Water-Data Report 2013

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, 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 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 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)
May 22	0500	*5,980	*11.64

Suggested citation: U.S. Geological Survey, 2014, Water-resources data for the United States, Water Year 2013: U.S. Geological Survey Water-Data Report WDR-US-2013, site 07197000, accessed at http://wdr.water.usgs.gov/wy2013/pdfs/07197000.2013.pdf

07197000 BARON FORK AT ELDON, OK—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	26	34	33	45	256	193	310	e449	279	67	92	e46
2	24	34	33	47	184	165	274	e348	283	64	85	e45
3	24	33	33	48	148	146	448	e301	271	59	82	e44
4	23	33	39	47	119	128	610	e291	248	58	80	e42
5	23	32	41	46	104	117	574	e286	243	58	76	e41
6	23	32	40	47	93	108	492	e280	233	57	72	e41
7	23	32	40	46	87	98	421	272	233	55	68	e39
8	23	32	39	45	82	92	364	260	233	e51	72	e39
9	22	31	40	44	78	87	318	261	218	e49	80	e38
10	22	31	40	45	77	1,310	351	1,870	215	e48	81	e38
11	21	35	41	47	80	2,150	774	1,340	194	e47	78	e38
12	28	39	41	47	102	1,280	830	691	175	e47	76	e38
13	37	39	40	51	105	968	666	415	170	46	83	e38
14	56	39	39	52	106	725	546	320	154	46	94	e38
15	66	38	40	52	111	579	465	303	135	45	90	e38
16	60	37	39	52	103	450	398	291	139	48	84	e37
17	59	36	39	51	93	366	334	e281	398	50	80	e37
18	56	36	38	50	88	326	1,640	e271	323	49	76	e37
19	52	36	38	49	86	275	1,880	e262	208	48	72	e38
20	48	36	37	47	84	229	1,070	e258	210	45	69	e43
21	44	35	37	47	88	203	758	e295	265	45	65	68
22	42	35	37	46	99	191	e491	3,320	242	45	62	64
23	41	35	37	46	137	218	e386	1,190	201	44	61	56
24	39	35	38	45	142	228	e336	702	e164	269	59	52
25	39	34	37	45	136	206	e305	484	e129	238	55	48
26	38	34	37	43	152	179	e289	373	112	182	53	45
27	38	34	36	42	240	159	733	324	97	155	e51	43
28	38	33	36	41	225	149	932	294	84	137	e50	45
29	37	34	37	45	---	146	668	274	75	121	e49	52
30	36	34	37	602	---	149	556	266	69	114	e48	52
31	35	---	40	460	---	261	---	267	---	103	e47	---
Total	1,143	1,038	1,179	2,420	3,405	11,881	18,219	16,839	6,000	2,490	2,190	1,320
Mean	36.9	34.6	38.0	78.1	122	383	607	543	200	80.3	70.6	44.0
Max	66	39	41	602	256	2,150	1,880	3,320	398	269	94	68
Min	21	31	33	41	77	87	274	258	69	44	47	37
Ac-ft	2,270	2,060	2,340	4,800	6,750	23,570	36,140	33,400	11,900	4,940	4,340	2,620
Cfsm	0.12	0.11	0.12	0.25	0.39	1.23	1.95	1.74	0.64	0.26	0.23	0.14
In.	0.14	0.12	0.14	0.29	0.41	1.42	2.17	2.01	0.72	0.30	0.26	0.16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2013, BY WATER YEAR (WY)

