

In cooperation with the Louisville Water Company

Summary of Available Hydrogeologic Data for the Northeast Portion of the Alluvial Aquifer at Louisville, Kentucky



Open-File Report 2006-1146

Cover Photographs.

Top left—Checking water levels in observation well with graphical recorder, 1956. (Photograph from U.S. Geological Survey project files).

Bottom right—Measuring water level in observation well, 2003.
(Photograph by Christy Reuter, U.S. Geological Survey, September 2003).

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By Michael D. Unthank and Hugh L. Nelson Jr.

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**U.S. Department of the Interior
U.S. Geological Survey**

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Conversion Factors, Datum, and Abbreviations

Inch/Pound to SI

Multiply	By	To obtain
Length		
inch (in.)	2.54	centimeter (cm)
inch (in.)	25.4	millimeter (mm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
Area		
square foot (ft²)	929.0	square centimeter (cm²)
square foot (ft²)	0.09290	square meter (m²)
Volume		
gallon (gal)	3.785	liter (L)
gallon (gal)	0.003785	cubic meter (m³)
gallon (gal)	3.785	cubic decimeter (dm³)
gallon per day per foot [(gal/d)/ft]	0.00115	square meter per day (m²/d)
gallon per day per square foot [(gal/d)/ft²]	0.0408	meter per day (m/d)
million gallons per day (Mgal/d)	0.04381	cubic meter per second (m³/s)

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

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

Vertical coordinate information is referenced to the National Geodetic Vertical Datum of 1929 (NGVD 29).

Horizontal coordinate information is referenced to the North American Datum 1927 (NAD 27).

Elevation, as used in this report, refers to distance above the vertical datum.

Specific conductance is given in microsiemens per centimeter at 25 degrees Celsius ($\mu\text{S}/\text{cm}$ at 25°C).

Concentrations of chemical constituents in water are given in milligrams per liter (mg/L).

Abbreviations

CaCO_3 – calcium carbonate

CBOD5 – carbonaceous biochemical oxygen demand

ICP – inductively coupled plasma

KDOW – Kentucky Division of Water

KGDR – Kentucky Groundwater Data Repository

KWSC – Kentucky Water Science Center

LWC – Louisville Water Company

N - Nitrogen

NTU – nephelometric turbidity units

NWIS – Nation Water Information System

THM – trihalomethane

USGS – U.S. Geological Survey

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Summary of Available Hydrogeologic Data for the Northeast Portion of the Alluvial Aquifer at Louisville, Kentucky

By Michael D. Unthank and Hugh L. Nelson Jr.

Abstract

The hydrogeologic characteristics of the unconsolidated glacial outwash sand and gravel deposits that compose the northeast portion of the alluvial aquifer at Louisville, Kentucky, indicate a prolific water-bearing formation with approximately 7 billion gallons of ground-water storage and an estimated sustainable yield of over 280 million gallons per day. This abundance of ground water and the need to properly develop and manage this resource has prompted many past investigations (since 1956), which have produced reports, maps, and data files covering a variety of topics relative to the movement, availability, and use of ground water in this area. These data have been compiled into a single report to assist in future development and use of the ground-water resources.

Available ground-water data for the alluvial aquifer at Louisville, Kentucky, from Beargrass Creek to Harrods Creek, were compiled from the U.S. Geological Survey National Water Information System and the Kentucky Groundwater Data Repository. Data contained in these databases include ground-water well-construction details and historical ground-water levels, drillers' logs, and water-quality information. Additional data and information were gathered from project files at the U.S. Geological Survey–Kentucky Water Science Center and files at the Louisville Water Company. Information contained in these files included data from area pumping tests describing aquifer characteristics and ground-water flow.

Data describing current conditions of the ground-water system in the northeast portion of the alluvial aquifer also are included. Ground-water levels from a network of observation wells show recent trends in the flow system, and information from the Kentucky Division of Water–Groundwater Branch lists current permitted ground-water withdrawals in the area.

Introduction

A large area of Louisville, Ky., lies within the alluvial valley of the Ohio River. The alluvium consists of unconsolidated glacial outwash sand and gravel deposits and forms a

productive, spatially restricted aquifer that is hydraulically connected to the Ohio River. The northeast portion of the alluvium—a 6.4-mi reach running from Beargrass Creek upriver to Harrods Creek as shown in figure 1—is an especially prolific water-bearing formation with the total ground-water storage in the area estimated at 7 billion gal (Rorabaugh, 1956). This portion of the alluvium is approximately 3,000-ft wide at each end and tapers to a width of approximately 1,000 ft in the middle of the 6.4-mi. reach. The average thickness of the alluvial deposits is about 100 ft. Estimated sustainable water supplies, derived from induced flow from the Ohio River, range from 280 to 400 Mgal/d for this portion of the aquifer (Rorabaugh, 1956).

The ground-water resources in the northeast portion of the alluvial aquifer at Louisville have long been the subject of intense research and investigation. Past investigations have produced reports, maps, and data files that cover a variety of topics relative to the movement, availability, and use of ground water in this area because of the abundance of ground water and the need to properly develop and manage this resource. No comprehensive assessment of existing hydrogeologic data for this portion of the alluvial aquifer has been done by the U.S. Geological Survey (USGS) since 1956; hydrogeologic data collected since 1956 have not been summarized or presented in a collective report until now. As water-resource managers plan for the future water-supply needs of the Louisville area, the USGS and the Louisville Water Company (LWC) recognized the need to compile, review, and update existing hydrogeologic data for the alluvial aquifer.

Purpose and Scope

The purpose of this report is to summarize available data and information on the ground-water resources of the northeast portion of the alluvial aquifer at Louisville, Ky., since 1956. Locations and a summary of the available water-level data for the current observation-well network, and information on wells in both the USGS National Water Information System (NWIS) and the Kentucky Groundwater Data Repository (KGDR) are included.

Figure 1. Extent of study area with alluvial deposits highlighted and location of current observation-well network in the northeast portion of the alluvial aquifer at Louisville, Kentucky.

Water-quality data are tabulated for wells in the study area with emphasis on sampling results from the pumping tests conducted at the LWC Zorn Avenue pump station. A summary of hydrogeologic characteristics for the alluvial deposits includes information from drillers' logs, calculated transmissivities, and bedrock elevations.

Previous Investigations

Ground-water quantity and the origin, movement, and general quality of the ground-water resources of the alluvial deposits in the Louisville area were investigated by Hamilton (1944), Palmquist and Hall (1960), and Gallaher and Price (1966). Ground-water quantity, quality, and resource development with special emphasis on induced infiltration for the northeast portion of the alluvial aquifer was studied by Rorabaugh (1956). Starn and Mull (1994) compiled an annotated bibliography of USGS reports on the ground-water resources and geohydrology of the Louisville area.

Available Hydrogeologic Data

A thorough attempt was made to compile published and unpublished data and identify all possible sources of information for the alluvial aquifer in the northeast portion of Louisville, Ky. The types of data compiled include water levels and well-construction details from the current USGS observation-well network and other area wells, water quality, aquifer-test results and aquifer characteristics, and ground-water use. Information and data were sought through personal contact with the Kentucky Division of Water (KDOW), a number of individual consulting engineering firms, and several local past and present ground-water users in the study area. Additional data were compiled from the files of the USGS and the LWC; the KGDR was queried for all pertinent records on wells in the study area.

Alluvial Aquifer Observation-Well Network

The locations of the wells in the current (2006) alluvial aquifer observation-well network are shown on figure 1. Well-construction details and dates of water-level monitoring for each well are included in table 1 (at back of report). This network of eight observation wells was reactivated in November 1997 to monitor ground-water levels for this portion of the alluvial aquifer. The continued operation and maintenance of the network is part of a cooperative data-collection program developed with the LWC. Water levels are measured at each well on a quarterly basis; two wells (wells 4 and 5 on fig. 1) are equipped with continuously recording pressure transducers set to record water levels and water temperature every 30 minutes. Quarterly water-level measurements and water-level and temperature data from the recording pressure transducers are

stored in the USGS NWIS. Hydrographs of a subset of water level data for the alluvial aquifer observation-well network stored in NWIS are shown in figures 2a and b. Data for these wells are available online at <http://waterdata.usgs.gov/ky/nwis/inventory>.

Well Information Stored in the U.S. Geological Survey National Water Information System and the Kentucky Groundwater Data Repository

Well-construction information and measured water levels in the alluvial aquifer that are stored in the USGS NWIS database are listed in table 1. Locations of listed wells are shown in figure 3. The USGS NWIS database contains a variety of data on ground-water conditions and wells in Kentucky as reported through data-collection activities and project investigations done over the years by USGS Kentucky Water Science Center (KWSC) personnel. Similarly, construction information and water levels stored in the KGDR are listed in table 2 (at back of report). The KGDR was initiated in 1990 by the Kentucky Geological Survey under a mandate from the Kentucky legislature. It was established to archive and disseminate ground-water data collected by State agencies, other organizations, and independent researchers. While data in the USGS NWIS database may be part of the KGDR, the KGDR contains many more entries that are not stored in the USGS NWIS database. Certified well drillers in Kentucky are required to submit to the KDOW well logs and descriptive schedules for wells they install. The KDOW, in turn, submits this information to the KGDR for archiving. Wells that are stored in both the USGS NWIS database and the KGDR are highlighted in table 2.

Water Quality

Numerous water-quality analyses for the alluvial aquifer are available for wells in the study area. Data are stored in the KGDR, project files at the USGS KWSC, and files at the LWC. The locations of 13 select wells with water-quality data are shown in figure 4. The majority of the water-quality data are single sample results for wells in the southwest section of the study area as shown in figure 4. Multiple sample results are available for a subset of wells that were sampled over time as part of extended aquifer tests. Data are listed by site and sample date in tables 3-6 (at back of report).

Detailed analyses were done on water samples from well 381652085420301. This was the pumped well for the 1979-82 and 1995-97 aquifer tests at the LWC Zorn Avenue Plant. Results of the water-quality sampling from these tests are summarized in table 7 (at back of report).

4 Summary of Available Hydrogeologic Data for the Northeast Portion of the Alluvial Aquifer at Louisville, Kentucky

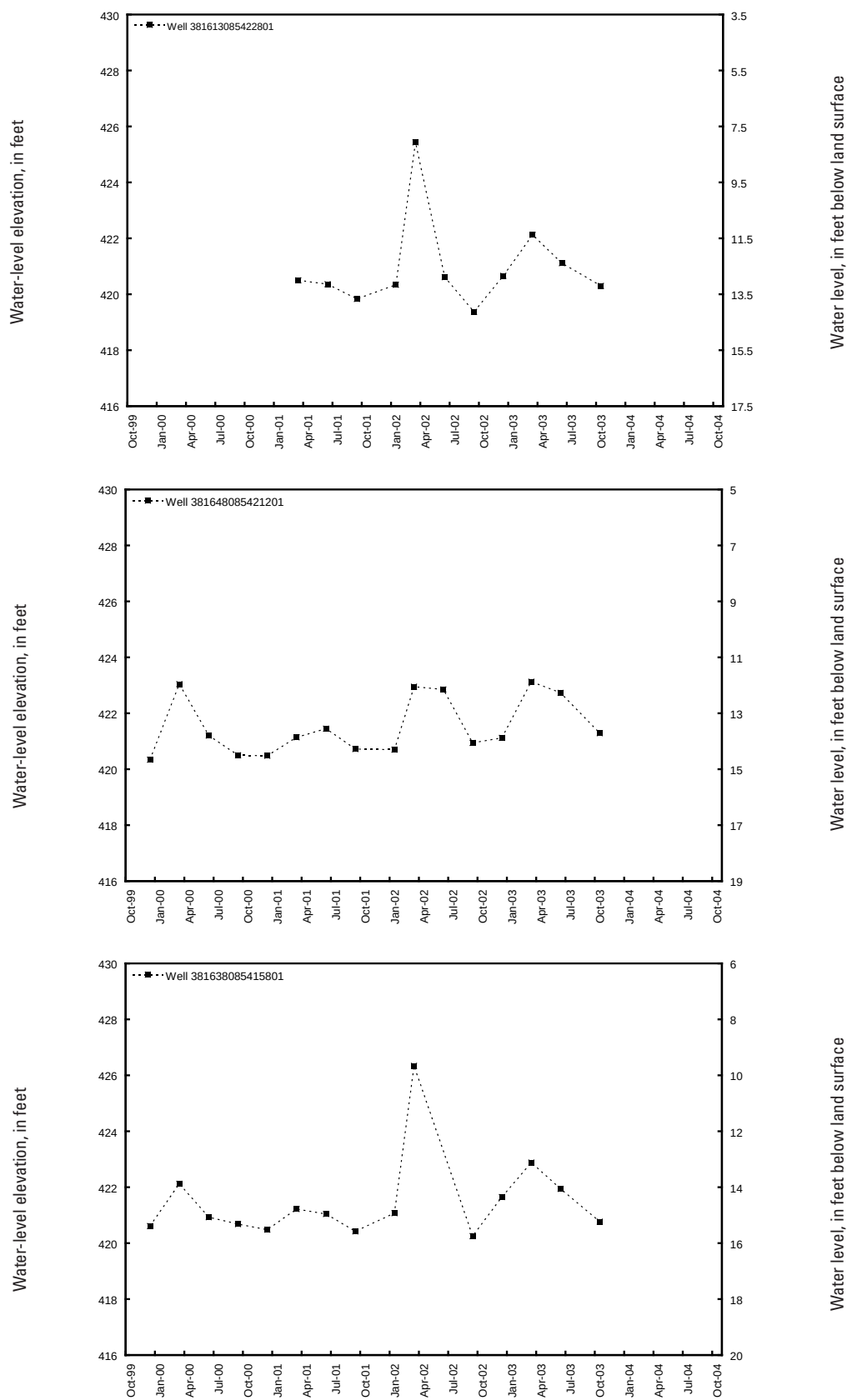


Figure 2a. Water levels for wells measured quarterly in the observation-well network in the northeast portion of the alluvial aquifer at Louisville, Kentucky.

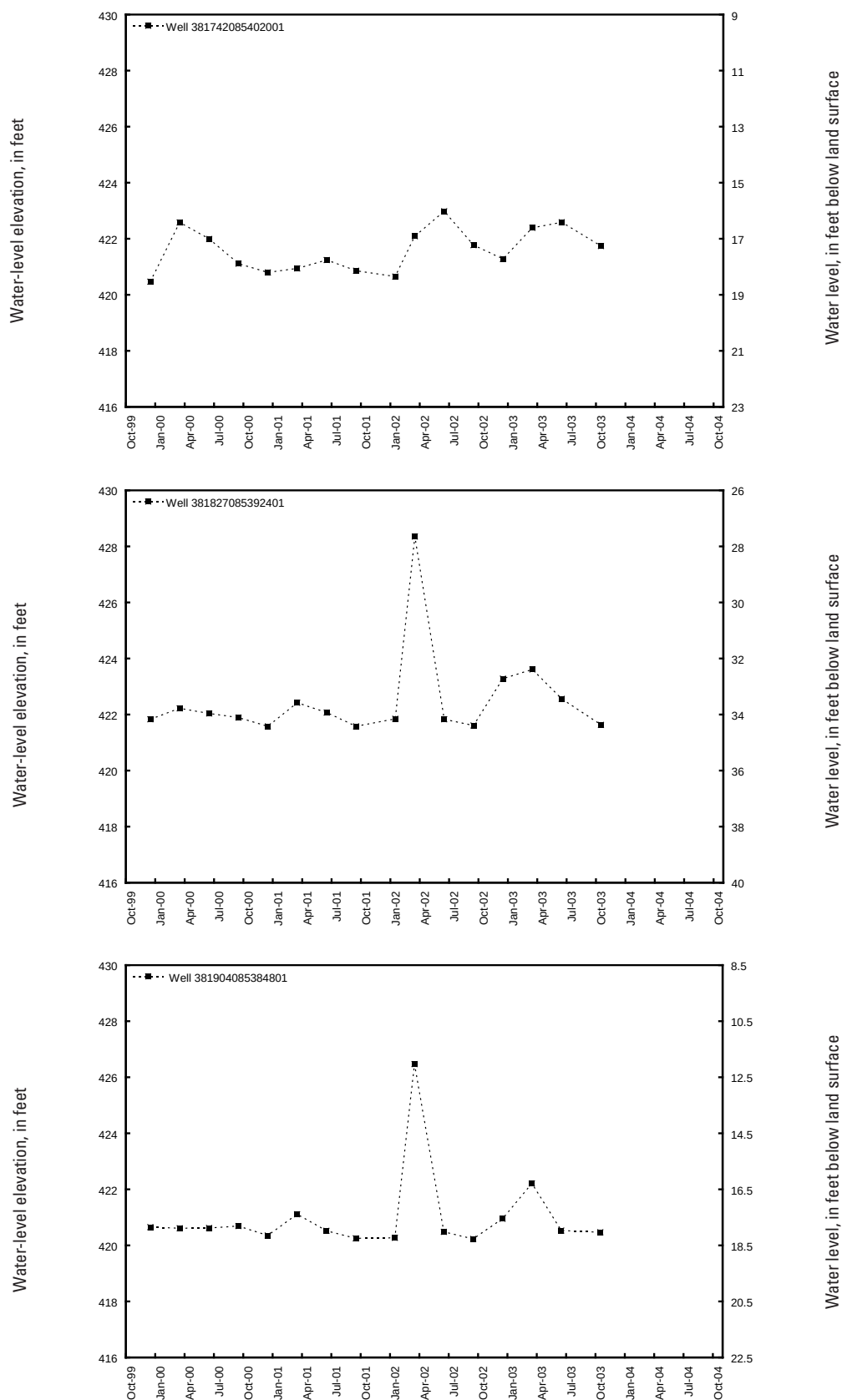


Figure 2a. Water levels for wells measured quarterly in the observation-well network in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*

6 Summary of Available Hydrogeologic Data for the Northeast Portion of the Alluvial Aquifer at Louisville, Kentucky

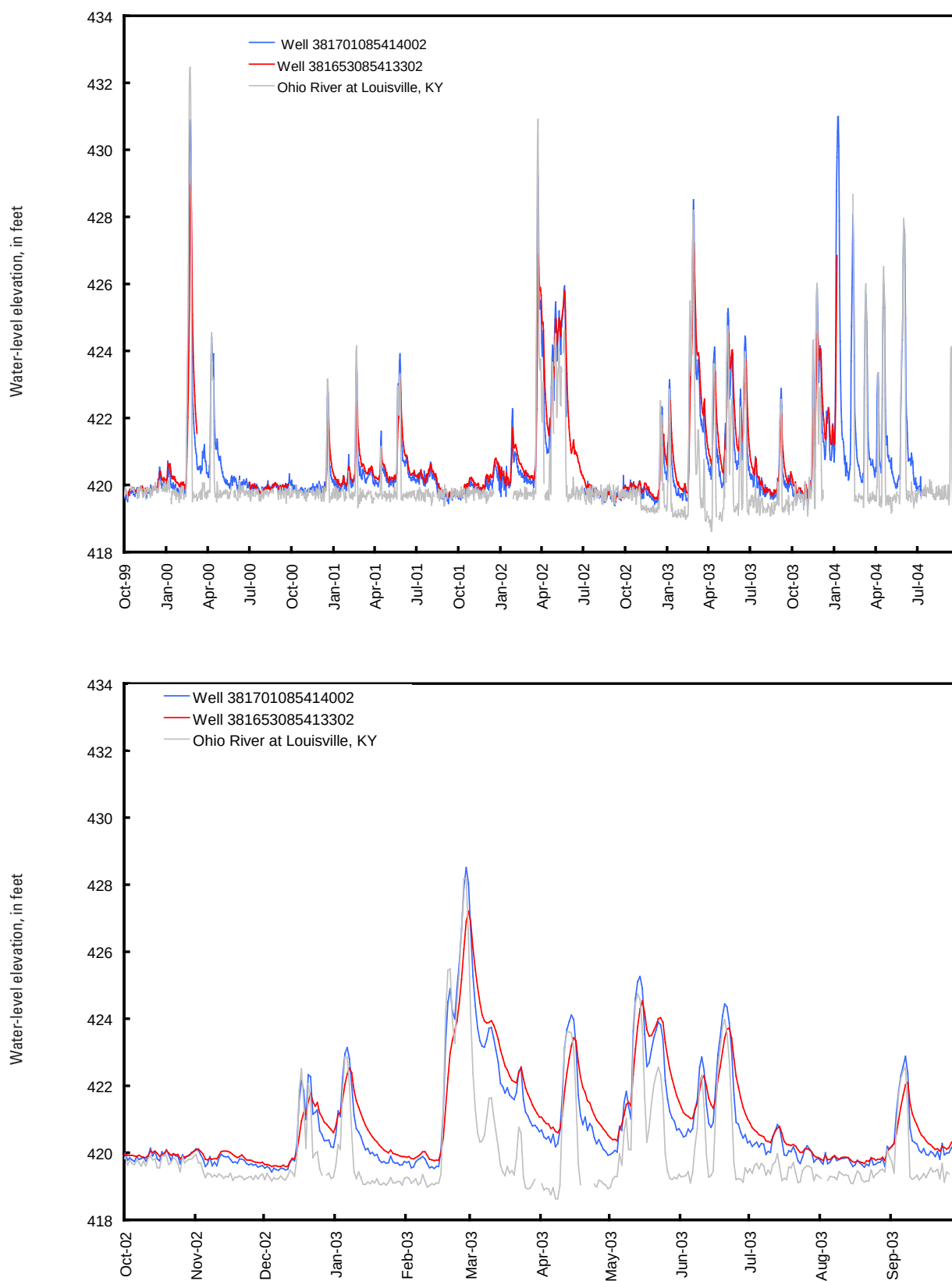


Figure 2b. Water levels for wells equipped with continuously recording pressure transducers in the observation-well network and the Ohio River, Louisville, Kentucky.

