Water-Data Report 2012

07197000 BARON FORK AT ELDON, OK

Robert S. Kerr Reservoir Basin
Illinois Subbasin

LOCATION.--Lat 35°55′16″, long 94°50′18″ referenced to North American Datum of 1927, in NE ¼ SE ¼ sec.27, T.17 N., R.23 E., Cherokee County, OK, Hydrologic Unit 11110103, on downstream left abutment of bridge on State Highway 51, 0.4 mi southeast of Eldon, 6.0 mi downstream from Tyner Creek, and at mile 8.8.

DRAINAGE AREA.--312 mi^2, revised. From automated delineation using 10-meter National Elevation Dataset digital elevation model data dated 10/01/2006 and Watershed Boundary Dataset dated 10/01/2006, using Albers Equal-Area Projection, North American Datum 1983.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1948 to current year. Prior to October 1970 published as Barren Fork at Eldon.

REVISED RECORDS.--WDR OK-93-1: 1990 (M), WDR OK-99-1: 1987 (M). WDR 2012: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 701.14 ft above NGVD of 1929 (levels by U.S. Army Corps of Engineers). Prior to Dec. 14, 1948, nonrecording gage at same site and datum.

REMARKS.--Records fair except for flows below 1,000 cfs which are poor. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 15, 1945, reached a stage of 23.8 ft, from information provided by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	2200	*8,480	*13.09

Suggested citation: U.S. Geological Survey, 2013, Water-resources data for the United States, Water Year 2012: U.S. Geological Survey Water-Data Report WDR-US-2012, site 07197000, accessed at http://wdr.water.usgs.gov/wy2012/pdfs/07197000.2012.pdf

07197000 BARON FORK AT ELDON, OK—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	46	67	209	202	309	179	272	123	65	26	12	21
2	43	62	182	192	279	175	252	124	64	24	12	20
3	41	66	166	181	257	173	234	121	63	23	12	18
4	39	64	346	171	802	169	223	115	93	21	11	17
5	37	61	588	164	694	162	212	110	184	19	10	16
6	35	59	450	156	527	158	201	106	143	18	10	15
7	33	61	363	150	452	151	189	101	116	18	9.5	14
8	31	2,170	306	145	396	154	181	97	102	18	9.5	15
9	30	2,550	263	139	356	159	174	94	92	17	11	14
10	31	1,080	224	136	333	164	166	94	83	17	10	14
11	33	729	192	201	312	166	160	93	77	18	10	13
12	39	549	167	268	286	235	156	91	72	18	9.5	12
13	52	428	161	220	270	280	151	91	68	17	9.5	12
14	50	353	157	191	260	242	150	89	64	18	9.8	18
15	46	299	1,480	175	253	224	153	91	61	18	10	26
16	44	247	926	158	252	211	191	86	59	18	9.5	25
17	40	202	670	152	249	200	201	85	56	17	9.6	25
18	39	169	547	144	236	191	178	82	53	16	10	24
19	38	143	472	134	225	188	163	79	49	16	11	22
20	37	129	454	126	217	1,870	153	77	47	16	12	21
21	36	126	460	120	212	3,400	145	76	48	15	12	20
22	36	773	414	114	213	2,020	139	74	47	14	12	19
23	46	799	373	108	208	1,260	133	72	44	14	12	19
24	57	551	336	102	204	876	129	70	40	14	11	18
25	61	430	309	541	194	665	126	69	38	14	11	17
26	58	366	289	1,310	186	558	122	67	36	13	12	17
27	61	366	275	751	178	467	121	66	34	14	13	17
28	65	339	261	562	172	404	117	64	31	13	14	17
29	64	286	242	453	176	355	117	63	29	13	17	21
30	66	244	227	387	---	320	120	63	27	13	17	27
31	70	---	214	342	---	294	---	63	---	13	19	---
Total	1,404	13,768	11,723	8,195	8,708	16,070	5,029	2,696	1,985	523	357.9	554
Mean	45.3	459	378	264	300	518	168	87.0	66.2	16.9	11.5	18.5
Max	70	2,550	1,480	1,310	802	3,400	272	124	184	26	19	27
Min	30	59	157	102	172	151	117	63	27	13	9.5	12
Ac-ft	2,780	27,310	23,250	16,250	17,270	31,870	9,980	5,350	3,940	1,040	710	1,100
Cfsm	0.15	1.47	1.21	0.85	0.96	1.66	0.54	0.28	0.21	0.05	0.04	0.06
In.	0.17	1.64	1.40	0.98	1.04	1.92	0.60	0.32	0.24	0.06	0.04	0.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2012, BY WATER YEAR (WY)

