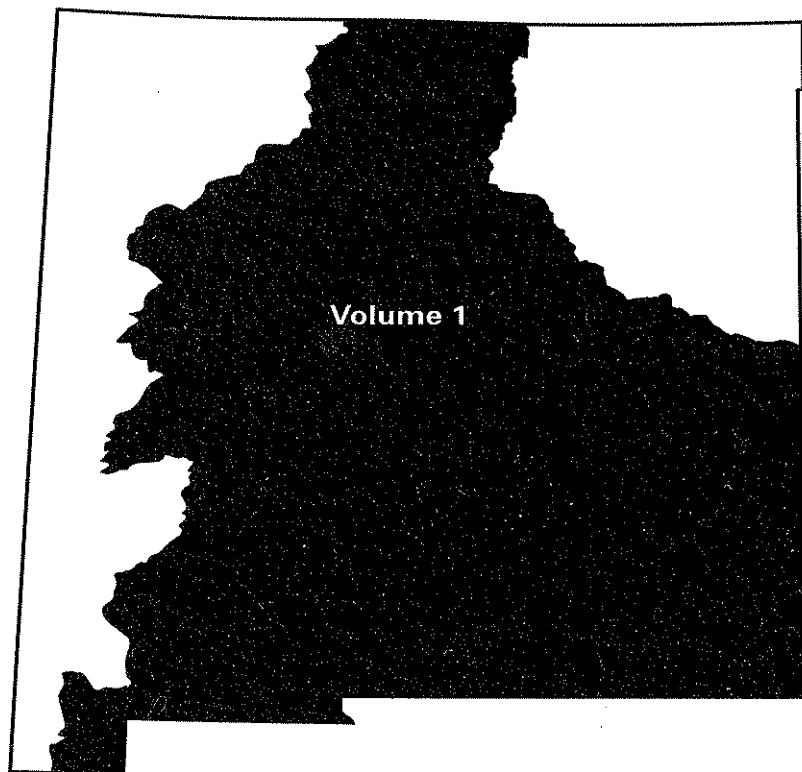


Water Resources Data New Mexico Water Year 1999

Volume 1. The Rio Grande Basin, the Mimbres River Basin, and the Tularosa Valley Basin

By David Ortiz, Kathy Lange, and Linda Beal

Water-Data Report NM-99-1



**Prepared in cooperation with the State of New Mexico
and with other agencies**



U.S. DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, *Secretary*

U.S. GEOLOGICAL SURVEY

Charles G. Groat, *Director*

**For additional information on the
water program in New Mexico write to
District Chief, Water Resources Division
U.S. Geological Survey
5338 Montgomery Blvd. NE, Suite 400
Albuquerque, New Mexico 87109-1311**

2000

PREFACE

This annual hydrologic data report of New Mexico is one of a series of annual reports that documents hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and the quality of water provide the hydrologic information needed by Federal, State, and local agencies, and the private sector for developing and managing our Nation's land and water resources.

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey of the New Mexico District who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. The authors had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to U.S. Geological Survey policies and guidelines.

The following personnel are recognized for their significant contributions to this report:

C.G. Abeyta	G.F. Huff	O.C. Romero
S.K. Anderholm	S.A. Kimball	R.D. Ross
P. Blanchard	S.H. Lewandowski	R.G. Roybal
R.R. Cruz	R.M. McBreen	M.L. Shewmake
R.K. Dewees	L.C. Madrid	G.H. Sieber
W.T. Evans	J.A. Medina	J.A. Stiles
D.E. Funderburg	D.J. Milewski	D.E. Straka
B.M. Garcia	L.K. Miller	C.L. Thomas
A.C. Gellis	R.L. Moquino	G.A. Todd
R.L. Gold	E.L. Nickerson	L. Trujillo
T.M. Kelly	T.J. Quintana	J.E. Veenhuis
K.L. Hamilton	D.R. Rankin	S.D. Waltemeyer
B.J. Henson	D.M. Roark	R.W. Wilcox

This report was prepared under the general supervision of Linda S. Weiss, District Chief, New Mexico, and in cooperation with the State of New Mexico and with other agencies.

REPORT DOCUMENTATION PAGEForm Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE April 2000	3. REPORT TYPE AND DATES COVERED Annual: October 1, 1998, through Sept. 30, 1999	
4. TITLE AND SUBTITLE Water resources data, New Mexico, water year 1999			5. FUNDING NUMBERS	
6. AUTHOR(S) David Ortiz, Kathy Lange, and Linda Beal				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Geological Survey, Water Resources Division 5338 Montgomery Blvd. NE, Suite 400 Albuquerque, New Mexico 87109-1311			8. PERFORMING ORGANIZATION REPORT NUMBER USGS-WDR-NM-99-1	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Geological Survey, Water Resources Division 5338 Montgomery Blvd. NE, Suite 400 Albuquerque, New Mexico 87109-1311			10. SPONSORING / MONITORING AGENCY REPORT NUMBER USGS-WDR-NM-99-1	
11. SUPPLEMENTARY NOTES Prepared in cooperation with the State of New Mexico and with other agencies				
12a. DISTRIBUTION / AVAILABILITY STATEMENT No restrictions on distributions. This report may be purchased from: National Technical Information Service, Springfield, Virginia 22162			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) Water-resources data for the 1999 water year for New Mexico consist of records of discharge and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality in wells and springs. This report contains discharge records for 168 gaging stations; stage and contents for 26 lakes and reservoirs; water quality for 34 gaging stations, 26 wells, and 85 partial-record stations and miscellaneous sites; and water levels at 130 observation wells. Also included are 80 crest-stage, partial-record stations. Additional water data were collected at various sites not involved in the systematic data-collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating Federal, State, and local agencies in New Mexico.				
14. SUBJECT TERMS *New Mexico, *Hydrologic data, *Surface water, *Water quality, Lakes, Reservoirs, Sediments, Water levels, Flow rates, Gaging stations, Chemical analyses, Water analyses, Water temperature, Sampling sites			15. NUMBER OF PAGES 402	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT	

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SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

