAY GILBERT	1,340	284.00	08-05-87	1,056.00	367CTTR
138	---	1,250	130.00	08-05-87	1,120.00	367CTTR
139	---	1,250	130.00	08-05-87	1,120.00	367CTTR
140	DEAN HUFFMAN	1,280	237.00	08-08-87	1,043.00	367CTTR
141	HERB EDWARDS	1,525	390.00	08-08-87	1,135.00	367CTTR
142	GEORGE JONES	1,330	238.00	08-08-87	1,092.00	367CTTR
143	---	1,340	294.00	08-06-87	1,046.00	367CTTR
144	EDWARDS	1,280	202.00	08-08-87	1,078.00	367CTTR
145	GARY MAHLER	1,280	104.40	08-08-87	1,175.60	367CTTR
146	ALBERT CHILSON	1,300	234.00	08-06-87	1,066.00	367CTTR
147	TYSONS CHICKEN HOUSE	1,250	131.00	08-08-87	1,119.00	367CTTR
148	BILL HODGES	1,100	123.00	08-08-87	977.00	367CTTR
149	---	1,360	310.00	08-07-87	1,050.00	367CTTR
150	H.W. DIETZ.	830	157.05	06-07-67	672.95	367RBDX
150	H.W. DIETZ	830	158.00	05-12-68	672.00	367RBDX
150	H.W. DIETZ	830	155.48	11-04-69	674.52	367RBDX
150	H.W. DIETZ	830	160.73	10-13-70	669.27	367RBDX
150	H.W. DIETZ	830	168.69	11-09-71	661.31	367RBDX
150	H.W. DIETZ	830	170.43	10-18-72	659.57	367RBDX
150	H.W. DIETZ	830	166.60	11-28-73	663.40	367RBDX
150	H.W. DIETZ	830	169.56	11-25-74	660.44	367RBDX
150	H.W. DIETZ	830	175.81	12-03-75	654.19	367RBDX
151	FLOYD BUTEL	1,210	386.00	08-04-87	824.00	367CTTR
152	PAUL BILTY	935	104.00	08-04-87	831.00	367CTTR
152	PAUL BILTY	935	435.00	08-04-87	945.00	367CTTR
153	GARY MATLOCK	1,030	110.00	08-04-87	920.00	367CTTR
154	CLIFFORD STORY	1,345	287.00	08-07-87	1,058.00	367CTTR
155	REAL ESTATE OFFICE	1,360	254.00	08-04-87	1,106.00	367CTTR
156	---	1,300	166.00	08-04-87	1,134.00	367CTTR
157	---	1,140	224.00	08-05-87	916.00	367CTTR
158	---	1,540	290.00	08-05-87	1,250.00	367CTTR
159	SOLOMON POTTS	1,240	170.00	08-07-87	1,070.00	367CTTR
160	---	1,040	118.00	08-04-87	922.00	367CTTR
161	TABLE ROCK PARK	1,030	121.50	08-04-87	908.50	367CTTR
162	TYSONS FARM	1,030	75.00	08-05-87	955.00	367CTTR
201	MRS. G. ROWLAND	1,160	57.87	04-16-68	1,102.13	330B00N
202	MRS. W. MEEKER	1,185	100.40	04-11-68	1,084.60	330B00N
203	PAUL TURNEY	1,210	158.50	04-16-68	1,051.50	330B00N
204	M.O. WENDIKE	1,220	42.52	04-16-68	1,177.48	330B00N
205	---	1,175	17.75	04-11-68	1,157.25	330B00N
206	CROSSROAD CH.	1,110	119.38	04-11-68	1,090.17	330B00N
207	W.H. CLARK	1,175	9.46	04-17-68	1,165.54	330B00N
208	N.W. VILLINES	1,250	71.50	04-17-68	1,178.50	330B00N
209	ROBERT ROBERSON	1,195	36.83	04-12-68	1,158.17	330B00N
210	J.W. BOAZ	1,230	104.59	04-17-68	1,125.41	330B00N
211	BILLO WATTS	1,125	7.69	04-12-68	1,117.31	330B00N
212	SHERMAN PARKER	1,320	62.40	04-17-68	1,257.60	330B00N
213	ELMO KNOCH	2,180	558.00	07-28-75	1,622.00	364EVRN
214	HARRIS	1,150	89.67	04-12-68	1,060.33	330B00N
215	MRS. F. ROGERS	1,040	8.28	04-12-68	1,031.72	330B00N
216	G. BERKELEY	1,065	56.12	04-11-68	1,008.88	364EVRN
217	---	1,065	63.51	04-11-68	1,001.49	364EVRN
218	DEAN	1,080	7.41	04-12-68	1,072.59	330B00N
219	---	1,140	108.56	04-12-68	1,031.44	330B00N

Table 3.--Water-level data from wells, Boone County, Arkansas--Continued

SITE NO.	SITE NAME	ALTITUDE OF LAND SURFACE (FEET ABOVE SEA LEVEL)	DEPTH TO WATER (FEET BELOW LAND SURFACE)	DATE WATER LEVEL MEASURED	ALTITUDE OF WATER LEVEL (FEET ABOVE SEA LEVEL)	AQUIFER CODE
220	CITY OF BELLEFONTE	1,150	139.82	06-06-67	1,010.18	367GNTR
220	CITY OF BELLEFONTE	1,150	140.52	05-21-68	1,009.48	367GNTR
220	CITY OF BELLEFONTE	1,150	149.42	11-04-69	1,000.58	367GNTR
220	CITY OF BELLEFONTE	1,150	152.31	10-13-70	997.69	367GNTR
220	CITY OF BELLEFONTE	1,150	175.21	11-09-71	974.79	367GNTR
220	CITY OF BELLEFONTE	1,150	178.63	10-18-72	971.37	367GNTR
220	CITY OF BELLEFONTE	1,150	175.87	12-05-73	974.13	367GNTR
220	CITY OF BELLEFONTE	1,150	182.16	11-25-74	967.84	367GNTR
220	CITY OF BELLEFONTE	1,150	192.19	12-03-75	957.81	367GNTR
220	CITY OF BELLEFONTE	1,150	180.69	03-31-77	969.31	367GNTR
220	CITY OF BELLEFONTE	1,150	178.43	04-22-77	971.57	367GNTR
220	CITY OF BELLEFONTE	1,150	199.11	05-02-78	950.89	367GNTR
220	CITY OF BELLEFONTE	1,150	177.24	04-18-79	972.76	367GNTR
220	CITY OF BELLEFONTE	1,150	218.20	04-22-82	931.80	367GNTR
220	CITY OF BELLEFONTE	1,150	224.55	03-30-83	925.45	367GNTR
220	CITY OF BELLEFONTE	1,150	227.49	03-19-84	922.51	367GNTR
220	CITY OF BELLEFONTE	1,150	230.79	04-01-85	919.21	367GNTR
220	CITY OF BELLEFONTE	1,150	233.08	04-09-86	916.92	367GNTR
220	CITY OF BELLEFONTE	1,150	222.53	04-01-87	927.47	367GNTR
220	CITY OF BELLEFONTE	1,150	192.86	04-05-88	957.14	367GNTR
220	CITY OF BELLEFONTE	1,150	219.03	03-15-89	930.97	367GNTR
220	CITY OF BELLEFONTE	1,150	215.42	03-28-90	934.58	367GNTR
221	---	1,120	36.22	04-12-68	1,083.78	364STPR
222	---	1,115	30.52	04-12-68	1,084.48	364STPR
223	ARKANSAS HIGHWAY DEPT.	1,050	124.00	08-01-69	926.00	367GNTR
224	---	1,160	24.04	04-12-68	1,135.96	330B00N
225	COCHRAN	1,160	31.77	04-12-68	1,128.23	330B00N
226	LUTHER STARKEY	1,040	2.90	04-12-68	1,037.10	330B00N
227	LUTHER STARKEY	1,040	6.42	04-12-68	1,033.58	330B00N
228	---	1,120	7.32	04-16-68	1,112.68	330B00N
229	M.D. STARKEY	1,205	67.10	04-16-68	1,137.90	330B00N
230	VALLEY SPRING	1,300	333.29	07-02-74	966.71	367GNTR
230	VALLEY SPRING	1,300	332.58	11-25-74	967.42	330B00N
230	VALLEY SPRING	1,300	549.00	12-03-75	751.00	330CTNG
230	VALLEY SPRING	1,300	495.91	04-22-77	804.09	364EVRN
230	VALLEY SPRING	1,300	433.73	05-02-78	866.27	364EVRN
230	VALLEY SPRING	1,300	459.14	04-18-79	840.86	368PWLL
230	VALLEY SPRING	1,300	456.83	03-25-80	843.17	367CTTR
230	VALLEY SPRING	1,300	477.43	04-22-81	822.57	368JFRC
230	VALLEY SPRING	1,300	447.40	04-23-82	852.60	367RBDX
230	VALLEY SPRING	1,300	438.16	03-30-83	861.84	367GNTR
230	VALLEY SPRING	1,300	437.01	04-14-84	862.99	367GNTR
230	VALLEY SPRING	1,300	528.25	04-08-85	771.75	371POTS
230	VALLEY SPRING	1,300	454.52	04-14-86	845.48	371POTS
230	VALLEY SPRING	1,300	485.52	04-01-87	814.48	371POTS
230	VALLEY SPRING	1,300	491.84	04-06-88	808.16	371POTS
230	VALLEY SPRING	1,300	473.29	03-21-89	826.71	371POTS
230	VALLEY SPRING	1,300	489.60	05-18-90	810.40	371POTS
231	BOB MCFERRIN	1,120	68.55	04-17-68	1,051.45	330B00N
232	MRS. KISSICK	1,243	138.00	04-17-68	1,105.00	330B00N
233	HORACE TUCKER	1,137	28.45	04-17-68	1,108.55	330B00N
234	RENFROW	1,150	51.40	04-17-68	1,098.60	330B00N
235	H. MCKINNEY	1,280	190.00	04-17-68	1,090.00	330B00N
236	---	1,135	17.33	04-17-68	1,117.67	330B00N
237	LEON TERRY	1,442	213.30	04-18-68	1,228.70	330B00N
238	BOONE CO.	1,550	393.31	12-12-78	1,156.69	364EVRN
239	HOOT GIBSON FARM	1,260	148.78	08-02-60	1,111.22	367RBDX
239	HOOT GIBSON FARM	1,260	148.30	11-30-60	1,111.70	367RBDX
239	HOOT GIBSON FARM	1,260	148.44	05-03-61	1,111.56	367RBDX
239	HOOT GIBSON FARM	1,260	144.30	08-08-61	1,115.70	367RBDX



