Water-Data Report 2010

07362000 OUACHITA RIVER AT CAMDEN, AR

Upper Ouachita Basin
Upper Ouachita Subbasin

LOCATION.--Lat 33°35′47″, long 92°49′05″ referenced to North American Datum of 1983, in SE ¼ SE ¼ sec.14, T.13 S., R.17 W., Ouachita County, AR, Hydrologic Unit 08040102, at bridge on U.S. Hwy 79B at Camden, 3.4 mi downstream from Ecore Fabre Bayou, 6.2 mi upstream from Two Bayou, and at river mile 354.1.

DRAINAGE AREA.--5,360 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Oct 1928 to current year. Oct 1929 to date in reports of U.S. Army Corps of Engineers. Monthly discharge only, Oct 1929 to Sep 1960 published in WSP 1311 and WSP 1731. Gage heights collected since 1885 in this vicinity are contained in reports of National Weather Service.

REVISED RECORDS.—Revised figures of discharge for the water year 2009, superseding those published in the report for 2009 are given below.

GAGE.--Water-stage recorder. Datum of gage is 71.69 ft above NGVD of 1929. Aug 1928 to Jul 1935, and Jul 1935 to Jan 1945, nonrecording gage at present site and datum. Jan 1945 to Oct 1947, nonrecording gage at site 0.4 mi downstream at present datum. Aug 1938 to May 1949, supplementary nonrecording gage, 4.5 mi upstream. Since Jan 1957, auxiliary water-stage recorder, 3.2 mi downstream.

REMARKS.--Water-discharge records fair except estimated daily discharges, which are poor. Flow regulated since 1925 by Lake Catherine, 102 mi upstream, capacity, 35,250 acre-ft, since 1932 by Lake Hamilton, capacity, 190,100 acre-ft, since 1949 by Lake Greeson, capacity, 407,900 acre-ft, since 1952 by Lake Ouachita, capacity, 2,768,400 acre-ft, and since Aug 1969 by DeGray Lake, capacity, 881,900 acre-ft. Satellite telemeter at station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 185,000 ft^3/s, Dec. 27, gage height, 41.16 ft; minimum discharge, 687 ft^3/s, Sept. 2, gage height, 5.55 ft.