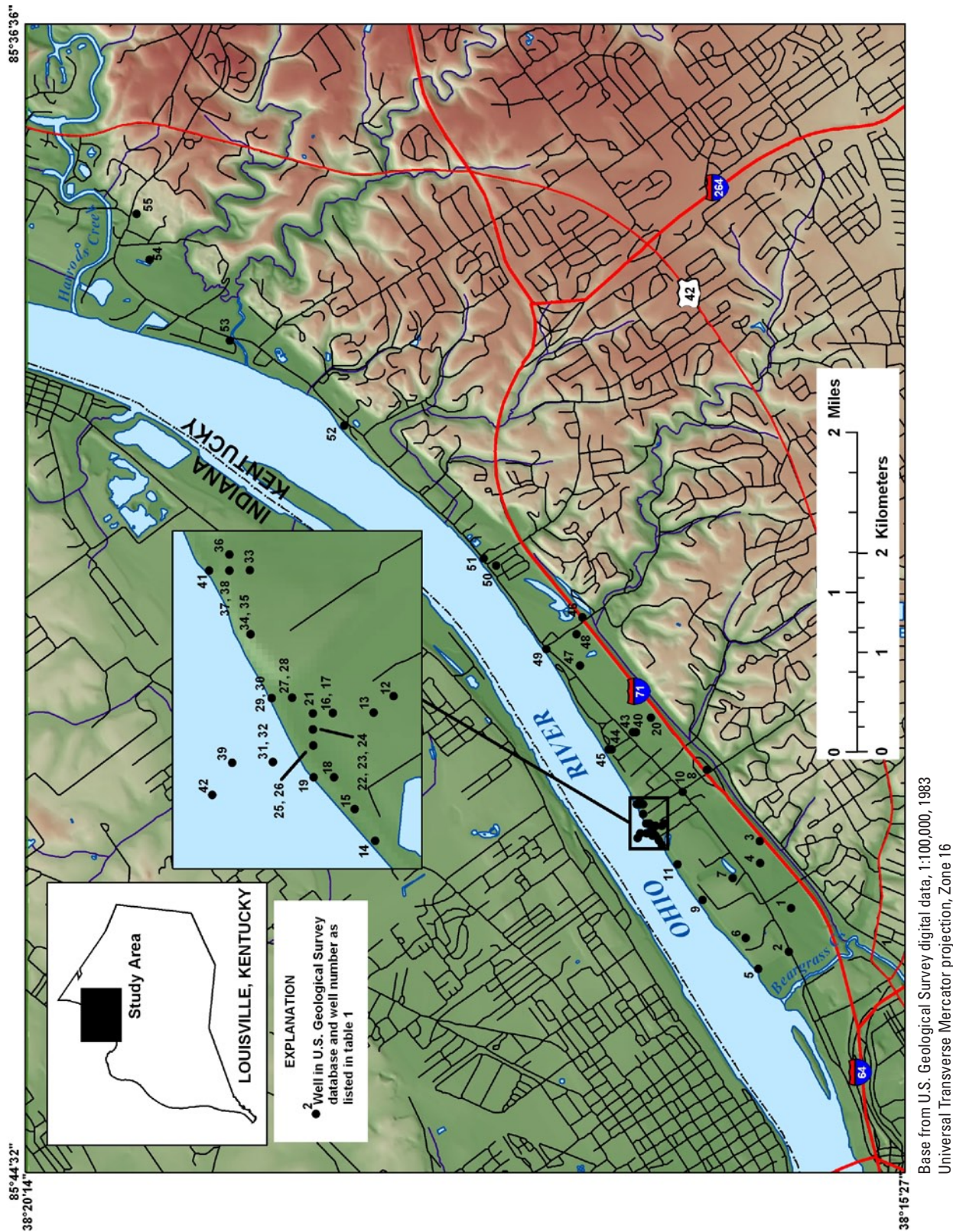


Figure 3. Location of wells in the U.S. Geological Survey database for the northeast portion of the alluvial aquifer at Louisville, Kentucky.

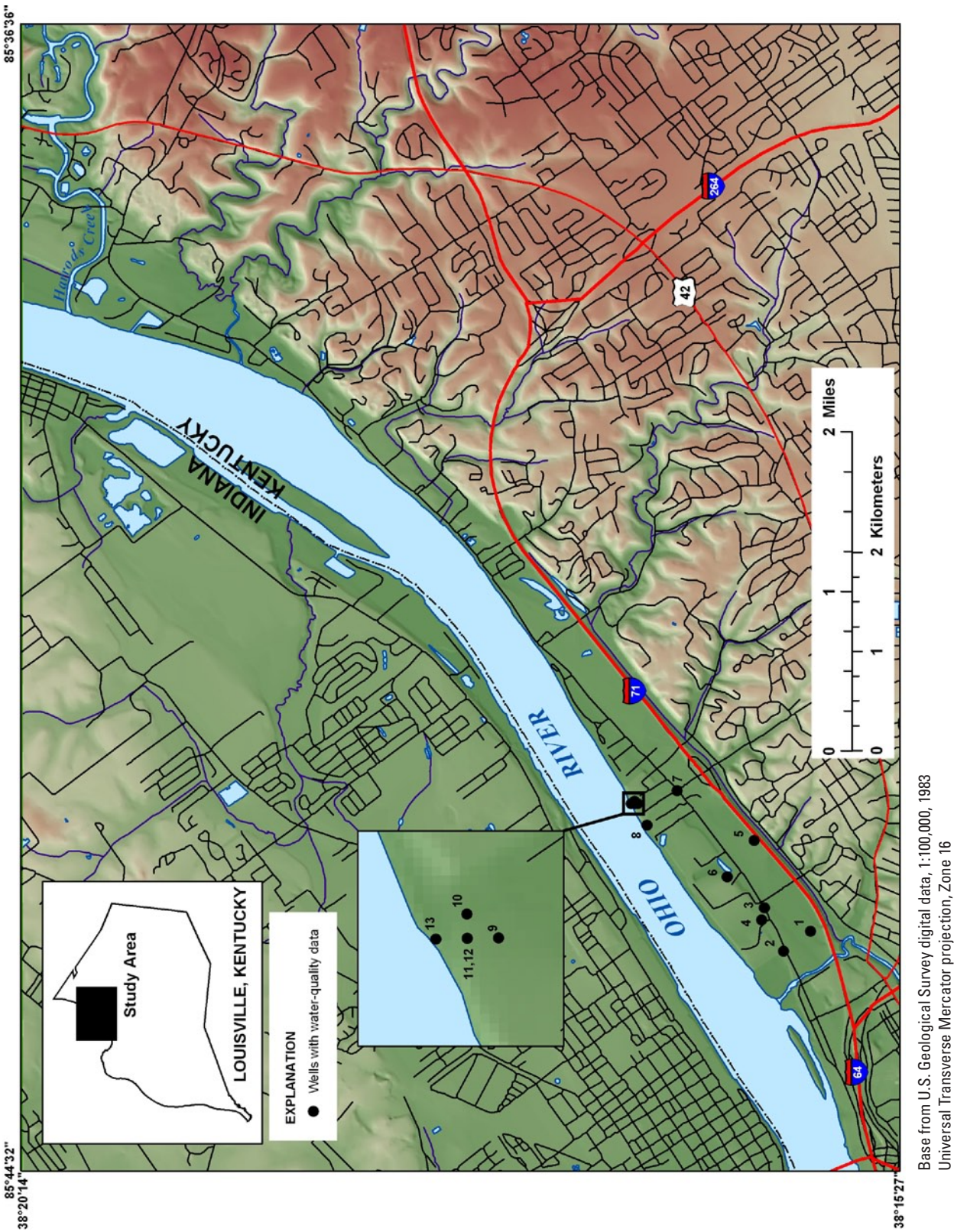


Figure 4. Location of wells in the northeast portion of the alluvial aquifer at Louisville, Kentucky, with water-quality data.

Aquifer Test Results and Aquifer Characteristics

The most complete source of aquifer-test data for the alluvial aquifer is Rorabaugh (1956). In his report, Rorabaugh derived estimates of transmissibility (121,000 [(gal/d)/ft]), distance to a line source (400 ft), and coefficient of storage (0.0003) for the outwash and river deposits (alluvium) from the aquifer tests that were run just downstream of the LWC intakes at Zorn Avenue. In addition to the values derived from the aquifer tests, estimates of transmissivity for the study area were determined from laboratory permeability tests of alluvial deposits collected from Rorabaugh's 16 test-well installations. The locations of the wells and the associated transmissivity estimates are shown in figure 5. Based on the results from his investigations, Rorabaugh estimated the resource-development potential of the alluvial aquifer between Beargrass Creek and Harrods Creek to range from 280 to 400 Mgal/d, depending on ground-water temperature and the potential for pumped wells to induce flow from the river. While additional aquifer tests were done in the immediate area of Rorabaugh's tests (USGS and LWC testing during 1979-82, and LWC testing during 1995-97), aquifer characteristics were not calculated. Information and data from these tests are limited to the water-quality sampling results.

Physical descriptions of the alluvial deposits were compiled from drillers' logs for selected wells in the study area. A summary of the logs is presented in table 8 (at back of report) and is shown on figure 6.

Depth-to-bedrock contours were modified from map insets found in Price (1964) and are shown on figure 7.

Ground-Water Use

The quantity of ground water used throughout the study area is a small fraction of the total quantity available. Only nine of the wells included in this data compilation are currently (2006) being used or are planned to be used for commercial or industrial ground-water withdrawals. Seven of the nine wells currently are permitted to withdraw a total of 3.64 Mgal/d, but their combined withdrawal is approximately 0.60 Mgal/d. Two wells were recently installed in the study area, and operators are in the process of obtaining permits. Ground-water withdrawal permits are required for withdrawals greater than 10,000 gal/d; permits are issued by the KDOW.

Figure 8 shows the location, use, and permitted daily withdrawal volume for each permitted ground-water user.

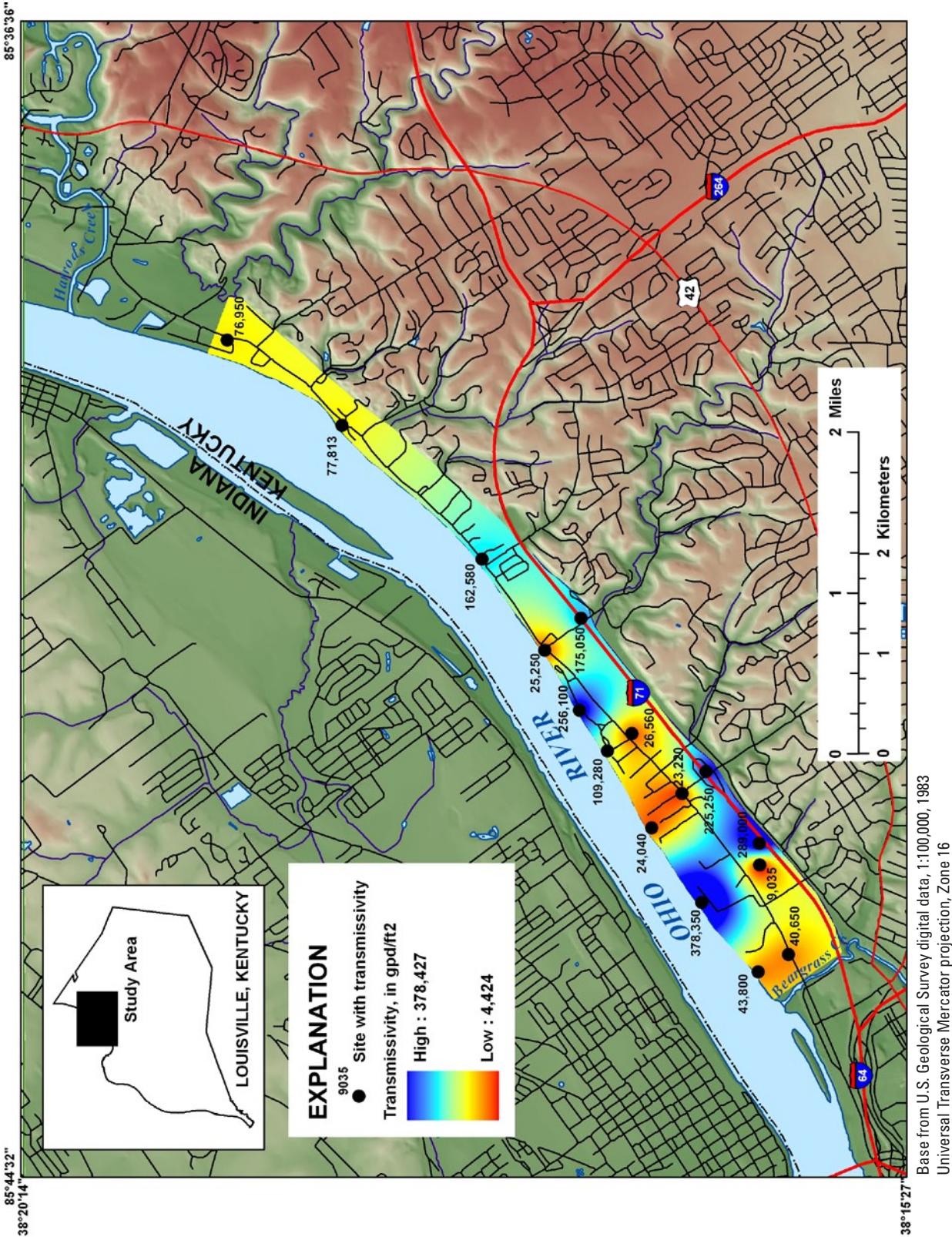
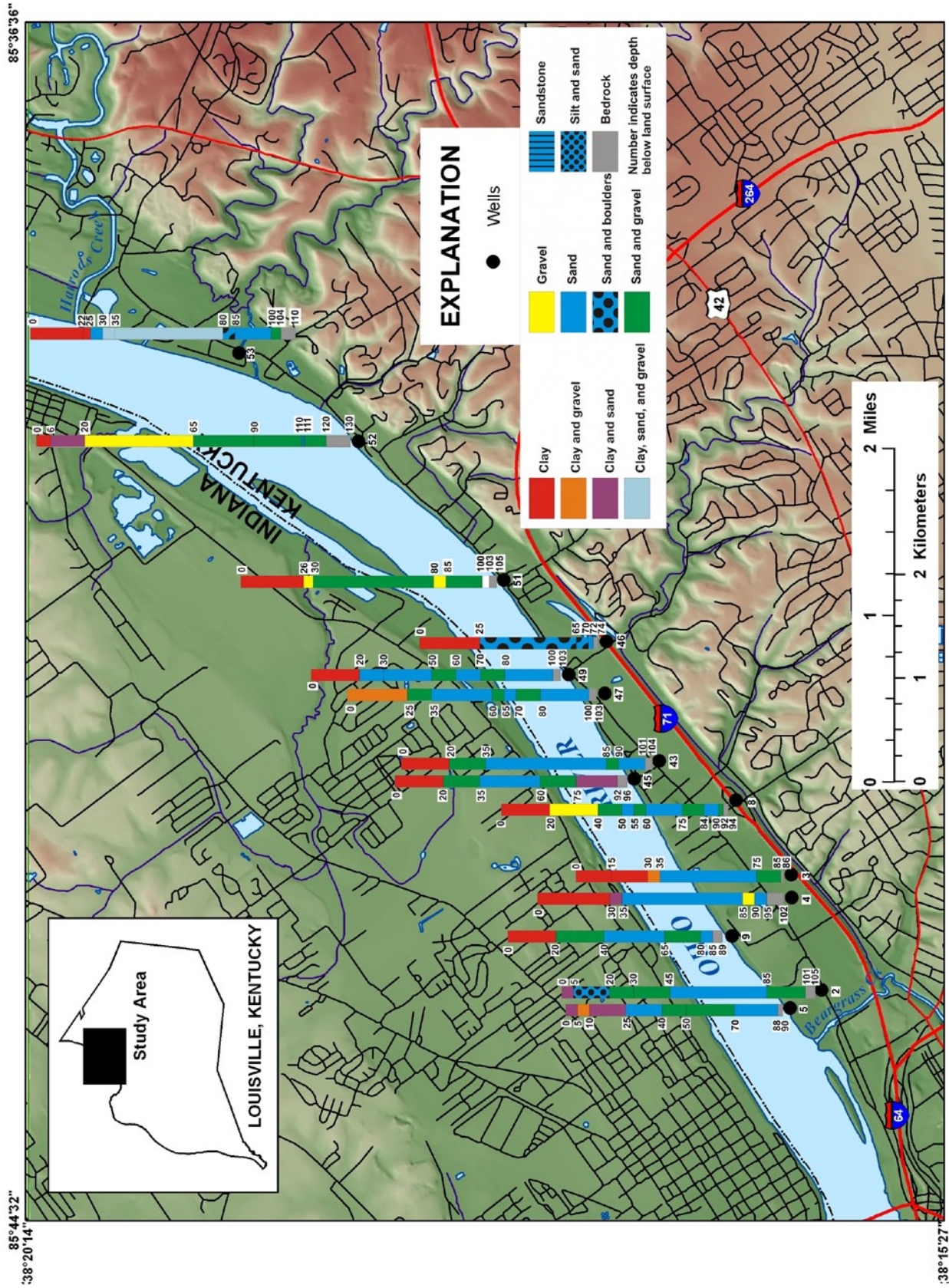


Figure 5. Estimates of transmissivity from laboratory permeability-test results for selected wells in the northeast portion of the alluvial aquifer at Louisville, Kentucky. [M.I. Rorabaugh, unpub. data, 1947]



Base from U.S. Geological Survey digital data, 1:100,000, 1983
Universal Transverse Mercator projection, Zone 16

Figure 6. Drillers' logs for selected wells in the northeast portion of the alluvial aquifer at Louisville, Kentucky.