[Letters after station names designate type of data: (d) discharge, (c) chemical, (b) biological, (m) microbiological, (r) radiochemical, (s) sediment, (t) daily water temperature, (e) elevation, (v) contents]

	Station Number	Page
WESTERN GULF OF MEXICO BASINS		
RIO GRANDE BASIN		
RIO GRANDE NEAR LOBATOS, CO (c,d,m)	08251500	27
COSTILLA CREEK ABOVE COSTILLA DAM, NM (d)	08252500	30
CASIAS CREEK NEAR COSTILLA, NM (d)	08253000	32
SANTISTEVAN CREEK NEAR COSTILLA, NM (d)	08253500	34
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RED RIVER NEAR QUESTA, NM (d)	08265000	45
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RIO PUEBLO DE TAOS NEAR TAOS, NM (d)	08269000	52
RIO LUCERO NEAR ARROYO SECO, NM (d)	08271000	54
RIO GRANDE DEL RANCHO NEAR TALPA, NM (d)	08275500	56
RIO PUEBLO DE TAOS BELOW LOS CORDOVAS, NM (d)	08276300	58
RIO GRANDE BELOW TAOS JUNCTION BRIDGE, NEAR TAOS, NM (c,d,m)	08276500	60
RIO PUEBLO NEAR PENASCO, NM (d)	08277470	64
RIO SANTA BARBARA NEAR PENASCO, NM (d)	08278500	66
EMBUDO CREEK AT DIXON, NM (d)	08279000	68
RIO GRANDE AT EMBUDO, NM (c,d)	08279500	70
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AZOTEA TUNNEL AT OUTLET, NEAR CHAMA, NM (d)	08284160	76
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ABIQUIU RESERVOIR NEAR ABIQUIU, NM (v)	08286900	88
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RIO OJO CALIENTE AT LA MADERA, NM (d)	08289000	91
RIO CHAMA NEAR CHAMITA, NM (c,d,m,s)	08290000	93
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RIO NAMBE BELOW NAMBE FALLS DAM, NEAR NAMBE, NM (d)	08294210	101
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WESTERN GULF OF MEXICO BASINS

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NORTH FORK HAHN ARROYO AT ALBUQUERQUE, NM (d)	08329839	159
HAHN ARROYO AT ALBUQUERQUE, NM (d)	08329840	164
PINO ARROYO AT VENTURA BOULEVARD AT ALBUQUERQUE, NM (d)	08329872	170
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PECOS RIVER NEAR PUERTO DE LUNA, NM (c,d)	08383500	284
LAKE SUMNER NEAR FORT SUMNER, NM (v)	08384000	288
PECOS RIVER BELOW SUMNER DAM, NM (d)	08384500	289
FORT SUMNER MAIN CANAL NEAR FORT SUMNER, NM (d)	08385000	291
PECOS RIVER NEAR FORT SUMNER, NM (d)	08385500	293
PECOS RIVER BELOW TAIBAN CREEK NEAR FORT SUMNER, NM (d)	08385522	295
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PECOS RIVER ABOVE ACME, NM (d)	08385648	299
PECOS RIVER NEAR ACME, NM (d)	08386000	301
RIO RUIDOSO AT RUIDOSO, NM (d)	08386505	303

	Station Number	Page
<u>WESTERN GULF OF MEXICO BASINS</u>		
RIO GRANDE BASIN - CONTINUED		
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EAGLE CREEK BELOW SOUTH FORK, NEAR ALTO, NM (d)	08387600	307
RIO BONITO NEAR LINCOLN, NM (d)	08389055	309
RIO HONDO AT DIAMOND A RANCH, NEAR ROSWELL, NM (d)	08390500	311
TWO RIVERS RESERVOIR NEAR ROSWELL, NM (v)	08390600	312
RIO HONDO BELOW DIAMOND A DAM, NEAR ROSWELL, NM (d)	08390800	313
RIO HONDO NEAR ROSWELL, NM (d)	08393610	314
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PECOS RIVER NEAR ARTESIA, NM (c,d,m,s)	08396500	318
RIO PENASCO AT DAYTON, NM (d)	08398500	323
PECOS RIVER (KAISER CHANNEL) NEAR LAKEWOOD, NM (d)	08399500	324
FOURMILE DRAW NEAR LAKEWOOD, NM (d)	08400000	326
SOUTH SEVEN RIVERS NEAR LAKEWOOD, NM (d)	08401200	327
BRANTLEY LAKE NEAR CARLSBAD, NM (v)	08401450	328
PECOS RIVER BELOW BRANTLEY DAM NEAR CARLSBAD, NM (c,d)	08401500	329
ROCKY ARROYO AT HIGHWAY BRIDGE, NEAR CARLSBAD, NM (d)	08401900	331
PECOS RIVER AT DAMSITE 3, NEAR CARLSBAD, NM (d)	08402000	332
LAKE AVALON:		
CARLSBAD MAIN CANAL AT HEAD, NEAR CARLSBAD, NM (d)	08403500	334
LAKE AVALON NEAR CARLSBAD, NM (v)	08403800	336
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PECOS RIVER BELOW DARK CANYON DRAW, AT CARLSBAD, NM (c,d)	08405200	339
BLACK RIVER ABOVE MALAGA, NM (d)	08405500	342
PECOS RIVER NEAR MALAGA, NM (c,d)	08406500	344
PECOS RIVER AT PIERCE CANYON CROSSING, NEAR MALAGA, NM (c,d)	08407000	347
PECOS RIVER AT RED BLUFF, NM (d)	08407500	350
DELAWARE RIVER NEAR RED BLUFF, NM (d)	08408500	352
RED BLUFF RESERVOIR NEAR ORLA, TX (v)	08410000	354
PECOS RIVER NEAR ORLA, TX (c,d)	08412500	355
MIMBRES RIVER:		
MIMBRES RIVER AT MIMBRES, NM (d)	08477110	359
TULAROSA VALLEY BASIN:		
SALT CREEK NEAR TULAROSA, NM (c,d)	08480595	361

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS

The following continuous-record surface-water discharge stations (gaging stations) in New Mexico have been discontinued. Daily streamflow records were collected and published for the period of record, expressed in water years, shown for each station. Those stations with an asterisk (*) after the station number are currently operated as crest-stage partial-record stations. Discontinued project stations with less than 3 years of record have not been included. Information regarding these stations may be obtained from the District Office at the address given on the back side of the title page of this report.

