May 21 2012

In the matter of determining the maximum Annual yield for the ARBUCKLE-SIMPSON GROUNDWATER BASIN

Mrs. EMILY MEAZELL
Hearing Examiner
OWRB of Okla.

I desire to get you and the opposition to the reduction of the Amount of ground water that Can be pumped out of the Aquifer. On the same page that I'm on. First let me tell you a Little bit about my background. I am not a Lettered Geologist nor a hydraulic engineer. But always have and until leave this present time I will READ my surroundings, so Lets look at them together, I have enclosed copies of the base flow to date and Flow some as far back as from five (5) and fifty two (52) years ago. At which time the Water table was twice as high as today. So my argument they DON'T need any more Water.. ZIP.. ZERO.. NONE.. Who lives in the DUST near the Plants? None that I Know of!! It is an absolute waste of the Aquifers' water!!!! WE CAN"T DO THIS TO OUR LAND!!

The Aquifer has contained Water(OLD WATER and NEW WATER) laying on top of The older water. It's trapped below the live flowing springs. Has been there almost from the beginning. When the plants continue to dig deeper and deeper they go through the Layer of new water that seeped down from the last slow rain, that fell over the Aquifer

LET MAN KIND LEAVE IT ALONE!!!!!

C I Maxwell Jr

C.I.Maxwell Jr.
4500 Hwy 7 W
Tishomingo, Okla. 73460
(CC) OWRB, CPASA, NPS U.S.F.H. Tishomingo.

Hydrogeology and Simulation of Groundwater Flow in the Arbuckle-Simpson Aquifer, South-Central Oklahoma

By Scott Christenson, Noel I. Osborn, Christopher R. Neel, Jason R. Faith, Charles D. Blome, James Puckette, and Michael P. Pantea