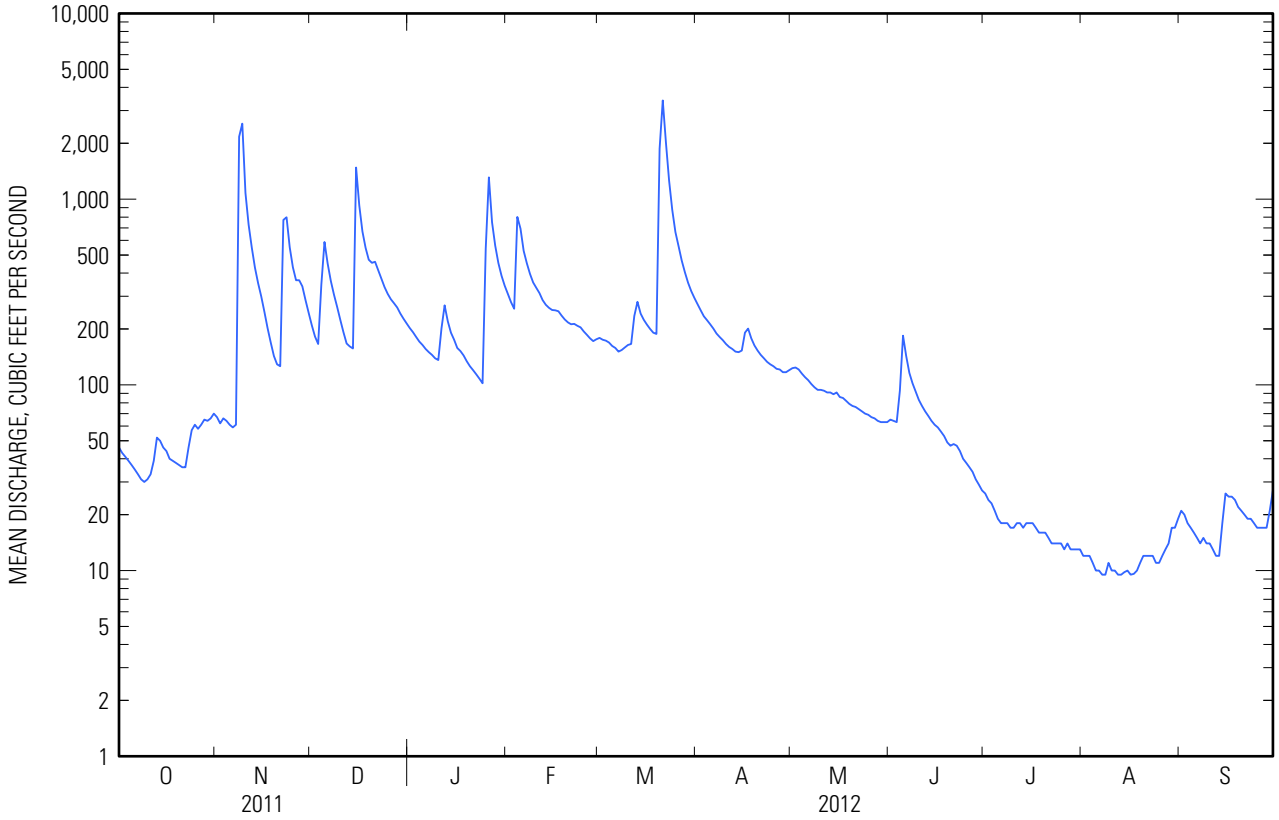
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	178	311	311	317	389	529	612	614	330	155	76.3	129
Max	2,077	1,641	1,692	1,602	1,441	1,806	2,464	2,605	2,290	903	437	927
(WY)	(1987)	(1997)	(1988)	(1998)	(1951)	(2008)	(2011)	(1957)	(2000)	(1958)	(1992)	(1970)
Min	1.96	10.4	14.0	14.6	24.6	43.3	61.9	62.5	25.0	8.75	3.80	3.10
(WY)	(1957)	(1964)	(1964)	(1964)	(1964)	(1967)	(2006)	(1977)	(1977)	(1954)	(1954)	(1956)