Station name	Station number	Drainage area (mi ²)	Period of record
BRAZOS RIVER BASIN			
Running Water Draw near Clovis, NM	08080600*	109	1956-64
RIO GRANDE BASIN			
Latir Creek Outflow Lake #9 near Amalia, NM	08254400	--	1987-88
Latir Creek Outflow Lake #2 near Amalia, NM	08254425	--	1986-88
Costilla Creek near Amalia, NM	08254500	152	1949-59, 1961-81
Ute Creek near Amalia, NM	08255000	12	1949-59
Acequia Madre at Costilla, NM	08256000	--	1944-92
Mesa ditch near Garcia, CO	08256500	--	1944-65, 1969-83
Middle ditch at Garcia, CO	08257000	--	1944-56
Cerro Canal at Costilla, NM	08258000	--	1944-92
Association ditch at Costilla, NM	08258500	--	1955-71
Cerro Canal below Association Ditch at Costilla, NM	08258600	--	1972-92
Cerro Canal near Jaroso, CO	08259000	--	1944-72
Cerro Canal at State line near Jaroso, CO	08259600	--	1973-92
Penasquito ditch at Costilla, NM	08260000	--	1955-61
Costilla Creek below diversion dam, at Costilla, NM	08260500	197	1952-86
Alire ditch at Garcia, CO	08261500	--	1944-59
Costilla Creek near Jaroso, CO (near Mouth, NM	08262500	290	1912-13, 1948-61
Latir Creek near Cerro, NM	08263000	10	1937-70
Red River near Red River, NM	08264000	19.1	1940-64
Red River below Zwergle Damsite, near Red River, NM	08264500	25.7	1963-73
Cabresto Creek near Questa, NM	08266000	36.7	1943-96
Red River below Questa, NM	08266500	180	1910-22
Red River at mouth, near Questa, NM	08267000	190	1950-78
Rio Hondo at Valdez, NM	08268000	38	1916-34
Rio Hondo at Damsite at Valdez, NM	08268200	40.3	1963-66
Arroyo Hondo at Arroyo Hondo, NM	08268500	65.6	1912-28, 1932-85
Rio Grande near Arroyo Hondo, NM	08268700	8,760	1963-96
Acequia Madre at Taos, NM	08269500	--	1940-41
North channel of Rio Pueblo de Taos at Taos, NM	08270000	80	1936-41

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record
RIO GRANDE BASIN--Continued			
Rio Pueblo de Taos at Taos, NM	08270500	80	1936-41
Tenorio ditch near Arroyo Seco, NM	08271500	--	1935-50
Rio Lucero diversions near Arroyo Seco, NM	08272000	--	1932-33
Indian ditch near Arroyo Seco, NM	08272500	--	1934-50
Seco ditch near Arroyo Seco, NM	08273000	--	1934-50
Juan Manuel ditch near Arroyo Seco, NM	08273500	--	1935-50
Prado ditch near Arroyo Seco, NM	08274000	--	1934-50
Rio Lucero below diversions, near Arroyo Seco, NM	08274500	25	1934-41
Rio Fernando de Taos near Taos, NM	08275000	71.7	1912-17, 1927-28, 1962-80
Rio Pueblo de Taos near Ranchito, NM	08275300	199	1957-80
Rio Chiquito near Talpa, NM	08275600	37.0	1957-80
Rio Pueblo de Taos at Los Cordovas, NM	08276000	359	1910-65
Carson Reservoir near Carson, NM	08277000	190	1940-60
Picuris ditch near Penasco, NM	08277500	--	1936-41
Pueblo Creek near Penasco, NM	08278000	--	1936-41
Alcalde ditch at Chamita, NM	08280000	--	1936-41
San Rafael ditch at Alcalde, NM	08280500	--	1936-41
Acequia Madre at Alcalde, NM	08281000	--	1936-41
Rio Grande above San Juan Pueblo, NM	08281100	10,530	1963-87
Rio Chama near Chama, NM	08281500	--	1912-16
Rio Brazos near Brazos, NM	08282000	--	1913-17
Chavez Creek near Brazos, NM	08282500	--	1914-15
Rio Brazos at Brazos, NM	08283000	--	1912-13
Rio Chama at Park View, NM	08283500	405	1912-15, 1916, 1924-55
Rito de Tierra Amarilla at Tierra Amarilla, NM	08284000	49.7	1914-15
Willow Creek near Park View, NM	08284500	193	1936-71
Rio Nutrias near Cebolla, NM	08286000	--	1914-15
Canjilon Creek near Canjilon, NM	08286600	--	1911-12, 1913
Rio Chama at Abiquiu, NM	08287100	--	1895-97
Rio Chama near Abiquiu, NM	08287500	2,284	1941-67
El Rito Creek near El Rito, NM	08288000	50.5	1931-51
Rio Vallecitos at Vallecitos, NM	08288500	--	1911-14
Santa Clara ditch near Espanola, NM	08290500	--	1936-41

