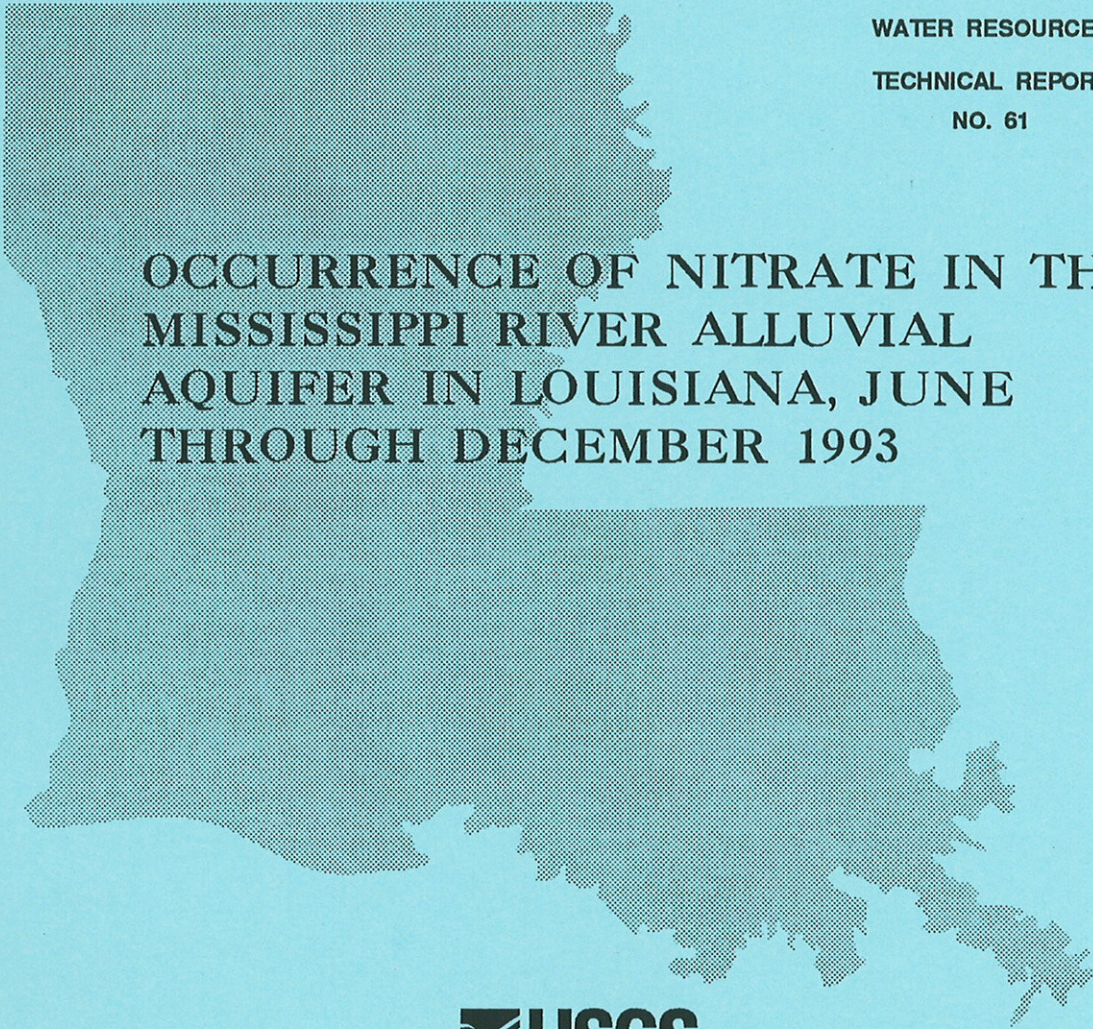


STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
PUBLIC WORKS AND FLOOD CONTROL DIRECTORATE
WATER RESOURCES SECTION



WATER RESOURCES
TECHNICAL REPORT
NO. 61



OCCURRENCE OF NITRATE IN THE
MISSISSIPPI RIVER ALLUVIAL
AQUIFER IN LOUISIANA, JUNE
THROUGH DECEMBER 1993



Prepared by
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY
In cooperation with
LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

1997

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By
Benton D. McGee
U.S. GEOLOGICAL SURVEY

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1997

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DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

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PUBLIC WORKS AND FLOOD CONTROL DIRECTORATE

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

Multiply	By	To obtain
foot (ft)	0.3048	meter
inch (in.)	25.4	millimeter
mile (mi)	1.609	kilometer

Temperature in degrees Celsius (°C) can be converted to degrees Fahrenheit (°F) as follows: °F= 1.8(°C)+32.

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

Abbreviated water-quality unit:

milligrams per liter (mg/L)

OCURRENCE OF NITRATE IN THE MISSISSIPPI RIVER ALLUVIAL AQUIFER IN LOUISIANA, JUNE THROUGH DECEMBER 1993

By Benton D. McGee

ABSTRACT

Nitrate concentrations were determined for water samples collected from 137 selected wells in Louisiana; 135 wells were completed in the Mississippi River alluvial aquifer. Two of the sampled wells were completed in the upland terrace aquifer and the Ouachita River alluvial aquifer. If a water sample had a nitrate as nitrogen concentration greater than 10 mg/L (milligrams per liter), the well was resampled for verification. In addition, duplicate samples for quality control purposes were collected and analyzed for 10 percent of the samples collected. The samples were collected during June through December 1993.

Water from 36 of the wells sampled had dissolved nitrate as nitrogen concentrations greater than 0.02 mg/L. Of these 36 wells, 2 had nitrate concentrations greater than 10 mg/L. Although concentrations of nitrate in water from these two wells were greater than the U.S. Environmental Protection Agency maximum contaminant level (10 mg/L), water from neither well was used for human consumption.

Approximately 98 percent of the wells had nitrate concentrations less than 10 mg/L. This indicates no widespread occurrence of high nitrate concentrations in the Mississippi River alluvial aquifer.

INTRODUCTION

The Mississippi River alluvial aquifer is areally the largest freshwater aquifer in Louisiana, and can yield large quantities of water to wells. The aquifer provides most of the fresh ground water withdrawn in northeastern Louisiana. Water pumped from the Mississippi River alluvial aquifer is used mainly for irrigation and aquaculture purposes. Much of the water requires treatment for hardness and iron removal to be used for domestic and public supply.

The Mississippi River alluvial aquifer underlies one of the largest agricultural areas in the State. The potential contamination of water in the aquifer by nitrates is a concern because of (1) the high permeability of the aquifer, (2) the numerous shallow wells completed in the aquifer, and (3) the predominant land use (agriculture) in the Mississippi River valley (Whitfield, 1975, p. 2, 16).

As an agricultural area, the Mississippi River valley is exposed to large amounts of nitrates from livestock activities and the use of crop fertilizers. Nitrate may also originate from septic/sewer systems and from the decay of natural organic material. The maximum contaminant level¹ (MCL) is 10 mg/L for nitrate as nitrogen in drinking water (U.S. Environmental Protection Agency, 1976). Concentrations of dissolved nitrate as nitrogen in water from aquifers in Louisiana can exceed the maximum contaminant level of 10 mg/L for drinking water (Whitfield, 1980, p. 18).

The ingestion of nitrates, especially by infants, causes a condition known as methemoglobinemia, often called "blue-baby syndrome." In this condition, nitrate depletes oxygen in the blood stream (Chapelle, 1993, p. 247). Furthermore, intake of nitrates has been associated with deaths due to gastric cancer (Chapelle, 1993). Because of these health concerns, nitrate concentrations in ground water have been studied. In 1992, the U.S. Geological Survey (USGS), in cooperation with the Louisiana Department of Transportation and Development (DOTD), began a study to assess the nitrate concentration in shallow water in the Mississippi River alluvial aquifer.