Prepared in cooperation with the Oklahoma Water Resources Board

Scientific Investigations Report 2011–5029

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

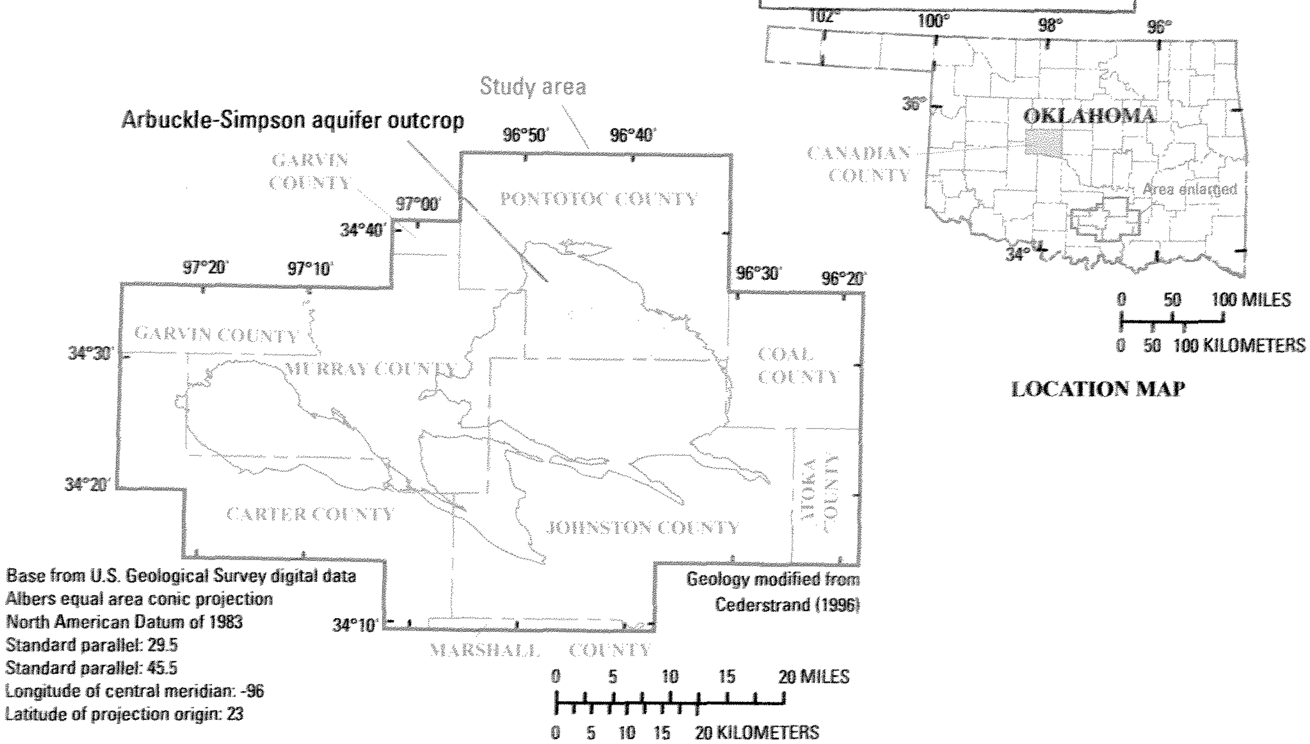


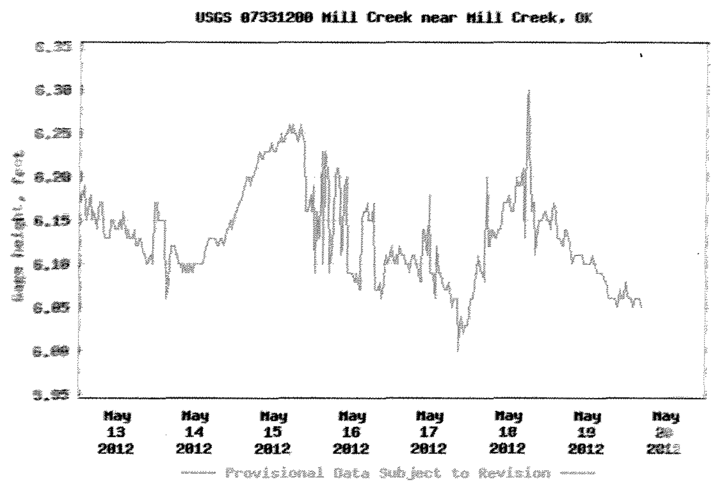
Figure 1. The Arbuckle-Simpson aquifer outcrop, south-central Oklahoma.

The outcrop of the aquifer has an area of about 520 square miles (mi^2) and is in Carter, Coal, Johnston, Murray, and Pontotoc Counties (fig. 2). The study area was defined to extend beyond the perimeter of the aquifer outcrop because fresh groundwater originating as recharge on the outcrop flows beyond the outcrop beneath shallower geologic units at some locations, and geologic and hydrologic data outside the aquifer outcrop were useful in studying the aquifer. The study area was 2,016 mi^2 (fig. 2).

Groundwater discharge from the aquifer maintains base flow to Blue River, (Byrds) Mill Creek, Delaware Creek, Honey Creek, Mill Creek, Oil Creek, Pennington Creek, Rock Creek, Travertine Creek, and many small streams [two streams named "Mill Creek" are in the study area; the stream that consists largely of discharge from Byrds Mill Spring is referred to as (Byrds) Mill Creek herein to differentiate the two streams (Oklahoma Water Resources Board, 2007)]. Many springs, including Byrds Mill Spring (the primary water supply for the City of Ada) and the springs in Chickasaw National Recreation Area, discharge from the aquifer.

In search of future water supplies, the Central Oklahoma Water Resource Authority, consisting primarily of communities in Canadian County, Oklahoma, proposed in 2002 to purchase water rights for the Arbuckle-Simpson aquifer, drill wells, and build an 88-mile (mi) pipeline from the Arbuckle-Simpson aquifer to Canadian County in central Oklahoma (Oklahoma Water Resources Board, 2003, p. 1). In Oklahoma, groundwater is considered to be private property that belongs to the overlying surface property owner. Thus, the proposed withdrawal and transfer of water by the Central Oklahoma Water Resource Authority was considered by the State of Oklahoma to be a permissible use of groundwater. However, local residents, citizens' groups, and the National Park Service were concerned that large-scale withdrawals of water from the Arbuckle-Simpson aquifer would cause decreased flow in rivers and springs, which in turn could result in the loss of water supplies, recreational opportunities, and aquatic habitat. Many protests were filed with the Oklahoma Water Resources Board (OWRB) as a result of the proposed water transfer.