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record
RIO GRANDE BASIN--Continued			
Santa Cruz River at Riverside, NM	08291500	188	1942-51
Santa Clara Creek near Espanola, NM	08292000	34.5	1936-41, 1949-50, 1984-94
Hill Acequia at head, near Espanola, NM	08292500	--	1940-41
Hill Acequia near Espanola, NM	08293000	--	1940
Guachupangue ditch near Espanola, NM	08293500	--	1936-41
San Ildefonso ditch near Espanola, NM	08294000	--	1940-41
Rio Nambe at Nambe Falls, NM	08294300	25.1	1963-78
Nambe Canal near Nambe, NM	08294500	--	1932-51
Rio Nambe near Nambe, NM	08295000*	38.2	1932-51
Rio En Medio near Santa Fe, NM	08295200	.63	1963-73
Llano Frio ditch near Nambe, NM	08295500	--	1936-50
Llano ditch near Nambe, NM	08296000	--	1936-50
Mioses Pena ditch near Nambe, NM	08296500	--	1936-38
Mocha ditch at Nambe, NM	08297000	--	1936-50
Comunidad ditch at Nambe, NM	08297500	--	1936-50
Ortiz ditch at Nambe, NM	08298000	--	1936-50
Canyon ditch near Nambe, NM	08298500	--	1936-50
Acequia Rincon near Nambe, NM	08299000	--	1936-50
Las Joyas ditch near Nambe, NM	08299500	--	1936-50
Trujillo ditch near Nambe, NM	08300000	--	1936-45
Barranco Alto ditch near Nambe, NM	08300500	--	1936-50
Pojoaque River at Pojoaque Bridge, near Nambe, NM	08301000	--	1936-41
Jacona ditch near Nambe, NM	08301500	--	1936-39
Jacona ditch near San Ildefonso, NM	08302000	--	1940-48
North Fork Tesuque Creek near Santa Fe, NM	08302200	1.60	1962-73
Middle Fork Tesuque Creek near Santa Fe, NM	08302300	.43	1961-73
South Fork Tesuque Creek near Santa Fe, NM	08302400	.47	1962-73
Tesuque Creek above diversions near Santa Fe, NM	08302500	11.7	1936-52
Cajon Grande ditch near Santa Fe, NM	08303000	--	1936-41
De La Cruz ditch near Santa Fe, NM	08303500	--	1936-41
Acequia Madre near Santa Fe, NM	08304000	--	1936-41
Acequia Madre at head, near Santa Fe, NM	08304050	--	1936-41
Little Tesuque Creek near Santa Fe, NM	08304100	.64	1962-73
Little Tesuque Creek tributary No. 4 near Santa Fe, NM	08304200	.69	1964-73

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record
RIO GRANDE BASIN--Continued			
Little Tesuque Creek tributary No. 3 near Santa Fe, NM	08304300	.65	1963-73
Little Tesuque Creek tributary No. 2 near Santa Fe, NM	08304400	.45	1962-73
Little Tesuque Creek near Santa Fe, NM	08305000	7.06	1936-41
Rio Tesuque at Tesuque, near Santa Fe, NM	08305500	--	1938-41
Acequia Medio near Santa Fe, NM	08306000	--	1936-46
Acequia Medio at waste, near Santa Fe, NM	08306500	--	1936-38
Hubbard ditch near Santa Fe, NM	08307500	--	1938-41
Mitchell ditch near Santa Fe, NM	08308000	--	1936-51
Post ditch near Tesuque Pueblo, NM	08308500	--	1936-41
Qwiyo ditch near Tesuque Pueblo, NM	08309000	--	1936-41
Corral ditch near Tesuque Pueblo, NM	08309500	--	1936-41
Acequia Indios near San Ildefonso, NM	08310000	--	1936-41
Acequia de la Otra Banda near San Ildefonso, NM	08310500	--	1936-41
El Rancho ditch near San Ildefonso, NM	08311000	--	1936-41
San Antonio ditch near San Ildefonso, NM	08311500	--	1936-41
Well ditch at San Ildefonso, NM	08312000	--	1937, 1938-51
Ortiz ditch at San Ildefonso, NM	08312500	--	1936-41
Pojoaque River near San Ildefonso Pueblo, NM	08312600	184	1972-79
Los Alamos Canyon near Los Alamos, NM	08313042	9.1	1970-71 1991-95
Rito de los Frijoles near Los Alamos, NM	08313300	8.9	1959-63
Rito de los Frijoles in Bandelier National Monument, NM	08313350	18.1	1963-69 1977-82 1983-96
Rio Grande at Cochiti, NM	08314500	14,600	1924-70
Santa Fe River at Monument Rock, near Santa Fe, NM	08315000	14	1910
Galisteo Creek above Galisteo Reservoir, NM	08317850	567	1970-76
Galisteo Creek at Domingo, NM	08318000	640	1941-71
San Felipe east side acequia near Domingo, NM	08318500	--	1936-41
Rito San Antonio near Los Alamos, NM	08319500	--	1949-50
Redondo Creek near Jemez Springs, NM	08319945	12.1	1982-85
Sulfur Creek near Jemez Springs, NM	08319950	38.0	1982-85
Jemez River near Jemez Springs, NM	08320000	--	1949-50
East Fork Jemez River near Los Alamos, NM	08320500	--	1949-50
East Fork Jemez River near Jemez Springs, NM	08321000	--	1949-50
Jemez River below East Fork, near Jemez Springs, NM	08321500	173	1951-90

