

Ground-Water-Quality Data for Selected Wells in the Beaver Creek Watershed, West Tennessee



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U.S. Geological Survey
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Cover photograph. Loosahatchie River looking upstream at Highway 205 in the Beaver Creek watershed.

**GROUND-WATER-QUALITY DATA FOR SELECTED
WELLS IN THE BEAVER CREEK WATERSHED,
WEST TENNESSEE**

By Shannon D. Williams

U.S. GEOLOGICAL SURVEY

Open-File Report 95-769

**Prepared in cooperation with the
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION**



Memphis, Tennessee

1996

**U.S. DEPARTMENT OF THE INTERIOR
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**U.S. GEOLOGICAL SURVEY
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CONVERSION FACTORS AND ABBREVIATED WATER-QUALITY UNITS

	Multiply	By	To obtain
	foot (ft)	0.3048	meter
	acre	4,047	square meter
	acre	0.4047	hectare
	gallon (gal)	3.785	liter
	microsiemens per centimeter ($\mu\text{S}/\text{cm}$)	1.0000	micromhos per centimeter

Temperature in degree Fahrenheit ($^{\circ}\text{F}$) can be converted to degree Celsius ($^{\circ}\text{C}$) in the following manner:
 $^{\circ}\text{C} = 5/9 \times (^{\circ}\text{F} - 32)$

Abbreviated Water-Quality Units

milliliter (mL)
 milligrams per liter (mg/L)
 microsiemens per centimeter ($\mu\text{S}/\text{cm}$)

Ground-Water-Quality Data for Selected Wells in the Beaver Creek Watershed, West Tennessee

By Shannon D. Williams

Abstract

In 1993 the U.S. Geological Survey, in cooperation with the Tennessee Department of Environment and Conservation, began an investigation of the quality of ground water in the Beaver Creek watershed in West Tennessee. A total of 408 water samples were collected from 91 wells during 5 sampling periods in 1994. Water samples were analyzed for selected water-quality properties, fecal coliform and streptococci bacteria, nutrients, and selected inorganic constituents. Selected well-construction data and information on potential sources of contamination near the sampled wells were also collected.

Nitrate concentrations (measured as NO_3) ranged from a detection limit of 0.1 to 91 milligrams per liter (mg/L). Nitrate concentrations exceeding 13 mg/L were detected in 71 of the samples collected. Nitrate concentrations in samples from three wells exceeded the Tennessee Department of Environment and Conservation primary drinking water standard of 44 mg/L for nitrate (measured as NO_3). Nitrite (measured as NO_2), ammonium (measured as NH_4), and orthophosphate (measured as PO_4) concentrations were generally less than 0.1 mg/L (detection limit).

Fecal coliform bacteria were detected in 33 of the 408 samples collected. Samples from 21 of the 91 wells contained fecal coliform bacteria during 1 or more of the 5 sampling periods. Fecal streptococci bacteria were detected in 123 of the 408 samples collected. Samples from 59 of the 91 wells contained fecal streptococci bacteria during 1 or more of the 5 sampling periods.

INTRODUCTION

Ground water is the source of drinking water for 51 percent of the residents in Tennessee (Hutson,

1991). In West Tennessee, nearly all public water supplies and rural residents use ground water (U.S. Geological Survey, 1985). While public water supplies are monitored to ensure safety, rural residents are responsible for the safety of water from their private wells. For many rural areas, such as the Beaver Creek watershed, ground-water data are limited. The Beaver Creek watershed comprises approximately 100,000 acres in Fayette, Haywood, Shelby, and Tipton Counties in West Tennessee. About 70 percent of the watershed is used for crop production with the main crops being soybeans, cotton, and corn. Residents in the watershed share a growing concern that man's activities may be affecting the quality of shallow ground water.

In 1989 the U.S. Geological Survey (USGS) began a research project to evaluate the effect of agricultural activities on water quality within the Beaver Creek watershed. During the summer of 1992, the USGS, in cooperation with the Tennessee Department of Agriculture and the University of Tennessee Agricultural Extension Service, conducted a reconnaissance of ground-water-quality conditions within the Beaver Creek watershed and other rural areas of Fayette, Haywood, Shelby, and Tipton Counties. Water samples were collected from 398 domestic wells in the four-county area and were analyzed for selected water-quality properties and constituents. Results of the reconnaissance are presented in Fielder and others (1994).

In 1993 the USGS, in cooperation with the Tennessee Department of Environment and Conservation (TDEC), began an investigation of the quality of ground water in the Beaver Creek watershed. The main objectives of this investigation were to obtain additional ground-water-quality data at various times during the year, identify potential sources of ground-water contamination, and examine the effect of various land uses on ground-water quality in the watershed.

This report presents ground-water-quality data for water samples collected from 91 wells in the Beaver Creek watershed (fig. 1). A total of 408 samples were collected during 5 sampling periods in 1994.

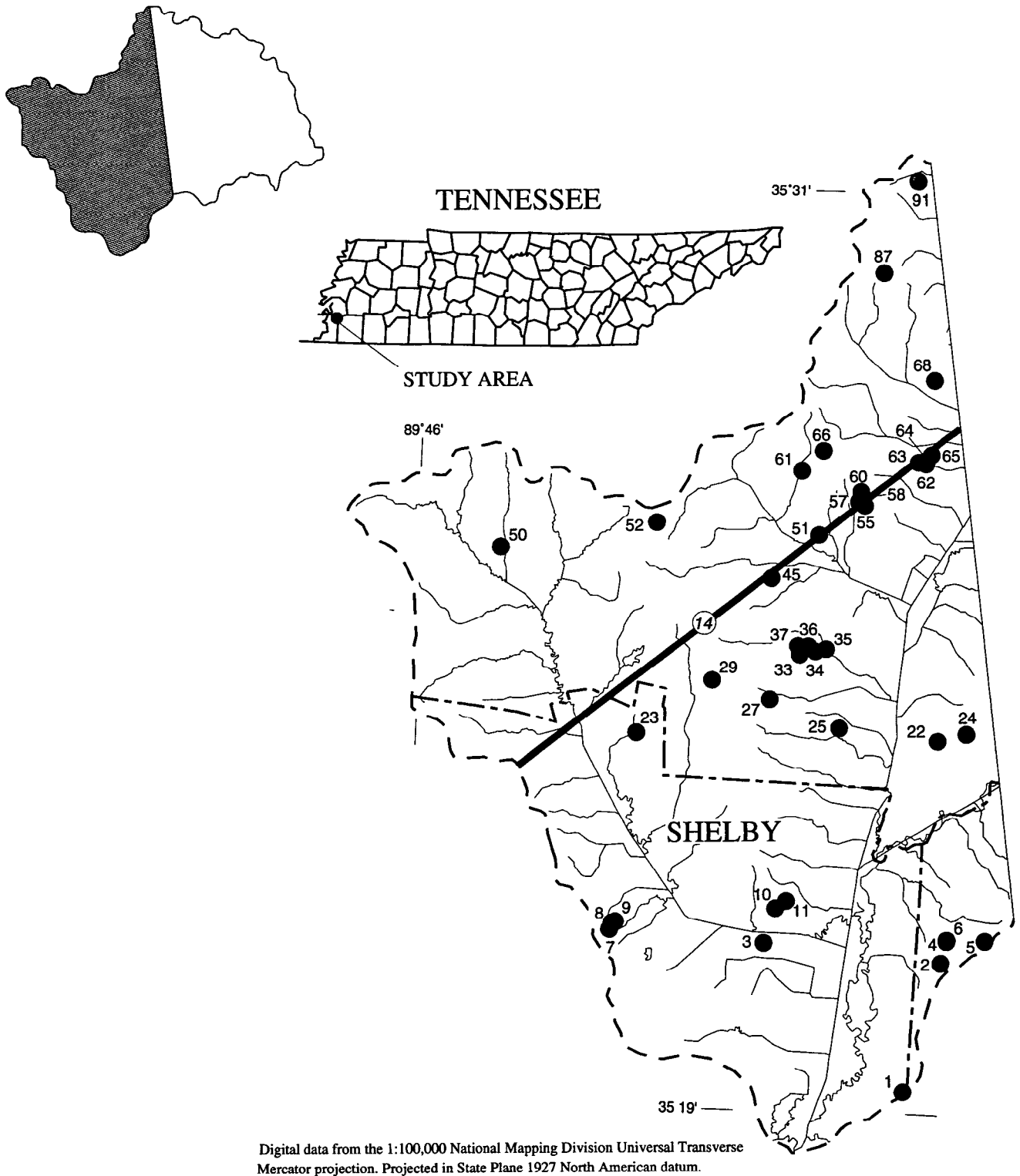


Figure 1. Location of wells sampled in the Beaver Creek watershed.

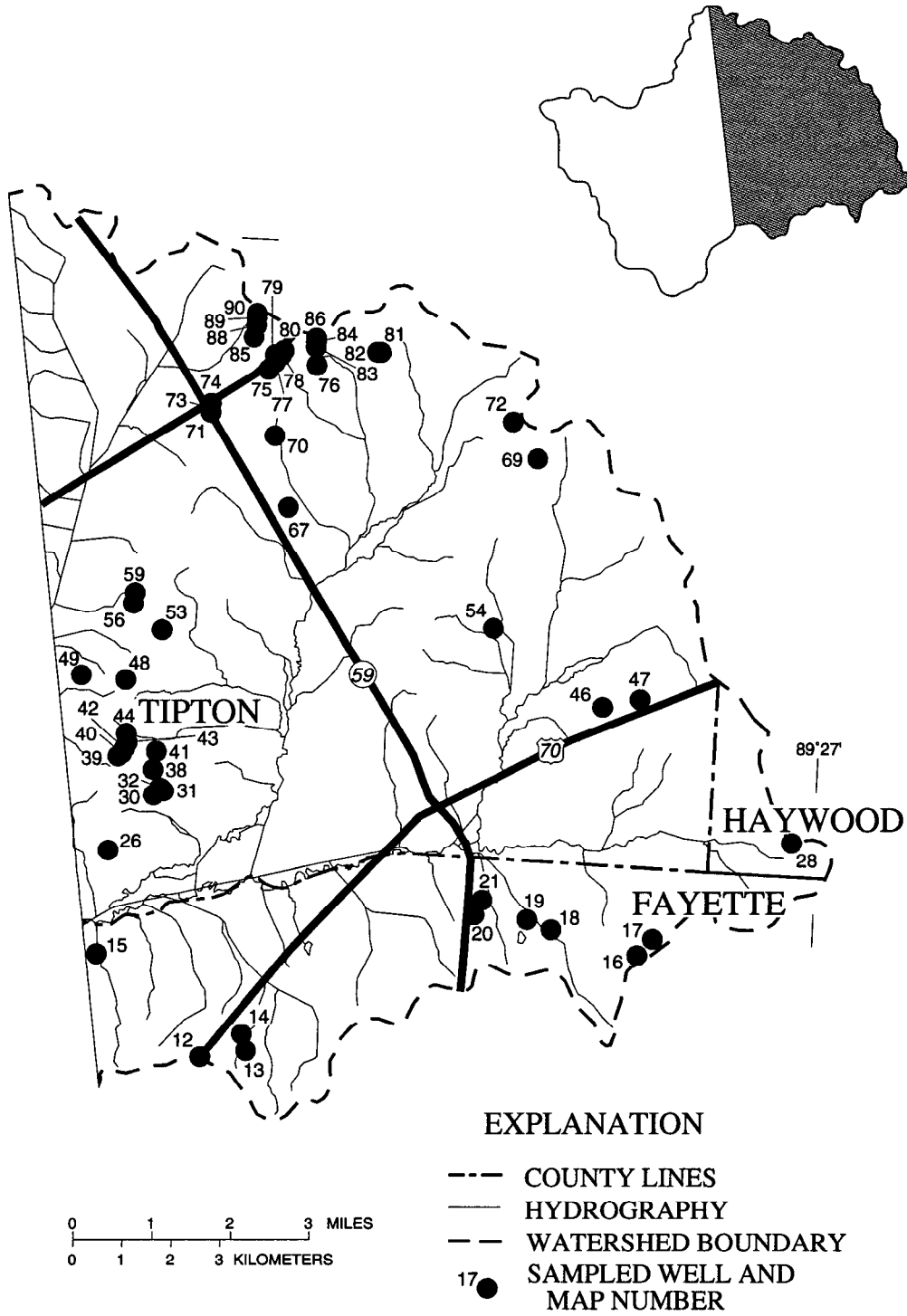


Figure 1. Location of wells sampled in the Beaver Creek watershed—Continued.

Samples were analyzed for selected water-quality properties, fecal coliform and streptococci bacteria, nutrients, and major inorganic constituents. Selected well-construction data and information on potential sources of contamination for the sampled wells are also presented.

ACKNOWLEDGMENTS

The author expresses thanks to well owners for allowing their wells to be sampled during this investigation. Mr. Herbert H. Cochrane and Ms. Robin M. Harris from the University of Memphis and Mr. John A. Smink from Clemson University assisted in the collection and processing of ground-water samples. Ms. Lisa Olsen is gratefully acknowledged for chemical analysis of the samples.