The Oklahoma Senate, in response to these concerns, passed Senate Bill 288 (2003), which imposed a moratorium on the issuance of any temporary groundwater permit for municipal or public water-supply use outside of any county that overlies a "sensitive sole source groundwater basin" (Oklahoma Water Resources Board, 2003, p. 1). The term "groundwater basin" is defined by the State of Oklahoma as "a distinct underground body of water overlain by contiguous land having substantially the same geological and hydrological characteristics and yield capabilities." The Arbuckle-Simpson aquifer is considered a "sensitive sole source groundwater basin" because the U.S. Environmental Protection Agency



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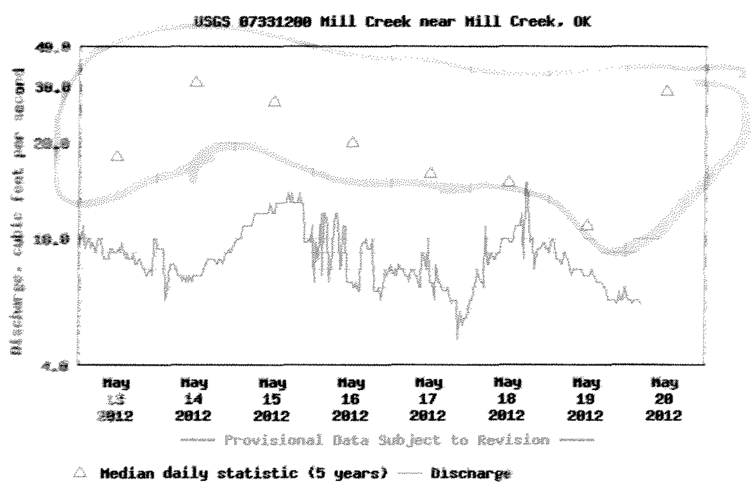
Discharge, cubic feet per second

Most recent instantaneous value: 6.2 05-20-2012 04:30 CDT



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Daily discharge statistics, in cfs, for May 20 based on 5 years of record more

Most Recent Instantaneous Value May 20	Min (2008)	25th percen-tile	Mean	Median	75th percen-tile	Max (2009)
6.2	6.6	9.3	27	29	45	48

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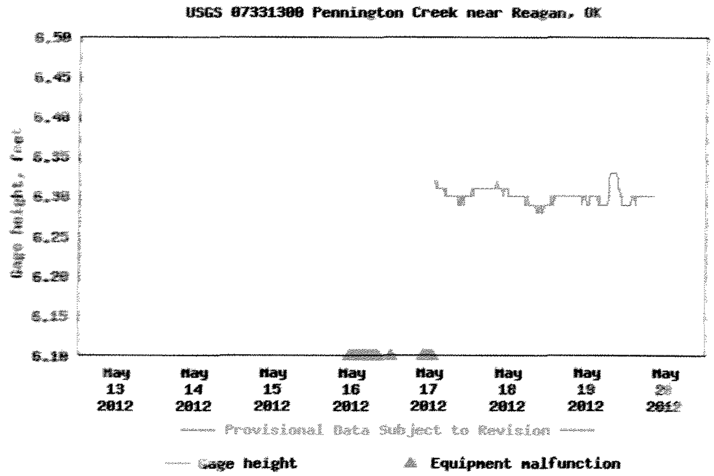