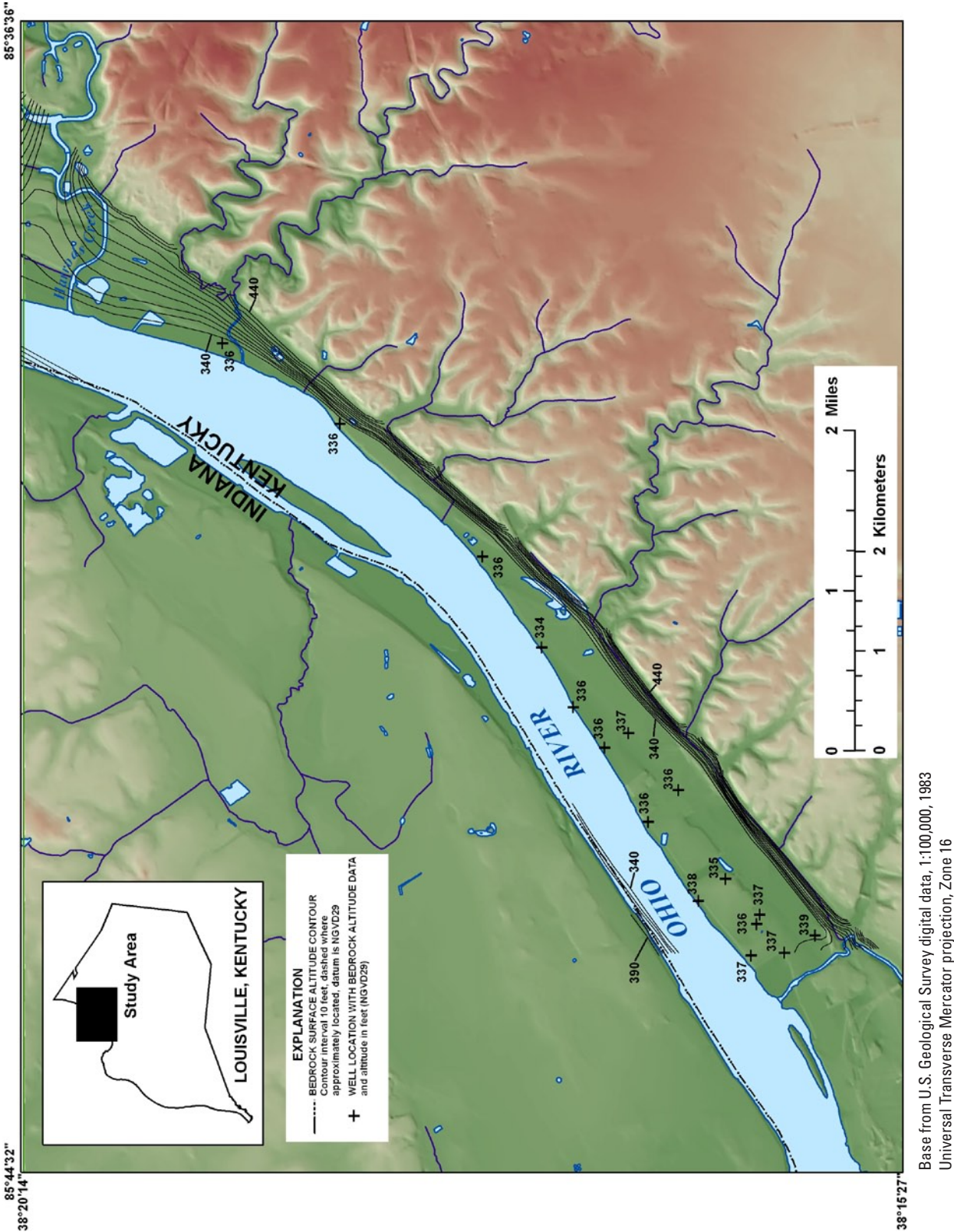


Figure 7. Elevations of the bedrock surface beneath the northeast portion of the alluvial aquifer at Louisville, Kentucky.

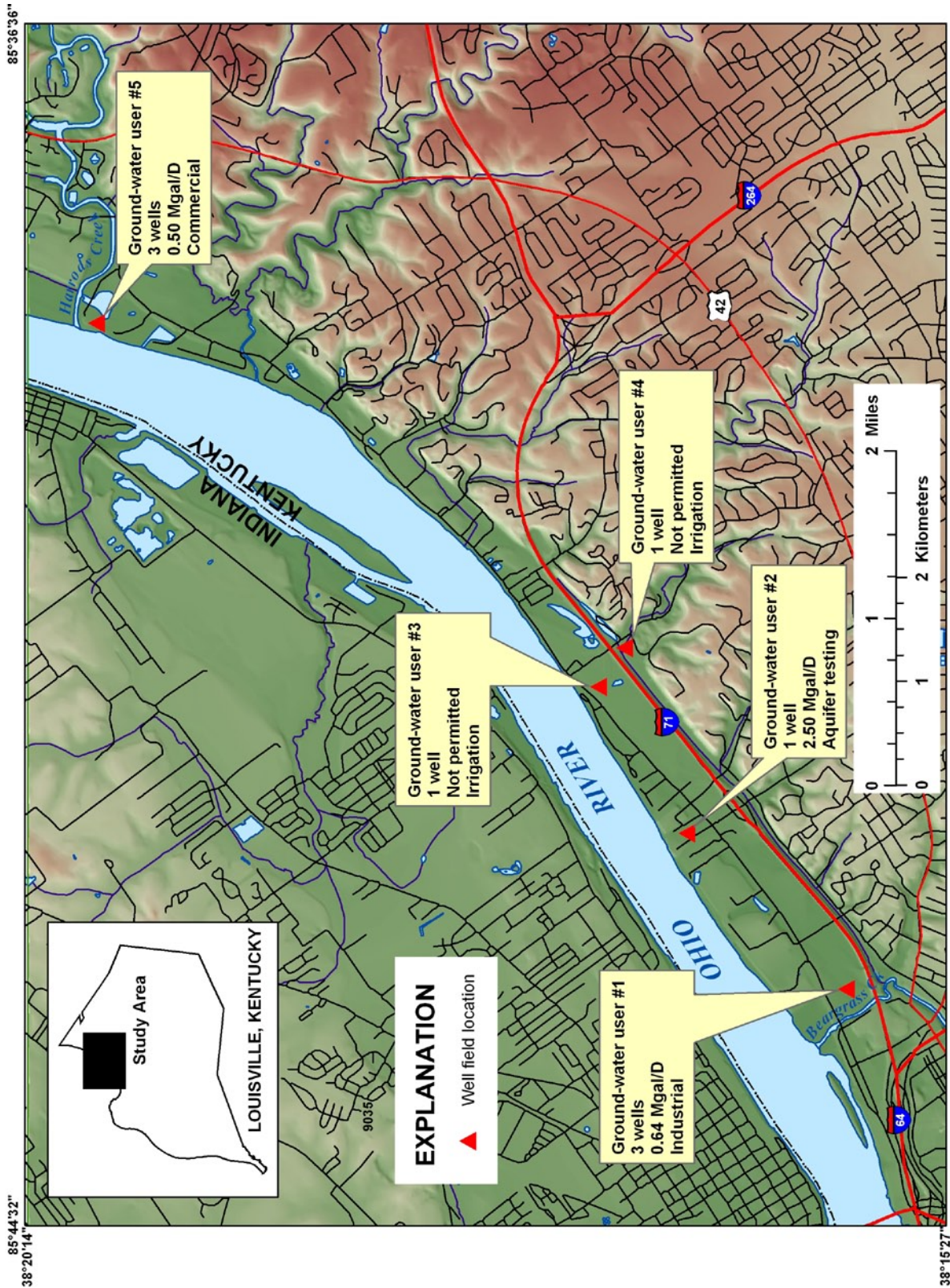


Figure 8. Location of well fields and permitted ground-water pumpage in the northeast portion of the alluvial aquifer at Louisville, Kentucky.

Summary

The U.S. Geological Survey, in cooperation with the Louisville Water Company, has reviewed and compiled existing hydrogeological data for the northeast portion of the alluvial aquifer at Louisville, Kentucky. Available ground-water data (since 1956) for the alluvial aquifer from Beargrass Creek to Harrods Creek were compiled from the U.S. Geological Survey National Water Information System and the Kentucky Groundwater Data Repository. Additional data and information were gathered and reviewed from project files at the U.S. Geological Survey–Kentucky Water Science Center and files at the Louisville Water Company. The types of data compiled include ground-water well locations and construction details, historical water levels, drillers' logs, water-quality field parameters and laboratory analyses, and pumping-tests results. Current ground-water conditions are described by use of data from an active ground-water observation-well network and ground-water withdrawal information from the Kentucky Division of Water–Groundwater Branch.

Since 1956, investigations have produced reports, maps, and data files that cover a variety of topics related to the ground water in the northeast portion of the alluvial aquifer at Louisville, Kentucky. These data were compiled into a single report to assist in future development and management of the ground-water resources in this prolific water-bearing formation.

References Cited

- Gallaher, J.T., and Price, W.E., Jr., 1966, Hydrology of the alluvial deposits in the Ohio River Valley in Kentucky: U.S. Geological Survey Water-Supply Paper 1818, 80 p., 21 figs.
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- Palmquist, W.N., Jr., and Hall, F.R., 1960, Availability of ground water in Bullitt, Jefferson, and Oldham Counties, Kentucky: U.S. Geological Survey Hydrologic Investigations Atlas HA-22, scale 1:125,000, 3 sheets.
- Price, W.E., Jr., 1964, Geology and hydrology of alluvial deposits along the Ohio River between Prospect and southwestern Louisville, Kentucky: U.S. Geological Survey Hydrologic Investigations Atlas HA-130, 2 sheets.
- Rorabaugh, M.I., 1956, Ground water in northeastern Louisville, Kentucky, with reference to induced infiltration: U.S. Geological Survey Water-Supply Paper 1360-B, p. 101-169.
- Starn, J.J., and Mull, D.S., 1994, Annotated bibliography of selected references on ground-water resources and geohydrology of the Louisville area, Kentucky, 1944-93: U.S. Geological Survey Open-File Report 94-75, 19 p.

Table 1. Construction details, location, water levels, and period of record for wells in the northeast portion of the alluvial aquifer at Louisville, Kentucky, as stored in the U.S. Geological Survey Ground-Water Site-Inventory (GWSI) database.

[DMS, degrees minutes seconds; ft, feet; bls, below land surface; in., inches; --, not available]

Map number on figure 3	Site identification number	North latitude ¹ (DMS)	West longitude ¹ (DMS)	Land surface elevation ² (ft)	Depth of well (ft bls)	Initial water-level measurement (ft bls)	Casing inside diameter (in.)	Construction date	Period of record	Number of water level records
1	381603085424701	38°16'03"	85°42'47"	429.7	26.1	15.16	1.25	January 1944	January 1944	1
2	381604085430501	38°16'04"	85°43'05"	438.88	102	31	4.00	April 1946	April 1946-October 1996	608
3	381613085421901	38°16'13"	85°42'19"	434.59	86	15	4.00	June 1946	June 1946-May 1992	189
4	381613085422801	38°16'13"	85°42'28"	433.66	60.2	13.16	2.00	1995	March 2001-August 2005	12
5	381614085431201	38°16'14"	85°43'12"	429.11	90.6	6.0	4.00	April 1946	April 1946-November 1950	8
6	381618085425901	38°16'18"	85°42'59"	427.52	27	9.19	1.25	January 1944	January 1944	1
7	381622085423401	38°16'22"	85°42'34"	432.78	102.2	13.77	4.00	May 1946	May 1946	1
8	381630085414901	38°16'30"	85°41'49"	428	94	8.01	4.00	April 1946	April 1948	1
9	381632085424301	38°16'32"	85°42'43"	422.7	89	6.6	4.00	May 1946	May 1946	1
10	381638085415801	38°16'38"	85°41'58"	435.79	104	15.85	4.00	1946	April 1946-August 2005	668
11	381640085422801	38°16'40"	85°42'28"	428	25.1	9.17	1.25	January 1944	January 1944	1
12	381644085421101	38°16'44"	85°42'11"	433	95.2	13.44	4.00	June 1946	June 1946	1
13	381645085421201	38°16'45"	85°42'12"	434.4	97	14.37	4.00	June 1946	June 1946	1
14	381645085422001	38°16'45"	85°42'20"	425.7	91	5.96	4.00	June 1946	June 1946	1
15	381646085421801	38°16'46"	85°42'18"	425.8	91	6	4.00	July 1946	July 1946	1
16	381647085421201	38°16'47"	85°42'12"	430	94.2	10.39	4.00	July 1946	July 1946	1
17	381647085421202	38°16'47"	85°42'12"	430.4	33.5	10.98	1.25	July 1946	July 1946	1
18	381647085421601	38°16'47"	85°42'16"	425.9	28.3	7	1.25	July 1946	July 1946	1
19	381647085421603	38°16'48"	85°42'16"	425.9	90.5	6.28	4.00	July 1946	July 1946	1
20	381648085412701	38°16'48"	85°41'27"	434.5	29.9	15.27	1.25	February 1944	February 1944	1
21	381648085421201	38°16'48"	85°42'12"	435.11	98	15.06	4.00	April 1946	April 1946-August 2005	352
22	381648085421301	38°16'48"	85°42'13"	425.7	90	6.32	12.00	September 1946	September 1946	1
23	381648085421302	38°16'48"	85°42'13"	425.7	53.2	6.17	1.25	July 1946	July 1946	1
24	381648085421303	38°16'48"	85°42'13"	425.7	95.2	5.75	4.00	June 1946	June 1946	1
25	381648085421401	38°16'48"	85°42'14"	420.6	87	1.07	4.00	July 1946	July 1946	1
26	381648085421402	38°16'48"	85°42'14"	420.6	36.9	1.11	1.25	July 1946	July 1946	1
27	381649085421101	38°16'49"	85°42'11"	425.7	90	6.23	4.00	July 1946	July 1946	1
28	381649085421102	38°16'49"	85°42'11"	425.7	26.7	6.27	1.25	July 1946	July 1946	1
29	381650085421101	38°16'50"	85°42'11"	425.3	91	6.65	4.00	July 1946	July 1946	1
30	381650085421102	38°16'50"	85°42'11"	425.3	26.5	6.85	1.25	July 1946	July 1946	1
31	381650085421501	38°16'50"	85°42'15"	409	72	10.66	4.00	October 1946	October 1946	1

Table 1. Construction details, location, water levels, and period of record for wells in the northeast portion of the alluvial aquifer at Louisville, Kentucky, as stored in the U.S. Geological Survey Ground-Water Site-Inventory (GWSI) database.—*Continued*

[DMS, degrees minutes seconds; ft, feet; bls, below land surface; in., inches; --, not available]

Map number on figure 3	Site identification number	North latitude ¹ (DMS)	West longitude ¹ (DMS)	Land surface elevation ² (ft)	Depth of well (ft bls)	Initial water-level measurement (ft bls)	Casing inside diameter (in.)	Construction date	Period of record	Number of water level records
32	381650085421502	38°16'50"	85°42'15"	409	42.4	10.83	1.25	October 1946	October 1946	1
33	381651085420301	38°16'51"	85°42'03"	448.8	90	26.04	6.00	1979	January 1980	1
34	381651085420701	38°16'51"	85°42'07"	424.2	88.3	4.4	4.00	June 1946	June 1946	1
35	381651085420702	38°16'51"	85°42'07"	424.2	16	2.6	4.00	October 1946	October 1946	1
36	381652085420201	38°16'52"	85°42'02"	448.8	90	24.6	6.00	1979	January 1980	1
37	381652085420301	38°16'52"	85°42'03"	448	110	26.25	30.00	1979	January 1980	1
38	381652085420302	38°16'52"	85°42'03"	449	107.3	26.32	6.00	1979	January 1980	1
39	381652085421501	38°16'52"	85°42'15"	388.8	87.1	30.62	6.50	October 1946	October 1946	1
40	381653085413302	38°16'53"	85°41'33"	437.65	90	18.32	1.50	December 1979	December 1979-August 2005	121
41	381653085420301	38°16'53"	85°42'03"	448.1	109.2	25.44	6.00	1979	January 1980	1
42	381653085421701	38°16'53"	85°42'17"	386	87.88	33.41	6.50	October 1946	October 1946	1
43	381654085413301	38°16'54"	85°41'33"	438	104	17.9	4.50	May 1946	May 1946-October 1980	189
44	381701085414002	38°17'01"	85°41'40"	432.58	96	12.3	1.50	May 1979	May 1979-August 2005	105
45	381702085414001	38°17'02"	85°41'40"	427.46	96	7.6	4.00	May 1946	May 1946-October 1981	175
46	381710085404501	38°17'10"	85°40'45"	437.66	74.5	15.5	4.00	June 1946	June 1946	1
47	381711085410501	38°17'11"	85°41'05"	443.79	40.5	24.1	36.00	1944	August 1944	1
48	381712085405201	38°17'12"	85°40'52"	443.36	36.4	23.89	30.00	January 1944	January 1944	1
49	381722085405801	38°17'22"	85°40'58"	433.5	103	17.51	4.00	May 1946	May 1946-May 1992	252
50	381738085402301	38°17'38"	85°40'23"	442	28.4	16.77	1.25	February 1944	February 1944	1
51	381742085402001	38°17'42"	85°40'20"	438.87	106	25.65	4.00	June 1946	June 1946-August 2005	229
52	381827085392401	38°18'27"	85°39'24"	455.94	130	36.35	4.00	July 1946	July 1946-August 2005	236
53	381904085384801	38°19'04"	85°38'48"	438.46	96	19.12	4.00	August 1946	August 1946-August 2005	223
54	381930085381401	38°19'30"	85°38'14"	442	47.7	19.17	6.00	--	August 1943	1
55	381934085375501	38°19'34"	85°37'55"	462	78	32.48	6.00	--	October 1962	1

¹Horizontal reference, North American Datum 1927 (NAD 27).

²Elevation reference, National Geodetic Vertical Datum of 1929 (NGVD 29).

Table 2. Construction details, location, and water levels for wells in the northeast portion of the alluvial aquifer at Louisville, Kentucky, as stored in the Kentucky Geological Survey Kentucky Groundwater Data Repository (KGDR) database.