HYDROGEOLOGY OF THE STUDY AREA

Alluvium and fluvial deposits of Quaternary and Tertiary(?) ages (fig. 2) make up the shallow aquifers in the Beaver Creek watershed (Parks and Carmichael, 1990a, 1990b; Parks, 1990). Alluvium, consisting of sand, gravel, silt, and clay, is present beneath the bot-

tomland areas. Fluvial deposits, consisting of sand, gravel, minor clay, and ferruginous sandstone, are present beneath the loess in upland and valley slope areas. Locally, the alluvium and fluvial deposits are underlain by the Cockfield Formation, Cook Mountain Formation, or the Memphis Sand (Parks and Carmichael, 1990a, 1990b). The Cockfield Formation and the Memphis Sand (fig. 2), consisting of sand, silt, clay, and lignite, make up the Cockfield and Memphis aquifers. The Cook Mountain Formation, consisting primarily of clay, is the confining unit between the Cockfield and Memphis aquifers. Hydrogeologic information for the deeper wells sampled during this investigation were insufficient to determine whether or not some of the wells sampled during the investigation are screened in the Cockfield or Memphis aquifers.

DATA COLLECTION AND WATER-QUALITY ANALYSIS

The wells sampled during this investigation included 72 of the domestic wells sampled during the 1992 reconnaissance (Fielder and others, 1994) and 19 additional wells selected in 1993. These additional wells included four observation wells constructed by

System	Series	Group	Stratigraphic unit (local name)	Thickness (in feet)	Lithology
Quaternary	Holocene and Pleistocene		Alluvium (alluvial deposits)	0-25	Sand, silt, gravel, and clay.
	Pleistocene		Loess	0-30	Silt and clay, with minor fine sand.
Quaternary and Tertiary(?)	Pleistocene and Pliocene		Fluvial deposits (terrace deposits)	0-60	Sand, gravel, with minor clay and ferruginous sandstone.
Tertiary	Eocene	Claiborne	Cockfield Formation	0-150	Sand, silt, clay, and lignite.
			Cook Mountain Formation	0-100	Clay, silt, and minor sand.
			Memphis Sand	500-650	Sand, silt, clay, and minor lignite.

Figure 2. Post-Wilcox Group stratigraphic units underlying the Beaver Creek watershed (modified from Parks and Carmichael, 1990a, 1990b; Kingsbury and Carmichael, 1995).

the USGS in 1991 using auger methods. Selection of domestic wells for both the 1992 reconnaissance and this study was based on the availability of wells whose owners were willing to have their wells sampled.

Well-construction data were obtained from TDEC and well owners. A land-use inventory was prepared for each well sampled. Data from the land-use inventories were used to identify potential sources of contamination near wells. Potential sources of ground-water contamination considered were agricultural chemicals applied to cropland, sewage from septic systems, and animal wastes from confined animals such as swine and cattle. Well-construction data and information on potential sources of contamination for the 91 wells sampled are given in table 1.

Standard USGS protocols for the collection of ground-water samples were followed (Wood, 1981). Water samples from 70 wells were collected during all 5 sampling periods. Samples from 21 wells were collected during some, but not all, of the sampling periods. Reasons that samples were not collected included requests by well owners not to have their well sampled, temporary problems with wells such as broken water lines and malfunctioning pumps, and the permanent disconnection of wells as residents gained access to municipal water supplies.

Water samples from each well were collected after pumping the well until pH, specific conductance, and temperature readings had stabilized. Alkalinity and fecal coliform and fecal streptococci bacteria were analyzed in the Memphis USGS laboratory within 6 hours of sample collection. Standard methods 4500, 2510, and 2320 were used to determine pH, specific conductance, and alkalinity, respectively (American Public Health Association, 1992). Bacteria analyses of water samples were conducted following methods described by Britton and Greeson (1989).

Nutrient and major inorganic constituents in ground-water samples were analyzed at the Memphis USGS laboratory. Nitrate, nitrite, phosphate, chloride, and sulfate were analyzed using ion chromatography following U.S. Environmental Protection Agency method 300.0 (Pfaff and others, 1989). Calcium, magnesium, potassium, ammonium, and sodium were ana-

lyzed by ion chromatography using suppressed conductivity detection (Small, 1989). The water-quality data for the 91 wells sampled are given in table 2.

RESULTS

Nitrate concentrations (measured as NO_3) ranged from the detection limit (0.1 mg/L for the first sampling period and 1.0 mg/L for the remaining sampling periods) to 91 mg/L. Nitrate concentrations exceeded 13 mg/L in 71 of the 408 samples collected. Madison and Brunett (1985) report that nitrate concentrations exceeding 13 mg/L may indicate the influence of anthropogenic activities. Nitrate concentrations in samples from wells 39, 67, and 89 (table 2) exceeded the primary drinking water standard of 44 mg/L for nitrate (measured as NO_3) adopted by the Tennessee Department of Environment and Conservation (1993).

Nitrite (measured as NO_2), ammonium (measured as NH_4), and orthophosphate (measured as PO_4) concentrations in samples were generally less than 0.1 mg/L (detection limit). Elevated nitrite, ammonium, and orthophosphate concentrations were detected in water samples from well 3 (table 2). Nitrite concentrations in one sample from well 3 (table 2) exceeded the primary drinking water standard of 3.3 mg/L for nitrite (measured as NO_2) adopted by the Tennessee Department of Environment and Conservation (1993). This well is 33 feet deep and was installed by the USGS using auger methods.

Fecal coliform bacteria were detected in 33 of the 408 samples collected and fecal streptococci bacteria were detected in 123 samples. Samples from 21 of the 91 wells contained fecal coliform bacteria during one or more of the sampling periods. Fecal streptococci bacteria was detected in samples from 59 wells during one more of the sampling periods. TDEC has adopted a primary drinking water standard for fecal coliform bacteria of 1 colony per 100 milliliters of sample (Tennessee Department of Environment and Conservation, 1993). TDEC has not adopted a primary drinking water standard for fecal streptococci bacteria.

Table 1. Well-construction data and potential sources of contamination for selected wells in the Beaver Creek watershed, West Tennessee

[--, data not available; ns, well not sampled during 1992 reconnaissance]

Well number (see fig.1)	Well number (1992)	Type of well	Year of construction	Well depth (feet below land surface)	Potential sources of contamination
1	s32	domestic	--	225	septic systems, cropland
2	f102	domestic	--	400	septic systems
3	ns	monitoring	1991	33	cropland
4	f100	domestic	1991	180	septic systems
5	f103	domestic	1935	150	none of the sources considered
6	ns	domestic	1991	180	septic systems
7	s33	domestic	--	80	septic systems, cropland
8	s34	domestic	1982	72	septic systems, confined animals
9	ns	domestic	--	--	none of the sources considered
10	ns	domestic	1971	68	confined animals
11	ns	domestic	1972	60	septic systems, cropland
12	ns	domestic	--	--	septic systems
13	ns	domestic	1968	89	septic systems
14	ns	domestic	1970	88	septic systems, confined animals
15	f111	domestic	1977	--	septic systems, cropland
16	f117	domestic	1986	125	septic systems, cropland
17	ns	domestic	1965	125	septic systems, cropland
18	ns	monitoring	1991	23	cropland
19	f121	domestic	1969	160	septic systems, confined animals
20	f122	domestic	--	260	septic systems
21	f124	domestic	--	200	septic systems
22	ns	domestic	--	96	septic systems
23	ns	monitoring	1991	37	cropland
24	t02	domestic	--	80	septic systems, confined animals
25	t01	domestic	1974	94	septic systems, cropland
26	t04	domestic	1990	125	confined animals
27	t05	domestic	--	180	septic systems
28	ns	domestic	1984	59	cropland, confined animals
29	ns	domestic	--	95	septic systems
30	t08	domestic	1987	125	none of the sources considered
31	t09	domestic	--	97	septic systems, confined animals
32	t11	domestic	--	140	septic systems, cropland
33	t12	domestic	--	93	septic systems
34	t15	domestic	--	--	septic systems, cropland
35	t23	domestic	1973	60	septic systems
36	t19	domestic	1975	77	septic systems
37	t21	domestic	--	90	septic systems, cropland
38	t13	domestic	1975	97	septic systems, cropland
39	t16	domestic	--	96	septic systems
40	t26	domestic	--	--	septic systems
41	t20	domestic	1982	110	septic systems
42	t25	domestic	1981	70	septic systems, cropland
43	t27	domestic	--	128	septic systems, confined animals
44	t28	domestic	--	--	septic systems
45	t33	domestic	--	--	septic systems
46	t30	domestic	--	--	septic systems
47	ns	monitoring	1991	30	cropland
48	t32	domestic	1964	124	septic systems
49	ns	domestic	1972	59	septic systems, cropland
50	t31	domestic	--	--	confined animals
51	ns	domestic	--	112	septic systems
52	t34	domestic	--	120	confined animals
53	t35	domestic	1987	125	septic systems, cropland
54	t18	domestic	--	180	septic systems, cropland

Table 1. Well-construction data and potential sources of contamination for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig.1)	Well number (1992)	Type of well	Year of construction	Well depth (feet below land surface)	Potential sources of contamination
55	t38	domestic	1965	60	septic systems, confined animals
56	t42	domestic	1991	90	septic systems
57	t39	domestic	--	90	septic systems
58	t40	domestic	--	145	septic systems
59	t49	domestic	1986	90	septic systems
60	t41	domestic	--	65	septic systems, cropland
61	t43	domestic	1968	86	septic systems, confined animals
62	t45	domestic	--	--	septic systems, cropland
63	t37	domestic	--	82	none of the sources considered
64	t46	domestic	--	--	septic systems
65	t47	domestic	1970	--	cropland
66	t48	domestic	1974	80	cropland
67	t44	domestic	1976	163	septic systems, cropland
68	t54	domestic	--	75	septic systems, cropland
69	t53	domestic	1977	76	cropland
70	ns	domestic	--	125	septic systems, cropland
71	t56	domestic	1969	230	cropland
72	ns	domestic	1973	108	none of the sources considered
73	t22	domestic	1978	138	septic systems
74	t24	domestic	--	--	septic systems, cropland
75	t65	domestic	--	47	septic systems, cropland
76	t64	domestic	--	92	cropland, confined animals
77	t58	domestic	1966	78	septic systems, cropland
78	t59	domestic	1969	99	cropland, confined animals
79	t60	domestic	--	80	septic systems, cropland
80	t61	domestic	--	92	cropland, confined animals
81	t75	domestic	--	120	septic systems, cropland
82	t74	domestic	1973	90	septic systems, cropland
83	t63	domestic	1964	84	septic systems, cropland
84	t62	domestic	1973	95	septic systems, cropland
85	t67	domestic	--	90	septic systems, cropland
86	t66	domestic	--	--	septic systems, cropland
87	t71	domestic	--	230	septic systems
88	t76	domestic	--	79	septic, crops, confined animals
89	t73	domestic	1990	60	septic systems, cropland
90	t77	domestic	--	67	septic systems, cropland
91	t87	domestic	1961	50	septic systems, cropland

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee

[°C, degrees Celsius; $\mu\text{S}/\text{cm}$, microsiemens per centimeter; mg/L, milligrams per liter; cols./100mL, colonies per 100 milliliters of sample; <, less than; ND, not detected; >, greater than; K, non-ideal count; --, no data; ns, not sampled in 1992]