Purpose and Scope

This report documents the occurrence of nitrate and nitrite as nitrogen in water from the Mississippi River alluvial aquifer in Louisiana during June through December 1993. The water samples were collected from shallow domestic-supply wells. All but one of the wells were completed in the freshwater part of the aquifer; the southernmost part of the aquifer contains predominantly saltwater. For this report, freshwater is defined as water with a chloride concentration² of less than 250 mg/L. Two of the sampled wells were completed in the upland terrace aquifer and the Ouachita River alluvial aquifer in areas where these aquifers are stratigraphically adjacent to and hydrologically connected to the Mississippi River alluvial aquifer. For the purposes of this report, these two wells are included in all analyses and discussions of the Mississippi River alluvial aquifer.

¹Primary drinking-water regulations maximum contaminant level (MCL): Enforceable, health-based regulation that is to be set as close to the maximum contaminant level goal as is feasible. The definition of feasible means the use of best technology, treatment techniques, and other means that the Administrator of the U.S. Environmental Protection Agency finds, after examination for efficacy under field conditions and not solely under laboratory conditions, are generally available (taking cost into consideration).

²Concentrations of chloride greater than 250 mg/L exceed the secondary maximum contaminant level (SMCL) for drinking water (U.S. Environmental Protection Agency, 1977, 1992). Secondary drinking-water regulations SMCL: Contaminants that affect the aesthetic quality of drinking water. At high concentrations or values, health implications as well as aesthetic degradation may also exist. SMCL's are not Federally enforceable, but are intended as guidelines for the states.

Description of Study Area

The study area consists of the areal extent of the Mississippi River alluvial aquifer and adjacent freshwater parts of the upland terrace aquifer and Ouachita River alluvial aquifer in Louisiana. The study area (fig. 1) extends south from the Louisiana-Arkansas State line to St. Mary and Lafourche Parishes, and east, west, and southeast to the Mississippi River valley's natural levees. The Mississippi River valley slopes to the south and generally is flat. The altitude of the northern part of the study area ranges from about 50 to 90 ft above sea level, except in a few places; Macon Ridge in West Carroll Parish rises 35 ft above the adjacent valley floor to a maximum of about 125 ft above sea level, and low-lying backswamp areas have altitudes as low as 30 ft above sea level (Whitfield, 1975, p. 4).

Acknowledgments

Many people, including colleagues, private well owners, and officials of industry, contributed their time, efforts, and information to the completion of this study. Special appreciation is given to Zahir "Bo" Bolourchi, Chief of the Water Resources Section, Louisiana Department of Transportation and Development, for assistance provided during the study and during preparation of the report. In addition, DOTD provided well location and well construction information.

HYDROGEOLOGY

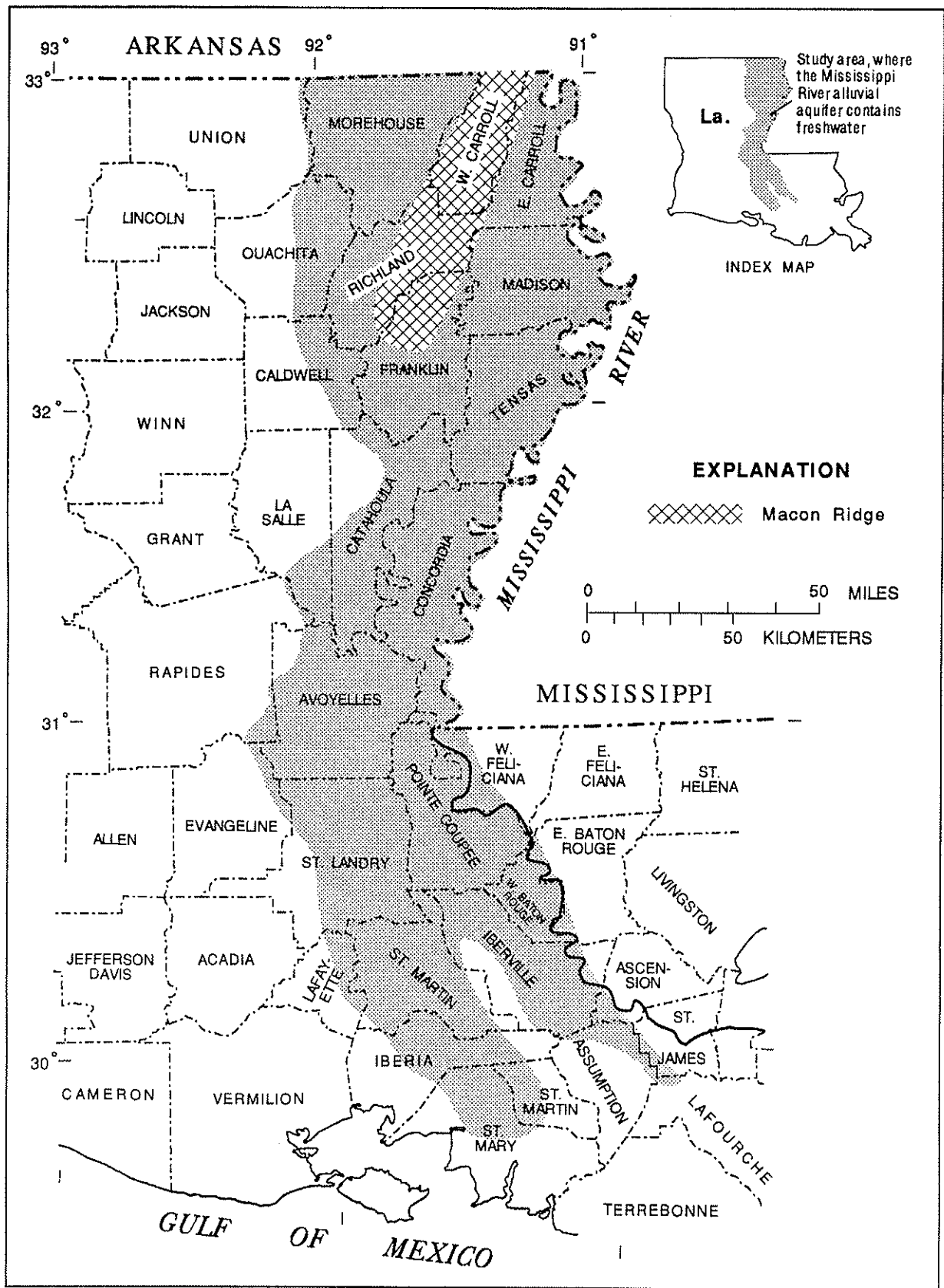
The Mississippi River alluvium ranges from 80 to 200 ft in thickness in northeastern Louisiana, and sediments of Tertiary age lie unconformably on the surface (Whitfield, 1975, p. 4-5). The Mississippi River alluvium grades downward from a silt and clay at the surface to a coarse sand and gravel at the base of the aquifer. The lower coarse-grained part of the alluvium is considered to be the Mississippi River alluvial aquifer. The aquifer slopes and thickens to the south and southeast toward the Mississippi River.

The overlying silt and clay on Macon Ridge are considered to be of Pleistocene age, although the Mississippi River alluvial aquifer is Holocene to Pleistocene in age (Saucier, 1994, p. 27-28). Silt and clay layers are thickest in backswamp areas due to the depositional conditions. These thick deposits have a low permeability and form a cap, which impedes infiltration of rainfall. Conversely, infiltration into the Mississippi River alluvial aquifer is relatively rapid in the permeable point-bar and natural-levee areas adjacent to the many streams that are hydraulically connected to the aquifer.

Water in the aquifer generally moves southward and discharges into major streams. Ground-water flow adjacent to streams is nearly perpendicular to streamflow and discharges from the aquifers into streams during dry periods. During periods of high stream stages, water from the streams moves a short distance into the aquifer (Whitfield, 1975, p. 6).