[AKGWA, Assembled Kentucky Ground Water Database; KGS, Kentucky Geological Survey; DMS, degrees minutes seconds; ft, feet; bls, below land surface; in., inches; USGS, U.S. Geological Survey; GWSI, Ground-Water Site-Inventory; --, not available; NA, not applicable]

AKGWA identification number	KGS record identification number	North latitude ¹ (DMS)	West longitude ¹ (DMS)	Construction date	Primary use	Surface elevation ² (ft)	Depth to bedrock (ft bls)	Total depth (ft bls)	Static water level (ft bls)	Casing inside diameter (in.)	Cross-listing in USGS GWSI database
80008822	646	38°15'47"	85°43'49"	April 1993	Monitoring	430	--	--	--	--	NA
14089	12835	38°19'23"	85°38'45"	July 1990	Domestic	435	65	65	10	6.00	NA
14090	12836	38°19'48"	85°38'32"	October 1990	Unknown	435	82	82	10	6.00	NA
18651	12837	38°19'18"	85°38'48"	May 1989	Domestic	430	45	45	15	6.00	NA
28320	15596	38°16'54"	85°39'02"	May 1992	Irrigation	580	8	153	80	6.00	NA
30259	17916	38°19'27"	85°38'38"	October 1992	Domestic	440	--	55	28	4.50	NA
80007002	18204	38°15'55"	85°43'09"	--	Monitoring	430	--	--	--	--	NA
80007001	18208	38°16'09"	85°42'41"	--	Monitoring	430	--	--	--	--	NA
80007000	18209	38°16'05"	85°42'50"	--	Monitoring	430	--	--	--	--	NA
80005847	18622	38°16'09"	85°42'24"	--	Monitoring	436	--	--	--	--	NA
9249	20593	38°15'51"	85°42'56"	May 1993	Industrial	440	--	93	12	15.25	NA
30896	21274	38°15'52"	85°42'56"	September 1993	Unknown	440	7	83	13	--	NA
80014828	24669	38°16'05"	85°40'46"	August 1991	Monitoring	570	--	30		4.00	NA
80000615	25476	38°16'19"	85°42'56"	June 1994	Monitoring	444.59	--	40	23.77	2.00	NA
80000614	25477	38°16'21"	85°42'53"	June 1994	Monitoring	445	--	42	25.37	2.00	NA
80000613	25480	38°16'18"	85°42'51"	June 1994	Monitoring	446.03	--	40	26.5	2.00	NA
42221	29638	38°16'51"	85°42'03"	June 1995	--	420	88	88	12	4.00	NA
39351	31327	38°16'50"	85°42'02"	--	--	440	--	--	--	24.00	NA
80008927	34114	38°16'38"	85°41'56"	June 1996	Monitoring	435	--	15	2.41	2.00	NA
80008928	34115	38°16'38"	85°41'56"	June 1996	Monitoring	435	--	25	13.87	2.00	NA

Table 2. Construction details, location, and water levels for wells in the northeast portion of the alluvial aquifer at Louisville, Kentucky, as stored in the Kentucky Geological Survey Kentucky Groundwater Data Repository (KGDR) database.--*Continued*

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AKGWA identification number	KGS record identification number	North latitude ¹ (DMS)	West longitude ¹ (DMS)	Construction date	Primary use	Surface elevation ² (ft)	Depth to bedrock (ft bls)	Total depth (ft bls)	Static water level (ft bls)	Casing inside diameter (in.)	Cross-listing in USGS GWSI database
80008929	34116	38°16'38"	85°41'56"	June 1996	Monitoring	435	--	25	6.6	2.00	NA
80008930	34117	38°16'37"	85°41'56"	June 1996	Monitoring	440	--	19	7.84	2.00	NA
80008926	34118	38°16'38"	85°41'56"	June 1996	Monitoring	435	--	20	13.57	2.00	NA
80012315	34119	38°16'38"	85°41'56"	June 1996	Monitoring	440	--	25	13.1	2.00	NA
80012319	34120	38°16'38"	85°41'56"	June 1996	Monitoring	440	--	25	14.6	2.00	NA
80012316	34121	38°16'38"	85°41'56"	June 1996	Monitoring	440	17	25	--	2.00	NA
80012317	34122	38°16'38"	85°41'56"	June 1996	Monitoring	435	--	25	13.6	2.00	NA
80012318	34123	38°16'38"	85°41'56"	June 1996	Monitoring	440	--	25	13.6	2.00	NA
80012320	34124	38°16'38"	85°41'56"	June 1996	Monitoring	435	--	25	16.1	2.00	NA
80017132	34125	38°16'38"	85°41'56"	June 1996	Monitoring	435	--	25	5.98	2.00	NA
80017133	34126	38°16'38"	85°41'56"	June 1996	Monitoring	435	--	25	4.68	2.00	NA
80026274	37618	38°16'31"	85°41'58"	January 1997	Monitoring	440	--	25	16	4.00	NA
80033839	38872	38°15'55"	85°40'13"	August 1997	Monitoring	560	--	12	9	2.00	NA
80025744	38876	38°15'57"	85°42'46"	June 1997	Monitoring	440	--	45.5	15.1	2.00	NA
80033247	38880	38°16'09"	85°42'43"	June 1997	Monitoring	430	--	61	17	2.00	NA
80033250	38881	38°15'56"	85°42'45"	June 1997	Monitoring	440	--	64	17	2.00	NA
80033248	38882	38°15'56"	85°42'45"	June 1997	Monitoring	430	--	60	10	2.00	NA
80033246	38883	38°16'14"	85°42'29"	June 1997	Monitoring	435	--	60	14	2.00	NA
80032310	38884	38°16'33"	85°41'57"	June 1997	Monitoring	430	--	25	18.75	4.00	NA
80032304	38885	38°16'33"	85°41'55"	June 1997	Monitoring	430	--	25	18.5	4.00	NA
80032309	38886	38°16'32"	85°41'57"	June 1997	Monitoring	430	--	25	18.5	4.00	NA

Table 2. Construction details, location, and water levels for wells in the northeast portion of the alluvial aquifer at Louisville, Kentucky, as stored in the Kentucky Geological Survey Kentucky Groundwater Data Repository (KGDR) database.--*Continued*

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AKGWA identification number	KGS record identification number	North latitude ¹ (DMS)	West longitude ¹ (DMS)	Construction date	Primary use	Surface elevation ² (ft)	Depth to bedrock (ft bls)	Total depth (ft bls)	Static water level (ft bls)	Casing inside diameter (in.)	Cross-listing in USGS GWSI database
80000618	40148	38°16'17"	85°43'00"	January 1998	Monitoring	438.2	--	40	17.6	2.00	NA
80000617	40149	38°16'13"	85°42'56"	January 1998	Monitoring	442.5	--	45	23.5	2.00	NA
80000616	40150	38°16'13"	85°42'52"	January 1998	Monitoring	443	--	40	21.3	2.00	NA
80000612	40151	38°16'17"	85°42'50"	December 1997	Monitoring	445.95	--	35	23.4	2.00	NA
80000606	40152	38°16'18"	85°42'46"	December 1997	Monitoring	444.74	--	34.5	18.53	2.00	NA
80000605	40153	38°16'23"	85°42'47"	January 1998	Monitoring	444	--	35	--	2.00	NA
80004259	40154	38°16'22"	85°42'51"	January 1998	Monitoring	445.61	--	35	24.4	2.00	NA
80000619	40155	38°16'15"	85°42'46"	December 1997	Monitoring	444.8	--	35	22.8	2.00	NA
80034042	40292	38°16'31"	85°41'58"	March 1998	Monitoring	440	--	25	18.5	2.00	NA
80034046	40293	38°16'31"	85°41'58"	March 1998	Monitoring	440	--	25	15.46	2.00	NA
80035409	40566	38°15'51"	85°40'13"	April 1998	Monitoring	560	12	12	--	2.00	NA
80028396	40946	38°15'56"	85°43'32"	May 1998	Monitoring	445	--	25	--	2.00	NA
80028397	40947	38°15'56"	85°43'32"	May 1998	Monitoring	445	--	25	--	2.00	NA
80028395	40948	38°15'56"	85°43'32"	May 1998	Monitoring	445	--	25	--	2.00	NA
80012820	40949	38°15'58"	85°43'23"	May 1998	Monitoring	440	--	23	--	2.00	NA
80012819	40950	38°15'57"	85°43'23"	May 1998	Monitoring	440	--	24	--	2.00	NA
80011175	40951	38°15'52"	85°43'14"	May 1998	Monitoring	435	--	25.5	--	2.00	NA
80011174	40952	38°15'52"	85°43'14"	May 1998	Monitoring	435	--	25.5	--	2.00	NA
80011173	40953	38°15'51"	85°43'14"	May 1998	Monitoring	435	--	25.5	--	2.00	NA

Table 2. Construction details, location, and water levels for wells in the northeast portion of the alluvial aquifer at Louisville, Kentucky, as stored in the Kentucky Geological Survey Kentucky Groundwater Data Repository (KGDR) database.--*Continued*

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AKGWA identification number	KGS record identification number	North latitude ¹ (DMS)	West longitude ¹ (DMS)	Construction date	Primary use	Surface elevation ² (ft)	Depth to bedrock (ft bls)	Total depth (ft bls)	Static water level (ft bls)	Casing inside diameter (in.)	Cross-listing in USGS GWSI database
80011172	40954	38°15'52"	85°43'14"	May 1998	Monitoring	435	--	25.5	--	2.00	NA
80011171	40955	38°15'52"	85°43'14"	May 1998	Monitoring	435	--	25	--	2.00	NA
80009490	40956	38°15'52"	85°43'40"	May 1998	Monitoring	440	--	25	--	2.00	NA
80009489	40957	38°15'51"	85°43'40"	May 1998	Monitoring	440	--	25	--	2.00	NA
80018441	41211	38°15'47"	85°43'50"	July 1998	Monitoring	440	--	50	22.89	--	NA
80018442	41212	38°15'47"	85°43'50"	July 1998	Monitoring	440	--	40	23.27	--	NA
80018443	41213	38°15'47"	85°43'50"	July 1998	Monitoring	440	--	40	18.56	--	NA
80018444	41214	38°15'47"	85°43'50"	July 1998	Monitoring	440	--	40	23.24	--	NA
80018445	41215	38°15'47"	85°43'50"	July 1998	Monitoring	440	--	35	21.72	--	NA
80018446	41216	38°15'47"	85°43'50"	July 1998	Monitoring	440	--	35	23.12	--	NA
80018447	41217	38°15'47"	85°43'50"	July 1998	Monitoring	440	--	35	23.07	--	NA
80009491	43033	38°15'52"	85°43'40"	May 1998	Monitoring	440	--	25	--	2.00	NA
80030930	43074	38°15'48"	85°43'45"	July 1998	Monitoring	440	--	40	--	4.00	NA
80030929	43075	38°15'47"	85°43'45"	July 1998	Monitoring	440	--	40	--	4.00	NA
80030931	43081	38°15'48"	85°43'45"	July 1998	Monitoring	440	--	40	--	4.00	NA
80015213	43151	38°15'44"	85°44'09"	August 1998	Monitoring	440	--	30	--	2.00	NA
80015214	43152	38°15'43"	85°44'09"	August 1998	Monitoring	440	--	30	--	2.00	NA
--	47265	38°16'04"	85°43'05"	--	Domestic	--	--	95	--	--	USGS Well ID 381604085430501
--	47266	38°16'09"	85°42'47"	--	Domestic	--	--	--	--	--	USGS Well ID 381603085424701
--	47267	38°16'10"	85°42'51"	--	Domestic	--	--	82	--	--	USGS Well ID 381611085425201

Table 2. Construction details, location, and water levels for wells in the northeast portion of the alluvial aquifer at Louisville, Kentucky, as stored in the Kentucky Geological Survey Kentucky Groundwater Data Repository (KGDR) database.--*Continued*

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AKGWA identification number	KGS record identification number	North latitude ¹ (DMS)	West longitude ¹ (DMS)	Construction date	Primary use	Surface elevation ² (ft)	Depth to bedrock (ft bls)	Total depth (ft bls)	Static water level (ft bls)	Casing inside diameter (in.)	Cross-listing in USGS GWSI database
--	47268	38°16'13"	85°42'19"	--	Domestic	--	--	--	12.22	--	USGS Well ID 381613085421901
--	47269	38°16'14"	85°43'11"	--	Domestic	--	--	--	--	--	USGS Well ID 381614085431201
--	47271	38°16'22"	85°42'33"	--	Domestic	--	--	--	--	--	USGS Well ID 381622085423401
--	47274	38°16'48"	85°42'11"	--	Domestic	--	--	--	--	--	USGS Well ID 381648085421201
--	47275	38°16'50"	85°42'08"	--	Domestic	--	--	--	--	--	USGS Well ID 381650085420901
--	47286	38°16'37"	85°41'57"	--	Domestic	--	--	95	--	--	USGS Well ID 381638085415801
--	47291	38°16'51"	85°42'02"	--	Domestic	--	--	90	--	--	USGS Well ID 381651085420301
--	47292	38°16'51"	85°42'02"	--	Domestic	--	--	104	--	--	USGS Well ID 381652085420302
--	47293	38°16'53"	85°42'02"	--	Domestic	--	--	109	--	--	USGS Well ID 381653085420301
--	47369	38°17'42"	85°40'19"	--	Domestic	--	--	--	14.31	--	USGS Well ID 381742085402001
--	47370	38°18'27"	85°39'24"	--	Domestic	--	--	--	29.56	--	USGS Well ID 381827085392401
--	47371	38°19'04"	85°38'48"	--	Domestic	--	--	--	12.39	--	USGS Well ID 381904085384801
80036089	58799	38°16'12"	85°42'33"	October 1999	Monitoring	450	--	20	--	--	NA
80036086	58800	38°16'48"	85°42'33"	October 1999	Monitoring	450	--	8.5	--	--	NA

Table 2. Construction details, location, and water levels for wells in the northeast portion of the alluvial aquifer at Louisville, Kentucky, as stored in the Kentucky Geological Survey Kentucky Groundwater Data Repository (KGDR) database.--*Continued*

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AKGWA identification number	KGS record identification number	North latitude ¹ (DMS)	West longitude ¹ (DMS)	Construction date	Primary use	Surface elevation ² (ft)	Depth to bedrock (ft bls)	Total depth (ft bls)	Static water level (ft bls)	Casing inside diameter (in.)	Cross-listing in USGS GWSI database
80036084	58801	38°17'23"	85°42'33"	October 1999	Monitoring	450	--	20	--	--	NA
80036452	60056	38°16'14"	85°42'59"	February 1999	Monitoring	448.93	--	35	23.97	--	NA
80036451	60057	38°16'14"	85°42'46"	February 1999	Monitoring	443.48	--	35	15.15	--	NA
80036450	60058	38°16'22"	85°42'45"	February 1999	Monitoring	445.65	--	35.5	18.23	--	NA
80036449	60059	38°16'26"	85°42'47"	February 1999	Monitoring	442.9	--	35.5	20.55	--	NA
80036448	60060	38°16'15"	85°43'00"	February 1999	Monitoring	439.45	--	30	17.7	--	NA
80021531	60066	38°16'12"	85°42'23"	April 2000	Monitoring	436	86	86	--	--	NA
80023555	60067	38°16'01"	85°42'38"	March 2000	Monitoring	437	--	31	--	--	NA
80018449	60068	38°15'59"	85°42'43"	March 2000	Monitoring	436	--	31	--	--	NA
80018467	60069	38°16'14"	85°42'29"	March 2000	Monitoring	436	--	32	--	--	NA
49376	65747	38°16'58"	85°40'39"	June 2001	Irrigation	450	58	52	17.95	11.25	NA
80042456	67565	38°15'47"	85°43'51"	September 2001	Water quality	440	--	33	--	2.00	NA
80042458	67566	38°15'47"	85°43'50"	September 2001	Water quality	440	--	29.5	--	2.00	NA
80042457	67567	38°15'47"	85°43'51"	September 2001	Water quality	440	--	29.5	--	2.00	NA
80042459	67568	38°15'46"	85°43'50"	September 2001	Water quality	440	--	32	--	4.00	NA

¹ Horizontal reference, North American Datum 1927 (NAD 27).

² Elevation reference, National Geodetic Vertical Datum of 1929 (NGVD 29).

Table 3. Field and lab parameters for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.[mg/L as CaCO₃, milligrams per liter as calcium carbonate; µS/cm, microsiemens per centimeter; °C, degrees Celsius; NTU, nephelometric turbidity units; NS, not sampled]

Map number on figure 4	Site identification number	Date	Field parameters ¹					Lab parameter ²
			Alkalinity (mg/L as CaCO ₃)	Specific conductance (µS/cm)	Temperature (°C)	Hardness, total (mg/L as CaCO ₃)	pH (standard units)	Turbidity (NTU)
1	381555085425701	4/6/1976	NS	NS	NS	NS	7.7	37
2	381604085430501	4/2/1946	NS	NS	14.4	260	NS	NS
		7/10/1979	NS	NS	16.5	720	7.1	NS
3	381610085424701	10/9/1953	NS	NS	13.9	440	NS	NS
4	381611085425201	4/11/1944	NS	NS	18	NS	NS	NS
		8/24/1944	NS	NS	16.1	400	NS	NS
		5/17/1945	NS	NS	NS	400	7	NS
		4/11/1946	NS	NS	17.8	390	NS	NS
		8/21/1946	NS	NS	16.1	420	NS	NS
		9/26/1947	NS	717	13.9	340	NS	NS
		10/5/1948	NS	725	14.4	350	NS	NS
		8/30/1949	NS	698	14.4	350	NS	NS
		8/15/1950	NS	726	14.4	370	NS	NS
		9/4/1951	NS	703	14.4	370	NS	NS
		8/15/1952	NS	734	16	400	NS	NS
		12/18/1952	NS	798	13.9	450	7.6	NS
		8/15/1968	NS	735	16	400	NS	NS
5	381613085421901	6/8/1946	NS	NS	13.9	370	NS	NS
6	381622085423401	5/4/1946	NS	NS	13.9	370	NS	NS
7	381638085415801	7/10/1979	NS	850	15	500	7.2	NS
8	381648085421201	4/30/1946	NS	NS	13.9	500	NS	NS
9	381651085420301	8/15/1979	NS	NS	NS	NS	NS	NS
		8/16/1979	NS	NS	NS	NS	NS	NS
		8/17/1979	NS	NS	NS	NS	NS	NS

Table 3. Field and lab parameters for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*

[mg/L as CaCO₃, milligrams per liter as calcium carbonate; µS/cm, microsiemens per centimeter; °C, degrees Celsius; NTU, nephelometric turbidity units; NS, not sampled]

Map number on figure 4	Site identification number	Date	Field parameters ¹					Lab parameter ²
			Alkalinity (mg/L as CaCO ₃)	Specific conductance (µS/cm)	Temperature (°C)	Hardness, total (mg/L as CaCO ₃)	pH (standard units)	Turbidity (NTU)
9	381651085420301 (continued)	8/20/1979	420	860	15	600	NS	NS
		8/23/1979	404	910	16	512	NS	NS
		8/29/1979	400	800	16	568	NS	NS
		9/7/1979	462	750	15	448	NS	NS
		9/17/1979	464	875	NS	480	NS	NS
		9/18/1979	428	750	15	512	NS	NS
		9/20/1979	NS	NS	NS	NS	NS	NS
		9/21/1979	NS	NS	NS	NS	NS	NS
		9/25/1979	422	720	15	456	NS	56
		9/28/1979	NS	NS	NS	NS	NS	NS
		10/5/1979	NS	NS	NS	NS	NS	NS
		10/12/1979	406	800	14.5	492	NS	NS
		10/19/1979	NS	NS	NS	NS	NS	NS
		10/26/1979	380	650	14.6	NS	NS	NS
		11/3/1979	400	650	14.2	NS	NS	NS
		11/8/1979	376	780	14.3	484	NS	NS
		11/14/1979	NS	NS	NS	464	NS	NS
		11/18/1979	356	600	14	NS	NS	NS
		11/24/1979	370	600	14.3	444	NS	NS
		11/30/1979	362	500	14.5	440	NS	NS
		12/6/1979	352	600	14.5	436	NS	NS
		12/13/1979	340	490	15	492	NS	NS
		12/20/1979	339	590	14.5	416	NS	NS
		12/26/1979	240	600	15	408	NS	NS
		1/3/1980	322	610	14.5	428	NS	NS
		1/10/1980	336	590	14.5	384	NS	NS
		1/17/1980	330	590	15	422	NS	NS
		1/24/1980	328	590	14.5	416	NS	NS
		2/1/1980	326	590	14.5	NS	NS	NS
		2/8/1980	330	590	14.5	NS	NS	NS
		2/14/1980	330	600	14.2	NS	NS	NS
		2/21/1980	328	610	14.2	NS	NS	NS
		2/29/1980	NS	590	14.1	NS	NS	NS

Table 3. Field and lab parameters for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*[mg/L as CaCO₃, milligrams per liter as calcium carbonate; µS/cm, microsiemens per centimeter; °C, degrees Celsius; NTU, nephelometric turbidity units; NS, not sampled]

Map number on figure 4	Site identification number	Date	Field parameters ¹					Lab parameter ²
			Alkalinity (mg/L as CaCO ₃)	Specific conductance (µS/cm)	Temperature (°C)	Hardness, total (mg/L as CaCO ₃)	pH (standard units)	Turbidity (NTU)
9	381651085420301 (continued)	3/6/1980	NS	600	14.1	NS	NS	NS
		3/7/1980	NS	NS	NS	NS	NS	NS
		3/14/1980	NS	600	14.2	NS	NS	NS
		3/21/1980	NS	620	14.3	NS	NS	NS
		3/28/1980	NS	600	14.4	NS	NS	NS
		4/3/1980	NS	610	14.2	NS	NS	NS
		4/11/1980	NS	600	14.1	NS	NS	NS
		4/18/1980	NS	610	14.8	NS	NS	NS
		4/25/1980	NS	595	14.2	NS	NS	NS
		4/30/1980	NS	NS	NS	NS	NS	NS
		5/1/1980	NS	590	14.2	NS	NS	NS
		5/9/1980	NS	590	14.1	NS	NS	NS
		5/16/1980	NS	580	14.3	NS	NS	NS
		5/23/1980	NS	600	14.5	NS	NS	NS
		5/30/1980	NS	600	14.4	NS	NS	NS
		6/6/1980	NS	610	14.3	NS	NS	NS
		6/13/1980	NS	600	14.3	NS	NS	NS
		6/20/1980	NS	595	14.2	NS	NS	NS
		6/27/1980	NS	600	14.2	NS	NS	NS
		7/3/1980	NS	580	14.2	NS	NS	NS
		7/11/1980	NS	595	14.5	NS	NS	NS
		7/18/1980	NS	420	14.3	NS	NS	NS
		7/25/1980	NS	560	14.2	NS	NS	NS
		8/1/1980	NS	510	14.3	NS	NS	NS
		8/8/1980	NS	580	14.3	NS	NS	NS
		8/15/1980	NS	530	14.4	NS	NS	NS
		8/22/1980	NS	500	14.4	NS	NS	NS
		8/28/1980	NS	500	14.4	NS	NS	NS
		9/5/1980	NS	600	14.4	NS	NS	NS
		9/12/1980	NS	540	14.8	NS	NS	NS
		9/19/1980	NS	550	14.5	NS	NS	NS
		9/26/1980	NS	560	14.5	NS	NS	NS