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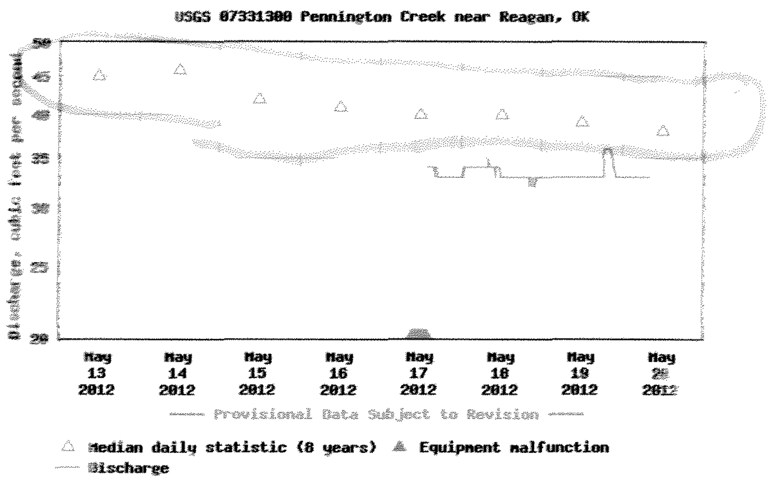
Discharge, cubic feet per second

Most recent instantaneous value: 33 05-20-2012 07:45 CDT



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Daily discharge statistics, in cfs, for May 20 based on 8 years of record more

Min (2004)	25th percen-tile	Most Recent Instantaneous Value May 20	Median	Mean	75th percen-tile	Max (2010)
19	25	33	38	48	81	102

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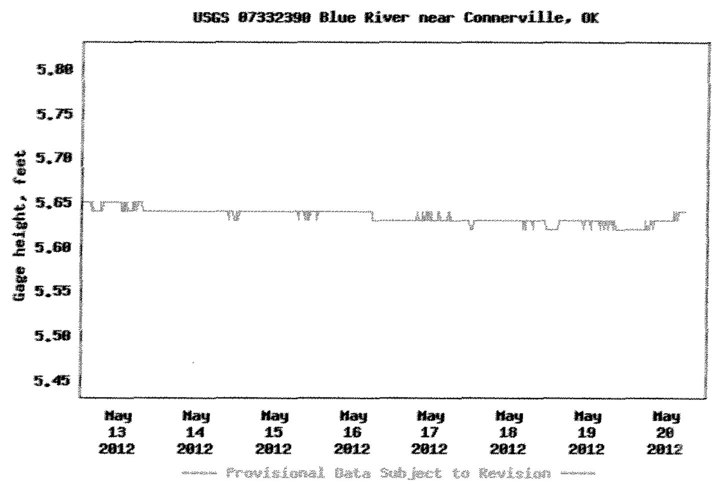

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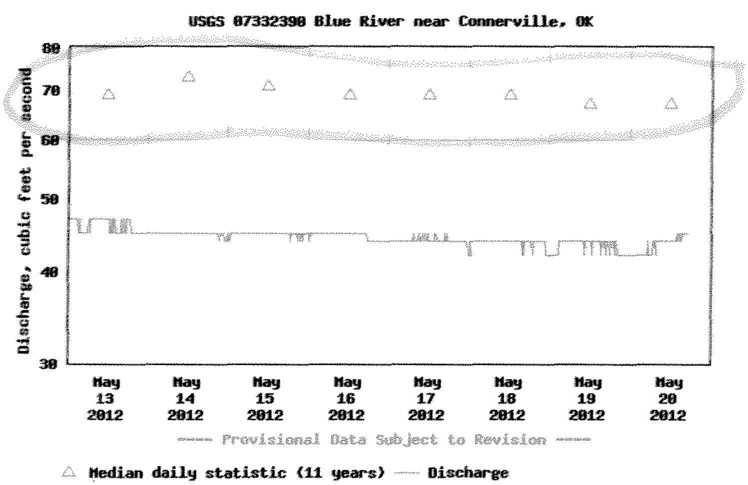
Discharge, cubic feet per second

Most recent instantaneous value: 45 05-20-2012 17:30 CDT



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Daily discharge statistics, in cfs, for May 20 based on 11 years of record more

Min (2004)	Most Recent Instantaneous Value May 20	25th percen-tile	Median	75th percen-tile	Mean	Max (1977)
43	45	56	67	135	190.	1060