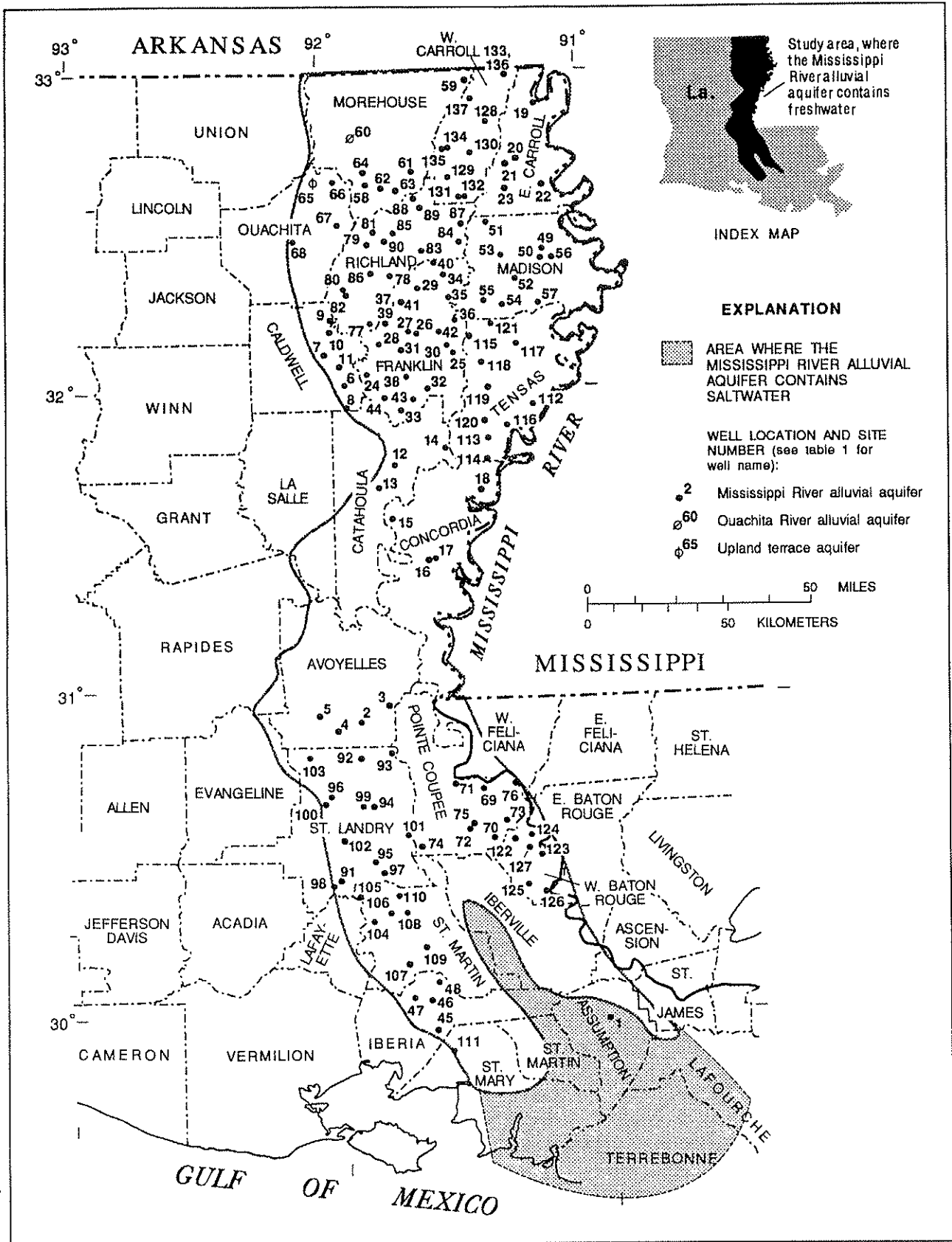
DATA COLLECTION

Water samples from 135 selected wells (fig. 2) completed in the Mississippi River alluvial aquifer and 2 wells in adjacent aquifers in Louisiana were collected and analyzed for nitrite plus nitrate as nitrogen and nitrite as nitrogen. The emphasis was on shallow domestic-supply wells located in rural areas. Most of the wells sampled for this study were registered, upon completion, with the Water Resources Section of DOTD. The remaining wells not registered at the time of their completion were registered after sampling. In an effort to check the State's database regarding these wells, USGS personnel, using a data retrieval obtained from the DOTD well database and a portable geographical positioning system, were able to verify the locations of the wells against the locations noted by the DOTD.



Louisiana Department of Transportation and Development-U.S. Geological Survey Water Resources Cooperative Program

Figure 1. Study area and freshwater extent of the Mississippi River alluvial aquifer in Louisiana.



Louisiana Department of Transportation and Development-U.S. Geological Survey Water Resources Cooperative Program

Figure 2. Selected wells completed in the Mississippi River alluvial aquifer and adjacent aquifers in Louisiana.

All wells were sampled in accordance with established USGS standard methods and techniques, as described by Brown and others (1970). A thorough examination of each well site provided useful information as to possible sources of nitrates. Observations of possible sources of nitrate in the vicinity of the well, the type of well, the condition of the annular space, and the well construction gave indications as to the potential for nitrate contamination.

Water samples were analyzed in accordance with standard methods of the USGS (Fishman, 1993). The nitrite plus nitrate as nitrogen concentration and nitrite as nitrogen concentration in the water samples were determined by quantitative chemical analysis, and the data were stored in the USGS water-quality database. The nitrate as nitrogen concentration was calculated as follows: nitrite plus nitrate minus nitrite.

Many of the nitrate concentrations presented in this report are not in the USGS water-quality database because a calculated concentration for nitrate as nitrogen is not reported when one or both concentrations used in the calculation are less than the analytical detection limit. Therefore, for the purposes of this report, many of the nitrate concentrations are calculated in the following manner: if the nitrite plus nitrate concentration is less than the detection limit and the nitrite concentration is at or less than the detection limit, the concentration for nitrate as nitrogen is reported as less than the detection limit (for the largest value). If one concentration is at or greater than the detection limit and the other is less than the detection limit, then the smaller concentration is subtracted from the larger concentration, and the nitrate is reported without the less than sign, depending upon the larger concentration. If the nitrite plus nitrate as nitrogen concentration is greater than 1.0 mg/L, and the nitrite as nitrogen concentration is less than the detection limit, the nitrate concentration is reported as the same concentration as nitrite plus nitrate to the nearest tenth decimal. The following table lists examples of how nitrate as nitrogen concentrations are calculated in this report.

Reporting level	Scenario	Dissolved nitrite plus nitrate as nitrogen (mg/L)	Dissolved nitrite as nitrogen (mg/L)	Dissolved nitrate as nitrogen (calculated mg/L)
If <1.0	Both values are less than detection limits Example:	<A <0.02	<B <0.01	Use the larger value of A or B <0.02
	One value is greater than detection limit, and the other is less than detection limit Example:	A 0.30	<B <0.01	A - B = C 0.29
If >1.0	Nitrite plus nitrate is greater than 1.0 mg/L, and nitrite is less than detection limit Example:	A.X (X is the tenth decimal) 6.4	<B <0.01	A . X - B = A . X 6.4

OCCURRENCE OF NITRATE IN THE MISSISSIPPI RIVER ALLUVIAL AQUIFER

The water samples were collected and analyzed to determine concentrations of nitrate for selected wells completed in the Mississippi River alluvial aquifer (fig. 2, table 1). If a sample had a nitrate concentration greater than 10 mg/L, the well was resampled for verification. In addition, duplicate samples for quality control purposes were collected and analyzed for 10 percent of the samples collected. Well construction data for the sampled wells are presented in table 2. Wells ranged from 28 to 324 ft deep and had a median depth of 90 ft below land surface.