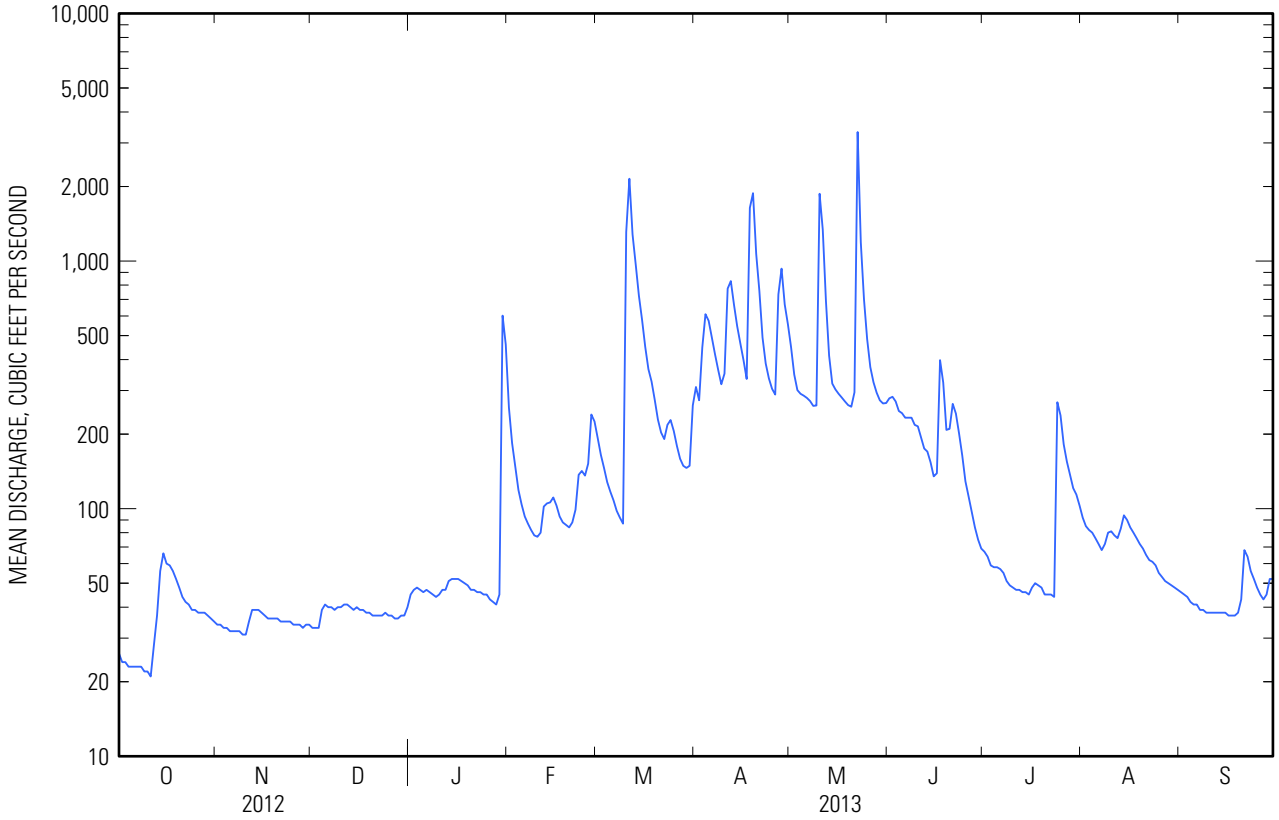
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	176	307	307	314	385	526	612	613	328	154	76.2	128
Max	2,077	1,641	1,692	1,602	1,441	1,806	2,464	2,605	2,290	903	437	927
(WY)	(1987)	(1997)	(1988)	(1998)	(1951)	(2008)	(2011)	(1957)	(2000)	(1958)	(1992)	(1970)
Min	1.96	10.4	14.0	14.6	24.6	43.3	61.9	62.5	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 2012		Water Year 2013		Water Years 1949 - 2013	
Annual total	47,477.9		68,124			
Annual mean	130		187		326	
Highest annual mean					734	1993
Lowest annual mean					55.7	1963
Highest daily mean	3,400	Mar 21	3,320	May 22	34,300	Oct 1, 1986
Lowest daily mean	9.5	Aug 7[a]	21	Oct 11	1.8	Oct 7, 1956[b]
Annual seven-day minimum	9.7	Aug 11	22	Oct 5	1.8	Oct 21, 1956
Maximum peak flow			5,980	May 22	63,400	Apr 25, 2011
Maximum peak stage			11.64	May 22	28.51	Apr 25, 2011
Annual runoff (ac-ft)	94,170		135,100		236,500	
Annual runoff (cfsm)	0.416		0.598		1.05	
Annual runoff (inches)	5.66		8.12		14.22	
10 percent exceeds	254		417		680	
50 percent exceeds	43		66		125	
90 percent exceeds	14		35		24	