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS--Continued

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Station name	Station number	Drainage area (mi ²)	Period of record
RIO GRANDE BASIN--Continued			
Rio Las Vacas near Cuba, NM	08322000	--	1939-41
Rio Cebolla near Jemez Springs, NM	08322500	--	1939
Rio Guadalupe at Box Canyon near Jemez, NM	08323000	235	1938-42
Rio Guadalupe near Jemez Springs, NM	08323500	230	1938-42, 1949-50
Jemez east side ditch near Jemez, NM	08324500	--	1936-41
Jemez west side ditch near Jemez, NM	08325000	--	1936-41
Antonio Pecos ditch near Jemez, NM	08325500	--	1936-41
San Ysidro ditch near San Ysidro, NM	08326000	--	1936-41
Jemez River at San Ysidro, NM	08326500	854	1937-41
Zia ditch near San Ysidro, NM	08327000	--	1936-41
Zia Reservoir near San Ysidro, NM	08327500	2.4	1954-60
Jemez River above Jemez Canyon Dam, NM	08328000	961	1953-58
Piedra Lisa Arroyo near Bernalillo, NM	08329100	4.1	1955-74
Rio Grande near Bernalillo, NM	08329500	17,300	1941-69
Grant Line Arroyo at Vill Del Oso at Albuquerque, NM	08329860	0.052	1976-98
Grant Line Arroyo at Albuquerque, NM	08329865	0.052	1987-91
Hoffmantown Church Outlet No. 1 at Albuquerque, NM	08329873	.00859	1990-97
Hoffmantown Church Outlet No. 2 at Albuquerque, NM	08329874	.0413	1990-97
Cherry Hills Arroyo No. 1 at Albuquerque, NM	08329875	0.147	1990-97
Cherry Hills Arroyo No. 2 at Albuquerque, NM	08329876	0.796	1990-97
Pino Arroyo at Wyoming Blvd at Albuquerque, NM	08329877	5.80	1990-97
Taylor Ranch Drain at Albuquerque, NM	08329936	0.132	1978-98
Rio Grande near Alameda, NM	08329928	17,263	1989-95
Rio Grande at Rio Bravo Bridge near Albuquerque, NM	08330150	17,500	1991-95
Tijeras Arroyo at Albuquerque, NM	08330500*	75.3	1921-22, 1943-49
Tijeras Arroyo above Four Hills Bridge at Albuquerque, NM	08330505	77.0	1989-91
Tijeras Arroyo at Kirtland Air Force Base, NM	08330560	80.6	1987-88
Arroyo Del Coyote near Albuquerque, NM	08330565	35	1989-95
Arroyo Del Coyote at Mouth near Albuquerque, NM	08330567	39	1989-95
Tijeras Arroyo below Arroyo Del Coyote near Albuquerque, NM	08330569	121	1989-95
Tijeras Arroyo at Montessa Park near Albuquerque, NM	08330580	122	1987-95
Tijeras Arroyo below South Diversion Channel Inlet near Albuquerque, NM	08330800	--	1974-88
Rio Grande near Isleta, NM	08331000	17,900	1925-29, 1936-38

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record
RIO GRANDE BASIN--Continued			
North Pajarito Arroyo at Albuquerque, NM	08331130	.58	1979-87
North Pajarito Arroyo at Albuquerque, NM	08331140	.81	1979-83
Rio Grande near Belen, NM	08331500	18,230	1941-57
Rio Grande near Bernardo, NM	08332000	19,230	1936-39, 1941-64
Lower San Juan Riverside drain near Bernardo, NM	08332030	--	1954-75
La Jara Creek near La Jara, NM	08332500	--	1932-33
Rio Puerco near Cabezón, NM	08333000	360	1943-51
Rio Puerco at Cabezón, NM	08333500	397	1944-51
Papers Wash near Star Lake Trading Post, NM	08334300	20.3	1978-82
Arroyo Chico near Guadalupe, NM	08340500	1,390	1943-86
Rio Puerco near Guadalupe, NM	08341000	1,860	1943
Bluewater Creek near Bluewater, NM	08342000	209	1912-19, 1927-72
San Mateo Creek near San Mateo, NM	08342600	75.6	1977-82
Arroyo del Puerto near San Mateo, NM	08342700	96.8	1980-82
Rio San Jose at Grants	08343000	1,020	1949-66, 1968-94
Grants Canyon at Grants	08343100	13	1961-95
McCartys south side ditch near San Fidel, NM	08344000	--	1940-42, 1950-51
McCartys north side ditch near San Fidel, NM	08344500	--	1940-42, 1950-51
Acomita Reservoir outlet near San Fidel, NM	08345000	--	1938-41
Rio San Jose near San Fidel, NM	08345500	2,310	1936-42, 1950-51
Seama-Paraje ditch near Casa Blanca, NM	08346000	--	1937-41
Casa Blanca ditch at Casa Blanca, NM	08346500	--	1937-41
New Laguna ditch wasteway near Casa Blanca, NM	08347000	--	1937-41
New Laguna ditch near New Laguna, NM	08347500	--	1937-41
Rio San Jose near Casa Blanca, NM	08348000	--	1936-41
Encinal Creek near Casa Blanca, NM	08348500*	6.19	1937-39
Laguna ditch at New Laguna, NM	08349000	--	1936-41
Paguete Creek near Laguna, NM	08349500	--	1937-41
Rio Paguate below Jackpile Mine near Laguna, NM	08349800	107	1976-93
Paguete Reservoir outlet near Laguna, NM	08350000	--	1940-41
Rio San Jose near Laguna, NM	08350500	3,040	1937-41, 1973-76
Mesita ditch near Laguna, NM	08351000	--	1936-41

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS--Continued

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Station name	Station number	Drainage area (mi ²)	Period of record
RIO GRANDE BASIN--Continued			
Rio San Jose at Correo, NM	08351500	3,660	1943-94
Rio Puerco at Rio Puerco, NM	08352500	6,590	1909-12, 1934-76
Alamo Creek near Alamo, NM	08353130	22.4	1983-85
Rio Salado near Alamo, NM	08353150	540	1983-85
Rio Salado near San Acacia, NM	08354000	1,380	1947-84
Rio Grande at San Acacia, NM	08355000	26,770	1936-64
Nogal Arroyo Floodway near Socorro, NM	08355200	--	1969-77
Arroyo de la Matanza near Socorro, NM	08355300	46.0	1969-77
Rio Grande at San Antonio, NM	08355500	27,400	1951-57
Socorro Main Canal South near San Antonio, NM	08356000	--	1937-38, 1948-71
San Antonio Riverside Drain near San Antonio, NM	08356500	--	1948-71
Elmendorf Interior Drain near San Antonio, NM	08357000	--	1936-38, 1948-71
San Antonio Riverside Drain near San Marcial, NM	08357500	--	1948-71
Rio Grande Conveyance Channel below heading, near San Marcial, NM	08358000	--	1953-57
Rio Grande at San Marcial, NM	08358500	27,700	1895-1964
Milligan Gulch near San Marcial, NM	08358550	413	1968-78
Rio Grande Conveyance Channel at mouth of Nogal Canyon, near Truth or Consequences, NM	08359000	--	1953-57
Rio Grande at the narrows, in Elephant Butte Reservoir, NM	08359500	28,500	1951-57
Alamosa Creek near Monticello, NM	08360000*	403	1931-42
Las Cruces Arroyo near Las Cruces, NM	08363600	13.5	1958-66
Tortugas Arroyo near Las Cruces, NM	08363700	20.7	1962-74
Rio Grande at Vinton Bridge near Anthony, TX	08363840	28,680	1970-74
Pecos River near Cowles, NM	08378000	189	1910-19
Pecos River near San Jose, NM	08379000	539	1939-40
Tecolote Creek below Wright Canyon near El Porvenir, NM	08379187	5.42	1987-92
Tecolote Creek near San Pablo, NM	08379200	83	1960-65
South Fork Gallinas Creek near El Porvenir, NM	08380000	25	1911-20
Gallinas Creek at Montezuma, NM	08381000	87	1903, 1904-66
Storrie feeder canal near Las Vegas, NM	08381500	--	1949-52
Gallinas River near Lourdes, NM	08382000	313	1951-63
Pecos River near Colonias, NM	08382700	2,340	1970-74
Los Esteros Creek above Santa Rosa Lake, NM	08382730	65.6	1993-97