Well number (see fig.1)	Well number (1992)	Latitude	Longitude	Date sampled	Temperature (°C)	Specific conductance ($\mu\text{S}/\text{cm}$)	pH (standard units)	Field alkalinity (mg/L as CaCO_3)	Coliform, fecal (cols./100 mL)	Streptococci, fecal (cols./100 mL)	Chloride, dissolved (mg/L as Cl)
1	s32	351917	893811	03/01/94	16.0	151	5.8	36	<1	<1	20
				06/01/94	17.0	145	5.8	34	<1	<1	19
				08/15/94	--	--	--	37	<1	K1	16
				10/05/94	17.5	149	5.7	35	<1	<1	18
				12/02/94	16.5	144	6.0	36	<1	K2	17
2	f102	352057	893739	03/01/94	14.5	80	5.9	29	<1	K19	<5
				05/25/94	18.5	80	5.9	30	K2	91	3
				08/11/94	18.5	81	5.7	30	K110	K8	3
				10/04/94	17.5	80	5.8	30	<1	<1	3
				12/07/94	16.5	81	5.9	30	<1	K7	3
3	ns	352109	894028	03/08/94	12.5	--	6.4	218	K2	<1	>100
				06/06/94	19.0	1,850	6.4	290	<1	K4	240
				08/14/94	22.0	1,900	6.3	296	K1	K2	310
				12/12/94	16.0	1,760	7.0	178	<1	K1	240
4	f100	352114	893734	03/08/94	16.5	64	5.7	25	<1	<1	<5
				05/25/94	17.5	63	5.8	26	<1	K1	2
				08/11/94	18.0	70	5.7	26	<1	<1	2
				10/04/94	17.0	64	5.7	26	<1	<1	2
				12/07/94	16.5	71	5.9	26	<1	<1	2
5	f103	352115	893658	03/01/94	16.5	88	5.9	31	<1	<1	<5
				05/25/94	18.5	88	5.9	31	<1	<1	3
				08/11/94	17.5	90	5.9	34	<1	<1	3
				10/04/94	17.0	89	5.9	32	<1	K3	3
				12/07/94	17.0	90	6.0	32	<1	<1	3
6	ns	352115	893734	03/04/94	16.0	78	5.9	32	<1	<1	<5
				05/25/94	17.0	78	5.9	32	<1	<1	3
				08/11/94	17.0	81	5.7	32	<1	<1	3
				10/04/94	17.0	80	5.9	31	K1	K1	3
				12/07/94	16.5	80	6.0	32	<1	<1	3
7	s33	352116	894254	02/22/94	16.5	173	6.1	54	<1	<1	22
				05/26/94	17.5	173	6.1	54	<1	<1	20
				08/15/94	22.0	178	6.1	55	<1	<1	17
				10/05/94	18.0	176	6.1	53	<1	<1	20
				12/02/94	15.5	176	6.3	55	<1	<1	19
8	s34	352121	894252	02/22/94	16.5	215	6.1	46	K2	<1	32
				05/26/94	17.5	213	6.0	44	<1	K18	33
				08/15/94	17.5	213	5.9	46	<1	K2	24
				10/05/94	17.5	208	5.9	44	<1	K8	25
				12/02/94	16.5	210	6.2	48	<1	<1	28

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig.1)	Well number (1992)	Date sampled	Nitrogen nitrite, dissolved (mg/L as NO ₂)	Nitrogen nitrate, dissolved (mg/L as NO ₃)	Nitrogen ammonium, dissolved (mg/L as NH ₄)	Phosphorous orthophosphate, dissolved (mg/L as PO ₄)	Sulfate, dissolved (mg/L as SO ₄)	Sodium, dissolved (mg/L as Na)	Potassium, dissolved (mg/L as K)	Magnesium, dissolved (mg/L as Mg)	Calcium, dissolved (mg/L as Ca)
1	s32	03/01/94	ND	2.1	ND	ND	<5	19.6	0.9	4.2	9.3
		06/01/94	ND	2.2	ND	ND	7	13.1	0.7	2.7	6.5
		08/15/94	--	2.2	ND	ND	6	19.1	0.9	3.4	6.7
		10/05/94	ND	2.3	--	ND	7	16.2	0.9	3.2	7.0
		12/02/94	ND	2.4	--	ND	7	14.9	0.8	3.8	8.7
2	f102	03/01/94	ND	<0.1	ND	ND	<5	8.7	0.8	2.5	5.7
		05/25/94	ND	<1.0	ND	ND	5	7.5	0.7	1.8	4.3
		08/11/94	--	<1.0	ND	<0.1	5	7.7	0.8	2.3	4.9
		10/04/94	ND	<1.0	--	ND	5	9.0	0.7	2.8	5.4
		12/07/94	ND	<1.0	--	ND	5	5.6	0.5	1.6	4.0
3	ns	03/08/94	>10.0	ND	1.7	>10.0	>150	>50.0	3.1	>15.0	>20.0
		06/06/94	ND	<1.0	2.6	ND	320	87.4	3.9	42.7	62.9
		08/14/94	--	ND	4.7	ND	430	99.4	4.4	47.4	85.5
		12/12/94	ND	<1.0	--	ND	370	86.4	<0.5	35.8	81.6
4	f100	03/08/94	ND	<0.1	ND	ND	<5	9.3	0.8	2.2	4.6
		05/25/94	ND	<1.0	ND	ND	2	6.4	0.8	1.7	2.9
		08/11/94	--	<1.0	ND	ND	3	6.5	0.8	1.7	3.6
		10/04/94	ND	<1.0	--	ND	3	6.2	0.7	1.7	3.6
		12/07/94	ND	<1.0	--	ND	3	5.9	0.5	2.2	4.9
5	f103	03/01/94	ND	<0.1	ND	ND	<5	11.9	0.8	3.4	7.1
		05/25/94	ND	<1.0	ND	ND	7	<0.5	<0.1	<0.5	4.4
		08/11/94	--	<1.0	ND	ND	7	8.0	0.7	2.6	5.4
		10/04/94	ND	<1.0	--	ND	7	8.4	0.7	2.9	5.5
		12/07/94	ND	<1.0	--	ND	8	7.6	0.7	2.5	5.5
6	ns	03/04/94	ND	<0.1	ND	ND	<5	8.9	0.6	2.6	5.9
		05/25/94	ND	<1.0	ND	ND	4	4.1	0.3	0.8	1.3
		08/11/94	--	<1.0	ND	ND	4	7.8	0.6	2.3	5.2
		10/04/94	ND	<1.0	--	ND	4	7.9	0.6	2.2	4.9
		12/07/94	ND	<1.0	--	ND	4	7.9	0.6	2.3	5.4
7	s33	02/22/94	ND	3.3	ND	ND	<5	23.1	0.4	2.7	6.1
		05/26/94	ND	2.9	ND	ND	<1	12.5	0.2	1.7	4.7
		08/15/94	--	2.9	ND	ND	<1	27.6	0.8	3.4	7.4
		10/05/94	ND	3.1	--	ND	<1	22.6	1.0	3.1	6.5
		12/02/94	ND	3.4	--	<0.1	<1	23.6	0.9	2.7	5.9
8	s34	02/22/94	ND	17.5	ND	ND	<5	34.2	0.8	4.1	3.4
		05/26/94	ND	17.0	ND	ND	<1	19.8	0.4	3.0	6.9
		08/15/94	--	15.1	ND	<0.1	<1	13.2	0.4	1.6	6.1
		10/05/94	ND	15.6	--	ND	<1	23.8	1.2	3.6	7.4
		12/02/94	ND	14.0	--	<0.1	<1	26.8	1.1	3.5	7.3

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig.1)	Well number (1992)	Latitude	Longitude	Date sampled	Temperature (°C)	Specific conductance (µS/cm)	pH (standard units)	Field alkalinity (mg/L as CaCO ₃)	Coliform, fecal (cols./100 mL)	Strep-tococci, fecal (cols./100 mL)	Chloride, dissolved (mg/L as Cl)
9	ns	352122	894249	08/15/94	18.0	115	5.8	39	<1	<1	9
				10/05/94	18.0	116	5.9	38	<1	<1	10
				12/02/94	16.5	117	6.2	39	<1	<1	11
10	ns	352136	894018	03/01/94	16.0	189	6.1	72	<1	K1	10
				05/26/94	18.5	184	6.2	72	<1	<1	11
				08/10/94	17.0	186	6.1	72	<1	K1	9
				10/05/94	17.0	180	6.2	69	<1	<1	10
				12/15/94	15.5	182	6.1	73	<1	<1	10
11	ns	352142	894008	03/01/94	13.0	150	6.2	48	<1	<1	<5
				05/26/94	17.5	150	6.2	46	<1	>1,000	12
				08/10/94	19.0	152	6.3	19	<1	24	10
				10/05/94	18.0	150	6.2	46	<1	K18	10
				12/15/94	14.5	149	6.2	38	<1	<1	11
12	ns	352153	893510	03/01/94	16.0	76	5.9	33	<1	<1	9
				05/25/94	18.0	75	6.0	29	<1	K2	4
				08/10/94	19.0	79	6.6	31	<1	<1	4
				10/04/94	18.5	76	5.9	30	<1	104	3
				12/07/94	17.0	76	6.0	30	<1	<1	4
13	ns	352158	893433	03/04/94	15.0	99	6.0	29	<1	<1	6
				06/01/94	18.0	81	5.9	24	<1	<1	7
				08/11/94	17.5	81	5.7	25	<1	<1	6
				10/04/94	18.5	76	6.2	25	<1	<1	5
				12/13/94	15.5	77	5.8	26	<1	<1	5
14	ns	352209	893437	03/04/94	12.5	166	6.0	39	<1	<1	<5
				06/01/94	18.0	175	6.0	38	<1	<1	8
				08/11/94	20.0	186	5.8	38	<1	<1	7
				10/04/94	18.0	167	6.0	38	<1	<1	8
				12/13/94	10.0	166	6.3	39	<1	<1	7
15	f111	352259	893637	03/04/94	17.0	66	5.9	28	<1	<1	<5
				06/03/94	18.5	65	6.0	27	<1	K1	3
16	f117	352311	892919	03/03/94	14.0	189	6.1	58	<1	<1	19
				05/20/94	17.0	170	6.6	57	<1	<1	20
				08/09/94	17.5	195	6.0	58	<1	<1	18
				10/11/94	17.0	188	6.1	59	<1	<1	19
				12/13/94	16.0	192	6.3	59	<1	<1	19
17	ns	352322	892907	03/03/94	15.5	91	5.8	29	<1	<1	7
				06/01/94	17.5	87	5.9	24	<1	K4	11
				08/09/94	17.5	90	5.6	24	<1	<1	10

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig.1)	Well number (1992)	Date sampled	Nitrogen nitrite, dissolved (mg/L as NO ₂)	Nitrogen nitrate, dissolved (mg/L as NO ₃)	Nitrogen ammonium, dissolved (mg/L as NH ₄)	Phosphorous ortho-phosphate, dissolved (mg/L as PO ₄)	Sulfate, dissolved (mg/L as SO ₄)	Sodium, dissolved (mg/L as Na)	Potassium, dissolved (mg/L as K)	Magnesium, dissolved (mg/L as Mg)	Calcium, dissolved (mg/L as Ca)
9	ns	08/15/94	--	2.1	ND	<0.1	<1	19.2	0.6	2.4	5.1
		10/05/94	ND	2.4	--	<0.1	2	15.5	0.7	2.6	4.8
		12/02/94	ND	2.6	--	ND	1	17.3	<0.1	1.8	4.0
10	ns	03/01/94	ND	3.2	ND	ND	5	26.3	1.1	4.0	8.8
		05/26/94	ND	6.8	ND	ND	2	20.7	0.7	2.6	6.1
		08/10/94	--	5.9	ND	ND	2	29.6	1.3	3.4	7.1
		10/05/94	ND	6.1	--	ND	2	22.0	1.5	3.4	6.9
		12/15/94	ND	5.8	--	ND	1	26.5	<0.1	3.2	7.1
11	ns	03/01/94	ND	ND	ND	ND	<5	20.0	1.4	3.9	8.1
		05/26/94	ND	4.4	ND	ND	7	20.1	1.5	3.2	4.0
		08/10/94	--	4.5	ND	ND	7	20.9	1.3	3.2	4.8
		10/05/94	ND	3.8	--	ND	6	15.9	1.3	3.0	6.1
		12/15/94	ND	4.5	--	ND	7	23.0	<0.1	3.5	7.2
12	ns	03/01/94	ND	6.4	ND	ND	<5	12.5	0.5	2.4	5.2
		05/25/94	ND	<1.0	ND	ND	3	4.4	0.2	0.4	1.3
		08/10/94	--	ND	ND	ND	3	8.8	0.5	1.8	4.1
		10/04/94	ND	<1.0	--	ND	3	8.7	0.6	2.0	3.9
		12/07/94	ND	<1.0	--	ND	3	9.5	<0.1	1.2	4.0
13	ns	03/04/94	ND	7.2	ND	ND	<5	19.6	0.2	1.5	3.8
		06/01/94	ND	6.4	ND	ND	<1	11.8	<0.1	0.7	2.3
		08/11/94	--	6.2	ND	<0.1	<1	13.7	0.3	0.8	2.5
		10/04/94	ND	6.1	--	ND	<1	13.5	0.5	1.3	2.9
		12/13/94	ND	6.0	--	ND	<1	15.0	<0.1	0.7	2.2
14	ns	03/04/94	ND	5.7	ND	0.4	22	29.2	0.4	3.2	7.5
		06/01/94	ND	6.9	ND	ND	22	17.9	0.1	2.3	5.7
		08/11/94	--	6.5	ND	ND	24	25.8	0.5	2.9	6.3
		10/04/94	ND	6.9	--	ND	21	22.6	0.9	3.3	7.0
		12/13/94	ND	6.9	--	ND	22	22.9	<0.1	2.6	6.4
15	f111	03/04/94	ND	ND	ND	ND	<5	7.2	0.5	2.3	5.7
		06/03/94	ND	<1.0	ND	0.1	3	6.2	0.4	1.5	4.4
16	f117	03/03/94	ND	5.7	ND	ND	<5	9.0	0.4	1.3	3.4
		05/20/94	ND	6.1	ND	ND	1	33.3	0.8	2.0	5.0
		08/09/94	--	6.7	ND	<0.1	1	15.6	0.4	0.6	1.9
		10/11/94	ND	6.7	--	ND	<1	32.9	1.5	2.5	5.6
		12/13/94	ND	6.6	--	ND	<1	31.9	<0.1	1.8	4.7
17	ns	03/03/94	ND	0.3	ND	ND	<5	14.5	0.2	1.3	3.1
		06/01/94	ND	1.2	ND	ND	2	4.7	0.2	<0.5	1.3
		08/09/94	--	1.5	ND	ND	2	13.6	0.6	1.8	4.4