Water samples from 36 of the 137 wells had nitrate concentrations greater than 0.02 mg/L. Of these 36 wells, only 2 had nitrate concentrations greater than the maximum contaminant level set by the U.S. Environmental Protection Agency. Water from wells Fr-5246Z and Ri-5265Z had nitrate concentrations of 30 and 13 mg/L, respectively, during the first sampling and 29 and 14 mg/L at the time of resampling (table 1). Both wells, one located near a septic tank and the other near a stockyard, were completed at shallow depths, 31 ft for well Fr-5246Z and 45 ft for well Ri-5265Z (table 2). Water from neither well was used for human consumption.

Approximately 98 percent of the wells had nitrate concentrations less than 10 mg/L. Nitrate was the dominate nitrogen species detected in the samples. Little or no nitrite was detected in the samples collected. This indicates no widespread occurrence of high nitrate concentrations in the Mississippi River alluvial aquifer.

REFERENCES

- Brown, Eugene, Skougstad, M.W., and Fishman, M.J., 1970, Methods for collection and analysis of water samples for dissolved minerals and gases: U.S. Geological Survey Techniques of Water-Resources Investigations, book 5, chap. A1, 160 p.
- Chapelle, F.H., 1993, Ground-water microbiology and geochemistry: New York, John Wiley and Sons, Inc., 247 p.
- Fishman, M.J., ed., 1993, Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory; determination of inorganic and organic constituents in water and fluvial sediments: U.S. Geological Survey Water-Resources Open-File Report 93-125, 217 p.
- Saucier, R.T., 1994, Geomorphology and Quaternary geologic history of the Lower Mississippi Valley: Vicksburg, Mississippi, Mississippi River Commission, v. 1, 364 p.
- U.S. Environmental Protection Agency, 1976, Quality criteria for water: Washington, D.C., U.S. Environmental Protection Agency, 256 p.
- 1977, National secondary drinking water regulations: Federal Register, v. 42, no. 62, March 31, 1977, p. 17143-17147.
- 1992, Drinking water regulations and health advisories: Washington, D.C., U.S. Environmental Protection Agency, Office of Water, 11 p.
- Whitfield, M.S., Jr., 1975, Geohydrology and water quality of the Mississippi River alluvial aquifer, northeastern Louisiana: Louisiana Department of Public Works Water Resources Technical Report no. 10, 29 p.
- 1980, Chemical character of water in the Red River alluvial aquifer, Louisiana: U.S. Geological Survey Water-Resources Investigations Open-File Report 80-1018, 95 p.

Table 1. Concentration of nitrate in water from selected wells completed in the Mississippi River alluvial aquifer in Louisiana, June through December 1993
 [<, less than indicated value; --, no data; highlighted sampled well indicates nitrate concentration is greater than 10 milligrams per liter]

Site number (see fig. 2)	Well name	Sample date	Sample time	Water temperature, in degrees Celsius	Specific conductance, in microsiemens per centimeter at 25 degrees Celsius	Dissolved nitrate as nitrogen			Dissolved nitrite plus nitrate as nitrogen	
						Dissolved nitrite as nitrogen	Dissolved nitrate as nitrogen ¹	milligrams per liter		
1	As-77	08-18	1100	25	1,060	0.02	0.18	0.20	0.20	
Assumption Parish										
Avoyelles Parish										
2	Av-5091Z	09-01	0945	24	817	<.01	6.4	6.4	6.4	
3	Av-5111Z	08-31	1410	22	921	<.01	.05	.06	.06	
4	Av-5114Z	09-01	1055	22	448	<.01	.03	.04	.04	
5	Av-5160Z	09-01	1125	25.5	725	.01	.14	.15	.15	
Caldwell Parish										
6	Ca-141	09-27	1400	20.5	564	<.01	<.02	<.02	<.02	
7	Ca-144	09-27	1230	20	900	<.01	<.02	<.02	<.02	
8	Ca-151	09-29	1100	20.5	537	<.01	.01	.02	.02	
9	Ca-5007Z	09-30	1200	20	560	<.01	<.02	<.02	<.02	
10	Ca-5021Z	09-28	1230	19.5	427	<.01	.08	.09	.09	
11	Ca-5037Z	09-28	1100	20.5	537	<.01	<.02	<.02	<.02	
Catahoula Parish										
12	Ct-330	11-23	1330	20	970	<.01	<.02	<.02	<.02	
13	Ct-349	11-24	1100	20	920	<.01	.29	.30	.30	
14	Ct-5167Z	11-30	1030	18	760	<.01	<.02	<.02	<.02	
Concordia Parish										
15	Co-112	12-01	1300	19	600	<.01	<.02	<.02	<.02	
16	Co-205	09-01	1330	20.5	810	<.01	<.02	<.02	<.02	
17	Co-215	09-01	1115	20.5	3,510	<.01	<.02	<.02	<.02	
18	Co-5504Z	12-01	0930	20.5	875	<.01	<.02	<.02	<.02	
East Carroll Parish										
19	EC-195	10-25	1600	20	745	<.01	<.02	<.02	<.02	
20	EC-309	09-21	1300	20	580	<.01	<.02	<.02	<.02	
21	EC-5008Z	09-21	1045	19.5	570	<.01	<.02	<.02	<.02	
22	EC-5011Z	09-22	1030	20	780	<.01	<.02	<.02	<.02	
23	EC-5013Z	09-21	1340	20	1,340	<.01	<.02	<.02	<.02	

Table 1. Concentration of nitrate in water from selected wells completed in the Mississippi River alluvial aquifer in Louisiana, June through December 1993--
Continued

Site number (see fig. 2)	Well name	Sample date	Sample time	Water temperature, in degrees Celsius	Specific			Dissolved nitrite plus nitrate as nitrogen ¹ milligrams per liter
					conductance, in microseimens per centimeter at 25 degrees Celsius	Dissolved nitrite as nitrogen	Dissolved nitrate as nitrogen ¹	
Franklin Parish								
24	Fr-189	09-30	1300	20	328	<.01	.69	.70
25	Fr-708	10-06	1130	20	695	<.01	<.02	<.02
26	Fr-720	09-08	1300	21	9,940	<.01	<.02	<.02
27	Fr-721	09-08	1115	20	1,780	<.01	<.02	<.02
28	Fr-5004Z	10-04	1200	20.5	637	<.01	1.2	1.2
29	Fr-5009Z	08-17	1030	20.5	520	.03	6.3	6.3
30	Fr-5018Z	10-06	1030	20.5	790	<.01	.20	.21
31	Fr-5079Z	10-04	1100	20	434	<.01	<.02	<.02
32	Fr-5084Z	10-06	1100	21.5	488	<.01	<.02	<.02
33	Fr-5089Z	10-12	1045	19	420	<.01	<.02	<.02
34	Fr-5090Z	08-16	1230	20.5	1,970	<.01	<.02	<.02
35	Fr-5098Z	08-18	1030	21	1,100	.02	.84	.86
36	Fr-5109Z	08-18	1230	21	728	<.01	<.02	<.02
37	Fr-5172Z	10-18	1200	21.5	1,400	<.01	.20	.21
38	Fr-5202Z	09-29	1330	20	3,580	<.01	<.02	<.02
39	Fr-5246Z	08-20	1030	20	735	<.01	.30	.30
		10-18	1100	20	740	<.01	.29	.29
40	Fr-5247Z	08-16	1330	20.5	947	<.01	.50	.51
41	Fr-5343Z	08-16	1000	20	356	<.01	4.7	4.7
42	Fr-5348Z	08-18	1330	20.5	702	<.01	.14	.15
43	Fr-5366Z	10-07	1200	20	610	<.01	<.02	<.02
44	Fr-5380Z	10-12	1130	19	235	<.01	2.4	2.4
Iberia Parish								
45	I-5516Z	08-09	1200	22.5	915	<.01	<.02	<.02
46	I-5692Z	08-04	1100	24	655	<.01	.10	.11
47	I-6212Z	08-09	1035	24	483	<.01	<.02	<.02
48	I-6233Z	08-04	1020	22.5	768	<.01	<.02	<.02