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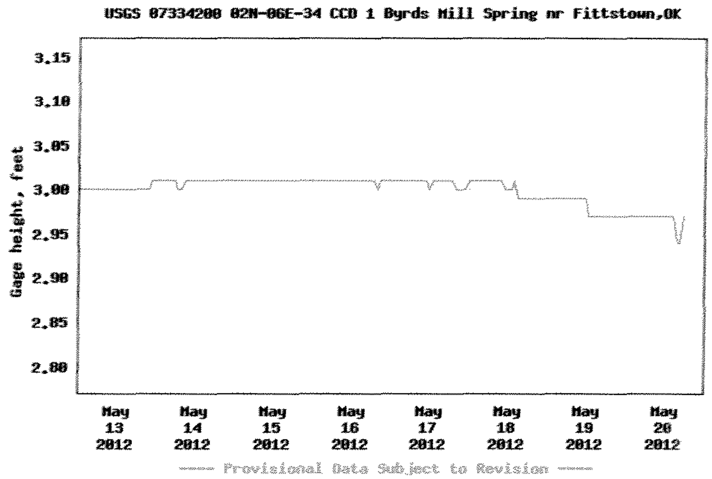

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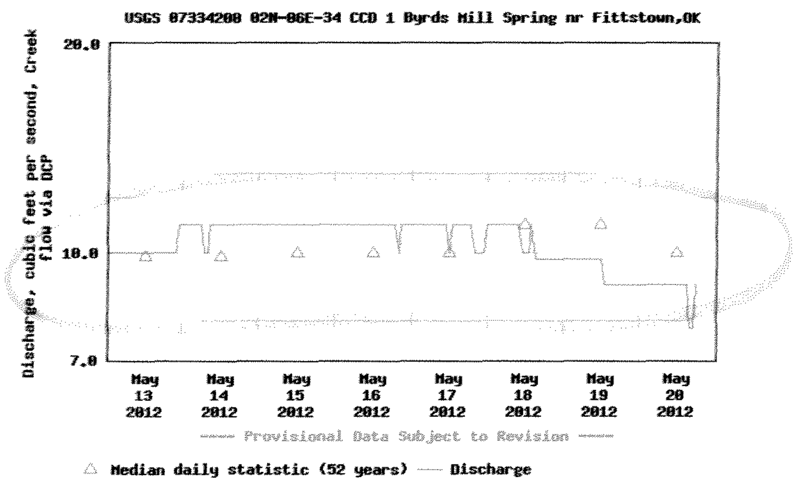
Discharge, cubic feet per second, Creek flow via DCP

Most recent instantaneous value: 9.0 05-20-2012 18:00 CDT



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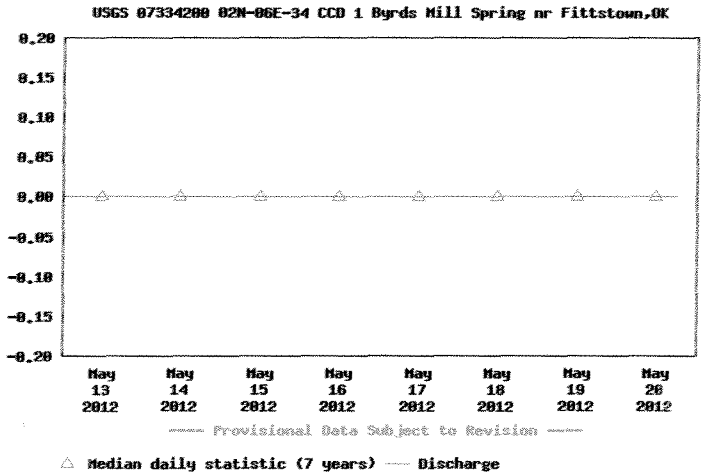
Daily discharge statistics, in cfs, for May 20 based on 52 years of record more

Min (1980)	25th percen - tile	Most Recent Instantaneous Value May 20	Median	Mean	75th percen - tile	Max (1990)
0.48	6.7	9.0	10.	11	16	30