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig.1)	Well number (1992)	Latitude	Longitude	Date sampled	Temperature (°C)	Specific conductance (µS/cm)	pH (standard units)	Field alkalinity (mg/L as CaCO ₃)	Coliform, fecal (cols./100 mL)	Strep-tococci, fecal (cols./100 mL)	Chloride, dissolved (mg/L as Cl)
18	ns	352326	893029	03/08/94	13.5	93	6.2	40	<1	<1	37
				06/06/94	18.0	220	6.1	41	<1	K15	41
				08/14/94	22.0	258	6.9	57	<1	K11	43
				12/12/94	15.0	222	5.8	43	<1	K1	37
19	f121	352332	893049	03/01/94	15.5	48	6.0	20	<1	<1	<5
				05/20/94	17.0	40	5.8	19	<1	<1	2
				08/09/94	19.5	49	5.6	19	<1	K3	2
				10/04/94	18.0	47	6.1	19	<1	<1	2
				12/13/94	16.0	48	5.9	19	<1	<1	2
20	f122	352334	893132	03/01/94	15.0	45	5.9	20	<1	<1	<5
				05/20/94	17.0	40	6.1	18	<1	<1	2
				08/09/94	17.5	45	5.7	19	<1	<1	2
				10/04/94	17.5	46	6.0	20	<1	<1	2
				12/13/94	16.0	45	6.0	20	<1	<1	2
21	f124	352344	893126	03/01/94	12.5	50	6.0	21	<1	<1	<5
				05/20/94	18.0	44	5.7	20	<1	<1	2
				08/16/94	21.5	50	5.8	21	K1	K3	2
22	ns	352351	893749	03/03/94	17.0	94	5.9	40	<1	<1	<5
				06/03/94	18.0	95	5.8	39	<1	K15	6
				08/10/94	17.5	100	6.2	37	K1	K1	3
				09/30/94	17.5	98	5.8	36	K5	71	7
				12/14/94	15.0	100	5.8	39	<1	<1	7
23	ns	352351	894235	03/08/94	15.0	93	6.2	33	K17	K5	11
				06/06/94	19.0	139	5.7	32	<1	K7	15
				08/14/94	19.5	145	5.9	32	<1	K10	16
				12/12/94	15.5	149	6.4	30	<1	K8	14
24	t02	352357	893722	03/03/94	15.5	114	5.9	37	<1	<1	<5
				05/19/94	18.0	109	6.0	34	49	K8	7
				08/08/94	19.0	108	6.2	35	<1	<1	6
				09/30/94	17.5	107	5.8	36	<1	<1	6
				12/16/94	16.0	118	5.9	37	<1	<1	6
25	t01	352359	893923	03/03/94	16.0	116	5.9	25	<1	<1	6
				06/03/94	17.5	104	5.9	23	K9	K210	9
				08/10/94	17.0	140	6.2	31	<1	K2	12
				10/05/94	17.0	148	5.9	30	<1	<1	14
				12/14/94	15.0	137	5.8	28	<1	<1	13
26	t04	352409	893631	03/01/94	16.0	114	6.0	42	<1	<1	<5
				05/19/94	16.0	111	6.0	40	K1	<1	5
				09/30/94	17.0	112	6.0	42	K6	<1	5
				12/16/94	16.0	111	6.1	42	<1	63	5

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig.1)	Well number (1992)	Date sampled	Nitrogen nitrite, dissolved (mg/L as NO ₂)	Nitrogen nitrate, dissolved (mg/L as NO ₃)	Nitrogen ammonium, dissolved (mg/L as NH ₄)	Phosphorous orthophosphate, dissolved (mg/L as PO ₄)	Sulfate, dissolved (mg/L as SO ₄)	Sodium, dissolved (mg/L as Na)	Potassium, dissolved (mg/L as K)	Magnesium, dissolved (mg/L as Mg)	Calcium, dissolved (mg/L as Ca)
18	ns	03/08/94	ND	<0.1	ND	ND	<5	33.7	0.4	3.9	7.0
		06/06/94	ND	<1.0	ND	ND	4	27.0	0.2	3.5	6.4
		08/14/94	--	<1.0	ND	<0.1	7	37.2	0.8	4.2	7.3
		12/12/94	ND	<1.0	--	ND	6	31.5	<0.1	3.9	6.8
19	f121	03/01/94	ND	<0.1	ND	ND	<5	7.5	0.4	1.4	3.4
		05/20/94	ND	<1.0	ND	ND	<1	<0.5	<0.1	<0.5	0.8
		08/09/94	--	<1.0	ND	ND	<1	5.7	0.3	0.9	2.8
		10/04/94	ND	<1.0	--	ND	<1	6.0	0.3	1.4	3.1
		12/13/94	ND	<1.0	--	ND	<1	5.8	<0.1	0.8	2.5
20	f122	03/01/94	ND	<0.1	ND	ND	<5	7.5	0.3	1.3	3.2
		05/20/94	ND	<1.0	ND	ND	<1	0.4	<0.1	<0.5	1.5
		08/09/94	--	<1.0	ND	ND	<1	0.7	<0.1	<0.5	0.5
		10/04/94	ND	<1.0	--	ND	<1	5.5	0.3	0.9	2.6
		12/13/94	ND	<1.0	--	ND	<1	5.0	<0.1	<0.5	2.3
21	f124	03/01/94	ND	<0.1	ND	ND	<5	8.6	0.4	1.6	3.8
		05/20/94	ND	<1.0	ND	ND	<1	5.3	0.3	0.8	2.2
		08/16/94	--	<1.0	ND	<0.1	<1	2.6	0.2	<0.5	1.4
22	ns	03/03/94	ND	0.1	ND	ND	<5	13.4	0.7	2.9	6.6
		06/03/94	ND	1.5	ND	ND	<1	0.5	<0.1	<0.5	3.1
		08/10/94	--	2.3	ND	<0.1	<1	12.0	0.7	2.5	5.6
		09/30/94	ND	2.5	--	ND	<1	11.0	0.7	2.3	5.3
		12/14/94	ND	2.7	--	ND	<1	10.9	<0.1	1.8	5.2
23	ns	03/08/94	ND	21.4	ND	ND	<5	18.3	0.5	3.8	8.6
		06/06/94	ND	20.5	0.2	ND	2	14.2	0.5	3.3	7.5
		08/14/94	--	25.3	ND	ND	3	13.9	0.5	2.7	7.0
		12/12/94	ND	20.5	--	ND	3	15.8	<0.1	3.3	7.2
24	t02	03/03/94	ND	3.0	ND	ND	<5	2.0	0.1	0.9	2.9
		05/19/94	ND	9.3	ND	ND	1	14.7	0.4	2.4	5.4
		08/08/94	--	8.4	ND	ND	2	2.0	<0.1	<0.5	0.7
		09/30/94	ND	8.3	--	ND	2	12.5	0.6	2.6	5.5
		12/16/94	ND	8.1	--	ND	1	15.1	<0.1	2.0	5.3
25	t01	03/03/94	ND	16.4	ND	ND	<5	15.8	0.5	2.8	5.5
		06/03/94	ND	14.6	ND	ND	2	10.4	0.2	2.0	4.2
		08/10/94	--	17.5	ND	ND	4	17.5	0.5	3.5	6.4
		10/05/94	ND	19.0	--	ND	4	15.2	0.8	3.4	6.5
		12/14/94	ND	17.4	--	ND	3	16.0	<0.1	3.0	6.2
26	t04	03/01/94	ND	4.4	ND	ND	<5	15.1	0.6	4.0	8.7
		05/19/94	ND	4.5	ND	ND	3	7.3	0.4	2.2	4.2
		09/30/94	ND	4.3	--	ND	3	10.4	0.7	3.4	6.6
		12/16/94	ND	4.3	--	ND	3	12.7	<0.1	2.7	6.3

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig.1)	Well number (1992)	Latitude	Longitude	Date sampled	Temperature (°C)	Specific conductance (µS/cm)	pH (standard units)	Field alkalinity (mg/L as CaCO ₃)	Coliform, fecal (cols./100 mL)	Strep-tococci, fecal (cols./100 mL)	Chloride, dissolved (mg/L as Cl)
27	t05	352420	894030	03/03/94	15.5	77	5.9	33	<1	<1	<5
				06/04/94	18.0	77	5.9	33	<1	K2	2
				08/15/94	18.5	82	5.9	35	<1	<1	2
				10/07/94	18.0	103	6.0	36	<1	K1	3
				12/13/94	16.0	98	5.8	42	<1	<1	3
28	ns	352430	892717	03/09/94	13.5	73	6.1	28	<1	51	<5
				05/23/94	18.0	72	5.8	26	<1	<1	4
				10/11/94	17.5	71	6.0	27	<1	<1	4
				12/06/94	17.5	63	6.0	26	<1	<1	4
29	ns	352434	894125	03/03/94	15.5	109	6.0	48	<1	<1	<5
				06/04/94	18.5	110	6.1	48	<1	<1	4
				08/15/94	19.5	114	6.1	48	<1	<1	3
				10/07/94	18.0	112	6.1	47	<1	<1	4
				12/15/94	14.0	112	6.0	49	<1	<1	4
30	t08	352447	893556	03/03/94	15.0	87	5.8	30	<1	<1	6
				05/18/94	17.0	85	6.3	28	<1	<1	6
				08/08/94	17.5	87	6.1	30	<1	<1	4
				09/30/94	18.5	85	5.8	30	<1	<1	5
				12/16/94	15.5	86	6.2	29	<1	<1	6
31	t09	352450	893548	03/03/94	15.0	89	6.0	33	K1	110	<5
32	t11	352452	893551	03/03/94	15.0	107	5.9	25	<1	<1	9
				05/18/94	17.0	105	6.4	22	<1	<1	9
				08/16/94	19.0	108	5.8	24	<1	<1	9
				09/30/94	17.0	106	6.0	23	<1	K1	9
				12/17/94	14.0	107	6.2	23	<1	<1	9
33	t12	352456	894003	02/28/94	10.5	104	5.8	37	<1	<1	<5
				05/24/94	18.0	105	5.6	34	<1	K3	7
				08/19/94	20.5	105	5.9	36	<1	<1	6
				12/13/94	9.0	105	5.9	39	<1	<1	10
34	t15	352459	893948	02/28/94	16.0	97	5.9	43	<1	<1	<5
				05/24/94	17.5	105	6.3	42	<1	K5	3
				08/19/94	17.5	99	6.0	45	29	28	2
				10/11/94	17.0	98	6.1	42	K24	K3	3
				12/13/94	15.0	99	5.9	44	<1	K6	3
35	t23	352501	893938	03/03/94	16.0	123	5.9	33	<1	K2	10
				05/24/94	17.5	124	5.8	34	<1	<1	11
				08/19/94	18.5	126	5.8	37	<1	<1	10
				10/11/94	19.0	128	6.0	36	<1	<1	11
				12/13/94	14.0	128	5.8	37	<1	<1	11