Table 3.--Water-level data from wells, Boone County, Arkansas--Continued

SITE NO.	SITE NAME	ALTITUDE OF LAND SURFACE (FEET ABOVE SEA LEVEL)	DEPTH TO WATER (FEET BELOW LAND SURFACE)	DATE WATER LEVEL MEASURED	ALTITUDE OF WATER LEVEL (FEET ABOVE SEA LEVEL)	AQUIFER CODE
239	HOOT GIBSON FARM	1,260	162.57	11-17-61	1,097.43	367RBDX
239	HOOT GIBSON FARM	1,260	155.60	02-08-62	1,104.40	367RBDX
239	HOOT GIBSON FARM	1,260	156.86	03-09-62	1,103.14	367RBDX
239	HOOT GIBSON FARM	1,260	155.19	04-04-62	1,104.81	367RBDX
239	HOOT GIBSON FARM	1,260	149.20	05-09-62	1,110.80	367RBDX
239	HOOT GIBSON FARM	1,260	152.62	06-14-62	1,107.38	367RBDX
239	HOOT GIBSON FARM	1,260	159.39	07-25-62	1,100.61	367RBDX
239	HOOT GIBSON FARM	1,260	163.98	08-29-62	1,096.02	367RBDX
239	HOOT GIBSON FARM	1,260	159.92	09-28-62	1,100.08	367RBDX
239	HOOT GIBSON FARM	1,260	154.76	10-25-62	1,105.24	367RBDX
239	HOOT GIBSON FARM	1,260	156.16	11-29-62	1,103.84	367RBDX
239	HOOT GIBSON FARM	1,260	157.85	12-13-62	1,102.15	367RBDX
239	HOOT GIBSON FARM	1,260	159.42	01-08-63	1,100.58	367RBDX
239	HOOT GIBSON FARM	1,260	164.27	02-19-63	1,095.73	367RBDX
239	HOOT GIBSON FARM	1,260	161.80	05-08-63	1,098.20	367RBDX
240	PADDOCK	990	55.23	10-14-75	934.77	368PWLL
242	DIAMOND CITY	882	232.35	02-12-80	649.65	371POTS
242	DIAMOND CITY	882	225.58	03-25-80	656.42	371POTS
242	DIAMOND CITY	882	246.53	04-22-81	635.47	371POTS
242	DIAMOND CITY	882	233.80	04-23-82	648.20	371POTS
242	DIAMOND CITY	882	234.50	03-29-83	647.50	371POTS
242	DIAMOND CITY	882	232.98	03-19-84	649.02	371POTS
242	DIAMOND CITY	882	205.98	04-07-86	676.02	371POTS
242	DIAMOND CITY	882	210.09	04-01-87	671.91	371POTS
242	DIAMOND CITY	882	220.92	04-05-88	661.08	371POTS
242	DIAMOND CITY	882	221.90	03-14-89	660.10	371POTS
242	DIAMOND CITY	882	221.57	03-27-90	660.43	371POTS
243	H.W. DIETZ	750	86.76	09-26-73	663.24	367RBDX
244	LEAD HILL TOWN	840	98.80	05-22-68	741.20	367RBDX
245	TUCKER LODGE	710	80.00	01-01-67	630.00	367CTTR
247	EVA VARNER	1,360	493.65	08-03-60	866.35	367CTTR
247	EVA VARNER	1,360	493.11	11-30-60	866.89	367CTTR
247	EVA VARNER	1,360	493.82	05-02-61	866.18	367CTTR
247	EVA VARNER	1,360	493.10	08-08-61	866.90	367CTTR
247	EVA VARNER	1,360	492.80	11-16-61	867.20	367CTTR
247	EVA VARNER	1,360	492.51	02-08-62	867.49	367CTTR
247	EVA VARNER	1,360	493.66	03-08-62	866.34	367CTTR
247	EVA VARNER	1,360	494.53	04-04-62	865.47	367CTTR
248	OMAHA CITY	1,357	450.00	05-01-67	907.00	367RBDX

Table 4.--Discharge data from springs, Boone County, Arkansas

[METHOD DISCHARGE MEASURED: V, volumetric; E, estimated; C, current meter; AQUIFER CODE: 330B00N, Boone Formation; 364EVRN, Everton Formation; 331BSVL, Batesville Sandstone; --, not determined]

SITE NO.	NAME OF SPRING	ALTITUDE OF LAND SURFACE (FEET ABOVE SEA LEVEL)	DISCHARGE (GALLONS PER MINUTE)	DATE DISCHARGE MEASURED	TIME DISCHARGE MEASURED	METHOD DISCHARGE MEASURED	AQUIFER CODE
17	ARCHER SPRING	1,223	0.8	11-15-90	0900	V	330B00N
20	LEWIS SPRING	880	1,200	12-13-90	1000	V	330B00N
22	JACKPOT SPRING	950	13	02-28-90	1225	E	364EVRN
22	JACKPOT SPRING	950	24	12-11-90	1415	E	364EVRN
31	NORVELL SPRING	1,058	1,100	02-27-90	1100	E	330B00N
31	NORVELL SPRING	1,058	1,100	12-12-90	1200	E	330B00N
63	BLEVINS SPRING	970	44	02-27-90	--	E	330B00N
64	TABOR SPRING	964	80	03-01-90	--	E	364EVRN
65	NEER SPRING	932	1,800	02-27-90	--	E	364EVRN
101	ISOM BLEVINS SPRING	1,360	2.5	05-08-87	0915	V	331BSVL
101	ISOM BLEVINS SPRING	1,360	1.5	10-01-87	1130	V	331BSVL
102	BEAR CREEK SPRING	1,100	2,500	03-18-87	1300	C	330B00N
102	BEAR CREEK SPRING	1,100	1,400	05-07-87	0930	E	330B00N
102	BEAR CREEK SPRING	1,100	6,000	09-15-87	0000	E	330B00N
102	BEAR CREEK SPRING	1,100	7,000	09-15-87	0200	E	330B00N
102	BEAR CREEK SPRING	1,100	6,500	09-15-87	0600	E	330B00N
102	BEAR CREEK SPRING	1,100	5,000	09-15-87	1415	C	330B00N
102	BEAR CREEK SPRING	1,100	2,500	09-15-87	2300	E	330B00N
102	BEAR CREEK SPRING	1,100	1,300	10-02-87	1200	C	330B00N
103	SYCAMORE SPRING	1,180	70	03-13-87	0945	V	330B00N
103	SYCAMORE SPRING	1,180	5	06-20-87	1230	E	330B00N
103	SYCAMORE SPRING	1,180	6	10-01-87	0730	V	330B00N
104	DELMA THOMPSON SPRING	1,240	2.5	03-18-87	1400	E	330B00N
104	DELMA THOMPSON SPRING	1,240	2.5	05-08-87	1400	E	330B00N
104	DELMA THOMPSON SPRING	1,240	1	10-01-87	0930	E	330B00N
105	LICK BRANCH SPRING	1,180	400	03-13-87	0845	E	330B00N
105	LICK BRANCH SPRING	1,180	5	06-20-87	1145	E	330B00N
105	LICK BRANCH SPRING	1,180	630	09-14-87	2130	E	330B00N
105	LICK BRANCH SPRING	1,180	600	09-15-87	0030	E	330B00N
105	LICK BRANCH SPRING	1,180	500	09-15-87	0415	E	330B00N
105	LICK BRANCH SPRING	1,180	450	09-15-87	1200	C	330B00N
105	LICK BRANCH SPRING	1,180	400	09-15-87	2145	E	330B00N
105	LICK BRANCH SPRING	1,180	.9	10-01-87	0815	C	330B00N
106	TELMAN ROBERTS SPRING	1,200	10	03-18-87	1515	E	330B00N
106	TELMAN ROBERTS SPRING	1,200	3	05-08-87	1545	V	330B00N
106	TELMAN ROBERTS SPRING	1,200	4.0	10-01-87	1015	V	330B00N
107	TROY BOWMAN SPRING	1,180	220	03-19-87	1330	E	330B00N
107	TROY BOWMAN SPRING	1,180	55	05-07-87	1030	E	330B00N
107	TROY BOWMAN SPRING	1,180	530	09-14-87	2315	E	330B00N
107	TROY BOWMAN SPRING	1,180	500	09-15-87	0115	E	330B00N
107	TROY BOWMAN SPRING	1,180	430	09-15-87	0500	E	330B00N
107	TROY BOWMAN SPRING	1,180	350	09-15-87	1315	C	330B00N
107	TROY BOWMAN SPRING	1,180	200	09-15-87	2230	E	330B00N
107	TROY BOWMAN SPRING	1,180	51	10-02-87	1400	C	330B00N
108	DEAN HUFFMAN SPRING	1,200	15	03-19-87	1100	E	330B00N
110	WALNUT CREEK SPRING	1,190	6	05-08-87	1115	V	330B00N
110	WALNUT CREEK SPRING	1,190	2.5	03-20-87	1030	E	330B00N
110	WALNUT CREEK SPRING	1,190	5.0	10-02-87	1630	V	330B00N
111	TRAIN TUNNEL	1,320	60	03-11-87	1535	V	330B00N
111	TRAIN TUNNEL	1,320	60	06-20-87	0845	V	330B00N



Table 4.--Discharge data from springs, Boone County, Arkansas--Continued

SITE NO.	NAME OF SPRING	ALTITUDE OF LAND SURFACE (FEET ABOVE SEA LEVEL)	DISCHARGE (GALLONS PER MINUTE)	DATE DISCHARGE MEASURED	TIME DISCHARGE MEASURED	METHOD DISCHARGE MEASURED	AQUIFER CODE
111	TRAIN TUNNEL	1,300	10	10-02-87	1515	V	330B00N
112	HAROLD BARNES SPRING	1,100	5	03-12-87	1630	V	330B00N
112	HAROLD BARNES SPRING	1,100	2.5	06-20-87	0945	V	330B00N
112	HAROLD BARNES SPRING	1,100	1.0	10-02-87	0915	V	330B00N
113	CRICKET SPRING	1,140	5	03-11-87	1345	E	330B00N
113	CRICKET SPRING	1,140	7	06-20-87	0745	E	330B00N
113	CRICKET SPRING	1,140	7	10-01-87	1300	C	330B00N
114	SPRING NEAR ARKWOOD	1,040	15	03-18-87	1615	E	330B00N
114	SPRING NEAR ARKWOOD	1,040	9	05-07-87	1745	C	330B00N
114	SPRING NEAR ARKWOOD	1,040	2.0	10-01-87	1400	C	330B00N
115	JIM WILLIAMSON SPRING	1,200	40	03-19-87	0930	E	330B00N
115	JIM WILLIAMSON SPRING	1,200	2	05-07-87	1545	E	330B00N
115	JIM WILLIAMSON SPRING	1,200	1.5	10-01-87	1530	V	330B00N
116	JOE ROBERTSON SPRING	1,240	1.5	03-12-87	0900	V	330B00N
116	JOE ROBERTSON SPRING	1,240	1.5	06-20-87	1045	E	330B00N
116	JOE ROBERTSON SPRING	1,240	1.0	10-02-87	1000	V	330B00N
117	REBECCA EDSON SPRING	1,300	250	03-19-87	0830	E	330B00N
117	REBECCA EDSON SPRING	1,300	100	05-07-87	1700	E	330B00N
117	REBECCA EDSON SPRING	1,300	35	10-01-87	1630	V	330B00N