07362000 OUACHITA RIVER AT CAMDEN, AR—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	4,730	77,700	14,500	30,500	18,900	7,200	3,880	3,640	8,160	3,890	3,810	1,190
2	5,950	67,700	13,800	28,800	11,200	6,550	3,580	4,850	7,980	3,720	3,710	849
3	12,600	52,600	20,700	23,500	7,600	6,850	3,030	7,050	8,070	3,810	3,340	1,040
4	11,700	41,300	26,800	20,800	7,480	6,930	3,800	5,370	7,050	3,670	3,580	1,460
5	23,500	33,500	20,100	19,800	11,400	6,770	4,100	4,200	4,300	3,700	3,750	1,470
6	34,000	25,900	11,000	20,600	32,100	6,330	3,680	3,610	4,970	3,580	4,450	1,810
7	41,200	e21,500	8,100	11,000	44,600	4,730	3,700	3,000	4,500	3,570	3,990	1,590
8	41,200	e18,900	6,670	9,070	43,200	4,470	3,260	2,510	4,560	3,760	3,810	1,500
9	38,200	e18,600	10,200	8,530	45,300	3,500	3,680	2,320	4,100	4,120	3,620	1,330
10	43,200	17,500	26,900	8,370	62,700	3,440	3,660	2,200	3,770	3,930	3,410	2,370
11	62,000	16,800	23,700	7,800	82,400	4,460	3,290	2,070	4,110	3,640	3,270	2,670
12	69,800	17,500	13,900	7,280	85,000	4,790	3,070	1,750	16,000	4,100	3,020	2,740
13	63,200	21,300	9,210	6,590	69,400	4,840	2,820	2,400	30,000	3,790	3,800	2,460
14	61,800	18,700	7,920	6,650	54,700	4,320	2,650	1,950	20,900	3,710	3,410	2,120
15	76,400	15,400	7,140	6,120	41,200	4,180	2,620	1,830	14,000	3,700	3,820	1,190
16	86,100	10,700	6,800	6,070	32,300	5,130	2,970	3,480	13,300	3,810	3,850	1,320
17	77,200	6,290	6,470	6,450	23,200	3,970	2,900	4,370	9,140	3,770	3,700	1,610
18	62,700	6,020	6,270	8,500	14,200	4,250	2,420	3,560	6,680	3,770	2,880	1,690
19	50,700	7,440	6,340	11,100	12,300	3,570	1,960	5,320	6,170	3,830	2,710	1,460
20	43,500	6,700	6,330	10,400	11,900	3,420	1,870	6,320	6,040	3,560	3,260	1,300
21	36,200	5,950	5,920	8,730	11,300	3,270	1,750	8,950	4,900	3,240	3,250	911
22	21,600	4,810	5,670	14,400	10,600	3,490	2,010	9,390	3,930	3,360	3,620	974
23	27,900	4,180	6,640	18,700	14,400	4,190	2,440	11,700	3,440	4,150	3,570	1,090
24	57,900	4,600	30,800	13,700	10,200	6,120	1,980	12,000	3,480	4,550	2,610	2,000
25	77,200	4,940	76,600	19,100	8,830	7,830	5,240	9,560	3,530	4,540	1,820	2,130
26	76,800	5,260	142,000	19,800	8,210	9,970	6,650	9,130	3,680	4,020	1,670	944
27	62,800	5,550	172,000	12,900	7,910	10,500	4,460	10,400	3,890	3,360	1,800	1,310
28	49,900	4,990	e134,000	9,200	8,200	5,760	3,350	7,310	3,600	4,190	1,710	1,160
29	47,000	5,070	e98,600	8,090	---	5,080	2,660	9,590	3,340	3,760	1,710	1,040
30	55,700	6,510	e55,600	10,700	---	5,430	2,260	9,520	3,160	3,670	2,340	1,030
31	67,000	---	27,600	18,900	---	5,680	---	8,980	---	3,550	2,040	---
Total	1,489,680	553,910	1,008,280	412,150	790,730	167,020	95,740	178,330	220,750	117,820	97,330	45,758
Mean	48,050	18,460	32,530	13,300	28,240	5,388	3,191	5,753	7,358	3,801	3,140	1,525
Max	86,100	77,700	172,000	30,500	85,000	10,500	6,650	12,000	30,000	4,550	4,450	2,740
Min	4,730	4,180	5,670	6,070	7,480	3,270	1,750	1,750	3,160	3,240	1,670	849
Ac-ft	2,955,000	1,099,000	2,000,000	817,500	1,568,000	331,300	189,900	353,700	437,900	233,700	193,100	90,760

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2010, BY WATER YEAR (WY)