Table 3. Field and lab parameters for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*

[mg/L as CaCO₃, milligrams per liter as calcium carbonate; µS/cm, microsiemens per centimeter; °C, degrees Celsius; NTU, nephelometric turbidity units; NS, not sampled]

Map number on figure 4	Site identification number	Date	Field parameters ¹					Lab parameter ²
			Alkalinity (mg/L as CaCO ₃)	Specific conductance (µS/cm)	Temperature (°C)	Hardness, total (mg/L as CaCO ₃)	pH (standard units)	Turbidity (NTU)
10	381652085420201	8/15/1979	299	600	15	NS	NS	NS
		8/16/1979	299	580	15	412	NS	NS
		8/17/1979	304	600	15	410	NS	NS
		8/20/1979	306	650	15.3	NS	NS	NS
		8/23/1979	332	720	16	464	NS	NS
		8/29/1979	530	750	15	528	NS	NS
		9/7/1979	398	700	15	484	NS	NS
		9/17/1979	390	700	NS	552	NS	NS
		9/18/1979	388	800	15	532	NS	NS
		9/20/1979	NS	NS	NS	NS	NS	NS
		9/21/1979	NS	NS	NS	NS	NS	NS
		9/25/1979	372	720	15	488	NS	26
		9/28/1979	NS	NS	NS	NS	NS	NS
		10/5/1979	NS	NS	NS	NS	NS	NS
		10/12/1979	358	750	15.4	496	NS	NS
		10/19/1979	NS	NS	NS	NS	NS	NS
		10/26/1979	346	NS	14.3	NS	NS	NS
		11/3/1979	348	650	14.3	NS	NS	NS
		11/8/1979	344	800	14.4	456	NS	NS
		11/14/1979	NS	NS	NS	488	NS	NS
		11/18/1979	326	550	14.5	NS	NS	NS
		11/24/1979	340	650	14.4	436	NS	NS
		11/30/1979	332	650	15	420	NS	NS
		12/6/1979	319	590	15	400	NS	NS
		12/13/1979	310	600	15	424	NS	NS
		12/20/1979	310	550	15	392	NS	NS
		12/26/1979	326	590	15	396	NS	NS
		1/3/1980	326	590	15	408	NS	NS
		1/10/1980	304	570	15	388	NS	NS
		1/17/1980	312	570	15	412	NS	NS
		1/24/1980	310	550	15	408	NS	NS
		2/1/1980	310	550	15	NS	NS	NS
		2/8/1980	304	540	15	NS	NS	NS
		2/14/1980	304	540	14.7	NS	NS	NS

Table 3. Field and lab parameters for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*[mg/L as CaCO₃, milligrams per liter as calcium carbonate; µS/cm, microsiemens per centimeter; °C, degrees Celsius; NTU, nephelometric turbidity units; NS, not sampled]

Map number on figure 4	Site identification number	Date	Field parameters ¹					Lab parameter ²
			Alkalinity (mg/L as CaCO ₃)	Specific conductance (µS/cm)	Temperature (°C)	Hardness, total (mg/L as CaCO ₃)	pH (standard units)	Turbidity (NTU)
10	381652085420201 (continued)	2/21/1980	312	570	14.9	NS	NS	NS
		2/29/1980	NS	530	14.5	NS	NS	NS
		3/6/1980	NS	540	14.6	NS	NS	NS
		3/7/1980	NS	NS	NS	NS	NS	NS
		3/14/1980	NS	540	14.6	NS	NS	NS
		3/21/1980	NS	540	14.5	NS	NS	NS
		3/28/1980	NS	530	14.5	NS	NS	NS
		4/3/1980	NS	540	14.6	NS	NS	NS
		4/11/1980	NS	520	14.8	NS	NS	NS
		4/18/1980	NS	570	14.7	NS	NS	NS
		4/25/1980	NS	520	14.4	NS	NS	NS
		4/30/1980	NS	NS	NS	NS	NS	NS
		5/1/1980	NS	550	14.4	NS	NS	NS
		5/9/1980	NS	550	14.4	NS	NS	NS
		5/16/1980	NS	550	14.4	NS	NS	NS
		5/23/1980	NS	590	15	NS	NS	NS
		5/30/1980	NS	580	14.4	NS	NS	NS
		6/6/1980	NS	590	14.5	NS	NS	NS
		6/13/1980	NS	600	14.6	NS	NS	NS
		6/20/1980	NS	600	14.4	NS	NS	NS
		6/27/1980	NS	600	14.6	NS	NS	NS
		7/3/1980	NS	450	14.4	NS	NS	NS
		7/11/1980	NS	580	14.3	NS	NS	NS
		7/18/1980	NS	550	14.2	NS	NS	NS
		7/25/1980	NS	610	14.3	NS	NS	NS
		8/1/1980	NS	500	14.3	NS	NS	NS
		8/8/1980	NS	650	14.2	NS	NS	NS
		8/15/1980	NS	590	14.5	NS	NS	NS
		8/22/1980	NS	505	14.3	NS	NS	NS
		8/28/1980	NS	360	14.4	NS	NS	NS
		9/5/1980	NS	510	14.1	NS	NS	NS
		9/12/1980	NS	590	14.5	NS	NS	NS

Table 3. Field and lab parameters for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*

[mg/L as CaCO₃, milligrams per liter as calcium carbonate; µS/cm, microsiemens per centimeter; °C, degrees Celsius; NTU, nephelometric turbidity units; NS, not sampled]

Map number on figure 4	Site identification number	Date	Field parameters ¹					Lab parameter ²
			Alkalinity (mg/L as CaCO ₃)	Specific conductance (µS/cm)	Temperature (°C)	Hardness, total (mg/L as CaCO ₃)	pH (standard units)	Turbidity (NTU)
10	381652085420201 (continued)	9/19/1980	NS	600	15	NS	NS	NS
		9/26/1980	NS	550	14.5	NS	NS	NS
11	381652085420301	8/15/1979	417	800	14	560	NS	NS
		8/16/1979	410	770	15	535	NS	NS
		8/17/1979	401	740	15	NS	NS	NS
		8/20/1979	396	740	16	530	NS	NS
		8/23/1979	384	740	16	508	NS	NS
		8/29/1979	396	725	15	532	NS	NS
		9/7/1979	384	600	15	432	NS	NS
		9/17/1979	364	NS	NS	472	NS	NS
		9/18/1979	370	650	15	468	NS	NS
		9/20/1979	NS	NS	NS	468	NS	NS
		9/21/1979	NS	NS	NS	NS	NS	NS
		9/25/1979	358	675	16	472	NS	34
		9/28/1979	NS	NS	NS	NS	NS	NS
		10/5/1979	NS	NS	NS	NS	NS	NS
		10/12/1979	344	700	15.7	468	NS	NS
		10/19/1979	NS	NS	NS	NS	NS	NS
		10/26/1979	340	650	15.5	NS	NS	NS
		11/3/1979	332	625	15.9	NS	NS	NS
		11/8/1979	320	730	15.6	460	NS	NS
		11/14/1979	NS	NS	NS	452	NS	NS
		11/18/1979	332	630	15.7	NS	NS	NS
		11/24/1979	320	600	15.9	428	NS	NS
		11/30/1979	318	600	16.5	428	NS	NS
		12/6/1979	316	580	16	443	NS	NS
		12/13/1979	288	580	16	404	NS	NS
		12/20/1979	310	590	16	416	NS	NS
		12/26/1979	280	560	12	396	NS	NS
		1/3/1980	304	560	16	412	NS	NS
		1/10/1980	304	580	15.5	380	NS	NS
		1/17/1980	302	520	15.5	408	NS	NS

Table 3. Field and lab parameters for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*[mg/L as CaCO₃, milligrams per liter as calcium carbonate; µS/cm, microsiemens per centimeter; °C, degrees Celsius; NTU, nephelometric turbidity units; NS, not sampled]

Map number on figure 4	Site identification number	Date	Field parameters ¹					Lab parameter ²
			Alkalinity (mg/L as CaCO ₃)	Specific conductance (µS/cm)	Temperature (°C)	Hardness, total (mg/L as CaCO ₃)	pH (standard units)	Turbidity (NTU)
11	381652085420301 (continued)	1/24/1980	296	540	15	392	NS	NS
		2/1/1980	296	520	15.5	NS	NS	NS
		2/8/1980	296	550	15	NS	NS	NS
		2/14/1980	296	560	14.9	NS	NS	NS
		2/21/1980	294	550	14.8	NS	NS	NS
		2/29/1980	NS	321	14.7	NS	NS	NS
		3/6/1980	NS	540	14.5	NS	NS	NS
		3/7/1980	NS	NS	NS	NS	NS	NS
		3/14/1980	NS	530	14.4	NS	NS	NS
		3/21/1980	NS	510	14.2	NS	NS	NS
		3/28/1980	NS	470	14.1	NS	NS	NS
		4/3/1980	NS	460	14	NS	NS	NS
		4/11/1980	NS	500	14	NS	NS	NS
		4/18/1980	NS	480	13.9	NS	NS	NS
		4/25/1980	NS	490	13.7	NS	NS	NS
		4/30/1980	NS	NS	NS	NS	NS	NS
		5/1/1980	NS	550	13.7	NS	NS	NS
		5/9/1980	NS	550	13.4	NS	NS	NS
		5/16/1980	NS	520	13.3	NS	NS	NS
		5/23/1980	NS	560	13.3	NS	NS	NS
		5/30/1980	NS	510	13.3	NS	NS	NS
		6/6/1980	NS	570	13.3	NS	NS	NS
		6/13/1980	NS	510	13.2	NS	NS	NS
		6/20/1980	NS	505	13.2	NS	NS	NS
		6/27/1980	NS	510	13.2	NS	NS	NS
		7/3/1980	NS	500	13.2	NS	NS	NS
		7/11/1980	NS	490	13.4	NS	NS	NS
		7/18/1980	NS	505	13.5	NS	NS	NS
		7/25/1980	NS	510	13.7	NS	NS	NS

Table 3. Field and lab parameters for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*[mg/L as CaCO₃, milligrams per liter as calcium carbonate; µS/cm, microsiemens per centimeter; °C, degrees Celsius; NTU, nephelometric turbidity units; NS, not sampled]

Map number on figure 4	Site identification number	Date	Field parameters ¹					Lab parameter ²
			Alkalinity (mg/L as CaCO ₃)	Specific conductance (µS/cm)	Temperature (°C)	Hardness, total (mg/L as CaCO ₃)	pH (standard units)	Turbidity (NTU)
11	381652085420301 (continued)	8/1/1980	NS	520	13.7	NS	NS	NS
		8/8/1980	NS	500	13.8	NS	NS	NS
		8/15/1980	NS	490	14.1	NS	NS	NS
		8/22/1980	NS	450	14.2	NS	NS	NS
		8/28/1980	NS	480	14.4	NS	NS	NS
		9/5/1980	NS	560	14.6	NS	NS	NS
		9/12/1980	NS	550	14.7	NS	NS	NS
		9/19/1980	NS	550	15	NS	NS	NS
		9/26/1980	NS	560	15.1	NS	NS	NS
12	381652085420302	8/15/1979	400	690	20	566	NS	NS
		8/16/1979	468	700	16	580	NS	NS
		8/17/1979	476	810	15	588	NS	NS
		8/20/1979	496	850	16	590	NS	NS
		8/23/1979	482	900	17	536	NS	NS
		8/29/1979	426	700	16	504	NS	NS
		9/7/1979	362	600	16	372	NS	NS
		9/17/1979	424	730	NS	384	NS	NS
		9/18/1979	426	750	15	524	NS	NS
		9/20/1979	NS	NS	NS	552	NS	NS
		9/25/1979	406	720	16	456	NS	39
		10/12/1979	384	725	15.4	552	NS	NS
		10/26/1979	400	700	14.8	652	NS	NS
		11/3/1979	408	720	15.3	NS	NS	NS
		11/8/1979	414	900	14.8	652	NS	NS
		11/14/1979	NS	NS	NS	640	NS	NS
		11/18/1979	438	850	14.7	NS	NS	NS
		11/24/1979	430	700	14.8	592	NS	NS
		11/30/1979	453	850	16	468	NS	NS
		12/6/1979	418	710	15.5	492	NS	NS
		12/13/1979	450	790	15	608	NS	NS
		12/20/1979	421	775	15.5	476	NS	NS
		12/26/1979	384	690	10.5	472	NS	NS

Table 3. Field and lab parameters for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*[mg/L as CaCO₃, milligrams per liter as calcium carbonate; µS/cm, microsiemens per centimeter; °C, degrees Celsius; NTU, nephelometric turbidity units; NS, not sampled]

Map number on figure 4	Site identification number	Date	Field parameters ¹					Lab parameter ²
			Alkalinity (mg/L as CaCO ₃)	Specific conductance (µS/cm)	Temperature (°C)	Hardness, total (mg/L as CaCO ₃)	pH (standard units)	Turbidity (NTU)
12	381652085420302 (continued)	1/3/1980	306	520	15	368	NS	NS
		1/10/1980	328	530	15	332	NS	NS
		1/17/1980	430	690	15.5	528	NS	NS
		1/24/1980	444	750	15	548	NS	NS
		2/1/1980	456	700	15	NS	NS	NS
		2/8/1980	430	700	15	NS	NS	NS
		2/14/1980	444	760	14.8	NS	NS	NS
		2/21/1980	420	710	14.9	NS	NS	NS
		2/29/1980	NS	650	14.8	NS	NS	NS
		3/6/1980	NS	720	14.8	NS	NS	NS
		3/14/1980	NS	680	14.9	NS	NS	NS
		3/21/1980	NS	760	14.8	NS	NS	NS
		3/28/1980	NS	780	14.8	NS	NS	NS
		4/3/1980	NS	790	14.7	NS	NS	NS
		4/11/1980	NS	800	14.8	NS	NS	NS
		4/18/1980	NS	750	14.8	NS	NS	NS
		4/25/1980	NS	680	14.9	NS	NS	NS
		5/1/1980	NS	860	14.7	NS	NS	NS
		5/9/1980	NS	780	14	NS	NS	NS
		5/16/1980	NS	820	14.7	NS	NS	NS
		5/23/1980	NS	850	14.5	NS	NS	NS
		5/30/1980	NS	870	15	NS	NS	NS
		6/6/1980	NS	840	14.3	NS	NS	NS
		6/13/1980	NS	900	14.9	NS	NS	NS
		6/20/1980	NS	980	14.7	NS	NS	NS
		6/27/1980	NS	1,020	14.7	NS	NS	NS
		7/3/1980	NS	1,010	14.9	NS	NS	NS
		7/11/1980	NS	1,020	14.6	NS	NS	NS
		7/18/1980	NS	960	14.9	NS	NS	NS
		7/25/1980	NS	1,050	14.7	NS	NS	NS

Table 3. Field and lab parameters for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*

[mg/L as CaCO₃, milligrams per liter as calcium carbonate; µS/cm, microsiemens per centimeter; °C, degrees Celsius; NTU, nephelometric turbidity units; NS, not sampled]

Map number on figure 4	Site identification number	Date	Field parameters ¹					Lab parameter ²
			Alkalinity (mg/L as CaCO ₃)	Specific conductance (µS/cm)	Temperature (°C)	Hardness, total (mg/L as CaCO ₃)	pH (standard units)	Turbidity (NTU)
12	381652085420302 (continued)	8/1/1980	NS	960	14.8	NS	NS	NS
		8/8/1980	NS	1,150	14.6	NS	NS	NS
		8/15/1980	NS	1,005	14.8	NS	NS	NS
		8/22/1980	NS	800	14.7	NS	NS	NS
		8/28/1980	NS	1,000	15	NS	NS	NS
		9/5/1980	NS	1,180	14.8	NS	NS	NS
		9/12/1980	NS	1,060	15	NS	NS	NS
		9/19/1980	NS	1,050	15	NS	NS	NS
		9/26/1980	NS	1,010	15	NS	NS	NS
13	381653085420301	8/15/1979	360	725	15	400	NS	NS
		8/16/1979	355	725	16	520	NS	NS
		8/17/1979	344	700	15	NS	NS	NS
		8/20/1979	324	670	16	470	NS	NS
		8/23/1979	320	770	16	496	NS	NS
		8/29/1979	326	630	16	468	NS	NS
		9/7/1979	332	610	15	456	NS	NS
		9/17/1979	200	500	NS	416	NS	NS
		9/18/1979	202	500	16	304	NS	NS
		9/20/1979	NS	NS	NS	300	NS	NS
		9/21/1979	NS	NS	NS	NS	NS	NS
		9/25/1979	192	500	18	312	NS	6
		9/28/1979	NS	NS	NS	NS	NS	NS
		10/5/1979	NS	NS	NS	NS	NS	NS
		10/12/1979	138	400	21.9	216	NS	NS
		10/12/1979	NS	NS	21.1	220	7.1	NS
		10/19/1979	NS	NS	NS	NS	NS	NS
		10/26/1979	130	295	22.4	NS	NS	NS

Table 3. Field and lab parameters for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*[mg/L as CaCO₃, milligrams per liter as calcium carbonate; µS/cm, microsiemens per centimeter; °C, degrees Celsius; NTU, nephelometric turbidity units; NS, not sampled]

Map number on figure 4	Site identification number	Date	Field parameters ¹					Lab parameter ²
			Alkalinity (mg/L as CaCO ₃)	Specific conductance (µS/cm)	Temperature (°C)	Hardness, total (mg/L as CaCO ₃)	pH (standard units)	Turbidity (NTU)
13	381653085420301 (continued)	11/3/1979	118	309	22.3	NS	NS	NS
		11/8/1979	108	280	21.8	248	NS	NS
		11/14/1979	NS	NS	NS	236	NS	NS
		11/18/1979	126	315	19.7	NS	NS	NS
		11/24/1979	106	350	20.6	212	NS	NS
		11/30/1979	123	NS	19.5	168	NS	NS
		12/6/1979	100	290	19	172	NS	NS
		12/13/1979	109	310	18.5	164	NS	NS
		12/20/1979	100	295	17	204	NS	NS
		12/26/1979	102	300	17	212	NS	NS
		1/3/1980	74	235	15	148	NS	NS
		1/10/1980	120	281	16	204	NS	NS
		1/17/1980	96	280	15	168	NS	NS
		1/24/1980	94	249	14	180	NS	NS
		2/1/1980	94	230	13.5	NS	NS	NS
		2/8/1980	94	230	13	NS	NS	NS
		2/14/1980	92	228	11.6	NS	NS	NS
		2/21/1980	92	228	11.1	NS	NS	NS
		2/29/1980	NS	218	10.2	NS	NS	NS
		3/6/1980	NS	225	9.6	NS	NS	NS
		3/7/1980	NS	NS	NS	NS	NS	NS
		3/14/1980	NS	235	9.2	NS	NS	NS
		3/21/1980	NS	235	8.9	NS	NS	NS
		3/28/1980	NS	218	8.7	NS	NS	NS
		4/3/1980	NS	200	7.2	NS	NS	NS
		4/11/1980	NS	250	6.7	NS	NS	NS
		4/18/1980	NS	NS	10.2	NS	NS	NS
		4/25/1980	NS	NS	NS	NS	NS	NS
		4/30/1980	NS	NS	NS	NS	NS	NS

Table 3. Field and lab parameters for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*

[mg/L as CaCO₃, milligrams per liter as calcium carbonate; µS/cm, microsiemens per centimeter; °C, degrees Celsius; NTU, nephelometric turbidity units; NS, not sampled]

Map number on figure 4	Site identification number	Date	Field parameters ¹					Lab parameter ²
			Alkalinity (mg/L as CaCO ₃)	Specific conductance (µS/cm)	Temperature (°C)	Hardness, total (mg/L as CaCO ₃)	pH (standard units)	Turbidity (NTU)
13	381653085420301 (continued)	5/1/1980	NS	240	7.9	NS	NS	NS
		5/9/1980	NS	230	5.6	NS	NS	NS
		5/16/1980	NS	230	6.3	NS	NS	NS
		5/23/1980	NS	250	7.5	NS	NS	NS
		5/30/1980	NS	240	5.8	NS	NS	NS
		6/6/1980	NS	250	6.5	NS	NS	NS
		6/13/1980	NS	230	7.3	NS	NS	NS
		6/20/1980	NS	250	8.2	NS	NS	NS
		6/27/1980	NS	270	8.9	NS	NS	NS
		7/3/1980	NS	270	9.6	NS	NS	NS
		7/11/1980	NS	300	11	NS	NS	NS
		7/18/1980	NS	240	12.4	NS	NS	NS
		7/25/1980	NS	315	12.1	NS	NS	NS
		8/1/1980	NS	320	15.1	NS	NS	NS
		8/8/1980	NS	300	16.4	NS	NS	NS
		8/15/1980	NS	320	17.5	NS	NS	NS
		8/22/1980	NS	320	18.5	NS	NS	NS
		8/28/1980	NS	350	18.4	NS	NS	NS
		9/5/1980	NS	390	19.5	NS	NS	NS
		9/12/1980	NS	380	20.8	NS	NS	NS
		9/19/1980	NS	380	21	NS	NS	NS
		9/26/1980	NS	390	22	NS	NS	NS

¹The field parameter values in this table were obtained from U.S. Geological Survey files.

