

NWS FORM E-19 (COVER)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

REPORT ON RIVER GAGE STATION

REVISED, PRINTED DATES: 10/22/2007, 08/22/2010

LOCATION: WOODRUFF
STREAM: PRAIRIE DOG CREEK
BASIN: REPUBLICAN 9

HSA: GID

REFERENCES:

KS WATER RESOURCES BOARD TECHNICAL REPORT #3, - OCT 1960
NWS E-19 - 10/26/81
NWS E-19 - 9/5/99
USBR "EMERGENCY PREPAREDNESS PLAN FOR NORTON DAM" - JAN 1984
USGS STATION DESCRIPTION 11/02/1997
USGS STATION DESCRIPTION - 11/2/2005
USGS STATION DESCRIPTION - 1/16/02
USGS WSP 1680

ABBREVIATIONS:

BM - bench mark	EPA - Environmental Protection Agency
DS - downstream	IBWC - International Boundary and Water Comm.
US - upstream	MSRC - Mississippi River Commission
HW - high water	MORC - Missouri River Commission
LW - low water	NOAA - National Oceanic and Atmospheric Admin.
RB - right bank	NOS - National Ocean Survey
LB - left bank	NWS - National Weather Service
MGL - mean gulf level	TVA - Tennessee Valley Authority
MLW - mean low water	USACE - U.S. Army Corps of Engineers
MSL - mean sea level	USBR - U.S. Bureau of Reclamation
MLT - mean low tide	USGS - U.S. Geological Survey
MT - mean tide	USWB - U.S. Weather Bureau
WQ - water quality	NGVD - National Geodetic Vertical Datum
RM - reference mark	NAD - North American Datum
RP - reference point	

LOCATION IDENTIFICATION: WDRK1
NWS INDEX NUMBER: 14-9028-2
USGS NUMBER: 06848500

MAP OF GAGE LOCATION

LATITUDE: 39 58 43
LONGITUDE: 99 28 41

SOURCE: USGS STATION DESCRIP

LOCATION: PRAIRIE DOG CREEK near WOODRUFF, KS
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NWS FORM E-19 PAGE 1: GAGE MAP

BENCHMARKS

ELEVATION OF GAGE ZERO: 2016.200 VERTICAL DATUM: NGVD 1929
 LEVELING AGENCY AND DATE: 5/14/02 CHECKBAR: 23.720
 RATING AGENCY:

BENCHMARK	DESCRIPTION	GAGE ZERO	DATUM
MP1	ESTABLISHED 6/01 AT TEMPORARY SITE LOCATION. A FENCEPOST NEAR THE END OF THE ORIFICE.	3.928	2020.128
MP10	A FENCE POST 2 FT DOWNSTREAM AND 4 FT EAST OF ORIFICE.	3.561	2019.761
MP2	FENCEPOST IN STREAM, 1 FT DOWNSTREAM OF ORIFICE.	5.521	2021.721
MP3	LAG BOLT IN TREE, 8 FT EAST OF ORIFICE END AND 3 FT DOWNSTREAM.	9.815	2026.015
MP4	LAG BOLT IN TREE 12 FT EAST OF ORIFICE END AND 3 FT DOWNSTREAM.	12.693	2028.893
MP5	FENCEPOST 3 FT DOWNSTREAM AND 20 FT EAST OF ORIFICE END.	17.085	2033.285
MP6	LAG BOLT IN TREE 30 FT EAST OF ORIFICE END AND 10 FT DOWNSTREAM.	18.375	2034.575
MP7	FENCEPOST ON ORIFICE LINE 50 FT WEST OF GAGEHOUSE.	23.918	2040.118
MP8	FENCEPOST ON ORIFICE LINE 30 FT WEST OF GAGEHOUSE.	34.014	2050.214
MP9	AN ORANGE FENCE POST 10 FT EAST OF ORIFICE NEAR RIGHT EDGE OF WATER.	5.189	2021.389
T-158	STANDARD TABLET IN A CONCRETE POST, STAMPED T-158 1934, IN THE SOUTHEAST CORNER OF SEC.4 15FT WEST OF NORTH-SOUTH SECTION LINE ROAD, 30FT SOUTH OF CENTERLINE OF ABANDONED RAILROAD TRACK, 0.75 MI NE OF GAGE AND 1.8 MI WEST OF WOODRUFF.	49.010	2065.210