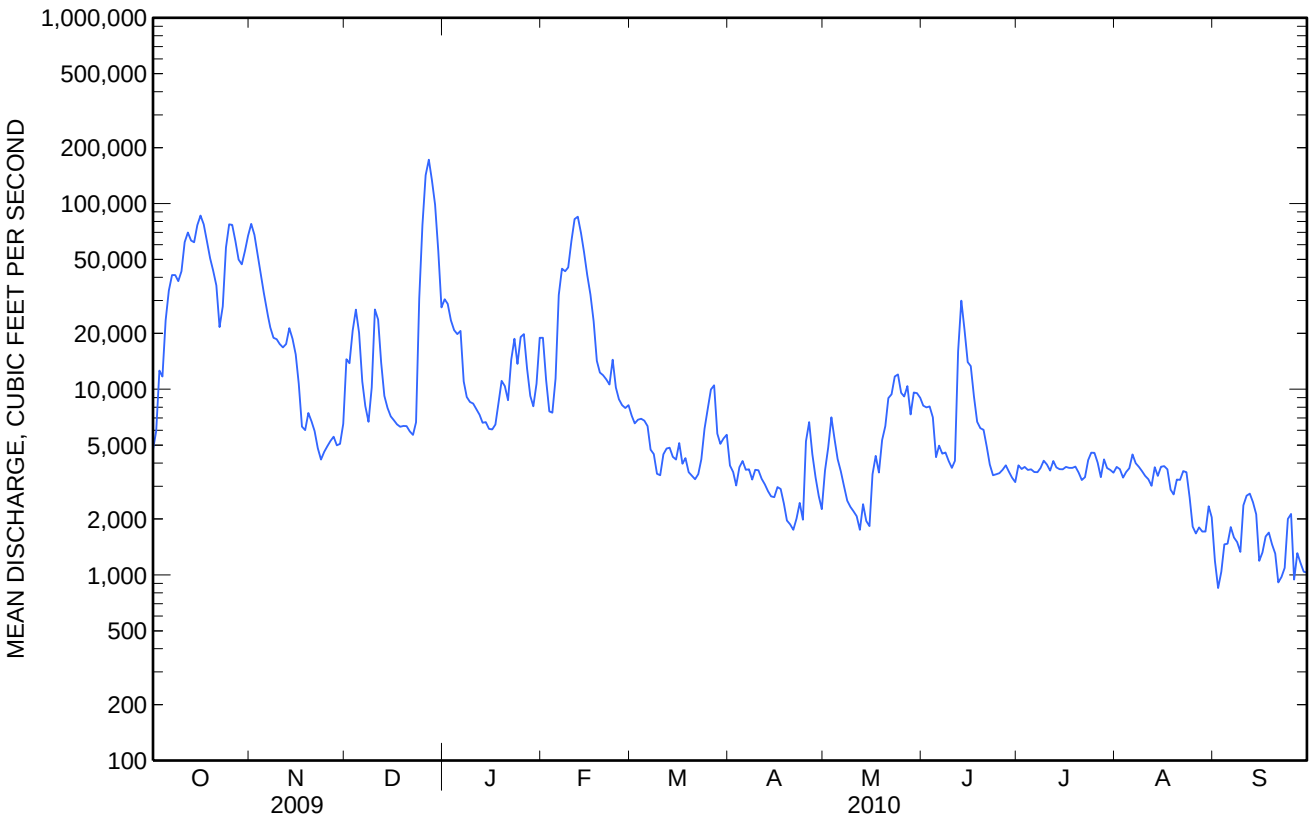
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	3,059	5,228	9,479	12,060	12,310	12,790	12,590	12,360	5,447	3,095	2,281	2,634
Max	48,050	25,370	41,930	46,610	40,110	45,110	48,110	58,700	31,090	13,640	15,330	25,150
(WY)	(2010)	(1973)	(1983)	(1937)	(1950)	(1945)	(1945)	(2009)	(1974)	(1989)	(2009)	(2008)
Min	291	381	726	686	1,411	1,742	1,578	1,407	411	260	176	154
(WY)	(1933)	(1933)	(2006)	(1940)	(2006)	(1954)	(1930)	(2005)	(1936)	(1930)	(1930)	(1943)

07362000 OUACHITA RIVER AT CAMDEN, AR—Continued

SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1929 - 2010	
Annual total	7,541,990		5,177,498			
Annual mean	20,660		14,180		7,740	
Highest annual mean					16,120	1973
Lowest annual mean					2,292	1936
Highest daily mean	172,000	Dec 27	172,000	Dec 27	238,000	Apr 3, 1945[a]
Lowest daily mean	2,300	Jul 14	849	Sep 2	125	Sep 16, 1943
Annual seven-day minimum	2,750	Jul 10	1,290	Sep 17	132	Sep 11, 1943
Maximum peak flow			185,000	Dec 27	243,000	Apr 3, 1945
Maximum peak stage			41.16	Dec 28	44.82	Apr 3, 1945
Instantaneous low flow			687	Sep 2	125	Sep 16, 1943[a]
Annual runoff (ac-ft)	14,960,000		10,270,000		5,607,000	
10 percent exceeds	61,600		42,100		19,300	
50 percent exceeds	7,610		5,430		3,510	
90 percent exceeds	3,600		2,010		812	