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record
RIO GRANDE BASIN--Continued			
Los Esteros Creek Tributary above Santa Rosa Lake, NM	08382760	13.7	1973-90
Pecos River above Los Esteros Dam Site, near Santa Rosa, NM	08382800	2,430	1965-77
Pecos River at Santa Rosa, NM	08383000	2,650	1928-92
Pecos River near Fort Sumner, NM	08385500	5,300	1904-10, 1912-13, 1921-23
Pecos River below Fort Sumner, NM	08385520	5,600	1957-58, 1962-70
Pecos River below Yeso Arroyo, near Fort Sumner, NM	08385620	7,000	1965-68
Pecos River above Huggins Creek, near Roswell, NM	08385640	7,800	1965-68
F. Herrera ditch S. at Hollywood, NM	08386900	--	1973-84
Rio Ruidoso near Glencoe, NM	08387500	--	1910-11
Eagle Creek near Alto, NM	08387800	15.7	1969-80
Rio Ruidoso at Hondo, NM	08388000	290	1930-55
Rio Bonito at Angus, NM	08388500	45.5	1930-31
Rio Bonito at Hondo, NM	08389500	295	1930-55
Rio Hondo at Hondo, NM	08390000	1,000	1930-31 1981-97
Rio Hondo at Picacho, NM	08390100	715	1908-9, 1956-62
Rio Hondo at Hondo Reservoir site, near Roswell, NM	08392500	970	1903-5
Rio Hondo below reservoir outlet, near Roswell, NM	08393000	--	1908
Taylor-Moore ditch near Roswell, NM	08393100	--	1905
Rocky Arroyo above Two Rivers Reservoir near Roswell, NM	08393200	31	1963-80
Rocky Arroyo below Rocky Dam, near Roswell, NM	08393300	65	1963-80
Rio Hondo at Roswell, NM	08393500	--	1903-6 1981-97
North Spring River at Roswell, NM	08393600	19.5	1958-77
Pecos River near Roswell, NM	08394000	--	1903-6
Pecos River near Hagerman, NM	08394100	13,360	1968-90
Rio Felix at old highway bridge near Hagerman, NM	08394500	932	1939-87
Rio Felix near Hagerman, NM	08395000	934	1932-39
Cottonwood Creek near Lake Arthur, NM	08396000	199	1932-65
Rio Penasco at Elk, NM	08397450	--	1910-11
Rio Penasco near Elk, NM	08397500	--	1911
Rio Penasco near Dunkin, NM	08397600*	583	1956-62
Pecos River below McMillan Dam, NM	08401000	16,990	1906-09, 1910-11, 1939-40, 1946-88

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record
RIO GRANDE BASIN--Continued			
Pecos River above Seven Rivers near Lakewood, NM	08401100	17,000	1974-87
Pecos River below Avalon Dam, NM	08404500	--	1940
Pecos River at Carlsbad, NM	08405000	8,100	1903-09, 1907-08, 1914-15, 1920-69
Rattlesnake Springs near White City, NM	08405300	--	1961-62
Black River at Malaga, NM	08406000	360	1939-40
MIMBRES RIVER BASIN			
Mimbres River at McKnight Dam Site, near Mimbres, NM	08476300	97.3	1963-72
Bear Canyon near Mimbres, NM	08476500	14.5	1937-55
Mimbres River near Mimbres, NM	08477000	152	1921-76
Mimbres River near Faywood, NM	08477500	440	1909-11, 1912-14, 1916-17, 1920-21, 1927-55, 1963-68
Mimbres River near Spalding, NM	08477530	472	1963-68
San Vicente Arroyo at Silver City, NM	08477600	26.5	1953-65
Rio de Arena near Hurley, NM	08477700	16	1913-14
Stevens Creek near Fort Bayard, NM	08478004	--	1907-12, 1912-14
Cameron Creek at Fort Bayard, NM	08478008	--	1911-13
Cameron Creek near Hurley, NM	08478012	46	1913-14
Whitewater Creek at Hurley, NM	08478016	35	1913-14
Wamel Canal at head, near Deming, NM	08478300	--	1963-68
Mimbres River below Wamel heading near Deming, NM	08478400	1,101	1963-68
TULAROSA VALLEY			
Three Rivers near Three Rivers, NM	08480600	6.9	1956-58
Indian Creek near Three Rivers, NM	08480700*	6.8	1956-58
Indian Creek flume near Three Rivers, NM	08480800	--	1956-58
Indian Creek at Mouth, near Three Rivers, NM	08480900	10.9	1956-58
Rio Tularosa at Mescalero, NM	08481300	--	1910-11
Tularosa Creek near Bent, NM	08481500	120	1947-96
Rio Tularosa near Tularosa, NM	08482000	--	1938-47
Rio La Luz near La Luz, NM	08483000	30	1911-12
Rio Fresno near Mountain Park, NM	08484000	44	1911-12

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record
TULAROSA VALLEY BASIN--Continued			
Rio La Luz at La Luz, NM	08484500	74	1910-13
Alamogordo-La Luz ditch at La Luz, NM	08485000	--	1934-49
Alamo Creek at Woods Ranch, near Alamogordo, NM	08485500	--	1931-37
Alamogordo water supply near Alamogordo, NM	08486000	--	1932-51
Tularosa Valley tributary near White Sands, NM	08486250	17.2	1965-74
Tularosa Valley tributary at White Sands, NM	08486260	21.0	1965-74
SALT CREEK BASIN			
Sacramento River near Sunspot, NM	08492900	12.8	1984-89
			1951-58

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

The following stations were discontinued as continuous-record surface-water-quality stations prior to the 1990 water year. Records of (c) chemical, (b) biological, (m) microbiological, (s) sediment, or (t) daily water temperature were collected and published for the record shown for each station.