Table 1. Concentration of nitrate in water from selected wells completed in the Mississippi River alluvial aquifer in Louisiana, June through December 1993.--
Continued

Site number (see fig. 2)	Well name	Sample date	Sample time	Water temperature, in degrees Celsius	Specific conductance, in microsiemens per centimeter at 25 degrees Celsius	Dissolved nitrate as nitrogen		
						as nitrite	as nitrate	as nitrite plus nitrate
Madison Parish								
49	Ma-64	08-31	1230	20.5	9,770	<.01	<.02	<.02
50	Ma-65	08-31	1030	20	6,450	<.01	<.02	<.02
51	Ma-178	09-22	1330	19	560	<.01	<.02	<.02
52	Ma-5008Z	10-14	1330	19	675	<.01	<.02	<.02
53	Ma-5010Z	09-09	1230	20	683	<.01	<.02	<.02
54	Ma-5023Z	10-05	1230	20	720	<.01	<.02	<.02
55	Ma-5049Z	10-05	1100	20	767	<.01	<.02	<.02
56	Ma-5072Z	10-14	1145	20.5	1,030	<.01	<.02	<.02
57	Ma-5097Z	10-27	1000	20	840	<.01	<.02	<.02
Morehouse Parish								
58	Mo-67	08-23	1000	21	630	<.01	<.02	<.02
59	Mo-710	08-30	1400	20	2,780	<.01	<.02	<.02
60	² Mo-805	08-25	1130	20.5	333	<.01	.43	.44
61	Mo-5071Z	08-25	1300	20	494	<.01	<.02	<.02
62	Mo-5085Z	08-24	1000	21.5	463	<.01	.01	.02
63	Mo-5109Z	08-24	1200	23	340	<.01	<.02	<.02
64	Mo-5171Z	08-24	1300	20	320	<.01	.07	.08
Ouachita Parish								
65	³ Ou-258	08-30	1130	24	278	.01	<.02	<.02
66	Ou-596	08-02	1130	20.5	387	<.01	<.02	<.02
67	Ou-5012Z	07-29	1100	22	1,090	.01	<.02	<.02
68	Ou-5281Z	08-02	1400	20	1,190	.01	.07	.08
Pointe Coupee Parish								
69	PC-231	08-23	1400	23.5	198	<.01	<.02	<.02
70	PC-243	08-30	1515	22	451	<.01	.01	.02
71	PC-253	08-23	1530	22	939	<.01	.01	.02
72	PC-274	08-30	1300	22	767	<.01	.03	.04
73	PC-291	08-23	0925	21	787	<.01	<.02	<.02

Table 1. Concentration of nitrate in water from selected wells completed in the Mississippi River alluvial aquifer in Louisiana, June through December 1993--
Continued

Site number (see fig. 2)	Well name	Sample date	Sample time	Water temperature, in degrees Celsius	Specific			Dissolved nitrite plus nitrate as nitrogen
					conductance, in microsiemens per centimeter at 25 degrees Celsius	Dissolved nitrite as nitrogen	Dissolved nitrate as nitrogen ¹	
								milligrams per liter
Pointe Coupee Parish								
74	PC-299	08-30	1435	24	1,340	<.01	<.02	<.02
75	PC-300	08-30	1340	24	699	<.01	<.02	<.02
76	PC-314	08-23	1115	22	653	<.01	<.02	<.02
Richland Parish								
77	Ri-122	08-09	1030	20.5	213	<.01	6.1	6.1
78	Ri-5001Z	08-06	1130	21.5	102	<.01	1.2	1.2
79	Ri-5021Z	08-10	1230	21.5	160	<.01	2.2	2.2
80	Ri-5046Z	08-09	1230	23.5	315	<.01	<.02	<.02
81	Ri-5056Z	08-03	1230	21.5	297	<.01	3.2	3.2
82	Ri-5057Z	08-13	1300	20.5	385	<.01	<.02	<.02
83	Ri-5066Z	08-11	1330	20.5	863	<.01	.01	.02
84	Ri-5074Z	09-09	1100	20	1,130	.03	2.0	2.0
85	Ri-5090Z	08-04	0945	21.5	365	<.01	<.02	<.02
86	Ri-5114Z	08-13	1030	20.5	471	<.01	<.02	<.02
87	Ri-5171Z	08-11	1100	20.5	835	<.01	.18	.19
88	Ri-5265Z	08-04	1230	20.5	689	<.01	13	13
		09-16	1015	19	688	<.01	14	14
89	Ri-5266Z	08-04	1100	21	1,130	<.01	<.02	<.02
90	Ri-5267Z	08-03	1030	21	175	<.01	1.6	1.6
St. Landry Parish								
91	SL-5238Z	08-17	1130	22	180	<.01	<.02	<.02
92	SL-5242Z	08-10	1115	23	920	<.01	<.02	<.02
93	SL-5246Z	08-10	0950	23	867	<.01	<.02	<.02
94	SL-5248Z	08-10	1520	24.5	821	<.01	<.02	<.02
95	SL-5271Z	08-16	1515	25	660	<.01	<.02	<.02
96	SL-5284Z	08-16	1010	23	1,070	<.01	<.02	<.02
97	SL-5288Z	08-17	1030	23	628	<.01	3.3	3.3
98	SL-5336Z	08-17	1310	25	398	.03	0	.03

Table 1. Concentration of nitrate in water from selected wells completed in the Mississippi River alluvial aquifer in Louisiana, June through December 1993--
Continued

Site number (see fig. 2)	Well name	Sample date	Sample time	Water temperature, in degrees Celsius	Specific conductance, in microsiemens per centimeter at 25 degrees Celsius	Dissolved nitrite as nitrogen	Dissolved nitrate as nitrogen ¹	Dissolved nitrite plus nitrate as nitrogen
St. Landry Parish								
99	SL-5477Z	08-10	1450	23	955	<.01	<.02	<.02
100	SL-5553Z	08-16	1315	23.5	630	<.01	<.02	<.02
101	SL-5615Z	08-16	0915	23	1,250	<.01	<.02	<.02
102	SL-5618Z	08-17	0930	23.5	595	<.01	<.02	<.02
103	SL-5670Z	08-10	1300	25	1,320	<.01	<.02	<.02
St. Martin Parish								
104	SMn-5177Z	08-03	1145	24.5	677	<.01	<.02	<.02
105	SMn-5221Z	07-23	1545	25.5	557	<.01	.22	.23
106	SMn-5222Z	07-23	1345	24	626	<.01	.02	.03
107	SMn-5252Z	08-03	1415	25.5	640	<.01	<.02	<.02
108	SMn-5271Z	08-02	1500	24.5	678	<.01	.01	.02
109	SMn-5381Z	08-02	1245	24	721	<.01	<.02	<.02
110	SMn-5730Z	08-03	1550	24	644	<.01	.01	.02
St. Mary Parish								
111	SM-5560Z	08-09	1330	23.5	818	<.01	<.02	<.02
Tensas Parish								
112	Ts-69	11-01	1400	20	1,030	<.01	<.02	<.02
113	Ts-90	11-01	1500	19.5	975	<.01	.01	.02
114	Ts-5021Z	11-03	1130	14	900	.01	<.02	<.02
115	Ts-5022Z	10-26	1030	18.5	790	<.01	<.02	<.02
116	Ts-5052Z	10-27	1230	19.5	740	<.01	<.02	<.02
117	Ts-5060Z	10-26	1630	20	510	.01	.78	.79
118	Ts-5102Z	10-27	1500	19.5	825	<.01	<.02	<.02
119	Ts-5103Z	11-02	1000	19.5	575	<.01	<.02	<.02
120	Ts-5104Z	11-02	1600	19.5	725	<.01	<.02	<.02
121	Ts-5105Z	10-26	1430	20	800	<.01	<.02	<.02
West Baton Rouge Parish								
122	WBR-1	06-10	1730	--	--	<.01	<.02	<.02
123	WBR-70	06-10	1345	--	--	<.01	<.02	<.02