**Table 5.--Concentrations of major constituents and properties**  
[ $\mu\text{S}/\text{cm}$  AT 25°C, microsiemens per centimeter at 25 degrees Celsius;

SITE NO.	SITE NAME	LOCAL WELL NO.	DATE	SPE-CIFIC CONDUCTANCE ( $\mu\text{S}/\text{cm}$ at 25°C)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG °C)	COLOR (PLAT-INUM-COBALT UNITS)	HARDNESS TOTAL (mg/L as CaCO3)
2	GEORGE DEARING JR.	18N20W22BAA1	11-14-90	404	7.7	--	1	210
6	DOROTHY NORVELL	19N19W30DAA1	12-12-90	359	7.7	15.5	<1	180
9	DON WOOLDRIDGE	20N18W21ACA1	12-12-90	621	7.2	15.5	<1	340
17	ARCHER SPRING	20N19W30DAA1SP	11-15-90	535	7.0	14.5	<1	270
20	LEWIS SPRING	17N18W09ACC1SP	12-13-90	438	7.2	15.0	<1	230
22	JACKPOT SPRING	19N18W168BB1SP	12-11-90	298	8.3	13.5	2	150
26	DOYAL TURNER	21N19W26ADB1	12-11-90	561	7.3	15.0	<1	320
28	PAUL EPPS	20N19W14ABC1	10-25-75	353	7.7	--	--	180
28	PAUL EPPS	20N19W14ABC1	11-03-75	370	7.3	16.0	--	180
29	C.H.BROWN	18N21W02ADD1	11-14-90	516	8.8	--	1	20
31	NORVELL SPRING	19N19W30ACD1SP	12-12-90	319	7.2	14.5	<1	160
34	DORIS RUFF	17N20W10ACB1	12-10-90	480	7.2	14.5	<1	--
101	ISOM BLEVINS SPRING	20N21W05CAA1SP	03-19-87	530	7.6	11.0	--	250
101	ISOM BLEVINS SPRING	20N21W05CAA1SP	05-08-87	740	7.4	18.5	--	360
101	ISOM BLEVINS SPRING	20N21W05CAA1SP	10-01-87	780	7.6	19.0	--	360
102	BEAR CREEK SPRING	19N21W14CDB1SP	03-18-87	259	7.4	13.0	--	130
102	BEAR CREEK SPRING	19N21W14CDB1SP	05-07-87	430	7.5	14.5	--	200
102	BEAR CREEK SPRING	19N21W14CDB1SP	09-15-87	440	6.9	17.0	--	200
102	BEAR CREEK SPRING	19N21W14CDB1SP	09-15-87	407	6.9	16.0	--	190
102	BEAR CREEK SPRING	19N21W14CDB1SP	09-15-87	435	6.9	16.0	--	190
102	BEAR CREEK SPRING	19N21W14CDB1SP	09-15-87	440	6.9	15.0	--	190
102	BEAR CREEK SPRING	19N21W14CDB1SP	09-15-87	440	6.9	15.0	--	190
102	BEAR CREEK SPRING	19N21W14CDB1SP	10-02-87	440	7.2	15.0	--	200
103	SYCAMORE SPRING	19N22W12CAB1SP	03-13-87	492	6.9	12.0	--	230
103	SYCAMORE SPRING	19N22W12CAB1SP	06-20-87	525	7.7	15.0	--	230
103	SYCAMORE SPRING	19N22W12CAB1SP	10-01-87	535	7.4	15.0	--	250
104	DELMA THOMPSON SPRING	19N21W11ABD1SP	03-18-87	300	7.5	13.0	--	150
104	DELMA THOMPSON SPRING	19N21W11ABD1SP	05-08-87	420	7.0	17.0	--	210
104	DELMA THOMPSON SPRING	19N21W11ABD1SP	10-01-87	458	7.7	14.5	--	270
105	LICK BRANCH SPRING	19N21W05DDB1SP	03-13-87	395	6.9	12.0	--	200
105	LICK BRANCH SPRING	19N21W05DDB1SP	06-20-87	460	7.2	15.0	--	220
105	LICK BRANCH SPRING	19N21W05DDB1SP	09-14-87	170	7.0	19.0	--	66
105	LICK BRANCH SPRING	19N21W05DDB1SP	09-15-87	350	7.1	17.0	--	160
105	LICK BRANCH SPRING	19N21W05DDB1SP	09-15-87	310	7.0	17.0	--	130
105	LICK BRANCH SPRING	19N21W05DDB1SP	09-15-87	305	6.9	17.0	--	130
105	LICK BRANCH SPRING	19N21W05DDB1SP	09-15-87	335	6.9	17.0	--	150
105	LICK BRANCH SPRING	19N21W05DDB1SP	10-01-87	458	7.0	16.0	--	210
106	TELMAN ROBERTS SPRING	20N21W23DAB1SP	03-18-87	390	7.2	14.5	--	180
106	TELMAN ROBERTS SPRING	20N21W23DAB1SP	05-08-87	440	7.6	16.0	--	220
106	TELMAN ROBERTS SPRING	20N21W23DAB1SP	10-01-87	539	7.5	15.5	--	250
107	TROY BOWMAN SPRING	20N21W16DDC1SP	03-19-87	275	7.1	14.0	--	130
107	TROY BOWMAN SPRING	20N21W16DDC1SP	05-07-87	390	7.2	14.0	--	190
107	TROY BOWMAN SPRING	20N21W16DDC1SP	09-14-87	340	7.0	15.0	--	150
107	TROY BOWMAN SPRING	20N21W16DDC1SP	09-15-87	340	7.0	15.0	--	140
107	TROY BOWMAN SPRING	20N21W16DDC1SP	09-15-87	350	7.0	15.0	--	150
107	TROY BOWMAN SPRING	20N21W16DDC1SP	09-15-87	379	7.0	15.0	--	160
107	TROY BOWMAN SPRING	20N21W16DDC1SP	09-15-87	375	6.9	15.0	--	170
107	TROY BOWMAN SPRING	20N21W16DDC1SP	10-02-87	410	7.2	15.0	--	190
108	DEAN HUFFMAN SPRING	20N21W02DBA1SP	03-19-87	250	7.3	13.0	--	110
109	JAMES SKAGGS SPRING	21N22W36DBD1SP	06-20-87	418	7.7	24.0	--	180

in water from selected wells and springs in Boone County, Arkansas

mg/L, milligrams per liter; --, not determined; < signifies concentration is below detection limit]

HARD- NESS NONCARB (mg/L as CaCO3)	CALCIUM DIS- SOLVED (mg/L as Ca)	MAGNE- SIUM, DIS- SOLVED (mg/L as Mg)	SODIUM, DIS- SOLVED (mg/L as Na)	POTAS- SIUM, DIS- SOLVED (mg/L as K)	ALKA- LINITY FIELD (mg/L as CaCO3)	SULFATE DIS- SOLVED (mg/L as SO4)	CHLO- RIDE, DIS- SOLVED (mg/L as Cl)	FLUO- RIDE, DIS- SOLVED (mg/L as F)	SILICA, DIS- SOLVED (mg/L as SiO2)	SOLIDS, RESIDUE AT 180 DEG.°C DIS- SOLVED (mg/L)	SITE NO.
--	78	4.3	2.8	0.4	185	3.5	7.2	0.10	9.0	216	2
--	42	19	1.5	2.7	176	17	3.7	.50	8.3	173	6
--	70	39	2.7	1.3	310	19	8.0	.40	12	324	9
--	73	21	6.2	.60	--	3.4	20	< .10	12	282	17
--	75	9.3	2.0	1.0	218	4.5	6.0	.40	9.6	231	20
--	58	2.1	1.5	.70	148	2.5	3.5	< .10	9.4	148	22
--	70	35	1.7	5.1	306	25	4.1	.40	8.5	314	26
6	41	20	5.1	1.6	180	7.7	2.8	.2	8.5	--	28
1	42	19	3.3	1.7	180	11	2.3	.1	8.8	--	28
--	4.4	2.1	120	1.9	--	27	5.2	3.5	8.8	293	29
--	60	1.8	3.3	1.2	147	3.2	8.1	.40	9.7	172	31
--	.04	< .01	< .2	.2	230	1.8	7.6	.3	13	277	34
--	85	8.8	7.2	2.6	197	44	13	.10	9.8	295	101
--	120	15	13	2.0	279	72	20	--	--	--	101
--	120	14	12	2.5	294	68	21	--	--	--	101
--	49	1.1	2.0	1.4	114	9.3	3.8	< .10	8.7	151	102
--	79	1.6	2.7	1.0	197	3.4	4.3	--	--	--	102
--	76	1.8	2.6	1.5	192	<3.0	5.0	--	--	--	102
--	72	1.6	2.4	1.4	188	3.0	5.0	--	--	--	102
--	72	1.6	2.6	1.3	182	<3.0	5.0	--	--	--	102
--	74	1.5	2.2	1.2	198	3.1	4.5	--	--	--	102
--	74	1.6	2.4	1.4	190	<3.0	4.8	--	--	--	102
--	77	1.8	2.9	1.4	196	3.0	5.6	--	--	--	102
--	89	1.4	4.1	1.3	207	12	7.0	< .10	10	252	103
--	91	1.5	4.1	1.0	238	7.3	6.0	--	--	--	103
--	98	1.8	3.9	1.4	238	9.0	6.6	--	--	--	103
--	57	1.4	1.8	.90	142	5.4	2.0	< .10	11	160	104
--	81	2.2	2.1	1.0	197	3.4	2.0	--	--	--	104
--	100	2.9	2.8	1.9	274	3.0	3.9	--	--	--	104
--	80	1.2	3.2	1.4	192	6.9	7.5	< .10	10	234	105
--	86	1.3	2.3	1.0	213	<3.0	4.0	--	--	--	105
--	25	.80	1.0	4.4	46	3.2	3.8	--	--	--	105
--	61	1.3	2.0	2.9	146	<3.0	5.5	--	--	--	105
--	52	1.0	2.0	2.4	120	<3.0	5.1	--	--	--	105
--	51	1.0	2.0	2.6	120	<3.0	5.3	--	--	--	105
--	59	1.1	2.0	2.3	141	<3.0	5.3	--	--	--	105
--	81	1.5	3.1	1.8	210	3.0	6.6	--	--	--	105
--	68	1.7	2.7	1.0	141	4.0	6.6	< .10	12	193	106
--	84	2.3	2.6	1.2	189	3.1	6.0	--	--	--	106
--	94	2.6	2.8	3.1	232	<3.0	8.2	--	--	--	106
--	49	1.2	2.1	1.4	97	7.8	3.4	< .10	10	147	107
--	74	1.4	2.6	1.0	172	3.5	2.8	--	--	--	107
--	56	1.4	2.8	1.5	141	<3.0	6.5	--	--	--	107
--	54	1.4	2.4	1.5	126	<3.0	5.5	--	--	--	107
--	59	1.5	2.2	1.6	140	3.1	4.8	--	--	--	107
--	63	1.5	2.4	1.4	160	3.1	3.8	--	--	--	107
--	64	1.5	2.8	1.5	160	<3.0	4.3	--	--	--	107
--	72	1.6	2.6	1.6	164	<3.0	1.7	--	--	--	107
--	39	1.9	3.8	1.4	84	7.2	10	< .10	11	132	108
--	66	2.6	5.5	1.5	148	3.5	25	--	--	--	109