07197000 BARON FORK AT ELDON, OK—Continued

SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 1949 - 2012	
Annual total	172,994		71,012.9			
Annual mean	474		194		329	
Highest annual mean					734	1993
Lowest annual mean					55.7	1963
Highest daily mean	32,900	Apr 25	3,400	Mar 21	34,300	Oct 1, 1986
Lowest daily mean	25	Aug 8	9.5	Aug 7[a]	1.8	Oct 7, 1956[b]
Annual seven-day minimum	27	Aug 3	9.7	Aug 11	1.8	Oct 21, 1956
Maximum peak flow			8,480	Nov 8	63,400	Apr 25, 2011
Maximum peak stage			13.09	Nov 8	28.51	Apr 25, 2011
Annual runoff (ac-ft)	343,100		140,900		238,100	
Annual runoff (cfsm)	1.52		0.622		1.05	
Annual runoff (inches)	20.63		8.47		14.31	
10 percent exceeds	663		418		685	
50 percent exceeds	126		104		127	
90 percent exceeds	37		14		24	

[a] Also Aug. 8; 12-13; 16.
[b] Several days in 1956.



07197000 BARON FORK AT ELDON, OK—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948, 1958-60, July 1991 to July 1995, July 1996 to current year.

REMARKS.--Samples collected periodically. Specific conductance, pH, water temperature, dissolved oxygen, and turbidity were determined in the field.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 1 of 4

[%, percent; FNU, Formazin nephelometric units; LED, light-emitting diode; MPN/100 mL, most probable number per 100 milliliters; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; --, no data; <, less than]

Date	Sample start time	Barometric pressure, mm Hg (00025)	Temperature, air, °C (00020)	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)
10-05-2011	**1015**	765	23.3	38	8.6	94	7.6	206	19.9
11-08-2011	**1030**	745	15.3	247	8.5	89	7.6	172	16.7
12-13-2011	**1045**	755	10.8	162	10.2	90	7.9	207	9.8
02-01-2012	**0945**	753	12.5	312	9.0	81	7.5	204	10.3
03-21-2012	**1045**	746	13.5	3,380	9.4	92	6.7	149	13.5
04-18-2012	**0945**	744	22.0	180	10.1	102	7.5	207	14.6
05-23-2012	**1130**	737	30.2	70	11.1	119	7.7	213	17.0
06-04-2012	**1445**	--	--	93	9.5	--	7.7	201	25.9
06-21-2012	**1200**	752	29.0	48	8.8	107	7.6	210	24.7
08-23-2012	**1100**	753	34.4	12	7.0	86	7.4	227	25.2

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 2 of 4

[%, percent; FNU, Formazin nephelometric units; LED, light-emitting diode; MPN/100 mL, most probable number per 100 milliliters; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; --, no data; <, less than]