Table 1. Concentration of nitrate in water from selected wells completed in the Mississippi River alluvial aquifer in Louisiana, June through December 1993--
Continued

Site number (see fig. 2)	Well name	Sample date	Sample time	Water temperature, in degrees Celsius	Specific conductance, in microsiemens per centimeter at 25 degrees Celsius	Dissolved nitrite as nitrogen	Dissolved nitrate as nitrogen ¹	Dissolved nitrite plus nitrate as nitrogen
West Baton Rouge Parish								
124	WBR-115	06-10	1600	--	--	<.01	<.02	<.02
125	WBR-159	06-10	1100	--	--	<.01	<.02	<.02
		06-25	0930	21.5	617	<.01	<.02	<.02
126	WBR-175	06-10	1020	--	--	<.01	<.02	<.02
		06-25	0900	22	397	<.01	<.02	<.02
127	WBR-183	06-10	1515	--	--	<.01	<.02	<.02
		06-25	1120	24.5	485	<.01	.01	.02
West Carroll Parish								
128	WC-93	09-07	1330	20	1,700	<.01	.04	.05
129	WC-345	09-13	1100	21	1,160	<.01	<.02	<.02
130	WC-348	09-20	1400	19	1,210	<.01	<.02	<.02
131	WC-5014Z	09-07	1230	20	870	<.01	<.02	<.02
132	WC-5016Z	09-07	0930	19.5	1,380	<.01	<.02	<.02
133	WC-5024Z	09-16	1300	20	1,240	<.01	5.0	5.0
134	WC-5030Z	09-13	1400	19.5	1,310	<.01	<.02	<.02
135	WC-5037Z	09-13	1230	19.5	1,050	<.01	<.02	<.02
136	WC-5047Z	09-20	1100	19.5	1,200	<.01	<.02	<.02
137	WC-5048Z	09-20	1200	19.5	720	<.01	<.02	<.02

¹Calculation of the dissolved nitrate as nitrogen concentration, in milligrams per liter, is described in the section "Data Collection."

²Well Mo-805, completed in the upland terrace aquifer.

³Well Ou-258, completed in the Ouachita River alluvial aquifer.

Table 2. Description of selected wells completed in the Mississippi River alluvial aquifer in Louisiana

[Water-level datum is land surface. 112MRVA, Mississippi River alluvial aquifer; 112UPTC, upland terrace aquifer; 112ORVA, Ouachita River alluvial aquifer; --, data not available; P, polyvinyl chloride or other plastic; S, steel; G, galvanized iron; I, wrought iron; M, other material]

Site number (see fig. 2)	Well name	Parish code	Identification number	Latitude (degrees)	Longitude (degrees)	Aquifer code	Date well constructed	Altitude of land surface (feet)
Assumption Parish								
1	As-77	007	295703091024301	295703	910243	112MRVA	05-21-80	14
Avoyelles Parish								
2	Av-5091Z	009	305449091562501	305449	915625	112MRVA	06-04-88	40
3	Av-5111Z	009	305859091483001	305859	914830	112MRVA	11-04-88	40
4	Av-5114Z	009	305303092020401	305303	920204	112MRVA	02-08-89	50
5	Av-5160Z	009	305602092052801	305602	920528	112MRVA	05-14-90	70
Caldwell Parish								
6	Ca-141	021	320127091582001	320127	915820	112MRVA	07-28-90	62
7	Ca-144	021	320658092025201	320658	920252	112MRVA	09-11-90	65
8	Ca-151	021	315539091554901	315539	915549	112MRVA	08-30-91	63
9	Ca-5007Z	021	321324092002401	321324	920024	112MRVA	- -85	--
10	Ca-5021Z	021	321114092004001	321114	920040	112MRVA	- -92	58
11	Ca-5037Z	021	320426091593601	320426	915936	112MRVA	05-26-86	60
Catahoula Parish								
12	Ct- 330	025	314524091463901	314524	914639	112MRVA	04-25-88	56
13	Ct- 349	025	314108091501201	314108	915012	112MRVA	05-10-89	60
14	Ct-5167Z	025	314843091343401	314843	913434	112MRVA	08-15-86	60
Concordia Parish								
15	Co-112	029	313418091474801	313418	914748	112MRVA	01-01-70	55
16	Co-205	029	312614091400001	312614	914000	112MRVA	12-03-88	45
17	Co-215	029	312630091390001	312630	913900	112MRVA	11-08-89	45
18	Co-5504Z	029	313904091260201	313904	912602	112MRVA	- -80	60
East Carroll Parish								
19	EC-195	035	325347091125001	325347	911250	112MRVA	--	100
20	EC-309	035	324311091162801	324311	911628	112MRVA	06-06-88	90
21	EC-5008Z	035	324208091191901	324208	911919	112MRVA	05-12-86	90
22	EC-5011Z	035	323800091105101	323800	911051	112MRVA	10-12-85	92
23	EC-5013Z	035	323639091195001	323639	911950	112MRVA	10-08-86	85
Franklin Parish								
24	Fr-189	041	320222091525801	320222	915258	112MRVA	02-01-64	61
25	Fr-708	041	320610091331201	320610	913312	112MRVA	09-24-88	65
26	Fr-720	041	320941091411301	320941	914113	112MRVA	11-07-89	75
27	Fr-721	041	320958091425501	320958	914255	112MRVA	01-11-90	65
28	Fr-5004Z	041	320752091492501	320752	914925	112MRVA	07-03-81	67
29	Fr-5009Z	041	321838091403801	321838	914038	112MRVA	11-18-81	75
30	Fr-5018Z	041	320828091361701	320828	913617	112MRVA	07-10-82	90
31	Fr-5079Z	041	320646091451301	320646	914513	112MRVA	11-19-91	70
32	Fr-5084Z	041	315906091390801	315906	913908	112MRVA	06-10-86	75
33	Fr-5089Z	041	315539091445901	315539	914459	112MRVA	01-30-86	65
34	Fr-5090Z	041	322051091342201	322051	913422	112MRVA	04-24-86	90
35	Fr-5098Z	041	321620091330501	321620	913305	112MRVA	06-27-86	85
36	Fr-5109Z	041	321154091315901	321154	913159	112MRVA	10-01-86	75
37	Fr-5172Z	041	321132091473301	321132	914733	112MRVA	03-10-92	70
38	Fr-5202Z	041	320154091434801	320154	914348	112MRVA	05-20-88	66
39	Fr-5246Z	041	321136091472601	321136	914726	112MRVA	01-19-92	70
40	Fr-5247Z	041	322327091355701	322327	913557	112MRVA	11-12-88	89

Table 2. Description of selected wells completed in the Mississippi River alluvial aquifer in Louisiana--Continued

Depth of well (feet)	Bottom of casing (feet)	Diameter of casing (inches)	Casing material	Water level (feet)	Date water level measured
Assumption Parish					
290	248	10	-	12	05-21-80
Avoyelles Parish					
110	104	2	P	15	06-04-88
140	134	4	P	35	11-04-88
80	74	2	P	30	02-08-89
80	74	2	P	30	05-14-90
Caldwell Parish					
90	90	6	P	26	07-28-90
104	104	10	P	14	09-11-90
92	84	4	P	21	08-30-91
28	--	4	P	--	--
62	57	2	P	--	--
90	85	2	P	23	05-26-86
Catahoula Parish					
90	60	8	P	21	04-25-88
50	40	2	P	12	05-10-89
110	100	4	P	20	08-15-86
Concordia Parish					
110	--	2	S	--	--
130	110	4	P	12.68	01-05-90
121	118	2	P	13.65	11-21-89
100	--	2	P	--	--
East Carroll Parish					
150	--	--	-	--	--
96	79	10	P	18	06-06-88
70	60	4	P	20	05-12-86
90	85	2	P	25	10-12-85
80	65	2	P	20	10-08-86
Franklin Parish					
70	67	1	-	--	--
90	85	2	P	22	09-24-88
100	97	2	P	--	--
77	72	--	P	--	--
40	35	--	P	15	07-03-81
30	20	2	-	18	12-11-81
80	80	--	-	30	07-10-82
45	40	2	P	16	11-19-91
70	60	2	P	20	06-10-86
50	45	2	P	21	01-30-86
40	35	2	P	24	04-24-86
45	40	2	P	26	06-27-86
60	50	2	P	20	10-01-86
33	28	2	P	19	03-10-92
68	58	4	P	17	05-20-88
31	26	2	P	18	01-19-92
290	35	2	P	20	11-12-88