Table 5.--Concentrations of major constituents and properties

SITE NO.	SITE NAME	LOCAL WELL NO.	DATE	SPECIFIC CONDUCTANCE (µS/cm) at 25°C	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG °C)	COLOR (PLATINUM-COBALT UNITS)	HARDNESS TOTAL (mg/L as CaCO3)
110	WALNUT CREEK SPRING	21N21W35B8C1SP	03-20-87	140	7.5	15.0	--	56
110	WALNUT CREEK SPRING	21N21W35B8C1SP	05-08-87	250	7.5	13.0	--	100
110	WALNUT CREEK SPRING	21N21W35B8C1SP	10-02-87	324	7.8	14.0	--	130
111	TRAIN TUNNEL	21N21W27DBD1SP	03-11-87	255	6.8	14.0	--	83
111	TRAIN TUNNEL	21N21W27DBD1SP	06-20-87	320	7.4	16.0	--	120
111	TRAIN TUNNEL	21N21W27DBD1SP	10-02-87	356	7.8	15.0	--	110
112	HAROLD BARNES SPRING	21N20W29ACA1SP	03-12-87	308	7.2	14.0	--	130
112	HAROLD BARNES SPRING	21N20W29ACA1SP	06-20-87	330	7.4	17.0	--	150
112	HAROLD BARNES SPRING	21N20W29ACA1SP	10-02-87	393	7.7	15.5	--	170
113	CRICKET SPRING	21N21W27BCB1SP	03-11-87	313	6.2	13.5	--	150
113	CRICKET SPRING	21N21W27BCB1SP	06-20-87	420	6.8	16.0	--	200
113	CRICKET SPRING	21N21W27BCB1SP	10-01-87	463	6.9	15.5	--	200
114	SPRING NEAR ARKWOOD	21N21W28BAA1SP	03-18-87	188	7.8	13.0	--	91
114	SPRING NEAR ARKWOOD	21N21W28BAA1SP	05-07-87	270	7.4	16.0	--	130
114	SPRING NEAR ARKWOOD	21N21W28BAA1SP	10-01-87	302	7.5	17.5	--	140
115	JIM WILLIAMSON SPRING	21N21W17CAC1SP	03-19-87	289	7.8	15.0	--	130
115	JIM WILLIAMSON SPRING	21N21W17CAC1SP	05-07-87	350	7.5	14.5	--	170
115	JIM WILLIAMSON SPRING	21N21W17CAC1SP	10-01-87	430	8.0	14.5	--	190
116	JOE ROBERTSON SPRING	21N20W08BCB1SP	03-12-87	275	7.0	13.0	--	120
116	JOE ROBERTSON SPRING	21N20W08BCB1SP	06-20-87	420	7.3	15.0	--	160
116	JOE ROBERTSON SPRING	21N20W08BCB1SP	10-02-87	450	8.1	15.0	--	170
117	REBECCA EDSON SPRING	21N21W09BAD1SP	03-19-87	132	7.4	14.0	--	52
117	REBECCA EDSON SPRING	21N21W09BAD1SP	05-07-87	240	7.4	14.0	--	110
117	REBECCA EDSON SPRING	21N21W09BAD1SP	10-01-87	288	7.4	14.5	--	120
118	JACK BURNS	20N21W31BAC1	06-20-87	420	7.4	20.0	--	200
118	JACK BURNS	20N21W31BAC1	09-17-87	460	6.7	19.0	--	200
119	BILLY WILSON	19N21W20BDC1	05-08-87	580	7.2	16.0	--	260
119	BILLY WILSON	19N21W20BDC1	09-18-87	575	7.0	15.5	--	260
120	WINFRED TRAMMELL	19N21W10BCA1	05-08-87	560	7.0	17.0	--	260
120	WINFRED TRAMMELL	19N21W10BCA1	09-16-87	520	7.4	18.0	--	210
121	DONALD NOBLE	20N21W33ACD1	05-08-87	438	7.3	16.5	--	180
121	DONALD NOBLE	20N21W33ACD1	09-17-87	438	7.3	17.0	--	190
122	GLADIS SUBLETT	20N20W20BCA1	06-21-87	560	7.3	19.0	--	280
122	GLADIS SUBLETT	20N20W20BCA1	09-16-87	540	7.6	18.0	--	280
123	DEE FANCHER	20N21W19ADD1	06-21-87	430	7.3	17.5	--	210
123	DEE FANCHER	20N21W19ADD1	09-17-87	375	7.2	17.0	--	180
124	BOB SKAGGS	20N22W13CBD1	03-19-87	458	8.2	15.0	--	220
124	BOB SKAGGS	20N22W13CBD1	05-08-87	430	7.3	16.0	--	200
124	BOB SKAGGS	20N22W13CBD1	09-18-87	460	7.2	18.0	--	210
125	DANNY EDWARDS	20N21W15CAA1	05-07-87	520	7.6	18.5	--	260
125	DANNY EDWARDS	20N21W15CAA1	09-17-87	538	7.0	19.0	--	280
126	JAMES P. GEARHART	20N21W17BBB1	05-08-87	395	7.2	15.0	--	190
126	JAMES P. GEARHART	20N21W17BBB1	09-17-87	370	7.3	15.0	--	190
127	STEPHEN HORENSKY	20N20W03CCA1	03-19-87	650	7.6	15.0	--	350
127	STEPHEN HORENSKY	20N20W03CCA1	05-08-87	680	6.8	16.5	--	390
127	STEPHEN HORENSKY	20N20W03CCA1	09-16-87	680	6.9	19.0	--	390
129	J.R. COBB	21N21W26ADB1	06-21-87	620	7.1	19.0	--	320
129	J.R. COBB	21N21W26ADB1	09-16-87	640	6.9	17.0	--	330
130	JAKE KAIN	21N20W23CDD1	06-21-87	599	7.2	19.5	--	300
130	JAKE KAIN	21N20W23CDD1	09-16-87	560	7.1	19.0	--	290
131	RICHARD A. SANDERS	21N20W17CCC1	06-21-87	580	7.2	17.5	--	280
131	RICHARD A. SANDERS	21N20W17CCC1	09-16-87	580	7.2	19.0	--	280
132	REAL ESTATE OFFICE	21N21W15BBA1	05-07-87	360	7.9	16.0	--	170
132	REAL ESTATE OFFICE	21N21W15BBA1	09-17-87	362	7.2	18.0	--	180
133	DAVID ARNOLD	21N22W12DCC1	05-07-87	365	7.5	16.5	--	180

in water from selected wells and springs in Boone County, Arkansas--Continued

HARD- NESS NONCARB (mg/L as CaCO3)	CALCIUM DIS- SOLVED (mg/L as Ca)	MAGNE- SIUM, DIS- SOLVED (mg/L as Mg)	SODIUM, DIS- SOLVED (mg/L as Na)	POTAS- SIUM, DIS- SOLVED (mg/L as K)	ALKA- LITY FIELD (mg/L as CaCO3)	SULFATE DIS- SOLVED (mg/L as SO4)	CHLO- RIDE, DIS- SOLVED (mg/L as Cl)	FLUO- RIDE, DIS- SOLVED (mg/L as F)	SILICA, DIS- SOLVED (mg/L as SiO2)	SOLIDS, RESIDUE AT 180 DEG. °C DIS- SOLVED (mg/L)	SITE NO.
--	20	1.4	3.0	1.5	55	3.1	5.0	--	--	--	110
--	38	2.3	4.8	1.3	90	<3.0	12	--	--	--	110
--	46	3.0	6.4	2.4	106	<3.0	17	--	--	--	110
--	29	2.6	8.2	2.3	64	6.5	12	--	--	--	111
--	43	4.0	8.6	2.0	98	5.0	15	--	--	--	111
--	36	4.2	13	3.3	112	7.8	18	--	--	--	111
--	47	2.1	2.5	1.9	99	6.1	3.3	<0.10	12	157	112
--	54	3.1	3.0	2.6	115	4.5	3.5	--	--	--	112
--	60	4.3	3.8	3.1	136	5.8	5.8	--	--	--	112
--	57	2.6	2.7	1.5	141	11	13	< .10	10	196	113
--	72	3.8	2.6	3.3	164	11	10	--	--	--	113
--	73	4.0	3.1	1.9	196	6.5	9.7	--	--	--	113
--	32	2.7	1.4	.9	84	5.5	2.1	< .10	9.1	96	114
--	47	2.4	2.6	<1.0	115	3.2	7.8	--	--	--	114
--	49	3.5	2.6	1.0	124	<3.0	8.3	--	--	--	114
--	50	2.0	2.9	1.3	117	6.4	6.3	< .10	11	163	115
--	62	3.0	3.4	1.5	131	3.5	7.5	--	--	--	115
--	67	4.8	7.4	3.0	135	4.5	20	--	--	--	115
--	40	4.0	6.9	4.7	55	9.3	16	< .10	11	185	116
--	55	5.7	8.2	6.0	107	7.0	17	--	--	--	116
--	56	6.6	10	9.3	108	9.8	20	--	--	--	116
--	19	1.2	3.0	1.3	45	5.4	5.4	< .10	9.1	70	117
--	39	1.9	5.0	1.2	90	3.2	11	--	--	--	117
--	43	2.5	4.2	1.5	109	<3.0	10	--	--	--	117
--	78	1.4	2.7	2.0	180	3.4	63	--	--	--	118
--	79	1.7	2.9	2.6	188	3.0	4.8	--	--	--	118
--	74	19	11	1.3	254	28	8.0	--	--	--	119
--	75	18	17	1.3	246	33	8.9	--	--	--	119
--	92	7.8	12	3.0	246	18	4.5	--	--	--	120
--	65	11	24	6.3	234	21	5.9	--	--	--	120
--	40	20	15	5.1	180	21	3.0	--	--	--	121
--	40	21	15	5.4	176	21	3.5	--	--	--	121
--	62	30	1.6	1.3	262	17	.50	--	--	--	122
--	59	31	1.6	1.6	254	20	1.5	--	--	--	122
--	54	18	4.4	1.5	180	31	4.3	--	--	--	123
--	42	18	2.6	2.7	154	17	4.1	--	--	--	123
--	47	24	8.9	5.4	222	18	2.9	.90	8.8	230	124
--	43	22	10	6.2	197	20	1.5	--	--	--	124
--	44	25	8.4	6.0	206	19	2.5	--	--	--	124
--	59	28	2.4	1.6	--	35	5.5	.20	10	269	125
--	60	30	2.4	2.5	220	37	6.5	--	--	--	125
--	46	19	2.9	3.8	164	22	1.5	--	--	--	126
--	42	20	2.9	3.7	164	19	1.5	--	--	--	126
--	69	42	6.5	.80	332	9.3	9.9	.10	14	345	127
--	77	47	3.2	1.0	336	26	3.3	--	--	--	127
--	73	50	2.8	1.4	338	23	4.5	--	--	--	127
--	74	34	1.6	3.0	262	52	2.0	--	--	--	129
--	73	36	1.8	3.8	267	68	3.2	--	--	--	129
--	63	35	1.8	3.3	271	18	1.0	--	--	--	130
--	61	33	1.6	5.6	264	19	1.5	--	--	--	130
--	60	32	2.6	5.5	246	42	.50	--	--	--	131
--	56	34	2.2	6.1	250	55	1.7	--	--	--	131
--	37	19	1.4	2.2	--	38	1.1	.30	8.7	192	132
71	38	21	1.4	2.4	110	37	1.2	--	--	--	132
--	39	21	1.8	1.1	--	16	2.6	.10	10	193	133