[a] Also Sep 24-26, 1943



07362000 OUACHITA RIVER AT CAMDEN, AR—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	e1,000	6,190	2,260	10,500	6,290	7,670	10,400	17,400	34,300	3,410	69,700	3,150
2	2,030	5,980	2,020	9,360	5,030	6,040	8,010	17,300	27,600	3,020	74,300	3,830
3	2,400	4,960	2,150	9,460	4,560	5,320	7,340	32,500	24,600	3,100	74,600	4,080
4	2,210	4,020	2,840	8,800	4,650	4,790	9,120	61,500	22,600	2,820	66,600	4,140
5	2,240	2,480	3,050	7,160	4,600	4,830	6,780	90,600	16,800	2,690	44,200	4,240
6	e2,460	2,610	3,410	e5,890	4,350	4,010	6,300	95,900	7,220	2,880	16,600	3,700
7	e1,600	2,820	4,340	9,660	4,400	3,970	5,430	100,000	7,950	3,170	10,000	2,770
8	14,300	2,990	3,970	15,400	4,010	3,720	5,420	115,000	11,500	2,950	8,410	2,910
9	29,500	2,500	e3,140	16,800	3,830	3,170	6,220	111,000	5,780	3,000	6,760	3,830
10	32,700	3,960	e4,170	15,600	3,760	3,420	5,200	96,000	8,710	3,100	4,880	3,900
11	29,000	3,290	12,600	13,900	9,770	3,660	4,810	e83,500	10,800	3,020	4,620	3,830
12	23,900	2,920	15,700	9,300	24,100	5,510	4,780	e74,300	9,800	2,780	6,980	2,780
13	18,500	5,620	14,300	e7,610	27,100	20,800	14,600	e88,600	12,700	2,400	8,170	3,690
14	11,600	9,030	13,000	e5,720	13,200	30,300	41,800	91,400	7,250	e2,300	6,820	3,900
15	7,330	9,180	10,500	4,740	7,750	33,400	48,700	89,100	5,740	2,740	5,930	3,890
16	6,060	7,900	8,400	4,580	5,830	31,300	33,400	79,800	5,530	2,880	4,580	8,230
17	7,620	6,310	8,630	4,010	4,960	22,900	19,600	66,400	5,250	3,490	3,540	37,700
18	13,900	5,310	9,120	3,520	4,850	11,000	9,940	55,800	5,200	3,680	3,770	55,100
19	14,000	3,230	8,320	3,460	4,890	7,310	11,400	46,200	5,170	3,150	4,590	59,400
20	11,200	2,530	7,860	3,460	4,680	6,210	21,300	42,500	5,080	3,280	4,750	56,700
21	8,180	2,210	7,480	3,920	4,430	5,560	22,800	37,200	4,890	3,290	4,460	47,100
22	4,910	2,030	6,790	3,890	4,040	4,960	22,100	34,100	4,790	6,500	4,730	26,300
23	5,240	2,090	7,500	3,720	3,760	4,190	17,500	34,300	4,830	15,200	4,580	14,300
24	5,230	1,960	7,410	4,120	3,600	4,230	9,830	e31,900	5,000	6,110	3,890	15,900
25	5,120	e2,110	7,150	4,080	3,720	10,400	6,500	e32,500	5,200	4,860	3,700	17,300
26	5,480	e5,200	6,660	3,930	3,800	25,600	6,480	e31,900	5,010	3,810	e4,000	12,800
27	5,380	4,940	7,470	3,320	3,570	36,500	6,160	e31,400	4,060	3,330	4,510	8,660
28	4,060	4,020	7,490	4,240	5,160	39,100	10,100	26,300	3,800	6,350	4,250	6,760
29	3,400	3,460	8,210	12,900	---	48,000	7,050	e31,400	3,590	17,500	4,470	5,320
30	4,950	2,630	10,600	13,300	---	38,100	11,700	e36,500	3,360	31,900	3,800	5,180
31	5,430	---	11,000	8,300	---	16,900	---	37,500	---	48,000	2,940	---
Total	290,930	124,480	227,540	234,650	184,690	452,870	400,770	1,819,800	284,110	206,710	475,130	431,390
Mean	9,385	4,149	7,340	7,569	6,596	14,610	13,360	58,700	9,470	6,668	15,330	14,380
Max	32,700	9,180	15,700	16,800	27,100	48,000	48,700	115,000	34,300	48,000	74,600	59,400
Min	1,000	1,960	2,020	3,320	3,570	3,170	4,780	17,300	3,360	2,300	2,940	2,770
Ac-ft	577,100	246,900	451,300	465,400	366,300	898,300	794,900	3,610,000	563,500	410,000	942,400	855,700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2,496	5,065	9,195	12,050	12,120	12,880	12,710	12,440	5,424	3,086	2,271	2,648
Max	18,200	25,370	41,930	46,610	40,110	45,110	48,110	58,700	31,090	13,640	15,330	25,150
(WY)	(1985)	(1973)	(1983)	(1937)	(1950)	(1945)	(1945)	(2009)	(1974)	(1989)	(2009)	(2008)
Min	291	381	726	686	1,411	1,742	1,578	1,407	411	260	176	154
(WY)	(1933)	(1933)	(2006)	(1940)	(2006)	(1954)	(1930)	(2005)	(1936)	(1930)	(1930)	(1943)