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig. 1)	Well number (1992)	Date sampled	Nitrogen nitrite, dissolved (mg/L as NO ₂)	Nitrogen nitrate, dissolved (mg/L as NO ₃)	Nitrogen ammonium, dissolved (mg/L as NH ₄)	Phosphorous orthophosphate, dissolved (mg/L as PO ₄)	Sulfate, dissolved (mg/L as SO ₄)	Sodium, dissolved (mg/L as Na)	Potassium, dissolved (mg/L as K)	Magnesium, dissolved (mg/L as Mg)	Calcium, dissolved (mg/L as Ca)
27	t05	03/03/94	ND	0.9	ND	ND	<5	9.3	0.9	3.1	6.2
		06/04/94	ND	1.4	ND	ND	<1	2.8	0.3	0.8	4.5
		08/15/94	--	1.4	ND	<0.1	<1	7.4	0.7	2.4	5.3
		10/07/94	ND	1.0	--	ND	1	10.2	0.7	2.9	5.9
		12/13/94	ND	1.5	--	ND	<1	10.9	<0.1	2.8	6.0
28	ns	03/09/94	ND	<0.1	ND	ND	<5	22.3	1.1	2.8	1.8
		05/23/94	ND	<1.0	ND	ND	2	1.9	<0.1	<0.5	2.2
		10/11/94	ND	<1.0	--	ND	2	13.0	0.7	1.3	2.8
		12/06/94	ND	<1.0	--	ND	2	9.1	0.4	0.7	2.3
29	ns	03/03/94	ND	<0.1	ND	ND	<5	9.9	1.6	4.7	8.2
		06/04/94	ND	<1.0	ND	ND	2	8.2	1.6	3.5	6.8
		08/15/94	--	<1.0	ND	ND	2	9.1	1.7	4.8	7.7
		10/07/94	ND	<1.0	--	ND	2	8.7	1.2	4.3	7.1
		12/15/94	ND	<1.0	--	ND	2	7.9	1.6	4.4	7.3
30	t08	03/03/94	ND	5.3	ND	ND	<5	11.6	0.3	1.7	4.2
		05/18/94	ND	5.5	ND	ND	<1	8.2	0.3	1.5	3.8
		08/08/94	--	4.3	ND	ND	<1	9.4	0.3	1.4	2.3
		09/30/94	ND	5.6	--	ND	<1	10.0	0.6	2.0	4.1
		12/16/94	ND	5.6	--	ND	<1	11.5	<0.1	1.4	3.6
31	t09	03/03/94	ND	1.7	ND	ND	<5	<0.5	0.1	0.5	3.5
32	t11	03/03/94	ND	17.7	ND	ND	<5	16.4	0.3	1.4	3.4
		05/18/94	ND	16.1	ND	ND	<1	15.8	0.4	1.3	3.5
		08/16/94	--	15.9	ND	ND	<1	16.3	0.4	1.4	3.5
		09/30/94	ND	17.4	--	ND	<1	13.7	1.6	0.7	3.6
		12/17/94	ND	17.6	--	ND	<1	18.3	<0.1	1.2	3.2
33	t12	02/28/94	ND	1.7	ND	ND	<5	10.9	0.5	1.7	8.5
		05/24/94	ND	6.6	ND	ND	<1	11.3	0.7	2.4	4.6
		08/19/94	--	5.9	ND	ND	<1	13.5	0.8	2.6	6.0
		12/13/94	ND	4.2	--	ND	<1	12.9	<0.1	2.3	5.4
34	t15	02/28/94	ND	<0.1	ND	ND	<5	1.7	0.2	0.8	4.1
		05/24/94	ND	1.8	<0.1	ND	<1	<0.5	<0.1	<0.5	2.8
		08/19/94	--	1.3	ND	ND	<1	6.3	0.7	2.3	7.0
		10/11/94	ND	2.4	--	ND	<1	11.6	1.0	3.8	7.5
		12/13/94	ND	2.1	--	ND	<1	8.1	1.0	3.0	6.7
35	t23	03/03/94	ND	8.3	ND	ND	<5	19.4	0.6	3.5	7.2
		05/24/94	ND	7.9	ND	ND	<1	17.6	0.7	3.4	6.1
		08/19/94	--	8.0	ND	ND	<1	16.8	0.7	3.1	6.6
		10/11/94	ND	10.3	--	ND	<1	17.8	0.9	3.8	7.1
		12/13/94	ND	9.9	--	ND	<1	15.3	<0.1	2.8	6.1

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig.1)	Well number (1992)	Latitude	Longitude	Date sampled	Temperature (°C)	Specific conductance (µS/cm)	pH (standard units)	Field alkalinity (mg/L as CaCO ₃)	Coliform, fecal (cols./100 mL)	Strep-tococci, fecal (cols./100 mL)	Chloride, dissolved (mg/L as Cl)
36	t19	352503	893955	03/03/94	15.5	129	5.9	37	<1	<1	10
				05/24/94	18.0	129	6.2	36	<1	<1	12
				12/13/94	13.5	128	5.9	37	<1	<1	12
37	t21	352503	894005	02/28/94	15.5	164	5.9	35	<1	K1	12
				05/24/94	17.5	158	6.3	33	<1	K3	8
				08/19/94	17.5	163	6.0	35	<1	K2	9
				10/11/94	17.5	163	6.0	34	<1	<1	12
				12/13/94	16.0	162	5.8	34	<1	<1	11
38	t13	352504	893557	03/09/94	15.0	144	6.1	48	<1	K8	31
				05/18/94	17.0	127	6.2	47	<1	<1	11
				08/16/94	18.0	144	6.1	49	<1	K5	9
				09/29/94	17.5	142	6.1	50	<1	<1	10
				12/17/94	16.5	143	6.2	49	<1	<1	11
39	t16	352512	893626	02/24/94	19.0	256	6.1	62	<1	<1	6
				05/19/94	20.0	254	6.0	60	<1	K6	9
				08/08/94	22.0	255	6.1	64	<1	K1	9
				09/29/94	19.5	250	6.2	63	K6	K3	11
				12/17/94	14.5	253	5.8	62	<1	K1	11
40	t26	352514	893623	02/24/94	16.5	102	6.0	36	<1	<1	9
				05/19/94	17.0	102	6.0	35	<1	<1	6
				08/08/94	17.5	101	5.9	35	<1	<1	5
				09/29/94	17.5	103	6.1	36	<1	<1	6
				12/17/94	16.5	104	6.2	37	<1	<1	6
41	t20	352516	893555	03/09/94	14.5	155	6.2	75	K2	K7	<5
				05/19/94	17.0	154	6.2	72	<1	K7	2
				08/08/94	17.5	157	6.2	77	<1	<1	2
				09/29/94	17.0	155	6.2	75	<1	<1	2
				12/16/94	16.0	151	6.3	58	<1	<1	3
42	t25	352517	893621	02/24/94	16.0	167	6.1	54	<1	<1	10
				05/19/94	17.5	156	6.0	48	<1	<1	2
				08/08/94	18.0	166	6.0	55	<1	<1	8
				09/29/94	18.0	169	6.1	54	<1	<1	9
				12/17/94	17.5	175	6.0	56	<1	<1	10
43	t27	352521	893619	03/09/94	13.0	155	6.2	53	<1	K1	8
				05/23/94	17.5	144	6.4	44	<1	<1	9
44	t28	352527	893620	03/09/94	15.0	102	6.1	41	<1	<1	<5

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig. 1)	Well number (1992)	Date sampled	Nitrogen nitrite, dissolved (mg/L as NO ₂)	Nitrogen nitrate, dissolved (mg/L as NO ₃)	Nitrogen ammonium, dissolved (mg/L as NH ₄)	Phosphorous ortho-phosphate, dissolved (mg/L as PO ₄)	Sulfate, dissolved (mg/L as SO ₄)	Sodium, dissolved (mg/L as Na)	Potassium, dissolved (mg/L as K)	Magnesium, dissolved (mg/L as Mg)	Calcium, dissolved (mg/L as Ca)
36	t19	03/03/94	ND	9.6	ND	ND	<5	21.2	0.7	3.9	7.8
		05/24/94	ND	9.5	ND	ND	2	14.4	0.8	2.8	5.3
		12/13/94	ND	9.2	--	ND	2	18.3	<0.1	2.9	6.2
37	t21	02/28/94	ND	6.2	ND	ND	24	31.0	0.8	7.4	16.3
		05/24/94	ND	4.5	ND	0.1	16	15.6	0.5	3.7	7.4
		08/19/94	--	5.4	ND	<0.1	19	17.7	0.6	3.9	9.0
		10/11/94	ND	6.2	--	<0.1	19	16.8	0.7	4.0	8.6
		12/13/94	ND	6.0	--	<0.1	21	21.0	<0.1	3.5	9.0
38	t13	03/09/94	ND	10.9	ND	ND	8	15.4	0.5	3.9	11.1
		05/18/94	ND	3.5	ND	ND	4	12.2	0.5	2.7	1.9
		08/16/94	--	2.9	ND	ND	3	9.9	0.4	2.4	4.9
		09/29/94	ND	3.1	--	ND	4	13.5	0.8	3.7	7.8
		12/17/94	ND	3.9	--	ND	4	16.9	<0.1	3.0	8.0
39	t16	02/24/94	ND	40.2	ND	ND	7	45.9	1.1	7.9	16.3
		05/19/94	ND	46.2	ND	ND	9	19.8	0.5	2.5	3.9
		08/08/94	--	42.5	ND	ND	9	38.8	0.9	5.0	9.6
		09/29/94	ND	42.7	--	ND	9	27.9	1.2	4.6	8.6
		12/17/94	ND	40.4	--	ND	9	37.4	ND	4.0	9.0
40	t26	02/24/94	ND	10.6	ND	ND	<5	12.9	0.3	1.6	4.6
		05/19/94	ND	6.9	ND	ND	<1	2.3	<0.1	<0.5	1.7
		08/08/94	--	6.6	ND	ND	<1	16.2	0.5	2.2	4.8
		09/29/94	ND	7.0	--	ND	<1	12.7	0.6	2.4	4.8
		12/17/94	ND	7.5	--	ND	<1	15.8	<0.1	1.7	4.3
41	t20	03/09/94	ND	<0.1	ND	ND	<5	15.4	1.1	7.3	14.8
		05/19/94	ND	<1.0	ND	ND	1	4.4	0.3	2.1	4.1
		08/08/94	--	<1.0	ND	ND	2	10.5	0.5	5.6	13.7
		09/29/94	ND	ND	--	ND	2	11.2	0.9	6.1	12.0
		12/16/94	ND	<1.0	--	ND	1	11.0	0.9	5.1	11.7
42	t25	02/24/94	ND	16.1	ND	ND	<5	30.2	0.6	5.4	12.5
		05/19/94	ND	16.6	ND	ND	6	21.3	0.3	2.8	5.6
		08/08/94	--	15.1	ND	ND	4	11.7	0.2	1.7	3.8
		09/29/94	ND	15.4	--	ND	4	20.0	0.8	3.9	7.4
		12/17/94	ND	15.6	--	ND	4	26.1	ND	3.4	7.9
43	t27	03/09/94	ND	10.7	ND	ND	<5	22.3	0.5	4.4	9.1
		05/23/94	ND	11.5	ND	ND	1	20.1	0.7	3.5	6.4
44	t28	03/09/94	ND	2.6	ND	ND	<5	16.7	1.4	5.2	6.4

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig.1)	Well number (1992)	Latitude	Longitude	Date sampled	Temperature (°C)	Specific conductance (µS/cm)	pH (standard units)	Field alkalinity (mg/L as CaCO ₃)	Coliform, fecal (cols./100 mL)	Streptococci, fecal (cols./100 mL)	Chloride, dissolved (mg/L as Cl)
45	t33	352555	894032	02/22/94	16.0	91	5.9	37	<1	<1	<5
				06/04/94	17.0	89	5.8	36	<1	<1	4
				08/16/94	17.5	88	5.8	37	<1	<1	2
				10/07/94	17.0	88	5.9	38	<1	<1	3
				12/14/94	14.5	92	5.9	37	<1	<1	5
46	t30	352556	892954	03/09/94	9.0	115	6.4	40	46	51	9
47	ns	352602	892924	03/08/94	13.5	85	6.0	28	<1	K1	36
				06/06/94	18.5	354	6.2	56	<1	K9	41
				08/19/94	19.0	345	6.2	60	<1	K3	31
				12/12/94	14.5	283	6.2	39	<1	950	37
48	t32	352603	893622	02/24/94	14.5	113	6.0	41	<1	<1	<5
				05/20/94	18.0	108	5.9	40	<1	<1	6
				08/08/94	20.0	110	6.0	43	<1	<1	6
				09/29/94	20.5	110	6.1	43	<1	<1	6
				12/15/94	18.5	113	5.9	45	<1	<1	6
49	ns	352605	893658	03/09/94	15.0	124	6.0	39	<1	<1	25
				05/20/94	17.5	119	6.0	40	<1	<1	10
				08/08/94	18.0	127	6.0	42	<1	K2	9
				09/29/94	17.5	123	6.0	43	<1	K1	10
				12/15/94	17.0	123	6.0	42	<1	<1	10
50	t31	352613	894449	03/09/94	--	125	6.2	46	K2	18	13
				06/01/94	20.0	153	5.9	45	K2	45	14
				10/06/94	16.0	160	6.0	38	<1	79	15
				12/14/94	9.0	163	6.0	43	<1	K19	14
51	ns	352630	893948	03/05/94	16.5	94	5.9	42	<1	<1	<5
52	t34	352636	894222	02/28/94	16.0	114	5.9	36	<1	<1	<5
				06/01/94	18.0	126	5.9	34	<1	<1	9
				08/15/94	19.0	125	5.8	36	<1	<1	8
				10/06/94	18.5	120	5.8	35	<1	<1	8
				12/14/94	16.5	118	5.8	35	<1	<1	7
53	t35	352637	893554	03/05/94	16.0	96	5.9	34	<1	<1	<5
				05/24/94	17.5	98	6.2	32	<1	<1	7
				08/16/94	19.5	98	5.8	33	<1	<1	6
				09/28/94	18.0	98	5.8	31	<1	<1	6
				12/15/94	14.0	96	6.1	32	<1	<1	6
54	t18	352646	893125	03/04/94	14.0	113	6.0	38	<1	<1	<5
				05/23/94	18.0	108	6.1	35	<1	<1	6
				08/09/94	19.0	106	5.9	40	<1	<1	4
				10/11/94	17.5	111	6.0	39	<1	<1	5
				12/06/94	16.0	97	6.1	38	<1	<1	5