Discharge, cubic feet per second, 18" pipe via DCP

Most recent instantaneous value: 0.00 05-20-2012 18:00 CDT



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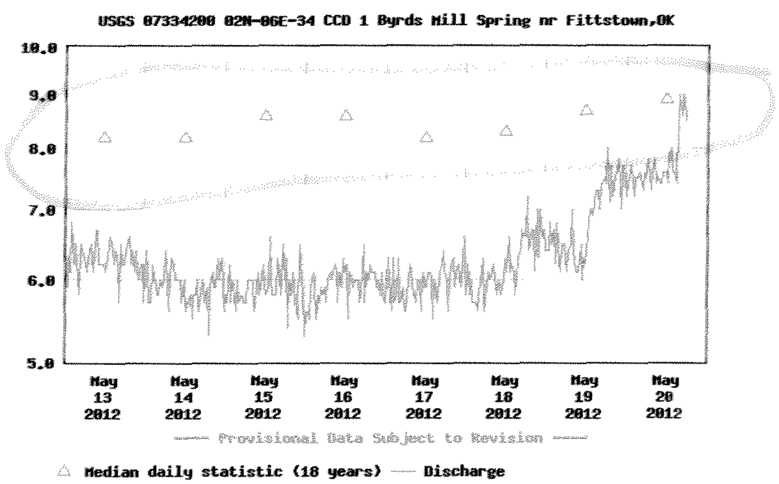
Daily discharge statistics, in cfs, for May 20 based on 7 years of record more

Most Recent Instantaneous Value May 20	Mean	Min (1990)	25th percen - tile	Median	75th percen - tile	Max (1990)
0.00	0.00	0.00	0.00	0.00	0.00	0.00

Discharge, cubic feet per second, 36" pipe via DCP

Most recent instantaneous value: 8.5 05-20-2012 18:00 CDT



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Daily discharge statistics, in cfs, for May 20 based on 18 years of record more

Min (1995)	25th percen - tile	Most Recent Instantaneous Value May 20	Mean	Median	75th percen - tile	Max (2006)
5.27	7.7	8.5	8.5	8.9	9.4	11

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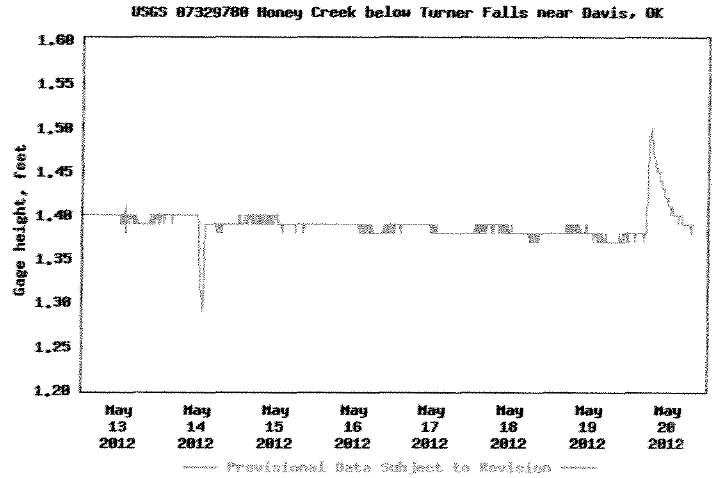

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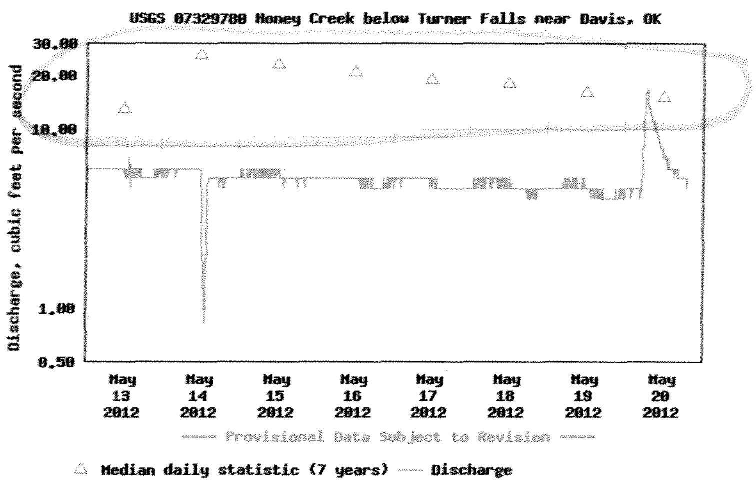
Discharge, cubic feet per second