An inventory of chemical data analyzed prior to 1962 can be found in U.S. Geological Survey Water-Supply Paper 1786, "Inventory of Published and Unpublished Chemical Analyses of Surface Water in the Continental United States and Puerto Rico, 1961."

Station name	Station number	Drainage area (mi ²)	Type of record	Period of record
Rio Grande above Culebra Creek near Lobatos, CO	08249200	--	b,c,t	1962-69
Costilla Creek near Costilla, NM	08255500	195	c,s	1966-76
Rio Grande near Cerro, NM	08263500	8,440	c,m,s	1977; 1979-87
Rio Grande above Red River near Cerro, NM	08263510	--	c,m,s	1979-81
Red River near Red River, NM	08264000	19.1	s	1963
Red River below Zwergle Damsite near Red River, NM	08264500	28.9	c,m,s	1962-65 1979-82
Red River at MolyCorp Mine near Red River, NM	08264970	78.3	c,m,s	1979-82
Red River near Questa, NM	08265000	113	c,m,s	1979-87
Cabresto Creek near Questa, NM	08266000	36.7	c,m,s	1979-82
Red River below Questa, NM	08266500	160	c,m,s	1979-87
Red River above State Fish Hatchery near Questa, NM	08266790	175	c,m,s	1979-87 1994
Red River at Fish Hatchery near Questa, NM	08266800	185	c,k,s,t	1966-77
Red River below Fish Hatchery, near Questa, NM	08266820	185	c,m,s	1978-87
Red River at mouth, near Questa, NM	08267000	190	c,m,s	1966-68; 1979-85
Rio Grande above Rio Hondo at Dunn Bridge, NM	08267400	8,690	c,m,s	1979-87
Rio Hondo at Damsite at Valdez, NM	08268200	40.3	s	1962-65
Arroyo Hondo at Arroyo Hondo, NM	08268500	65.6	c,m,s	1979-82
Rio Grande del Rancho near Talpa, NM	08275500	83	s	1962-65
Rio Pueblo De Taos below Los Cordovas, NM	08276300	380	b,c,t	1981; 1986-98
Embudo Creek at Dixon, NM	08279000	305	c	1970-97
Rio Grande above San Juan Pueblo, NM	08281100	10,550	c,m,s	1987-88
Willow Creek above Azotea Creek near Park View, NM	08284150	42	c,s	1973
Azotea Tunnel at Outlet near Chama, NM	08284160	--	c,s	1974-75
Willow Creek above Heron Reservoir near Park View, NM	08284200	112	c,s	1973-74
Horse Lake Creek above Heron Reservoir near Los Ojos, NM	08284300	0 45	c,s	1973
Willow Creek near Park View, NM	08284500	193	c,s	1962-65
Rio Chama below Heron Dam, NM	08284540	--	c,s	1973-74
El Vado Reservoir near Tierra Amarilla, NM	08285000	873	c	1973
Rio Chama Seep below El Vado Dam, NM	08285100	873	c	1973-74

DISCONTINUED SURFACE-WATER-QUALITY STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Type of record	Period of record
Rio Chama below El Vado Dam, NM	08285500	877	c,s	1974
Rio Chama above Abiquiu Reservoir, NM	08286500	1,600	c,k,s,t	1963-85
Rio Chama below Abiquiu Dam, NM	08287000	2,147	c,k,s,t	1963-85
Rio Ojo Caliente at La Madera, NM	08289000	419	c	1976-77
Rio Grande at Santa Clara, NM	08291600		c,m,s	1987-94
Rio Nambe at Nambe Falls, near Nambe, NM	08294300	25.1	s	1962-65
Rito de los Frijoles in Bandelier National Monument, NM	08313350	18.1	b,c,m,s,t	1977-82
Cochiti Lake near Cochiti Pueblo, NM	08317300		c,s	1981-98
Rio Grande below Cochiti Dam, NM	08317400	14,900	c,s,t	1974-84, 1985-88
Galisteo Creek below Galisteo Dam, NM	08317950	597	c,k,s,t	1971-78
Galisteo Creek at Domingo, NM	08318000	640	c,s,t	1962-71
Jemez River below East Fork near Jemez Springs, NM	08321500	173	c,s	1963-67
Jemez River below Jemez Canyon Dam, NM	08329000	1,038	c,s	1966-88
Piedra Lisa Arroyo near Bernalillo, NM	08329100	4.1	c,s	1962-74
Rio Grande near Bernalillo, NM	08329500	17,300	c,s,t	1962-69
Campus Wash at Albuquerque, NM	08329700	3.80	c,m,s	1991-94
Tijeras Arroyo near Albuquerque, NM	08330600	133	c	1979
Rio Grande Conveyance Channel near Bernardo, NM	08331990	--	c,k,s,t	1962-75
Rio Grande near Bernardo, NM	08332000	19,230	c,s,t	1962-64
Bernardo Interior Drain near Bernardo, NM	08332050	--	c,s,t	1965-68
San Pablo Creek near Cuba, NM	08332700	12.8	c,s	1982
Papers Wash near Star Lake Trading Post, NM	08334300	c,m,s,		1978-82
Arroyo Chico near Guadalupe, NM	08340500	1,390	c,s	1978-86
Bluewater Lake near Bluewater, NM	08341400	201	c	1966-69
Rio San Jose at Grants, NM	08343000	1,020	c,s	1980
Rio Paguete below Jackpile Mine near Luguna, NM	08349800	107	c	1977-93
Rio Salado near San Acacia, NM	08354000	1,380	c,s	1962-84
Socorro Main Canal North at San Acacia, NM	08354500	--	s	1985
Rio Grande Conveyance Channel at San Marcial, NM	08358300	--	c,m,s,t	1954-94
Rio Grande below Elephant Butte Dam, NM	08361000	29,450		1975-82
Rio Grande below Caballo Dam, NM	08362500	30,700	c	1966-68
Rio Grande at Leasburg Dam, NM	08363500		b,c,m	1975-79
Tortugas Arroyo at Las Cruces, NM	08363700	20.7	c,s	1963-74
Rio Grande at Vinton Bridge near Anthony, TX	08363840	28,680	b,c,m,s	1975-78