Table 2. Description of selected wells completed in the Mississippi River alluvial aquifer in Louisiana--Continued

Site number (see fig. 2)	Well name	Parish code	Identification number	Latitude (degrees)	Longitude (degrees)	Aquifer code	Date well constructed	Altitude of land surface (feet)
Franklin Parish								
41	Fr-5343Z	041	321547091443401	321547	914434	112MRVA	09-08-90	73
42	Fr-5348Z	041	321005091361501	321005	913615	112MRVA	10-02-90	95
43	Fr-5366Z	041	315631091411801	315631	914118	112MRVA	11-15-90	70
44	Fr-5380Z	041	315758091485901	315758	914859	112MRVA	09-15-91	65
Iberia Parish								
45	I-5516Z	045	295603091405701	295603	914057	112MRVA	10-30-86	15
46	I-5692Z	045	300154091415701	300154	914157	112MRVA	05-16-88	10
47	I-6212Z	045	300216091453701	300216	914537	112MRVA	12-10-91	15
48	I-6233Z	045	300451091403302	300451	914033	112MRVA	06-29-92	8
Madison Parish								
49	Ma-64	065	322614091122001	322614	911220	112MRVA	09-18-75	80
50	Ma-65	065	322428091130201	322428	911302	112MRVA	09-19-75	78
51	Ma-178	065	323123091244201	323123	912442	112MRVA	06-30-86	85
52	Ma-5008Z	065	322101091190101	322101	911901	112MRVA	08-05-84	75
53	Ma-5010Z	065	322447091213501	322447	912135	112MRVA	10-20-83	75
54	Ma-5023Z	065	321543091215301	321543	912153	112MRVA	08-12-86	70
55	Ma-5049Z	065	321638091260601	321638	912606	112MRVA	08-30-88	76
56	Ma-5072Z	065	322431091102601	322431	911026	112MRVA	10-04-90	85
57	Ma-5097Z	065	321454091124201	321454	911242	112MRVA	- -78	--
Morehouse Parish								
58	Mo-67	067	323806091530401	323806	915304	112MRVA	--	74
59	Mo-710	067	325826091280401	325826	912804	112MRVA	03-17-90	99
60	Mo-805	067	324738091551101	324738	915511	112UPTC	08-29-91	122
61	Mo-5071Z	067	324111091413101	324111	914131	112MRVA	08-06-86	96
62	Mo-5085Z	067	323731091484601	323731	914846	112MRVA	07-01-87	77
63	Mo-5109Z	067	323655091453901	323655	914539	112MRVA	06-03-88	84
64	Mo-5171Z	067	324124091533501	324124	915335	112MRVA	03-24-90	75
Ouachita Parish								
65	Ou-258	073	323903092040801	323903	920408	112ORVA	--	75
66	Ou-596	073	323920091595101	323920	915951	112MRVA	06-04-88	95
67	Ou-5012Z	073	323059091570701	323059	915707	112MRVA	07-05-83	65
68	Ou-5281Z	073	322814092085001	322814	920850	112MRVA	12-15-89	--
Pointe Coupee Parish								
69	PC-231	077	304311091284701	304242	912850	112MRVA	--	35
70	PC-243	077	303305091261501	303305	912615	112MRVA	06-01-80	22
71	PC-253	077	304338091361501	304338	913615	112MRVA	02-19-82	30
72	PC-274	077	303442091323401	303442	913234	112MRVA	09-13-84	25
73	PC-291	077	303542091232701	303542	912327	112MRVA	08-09-88	35
74	PC-299	077	303051091430301	303051	914303	112MRVA	06-15-91	25
75	PC-300	077	303543091314001	303543	913138	112MRVA	06-17-89	25
76	PC-314	077	304345091213601	304345	912136	112MRVA	10-02-91	50

Table 2. Description of selected wells completed in the Mississippi River alluvial aquifer in Louisiana--Continued

Depth of well (feet)	Bottom of casing (feet)	Diameter of casing (inches)	Casing material	Water level (feet)	Date water level measured
Franklin Parish					
40	30	4	P	20	09-08-90
60	55	4	P	34	10-02-90
100	--	--	-	--	--
40	30	2	P	20	09-15-91
Iberia Parish					
110	100	2	P	17	10-30-86
150	144	2	P	20	05-16-88
160	150	2	-	13	12-10-91
140	135	2	P	6	06-29-92
Madison Parish					
117	112	1	G	9.98	09-18-75
119	114	1	G	6.72	09-19-75
100	80	12	P	20	06-30-86
102	87	4	P	20	08-05-84
90	--	4	P	15	10-20-83
80	70	2	P	20	08-12-86
92	87	2	P	27	08-30-88
60	50	2	P	20	10-04-90
50	--	-	-	--	--
Morehouse Parish					
81	--	3	-	11.85	10-05-66
130	--	3	P	14.4	03-23-90
108	--	--	-	52	08-29-91
56	50	2	P	24	08-06-86
82	77	2	P	14	07-01-87
65	60	2	P	15	06-03-88
50	40	4	P	18	03-24-90
Ouachita Parish					
52	49	1	I	11.42	02-15-64
50	40	4	P	24	06-04-88
75	64	4	P	18	07-05-83
42	32	4	P	19.81	12-23-89
Pointe Coupee Parish					
--	--	--	-	--	--
165	--	--	P	6.36	08-22-80
208	90	16	S	16	02-19-82
	110	10	S		
	136	8	S		
	168	8	-		
190	170	4	S	15	09-13-84
324	62	24	S	22	08-09-88
	200	18	S		
160	150	2	P	5	06-15-91
135	125	2	P	7	06-17-89
163	103	8	P	38	10-02-91

Table 2. Description of selected wells completed in the Mississippi River alluvial aquifer in Louisiana--Continued