Table 5.--Concentrations of major constituents and properties

SITE NO.	SITE NAME	LOCAL WELL NO.	DATE	SPE-CIFIC CONDUCTANCE (μS/cm) at 35°C)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG °C)	COLOR (PLATINUM-COBALT UNITS)	HARDNESS TOTAL (mg/L as CaCO3)
133	DAVID ARNOLD	21N22W12DCC1	09-17-87	380	7.2	19.0	--	190
134	JOHN DONNELLY	21N20W12BBA1	03-12-87	590	6.8	13.5	--	340
134	JOHN DONNELLY	21N20W12BBA1	09-16-87	700	7.0	20.0	--	370
150	H.W. DIETZ	21N18W20CAA1	02-01-75	--	8.1	--	--	250
220	CITY OF BELLEFONTE	18N19W19BCD1	05-15-67	--	--	--	2	160
220	CITY OF BELLEFONTE	18N19W19BCD1	09-01-74	--	8.1	--	--	36
230	VALLEY SPRING	18N19W33BBB1	09-01-74	--	7.7	--	--	190
238	BOONE COUNTY	18N21W22DDD1	12-22-78	--	7.8	--	5	180
242	DIAMOND CITY	21N18W20CCD1	02-01-75	--	8.1	--	--	250
242	DIAMOND CITY	21N18W20CCD1	02-04-80	--	8.1	--	5	120
244	LEAD HILL TOWN	21N18W32CDD1	08-01-72	--	7.3	--	--	470
248	OMAHA CITY	21N21W27AAD1	02-01-75	--	8.1	--	--	210

in water from selected wells and springs in Boone County, Arkansas--Continued

HARD- NESS NONCARB (mg/L as CaCO3)	CALCIUM DIS- SOLVED (mg/L as Ca)	MAGNE- SIUM, DIS- SOLVED (mg/L as Mg)	SODIUM, DIS- SOLVED (mg/L as Na)	POTAS- SIUM, DIS- SOLVED (mg/L as K)	ALKA- LITY FIELD (mg/L as CaCO3)	SULFATE DIS- SOLVED (mg/L as SO4)	CHLO- RIDE, DIS- SOLVED (mg/L as Cl)	FLUO- RIDE, DIS- SOLVED (mg/L as F)	SILICA, DIS- SOLVED (mg/L as SiO2)	SOLIDS, RESIDUE AT 180 DEG. °C DIS- SOLVED (mg/L)	SITE NO.
--	40	21	1.6	1.2	154	15	2.8	--	--	--	133
--	70	40	1.9	2.6	297	34	3.5	0.10	9.4	329	134
--	72	47	5.0	3.7	297	72	5.8	--	--	--	134
--	49	30	11	--	242	20	5.0	.23	--	--	150
--	33	20	--	--	--	--	2.5	.50	--	--	220
--	--	--	--	--	170	18	9.4	.40	--	--	220
--	41	22	--	--	170	20	1.3	.20	--	216	230
--	--	--	--	--	--	11	6.0	.21	--	--	238
--	49	30	11	--	240	20	5.0	.23	--	318	242
19	--	--	--	--	--	21	2.5	.20	--	--	242
--	50	83	1.5	--	250	11	--	.20	--	--	244
--	45	25	10	--	190	40	2.0	.25	--	--	248

Table 6.--Concentrations of trace constituents in water from

[µg/L, micrograms per liter; &lt; signifies the concentration

SITE NO.	SITE NAME	LOCAL WELL NO.	DATE	ALUM- INUM, DIS- SOLVED (µg/L as Al)	ARSENIC DIS- SOLVED (µg/L as As)	BARIUM, DIS- SOLVED (µg/L as Ba)	BERYL- LIUM, DIS- SOLVED (µg/L as Be)	BORON, DIS- SOLVED (µg/L as B)	CADMIUM DIS- SOLVED (µg/L as Cd)	CHRO- MIUM, DIS- SOLVED (µg/L as Cr)
2	GEORGE DEARING, JR.	18N20W22BAA1	11-14-90	<10	<1	21	<0.5	<10	<1.0	1
6	DOROTHY NORVELL	19N19W30DAA1	12-12-90	<10	3	7	< .5	40	<1.0	<1
9	DON WOOLDRIDGE	20N18W21ACA1	12-12-90	<10	<1	29	< .5	<10	<1.0	<1
17	ARCHER SPRING	20N19W30DAA1SP	11-15-90	<10	<1	26	< .5	<10	<1.0	<1
20	LEWIS SPRING	17N18W09ACC1SP	12-13-90	<10	<1	26	< .5	<10	<1.0	<1
22	JACKPOT SPRING	19N18W16BBB1SP	12-11-90	<10	<1	24	< .5	<10	<1.0	<1
26	DOYAL TURNER	21N19W26ADB1	12-11-90	<10	<1	12	< .5	30	<1.0	<1
28	PAUL EPPS	20N19W14ABC1	10-25-75	--	5	--	--	--	ND	5
28	PAUL EPPS	20N19W14ABC1	11-03-75	--	4	--	--	--	ND	4
29	C.H.BROWN	18N21W02ADD1	11-14-90	<10	4	<2	< .5	120	<1.0	<1
31	NORVELL SPRING	19N19W30ACD1SP	12-12-90	<10	<1	31	< .5	<10	<1.0	<1
34	DORIS RUFF	17N20W10ACB1	12-10-90	<10	<1	<2	< .5	<10	<1.0	<1
101	ISOM BLEVINS SPRING	20N21W05CAA1SP	03-19-87	20	<1	--	--	10	<1.0	--
101	ISOM BLEVINS SPRING	20N21W05CAA1SP	05-08-87	--	--	--	--	--	< .6	--
101	ISOM BLEVINS SPRING	20N21W05CAA1SP	10-01-87	--	--	--	--	--	2.0	--
102	BEAR CREEK SPRING	19N21W14CDB1SP	03-18-87	110	<1	--	--	10	<1.0	--
102	BEAR CREEK SPRING	19N21W14CDB1SP	05-07-87	--	--	--	--	--	.6	--
102	BEAR CREEK SPRING	19N21W14CDB1SP	10-02-87	--	--	--	--	--	< .5	--
103	SYCAMORE SPRING	19N22W12CAB1SP	03-13-87	20	<1	--	--	<10	<1.0	--
103	SYCAMORE SPRING	19N22W12CAB1SP	06-20-87	--	--	--	--	--	< .6	--
103	SYCAMORE SPRING	19N22W12CAB1SP	10-01-87	--	--	--	--	--	1.0	--
104	DELMA THOMPSON SPRING	19N21W11ABD1SP	03-18-87	20	<1	--	--	<10	<1.0	--
104	DELMA THOMPSON SPRING	19N21W11ABD1SP	05-08-87	--	--	--	--	--	< .6	--
104	DELMA THOMPSON SPRING	19N21W11ABD1SP	10-01-87	--	--	--	--	--	1.0	--
105	LICK BRANCH SPRING	19N21W05DDB1SP	03-13-87	20	<1	--	--	10	<1.0	--
105	LICK BRANCH SPRING	19N21W05DDB1SP	06-20-87	--	--	--	--	--	< .6	--
105	LICK BRANCH SPRING	19N21W05DDB1SP	10-01-87	--	--	--	--	--	1.0	--
106	TELMAN ROBERTS SPRING	20N21W23DAB1SP	03-18-87	30	<1	--	--	<10	<1.0	--
106	TELMAN ROBERTS SPRING	20N21W23DAB1SP	05-08-87	--	--	--	--	--	< .6	--
106	TELMAN ROBERTS SPRING	20N21W23DAB1SP	10-01-87	--	--	--	--	--	1.0	--
107	TROY BOWMAN SPRING	20N21W16DDC1SP	03-19-87	30	<1	--	--	<10	<1.0	--
107	TROY BOWMAN SPRING	20N21W16DDC1SP	05-07-87	--	--	--	--	--	< .6	--
107	TROY BOWMAN SPRING	20N21W16DDC1SP	10-02-87	--	--	--	--	--	<1.0	--
108	DEAN HUFFMAN SPRING	20N21W02DBA1SP	03-19-87	<10	<1	--	--	<10	<1.0	--
109	JAMES SKAGGS SPRING	21N22W36DBD1SP	06-20-87	--	--	--	--	--	< .6	--
110	WALNUT CREEK SPRING	21N21W35BBC1SP	03-20-87	--	--	--	--	--	< .5	--
110	WALNUT CREEK SPRING	21N21W35BBC1SP	05-08-87	--	--	--	--	--	< .6	--
110	WALNUT CREEK SPRING	21N21W35BBC1SP	10-02-87	--	--	--	--	--	< .5	--
111	TRAIN TUNNEL	21N21W27DBD1SP	03-11-87	--	--	--	--	--	< .5	--
111	TRAIN TUNNEL	21N21W27DBD1SP	06-20-87	--	--	--	--	--	.6	--
111	TRAIN TUNNEL	21N21W27DBD1SP	10-02-87	--	--	--	--	--	2.0	--
112	HAROLD BARNES SPRING	21N20W29ACA1SP	03-12-87	50	<1	--	--	<10	<1.0	--
112	HAROLD BARNES SPRING	21N20W29ACA1SP	06-20-87	--	--	--	--	--	3.0	--
112	HAROLD BARNES SPRING	21N20W29ACA1SP	10-02-87	--	--	--	--	--	2.0	--
113	CRICKET SPRING	21N21W27BCB1SP	03-11-87	10	<1	--	--	20	<1.0	--
113	CRICKET SPRING	21N21W27BCB1SP	06-20-87	--	--	--	--	--	4.0	--
113	CRICKET SPRING	21N21W27BCB1SP	10-01-87	--	--	--	--	--	16	--
114	SPRING NEAR ARKWOOD	21N21W28BAA1SP	03-18-87	50	<1	--	--	<10	< .5	--
114	SPRING NEAR ARKWOOD	21N21W28BAA1SP	05-07-87	--	--	--	--	--	< .6	--
114	SPRING NEAR ARKWOOD	21N21W28BAA1SP	10-01-87	--	--	--	--	--	< .5	--

selected wells and springs in Boone County, Arkansas

is below detection limit for the parameter; --, not determined; ND, none detected]