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig.1)	Well number (1992)	Date sampled	Nitrogen nitrite, dissolved (mg/L as NO ₂)	Nitrogen nitrate, dissolved (mg/L as NO ₃)	Nitrogen ammonium, dissolved (mg/L as NH ₄)	Phosphorous orthophosphate, dissolved (mg/L as PO ₄)	Sulfate, dissolved (mg/L as SO ₄)	Sodium, dissolved (mg/L as Na)	Potassium, dissolved (mg/L as K)	Magnesium, dissolved (mg/L as Mg)	Calcium, dissolved (mg/L as Ca)
45	t33	02/22/94	ND	2.1	ND	ND	< 5	7.1	0.5	2.3	5.3
		06/04/94	ND	2.5	ND	ND	< 1	9.4	0.4	2.3	5.0
		08/16/94	--	2.2	ND	ND	< 1	10.0	0.6	2.9	5.3
		10/07/94	ND	2.3	--	ND	< 1	9.1	0.6	2.7	5.0
		12/14/94	ND	2.6	--	ND	< 1	9.6	< 0.1	2.5	5.1
46	t30	03/09/94	ND	3.0	ND	ND	< 5	20.9	0.9	2.0	8.4
47	ns	03/08/94	ND	11.0	ND	ND	31	38.6	1.7	4.0	9.5
		06/06/94	ND	11.4	ND	ND	41	18.0	0.3	1.2	4.0
		08/19/94	--	10.7	ND	< 0.1	36	31.7	1.1	1.9	8.6
		12/12/94	ND	10.4	--	< 0.1	31	44.0	< 0.1	3.4	7.8
48	t32	02/24/94	ND	1.5	ND	ND	< 5	12.3	0.4	1.6	5.0
		05/20/94	ND	3.6	< 0.1	ND	2	< 0.5	< 0.1	< 0.5	1.1
		08/08/94	--	4.0	ND	ND	2	7.1	0.3	0.9	3.4
		09/29/94	ND	3.5	--	ND	2	13.1	0.8	2.7	5.5
		12/15/94	ND	4.0	--	ND	1	16.3	< 0.1	2.2	5.7
49	ns	03/09/94	ND	14.4	ND	ND	< 5	31.6	1.1	5.7	3.3
		05/20/94	ND	5.5	ND	ND	1	8.5	0.2	1.2	3.3
		08/08/94	--	5.7	ND	ND	1	21.1	0.6	2.6	5.6
		09/29/94	ND	5.6	--	ND	1	18.2	0.9	2.9	5.9
		12/15/94	ND	5.2	--	ND	1	22.8	< 0.1	2.0	4.8
50	t31	03/09/94	ND	16.0	ND	ND	< 5	21.0	1.5	11.4	7.9
		06/01/94	ND	17.6	ND	ND	< 1	7.6	0.5	4.5	8.8
		10/06/94	ND	20.5	--	ND	< 1	10.2	0.7	5.5	10.0
		12/14/94	ND	16.6	--	ND	< 1	11.4	< 0.1	5.8	10.7
51	ns	03/05/94	ND	0.9	ND	ND	< 5	8.1	0.5	3.3	6.4
52	t34	02/28/94	ND	0.8	ND	ND	< 5	4.1	0.1	1.7	11.3
		06/01/94	ND	12.9	ND	ND	4	7.1	0.2	1.7	4.0
		08/15/94	--	14.2	ND	ND	1	12.2	0.6	3.7	7.1
		10/06/94	ND	12.8	--	ND	1	11.8	0.6	3.6	6.9
		12/14/94	ND	10.5	--	ND	< 1	10.0	< 0.1	2.7	5.7
53	t35	03/05/94	ND	8.2	ND	ND	< 5	15.7	0.2	2.5	4.2
		05/24/94	ND	8.0	ND	ND	< 1	11.1	0.3	2.0	2.2
		08/16/94	--	8.4	ND	ND	< 1	15.0	0.4	2.4	4.0
		09/28/94	ND	9.3	--	ND	< 1	12.2	0.5	2.6	4.0
		12/15/94	ND	9.0	--	ND	< 1	15.0	< 0.1	2.3	4.4
54	t18	03/04/94	ND	2.0	ND	ND	< 5	13.3	2.2	4.1	7.9
		05/23/94	ND	2.5	ND	ND	7	11.0	2.2	4.0	6.9
		08/09/94	--	1.4	ND	ND	5	8.1	1.7	3.0	4.8
		10/11/94	ND	2.5	--	ND	5	11.2	1.7	3.8	6.6
		12/06/94	ND	2.1	--	ND	5	9.0	1.7	3.1	6.2

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig.1)	Well number (1992)	Latitude	Longitude	Date sampled	Temperature (°C)	Specific conductance (µS/cm)	pH (standard units)	Field alkalinity (mg/L as CaCO ₃)	Coliform, fecal (cols./100 mL)	Strep-tococci, fecal (cols./100 mL)	Chloride, dissolved (mg/L as Cl)
55	t38	352654	893905	02/28/94	11.5	79	5.8	34	<1	<1	<5
				06/02/94	19.0	79	5.9	34	<1	<1	3
				08/16/94	17.5	80	5.8	32	<1	K4	2
				10/07/94	17.0	79	5.8	35	<1	<1	3
				12/14/94	13.5	78	5.9	34	<1	<1	3
56	t42	352654	893618	03/05/94	11.5	87	5.9	31	<1	K3	<5
				05/20/94	18.0	87	6.0	30	<1	K10	3
				08/16/94	18.5	89	6.3	30	<1	27	3
				09/28/94	20.0	89	5.8	30	<1	<1	3
				12/16/94	14.5	91	6.1	32	<1	<1	3
57	t39	352657	893911	02/23/94	17.5	87	5.9	37	<1	<1	<5
				06/04/94	18.5	87	5.8	35	<1	<1	3
				08/16/94	18.5	88	5.5	37	<1	<1	2
				10/07/94	18.0	85	5.9	37	<1	<1	3
				12/14/94	14.5	87	5.9	39	<1	<1	3
58	t40	352658	893909	03/04/94	17.0	84	5.9	39	<1	<1	<5
59	t49	352701	893617	03/04/94	16.0	98	5.8	31	<1	<1	5
				05/20/94	18.0	98	5.8	29	<1	<1	11
				08/16/94	18.5	99	6.0	30	<1	<1	7
				09/28/94	18.5	98	5.7	29	<1	<1	8
				12/16/94	16.0	97	5.9	31	<1	<1	8
60	t41	352705	893909	02/23/94	17.0	140	5.9	38	<1	<1	15
				06/02/94	18.0	139	6.0	38	<1	K11	16
				08/16/94	18.0	138	5.7	36	<1	<1	12
				10/07/94	17.5	133	6.4	38	<1	<1	12
				12/14/94	16.0	133	6.0	39	<1	<1	12
61	t43	352720	894006	03/03/94	16.0	145	5.8	42	<1	<1	17
				06/01/94	18.0	147	5.8	39	<1	<1	19
				08/15/94	19.0	153	5.8	41	<1	K1	16
				10/06/94	17.5	153	5.7	38	<1	<1	20
				12/14/94	14.5	155	5.8	40	<1	<1	18
62	t45	352728	893808	02/24/94	16.0	100	6.0	40	<1	<1	<5
				05/24/94	18.0	99	6.0	39	<1	K1	5
				08/16/94	18.5	101	6.2	41	<1	K1	4
				10/11/94	18.0	103	6.2	41	<1	<1	5
				12/15/94	15.5	98	5.9	40	<1	<1	5
63	t37	352729	893815	02/23/94	16.0	144	5.8	43	<1	<1	16
				06/04/94	18.5	148	5.8	42	<1	<1	16
				08/16/94	18.5	150	5.8	42	<1	<1	14
				10/07/94	18.0	148	6.0	42	<1	<1	17
				12/15/94	15.0	143	6.0	43	<1	<1	15

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig.1)	Well number (1992)	Date sampled	Nitrogen nitrite, dissolved (mg/L as NO ₂)	Nitrogen nitrate, dissolved (mg/L as NO ₃)	Nitrogen ammonium, dissolved (mg/L as NH ₄)	Phosphorous ortho-phosphate, dissolved (mg/L as PO ₄)	Sulfate, dissolved (mg/L as SO ₄)	Sodium, dissolved (mg/L as Na)	Potassium, dissolved (mg/L as K)	Magnesium, dissolved (mg/L as Mg)	Calcium, dissolved (mg/L as Ca)
55	t38	02/28/94	ND	0.7	ND	ND	<5	14.2	0.4	2.6	6.7
		06/02/94	ND	1.8	ND	ND	<1	10.1	0.3	1.7	3.7
		08/16/94	--	1.4	ND	ND	<1	10.9	0.5	2.2	4.1
		10/07/94	ND	1.7	--	ND	<1	11.6	0.6	2.5	4.4
		12/14/94	ND	1.7	--	ND	<1	11.8	<0.1	1.8	3.6
56	t42	03/05/94	ND	6.1	ND	ND	<5	8.0	0.2	1.9	3.6
		05/20/94	ND	8.8	<0.1	ND	1	<0.5	<0.1	<0.5	2.1
		08/16/94	--	8.0	ND	ND	<1	11.5	0.4	2.5	4.8
		09/28/94	ND	9.7	--	ND	1	11.5	0.5	3.0	5.1
		12/16/94	ND	10.1	--	ND	<1	11.6	<0.1	2.0	3.9
57	t39	02/23/94	ND	1.9	ND	ND	<5	23.5	0.8	4.6	9.1
		06/04/94	ND	2.3	ND	ND	<1	9.3	0.4	2.1	4.2
		08/16/94	--	1.9	ND	ND	<1	12.8	0.5	2.4	4.5
		10/07/94	ND	1.9	--	ND	<1	10.8	0.6	2.3	4.1
		12/14/94	ND	2.3	--	ND	<1	11.2	<0.1	1.8	4.3
58	t40	03/04/94	ND	<0.1	ND	ND	<5	10.9	0.5	3.0	6.2
59	t49	03/04/94	ND	4.3	ND	ND	<5	17.6	0.5	2.6	5.4
		05/20/94	ND	5.6	ND	ND	3	13.5	0.4	1.9	4.2
		08/16/94	--	4.0	ND	ND	2	14.6	0.4	2.2	4.5
		09/28/94	ND	4.5	--	ND	2	11.7	0.6	2.1	4.2
		12/16/94	ND	4.7	--	ND	2	13.0	<0.1	1.8	3.9
60	t41	02/23/94	ND	11.9	ND	ND	<5	17.1	0.4	2.6	5.3
		06/02/94	ND	9.6	ND	ND	<1	15.1	0.3	2.6	5.6
		08/16/94	--	8.7	ND	ND	<1	20.6	0.7	3.3	6.7
		10/07/94	ND	9.8	--	ND	<1	18.6	0.9	3.4	6.3
		12/14/94	ND	10.5	--	ND	<1	16.2	<0.1	2.4	5.4
61	t43	03/03/94	ND	7.1	ND	ND	<5	22.1	0.7	4.5	8.7
		06/01/94	ND	7.0	ND	ND	<1	14.0	0.5	3.4	6.8
		08/15/94	--	6.8	ND	ND	<1	7.3	0.4	1.6	5.2
		10/06/94	ND	7.7	--	ND	<1	17.3	0.9	4.1	7.6
		12/14/94	ND	7.5	--	ND	<1	20.3	<0.1	4.4	8.2
62	t45	02/24/94	ND	3.2	ND	ND	<5	9.1	0.4	2.1	8.1
		05/24/94	ND	3.1	ND	ND	<1	11.3	0.8	3.1	5.7
		08/16/94	--	2.6	ND	ND	<1	11.9	0.7	3.1	5.9
		10/11/94	ND	3.3	--	ND	<1	13.4	0.9	3.9	6.8
		12/15/94	ND	3.3	--	ND	<1	11.8	<0.1	2.9	6.1
63	t37	02/23/94	ND	8.2	ND	ND	<5	15.9	0.5	3.3	6.2
		06/04/94	ND	8.3	ND	ND	<1	9.0	0.3	2.4	6.7
		08/16/94	--	7.7	ND	ND	<1	16.5	0.7	3.5	5.8
		10/07/94	ND	8.8	--	ND	<1	17.7	0.9	4.2	7.8
		12/15/94	ND	7.9	--	ND	<1	18.1	<0.1	3.8	7.3

