



Water-Data Report 2007

08396500 PECOS RIVER NEAR ARTESIA, NM

Upper Pecos Basin
Upper Pecos-Long Arroyo Subbasin

LOCATION.--Lat 32°50'27.1", long 104°19'25.8" referenced to North American Datum of 1983, Eddy County, NM, Hydrologic Unit 13060007, on left bank 250 ft upstream from bridge on U.S. Highway 82, 4.3 mi east of Artesia, 7.0 mi upstream from Rio Penasco, and at mile 503.9.

DRAINAGE AREA.--15,300 mi², approximately (contributing area).

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1905 to June 1909, August 1909 to current year. Monthly discharge only for some periods, published in WSP 1312 and 1712. Records for August 22-31, 1934, and October 1936 to April 1937, published in WSP 763 and 828, respectively, are not reliable and should not be used. Prior to February 1936, published as "near Dayton."

REVISED RECORDS.--WSP 1312 and 1512: 1913, 1915, 1917-18(M), 1920, 1923, 1931-36. WSP 1712: 1906(M), 1908-11(M), 1919, 1921-23(M), 1929, 1931-32(M), 1935-36(M), 1937, 1939(M), 1941(M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 3,291.92 ft above NGVD of 1929 (Bureau of Reclamation benchmark). See WSP 1923 or 2123 for history of changes prior to Apr. 5, 1941. Apr. 5, 1941, to Apr. 2, 1981, water-stage recorder at site 250 ft downstream at same datum.

REMARKS.--Water-discharge records goog except for those estimated, which are fair. Considerable flow regulation by Lake Sumner (station 08384000) since Aug. 1937, and by Two Rivers Reservoir (station 08390600) since July 1963. Diversions and ground-water withdrawals for irrigation of about 154,000 acres, 1959 determination, upstream from station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Greatest flood since at least 1893 occurred Oct. 2, 1904, discharge not determined; the peak inflow to Lake McMillan, which includes Rio Penasco and Fourmile Draw, was estimated at 82,000 ft³/s. The second highest flood occurred July 25, 1905, discharge downstream from Rio Penasco, 50,300 ft³/s, based on gain in storage and spill from Lake McMillan. The floods in Aug. 1893 and Oct. 1904 damaged McMillan Dam and washed out Avalon Dam.

08396500 PECOS RIVER NEAR ARTESIA, NM—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES
[*e*, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	87	131	73	80	110	e145	141	86	63	85	75	23
2	81	125	74	84	108	e866	137	134	64	65	74	23
3	76	138	79	88	107	1,150	130	126	65	61	89	126
4	74	146	87	87	107	1,270	123	200	64	49	186	795
5	e70	137	94	92	105	1,320	119	176	65	42	191	939
6	e66	130	95	95	104	1,380	114	141	60	336	179	e1,060
7	e62	134	93	94	103	1,430	107	112	58	862	128	e1,110
8	e61	128	85	92	101	1,180	110	137	53	e990	96	e1,160
9	e61	123	82	90	101	e455	111	122	51	e1,090	86	e1,190
10	e61	e104	101	88	99	e365	113	171	48	1,090	73	e831
11	e64	e89	96	89	99	e292	111	187	58	1,130	62	e519
12	e74	e84	100	88	96	e235	111	148	102	1,070	55	369
13	e79	e83	93	87	93	e224	110	119	102	e590	53	632
14	e95	e82	84	87	94	231	121	106	92	e400	47	345
15	e97	e80	78	88	96	222	131	97	98	e300	44	e225
16	e89	e76	77	91	95	194	133	94	94	e250	45	e188
17	e86	e72	101	92	102	170	118	92	75	204	45	e158
18	e112	68	92	94	106	156	111	90	66	e150	39	e134
19	e196	e67	84	88	104	148	109	97	57	e125	37	e125
20	e117	e66	90	96	100	143	99	113	55	e115	34	e120
21	e155	e67	93	99	104	141	e93	124	57	105	32	e120
22	e206	e68	94	104	100	135	e87	115	51	98	30	128
23	e120	e67	96	113	93	136	e82	102	48	96	31	181
24	e105	e67	96	120	88	142	76	91	46	98	27	151
25	e141	e69	92	123	93	273	72	85	47	89	25	134
26	e168	e73	94	118	87	409	71	84	48	79	e24	120
27	e104	e70	90	125	80	427	71	73	54	71	e23	106
28	e120	69	92	119	78	242	71	67	58	67	23	104
29	e162	e68	90	118	---	187	73	66	73	61	23	95
30	e133	67	82	116	---	165	84	63	95	60	23	137
31	147	---	80	113	---	149	---	64	---	67	23	---
Total	3,269	2,748	2,757	3,058	2,753	13,982	3,139	3,482	1,967	9,895	1,922	11,348
Mean	105	91.6	88.9	98.6	98.3	451	105	112	65.6	319	62.0	378
Max	206	146	101	125	110	1,430	141	200	102	1,130	191	1,190
Min	61	66	73	80	78	135	71	63	46	42	23	23
Ac-ft	6,480	5,450	5,470	6,070	5,460	27,730	6,230	6,910	3,900	19,630	3,810	22,510

