

Water-Data Report 2007

09355500 SAN JUAN RIVER NEAR ARCHULETA, NM

Upper San Juan Basin
Upper San Juan Subbasin

LOCATION.--Lat 36°48'06.80", long 107°41'55.10" referenced to North American Datum of 1983, San Juan County, NM, Hydrologic Unit 14080101, on left bank 0.5 mi upstream from Gobernador Canyon, 0.8 mi northeast of Archuleta, 7.2 mi downstream from Navajo Dam, and at mile 291.4.

DRAINAGE AREA.-- 3,260 mi², approximately.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1954 to current year.

REVISED RECORDS.--The annual runoff for water year 1958, as published in table 2, WSP 1733, was 455,000 acre-ft. The correct value is 1,455,000 acre-ft.

GAGE.--Water-stage recorder with satellite telemetry and crest-stage gage. Elevation of gage is 5,653 ft above NGVD of 1929, from river-profile survey. Prior to Dec. 29, 1959, at site 5.0 mi upstream at elevation 55 ft higher. Dec. 29, 1959, to Nov. 15, 1964, at site 0.4 mi upstream at elevation 5 ft higher. Prior to Nov. 28, 1966, at elevation 2.0 ft higher.

REMARKS.--Water-discharge records good. Flow completely regulated by Navajo Reservoir (station 09355100) 7.0 mi upstream except for minor inflow from 30-mi² intervening drainage area. High-water diversions through Azotea tunnel (station 08284160) into Rio Grande Basin began in Mar. 1971. Diversions for irrigation of about 47,000 acres upstream from station.

09355500 SAN JUAN RIVER NEAR ARCHULETA, NM—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	464	235	511	474	515	530	701	2,100	1,260	709	753	910
2	466	234	511	472	509	526	698	2,780	1,260	707	760	925
3	468	235	511	471	505	523	693	3,980	1,260	704	760	919
4	466	232	374	471	507	523	693	5,010	1,250	704	758	919
5	466	231	224	476	509	519	692	5,000	1,250	710	760	920
6	474	331	244	475	510	517	690	5,070	1,250	708	765	920
7	463	448	245	474	511	519	686	5,130	1,240	708	759	915
8	465	468	246	482	510	663	682	5,160	1,240	707	758	913
9	472	490	246	482	510	718	685	5,190	1,240	708	759	916
10	471	487	247	480	513	715	683	5,220	1,250	706	763	926
11	468	488	248	484	517	709	680	5,260	1,250	708	759	930
12	470	495	247	485	517	703	684	5,290	1,260	710	758	930
13	469	494	246	481	514	701	682	5,330	1,260	732	759	926
14	477	497	404	482	514	700	681	5,370	1,260	759	763	926
15	490	496	492	480	513	700	680	5,380	1,260	756	782	923
16	474	495	491	480	511	701	674	5,360	1,260	754	767	918
17	476	496	492	484	510	702	674	4,460	1,270	753	766	926
18	474	497	491	493	508	699	665	3,420	1,270	751	764	923
19	477	497	495	379	511	701	662	3,390	1,270	752	761	925
20	476	496	490	250	522	700	661	3,370	1,270	758	757	939
21	476	496	486	250	528	703	661	3,000	1,270	756	752	942
22	478	496	487	248	529	715	668	2,170	1,270	757	752	934
23	479	497	487	444	527	711	679	1,480	1,270	761	754	941
24	480	498	485	529	527	711	683	1,270	1,270	757	755	929
25	483	500	480	530	527	708	683	1,270	1,260	756	762	925
26	481	497	480	521	530	708	710	1,270	1,260	753	767	920
27	481	497	480	519	531	707	730	1,260	1,270	755	871	916
28	478	497	482	517	532	708	729	1,260	1,040	758	915	913
29	479	501	480	514	---	701	730	1,270	713	758	914	905
30	367	510	476	514	---	701	1,300	1,260	711	783	912	900
31	236	---	474	516	---	701	---	1,260	---	750	910	---
Total	14,344	13,331	12,752	14,357	14,467	20,543	21,219	108,040	36,464	22,848	24,295	27,674
Mean	463	444	411	463	517	663	707	3,485	1,215	737	784	922
Max	490	510	511	530	532	718	1,300	5,380	1,270	783	915	942
Min	236	231	224	248	505	517	661	1,260	711	704	752	900
Ac-ft	28,450	26,440	25,290	28,480	28,700	40,750	42,090	214,300	72,330	45,320	48,190	54,890