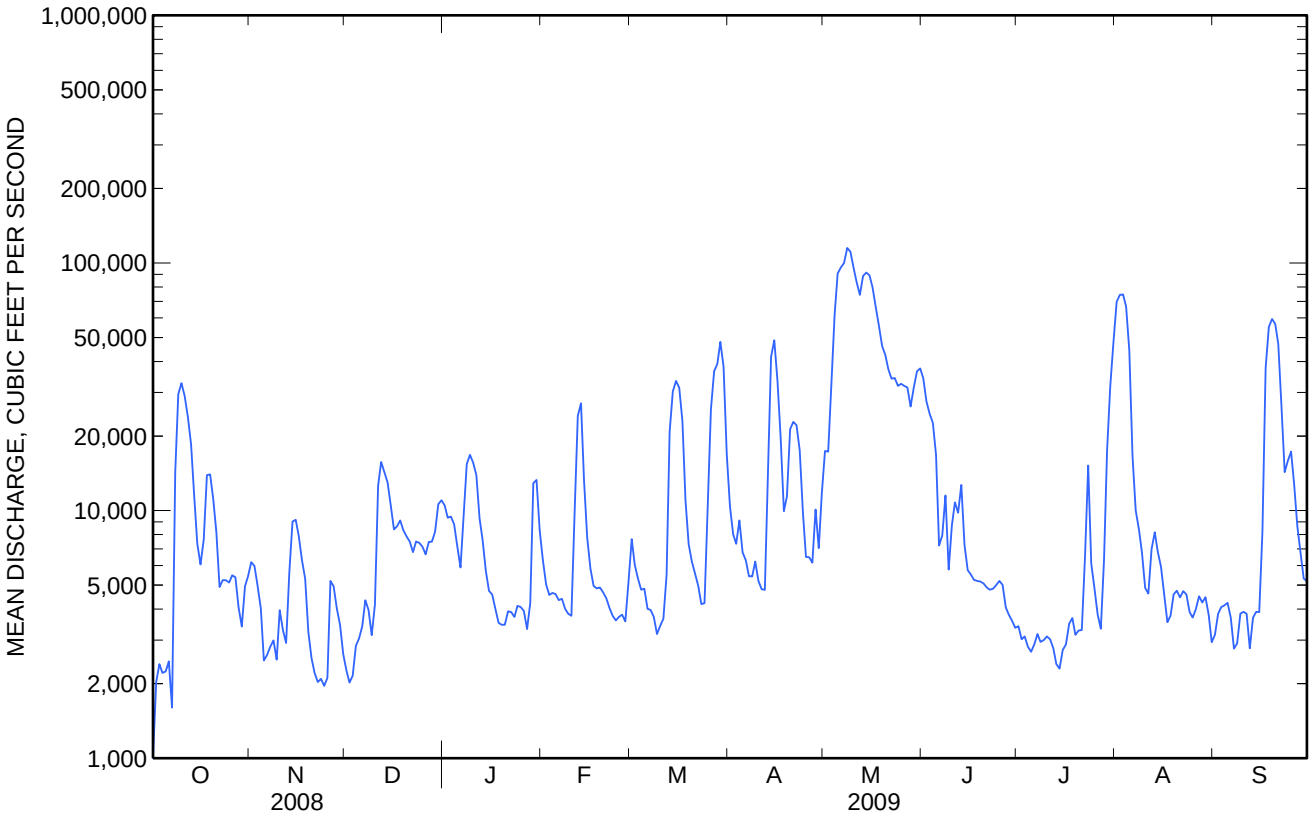
07362000 OUACHITA RIVER AT CAMDEN, AR—Continued

SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1929 - 2009	
Annual total	3,878,449		5,133,070			
Annual mean	10,600		14,060		7,659	
Highest annual mean					16,120	1973
Lowest annual mean					2,292	1936
Highest daily mean	77,900	Sep 8	115,000	May 8	238,000	Apr 3, 1945
Lowest daily mean	863	Feb 1	[a]1,000	Oct 1	125	Sep 16, 1943
Annual seven-day minimum	916	Jan 18	1,990	Oct 1	132	Sep 11, 1943
Maximum peak flow			122,000	May 8	243,000	Apr 3, 1945
Maximum peak stage			39.12	May 9	44.82	Apr 3, 1945
Instantaneous low flow			1,030	Oct 1	125	Sep 16, 1943[b]
Annual runoff (ac-ft)	7,693,000		10,180,000		5,549,000	
10 percent exceeds	28,400		36,500		19,100	
50 percent exceeds	4,890		5,830		3,480	
90 percent exceeds	1,080		2,970		810	

[a] Estimated

[b] Also Sep 24-26, 1943



07362000 OUACHITA RIVER AT CAMDEN, AR—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1947 to 1952 and Oct 1974 to current year.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 1 of 5

[%, percent; CaCO3, calcium carbonate; MF, membrane filter; N, nitrogen; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft, feet; ft/s, feet per second; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Sample start time	Barometric pressure, mm Hg (00025)	Discharge, instantaneous, ft³/s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)	Specific conductance, water, unfiltered, µS/cm at 25 °C (00095)	Temperature, water, °C (00010)	Stream width, ft (00004)	Velocity at point in stream, ft/s (81904)
11-03-2009	1315	775	50,200	8.61	83.9	6.19	41	15	2,200	6.5
01-06-2010	1125	778	21,500	10.05	78.7	6.72	47	5.85	300	4.5
03-10-2010	1100	762	3,410	9.13	87.3	6.40	68	13.33	100	< 1.5
05-25-2010	1430	756	8,900	8.26	94.5	7.04	58.8	21.59	510	< 1.5
07-21-2010	1215	771	3,460	6.97	88.8	6.48	58	28.45	200	< 1.5
09-15-2010	1200	768	1,220	7.26	90.6	6.60	75	27.1	150	< 1.5

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 2 of 5

[%, percent; CaCO3, calcium carbonate; MF, membrane filter; N, nitrogen; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft, feet; ft/s, feet per second; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Sampler type (84164)	Sampling method (82398)	Dissolved solids dried at 180 °C, water, filtered, mg/L (70300)	Dissolved solids, water, filtered, tons per acre-foot (70303)	Dissolved solids, water, tons per day (70302)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)
11-03-2009	US D-96 bag sampler	EWI	51.27	.070	6,949	16.10	4.8680	.9580
01-06-2010	US D-95 plastic	EWI	37.81	.051	2,195	15.11	4.3240	1.0460
03-10-2010	Grab sample	Multiple verticals	57.87	.079	532.8	20.99	6.3200	1.2650
05-25-2010	Grab sample	Grab sample(dip)	37.62	.051	904.0	20.72	6.0980	1.3330
07-21-2010	Grab sample	Grab sample(dip)	32.63	.044	304.8	18.92	5.3580	1.3450
09-15-2010	Grab sample	Grab sample(dip)	50.91	.069	167.7	18.20	4.8360	1.4860