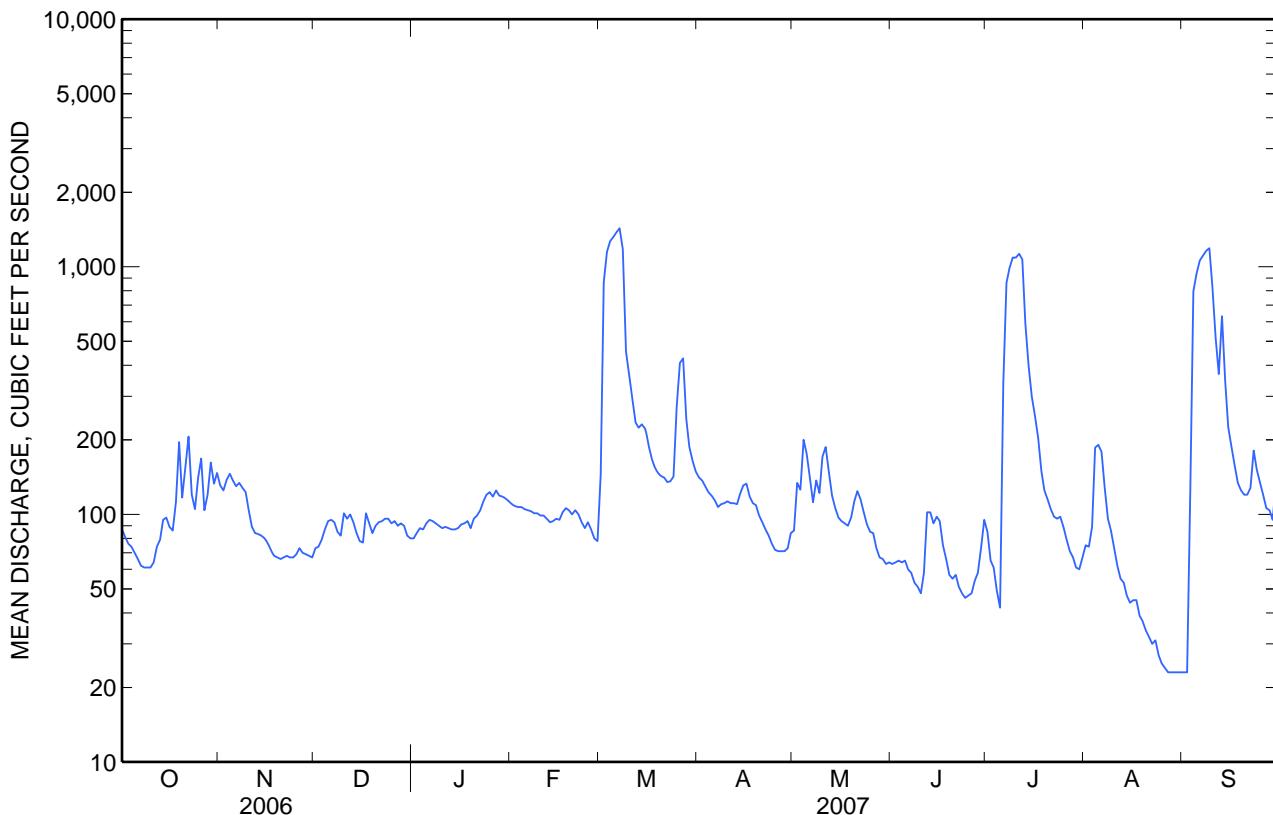
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	243	134	108	105	104	193	207	334	363	314	253	343
Max	4,203	1,240	614	499	504	768	1,292	3,834	3,495	1,453	880	5,704
(WY)	(1942)	(1942)	(1942)	(1942)	(1942)	(1941)	(1942)	(1941)	(1937)	(1960)	(1941)	(1941)
Min	2.26	31.5	33.6	34.6	28.5	21.7	10.7	15.8	5.42	0.77	0.06	0.27
(WY)	(1965)	(1968)	(1967)	(1965)	(1972)	(1981)	(1967)	(1975)	(1977)	(1954)	(1964)	(1964)