Most recent instantaneous value: 5.3 05-20-2012 19:30 CDT



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Daily discharge statistics, in cfs, for May 20 based on 7 years of record more

Min (2005)	Most Recent Instantaneous Value May 20	25th percen - tile	Median	Mean	75th percen - tile	Max (2009)
3.9	5.3	5.3	15	18	25	51

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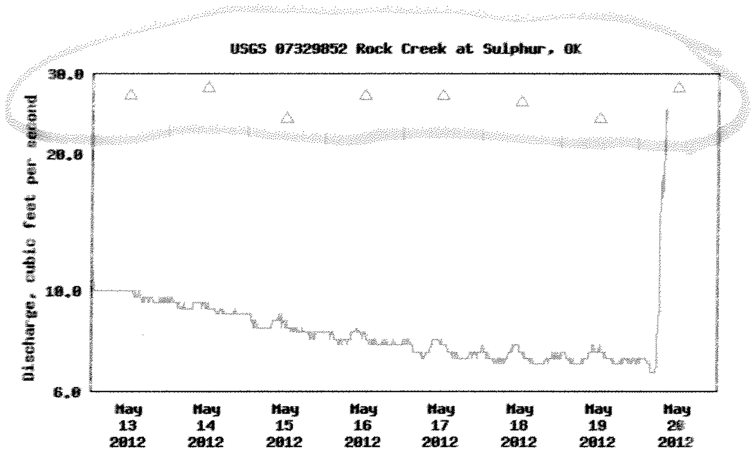

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Daily discharge statistics, in cfs, for May 20 based on 22 years of record more

Min (2004)	25th percen - tile	Most Recent Instantaneous Value May 20	Median	Mean	75th percen - tile	Max (2001)
4.3	12	24	28	46	56	290

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Table 5. Monthly and annual precipitation at Ada, Oklahoma, for water years 2004–8.

[A water year starts October 1 and ends September 30; National Oceanic and Atmospheric Administration (2009)]

Water year	Precipitation (inches)												
	October	November	December	January	February	March	April	May	June	July	August	September	Total
2004	1.09	2.30	1.16	1.78	2.69	2.50	3.41	0.63	8.02	7.32	2.61	0.58	34.09
2005	9.19	6.51	1.07	4.87	1.65	0.57	0.78	2.28	3.35	4.64	6.70	3.36	44.97
2006	2.34	0.64	0.24	1.18	0.21	5.40	3.75	1.75	1.09	0.66	1.14	2.54	20.94
2007	6.12	2.94	3.84	2.69	1.46	4.52	3.58	8.02	14.41	3.97	4.28	0.28	56.11
2008	2.26	0.57	2.80	0.25	2.93	6.48	2.94	4.31	7.57	0.60	4.25	3.01	37.97
Average													38.82

Table 6. Annual evapotranspiration calculated for Blue River near Connerville, Oklahoma (07332390), and Pennington Creek near Reagan, Oklahoma (07331300), for water years 2004–8.

[*, annual precipitation derived from NEXRAD radar (B. Vieux, University of Oklahoma, written commun., 2008)]

Station name	Station number	Water year	Annual precipitation* (inches)	Annual runoff (inches)	Annual evapotranspiration (inches)	Evapotranspiration as percent of precipitation
Blue River near Connerville	07332390	2004	32.45	4.13	28.32	87.27
		2005	42.49	9.43	33.06	77.81
		2006	24.63	3.93	20.70	84.04
		2007	49.68	15.83	33.85	68.14
		2008	32.59	5.56	27.03	82.94
		Average	36.37	7.78	28.59	80.04
Pennington Creek near Reagan	07331300	2004	32.80	5.02	27.78	84.70
		2005	40.15	10.71	29.44	73.33
		2006	22.79	4.78	18.01	79.03
		2007	47.02	18.56	28.46	60.53
		2008	32.01	5.04	26.97	84.25
		Average	34.95	8.82	26.13	76.37