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig.1)	Well number (1992)	Latitude	Longitude	Date sampled	Temperature (°C)	Specific conductance (µS/cm)	pH (standard units)	Field alkalinity (mg/L as CaCO ₃)	Coliform, fecal (cols./100 mL)	Strep-tococci, fecal (cols./100 mL)	Chloride, dissolved (mg/L as Cl)
64	t46	352731	893807	02/23/94	16.5	117	5.9	41	<1	<1	10
				05/24/94	18.5	118	5.9	42	<1	K13	11
				08/16/94	17.5	121	6.0	42	<1	K1	9
				10/07/94	18.0	118	0.0	41	<1	K1	10
65	t47	352735	893803	02/23/94	16.0	164	5.8	43	<1	<1	18
				05/24/94	19.0	163	5.8	40	<1	<1	23
				08/16/94	17.5	164	5.9	42	<1	<1	20
				10/06/94	17.0	165	6.1	42	<1	<1	24
				12/15/94	16.0	164	5.8	44	<1	<1	21
66	t48	352736	893946	02/24/94	16.0	67	6.0	26	<1	<1	<5
				06/01/94	18.0	67	5.9	26	<1	<1	3
				08/15/94	17.5	69	5.8	26	<1	<1	2
				10/06/94	17.5	68	5.7	23	<1	<1	3
				12/14/94	16.5	69	5.9	25	<1	<1	3
67	t44	352801	893415	03/09/94	13.0	331	6.1	44	<1	<1	53
				06/03/94	16.5	408	5.8	43	<1	<1	63
				08/01/94	16.5	510	6.0	43	<1	K4	52
				09/28/94	16.5	631	5.8	38	<1	<1	112
				12/15/94	16.5	905	5.8	39	<1	<1	105
68	t54	352833	893802	02/24/94	16.5	100	6.0	46	<1	<1	<5
				05/24/94	18.0	99	5.9	45	<1	<1	3
				08/15/94	18.0	102	5.8	44	<1	<1	2
				10/06/94	18.0	105	5.7	42	<1	<1	3
				12/14/94	16.5	100	5.9	44	<1	<1	3
69	t53	352839	893054	03/04/94	14.5	137	5.9	43	<1	<1	<5
				06/01/94	16.5	138	5.9	41	<1	<1	6
				08/09/94	16.5	143	5.8	41	<1	<1	6
				09/14/94	17.5	148	5.9	42	<1	<1	6
				12/06/94	16.0	130	6.0	40	<1	<1	7
70	ns	352848	893428	03/04/94	16.0	118	6.0	40	<1	<1	<5
				05/23/94	17.5	120	6.3	39	K19	180	7
				08/09/94	19.0	121	6.0	40	K2	75	6
				09/28/94	22.0	118	5.9	39	<1	<1	6
				12/05/94	17.0	117	6.0	40	<1	<1	6
71	t56	352902	893521	03/05/94	12.5	133	6.1	64	<1	<1	<5
				05/18/94	20.5	134	6.1	59	<1	<1	3
				08/01/94	21.0	136	6.0	62	<1	<1	4
				09/28/94	19.5	136	6.0	61	<1	<1	3
				12/15/94	10.0	134	6.2	63	<1	<1	4

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig. 1)	Well number (1992)	Date sampled	Nitrogen nitrite, dissolved (mg/L as NO ₂)	Nitrogen nitrate, dissolved (mg/L as NO ₃)	Nitrogen ammonium, dissolved (mg/L as NH ₄)	Phosphorous orthophosphate, dissolved (mg/L as PO ₄)	Sulfate, dissolved (mg/L as SO ₄)	Sodium, dissolved (mg/L as Na)	Potassium, dissolved (mg/L as K)	Magnesium, dissolved (mg/L as Mg)	Calcium, dissolved (mg/L as Ca)
64	t46	02/23/94	ND	3.6	ND	ND	< 5	12.0	0.5	2.8	5.5
		05/24/94	ND	3.6	ND	ND	< 1	16.3	0.8	3.7	5.6
		08/16/94	--	3.1	ND	ND	< 1	15.0	0.7	3.4	6.5
		10/07/94	ND	3.3	--	ND	< 1	12.8	0.8	3.3	6.1
65	t47	02/23/94	ND	4.1	ND	ND	< 5	12.0	0.3	2.6	6.5
		05/24/94	ND	5.5	ND	ND	< 1	11.7	0.3	2.2	6.2
		08/16/94	--	5.2	ND	ND	< 1	20.1	0.7	4.1	3.5
		10/06/94	ND	5.9	--	ND	< 1	18.0	0.9	4.3	7.9
		12/15/94	ND	5.8	--	ND	< 1	21.2	<0.1	4.4	8.0
66	t48	02/24/94	ND	4.9	ND	0.2	< 5	19.2	0.7	3.4	6.7
		06/01/94	ND	4.9	ND	0.1	< 1	2.6	0.1	0.2	1.3
		08/15/94	--	4.6	ND	ND	< 1	6.1	0.3	1.0	2.2
		10/06/94	ND	5.1	--	ND	< 1	9.7	0.5	1.9	3.6
		12/14/94	ND	5.3	--	ND	< 1	8.4	<0.1	1.2	3.5
67	t44	03/09/94	ND	31.9	ND	ND	26	24.7	1.3	10.7	21.5
		06/03/94	ND	47.6	ND	ND	21	20.6	1.1	9.7	18.4
		08/01/94	--	46.9	ND	ND	19	13.2	0.9	6.0	10.6
		09/28/94	ND	71.9	--	ND	24	27.1	1.9	14.9	27.5
		12/15/94	ND	90.7	--	ND	22	38.8	<0.1	17.7	33.7
68	t54	02/24/94	ND	0.4	ND	ND	< 5	7.2	0.3	2.9	13.5
		05/24/94	ND	1.8	ND	ND	< 1	9.1	0.6	4.2	7.2
		08/15/94	--	1.5	ND	ND	< 1	8.8	0.6	3.9	7.1
		10/06/94	ND	1.8	--	ND	< 1	9.5	0.6	3.8	7.2
		12/14/94	ND	2.1	--	ND	< 1	9.5	<0.1	3.0	6.6
69	t53	03/04/94	ND	1.7	ND	ND	12	21.1	0.6	3.5	8.0
		06/01/94	ND	2.1	ND	ND	15	17.0	0.7	3.0	3.7
		08/09/94	--	2.1	ND	ND	16	20.4	0.7	3.6	7.7
		09/14/94	<0.1	1.9	--	ND	14	--	--	--	--
		12/06/94	ND	2.6	--	ND	16	16.9	0.7	3.0	6.8
70	ns	03/04/94	ND	<0.1	ND	ND	7	21.1	0.8	3.3	6.9
		05/23/94	ND	<1.0	ND	ND	10	17.7	0.9	3.1	5.9
		08/09/94	--	<1.0	ND	ND	9	18.0	0.7	3.0	5.9
		09/28/94	ND	<1.0	--	ND	9	15.0	0.9	3.2	6.0
		12/05/94	ND	<1.0	--	ND	10	15.2	0.8	2.5	5.4
71	t56	03/05/94	ND	0.2	ND	ND	< 5	10.3	0.8	5.4	10.3
		05/18/94	ND	<1.0	ND	ND	2	6.3	0.5	3.3	6.6
		08/01/94	--	<1.0	ND	<0.1	2	12.0	0.9	5.8	10.4
		09/28/94	ND	<1.0	--	ND	2	10.0	0.8	5.4	9.5
		12/15/94	ND	<1.0	--	ND	2	10.1	<0.1	4.6	8.5

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig.1)	Well number (1992)	Latitude	Longitude	Date sampled	Temperature (°C)	Specific conductance (µS/cm)	pH (standard units)	Field alkalinity (mg/L as CaCO ₃)	Coliform, fecal (cols./100 mL)	Strep-tococci, fecal (cols./100 mL)	Chloride, dissolved (mg/L as Cl)
72	ns	352903	893115	03/04/94	14.5	144	5.9	40	<1	<1	8
				05/23/94	18.0	147	6.0	40	<1	<1	12
				08/09/94	18.5	152	5.7	42	<1	<1	10
				09/14/94	18.5	154	6.0	42	<1	<1	6
				12/06/94	16.0	137	6.1	42	<1	<1	12
73	t22	352905	893522	03/05/94	16.5	119	6.1	50	<1	K1	<5
				05/18/94	17.0	117	6.1	42	<1	K1	5
				08/01/94	18.0	117	6.1	44	<1	<1	5
				09/28/94	17.5	118	6.0	44	<1	<1	5
				12/15/94	17.0	122	6.1	45	<1	<1	6
74	t24	352908	893521	03/05/94	15.0	157	6.1	71	<1	<1	<5
				05/23/94	17.5	153	6.4	65	<1	<1	4
75	t65	352932	893435	02/23/94	16.0	135	5.8	29	<1	<1	<5
				05/18/94	17.5	118	5.8	36	<1	<1	9
				07/22/94	18.5	129	5.9	32	<1	K1	8
				09/20/94	17.5	134	5.8	30	<1	K1	9
				11/28/94	16.5	132	6.0	30	<1	<1	9
76	t64	352936	893356	03/04/94	16.0	99	6.0	36	<1	<1	<5
				05/17/94	17.5	98	5.9	33	<1	<1	7
				07/27/94	18.5	100	6.2	36	K3	K11	6
				09/14/94	18.5	102	6.0	35	<1	<1	7
				12/05/94	16.5	100	6.1	37	<1	<1	7
77	t58	352937	893430	02/22/94	16.5	88	6.1	18	<1	<1	10
				05/18/94	18.0	85	6.0	17	<1	K1	10
				07/22/94	19.5	88	6.0	18	<1	K16	9
				09/20/94	19.5	84	5.8	18	<1	K1	9
				11/28/94	17.5	86	6.0	18	<1	<1	10
78	t59	352942	893425	02/23/94	16.5	129	6.2	32	<1	K1	11
				05/16/94	17.0	128	5.9	32	<1	<1	12
				07/21/94	17.5	135	6.0	34	<1	K3	12
				09/13/94	17.5	133	5.9	32	<1	K2	7
				12/06/94	17.0	135	5.9	33	<1	<1	12
79	t60	352942	893430	02/28/94	14.5	212	6.0	52	<1	<1	25
				05/16/94	18.5	206	5.9	50	<1	<1	3
				09/13/94	20.0	210	6.0	53	<1	<1	10
				11/28/94	16.5	207	6.0	58	<1	<1	15
80	t61	352945	893423	02/23/91	16.0	115	6.5	53	<1	<1	<5
				05/16/94	17.5	113	6.0	51	<1	<1	<1
				08/01/94	18.5	116	6.0	51	<1	<1	3
				09/13/94	18.5	116	6.0	52	<1	<1	2
				12/06/94	17.0	115	6.1	53	<1	<1	3

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig. 1)	Well number (1992)	Date sampled	Nitrogen nitrite, dissolved (mg/L as NO ₂)	Nitrogen nitrate, dissolved (mg/L as NO ₃)	Nitrogen ammonium, dissolved (mg/L as NH ₄)	Phosphorous orthophosphate, dissolved (mg/L as PO ₄)	Sulfate, dissolved (mg/L as SO ₄)	Sodium, dissolved (mg/L as Na)	Potassium, dissolved (mg/L as K)	Magnesium, dissolved (mg/L as Mg)	Calcium, dissolved (mg/L as Ca)
72	ns	03/04/94	ND	8.7	ND	ND	5	25.7	0.6	3.0	7.8
		05/23/94	ND	8.5	ND	ND	8	4.9	0.1	0.5	5.5
		08/09/94	--	7.8	ND	ND	8	10.4	0.3	1.1	2.5
		09/14/94	ND	4.4	--	ND	4	12.9	0.4	1.4	4.4
		12/06/94	ND	8.3	--	ND	8	18.8	0.5	3.0	8.1
73	t22	03/05/94	ND	2.5	ND	ND	<5	18.7	0.3	2.9	5.9
		05/18/94	ND	5.0	ND	ND	1	14.4	0.3	2.2	3.7
		08/01/94	--	6.0	ND	ND	1	19.1	0.4	3.0	5.6
		09/28/94	ND	7.0	--	ND	1	15.2	0.7	3.0	5.5
		12/15/94	ND	10.4	--	ND	<1	18.2	<0.1	2.6	5.6
74	t24	03/05/94	ND	0.4	ND	ND	<5	12.5	0.9	5.9	11.7
		05/23/94	ND	1.2	ND	ND	4	13.1	1.1	6.2	11.0
75	t65	02/23/94	ND	7.4	ND	ND	<5	8.6	<0.1	1.1	3.2
		05/18/94	ND	7.7	ND	ND	8	4.2	<0.1	<0.5	3.2
		07/22/94	--	7.2	ND	ND	10	20.8	0.4	2.3	5.2
		09/20/94	ND	8.6	--	ND	12	20.5	0.4	2.3	5.5
		11/28/94	ND	11.5	--	ND	10	19.6	<0.1	2.0	4.8
76	t64	03/04/94	ND	4.4	ND	ND	<5	18.3	0.3	2.1	4.4
		05/17/94	ND	4.9	ND	ND	<1	11.3	0.3	1.5	3.4
		07/27/94	--	5.2	ND	ND	<1	17.4	0.5	2.0	4.2
		09/14/94	ND	5.1	--	ND	<1	--	--	--	--
		12/05/94	ND	5.1	--	ND	<1	14.0	0.5	1.6	3.7
77	t58	02/22/94	ND	10.1	ND	ND	<5	9.6	0.2	1.0	3.1
		05/18/94	ND	9.6	ND	ND	<1	9.1	0.2	1.1	3.3
		07/22/94	--	9.6	ND	ND	<1	12.9	0.4	1.4	3.9
		09/20/94	ND	9.2	--	ND	<1	11.6	0.4	1.2	3.7
		11/28/94	ND	9.3	--	<0.1	<1	10.6	0.4	1.1	3.5
78	t59	02/23/94	ND	13.1	ND	ND	<5	15.5	0.3	2.2	4.7
		05/16/94	ND	12.8	ND	ND	1	6.9	0.2	1.0	2.5
		07/21/94	--	14.4	ND	ND	1	20.0	0.6	3.0	5.8
		09/13/94	ND	7.4	--	ND	<1	9.0	0.3	1.4	3.4
		12/06/94	ND	13.9	--	ND	1	19.8	<0.1	3.0	6.3
79	t60	02/28/94	ND	18.8	ND	ND	<5	37.1	1.2	10.9	20.1
		05/16/94	ND	16.8	ND	ND	<1	19.6	0.5	4.8	7.6
		09/13/94	ND	8.8	--	ND	<1	10.4	0.4	3.0	6.3
		11/28/94	ND	17.3	--	ND	<1	23.1	0.9	5.7	10.8
80	t61	02/23/91	ND	0.1	ND	ND	<5	6.2	0.3	2.3	3.4
		05/16/94	ND	<1.0	ND	ND	2	7.9	0.5	2.9	2.9
		08/01/94	--	1.1	ND	<0.1	2	9.5	0.5	3.2	3.1
		09/13/94	ND	<1.0	--	ND	1	8.5	0.5	3.2	6.0
		12/06/94	ND	<1.0	--	ND	2	11.3	0.7	4.0	8.1