COPPER DIS- SOLVED (µg/L as Cu)	IRON, DIS- SOLVED (µg/L as Fe)	LEAD, DIS- SOLVED (µg/L as Pb)	LITHIUM DIS- SOLVED (µg/L as Li)	MERCURY DIS- SOLVED (µg/L as Hg)	MOLYB- DENUM, DIS- SOLVED (µg/L as Mo)	NICKEL, DIS- SOLVED (µg/L as Ni)	SELE- NIUM, DIS- SOLVED (µg/L as Se)	SILVER, DIS- SOLVED (µg/L as Ag)	STRON- TIUM, DIS- SOLVED (µg/L as Sr)	VANA- DIUM, DIS- SOLVED (µg/L as V)	ZINC, DIS- SOLVED (µg/L as Zn)	SITE NO.
1	3	<1	6	<0.1	<1	<1	<1	<1.0	55	<1	310	2
<1	290	<1	8	< .1	4	1	<1	<1.0	150	<1	280	6
7	5	1	<4	< .1	5	2	<1	<1.0	47	<1	110	9
<1	<3	<1	5	< .1	1	1	<1	<1.0	44	<1	10	17
1	3	<1	5	< .1	<1	1	<1	<1.0	42	<1	6	20
2	<3	<1	<4	< .1	<1	1	<1	<1.0	36	<1	23	22
1	130	1	16	< .1	<1	1	<1	<1.0	290	<1	35	26
ND	1,100	ND	--	< .5	--	--	<1	--	--	--	ND	28
ND	40	ND	--	< .5	--	--	<1	--	--	--	ND	28
1	3	2	61	< .1	13	<1	<1	<1.0	50	<1	30	29
2	4	1	<4	< .1	<1	4	<1	<1.0	40	<1	5	31
2	<3	<1	20	< .1	<1	2	<1	<1.0	<1	<1	<3	34
10	14	<5	--	.2	--	<1	<1	--	170	--	46	101
<3	4	16	--	--	--	<6	--	--	--	--	2	101
<2	5	2	--	--	--	5	--	--	--	--	6	101
2	96	<5	--	< .1	--	<1	<1	--	32	--	4	102
<3	7	10	--	--	--	<6	--	--	--	--	5	102
<2	5	<2	--	--	--	<5	--	--	--	--	5	102
1	5	<5	--	< .1	--	<1	<1	--	66	--	3	103
<3	4	<4	--	--	--	<6	--	--	--	--	<1	103
<2	5	2	--	--	--	<5	--	--	--	--	13	103
1	9	<5	--	< .1	--	<1	<1	--	34	--	<3	104
<3	<4	<4	--	--	--	<6	--	--	--	--	6	104
<2	8	2	--	--	--	5	--	--	--	--	4	104
1	7	<5	--	< .1	--	<1	<1	--	47	--	7	105
<3	4	4	--	--	--	<6	--	--	--	--	<1	105
<2	5	<2	--	--	--	<5	--	--	--	--	13	105
<1	20	<5	--	< .1	--	<1	<1	--	39	--	6	106
<3	7	10	--	--	--	<6	--	--	--	--	4	106
<2	8	2	--	--	--	<5	--	--	--	--	7	106
2	21	<5	--	< .1	--	<1	<1	--	35	--	8	107
<3	4	10	--	--	--	<6	--	--	--	--	<1	107
<2	5	<2	--	--	--	5	--	--	--	--	6	107
1	5	<5	--	< .1	--	<1	<1	--	37	--	6	108
<3	4	16	--	--	--	<6	--	--	--	--	690	109
<2	6	<2	--	--	--	<3	--	--	--	--	10	110
<3	<4	<4	--	--	--	<6	--	--	--	--	17	110
<2	5	2	--	--	--	<5	--	--	--	--	2	110
<2	6	2	--	--	--	<3	--	--	--	--	--	111
<3	4	<4	--	--	--	<6	--	--	--	--	5	111
<2	8	7	--	--	--	5	--	--	--	--	13	111
1	14	<5	--	< .1	--	1	<1	--	52	--	5	112
<3	4	<4	--	--	--	<6	--	--	--	--	<1	112
<2	5	7	--	--	--	5	--	--	--	--	6	112
1	440	<5	--	< .1	--	5	<1	--	56	--	51	113
<3	440	27	--	--	--	17	--	--	--	--	32	113
2	160	140	--	--	--	74	--	--	--	--	27	113
<1	15	<5	--	< .1	--	<1	<1	--	23	--	5	114
<3	7	16	--	--	--	<6	--	--	--	--	6	114
<2	5	<2	--	--	--	<5	--	--	--	--	<2	114

Table 6.--Concentrations of trace constituents in water from

SITE NO.	SITE NAME	LOCAL WELL NO.	DATE	ALUM- INUM, DIS- SOLVED (µg/L as Al)	ARSENIC DIS- SOLVED (µg/L as As)	BARIUM, DIS- SOLVED (µg/L as Ba)	BERYL- LIUM, DIS- SOLVED (µg/L as Be)	BORON, DIS- SOLVED (µg/L as B)	CADMIUM DIS- SOLVED (µg/L as Cd)	CHRO- MIUM, DIS- SOLVED (µg/L as Cr)
115	JIM WILLIAMSON SPRING	21N21W17CAC1SP	03-19-87	<10	<1	--	--	<10	<1.0	<1
115	JIM WILLIAMSON SPRING	21N21W17CAC1SP	05-07-87	--	--	--	--	--	< .6	--
115	JIM WILLIAMSON SPRING	21N21W17CAC1SP	10-01-87	--	<1	--	--	--	1.0	--
116	JOE ROBERTSON SPRING	21N20W08BCB1SP	03-12-87	30	--	--	--	<10	<1.0	<1
116	JOE ROBERTSON SPRING	21N20W08BCB1SP	06-20-87	--	--	--	--	--	< .6	--
116	JOE ROBERTSON SPRING	21N20W08BCB1SP	10-02-87	--	--	--	--	--	2.0	--
117	REBECCA EDSON SPRING	21N21W09BAD1SP	03-19-87	40	<1	--	--	<10	< .5	--
117	REBECCA EDSON SPRING	21N21W09BAD1SP	05-07-87	--	--	--	--	--	< .6	--
117	REBECCA EDSON SPRING	21N21W09BAD1SP	10-01-87	--	--	--	--	--	< .5	--
118	JACK BURNS	20N21W31BAC1	06-20-87	--	--	--	--	--	< .6	--
118	JACK BURNS	20N21W31BAC1	09-17-87	--	--	--	--	--	< .5	--
119	BILLY WILSON	19N21W20BDC1	05-08-87	--	--	--	--	--	.6	--
119	BILLY WILSON	19N21W20BDC1	09-18-87	--	--	--	--	--	< .5	--
120	WINFRED TRAMMELL	19N21W10BCA1	05-08-87	--	--	--	--	--	.6	--
120	WINFRED TRAMMELL	19N21W10BCA1	09-16-87	--	--	--	--	--	< .5	--
121	DONALD NOBLE	20N21W33ACD1	05-08-87	--	--	--	--	--	< .6	--
121	DONALD NOBLE	20N21W33ACD1	09-17-87	--	--	--	--	--	< .5	--
122	GLADIS SUBLETT	20N20W20BCA1	06-21-87	--	--	--	--	--	< .6	--
122	GLADIS SUBLETT	20N20W20BCA1	09-16-87	--	--	--	--	--	1.0	--
123	DEE FANCHER	20N21W19ADD1	06-21-87	--	--	--	--	--	< .6	--
123	DEE FANCHER	20N21W19ADD1	09-17-87	--	--	--	--	--	< .5	--
124	BOB SKAGGS	20N22W13CBD1	03-19-87	<10	1	--	--	210	<1.0	--
124	BOB SKAGGS	20N22W13CBD1	05-08-87	--	--	--	--	--	< .6	--
124	BOB SKAGGS	20N22W13CBD1	09-18-87	--	--	--	--	--	< .5	--
125	DANNY EDWARDS	20N21W15CAA1	05-07-87	<10	4	--	--	20	1.0	--
125	DANNY EDWARDS	20N21W15CAA1	09-17-87	--	--	--	--	--	1.0	--
126	JAMES P. GEARHART	20N21W17BBB1	05-08-87	--	--	--	--	--	.6	--
126	JAMES P. GEARHART	20N21W17BBB1	09-17-87	--	--	--	--	--	< .5	--
127	STEPHEN HORENSKY	20N20W03CCA1	03-19-87	<10	<1	--	--	<10	<1.0	--
127	STEPHEN HORENSKY	20N20W03CCA1	05-08-87	--	--	--	--	--	< .6	--
127	STEPHEN HORENSKY	20N20W03CCA1	09-16-87	--	--	--	--	--	< .5	--
129	J.R. COBB	21N21W26ADB1	06-21-87	--	--	--	--	--	< .6	--
129	J.R. COBB	21N21W26ADB1	09-16-87	--	--	--	--	--	< .5	--
130	JAKE KAIN	21N20W23CDD1	06-21-87	--	--	--	--	--	.6	--
130	JAKE KAIN	21N20W23CDD1	09-16-87	--	--	--	--	--	< .5	--
131	RICHARD A. SANDERS	21N20W17CCC1	06-21-87	--	--	--	--	--	2.0	--
131	RICHARD A. SANDERS	21N20W17CCC1	09-16-87	--	--	--	--	--	2.0	--
132	REAL ESTATE OFFICE	21N21W15BDA1	05-07-87	<10	<1	--	--	20	<1	<1
132	REAL ESTATE OFFICE	21N21W15BDA1	09-17-87	--	--	--	--	--	< .5	--
133	DAVID ARNOLD	21N22W12DCC1	05-07-87	<10	<1	--	--	<10	1.0	--
133	DAVID ARNOLD	21N22W12DCC1	09-17-87	--	--	--	--	--	< .5	--
134	JOHN DONNELLY	21N20W12BBA1	03-12-87	<10	<1	--	--	<10	<1.0	--
134	JOHN DONNELLY	21N20W12BBA1	09-16-87	--	--	--	--	--	< .5	--
238	BOONE CO.	18N21W22DDD1	12-22-78	100	--	0	--	--	1.0	1
242	DIAMOND CITY	21N18W20CCD1	02-04-80	500	--	500	--	--	4.0	5