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	811	809	898	941	945	1,021	1,242	1,759	1,838	1,145	956	912
Max	2,131	3,018	2,886	2,768	2,382	4,216	4,768	4,962	5,169	5,126	3,508	3,241
(WY)	(1966)	(1966)	(1966)	(1986)	(1987)	(1993)	(1979)	(1985)	(1979)	(1979)	(1973)	(1999)
Min	298	240	162	115	149	207	244	279	300	320	353	338
(WY)	(1963)	(1963)	(1963)	(1963)	(1963)	(1964)	(1964)	(1967)	(1967)	(1967)	(1963)	(1963)

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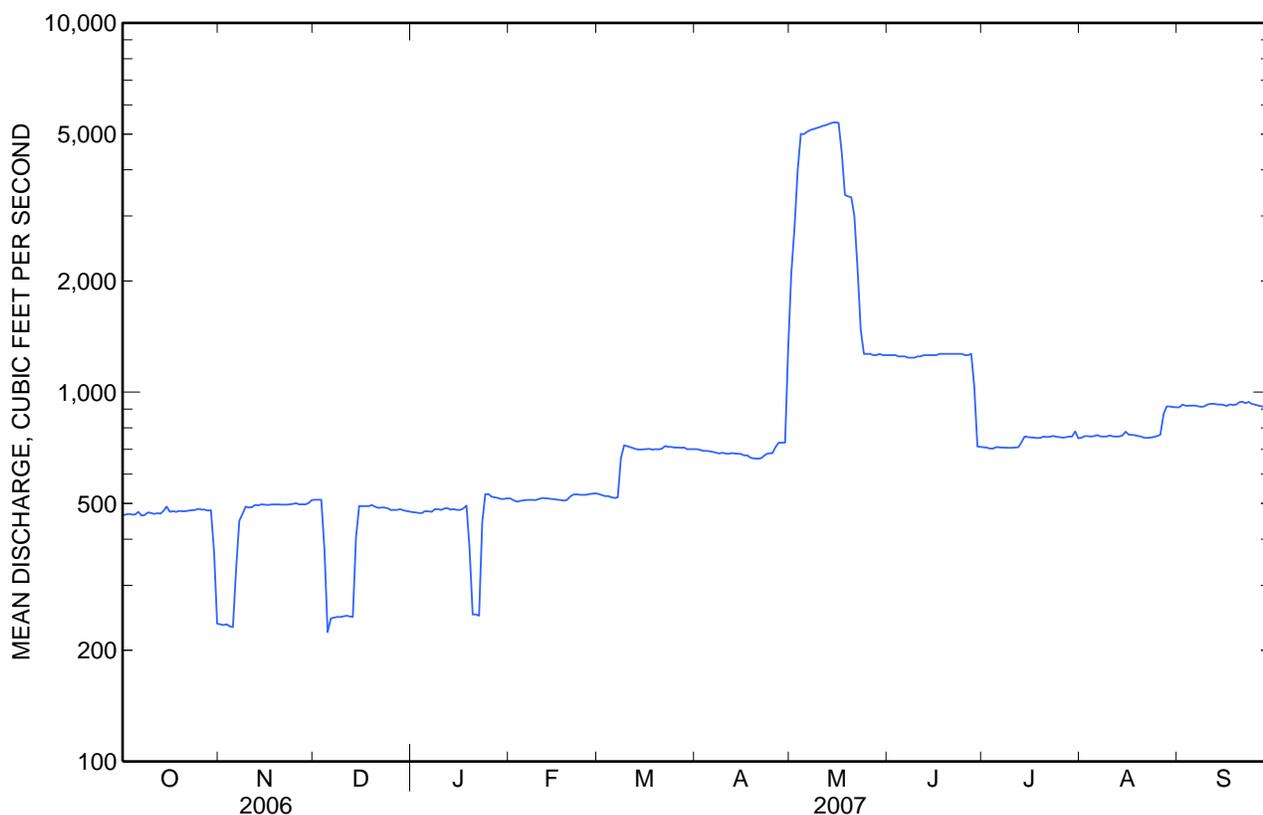
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1963 - 2007	
Annual total	231,264		330,334			
Annual mean	634		905		^a 1,107	
Highest annual mean					2,686	1987
Lowest annual mean					280	1963
Highest daily mean	5,010	Jun 7	5,380	May 15	6,420	Jun 21, 1965
Lowest daily mean	224	Dec 5	224	Dec 5	30	Mar 12, 1964
Annual seven-day minimum	243	Dec 5	243	Dec 5	108	Jan 10, 1963
Maximum peak flow			5,450	May 15	^b 18,900	Jul 27, 1957
Maximum peak stage			6.77	May 15	^c 11.00	Jul 27, 1957
Instantaneous low flow			214	Dec 4	8.0	Feb 28, 1963
Annual runoff (ac-ft)	458,700		655,200		801,600	
10 percent exceeds	746		1,270		2,500	
50 percent exceeds	477		698		628	
90 percent exceeds	351		471		356	