08396500 PECOS RIVER NEAR ARTESIA, NM—Continued**SUMMARY STATISTICS**

	Calendar Year 2006	Water Year 2007		Water Years 1937 - 2007	
Annual total	61,365		60,320		
Annual mean	168		165		225
Highest annual mean				1,378	1941
Lowest annual mean				64.8	1964
Highest daily mean	1,230	Feb 28	1,430	Mar 7	44,300 Sep 25, 1941
Lowest daily mean	19	Jul 27	23	Aug 27	0.00 Aug 14, 1946
Annual seven-day minimum	23	May 27	23	Aug 27	0.00 Aug 14, 1946
Maximum peak flow			1,490	Mar 6	^a 51,500 May 30, 1937
Maximum peak stage			8.09	Jul 12	14.70 May 30, 1937
Instantaneous low flow			22	Aug 29	0.00 Oct 1, 1934
Annual runoff (ac-ft)	121,700		119,600		163,300
10 percent exceeds	291		238		637
50 percent exceeds	103		96		80
90 percent exceeds	45		58		18

^a From a slope-area measurement made at a site 15 mi. upstream.



08396500 PECOS RIVER NEAR ARTESIA, NM—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1937 to current year.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
 Part 1 of 9
 [Remark codes: <, less than; E, estimated.]

Date	Time	Turbidity		Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Percent of saturation (00301)	pH, water, unfiltred field, std units (00400)	Specific conductance, wat unf field, 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Bromide, water, unfiltred mg/L (63689)	Calcium water, filtrd, mg/L (00915)
		Instantaneous discharge, cfs (00061)	Light, NTU (63675)										
Mar 22...	0950	135	17	680	8.0	95	8.1	6,200	15.5	17.0	1,800	<1.0	530
Jul 10...	1600	1,080	1,100	682	5.8	83	8.0	2,750	30.0	27.5	1,500	--	492

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
 Part 2 of 9
 [Remark codes: <, less than; E, estimated.]

Date	Magnesium water, mg/L (00925)	Potassium water, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium water, mg/L (00930)	Sodium CaCO ₃ (29801)	Alkalinity, wat flt fxd end (00453)	Alkalinity, wat flt inc tit (39086)	Bicarbonate, wat flt incr. (00453)	Chloride, titr., field, mg/L (00940)	Fluoride, water, field, mg/L (00950)	Silica, water, filtrd, mg/L (00955)	Sulfate, water, filtrd, mg/L (00945)	Residue water, + filtrd, mg/L (70301)	Ammonia org-N, water, sum of constituents, mg/L as N (00623)
Mar 22...	123	5.63	7.0	687	119	116	138	1,220	.81	9.98	1,600	4,240	.34	
Jul 10...	68.6	4.30	1.6	147	85	82	99	207	.77	11.2	1,330	2,310	.36	

08396500 PECOS RIVER NEAR ARTESIA, NM—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 9

[Remark codes: <, less than; E, estimated.]

Date	Ammonia		Nitrate		Ortho-phosphate		E coli		Alum- inum, water, fltrd, µg/L	Anti- mony, water, fltrd, µg/L	Arsenic water, fltrd, µg/L	Barium, water, fltrd, µg/L	
	+ org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	phosphate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd mg/L (00665)	m-TEC 100 mL (31633)	col/ water, fltrd, µg/L (01106)	(01095)	(01000)	(01005)
Mar 22...	.59	.022	2.2	.16	.004	<.006	E.005	.047	35	E3.8	.48	3.5	118
Jul 10...	1.8	.039	E.089	.09	.005	.006	.011	.81	670	E1.7	.22	1.2	39

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 4 of 9

[Remark codes: <, less than; E, estimated.]

Date	Beryll- ium, water, fltrd, µg/L (01010)	Boron, water, fltrd, µg/L (01020)	Cadmium water, fltrd, µg/L (01025)	Chrom- ium, water, fltrd, µg/L (01030)	Cobalt water, fltrd, µg/L (01035)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover- able, µg/L (71900)	Molyb- denum, water, fltrd, µg/L (01060)	Nickel, water, fltrd, µg/L (01065)	Selen- ium, water, fltrd, µg/L (01145)
Mar 22...	<.18	233	E.06	E.27	.30	2.2	<30	E.18	14.1	E.006	11.6	2.5	4.6
Jul 10...	<.12	115	<.08	<.24	.12	E.52	<18	<.24	.8	.022	4.0	1.3	1.8

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 5 of 9

[Remark codes: <, less than; E, estimated.]

Date	2,6-Di-ethyl-aniline		Aceto-chlor,		Ala-chlor,	alpha-HCH,	Atra-zine,	Azin-methyl,	Ben-flur-alin,	Car-baryl,		
	Selen- ium, water, unfltrd µg/L (01147)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	water, fltrd, µg/L (82660)	CIAT, water, fltrd, µg/L (04040)	water, fltrd, µg/L (49260)	water, fltrd, µg/L (46342)	water, fltrd, µg/L (34253)	water, fltrd, µg/L (39632)	water, fltrd, µg/L (82686)	water, fltrd, µg/L (82673)	water, fltrd, µg/L (04028) (82680)
Mar 22...	1.2	E.2	E1.4	--	--	--	--	--	--	--	--	--
Jul 10...	.91	<.2	1.4	<.002	<.014	<.006	<.005	<.002	.007	<.080	<.006	<.002

08396500 PECOS RIVER NEAR ARTESIA, NM—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 6 of 9

[Remark codes: <, less than; E, estimated.]