selected wells and springs in Boone County, Arkansas--Continued

COPPER DIS- SOLVED (µg/L) as Cu)	IRON, DIS- SOLVED (µg/L) as Fe)	LEAD, DIS- SOLVED (µg/L) as Pb)	LITHIUM DIS- SOLVED (µg/L) as Li)	MERCURY DIS- SOLVED (µg/L) as Hg)	MOLYB- DENUM, DIS- SOLVED (µg/L) as Mo)	NICKEL, DIS- SOLVED (µg/L) as Ni)	SELE- NIUM, DIS- SOLVED (µg/L) as Se)	SILVER, DIS- SOLVED (µg/L) as Ag)	STRON- TIUM, DIS- SOLVED (µg/L) as Sr)	VANA- DIUM, DIS- SOLVED (µg/L) as V)	ZINC, DIS- SOLVED (µg/L) as Zn)	SITE NO.
<1	9	<5	--	<0.1	--	<1	<1	--	44	--	6	115
<3	4	10	--	--	--	<6	--	--	--	--	33	115
<2	5	2	--	--	--	5	--	--	--	--	3	115
1	5	5	--	--	--	2	<1	--	93	--	4	116
<3	7	<4	--	--	--	<6	--	--	--	--	1	116
<2	5	7	--	--	--	5	--	--	--	--	2	116
<3	7	5	--	< .1	--	<3	<1	--	25	--	1	117
<3	4	10	--	--	--	<6	--	--	--	--	6	117
<2	5	2	--	--	--	<5	--	--	--	--	3	117
<3	7	4	--	--	--	<6	--	--	--	--	3	118
<2	5	<2	--	--	--	<5	--	--	--	--	150	118
3	11	4	--	--	--	<6	--	--	--	--	930	119
<2	16	<2	--	--	--	<5	--	--	--	--	1,000	119
6	7	16	--	--	--	<6	--	--	--	--	710	120
<2	1	<2	--	--	--	<5	--	--	--	--	130	120
<3	29	4	--	--	--	<6	--	--	--	--	610	121
<2	19	<2	--	--	--	<5	--	--	--	--	170	121
<3	4	10	--	--	--	<6	--	--	--	--	1,100	122
<2	12	2	--	--	--	<5	--	--	--	--	300	122
3	11	10	--	--	--	<6	--	--	--	--	1,300	123
<2	27	<2	--	--	--	<5	--	--	--	--	260	123
9	6	<5	--	.4	--	2	<1	--	860	--	1,500	124
3	14	16	--	--	--	<6	--	--	--	--	880	124
<2	5	<2	--	--	--	<5	--	--	--	--	520	124
1	49	<5	--	< .1	--	4	4	--	140	--	310	125
<2	16	2	--	--	--	5	--	--	--	--	220	125
<3	7	4	--	--	--	<6	--	--	--	--	570	126
<2	12	<2	--	--	--	<5	--	--	--	--	280	126
4	3	<5	--	< .1	--	<1	<1	--	55	--	110	127
<3	4	<4	--	--	--	<6	--	--	--	--	160	127
<2	5	<2	--	--	--	<5	--	--	--	--	120	127
<3	11	10	--	--	--	<6	--	--	--	--	1,900	129
<2	5	<2	--	--	--	<5	--	--	--	--	1,100	129
<3	22	16	--	--	--	<6	--	--	--	--	130	130
<2	90	<2	--	--	--	<5	--	--	--	--	67	130
<3	11	16	--	--	--	<6	--	--	--	--	1,700	131
<2	8	<2	--	--	--	<5	--	--	--	--	1,400	131
4	<3	<5	--	< .1	--	<1	<1	--	170	--	410	132
<2	5	<2	--	--	--	<5	--	--	--	--	180	132
8	<3	<5	--	< .1	--	<1	<1	--	52	--	620	133
<2	5	2	--	--	--	<5	--	--	--	--	270	133
3	6	<5	--	< .1	--	3	<1	--	50	--	190	134
<2	5	<2	--	--	--	<5	--	--	--	--	140	134
10	40	1	--	.2	--	--	--	1.0	--	--	100	238
10	40	1	--	.2	--	--	--	5.0	--	--	10	242

Table 7.--Concentration of nutrients, microorganisms, and miscellaneous constituents from selected wells and springs in Boone County, Arkansas

[mg/L, milligrams per liter; cols., colonies; mL, milliliters; --, not determined; K, plate counts outside ideal range; <, less than]

SITE NO.	SITE NAME	LOCAL WELL NO.	DATE	NITRO-GEN, AMMONIA DIS-SOLVED (mg/L as N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (mg/L as N)	PHOS-PHORUS, ORTHO, DIS-SOLVED (mg/L as P)	COLI-FORM, FECAL, UM-WF (cols. per 100 mL)	STREP-TOCOCCI, FECAL, KF AGAR (cols. per 100 mL)
2	GEORGE DEARING, JR.	18N20W22BAA1	11-14-90	0.030	1.60	0.010	0	3
6	DORTHY NORVELL	19N19W30DDA1	12-12-90	.050	<.05	<.010	--	--
9	DON WOOLDRIDGE	20N18W21ACA1	12-12-90	.010	1.50	<.010	--	--
9	DON WOOLDRIDGE	20N18W21ACA1	02-22-91	--	--	--	0	0
17	ARCHER SPRING	20N19W30DAA1SP	11-15-90	.030	2.70	<.010	0	0
20	LEWIS SPRING	17N18W09ACC1SP	12-13-90	.020	1.40	<.010	K11	52
22	JACKPOT SPRING	19N18W168BB1SP	12-11-90	.030	.30	.020	--	--
22	JACKPOT SPRING	19N18W168BB1SP	02-22-91	--	--	--	0	3
26	DOYAL TURNER	21N19W26ADB1	02-22-91	--	--	--	0	0
26	DOYAL TURNER	21N19W26ADB1	12-11-90	.070	<.05	<.010	--	--
28	PAUL EPPS	20N19W14ABC1	10-25-75	--	.01	--	--	--
28	PAUL EPPS	20N19W14ABC1	11-03-75	--	<.10	--	--	--
29	C.H. BROWN	18N21W02ADD1	11-14-90	.100	<.10	<.010	0	6
31	NORVELL SPRING	19N19W30ACD1SP	12-12-90	.020	1.80	<.010	--	--
31	NORVELL SPRING	19N19W30ACD1SP	02-22-91	--	--	--	400	5
34	DORIS RUFF	17N20W10ACB1	12-10-90	.020	.82	.010	0	--
101	ISOM BLEVINS SPRING	20N21W05CAA1SP	03-19-87	--	1.90	.020	39	K1,100
101	ISOM BLEVINS SPRING	20N21W05CAA1SP	05-08-87	<.010	2.07	.040	1	11
101	ISOM BLEVINS SPRING	20N21W05CAA1SP	10-01-87	.040	3.56	.030	K3	77
102	BEAR CREEK SPRING	19N21W14CDB1SP	03-18-87	--	.87	.020	K400	K1,100
102	BEAR CREEK SPRING	19N21W14CDB1SP	05-07-87	.060	.92	.010	7	65
102	BEAR CREEK SPRING	19N21W14CDB1SP	09-15-87	<.010	1.28	.020	K1,200	K1,700
102	BEAR CREEK SPRING	19N21W14CDB1SP	09-15-87	<.010	1.32	.020	K940	K4,200
102	BEAR CREEK SPRING	19N21W14CDB1SP	09-15-87	<.010	1.32	.020	490	K2,800
102	BEAR CREEK SPRING	19N21W14CDB1SP	09-15-87	<.010	1.44	.020	600	K2,700
102	BEAR CREEK SPRING	19N21W14CDB1SP	09-15-87	<.010	1.28	.020	420	K1,300
102	BEAR CREEK SPRING	19N21W14CDB1SP	10-02-87	<.010	.88	.020	70	K370
102	BEAR CREEK SPRING	19N21W14CDB1SP	11-07-90	--	--	--	K13,000	53
103	SYCAMORE SPRING	19N22W12CAB1SP	03-13-87	--	.70	<.010	4	--
103	SYCAMORE SPRING	19N22W12CAB1SP	06-20-87	<.010	.41	.010	27	K730
103	SYCAMORE SPRING	19N22W12CAB1SP	10-01-87	<.010	.50	.020	K30	400
104	DELMA THOMPSON SPRING	19N21W11ABD1SP	03-18-87	--	.91	<.010	K200	320
104	DELMA THOMPSON SPRING	19N21W11ABD1SP	05-08-87	.040	.12	<.010	1	90
104	DELMA THOMPSON SPRING	19N21W11ABD1SP	10-01-87	.100	.10	.020	K2,800	K8,800
105	LICK BRANCH SPRING	19N21W05DDB1SP	03-13-87	--	1.40	.020	9	--
105	LICK BRANCH SPRING	19N21W05DDB1SP	06-20-87	<.010	1.03	.030	K470	K3,400
105	LICK BRANCH SPRING	19N21W05DDB1SP	09-14-87	<.010	3.40	.250	K25,000	K43,000
105	LICK BRANCH SPRING	19N21W05DDB1SP	09-15-87	<.010	3.40	.130	K5,400	K23,000
105	LICK BRANCH SPRING	19N21W05DDB1SP	09-15-87	<.010	2.20	.080	K4,700	K20,000
105	LICK BRANCH SPRING	19N21W05DDB1SP	09-15-87	<.010	1.80	.080	K3,100	K16,000
105	LICK BRANCH SPRING	19N21W05DDB1SP	09-15-87	<.010	1.68	.070	K2,000	K11,000
105	LICK BRANCH SPRING	19N21W05DDB1SP	10-01-87	<.010	1.10	.030	K27	190
106	TELMAN ROBERTS SPRING	20N21W23DAB1SP	03-18-87	--	13	.010	K400	K560
106	TELMAN ROBERTS SPRING	20N21W23DAB1SP	05-08-87	.200	2.10	.020	34	100
106	TELMAN ROBERTS SPRING	20N21W23DAB1SP	10-01-87	<.010	2.72	.030	160	820
107	TROY BOWMAN SPRING	20N21W16DDC1SP	03-19-87	--	.81	.010	K220	K720
107	TROY BOWMAN SPRING	20N21W16DDC1SP	05-07-87	.010	.74	.030	2	14
107	TROY BOWMAN SPRING	20N21W16DDC1SP	09-14-87	<.010	1.40	.030	K880	K6,200
107	TROY BOWMAN SPRING	20N21W16DDC1SP	09-15-87	<.010	2.44	.020	K1,300	K7,000
107	TROY BOWMAN SPRING	20N21W16DDC1SP	09-15-87	<.010	2.76	.020	300	K5,000
107	TROY BOWMAN SPRING	20N21W16DDC1SP	09-15-87	<.010	1.96	.020	200	K2,700
107	TROY BOWMAN SPRING	20N21W16DDC1SP	09-15-87	<.010	2.12	.020	K1,100	K4,000
107	TROY BOWMAN SPRING	20N21W16DDC1SP	10-02-87	<.010	1.10	.030	K23	100
108	DEAN HUFFMAN SPRING	20N21W02DBA1SP	03-19-87	--	2.40	<.010	K550	K1,100
109	JAMES SKAGGS SPRING	21N22W36DBD1SP	06-20-87	.040	1.31	.010	77	K1,300