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GAGES

DCP

TELEM

NESS ID: CE73CBBC
 OWNER: USGS
 REPORT TIME: 003510
 INTERVAL: 60

TYPE OF TELEMETRY: dedicated
 OWNER: USBR
 PHONE NUMBER:
 INTERVAL:
 PAYOR/COST OF LINE: Unk / \$

GAGE TYPE	OWNER	MAINTENANCE	BEGAN	ENDED	GAGE LOCATION/REMARKS
chain	USGS	USGS	03/19/1929	06/30/1932	CHAIN WEIGHT INSTALLED ON RAILROAD BRIDGE ABOUT 200 FT DOWNSTREAM. STATION WAS DISCONTINUED BY USGS 6/30/32.
bubble	USGS	USGS	05/11/1945	05/07/1951	RE-ESTABLISHED GAGE SITE. A35 RECORDER INSTALLED IN TIMBER WELL AND SHELTER (6 FT SQ INSIDE), 50 FT DOWNSTREAM FROM TIMBER BRIDGE ON U.S. 383 ON THE NORTH BANK.
wireweight	USGS	USGS	05/08/1951	02/19/1952	FROM 5/1951 TO 2/52 A WIRE WEIGHT GAGE WAS INSTALLED 1 MI EAST AND 2.75 MI DOWNSTREAM FROM THE ORIGINAL GAGE SITE. GAGE INSTALLED ON THE UPSTREAM SIDE OF A HWY BRIDGE. HWY CONSTRUCTION FORCED THE MOVE OF THIS GAGE TO THIS POSITION.
Unk	USGS	USGS	02/20/1952	09/14/1955	RECORDER INSTALLED IN A LINCOLN STANDARD 48 INCH CULVER PIPE WELL AND SHELTER ON RIGHT BANK 150 FT DOWNSTREAM FROM THE NEW HWY BRIDGE ABOUT 300 FT SOUTH OF ORIGINAL RECORDER SITE. WIRE WEIGHT ALSO MOVED TO THIS SITE AT THIS TIME.
wireweight	USGS	USGS	02/20/1952	09/14/1955	WIRE WEIGHT MOVED WHEN RECORDER WAS INSTALLED IN A LINCOLN STANDARD 48 INCH CULVERT PIPE WELL. WIRE WEIGHT MOVED TO BRIDGE FROM SITE ABOUT 1 MI EAST.
Unk	USGS	USGS	10/07/1955	10/21/1993	USGS RE-INSTALLED RECORDER AT THE PRESENT SITE. REMOVED DIGITAL RECORDER IN JUNE OF 1993.
wireweight	USGS	USGS	10/11/1955		USGS WIRE WEIGHT RE-INSTALLED GAGE ON DOWNSTREAM SIDE BRIDGE AT PRESENT LOCATION.
bubble	USGS	USGS	09/12/1979	12/10/1985	USGS INSTALLED FP RECORDING GAGE AND BUBBLER IN SHELTER AT WEST DOWNSTREAM CORNER OF BRIDGE.
bubble	USGS	USGS	12/10/1985	10/21/1993	CORPS OF ENGINEERS TELEMETRY EQUIPMENT, SUTRON 8004 DCP, INSTALLED. DCP STAYS BUT NEW SUTRON INSTALLED ON 10/21/1993. TIPPING BUCKET INSTALLED ON 9/21/1990.
bubble	USGS	USGS	10/21/1993		INSTALLED USGS PS-2 PRESSURE TRANSDUCER AND A SUTRON 8200 DCP DATA LOGGER/TRANSMITTER. GAGE TEMPORARILY MOVED 300FT DOWNSTREAM 3/13/01 DURING BRIDGE REPLACEMENT.
crest	USGS	USGS	06/26/2007		

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HISTORY

PUBLICATION/LOCATION OF RECORDS	STARTING DATE	ENDING DATE
WRD KS	03/19/1929	06/30/1932
WRD KS	05/11/1945	

TYPE OF GAGE	OWNER	STARTING DATE	ENDING DATE
chain	USGS	03/19/1929	06/30/1932
bubble	USGS	05/11/1945	05/07/1951
wireweight	USGS	05/08/1951	02/19/1952
Unk	USGS	02/20/1952	09/14/1955
wireweight	USGS	02/20/1952	09/14/1955
Unk	USGS	10/07/1955	10/21/1993
wireweight	USGS	10/11/1955	
bubble	USGS	09/12/1979	12/10/1985
bubble	USGS	12/10/1985	10/21/1993
bubble	USGS	10/21/1993	
crest	USGS	06/26/2007	

ZERO ELEVATION	STARTING DATE
2016.200	01/01/1929
1943.080	05/11/1945
1933.260	05/08/1951
1944.910	02/20/1952
2016.200	10/07/1955