[a] Also Aug 30-31 and Sep 1.
[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 2012 TO SEPTEMBER 2013

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; ft^3/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, ft^3/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)
10-03-2012	**1115**	747	24.9	23	7.1	80	7.0	221	20.8
12-04-2012	**1445**	754	--	39	11.3	117	7.8	211	16.7
01-31-2013	**1245**	742	30.5	434	10.8	97	7.5	211	9.5
02-07-2013	**1145**	734	14.6	88	10.3	96	7.5	223	10.6
03-12-2013	**1400**	--	--	1,230	10.8	--	7.9	186	10.8
04-04-2013	**1215**	742	--	606	11.0	103	7.5	211	11.4
04-17-2013	**1330**	737	23.1	327	7.6	80	7.7	208	16.3
04-19-2013	**1115**	756	12.0	1,810	9.1	87	7.3	178	13.1
05-23-2013	**1100**	--	21.5	1,150	8.5	--	7.8	181	17.0
06-12-2013	**1115**	733	28.7	170	9.0	111	7.6	212	23.6
08-22-2013	**1115**	758	33.0	59	8.9	108	7.3	226	25.2

07197000 BARON FORK AT ELDON, OK—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
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)
10-03-2012	1115	1.3	0.091	0.023	0.0182	0.163	0.711	0.161	0.007
12-04-2012	1445	.6	.094	.013	.0104	.517	2.28	.515	.006
01-31-2013	1245	16	.655	.013	.0101	2.53	11.2	2.53	.013
02-07-2013	1145	1.2	.086	< .013	< .010	2.30	10.2	2.30	.006
03-12-2013	1400	14	.224	.015	.0113	3.36	14.9	3.36	.009
04-04-2013	1215	3.9	--	--	--	--	--	--	--
04-17-2013	1330	1.9	.192	< .013	< .010	2.48	10.9	2.47	.015
04-19-2013	1115	53	.491	.024	.0189	2.38	10.5	2.38	.013
05-23-2013	1100	29	.285	.013	.0102	2.04	9.02	2.04	.007
06-12-2013	1115	1.4	.119	< .013	< .010	1.74	7.69	1.74	.016
08-22-2013	1115	1.2	.103	.023	.0180	.822	3.63	.820	.008

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
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)
10-03-2012	1115	0.00202	0.07	0.053	0.0173	0.0176	0.0254	0.25	2
12-04-2012	1445	.00171	.08	.050	.0162	.0203	.0248	.61	46
01-31-2013	1245	.00388	.64	.116	.0379	.0467	.0726	3.2	1,400
02-07-2013	1145	.00196	< .09	.062	.0201	.0198	.0229	2.4	36
03-12-2013	1400	.00262	.21	.103	.0337	.0390	.0623	3.6	56
04-04-2013	1215	--	--	--	--	--	--	--	34
04-17-2013	1330	.00465	< .19	.117	.0380	.0403	.0516	2.7	4
04-19-2013	1115	.00382	.47	.151	.0491	.0592	.152	2.9	--
05-23-2013	1100	.0021	.27	.135	.0441	.0451	.0971	2.3	690
06-12-2013	1115	.00472	< .12	.062	.0202	.0193	.0248	1.9	2
08-22-2013	1115	.00254	.08	.064	.0210	.0175	.0251	.93	17

07197000 BARON FORK AT ELDON, OK—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

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; ft^3/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)
10-03-2012	**1115**	10	3,400	67	1	0.06
12-04-2012	**1445**	40	3,600	43	2	.21
01-31-2013	**1245**	1,700	10,000	98	13	15
02-07-2013	**1145**	40	2,000	50	< .5	< .12
03-12-2013	**1400**	63	1,000	17	114	379
04-04-2013	**1215**	31	350	94	5	8.2
04-17-2013	**1330**	10	2,400	9	14	12
04-19-2013	**1115**	1,200	65,000	84	72	352
05-23-2013	**1100**	290	11,000	78	93	289
06-12-2013	**1115**	< 10	3,100	25	2	.92
08-22-2013	**1115**	< 10	580	92	3	.48