Date	Carbo-furan, water, fltrd 0.7u GF	Chlor-pyrifos water, fltrd 0.7u GF	cis-Per-methrin water, fltrd 0.7u GF	Cyana-zine, water, fltrd 0.7u GF	DCPA, water, fltrd 0.7u GF	Desulf-inyl-fipro-nil, water, fltrd 0.7u GF	Diazi-non, water, fltrd 0.7u GF	Diel-drin, water, fltrd 0.7u GF	Disul-foton, water, fltrd 0.7u GF	EPTC, water, fltrd 0.7u GF	Ethal-flur-alin, water, fltrd 0.7u GF	Etho-prop, water, fltrd 0.7u GF	Desulf-inyl-fipro-nil water, fltrd 0.7u GF
	µg/L (82674)	µg/L (38933)	µg/L (82687)	µg/L (04041)	µg/L (82682)	µg/L (62170)	µg/L (39572)	µg/L (39381)	µg/L (82677)	µg/L (82668)	µg/L (82663)	µg/L (82672)	µg/L (62169)
Mar													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jul													
10...	<.020	<.005	<.010	<.018	<.003	<.012	<.005	<.009	<.02	<.002	<.009	<.012	<.029

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 7 of 9

[Remark codes: <, less than; E, estimated.]

Date	Fipro-nil sulfide water, fltrd, 0.7u GF	Fipro-nil sulfone water, fltrd, 0.7u GF	Fipro-nil water, fltrd, 0.7u GF	Fonofos water, fltrd, 0.7u GF	Lindane water, fltrd, 0.7u GF	Linuron water, fltrd 0.7u GF	Mala-thion, water, fltrd 0.7u GF	Methyl para-thion, water, fltrd 0.7u GF	Metola-chlor, water, fltrd 0.7u GF	Metri-buzin, water, fltrd 0.7u GF	Moli-nate, water, fltrd 0.7u GF	Naprop-amide, water, fltrd 0.7u GF	p,p'-DDE, water, fltrd 0.7u GF
	µg/L (62167)	µg/L (62168)	µg/L (62166)	µg/L (04095)	µg/L (39341)	µg/L (82666)	µg/L (39532)	µg/L (82667)	µg/L (39415)	µg/L (82630)	µg/L (82671)	µg/L (82684)	µg/L (34653)
Mar													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jul													
10...	<.013	<.024	<.016	<.006	<.004	<.060	<.016	<.008	<.010	<.012	<.002	<.018	<.003

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 8 of 9

[Remark codes: <, less than; E, estimated.]

Date	Parathion, water, fltrd, 0.7u GF	Peb-munate, water, fltrd 0.7u GF	Pendi-methalin, water, fltrd 0.7u GF	Phorate water, fltrd 0.7u GF	Promo-ton, water, fltrd 0.7u GF	Propy-zamide, water, fltrd 0.7u GF	Propa-chlor, water, fltrd 0.7u GF	Propanil, water, fltrd 0.7u GF	Propar-gite, water, fltrd 0.7u GF	Sima-zine, water, fltrd 0.7u GF	Tebu-thiuron, water, fltrd 0.7u GF	Terba-cil, water, fltrd 0.7u GF	Terbu-fos, water, fltrd 0.7u GF
	µg/L (39542)	µg/L (82669)	µg/L (82683)	µg/L (82664)	µg/L (04037)	µg/L (82676)	µg/L (04024)	µg/L (82679)	µg/L (82685)	µg/L (04035)	µg/L (82670)	µg/L (82665)	µg/L (82675)
Mar													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jul													
10...	<.010	<.004	<.020	<.020	<.01	<.004	<.010	<.011	<.02	<.006	<.02	<.040	<.01

08396500 PECOS RIVER NEAR ARTESIA, NM—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
 Part 9 of 9
 [Remark codes: <, less than; E, estimated.]

Date	Thio-	Tri-	Tri-	Uranium	Suspnd.	Sus-
	bencarb	allate,	flur-	natural	sediment,	pended
	water, filtrd	water, filtrd	water, filtrd	water, natural	sieve diametr	concen-
	0.7u GF	0.7u GF	0.7u GF	fltrd,	percent	tration
Date	µg/L (82681)	µg/L (82678)	µg/L (82661)	µg/L (22703)	<.063mm (70331)	mg/L (80154)

Mar						
22...	--	--	--	16.7	56	67
Jul						
10...	<.010	<.006	<.006	3.14	66	2,450