07362000 OUACHITA RIVER AT CAMDEN, AR—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
Part 3 of 5

[%, percent; CaCO3, calcium carbonate; MF, membrane filter; N, nitrogen; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft, feet; ft/s, feet per second; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Potassium, water, filtered, mg/L (00935)	Sodium adsorption ratio, water, number (00931)	Sodium fraction of cations, water, percent in equivalents of major cations (00932)	Sodium, water, filtered, mg/L (00930)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Sulfate, water, filtered, mg/L (00945)	Ammonia plus organic nitrogen, water, unfiltered, mg/L as N (00625)	Ammonia, water, filtered, milligrams per liter as NH4 (71846)	Ammonia, water, filtered, mg/L as N (00608)
11-03-2009	1.5200	.209	18.8	1.9240	2.004	< .08	3.763	.450	E .0137	E .0106
01-06-2010	.9910	.217	20.5	1.9410	1.944	< .08	4.018	.231	.0275	.02134
03-10-2010	.9610	.344	26.2	3.6200	4.487	< .08	7.231	.266	< .0258	< .02
05-25-2010	1.0590	.256	20.9	2.6810	2.295	E .058	4.840	.324	< .0258	< .02
07-21-2010	1.1520	.300	24.3	3.0020	2.542	E .047	5.169	.229	E .0191	E .01484
09-15-2010	1.2200	.568	38.0	5.5690	3.521	E .074	10.242	.265	.0290	.02254

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
Part 4 of 5

[%, percent; CaCO3, calcium carbonate; MF, membrane filter; N, nitrogen; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft, feet; ft/s, feet per second; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrate, water, filtered, milligrams per liter (71851)	Nitrate, water, filtered, mg/L as N (00618)	Nitrite, water, filtered, milligrams per liter (71856)	Nitrite, water, filtered, mg/L as N (00613)	Organic nitrogen, water, unfiltered, mg/L (00605)	Orthophosphate, water, filtered, mg/L (00660)	Orthophosphate, water, filtered, mg/L as P (00671)	Phosphorus, water, filtered, mg/L as P (00666)
11-03-2009	.046	E .1963	E .0444	E .0054	E .00165	E .439	.0531	.01732	< .04
01-06-2010	.142	.6182	.1396	.0078	.00236	.210	.0254	.00828	< .04
03-10-2010	.106	E .4625	E .1045	E .0050	E .00153	< .266	E .0176	E .00573	E .025
05-25-2010	.114	E .5001	E .1130	E .0034	E .00102	< .324	E .0212	E .00691	< .04
07-21-2010	.085	.3655	.0826	.0080	.00243	E .214	.0249	.00813	< .04
09-15-2010	.220	.9515	.2149	.0167	.00507	.242	.0265	.00863	< .04

07362000 OUACHITA RIVER AT CAMDEN, AR—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 5 of 5

[%, percent; CaCO3, calcium carbonate; MF, membrane filter; N, nitrogen; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft, feet; ft/s, feet per second; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, unfiltered, mg/L (00600)	Escherichia coli, modified m-TEC MF method, water, col/100 mL (90902)	Fecal coliform, M-FC MF (0.7 micron) method, water, col/100 mL (31625)	Suspended sediment, sieve diameter, percent smaller than 0.0625 mm (70331)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons per day (80155)
11-03-2009	.069	.496	140	120	96	18	2,440
01-06-2010	.045	.373	150	E 140	94	25	1,451
03-10-2010	.041	.372	85	70	93	25	230.2
05-25-2010	.043	.438	42	38	95	28	672.8
07-21-2010	E .023	.314	E 4	E 10	88	12	112.1
09-15-2010	< .04	.485	E 4	E 11	95	12	39.5