Date	Sample start time	Turbidity, water, unfiltered, monochrome near infrared LED light, 780-900 nm, detection angle 90 +/- 2.5 degrees, FNU (63680)	Ammonia plus organic nitrogen, water, unfiltered, mg/L as N (00625)	Ammonia, water, filtered, mg/L as NH4 (71846)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrate, water, filtered, mg/L (71851)	Nitrate, water, filtered, mg/L as N (00618)	Nitrite, water, filtered, mg/L (71856)
10-05-2011	**1015**	2.8	.071	< .013	< .01	.674	2.98	.672	.005
11-08-2011	**1030**	29	.285	< .013	< .010	1.12	4.96	1.12	.008
12-13-2011	**1045**	1.0	.106	< .013	< .010	3.17	14.0	3.17	< .003
02-01-2012	**0945**	3.3	.092	.025	.0193	2.70	11.9	2.69	.013
03-21-2012	**1045**	140	.748	.023	.0178	1.74	7.69	1.74	.011
04-18-2012	**0945**	1.8	< .07	< .013	< .010	1.96	8.68	1.96	.007
05-23-2012	**1130**	1.6	< .07	.027	.0207	1.46	6.46	1.46	.016
06-04-2012	**1445**	2.3	.097	.029	.0227	1.22	5.37	1.21	.010
06-21-2012	**1200**	1.0	.103	.027	.0212	.829	3.66	.827	.009
08-23-2012	**1100**	.1	< .07	< .013	< .010	.127	.561	.127	< .003

07197000 BARON FORK AT ELDON, OK—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
Part 3 of 4
[%, percent; FNU, Formazin nephelometric units; LED, light-emitting diode; MPN/100 mL, most probable number per 100 milliliters; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; --, no data; <, less than]

Date	Sample start time	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)	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, unfiltered, mg/L (00600)	Enterococci, Defined Substrate Technology, water, MPN/100 mL (99601)
10-05-2011	**1015**	.00157	< .07	.069	.0225	.0211	.0293	.75	10
11-08-2011	**1030**	.00233	< .29	.089	.0290	.0326	.0871	1.4	4,800
12-13-2011	**1045**	< .0010	< .11	.078	.0254	.0227	.0291	3.3	26
02-01-2012	**0945**	.00407	.07	.062	.0204	.0221	.0310	2.8	13
03-21-2012	**1045**	.00322	.73	.177	.0578	.0683	.332	2.5	2,400
04-18-2012	**0945**	.00216	< .07	.064	.0208	.0212	.0263	< 2.0	6
05-23-2012	**1130**	.00484	< .05	.065	.0212	.0242	.0284	< 1.5	4
06-04-2012	**1445**	.00316	.07	.073	.0239	.0232	.0338	1.3	90
06-21-2012	**1200**	.00262	.08	.070	.0228	.0221	.0280	.93	200
08-23-2012	**1100**	< .0010	< .07	.062	.0204	.0204	.0272	< .20	8

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
Part 4 of 4
[%, percent; FNU, Formazin nephelometric units; LED, light-emitting diode; MPN/100 mL, most probable number per 100 milliliters; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; --, no data; <, less than]

Date	Sample start time	Escherichia coli, Defined Substrate Technology, water, MPN/100 mL (50468)	Total coliform, Defined Substrate Technology, water, MPN/100 mL (50569)	Suspended sediment, sieve diameter, percent smaller than 0.0625 mm (70331)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons per day (80155)
10-05-2011	**1015**	20	5,500	60	3	.31
11-08-2011	**1030**	820	61,000	92	38	25
12-13-2011	**1045**	< 10	1,900	25	14	6.1
02-01-2012	**0945**	10	560	75	16	13
03-21-2012	**1045**	1,700	3,000	91	241	2,200
04-18-2012	**0945**	10	1,600	92	4	1.9
05-23-2012	**1130**	< 10	3,800	69	4	.76
06-04-2012	**1445**	10	3,800	55	5	1.3
06-21-2012	**1200**	100	14,000	60	4	.51
08-23-2012	**1100**	< 10	3,600	67	1	.03