²The lab parameter values in this table were obtained from Louisville Water Company files.

Table 4. Concentrations of trace elements for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.

[mg/L, milligrams per liter; NS, not sampled; the values contained in this table were obtained from the Louisville Water Company files]

Map number on figure 4	Site identification number	Date	Aluminum (mg/L)	Barium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Strontium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
1	381555085425701	4/6/1976	NS	NS	NS	1	NS	0.09	NS	NS	NS	NS
2	381604085430501	4/2/1946	NS	NS	NS	1,300	NS	NS	NS	NS	NS	NS
		7/10/1979	NS	NS	NS	1,500	NS	30	NS	NS	NS	NS
4	381611085425201	8/24/1944	NS	NS	NS	3,800	NS	NS	NS	NS	NS	NS
		5/17/1945	NS	NS	NS	2,500	NS	NS	NS	NS	NS	NS
		4/11/1946	NS	NS	NS	1,500	NS	NS	NS	NS	NS	NS
		8/21/1946	NS	NS	NS	3,300	NS	NS	NS	NS	NS	NS
		9/26/1947	NS	NS	NS	2,200	NS	NS	NS	NS	NS	NS
		10/5/1948	NS	NS	NS	2,300	NS	NS	NS	NS	NS	NS
		8/30/1949	NS	NS	NS	2,600	NS	NS	NS	NS	NS	NS
		8/15/1950	NS	NS	NS	3,200	NS	NS	NS	NS	NS	NS
		9/4/1951	NS	NS	NS	3,000	NS	NS	NS	NS	NS	NS
		8/15/1952	NS	NS	NS	880	NS	NS	NS	NS	NS	NS
		12/18/1952	NS	NS	NS	440	NS	NS	NS	NS	NS	NS
		8/15/1968	NS	NS	NS	880	NS	NS	NS	NS	NS	NS
5	381613085421901	6/8/1946	NS	NS	NS	100	NS	NS	NS	NS	NS	NS
6	381622085423401	5/4/1946	NS	NS	NS	270	NS	NS	NS	NS	NS	NS
7	381638085415801	7/10/1979	NS	NS	NS	2,900	NS	290	NS	NS	NS	NS
8	381648085421201	4/30/1946	NS	NS	NS	180	NS	NS	NS	NS	NS	NS
12	381652085420302	9/12/1980	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		9/19/1980	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
		9/26/1980	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
13	381653085420301	10/12/1979	30	130	10	420	10	1,000	10	90	6	50

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Table 5. Concentrations of major ions for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.

[mg/L, milligrams per liter; NS, not sampled; the values contained in this table were obtained from the Louisville Water Company files]

Map number on figure 4	Site identification number	Date	Calcium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Silica (mg/L)	Sodium (mg/L)	Sulfate (mg/L)
1	381555085425701	4/6/1976	360	158	NS	130	NS	NS	110	NS
2	381604085430501	4/2/1946 7/10/1979	NS 210	16 14	NS 0.1	NS 47	NS 7.3	NS 16	NS 610	NS NS
4	381611085425201	4/11/1944 8/24/1944 5/17/1945 4/11/1946 8/21/1946 9/26/1947 10/5/1948 8/30/1949 8/15/1950 9/4/1951 8/15/1952 12/18/1952 8/15/1968	NS NS NS NS NS NS NS NS NS NS NS 134 NS	26 18 19 26 24 20 25 18 20 26 7.5 12 7.5	NS NS NS NS NS NS NS NS NS .1 .1 .1 .1	NS NS NS NS NS NS NS NS NS NS NS 27 NS	NS NS NS NS NS NS NS NS NS NS NS 1.1 NS	NS NS NS NS NS NS NS NS NS NS NS 16 NS	NS NS NS NS NS NS NS NS NS NS NS 11 NS	NS NS NS NS NS NS NS NS NS NS NS NS NS
5	381613085421901	6/8/1946	NS	12	NS	NS	NS	NS	NS	NS
6	381622085423401	5/4/1946	NS	4	NS	NS	NS	NS	NS	NS
7	381638085415801	7/10/1979	160	44	.1	24	.8	16	5.9	NS
8	381648085421201	4/30/1946	NS	15	NS	NS	NS	NS	NS	NS
9	381651085420301	8/20/1979 8/23/1979 8/29/1979 9/7/1979 9/17/1979 9/18/1979 9/25/1979 10/12/1979 11/8/1979 11/14/1979 11/24/1979 11/30/1979 12/6/1979 12/13/1979 12/20/1979 12/26/1979 1/3/1980 1/10/1980	188.8 144 208 139.2 100 148.8 93 145.6 139.2 128 132.8 126.4 75.2 131.2 121.6 126.4 136 120	NS NS NS NS NS NS NS NS 22 NS 22 26 24 30 34 28 30 30	.15 .1 .12 .14 .17 .13 .13 .14 .11 .15 .11 .13 .12 .14 .11 .13 .11 .14	32 38 11 25 NS 35 56 32 34 36 28 31 62 41 28 23 22 21	NS NS NS NS NS NS NS NS NS NS NS NS NS NS NS NS NS NS	NS NS NS NS NS NS NS NS NS NS NS NS NS NS NS NS NS NS	NS NS NS NS NS NS NS NS NS NS NS NS NS NS NS NS NS NS	255 153 250 150 215 170 200 74 190 NS 100 100 70 130 150 175 190 180

Table 5. Concentrations of major ions for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*

[mg/L, milligrams per liter; NS, not sampled; the values contained in this table were obtained from the Louisville Water Company files]

Map number on figure 4	Site identification number	Date	Calcium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Silica (mg/L)	Sodium (mg/L)	Sulfate (mg/L)
9	381651085420301 (continued)	1/17/1980	118.4	20	0.14	34	NS	NS	NS	70
		1/24/1980	126.4	28	.18	25	NS	NS	NS	130
10	381652085420201	8/16/1979	125	NS	.12	24	NS	NS	NS	198
		8/17/1979	131	NS	.14	20.5	NS	NS	NS	230
		8/23/1979	142.4	NS	.1	27	NS	NS	NS	249
		8/29/1979	158	NS	.23	33	NS	NS	NS	290
		9/7/1979	150.4	NS	.11	27	NS	NS	NS	260
		9/17/1979	100.8	NS	.15	NS	NS	NS	NS	230
		9/18/1979	147.2	NS	.11	41	NS	NS	NS	210
		9/25/1979	96	NS	.11	62	NS	NS	NS	270
		10/12/1979	147.2	NS	.17	32	NS	NS	NS	122
		10/26/1979	NS	NS	NS	NS	NS	NS	NS	180
		11/8/1979	156.8	40	.11	16	NS	NS	NS	180
		11/14/1979	156.8	NS	.16	24	NS	NS	NS	NS
		11/24/1979	129.6	30	.11	28	NS	NS	NS	290
		11/30/1979	131.2	30	.1	23	NS	NS	NS	140
		12/6/1979	68.8	26	.12	114.2	NS	NS	NS	120
		12/13/1979	136	26	.14	21	NS	NS	NS	140
		12/20/1979	118.4	24	.11	24	NS	NS	NS	200
		12/26/1979	118.4	22	.12	25	NS	NS	NS	175
		1/3/1980	126.4	18	.11	23	NS	NS	NS	210
		1/10/1980	124.8	20	.11	19	NS	NS	NS	195
		1/17/1980	116.8	26	.14	30	NS	NS	NS	140
		1/24/1980	115.2	40	.2	30	NS	NS	NS	165
11	381652085420301	8/15/1979	170	NS	.115	40	NS	NS	NS	204
		8/16/1979	167	NS	.15	29	NS	NS	NS	212
		8/20/1979	171.2	NS	.12	25.5	NS	NS	NS	235
		8/23/1979	156.8	NS	.11	29	NS	NS	NS	225
		8/29/1979	198	NS	.2	10.5	NS	NS	NS	225
		9/7/1979	168	NS	.12	3	NS	NS	NS	190
		9/17/1979	136	NS	.18	33	NS	NS	NS	238
		9/18/1979	147.2	NS	.12	25	NS	NS	NS	170
		9/20/1979	135	NS	.18	31	NS	NS	NS	170
		9/21/1979	138	NS	NS	NS	NS	NS	NS	NS
		9/25/1979	NS	NS	.15	32	NS	NS	NS	225
		10/12/1979	148.8	NS	.17	24	NS	NS	NS	75
		10/26/1979	NS	NS	NS	NS	NS	NS	NS	180
		11/8/1979	161.6	30	.11	14	NS	NS	NS	180
		11/14/1979	158.4	NS	.18	14	NS	NS	NS	NS
		11/24/1979	153.6	30	.12	11	NS	NS	NS	160
		11/30/1979	131.2	30	.11	25	NS	NS	NS	160
		12/6/1979	141.6	28	.11	84.7	NS	NS	NS	140
		12/13/1979	145.6	30	.11	10	NS	NS	NS	120
		12/20/1979	124.8	37	.13	26	NS	NS	NS	180

Table 5. Concentrations of major ions for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*

[mg/L, milligrams per liter; NS, not sampled; the values contained in this table were obtained from the Louisville Water Company files]

Map number on figure 4	Site identification number	Date	Calcium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Silica (mg/L)	Sodium (mg/L)	Sulfate (mg/L)
11	381652085420301 (continued)	12/26/1979	126.4	30	0.17	20	NS	NS	NS	180
		1/3/1980	131.2	32	.2	21	NS	NS	NS	155
		1/10/1980	129.6	28	.16	14	NS	NS	NS	200
		1/17/1980	148.8	34	.16	9	NS	NS	NS	140
		1/24/1980	121.6	32	.11	22	NS	NS	NS	140
12	381652085420302	8/15/1979	150	NS	.65	48	NS	NS	NS	239
		8/16/1979	221	NS	.14	24	NS	NS	NS	225
		8/17/1979	227	NS	.13	7	NS	NS	NS	262
		8/20/1979	184	NS	.11	32.5	NS	NS	NS	240
		8/23/1979	185.6	NS	NS	18	NS	NS	NS	60
		8/29/1979	185	NS	.19	11	NS	NS	NS	190
		9/7/1979	139	NS	NS	6	NS	NS	NS	220
		9/17/1979	116.8	NS	.12	23	NS	NS	NS	90
		9/18/1979	174.4	NS	NS	22	NS	NS	NS	170
		9/20/1979	178.4	NS	.20	26.5	NS	NS	NS	240
		9/25/1979	133	NS	.21	26	NS	NS	NS	230
		10/12/1979	195.2	NS	.15	16	NS	NS	NS	150
		10/26/1979	205	NS	0	35	NS	NS	NS	270
		11/8/1979	204.8	34	NS	35	NS	NS	NS	270
		11/14/1979	227.2	NS	.15	18	NS	NS	NS	NS
		11/24/1979	235.2	46	NS	1	NS	NS	NS	270
		11/30/1979	176	38	NS	7	NS	NS	NS	120
		12/6/1979	86.4	36	NS	69	NS	NS	NS	100
		12/13/1979	228.8	32	NS	9	NS	NS	NS	210
		12/20/1979	144	48	NS	29	NS	NS	NS	270
		12/26/1979	147.2	28	NS	26	NS	NS	NS	220
		1/3/1980	83.2	40	NS	40	NS	NS	NS	190
		1/10/1980	81.6	38	NS	32	NS	NS	NS	190
		1/17/1980	176	40	NS	22	NS	NS	NS	160
		1/24/1980	172.8	20	NS	29	NS	NS	NS	170
13	381653085420301	8/15/1979	132.8	NS	.1	17	NS	NS	NS	160
		8/16/1979	78	NS	.76	32	NS	NS	NS	185
		8/20/1979	136	NS	.16	32.5	NS	NS	NS	225
		8/23/1979	137.6	NS	.13	38	NS	NS	NS	259
		8/29/1979	163	NS	.18	17	NS	NS	NS	185
		9/7/1979	132.8	NS	.14	31	NS	NS	NS	180
		9/17/1979	107	NS	.2	50	NS	NS	NS	186
		9/18/1979	96	NS	.16	16	NS	NS	NS	238
		9/20/1979	102.4	NS	.13	49.2	NS	NS	NS	90
		9/21/1979	NS	NS			NS	NS	NS	NS
		9/25/1979	66	NS	.12	37	NS	NS	NS	210
		10/12/1979	64	NS	.29	14	NS	NS	NS	75
		10/12/1979	67	19	.3	13	NS	17	13	NS
		10/26/1979	NS	NS	NS	NS	NS	NS	NS	130

Table 5. Concentrations of major ions for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*

[mg/L, milligrams per liter; NS, not sampled; the values contained in this table were obtained from the Louisville Water Company files]

Map number on figure 4	Site identification number	Date	Calcium (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Silica (mg/L)	Sodium (mg/L)	Sulfate (mg/L)
13	381653085420301 (continued)	11/8/1979	59.9	20	0.18	25	NS	NS	NS	130
		11/14/1979	94.4	NS	.28	0	NS	NS	NS	NS
		11/24/1979	65.6	22	.13	12	NS	NS	NS	100
		11/30/1979	52.8	22	.16	9	NS	NS	NS	50
		12/6/1979	41.6	18	.16	17	NS	NS	NS	50
		12/13/1979	56	24	.16	6	NS	NS	NS	130
		12/20/1979	51.2	26	.16	23	NS	NS	NS	150
		12/26/1979	51.2	18	.27	21	NS	NS	NS	145
		1/3/1980	49.6	20	.13	6	NS	NS	NS	120
		1/10/1980	60.8	22	.21	13	NS	NS	NS	145
		1/17/1980	49.6	24	.23	11	NS	NS	NS	90
		1/24/1980	49.6	18	.14	14	NS	NS	NS	125

Table 6. Concentrations of nutrients and other constituents for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.

[mg/L, milligrams per liter; THM, trihalomethane; NS, not sampled; the values contained in this table were obtained from the Louisville Water Company files]

Map number on figure 4	Site identification number	Date	Nutrients		Other constituents			
			Nitrate (mg/L)	Phosphorous (mg/L)	Carbon, organic, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon dioxide (mg/L)	THM formation potential (mg/L)
1	381555085425701	4/6/1976	NS	NS	NS	51	NS	NS
2	381604085430501	7/10/1979	NS	0.01	NS	NS	NS	NS
4	381611085425201	12/18/1952	NS	NS	NS	NS	15	NS
7	381638085415801	7/10/1979	NS	NS	NS	NS	44	NS
9	381651085420301	8/20/1979	10.2	NS	NS	NS	NS	NS
		8/23/1979	0	NS	NS	NS	NS	NS
		8/29/1979	0	NS	NS	NS	NS	NS
		9/7/1979	0	NS	NS	NS	NS	NS
		9/17/1979	0	NS	NS	NS	NS	NS
		9/18/1979	0	NS	NS	NS	NS	NS
		9/20/1979	0	NS	NS	NS	NS	NS
		9/25/1979	5.1	NS	NS	NS	NS	NS
		10/5/1979	NS	NS	NS	NS	NS	NS
		10/12/1979	0	NS	NS	NS	NS	NS
		10/26/1979	1.1	NS	NS	NS	NS	NS
		11/3/1979	NS	NS	NS	NS	NS	NS
		11/8/1979	1.1	NS	NS	NS	NS	NS
		11/24/1979	.3	NS	NS	NS	NS	NS
		11/30/1979	1	NS	NS	NS	NS	NS
		12/6/1979	2.3	NS	NS	NS	NS	NS
		12/13/1979	.1	NS	NS	NS	NS	NS
		12/20/1979	.1	NS	NS	NS	NS	NS
		12/26/1979	0	NS	NS	NS	NS	NS
		1/3/1980	4.1	NS	NS	NS	NS	NS
		1/10/1980	2	NS	NS	NS	NS	NS
		1/17/1980	2.1	NS	NS	NS	NS	NS
		1/24/1980	.9	NS	NS	NS	NS	NS
		3/21/1980	NS	NS	0.9	NS	NS	NS
		3/28/1980	NS	NS	.8	NS	NS	NS
		4/3/1980	NS	NS	1.2	NS	NS	NS
		4/11/1980	NS	NS	.9	NS	NS	NS
		4/18/1980	NS	NS	1.1	NS	NS	NS
		4/25/1980	NS	NS	1.2	NS	NS	NS
		4/30/1980	NS	NS	NS	NS	NS	NS

Table 6. Concentrations of nutrients and other constituents for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*

[mg/L, milligrams per liter; THM, trihalomethane; NS, not sampled; the values contained in this table were obtained from the Louisville Water Company files]

Map number on figure 4	Site identification number	Date	Nutrients		Other constituents			
			Nitrate (mg/L)	Phosphorous (mg/L)	Carbon, organic, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon dioxide (mg/L)	THM formation potential (mg/L)
9	381651085420301 (continued)	5/1/1980	NS	NS	0.5	NS	NS	NS
		5/9/1980	NS	NS	.7	NS	NS	NS
		5/16/1980	NS	NS	1.1	NS	NS	NS
		5/23/1980	NS	NS	3.8	NS	NS	NS
		5/30/1980	NS	NS	4.7	NS	NS	NS
		6/6/1980	NS	NS	.9	NS	NS	NS
		6/13/1980	NS	NS	.7	NS	NS	NS
		6/20/1980	NS	NS	13	NS	NS	NS
		6/27/1980	NS	NS	.6	NS	NS	NS
		7/3/1980	NS	NS	1.1	NS	NS	NS
		7/11/1980	NS	NS	1.1	NS	NS	NS
		8/8/1980	NS	NS	.6	NS	NS	NS
		8/15/1980	NS	NS	1.2	NS	NS	NS
		8/22/1980	NS	NS	.8	NS	NS	NS
		8/28/1980	NS	NS	.9	NS	NS	NS
		9/5/1980	NS	NS	1.1	NS	NS	NS
		9/12/1980	NS	NS	1.1	NS	NS	NS
10	381652085420201	8/16/1979	1	NS	NS	NS	NS	NS
		8/17/1979	4.6	NS	NS	NS	NS	NS
		8/23/1979	0	NS	NS	NS	NS	NS
		8/29/1979	.5	NS	NS	NS	NS	NS
		9/7/1979	2.25	NS	NS	NS	NS	NS
		9/17/1979	0	NS	NS	NS	NS	NS
		9/18/1979	0	NS	NS	NS	NS	NS
		9/20/1979	0	NS	NS	NS	NS	NS
		9/25/1979	0	NS	NS	NS	NS	NS
		10/12/1979	0	NS	NS	NS	NS	NS
		10/19/1979	NS	NS	NS	NS	NS	NS
		10/26/1979	.3	NS	NS	NS	NS	NS
		11/3/1979	NS	NS	NS	NS	NS	NS
		11/8/1979	.3	NS	NS	NS	NS	NS
		11/24/1979	1.5	NS	NS	NS	NS	NS
		11/30/1979	0	NS	NS	NS	NS	NS
		12/6/1979	1.6	NS	NS	NS	NS	NS
		12/13/1979	.9	NS	NS	NS	NS	NS
		12/20/1979	.5	NS	NS	NS	NS	NS
		12/26/1979	0	NS	NS	NS	NS	NS
		1/3/1980	1.3	NS	NS	NS	NS	NS
		1/10/1980	0	NS	NS	NS	NS	NS
		1/17/1980	.5	NS	NS	NS	NS	NS
		1/24/1980	0	NS	NS	NS	NS	NS