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig.1)	Well number (1992)	Latitude	Longitude	Date sampled	Temperature (°C)	Specific conductance (μS/cm)	pH (standard units)	Field alkalinity (mg/L as CaCO ₃)	Coliform, fecal (cols./100 mL)	Streptococci, fecal (cols./100 mL)	Chloride, dissolved (mg/L as Cl)
81	t75	352946	893304	02/28/94	15.5	134	6.0	44	<1	<1	8
				05/18/94	17.5	132	6.0	42	<1	<1	9
				07/27/94	18.5	135	6.0	44	K3	K13	8
				09/13/94	19.5	136	5.9	43	K8	K6	3
				12/06/94	16.0	124	6.0	44	<1	<1	9
82	t74	352946	893307	02/28/94	16.5	182	5.9	40	<1	K1	21
				05/18/94	17.5	201	5.9	42	<1	<1	22
				07/27/94	17.5	187	5.8	45	<1	K3	20
				09/13/94	18.5	191	5.9	43	<1	K1	11
				12/06/94	16.0	175	6.0	43	<1	<1	18
83	t63	352948	893357	03/04/94	16.5	129	6.0	45	<1	<1	<5
				05/17/94	17.0	127	6.0	42	<1	<1	9
				07/22/94	17.5	131	6.1	44	<1	<1	7
				09/14/94	17.5	129	6.0	44	<1	<1	7
				12/05/94	16.5	128	6.1	45	<1	<1	8
84	t62	352951	893357	02/28/94	15.5	130	6.0	31	<1	<1	15
				05/17/94	17.5	128	5.9	31	<1	<1	15
				07/22/94	17.5	134	6.1	33	<1	K1	16
				09/14/94	18.0	135	6.0	32	<1	K2	15
				12/05/94	16.5	135	6.0	33	<1	<1	16
85	t67	352953	893448	02/23/94	16.0	188	6.2	65	<1	<1	<5
				05/23/94	17.5	187	6.2	67	<1	K2	6
				07/22/94	17.5	197	6.2	75	<1	<1	6
				09/20/94	17.5	209	6.2	76	<1	K1	6
				11/28/94	17.0	192	6.3	71	<1	<1	6
86	t66	352954	893357	02/28/94	16.5	127	6.0	36	<1	<1	9
				05/17/94	17.0	125	5.9	35	<1	<1	9
				07/27/94	17.0	127	6.0	37	<1	K3	8
				09/14/94	18.0	128	6.1	37	K1	K2	9
				12/05/94	17.0	127	5.9	38	<1	K3	9
87	t71	352956	893853	02/24/94	17.0	90	6.0	45	<1	<1	<5
				05/24/94	18.0	90	5.9	42	<1	<1	2
				08/15/94	19.0	95	5.9	44	<1	K1	1
				10/06/94	18.0	92	5.9	42	<1	21	2
				12/14/94	17.0	91	6.0	44	<1	<1	2
88	t76	353001	893446	02/21/94	16.5	171	6.0	56	23	31	11
				05/16/94	15.5	171	6.0	52	K5	67	11
				07/27/94	17.0	179	6.2	56	>600	330	9
				09/20/94	17.5	181	6.1	56	K14	K2	10
				11/28/94	17.0	179	6.1	56	K4	<1	10

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig. 1)	Well number (1992)	Date sampled	Nitrogen nitrite, dissolved (mg/L as NO ₂)	Nitrogen nitrate, dissolved (mg/L as NO ₃)	Nitrogen ammonium, dissolved (mg/L as NH ₄)	Phosphorous orthophosphate, dissolved (mg/L as PO ₄)	Sulfate, dissolved (mg/L as SO ₄)	Sodium, dissolved (mg/L as Na)	Potassium, dissolved (mg/L as K)	Magnesium, dissolved (mg/L as Mg)	Calcium, dissolved (mg/L as Ca)
81	t75	02/28/94	ND	11.2	ND	ND	<5	32.9	0.8	6.0	12.3
		05/18/94	ND	10.2	ND	ND	<1	6.4	0.1	0.9	2.1
		07/27/94	--	9.9	ND	ND	1	20.2	0.5	3.1	6.1
		09/13/94	ND	4.1	--	ND	<1	7.5	0.3	1.1	2.9
		12/06/94	ND	10.6	--	ND	<1	19.3	0.7	3.0	6.1
82	t74	02/28/94	ND	17.4	ND	ND	<5	36.7	1.0	7.4	15.5
		05/18/94	ND	17.3	ND	ND	1	26.4	0.9	4.9	8.8
		07/27/94	--	15.8	ND	ND	2	24.5	0.6	4.1	8.0
		09/13/94	ND	8.5	--	ND	<1	--	--	--	--
		12/06/94	ND	13.8	--	ND	1	20.2	0.7	3.1	6.6
83	t63	03/04/94	ND	6.4	ND	ND	<5	17.7	0.4	4.0	8.1
		05/17/94	ND	7.0	<0.1	ND	<1	<0.5	<0.1	<0.5	4.5
		07/22/94	--	6.8	ND	ND	1	15.6	0.5	3.8	6.9
		09/14/94	ND	6.2	--	ND	<1	13.4	0.5	3.4	5.8
		12/05/94	ND	7.0	--	ND	<1	15.7	0.7	3.8	7.3
84	t62	02/28/94	ND	10.8	ND	ND	<5	30.2	0.8	5.7	12.2
		05/17/94	ND	9.9	ND	ND	<1	2.0	<0.1	<0.5	1.5
		07/22/94	--	10.1	ND	<0.1	1	19.2	0.5	3.2	6.3
		09/14/94	ND	9.4	--	ND	<1	17.8	0.5	3.0	6.5
		12/05/94	ND	9.0	--	ND	<1	17.8	0.7	2.8	6.1
85	t67	02/23/94	ND	10.3	ND	ND	<5	12.6	0.3	4.0	9.8
		05/23/94	ND	14.2	ND	ND	8	13.7	0.4	4.7	9.0
		07/22/94	--	15.0	ND	<0.1	9	23.2	0.7	7.3	13.0
		09/20/94	ND	13.9	--	ND	10	21.7	0.7	7.2	12.6
		11/28/94	ND	14.0	--	ND	9	18.6	0.7	6.1	11.2
86	t66	02/28/94	ND	13.3	ND	ND	<5	15.5	0.3	1.8	8.2
		05/17/94	ND	12.7	ND	ND	1	4.0	0.1	<0.5	4.4
		07/27/94	--	13.3	ND	ND	1	16.5	0.6	2.6	6.0
		09/14/94	ND	12.4	--	ND	1	--	--	--	--
		12/05/94	ND	12.1	--	ND	1	18.2	0.7	2.3	5.6
87	t71	02/24/94	ND	0.1	ND	ND	<5	18.0	0.9	6.9	12.8
		05/24/94	ND	<1.0	ND	ND	<1	3.9	0.2	1.7	5.2
		08/15/94	--	<1.0	ND	ND	<1	7.8	0.5	3.8	6.3
		10/06/94	ND	<1.0	--	ND	<1	9.1	0.6	4.2	7.0
		12/14/94	ND	<1.0	--	ND	<1	8.7	<0.1	3.8	6.9
88	t76	02/21/94	ND	13.5	ND	ND	<5	23.1	0.3	4.2	8.3
		05/16/94	ND	13.1	ND	ND	5	15.3	0.4	3.1	6.6
		07/27/94	--	14.9	ND	ND	5	23.6	0.7	4.8	8.4
		09/20/94	ND	14.9	--	ND	5	24.0	0.7	5.0	8.7
		11/28/94	ND	15.0	--	ND	5	20.9	0.9	4.2	7.9

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig.1)	Well number (1992)	Latitude	Longitude	Date sampled	Temperature (°C)	Specific conductance (µS/cm)	pH (standard units)	Field alkalinity (mg/L as CaCO ₃)	Coliform, fecal (cols./100 mL)	Streptococci, fecal (cols./100 mL)	Chloride, dissolved (mg/L as Cl)
89	t73	353006	893446	02/21/94	16.5	223	6.2	58	<1	<1	<5
				05/16/94	17.0	222	6.0	48	<1	<1	9
				07/21/94	17.0	229	6.0	55	<1	K3	8
				09/20/94	17.5	231	6.0	53	<1	K4	9
				11/28/94	16.5	237	6.0	59	<1	<1	10
90	t77	353009	893446	02/21/94	17.0	171	6.1	29	<1	<1	11
				05/16/94	17.5	149	6.2	33	<1	K4	10
				07/27/94	17.5	141	6.2	35	<1	<1	9
				09/20/94	18.0	154	6.2	38	<1	<1	10
				11/28/94	17.0	135	6.2	39	<1	<1	9
91	t87	353108	893823	03/03/94	15.5	293	6.6	67	<1	<1	5
				06/01/94	17.0	338	6.9	146	<1	K1	10
				08/15/94	22.0	326	6.6	150	<1	K1	7
				10/06/94	18.5	310	6.6	146	<1	K1	8
				12/14/94	15.0	338	6.6	74	<1	<1	7

Table 2. Water-quality data for selected wells in the Beaver Creek watershed, West Tennessee--Continued

Well number (see fig. 1)	Well number (1992)	Date sampled	Nitrogen nitrite, dissolved (mg/L as NO ₂)	Nitrogen nitrate, dissolved (mg/L as NO ₃)	Nitrogen ammonium, dissolved (mg/L as NH ₄)	Phosphorous orthophosphate, dissolved (mg/L as PO ₄)	Sulfate, dissolved (mg/L as SO ₄)	Sodium, dissolved (mg/L as Na)	Potassium, dissolved (mg/L as K)	Magnesium, dissolved (mg/L as Mg)	Calcium, dissolved (mg/L as Ca)
89	t73	02/21/94	ND	19.0	ND	ND	<5	19.8	0.3	3.0	2.7
		05/16/94	ND	47.0	ND	ND	4	17.1	0.3	3.0	5.3
		07/21/94	--	46.0	ND	ND	4	32.2	0.8	5.8	9.5
		09/20/94	ND	47.8	--	ND	4	30.4	0.7	5.6	9.4
		11/28/94	ND	46.7	--	ND	5	33.9	<0.1	4.6	8.4
90	t77	02/21/94	ND	17.5	ND	ND	<5	15.3	0.2	1.3	3.1
		05/16/94	ND	23.1	ND	ND	<1	8.4	0.2	0.5	2.1
		07/27/94	--	20.2	ND	ND	1	22.7	0.5	2.0	4.5
		09/20/94	ND	23.3	--	ND	1	26.1	0.6	2.2	5.4
		11/28/94	ND	18.0	--	ND	<1	26.1	<0.1	1.8	4.4
91	t87	03/03/94	ND	6.7	ND	ND	<5	31.5	0.7	1.9	4.8
		06/01/94	ND	6.1	ND	ND	8	11.4	0.2	13.0	18.3
		08/15/94	--	5.8	ND	<0.1	6	12.2	0.4	14.5	15.9
		10/06/94	ND	7.3	--	<0.1	7	12.6	0.6	13.6	20.6
		12/14/94	ND	7.0	--	ND	6	10.0	<0.1	9.1	15.6

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