Site number (see fig. 2)	Well name	Parish code	Identification number	Latitude (degrees)	Longitude (degrees)	Aquifer code	Date well constructed	Altitude of land surface (feet)
Richland Parish								
77	Ri-122	083	321111091515701	321111	915157	112MRVA	01-01-64	60
78	Ri-5001Z	083	322107091462501	322107	914625	112MRVA	05-11-82	75
79	Ri-5021Z	083	322732091520501	322732	915205	112MRVA	08-15-83	70
80	Ri-5046Z	083	321918091572401	321918	915724	112MRVA	05-09-84	70
81	Ri-5056Z	083	323015091502601	323015	915026	112MRVA	04- -77	75
82	Ri-5057Z	083	321805091562401	321805	915624	112MRVA	04-28-86	69
83	Ri-5066Z	083	322622091384301	322622	913843	112MRVA	06-24-86	80
84	Ri-5074Z	083	322749091305001	322749	913050	112MRVA	06-21-86	95
85	Ri-5090Z	083	323001091445001	323001	914450	112MRVA	08-01-86	80
86	Ri-5114Z	083	322130091513901	322130	915139	112MRVA	06-08-87	74
87	Ri-5171Z	083	323054091295501	323054	912955	112MRVA	12-12-88	92
88	Ri-5265Z	083	323541091404801	323541	914048	112MRVA	- -73	87
89	Ri-5266Z	083	323400091390602	323400	913906	112MRVA	- -84	87
90	Ri-5267Z	083	322814091471402	322814	914714	112MRVA	--	85
St. Landry Parish								
91	SL-5238Z	097	302420092010601	302420	920106	112MRVA	08-14-84	25
92	SL-5242Z	097	304818091565401	304818	915654	112MRVA	03-19-84	35
93	SL-5246Z	097	304938091484201	304938	914842	112MRVA	10-10-83	35
94	SL-5248Z	097	303836091540201	303836	915402	112MRVA	04-26-83	25
95	SL-5271Z	097	302846091553301	302846	915533	112MRVA	05-07-85	20
96	SL-5284Z	097	304058092022801	304058	920228	112MRVA	06-11-85	37
97	SL-5288Z	097	302601091522501	302601	915225	112MRVA	06-15-85	15
98	SL-5336Z	097	302359092033401	302359	920334	112MRVA	02-18-86	40
99	SL-5477Z	097	303831091563701	303831	915637	112MRVA	03-05-87	30
100	SL-5553Z	097	303908092040301	303908	920403	112MRVA	11-07-87	35
101	SL-5615Z	097	303428091454002	303428	914540	112MRVA	12-13-87	30
102	SL-5618Z	097	303315092001001	303315	920010	112MRVA	03-29-88	30
103	SL-5670Z	097	304839092074601	304839	920746	112MRVA	10-21-88	30
St. Martin Parish								
104	SMn-5177Z	099	301719091552301	301719	915523	112MRVA	04-11-85	25
105	SMn-5221Z	099	302148091580101	302148	915801	112MRVA	06-12-84	25
106	SMn-5222Z	099	301835091512701	301835	915127	112MRVA	05-15-84	20
107	SMn-5252Z	099	300848091471301	300848	914713	112MRVA	02-23-85	20
108	SMn-5271Z	099	301842091474201	301842	914742	112MRVA	06-12-85	10
109	SMn-5381Z	099	301159091431501	301159	914315	112MRVA	06-27-86	10
110	SMn-5730Z	099	301940091491901	301940	914919	112MRVA	04-21-89	20
St. Mary Parish								
111	SM-5560Z	101	295206091375901	295206	913759	112MRVA	07-15-87	10
Tensas Parish								
112	Ts-69	107	315639091140801	315639	911408	112MRVA	09-16-81	70
113	Ts-90	107	315010091244601	315010	912446	112MRVA	04-26-88	65
114	Ts-5021Z	107	314521091244001	314521	912440	112MRVA	05-09-83	65
115	Ts-5022Z	107	320939091291401	320939	912914	112MRVA	06-21-85	60
116	Ts-5052Z	107	315240091201701	315240	912017	112MRVA	08-08-88	67

Table 2. Description of selected wells completed in the Mississippi River alluvial aquifer in Louisiana--Continued

Depth of well (feet)	Bottom of casing (feet)	Diameter of casing (inches)	Casing material	Water level (feet)	Date water level measured
Richland Parish					
40	36	1	G	--	--
45	--	--	P	18	05-11-82
40	--	--	P	20	08-15-83
45	--	--	P	18	05-09-84
70	50	2	P	--	--
75	65	2	P	--	--
45	40	2	P	14	06-24-86
40	35	2	P	21	06-21-86
59	50	4	P	17	08-01-86
40	35	2	P	20	06-08-87
60	50	4	P	25	12-12-88
45	45	--	-	--	--
54	--	2	P	18.33	08-04-93
28	--	--	-	--	--
St. Landry Parish					
100	94	2	P	35	08-14-84
144	138	2	P	16	03-19-84
160	154	2	P	27	10-10-83
140	134	2	P	23	04-26-83
105	99	2	P	10	05-07-85
146	140	2	P	--	--
150	145	2	P	10	06-15-85
200	194	2	P	16	02-18-86
110	104	2	P	10	03-05-87
140	134	2	P	10	11-07-87
180	174	2	P	12	12-13-87
160	152	2	P	30	03-29-88
140	134	2	P	24	10-21-88
St. Martin Parish					
170	164	2	P	25	04-11-85
80	74	2	P	20	06-12-84
150	144	2	P	18	05-15-84
170	164	2	P	20	02-23-85
150	144	2	P	10	06-12-85
160	154	2	P	16	06-27-86
130	124	2	P	10	04-21-89
St. Mary Parish					
180	174	2	P	12	07-15-87
Tensas Parish					
107	67	12	S	13	09-16-81
130	90	10	P	12	04-26-88
90	--	--	-	20	05-09-83
70	60	--	P	18	06-21-85
107	--	4	P	21	08-08-88

Table 2. Description of selected wells completed in the Mississippi River alluvial aquifer in Louisiana--Continued

Site number (see fig. 2)	Well name	Parish code	Identification number	Latitude (degrees)	Longitude (degrees)	Aquifer code	Date well constructed	Altitude of land surface (feet)
Tensas Parish								
117	Ts-5060Z	107	320737091181401	320737	911814	112MRVA	05-02-89	77
118	Ts-5102Z	107	320448091263601	320448	912636	112MRVA	- -75	--
119	Ts-5103Z	107	315924091243601	315924	912436	112MRVA	- -78	--
120	Ts-5104Z	107	315324091253301	315324	912533	112MRVA	- -73	--
121	Ts-5105Z	107	321141091235201	321141	912352	112MRVA	- -90	--
West Baton Rouge Parish								
122	WBR-1	121	303200091223001	303200	912230	112MRVA	01-01-40	20
123	WBR-70	121	302857091165801	302857	911658	112MRVA	01-01-50	22
124	WBR-115	121	303245091180501	303245	911805	112MRVA	10-25-65	27
125	WBR-159	121	302315091190902	302315	911909	112MRVA	11-14-78	5
126	WBR-175	121	302131091154401	302131	911544	112MRVA	03-11-85	19
127	WBR-183	121	303010091191301	303010	911913	112MRVA	03-04-83	20
West Carroll Parish								
128	WC-93	123	325035091234901	325035	912349	112MRVA	08-15-76	120
129	WC-345	123	324018091332801	324018	913328	112MRVA	- -77	--
130	WC-348	123	324425091283601	324425	912836	112MRVA	- -81	--
131	WC-5014Z	123	323617091312402	323617	913124	112MRVA	02-20-92	90
132	WC-5016Z	123	323612091294202	323612	912942	112MRVA	06-01-85	90
133	WC-5024Z	123	325905091193301	325905	911933	112MRVA	01-30-87	110
134	WC-5030Z	123	324554091323901	324554	913239	112MRVA	03-17-92	91
135	WC-5037Z	123	324544091334101	324544	913341	112MRVA	05-10-89	96
136	WC-5047Z	123	325841091194001	325841	911940	112MRVA	- -80	--
137	WC-5048Z	123	325435091281301	325435	912813	112MRVA	- -68	--

Table 2. Description of selected wells completed in the Mississippi River alluvial aquifer in Louisiana--Continued

Depth of well (feet)	Bottom of casing (feet)	Diameter of casing (inches)	Casing material	Water level (feet)	Date water level measured
Tensas Parish					
32	27	2	P	14	05-02-89
60	--	2	S	--	--
98	98	--	S	--	--
110	--	2	P	--	--
78	--	2	P	26	09-17-90
West Baton Rouge Parish					
180	170	2	G	12	01-01-40
260	254	4	S	--	--
238	138	18	S	--	--
	138	12	S		
234	154	14	S	7	11-14-78
	159	8	S		
	164	8	M		
185	175	2	P	5	03-11-85
170	150	4	P	1	03-04-83
West Carroll Parish					
105	73	14	S	30	08-17-76
108	--	12	S	--	--
105	--	12	P	--	--
50	40	4	P	22	02-20-92
65	55	4	P	20	06-01-85
50	45	2	P	26	01-30-87
47	42	2	P	21	03-17-92
50	40	2	P	20	05-10-89
75	--	2	P	--	--
80	--	2	M	--	--