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CRESTS

FLOOD STAGE: 22.00 ACTION STAGE: 20.00 BANKFULL STAGE: 21.00
 FLOOD FLOW: 1810 ACTION FLOW: 1400

DATE OF CREST	TIME LST	CREST (ft)	FLOW (CFS)	FROM HIGH WATERMARKS	BASED ON OLD DATUM	CAUSED BY ICE JAM	REMARKS
06/23/1947	UNDEF	21.04	15000			X	
07/14/1951	UNDEF	19.25	8560			X	
07/14/1952	UNDEF	-0.99	1410				
05/29/1953	20:00	18.48	11300				DETERMINED BY FLOODMARKS AT THE PRESENT SITE.
08/17/1954	UNDEF	-0.99	1000				
09/20/1955	UNDEF	-0.99	948				
07/08/1956	UNDEF	12.82	964				
05/11/1957	UNDEF	16.96	1600				
06/16/1957	13:00	26.70	8910				
07/22/1958	UNDEF	12.64	906				
06/23/1959	UNDEF	11.83	725				
03/23/1960	21:00	23.20	4480				
05/16/1960	21:00	21.67	3400				
05/22/1961	02:00	20.78	2890				
06/05/1961	09:00	23.21	4490				
07/03/1962	14:00	20.50	2740				
08/13/1963	UNDEF	20.55	2820				
08/20/1964	UNDEF	8.37	424				
09/06/1965	UNDEF	16.83	1670				
10/19/1965	12:00	19.83					
06/24/1966	UNDEF	25.33	7030				
06/22/1967	UNDEF	16.84	1830				
08/10/1968	UNDEF	16.72	1590				
08/31/1969	UNDEF	10.90	708				
10/19/1969	UNDEF	6.72	288				
09/02/1971	UNDEF	4.28	118				
07/12/1972	UNDEF	5.91	226				
07/19/1973	UNDEF	8.88	488				
10/11/1973	UNDEF	5.71	207				
08/14/1975	UNDEF	14.20	1240				
09/13/1976	UNDEF	9.05	506				
09/03/1977	UNDEF	23.48	4580				
03/11/1978	UNDEF	8.51	451				
04/19/1979	UNDEF	11.63	624				
04/03/1980	UNDEF	4.89	64				
06/26/1981	UNDEF	8.82	351				
05/12/1982	UNDEF	8.07	279				
05/19/1983	UNDEF	11.14	810				
05/03/1984	UNDEF	5.46	14				ACTUAL FLOW WAS 13.8 CFS
05/14/1985	UNDEF	10.92	504				
07/10/1986	UNDEF	8.39	454				
07/09/1987	UNDEF	14.25	849				
07/19/1988	UNDEF	16.48	1310				
08/01/1989	UNDEF	12.27	561				
08/19/1990	UNDEF	11.82	508				

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DATE OF CREST	TIME LST	CREST (ft)	FLOW (CFS)	FROM HIGH WATERMARKS	BASED ON OLD DATUM	CAUSED BY ICE JAM	REMARKS
05/27/1991	UNDEF	4.97	44				
08/08/1992	UNDEF	15.85	1170				
03/08/1993	UNDEF	15.34	1060				
07/05/1994	UNDEF	11.23	634				
05/28/1995	UNDEF	16.26	1450				
08/07/1996	UNDEF	20.14	2360				
06/27/1997	UNDEF	15.31	1140				
07/27/1998	UNDEF	11.70	593				
05/23/1999	UNDEF	9.73	339				
07/23/2000	UNDEF	12.53	680				
07/05/2001	UNDEF	17.61	1810				
05/14/2002	UNDEF	3.42	19				
07/10/2003	UNDEF	3.58	25				
05/18/2004	UNDEF	4.11	39				
04/06/2005	05:00	15.63	1380				13 ft rise in water with crest at 05Z.
08/10/2006	UNDEF	3.83	14				
02/20/2007	UNDEF	3.47	476			X	Backwater from ice jam. Flow is estimated.
05/26/2008	UNDEF	10.91	477				Maximum peak flow and maximum peak stage for the year.

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LOW WATER RECORDS

DATE OF LOW WATER	STAGE (ft)	FLOW (CFS)	REMARKS
06/30/1932	1.00		ZERO FLOW AT ABOUT 1 FT, BUT VARIABLE.
10/01/2005		0	
10/01/2006		0	

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RIVER STAGE DATA

	40-		

	35-		

30.00 - Significant lowland and agricultural flooding occurs.	30-		

	-----	26.70	06/16/1957
	25-	25.33	06/24/1966
24.00 -	-----		
	-----	23.48	09/03/1977
22.00 -	-----		
	-----	21.67	05/16/1960
	20-	20.78	05/22/1961
	-----	19.83	10/19/1965
	-----	18.48	05/29/1953
	-----	17.61	07/05/2001
	-----	16.96	05/11/1957
	15-	15.85	08/08/1992
	-----	14.25	07/09/1987

	-----	12.82	07/08/1956
	-----	11.83	06/23/1959
	10-	10.92	05/14/1985
	-----	9.73	05/23/1999
	-----	8.88	07/19/1973

	-----	6.72	10/19/1969
	5-	5.91	07/12/1972
	-----	4.97	05/27/1991
	-----	3.83	08/10/2006

	0-		
	-----	-0.99	09/20/1955

	-5-		

	-10-		

REACH: CONFLUENCE OF ELK CREEK DOWNSTREAM TO HARLAN COUNTY LAKE POOL.

ELEVATION ZERO: 2016.20

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 NWS FORM E-19 PAGE 9: STAFF

CONTACTS

SQ	CONTACT/REMARKS	PHONE
1	KS USGS MAINTENANCE.	785-628-8919

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