^a Average discharge for 7 years (water years 1956-62), 1,304 ft³/s, 944,700 acre-ft/yr, prior to closure of Navajo Dam.

^b Site and datum then in use.

^c Maximum discharge since construction of Navajo Dam in 1962, 6,500 ft³/s, June 20, 1965, gage height, 4.75 ft.



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955 to current year.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 5

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

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, 90+/-30 degrees NTU (63675)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
Nov													
20...	1435	496	1.4	630	12.4	127	8.8	246	16.5	8.0	89	27.7	4.76
20...	1435	--	--	--	--	--	--	--	--	--	--	--	--
Jan													
23...	1640	531	5.6	627	11.4	110	8.6	237	-.5	5.5	82	25.4	4.63
23...	1640	--	--	--	--	--	--	--	--	--	--	--	--
Apr													
10...	1345	688	5.7	621	11.6	118	8.6	234	11.5	7.0	90	27.7	5.08
10...	1345	--	--	--	--	--	--	--	--	--	--	--	--
Jul													
17...	1510	751	.7	627	11.4	126	8.4	201	35.0	11.0	65	20.1	3.67
17...	1510	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 5

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

Date	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue, water, sum of constituents, mg/L (70301)	Residue, on evap. at 180degC, wat flt mg/L (70300)
Nov													
20...	1.64	.5	11.3	77	73	84	2	2.35	.15	9.48	35.0	136	150
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jan													
23...	1.63	.5	10.7	77	75	89	1	2.27	.19	8.73	35.0	134	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr													
10...	1.78	.6	12.8	79	76	90	1	2.56	.15	8.84	36.7	141	140
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jul													
17...	1.29	.5	8.51	78	79	E95	--	2.40	.19	29.7	33.2	147	143
17...	--	--	--	--	--	--	--	--	--	--	--	--	--

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 5

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

Date	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd mg/L (00665)	Alum- inum, water, fltrd, µg/L (01106)	Anti- mony, water, fltrd, µg/L (01095)	Arsenic water, fltrd, µg/L (01000)	Barium, water, fltrd, µg/L (01005)
Nov													
20...	.19	.21	<.020	E.032	E.05	<.002	E.004	.006	.013	3.5	<.06	.59	51
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jan													
23...	.19	.26	<.020	.160	E.04	E.001	E.006	.007	.025	2.5	.07	.74	54
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr													
10...	.20	.23	<.020	.600	<.06	<.002	E.003	E.003	.021	16.1	.09	.72	62
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jul													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 4 of 5

[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)
Nov													
20...	<.06	14	E.02	.80	E.03	1.1	E4	E.10	4.2	<.010	.8	.48	.30
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jan													
23...	<.06	13	<.04	.19	.04	1.1	E3	<.12	6.4	E.008	.8	.78	.38
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr													
10...	<.06	16	<.04	<.12	.04	1.4	10	<.12	5.2	.017	.8	.68	.32
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jul													
17...	--	33	--	--	--	--	9	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--	--

09355500 SAN JUAN RIVER NEAR ARCHULETA, NM—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 5 of 5

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

Date	Selenium, water, unfltrd µg/L (01147)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Mercury bed sed <62.5µm wet svd field, total, ug/g (34910)	Selen- ium, bed sed <62.5µm wet svd fld,tot ug/g (34950)	Uranium natural water, fltrd, µg/L (22703)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)
Nov								
20...	.41	<.1	2.6	--	--	.34	94	4
20...	--	--	--	.01	.2	--	--	--
Jan								
23...	.38	<.1	4.5	--	--	.44	71	24
23...	--	--	--	--	.2	--	--	--
Apr								
10...	.35	<.1	.67	--	--	.45	86	9
10...	--	--	--	--	.2	--	--	--
Jul								
17...	--	--	--	--	--	--	58	1
17...	--	--	--	--	.1	--	--	--