Table 6. Concentrations of nutrients and other constituents for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*

[mg/L, milligrams per liter; THM, trihalomethane; NS, not sampled; the values contained in this table were obtained from the Louisville Water Company files]

Map number on figure 4	Site identification number	Date	Nutrients		Other constituents			
			Nitrate (mg/L)	Phosphorous (mg/L)	Carbon, organic, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon dioxide (mg/L)	THM formation potential (mg/L)
10	381652085420201 (continued)	3/21/1980	NS	NS	0.9	NS	NS	NS
		3/28/1980	NS	NS	.7	NS	NS	NS
		4/3/1980	NS	NS	2.3	NS	NS	NS
		4/11/1980	NS	NS	1.2	NS	NS	NS
		4/18/1980	NS	NS	2.6	NS	NS	NS
		4/25/1980	NS	NS	1	NS	NS	NS
		5/1/1980	NS	NS	.8	NS	NS	NS
		5/9/1980	NS	NS	.8	NS	NS	NS
		5/16/1980	NS	NS	1.5	NS	NS	NS
		5/23/1980	NS	NS	1	NS	NS	NS
		5/30/1980	NS	NS	3.2	NS	NS	NS
		6/6/1980	NS	NS	.9	NS	NS	NS
		6/13/1980	NS	NS	.7	NS	NS	NS
		6/20/1980	NS	NS	.6	NS	NS	NS
		6/27/1980	NS	NS	.6	NS	NS	NS
		7/3/1980	NS	NS	.6	NS	NS	NS
		7/11/1980	NS	NS	1	NS	NS	NS
		8/8/1980	NS	NS	1.4	NS	NS	NS
		8/15/1980	NS	NS	.5	NS	NS	NS
		8/22/1980	NS	NS	.9	NS	NS	NS
		8/28/1980	NS	NS	.7	NS	NS	NS
		9/5/1980	NS	NS	1.4	NS	NS	NS
		9/12/1980	NS	NS	.8	NS	NS	NS
11	381652085420301	8/15/1979	0	NS	NS	NS	NS	NS
		8/16/1979	0	NS	NS	NS	NS	NS
		8/17/1979	NS	NS	NS	NS	NS	59
		8/20/1979	8.4	NS	NS	NS	NS	NS
		8/23/1979	.1	NS	NS	NS	NS	61.3
		8/29/1979	0	NS	NS	NS	NS	NS
		9/7/1979	.05	NS	NS	NS	NS	51
		9/17/1979	0	NS	NS	NS	NS	NS
		9/18/1979	2.2	NS	NS	NS	NS	NS
		9/20/1979	0	NS	NS	NS	NS	NS
		9/21/1979	NS	NS	NS	NS	NS	56.7
		9/25/1979	2.9	NS	NS	NS	NS	NS
		9/28/1979	NS	NS	NS	NS	NS	85.4
		10/5/1979	NS	NS	NS	NS	NS	61.6
		10/12/1979	1.9	NS	NS	NS	NS	74.2
		10/19/1979	NS	NS	NS	NS	NS	55.3
		10/26/1979	0	NS	NS	NS	NS	61.8

Table 6. Concentrations of nutrients and other constituents for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*

[mg/L, milligrams per liter; THM, trihalomethane; NS, not sampled; the values contained in this table were obtained from the Louisville Water Company files]

Map number on figure 4	Site identification number	Date	Nutrients		Other constituents			
			Nitrate (mg/L)	Phosphorous (mg/L)	Carbon, organic, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon dioxide (mg/L)	THM formation potential (mg/L)
11	381652085420301 (continued)	11/8/1979	0	NS	NS	NS	NS	NS
		11/24/1979	.2	NS	NS	NS	NS	NS
		11/30/1979	0	NS	NS	NS	NS	NS
		12/6/1979	.8	NS	NS	NS	NS	NS
		12/13/1979	.3	NS	NS	NS	NS	NS
		12/20/1979	.1	NS	NS	NS	NS	NS
		12/26/1979	.2	NS	NS	NS	NS	NS
		1/3/1980	2.5	NS	NS	NS	NS	NS
		1/10/1980	4.9	NS	NS	NS	NS	NS
		1/17/1980	0	NS	NS	NS	NS	NS
		1/24/1980	0	NS	NS	NS	NS	NS
		2/8/1980	NS	NS	NS	3,163	NS	NS
		2/14/1980	NS	NS	NS	3,641	NS	NS
		2/21/1980	NS	NS	NS	4,985	NS	NS
		2/29/1980	NS	NS	NS	3,350	NS	NS
		3/6/1980	NS	NS	NS	3,618	NS	NS
		3/7/1980	NS	NS	NS	NS	NS	70
		3/14/1980	NS	NS	NS	2,643	NS	NS
		3/21/1980	NS	NS	1.3	2,853	NS	60
		3/28/1980	NS	NS	1.4	2,753	NS	101
		4/3/1980	NS	NS	2	NS	NS	NS
		4/11/1980	NS	NS	1.9	2,291	NS	32
		4/18/1980	NS	NS	2.2	2,254	NS	NS
		4/25/1980	NS	NS	1.4	NS	NS	NS
		4/30/1980	NS	NS	NS	1,786	NS	NS
		5/1/1980	NS	NS	1.5	1,686	NS	150
		5/9/1980	NS	NS	1.3	2,280	NS	NS
		5/16/1980	NS	NS	1.3	2,122	NS	NS
		5/23/1980	NS	NS	3	NS	NS	NS
		5/30/1980	NS	NS	6.7	2,142	NS	NS
		6/6/1980	NS	NS	1.8	NS	NS	NS
		6/13/1980	NS	NS	1.3	NS	NS	NS
		6/20/1980	NS	NS	2.7	NS	NS	NS
		6/27/1980	NS	NS	1.2	NS	NS	NS
		7/3/1980	NS	NS	.9	NS	NS	NS
		7/11/1980	NS	NS	1.3	NS	NS	NS
		8/8/1980	NS	NS	2.4	NS	NS	NS
		8/15/1980	NS	NS	.1	NS	NS	NS
		8/22/1980	NS	NS	1.7	NS	NS	NS
		8/28/1980	NS	NS	1.6	NS	NS	NS
		9/5/1980	NS	NS	1.9	NS	NS	NS
		9/12/1980	NS	NS	1.7	NS	NS	NS

Table 6. Concentrations of nutrients and other constituents for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*

[mg/L, milligrams per liter; THM, trihalomethane; NS, not sampled; the values contained in this table were obtained from the Louisville Water Company files]

Map number on figure 4	Site identification number	Date	Nutrients		Other constituents			
			Nitrate (mg/L)	Phosphorous (mg/L)	Carbon, organic, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon dioxide (mg/L)	THM formation potential (mg/L)
12	381652085420302	8/15/1979	0	NS	NS	NS	NS	NS
		8/16/1979	.35	NS	NS	NS	NS	NS
		8/17/1979	.2	NS	NS	NS	NS	NS
		8/20/1979	0	NS	NS	NS	NS	NS
		8/23/1979	0	NS	NS	NS	NS	NS
		8/29/1979	0	NS	NS	NS	NS	NS
		9/7/1979	0	NS	NS	NS	NS	NS
		9/17/1979	0	NS	NS	NS	NS	NS
		9/18/1979	6.0	NS	NS	NS	NS	NS
		9/20/1979	0	NS	NS	NS	NS	NS
		9/25/1979	0	NS	NS	NS	NS	NS
		10/12/1979	0.8	NS	NS	NS	NS	NS
		10/26/1979	0	NS	NS	NS	NS	NS
		11/8/1979	0	NS	NS	NS	NS	NS
		11/24/1979	0	NS	NS	NS	NS	NS
		11/30/1979	0	NS	NS	NS	NS	NS
		12/6/1979	1.6	NS	NS	NS	NS	NS
		12/13/1979	0	NS	NS	NS	NS	NS
		12/20/1979	0	NS	NS	NS	NS	NS
		12/26/1979	0	NS	NS	NS	NS	NS
		1/3/1980	0	NS	NS	NS	NS	NS
		1/10/1980	0	NS	NS	NS	NS	NS
		1/17/1980	0	NS	NS	NS	NS	NS
		1/24/1980	0	NS	NS	NS	NS	NS
		3/21/1980	NS	NS	1.7	NS	NS	NS
		3/28/1980	NS	NS	1.8	NS	NS	NS
		4/3/1980	NS	NS	1.9	NS	NS	NS
		4/11/1980	NS	NS	2.1	NS	NS	NS
		4/25/1980	NS	NS	1.9	NS	NS	NS
		5/1/1980	NS	NS	1.9	NS	NS	NS
		5/9/1980	NS	NS	2.5	NS	NS	NS
		5/16/1980	NS	NS	2.2	NS	NS	NS
		5/23/1980	NS	NS	2.2	NS	NS	NS
		5/30/1980	NS	NS	2.2	NS	NS	NS
		6/6/1980	NS	NS	1.6	NS	NS	NS
		6/13/1980	NS	NS	2.2	NS	NS	NS
		6/20/1980	NS	NS	2.9	NS	NS	NS
		6/27/1980	NS	NS	1.4	NS	NS	NS
		7/3/1980	NS	NS	1.8	NS	NS	NS
		7/11/1980	NS	NS	2.1	NS	NS	NS
		8/8/1980	NS	NS	2.7	NS	NS	NS
		8/15/1980	NS	NS	.8	NS	NS	NS
		8/22/1980	NS	NS	2.2	NS	NS	NS
		8/28/1980	NS	NS	2.7	NS	NS	NS

Table 6. Concentrations of nutrients and other constituents for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*

[mg/L, milligrams per liter; THM, trihalomethane; NS, not sampled; the values contained in this table were obtained from the Louisville Water Company files]

Map number on figure 4	Site identification number	Date	Nutrients		Other constituents			
			Nitrate (mg/L)	Phosphorous (mg/L)	Carbon, organic, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon dioxide (mg/L)	THM formation potential (mg/L)
12	381652085420302 (continued)	9/5/1980	NS	NS	2.7	NS	NS	NS
		9/12/1980	NS	NS	2.5	NS	NS	NS
13	381653085420301	8/15/1979	0.08	NS	NS	NS	NS	NS
		8/16/1979	0	NS	NS	NS	NS	NS
		8/20/1979	0	NS	NS	NS	NS	NS
		8/23/1979	.3	NS	NS	NS	NS	NS
		8/29/1979	.2	NS	NS	NS	NS	NS
		9/7/1979	.06	NS	NS	NS	NS	NS
		9/17/1979	3.6	NS	NS	NS	NS	NS
		9/18/1979	0	NS	NS	NS	NS	NS
		9/20/1979	0	NS	NS	NS	NS	NS
		9/21/1979	NS	NS	NS	NS	NS	67.7
		9/25/1979	0	NS	NS	NS	NS	NS
		9/28/1979	NS	NS	NS	NS	NS	63.6
		10/5/1979	NS	NS	NS	NS	NS	68.7
		10/12/1979	0	NS	NS	NS	NS	65.4
		10/12/1979	NS	NS	NS	NS	25	NS
		10/19/1979	NS	NS	NS	NS	NS	68.1
		10/26/1979	0	NS	NS	NS	NS	62.9
		11/8/1979	0	NS	NS	NS	NS	NS
		11/24/1979	0	NS	NS	NS	NS	NS
		11/30/1979	0	NS	NS	NS	NS	NS
		12/6/1979	.7	NS	NS	NS	NS	NS
		12/13/1979	.2	NS	NS	NS	NS	NS
		12/20/1979	0	NS	NS	NS	NS	NS
		12/26/1979	.2	NS	NS	NS	NS	NS
		1/3/1980	1	NS	NS	NS	NS	NS
		1/10/1980	0	NS	NS	NS	NS	NS
		1/17/1980	.5	NS	NS	NS	NS	NS
		1/24/1980	.4	NS	NS	NS	NS	NS
		2/8/1980	NS	NS	NS	2,768	NS	NS
		2/14/1980	NS	NS	NS	2,890	NS	NS
		2/21/1980	NS	NS	NS	2,545	NS	NS
		2/29/1980	NS	NS	NS	2,903	NS	NS
		3/6/1980	NS	NS	NS	2,998	NS	NS
		3/7/1980	NS	NS	NS	NS	NS	43
		3/14/1980	NS	NS	NS	2,191	NS	NS
		3/21/1980	NS	NS	1.5	2,155	NS	86
		3/28/1980	NS	NS	1.4	2,563	NS	96
		4/3/1980	NS	NS	1.5	NS	NS	NS
		4/11/1980	NS	NS	NS	1,408	NS	29
		4/18/1980	NS	NS	2.5	1,741	NS	NS

Table 6. Concentrations of nutrients and other constituents for selected wells sampled in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*

[mg/L, milligrams per liter; THM, trihalomethane; NS, not sampled; the values contained in this table were obtained from the Louisville Water Company files]

Map number on figure 4	Site identification number	Date	Nutrients		Other constituents			
			Nitrate (mg/L)	Phosphorous (mg/L)	Carbon, organic, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon dioxide (mg/L)	THM formation potential (mg/L)
13	381653085420301 (continued)	5/1/1980	NS	NS	1.6	1,473	NS	159
		5/9/1980	NS	NS	1.3	2,039	NS	NS
		5/16/1980	NS	NS	1.8	1,602	NS	NS
		5/23/1980	NS	NS	3.7	NS	NS	NS
		5/30/1980	NS	NS	3	1,546	NS	NS
		6/6/1980	NS	NS	1.5	NS	NS	NS
		6/13/1980	NS	NS	1.2	NS	NS	NS
		6/20/1980	NS	NS	1.1	NS	NS	NS
		6/27/1980	NS	NS	1.1	NS	NS	NS
		7/3/1980	NS	NS	.8	NS	NS	NS
		7/11/1980	NS	NS	1.9	NS	NS	NS
		8/8/1980	NS	NS	3.3	NS	NS	NS
		8/22/1980	NS	NS	1.7	NS	NS	NS
		8/28/1980	NS	NS	1.7	NS	NS	NS
		9/5/1980	NS	NS	2.3	NS	NS	NS
		9/12/1980	NS	NS	1.7	NS	NS	NS

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Table 7. Summary of pump test values for ground-water-quality properties and constituents for well 381652085420301.[mg/L, milligrams per liter; CaCO₃, calcium carbonate; NS, not sampled]

Constituent	Sampling date								
	10/12/1979	04/26/1995	07/25/1995	11/15/1995	08/13/1996	10/08/1996	02/04/1997	07/15/1997	12/31/1997
Field parameters (obtained from U.S. Geological Survey files)									
Alkalinity, in mg/L as CaCO ₃	390	NS	NS	NS	NS	260	256	256	251
Conductivity, in µS/cm	800	1,742	1,638	1,553	1,545	1,530	1,630	1,649	1,525
Hardness, in mg/L as CaCO ₃	480	NS	NS	NS	NS	NS	NS	NS	NS
pH, in standard units	NS	7.16	7.42	7.37	7.27	7.38	7.4	7.2	7.49
Trace Elements, in mg/L (obtained from Louisville Water Company files)									
Aluminum	.4	<.019	<.019	<.019	<.019	<.019	<.019	.043	<.032
Antimony	NS	<.051	<.051	<.051	<.051	<.051	<.051	<.037	<.037
Arsenic	NS	.005	.011	<.0017	8.2	.0208	.0115	.01	.011
Barium	.07	.1382	.1304	.1429	.1247	.1238	.1299	.141	.136
Beryllium	.0007	<.0024	<.0024	<.0024	<.0024	<.0024	<.0024	<.002	<.002
Boron	NS	.072	.116	<.023	<.023	<.023	<.023	NS	NS
Cadmium	.001	<.006	<.006	<.006	<.006	<.006	<.006	<.002	<.001
Chromium	NS	<.008	<.008	<.008	<.008	<.008	.0046	<.021	<.001
Cobalt	.022	<.012	<.012	<.012	<.012	<.012	<.012	<.007	<.007
Copper	.01	<.007	<.007	<.007	<.007	<.007	<.007	<.005	<.001
Gold	NS	<.012	<.012	<.012	<.012	<.012	<.012	NS	NS
Iron	10	4.599	3.9	4.01	2.2	3.94	4.46	2.43	4.31
Lead	.01	<.071	<.071	<.071	<.071	<.071	<.071	<.002	<.002
Lithium	.009	NS	NS	NS	NS	NS	NS	NS	NS
Manganese	1.2	.827	.817	.876	.866	.824	.863	.959	.861
Mercury	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Molybdenum	.01	NS	NS	NS	NS	NS	NS	<.005	<.005
Nickel	NS	<.049	<.049	<.049	<.049	<.049	<.049	<.018	<.018
Selenium	NS	<.129	<.129	<.129	<.129	<.129	<.129	<.002	<.002
Silver	NS	<.006	<.006	<.006	<.006	<.006	<.006	<.003	<.003
Strontium	.24	.189	.193	.203	.201	.207	.204	.215	.213
Thallium	NS	.123	<.068	<.068	.103	<.068	<.068	NS	NS
Tin	NS	<.426	<.426	<.426	<.426	<.426	<.426	<.017	<.017
Vanadium	.006	<.004	<.004	<.004	<.004	<.004	<.004	<.003	<.003
Zinc	.06	<.004	<.004	<.004	<.004	<.004	<.004	.005	.008

Table 7. Summary of pump test values for ground-water-quality properties and constituents for well 381652085420301.—*Continued*[mg/L, milligrams per liter; CaCO₃, calcium carbonate; NS, not sampled]

Constituent	Sampling date								
	10/12/1979	04/26/1995	07/25/1995	11/15/1995	08/13/1996	10/08/1996	02/04/1997	07/15/1997	12/31/1997
Herbicides, in mg/L (obtained from Louisville Water Company files)									
2,2-Dichloropropionic acid (Dalapon)	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001
2,4,5-Trichlorophenoxyacetic acid	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
2,4-Dichlorophenoxyacetic acid (2,4-D)	NS	NS	NS	NS	NS	NS	<0.0009	<.0001	<.0001
2-(2,4,5-Trichlorophenoxy) propionic acid	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
2-(2,4-dichlorophenoxy) propionic acid	NS	NS	NS	NS	NS	NS	NS	<.0001	<.0001
3,6-Dichloro-2-methoxybenzoic acid (Dicamba)	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
4-(2,4-Dichlorophenoxy)butyric acid (2,4-DB)	NS	NS	NS	NS	NS	NS	NS	<.00082	<.0004
5-Hydroxydicamba	NS	NS	NS	NS	NS	NS	NS	<.0001	<.0001
Alachlor	NS	0.00003	<0.00002	<0.00002	NS	<0.00006	<.00006	<.00005	<.00005
Atrazine	NS	<.0003	<.0003	<.0003	NS	<.00006	<.00006	<.00005	<.00005
Bentazone	NS	NS	NS	NS	NS	NS	NS	<.0001	<.0001
Bromacil	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Butachlor	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Cyanazine	NS	<.0001	<.0001	<.0001	NS	NS	NS	<.00005	<.00005
Dinoseb	NS	NS	NS	NS	NS	NS	NS	<.00001	<.0001
Diphenamide	NS	<.001	<.0002	<.0002	NS	NS	NS	<.0002	<.0002
EPTC	NS	<.0006	<.0006	<.0006	NS	NS	NS	NS	NS
Isopropalin	NS	<.0002	<.0001	<.0001	NS	NS	NS	<.0002	<.0002
Linuron	NS	<.00005	<.00005	<.00005	NS	NS	NS	NS	NS
Metolachlor	NS	<.0002	<.0002	<.0002	NS	<.00008	<.00005	<.00005	<.00005
Metribuzin	NS	.088	<.00003	<.00003	NS	NS	NS	<.00005	<.00005
Pendimethalin	NS	<.00006	<.00006	<.00006	NS	NS	NS	<.00005	<.00005
Picloram	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Prometon	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Prometryn	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Pronamide	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Propachlor	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
S-Ethyl-diisobutyl thiocarbamate (Butylate)	NS	<.002	<.002	<.002	NS	NS	NS	<.00005	<.00005