Table 7.--Concentration of nutrients, microorganisms, and miscellaneous constituents from selected wells and springs in Boone County, Arkansas--Continued

SITE NO.	SITE NAME	LOCAL WELL NO.	DATE	NITRO-GEN, AMMONIA DIS-SOLVED (mg/L as N)	NITRO-GEN, NO <sub>2</sub> +NO <sub>3</sub> DIS-SOLVED (mg/L as N)	PHOS-PHORUS ORTHO, DIS-SOLVED (mg/L as P)	COLI-FORM, FECAL, 0.7 UM-WF (cols. per 100 mL)	STREP-TOCOCCI KF AGAR (cols. per 100 mL)
110	WALNUT CREEK SPRING	21N21W35B8C1SP	03-20-87	<0.010	1.23	0.030	--	--
110	WALNUT CREEK SPRING	21N21W35B8C1SP	05-08-87	.010	1.38	.020	0	45
110	WALNUT CREEK SPRING	21N21W35B8C1SP	10-02-87	< .010	2.08	.060	K7	90
111	TRAIN TUNNEL	21N21W27DBD1SP	03-11-87	< .010	3.08	.120	--	--
111	TRAIN TUNNEL	21N21W27DBD1SP	06-20-87	.040	3.19	.090	55	K800
111	TRAIN TUNNEL	21N21W27DBD1SP	10-02-87	< .010	2.72	.140	<1	K7
112	HAROLD BARNES SPRING	21N20W29ACA1SP	03-12-87	--	4.70	.020	73	--
112	HAROLD BARNES SPRING	21N20W29ACA1SP	06-20-87	.020	6.80	.040	13	K820
112	HAROLD BARNES SPRING	21N20W29ACA1SP	10-02-87	< .010	7.40	.030	K27	500
113	CRICKET SPRING	21N21W27BCB1SP	03-11-87	--	.17	.040	0	--
113	CRICKET SPRING	21N21W27BCB1SP	06-20-87	.160	--	.100	80	150
113	CRICKET SPRING	21N21W27BCB1SP	10-01-87	.100	< .40	< .010	<1	<1
114	SPRING NEAR ARKWOOD	21N21W28BAA1SP	03-18-87	--	.38	< .010	94	480
114	SPRING NEAR ARKWOOD	21N21W28BAA1SP	05-07-87	.030	.36	.010	2	K680
114	SPRING NEAR ARKWOOD	21N21W28BAA1SP	10-01-87	< .010	.12	< .010	K17	100
115	JIM WILLIAMSON SPRING	21N21W17CAC1SP	03-19-87	--	2.50	< .010	K440	K1,200
115	JIM WILLIAMSON SPRING	21N21W17CAC1SP	05-07-87	.060	3.40	.030	16	680
115	JIM WILLIAMSON SPRING	21N21W17CAC1SP	10-01-87	< .010	8.20	.020	K320	1,100
116	JOE ROBERTSON SPRING	21N20W08BCB1SP	03-12-87	--	12	.060	96	--
116	JOE ROBERTSON SPRING	21N20W08BCB1SP	06-20-87	.020	10	.090	5	350
116	JOE ROBERTSON SPRING	21N20W08BCB1SP	10-02-87	< .010	11	.160	700	180
117	REBECCA EDSON SPRING	21N21W09BAD1SP	03-19-87	--	1.40	.010	26	360
117	REBECCA EDSON SPRING	21N21W09BAD1SP	05-07-87	.030	.96	.020	54	K3,400
117	REBECCA EDSON SPRING	21N21W09BAD1SP	10-01-87	< .010	.84	.020	K3	K23
118	JACK BURNS	20N21W31BAC1	06-20-87	.020	.36	.020	3	5
118	JACK BURNS	20N21W31BAC1	09-17-87	< .010	2.36	.010	34	K180
119	BILLY WILSON	19N21W20BDC1	05-08-87	.010	.36	.010	0	1
119	BILLY WILSON	19N21W20BDC1	09-18-87	.060	.38	< .010	1	0
120	WINFRED TRAMMELL	19N21W10BCA1	05-08-87	.030	.21	.020	0	1
120	WINFRED TRAMMELL	19N21W10BCA1	09-16-87	.010	.20	< .010	0	1
121	DONALD NOBLE	20N21W33ACD1	05-08-87	.370	< .04	.010	0	1
121	DONALD NOBLE	20N21W33ACD1	09-17-87	.140	.08	< .010	0	3
122	GLADIS SUBLETT	20N20W20BCA1	06-21-87	< .010	< .04	.010	0	0
122	GLADIS SUBLETT	20N20W20BCA1	09-16-87	.100	.06	< .010	0	7
123	DEE FANCHER	20N21W19ADD1	06-21-87	< .010	< .04	.010	0	1
123	DEE FANCHER	20N21W19ADD1	09-17-87	< .010	.06	< .010	0	2
124	BOB SKAGGS	20N22W13CBD1	03-19-87	--	.23	< .010	0	2
124	BOB SKAGGS	20N22W13CBD1	05-08-87	.300	.04	.040	0	1
124	BOB SKAGGS	20N22W13CBD1	09-18-87	.010	.20	< .010	0	0
125	DANNY EDWARDS	20N21W15CAA1	05-07-87	--	.56	.010	0	1
125	DANNY EDWARDS	20N21W15CAA1	09-17-87	.010	.56	.010	0	2
126	JAMES P. GEARHART	20N21W17BBB1	05-08-87	.010	.54	< .010	0	0
126	JAMES P. GEARHART	20N21W17BBB1	09-17-87	< .010	.06	.010	0	2
127	STEPHEN HORENSKY	20N20W03CCA1	03-19-87	--	1.60	< .010	4	21
127	STEPHEN HORENSKY	20N20W03CCA1	05-08-87	< .010	.10	.010	2	440
127	STEPHEN HORENSKY	20N20W03CCA1	09-16-87	.180	.24	.010	0	2
129	J.R. COBB	21N21W26ADB1	06-21-87	< .010	.32	.010	0	5
129	J.R. COBB	21N21W26ADB1	09-16-87	.200	.28	.010	0	95
130	JAKE KAIN	21N20W23CDD1	06-21-87	< .010	.06	.010	0	0
130	JAKE KAIN	21N20W23CDD1	09-16-87	.100	.04	.010	0	3
131	RICHARD A. SANDERS	21N20W17CCC1	06-21-87	.020	.05	< .010	0	0
131	RICHARD A. SANDERS	21N20W17CCC1	09-16-87	.160	.06	< .010	0	4
132	REAL ESTATE OFFICE	21N21W15BDA1	05-07-87	--	< .10	< .010	0	14
132	REAL ESTATE OFFICE	21N21W15BDA1	09-17-87	< .010	.04	< .010	0	3
133	DAVID ARNOLD	21N22W12DCC1	05-07-87	--	.22	< .010	0	0
133	DAVID ARNOLD	21N22W12DCC1	09-17-87	< .010	.16	< .010	0	3
134	JOHN DONNELLY	21N20W12BBA1	03-12-87	--	.45	< .010	0	--
134	JOHN DONNELLY	21N20W12BBA1	09-16-87	.160	1.42	< .010	0	3



Table 8.--Identification of general areas of sinkholes and internally-drained,  
closed depressions identifiable on 7.5-minute topographic quadrangle maps  
in Boone County, Arkansas

Site number	General areas of occurrence	7 1/2 minute topographic quadrangle	Geologic forma- tion in which depression occurs	Range of altitude of bottom of depression (feet above sea level)	Number of closed depressions
501	T20N R21W section 17	Omaha	Boone Formation	1,480	3
502	T20N R22W section 26	Alpena	Boone Formation	1,180-1,280	3
503	T19N R22W section 1; T19N R21W section 6	Alpena	Boone Formation	1,220-1,340	2
504	T19N R21W sections 4 and 9	Batavia	Boone Formation	1,280-1,360	9
505	T19N R22W section 24	Alpena	Boone Formation	1,220-1,240	2
506	T19N R20W sections 19 and 30	Batavia	Boone Formation	1,320-1,360	3
507	T19N R22W section 25; T19N R21W section 31	Alpena	Boone Formation	1,380-1,400	4
508	T18N R21W section 2	Gaither	Boone Formation	1,360	1
509	T18N R20W sections 5, 6, 7, 8, and 17	Gaither	Boone Formation	1,260-1,140	7
510	T18N R21W sections 13, 14, 24; T18N R20W sections 19, 30	Gaither	Boone Formation	1,480-1,180	18
511	T18N R20W sections 15, 16, and 22	Harrison	Boone Formation	1,140-1,200	4
512	T18N R20W sections 27 and 28	Harrison	Boone Formation	1,140-1,260	4
513	T17N R20W sections 6 T17N R21W sections 1, 2, 3 T18N R20W sections 31 T18N R21W sections 34, 35, 36	Gaither	Boone Formation	1,400-1,200	9
514	T18N R20W section 35	Harrison	Boone Formation	1,220-1,240	2
515	T18N R20W section 25	Harrison	Boone Formation	1,180	1
516	T17N R20W sections 7, 8, 17, and 18	Gaither and Jasper	Boone Formation	1,280-1,240	6
517	T17N R20W sections 11, 12, and 15	Harrison	Boone Formation	1,400-1,260	8
518	T17N R20W section 13	Hasty	Boone Formation	1,480	1
519	T17N R19W sections 4, 5, and 9	Harrison	Boone Formation	1,200-1,140	7
520	T17N R19W section 13; T17N R18W sections 7 and 18	Everton and Western Grove	Boone Formation	1,060	8
521	T17N R20W section 16	Harrison	Boone Formation	1,220-1,200	3