Table 7. Summary of pump test values for ground-water-quality properties and constituents for well 381652085420301.—*Continued*[mg/L, milligrams per liter; CaCO₃, calcium carbonate; NS, not sampled]

Constituent	Sampling date								
	10/12/1979	04/26/1995	07/25/1995	11/15/1995	08/13/1996	10/08/1996	02/04/1997	07/15/1997	12/31/1997
Herbicides, in mg/L (obtained from Louisville Water Company files)— <i>Continued</i>									
S-Propyldipropylthiocarbamate (Vernolate)	NS	NS	NS	NS	NS	NS	NS	<0.00005	<0.00005
Simazine	NS	<0.0003	<0.0003	<0.0003	NS	NS	NS	<0.00005	<0.00005
Tebuthiuron	NS	NS	NS	NS	NS	NS	NS	<0.0004	<0.0004
Terbacil	NS	NS	NS	NS	NS	NS	NS	<0.0001	<0.0001
Terbutryn	NS	NS	NS	NS	NS	NS	NS	<0.00005	<0.00005
Tillam (Pebulate)	NS	N	NS	NS	NS	NS	NS	<0.00005	<0.00005
Triazine	NS	NS	NS	NS	NS	NS	NS	<0.00005	<0.00005
Trifluralin	NS	<.00001	<.00001	<.00001	NS	NS	NS	<0.00005	<0.00005
Velpar (Hexazinone)	NS	NS	NS	NS	NS	NS	NS	<0.00005	<0.00005
Insecticides, in mg/L (obtained from Louisville Water Company files)									
Aldrin	NS	NS	NS	NS	NS	NS	NS	<0.00001	<0.0001
Carbofuran	NS	NS	NS	NS	NS	<0.00008	NS	NS	NS
Chlordene	NS	NS	NS	NS	NS	NS	NS	<0.00001	<0.00001
Chlordene, alpha, in water	NS	NS	NS	NS	NS	NS	NS	NS	<0.00001
Chlorpyrifos	NS	<.00015	<.00015	<.00015	NS	<.1	<0.007	<0.00001	<0.00001
cis-Chlordane	NS	NS	NS	NS	NS	NS	NS	<0.00001	<0.00001
cis-Nonachlor	NS	NS	NS	NS	NS	NS	NS	<0.00001	<0.00001
Delta-BHC	NS	NS	NS	NS	NS	NS	NS	<0.00001	<0.00001
Diazinon	NS	<.0002	<.0002	<.0002	NS	NS	NS	<0.00005	<0.00005
Dichlorvos	NS	NS	NS	NS	NS	NS	NS	<0.00005	<0.00005
Dieldrin	NS	NS	NS	NS	NS	NS	NS	<0.00001	<0.00001
Disulfoton	NS	NS	NS	NS	NS	NS	NS	<0.00005	<0.00005
Endosulfan I	NS	<0.00001	<0.00001	<0.00001	NS	NS	NS	<0.00001	<0.00001
Endosulfan II	NS	<0.00001	<0.00001	<0.00001	NS	NS	NS	<0.00001	<0.00001
Endosulfan sulfate	NS	NS	NS	NS	NS	NS	NS	<0.00001	<0.00001
Endrin	NS	NS	NS	NS	NS	NS	NS	<0.00001	<0.00001
Endrin aldehyde	NS	NS	NS	NS	NS	NS	NS	<0.00001	<0.00001
Endrin ketone	NS	NS	NS	NS	NS	NS	NS	<0.00001	<0.00001
gamma-Chlordene	NS	NS	NS	NS	NS	NS	NS	<0.00001	<0.00001
Heptachlor	NS	NS	NS	NS	NS	NS	NS	<0.00001	<0.00001

Table 7. Summary of pump test values for ground-water-quality properties and constituents for well 381652085420301.—*Continued*[mg/L, milligrams per liter; CaCO₃, calcium carbonate; NS, not sampled]

Constituent	Sampling date								
	10/12/1979	04/26/1995	07/25/1995	11/15/1995	08/13/1996	10/08/1996	02/04/1997	07/15/1997	12/31/1997
Insecticides, in mg/L (obtained from Louisville Water Company files)— <i>Continued</i>									
Heptachlor epoxide	NS	NS	NS	NS	NS	NS	NS	<0.00001	<0.00001
Hexachlorocyclohexane,alpha isomer	NS	NS	NS	NS	NS	NS	NS	<.00001	<.00001
Hexachlorocyclohexane,beta isomer	NS	NS	NS	NS	NS	NS	NS	<.00001	<.00001
Hexachlorocyclopentadiene	NS	NS	NS	NS	NS	NS	NS	<.00004	<.00004
Lindane	NS	NS	NS	NS	NS	NS	NS	<.00001	<.00001
Malathion	NS	<0.0003	<0.00005	<0.00005	NS	NS	NS	<.00005	<.00005
Methoxychlor	NS	NS	NS	NS	NS	NS	NS	<.00001	<.00001
Methyl parathion	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
MGK 264	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Mirex	NS	NS	NS	NS	NS	NS	NS	<.00001	<.00001
o,p'-DDD	NS	NS	NS	NS	NS	NS	NS	<.00001	<.00001
o,p'-DDE	NS	NS	NS	NS	NS	NS	NS	<.00001	<.00001
o,p'-DDT	NS	NS	NS	NS	NS	NS	NS	<.00001	<.00001
Oxychlordan	NS	NS	NS	NS	NS	NS	NS	<.00001	<.00001
p,p'-DDD	NS	NS	NS	NS	NS	NS	NS	<.00001	<.00001
p,p'-DDE	NS	NS	NS	NS	NS	NS	NS	<.00001	<.00001
p,p'-DDT	NS	NS	NS	NS	NS	NS	NS	<.00001	<.00001
Parathion	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Pentachlorophenol	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Technical Chlordane	NS	NS	NS	NS	NS	NS	NS	<.00001	<.00001
Terbufos	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Total DDT	NS	NS	NS	NS	NS	NS	NS	<.00001	<.00001
Toxaphene	NS	NS	NS	NS	NS	NS	NS	<.0001	<.0001
trans-Chlordane	NS	NS	NS	NS	NS	NS	NS	<.00001	<.00001
trans-Nonachlor	NS	NS	NS	NS	NS	NS	NS	<.00001	<.00001
Fungicides, in mg/L (obtained from Louisville Water Company files)									
Carboxin	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Chlorothalonil	NS	<.0006	<.0006	<.0006	NS	<0.00007	<0.0001	NS	NS
Hexachlorobenzene	NS	NS	NS	NS	NS	NS	NS	<.00001	<.00001

Table 7. Summary of pump test values for ground-water-quality properties and constituents for well 381652085420301.—*Continued*[mg/L, milligrams per liter; CaCO₃, calcium carbonate; NS, not sampled]

Constituent	Sampling date								
	10/12/1979	04/26/1995	07/25/1995	11/15/1995	08/13/1996	10/08/1996	02/04/1997	07/15/1997	12/31/1997
Polychlorinated Biphenyls, in mg/L (obtained from Louisville Water Company files)									
Aroclor 1016	NS	NS	NS	NS	NS	NS	NS	<0.00005	<0.00005
Aroclor 1221	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Aroclor 1232	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Aroclor 1242	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Aroclor 1248	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Aroclor 1254	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Aroclor 1260	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Aroclor 1262	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Aroclor 1268	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Nutrients, in mg/L (obtained from Louisville Water Company files)									
Ammonia (NH ₃ -N)	NS	0.17	0.09	0.19	0.74	0.69	0.72	.82	.73
Kjeldahl Nitrogen (NH ₃ -N)	NS	<.03	<.03	<.09	.72	.62	.73	.77	1.08
Nitrate-N (NO ₃ -N)	NS	.362	.013	.013	.033	NS	.07	NS	<.02
Nitrite-N (NO ₂ -N)	NS	NS	NS	NS	NS	.015	.018	.01	.05
Orthophosphate (PO ₄)	NS	.0828	.0337	.084	.024	.029	.056	.012	.024
Phosphorus, Dissolved by ICP	NS	<.121	<.121	<.121	<.121	<.121	<.121	NS	.09
Major ions, in mg/L (obtained from Louisville Water Company files)									
Calcium	131	105.7	114	111	107	113	116	111	112
Chloride	16	388	323	308	310	331	327	342	281
Fluoride	.1	.15	.18	.17	.17	.18	.22	.22	.16
Magnesium	36	27.06	26.2	24.2	24.7	25	24.9	26.3	25.3
Potassium	NS	1.66	1.98	<1.21	<1.21	<1.21	2.66	2.06	2.61
Silica	19	NS	NS	NS	NS	NS	NS	NS	NS
Sodium	7.7	165.8	182	177	163	162	170	175	170
Sulfate	93	74.1	68.4	75.3	76.3	76	78.5	74.8	75.6
Other constituents, in mg/L (obtained from Louisville Water Company files)									
CBOD ₅	NS	<1	<1	2.78	<10	<10	<10	NS	NS
Silicon	NS	9.287	9.23	9.41	NS	9.18	9.34	NS	NS
Sulfur	NS	21.05	21.1	18.7	20.8	20.2	20.7	NS	NS

Table 7. Summary of pump test values for ground-water-quality properties and constituents for well 381652085420301.—*Continued*[mg/L, milligrams per liter; CaCO₃, calcium carbonate; NS, not sampled]

Constituent	Sampling date								
	10/12/1979	04/26/1995	07/25/1995	11/15/1995	08/13/1996	10/08/1996	02/04/1997	07/15/1997	12/31/1997
Other constituents, in mg/L (obtained from Louisville Water Company files)— <i>Continued</i>									
Total Dissolved Solids	NS	1,002	920	882	950	862	874	878	856
Total Suspended Solids	NS	12	14	9	31	8	8	14	11
Acetenilide	NS	NS	NS	NS	NS	NS	NS	<.00005	<.00005
Total Organic Carbon	NS	NS	NS	NS	NS	NS	NS	1.5	1.4
Volatile organic compounds, in mg/L (obtained from Louisville Water Company files)									
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,1-Dichloropropene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,2,3-Trichlorobenzene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,2,4-Trichlorobenzene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,2,4-Trimethylbenzene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,2-Dibromo-3-chloropropane (DBCP)	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,2-Dibromoethane (EDB)	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,2-Dichloropropane	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,3,5-Trimethylbenzene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,3-Dichlorobenzene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,3-Dichloropropane	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1-(Methylethyl)benzene (Cumene)	NS	NS	NS	NS	NS	<.5	NS	NS	NS
1-Methyl-4-(1-methylethyl) benzene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
2,4-Dichlorophenoxyacetic acid (2,4-D)	NS	NS	NS	NS	NS	<.5	NS	NS	NS
2-Chlorotoluene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
4-Chlorotoluene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
Benzene	NS	NS	NS	NS	NS	<.5	NS	NS	NS

Table 7. Summary of pump test values for ground-water-quality properties and constituents for well 381652085420301.—*Continued*[mg/L, milligrams per liter; CaCO₃, calcium carbonate; NS, not sampled]

Constituent	Sampling date								
	10/12/1979	04/26/1995	07/25/1995	11/15/1995	08/13/1996	10/08/1996	02/04/1997	07/15/1997	12/31/1997
Volatile organic compounds, in mg/L (obtained from Louisville Water Company files)— <i>Continued</i>									
Bromobenzene	NS	NS	NS	NS	NS	<0.5	NS	NS	NS
Bromochloromethane	NS	NS	NS	NS	NS	<.5	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	<.5	NS	NS	NS
Bromomethane	NS	NS	NS	NS	NS	<1	NS	NS	NS
Carbon tetrachloride	NS	NS	NS	NS	NS	<.5	NS	NS	NS
Chlorobenzene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
Chloroethane	NS	NS	NS	NS	NS	<1	NS	NS	NS
Chloroform	NS	NS	NS	NS	NS	<.5	NS	NS	NS
Chloromethane	NS	NS	NS	NS	NS	<1	NS	NS	NS
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
Dibromochloromethane	NS	NS	NS	NS	NS	<.5	NS	NS	NS
Dibromomethane	NS	NS	NS	NS	NS	<.5	NS	NS	NS
Dichlorobromomethane	NS	NS	NS	NS	NS	<.5	NS	NS	NS
Dichlorodifluoromethane	NS	NS	NS	NS	NS	<1	NS	NS	NS
Ethylbenzene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
Hexachlorobutadiene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
Methylene chloride	NS	NS	NS	NS	NS	<.5	NS	NS	NS
n-Butylbenzene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
n-Propylbenzene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
Naphthalene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
Styrene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
tert-Butylbenzene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
Tetrachloroethane	NS	NS	NS	NS	NS	<.5	NS	NS	NS
Total Xylenes	NS	NS	NS	NS	NS	<.5	NS	NS	NS
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	<.5	NS	NS	NS
Trichlorofluoromethane	NS	NS	NS	NS	NS	<1	NS	NS	NS
Vinyl chloride	NS	NS	NS	NS	NS	<.5	NS	NS	NS

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Table 8. Drillers' log records, including layer description, thickness, and depth, for wells in the northeast portion of the alluvial aquifer at Louisville, Kentucky.

[DMS, degrees minutes seconds; ft, feet; bls, below land surface]

Map number on figure 6	Site identification number	North latitude ¹ (DMS)	West longitude ¹ (DMS)	Approximate land surface elevation ² (ft)	Layer description	Layer thickness (ft)	Depth to bottom of layer (ft bls)
2	381604085430501	38°16'04"	85°43'05"	439	Clay, fine sand	5	5
					Silt, fine sand	15	20
					Sand, small gravel	10	30
					Sand, medium gravel	15	45
					Sand	45	85
					Sand, gravel	16	101
					Limestone	³ 4	⁴ 105
3	381613085421901	38°16'13"	85°42'19"	435	Top soil	15	15
					Blue mud	15	30
					Blue mud, gravel	5	35
					Sand	40	75
					Sand, gravel	10	85
					Bedrock	³ 1	⁴ 86
5	381614085431201	38°16'14"	85°43'12"	429	Clay, sand	5	5
					Blue mud, gravel	5	10
					Blue mud, sand	15	25
					Fine to coarse sand	15	40
					Medium sand, small gravel	10	50
					Sand, medium gravel	20	70
					Sand	18	88
					Limestone	³ 2	⁴ 90
4	381622085423401	38°16'22"	85°42'34"	429	Clay, blue mud	30	30
					Blue mud, sand	5	35
					Fine to medium sand	50	85
					Fine to medium gravel	5	90
					Fine sand	5	95
					Bedrock	³ 7	⁴ 102

Table 8. Drillers' log records, including layer description, thickness, and depth, for wells in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*

[DMS, degrees minutes seconds; ft, feet; bls, below land surface]

Map number on figure 6	Site identification number	North latitude ¹ (DMS)	West longitude ¹ (DMS)	Approximate land surface elevation ² (ft)	Layer description	Layer thickness (ft)	Depth to bottom of layer (ft bls)
8	381630085414901	38°16'30"	85°41'49"	428	Top soil	20	20
					Gravel	20	40
					Fine sand, gravel	10	50
					Sand	5	55
					Sand, gravel	5	60
					Sand	15	75
					Sand, gravel	9	84
					Sand	6	90
					Fine sand, large gravel	2	92
					Shale and limestone	³ 2	⁴ 94
9	381632085424301	38°16'32"	85°42'43"	423	Mud	20	20
					Sand, gravel	20	40
					Sand	25	65
					Sand, gravel	15	80
					Sand	5	85
					Bedrock	³ 4	⁴ 89
43	381654085413301	38°16'54"	85°41'33"	438	Top soil	20	20
					Fine sand to gravel	15	35
					Sand	50	85
					Sand to large gravel	5	90
					Sand	11	101
					Bedrock	³ 3	⁴ 104
45	381702085414001	38°17'02"	85°41'40"	427	Blue mud	20	20
					Sand, gravel	15	35
					Sand	25	60
					Sand, gravel	15	75
					Mud, sand	17	92
					Limestone	³ 4	⁴ 96

Table 8. Drillers' log records, including layer description, thickness, and depth, for wells in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*

[DMS, degrees minutes seconds; ft, feet; bls, below land surface]

Map number on figure 6	Site identification number	North latitude ¹ (DMS)	West longitude ¹ (DMS)	Approximate land surface elevation ² (ft)	Layer description	Layer thickness (ft)	Depth to bottom of layer (ft bls)
46	381710085404501	38°17'10"	85°40'45"	438	Top soil	25	25
					Coarse sand to large boulders	40	65
					Fine sand to large boulders	5	70
					Fine to medium sand	2	72
					Bedrock	³ 2	⁴ 74
47	381711085410501	38°17'11"	85°41'05"	436	Clay, large gravel	25	25
					Sand, gravel	10	35
					Sand	25	60
					Sand, gravel	5	65
					Sand	5	70
					Sand, gravel	10	80
					Sand	20	100
					Bedrock	³ 3	⁴ 103
49	381722085405801	38°17'22"	85°40'58"	434	Top soil	20	20
					Fine sand	10	30
					Medium to coarse sand	20	50
					Fine sand to pea gravel	10	60
					Fine to coarse sand	10	70
					Fine sand to pea gravel	10	80
					Fine to medium sand	20	100
					Bedrock	³ 3	⁴ 103
51	381742085402001	38°17'42"	85°40'20"	439	Sticky clay	26	26
					Medium gravel	4	30
					Fine sand to medium gravel	50	80
					Very large gravel	5	85
					Fine sand to large gravel	15	100
					Unknown	3	103
					Bedrock	³ 2	⁴ 105

Table 8. Drillers' log records, including layer description, thickness, and depth, for wells in the northeast portion of the alluvial aquifer at Louisville, Kentucky.—*Continued*

[DMS, degrees minutes seconds; ft, feet; bls, below land surface]

Map number on figure 6	Site identification number	North latitude ¹ (DMS)	West longitude ¹ (DMS)	Approximate land surface elevation ² (ft)	Layer description	Layer thickness (ft)	Depth to bottom of layer (ft bls)
52	381827085392401	38°18'27"	85°39'24"	456	Top soil	6	6
					Clay, sand	14	20
					Gravel	45	65
					Sand, pea gravel	25	90
					Sand, gravel	20	110
					Cemented sandstone	1	111
					Sand, pea gravel	9	120
					Blue shale, limestone	³ 10	⁴ 130
53	381904085384801	38°19'04"	85°38'48"	438	Top soil	22	22
					Blue mud	3	25
					Medium to coarse sand	5	30
					Blue mud, sand, gravel	5	35
					Clay, sand, pea gravel	45	80
					Sand, boulders	5	85
					Fine to coarse sand	15	100
					Medium sand to pea gravel	4	104
					Blue shale, limestone	³ 6	⁴ 110

¹Horizontal reference, North American Datum 1927 (NAD 27).²Elevation reference, National Geodetic Vertical Datum of 1929 (NGVD 29).³Distance drilled into consolidated layer.⁴Total depth of borehole.

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Unthank and Nelson—**Summary of Available Hydrogeologic Data for the Northeast Portion of the Alluvial Aquifer at
Louisville, Kentucky**—Open-File Report 2006-1146