DISCONTINUED SURFACE-WATER-QUALITY STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Type of record	Period of record
Rio Grande below Old Fort Quintman, TX	08370500	31,990	c,m,s	1930-93
Pecos River near Pecos, NM	08378500	189	c	1970-73
Pecos River near Anton Chico, NM	08379500	1,050	b,c,m,s	1967-77
Gallinas Creek near Montezuma, NM	08380500	84	c	1964-67
Pecos River at Santa Rosa, NM	08383000	2650	c,t	1905-07 1959-98
Pecos River below Sumner Dam, NM	08384500	4,390	b,c,m,s,t	1962-66; 1972-87
Pecos River below Taiban Creek near Fort Sumner, NM	08385522	--	c,t	1937-98
Pecos River near Acme, NM	08386000	11,380	b,c,s,t	1937-98
Rio Ruidoso at Hollywood, NM	08387000	120	c	1963-67; 1987-97
Rio Hondo at Diamond A Ranch near Roswell, NM	08390500	947	c,s	1962
Hagerman Canal at Dexter, NM	08393800	--	c	1964-67
Rio Penasco at Dayton, NM	08398500	1,060	s	1962-72
Pecos River (Kaiser Channel) near Lakewood, NM	08399500		c	1968-70; 1978-79
Lake McMillan near Lakewood, NM	08400500	16,990	c	1962-67; 1978-79
Pecos River below McMillan Dam, NM	08401000	16,990	c	1962-66; 1978-79
Pecos River at Ford Crossing above Major Johnson Springs, NM	08401300	16,990	c	1962-67
Pecos River at Damsite 3 near Carlsbad, NM	08402000	17,980	c,t	1962-67
Pecos River at Carlsbad, NM	08405000	18,100	c,k,t	1962-87
Pecos River below Sixmile Dam near Carlsbad, NM	08405260	18,650	b,c,m,s	1975-77
Black River at Harkey Crossing near Malaga, NM	08405400	343	c	1947-66
Pecos River below Red Bluff Dam, near Orla, TX	08410100		c,t	1962-63
Mimbres River at McKnight Damsite near Mimbres, NM	08476300	97.3	c,s	1967-72
Mimbres River at Mimbres, NM	08477110	184	b,c,m,s	1978-86
Tularosa Creek near Bent, NM	08481500	120	c	1963-95

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VOLUME 1: RIO GRANDE BASIN, MIMBRES RIVER
BASIN, AND TULAROSA RIVER BASIN

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with Federal, State, and local agencies, obtains a large quantity of data pertaining to the water resources of New Mexico each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "Water Resources Data - New Mexico."

Volumes 1 and 2 of this report include records of discharge and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of ground water. This report contains discharge records for 168 gaging stations and contents for 26 lakes and reservoirs; water quality for 34 gaging stations, 26 wells, and 85 partial-record stations and miscellaneous sites, and water levels at 130 observation wells. Also included are 80 crest-stage, partial-record stations. Additional water data were collected at various sites not involved in the systematic data-collection program and are published as miscellaneous measurements. Two seepage investigations were made during the year. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating Federal, State, and local agencies in New Mexico.

Data on stream discharge and stage, and on lake or reservoir contents and stage were first published in a series of U.S. Geological Survey Water-Supply Papers entitled "Surface Water Supply of the United States." Through September 30, 1960, these Water-Supply Papers were in an annual series, then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperature, and suspended sediment were published from 1941 to 1970 in an annual series of Water-Supply Papers entitled "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of Water-Supply Papers entitled "Ground-Water Levels in the United States." Water-Supply Papers generally are available in the libraries of the principal cities of the United States or may be purchased from U.S. Geological Survey, Books and Open-File Reports, Federal Center, Box 25425 Denver, Colorado 80225.

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports for each State. Water-quality records for water years 1964 through 1974 were similarly released in separate reports. Beginning with water year 1975, data for streamflow, water quality, and groundwater were combined in reports published

annually for each State. These reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report NM-98-1." These Water-Data Reports are for sale by the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22162.

COOPERATION

The U.S. Geological Survey and State and local agencies have had joint-funding agreements for the collection of streamflow records since 1930 and for water-quality records since 1940. Organizations that assisted in collecting the data in this report through joint-funding agreements with the Survey are:

New Mexico State Engineer Office

New Mexico Interstate Stream Commission

Pecos River Commission

New Mexico State Highway and Transportation
Department

Canadian River Municipal Water Authority

Costilla Creek Compact Commission

Albuquerque Metropolitan Arroyo Flood Control
Authority

City of Albuquerque

Rio San Jose Flood Control District

City of Santa Rosa

City of Raton

Village of Ruidoso

New Mexico Environment Department, Surface Water, Quality Bureau financial assistance for the collection of water-resources data published in this report was provided by the Corps of Engineers, U.S. Army, for 31 gaging stations; by the Bureau of Reclamation, U.S. Department of Interior, for 23 gaging stations; by the Bureau of Indian Affairs, U.S. Department of Interior, for 6 gaging stations; and by the Bureau of Land Management, U.S. Department of Interior, for 1 gaging station.

Assistance in the form of services was provided by the Carlsbad Irrigation District. Some data have been collected by contractors in accordance with U.S. Geological Survey specifications and under Geological Survey quality control. Organizations that provided data are recognized in the station description.

SUMMARY OF HYDROLOGIC CONDITIONS

Streamflow

Perennial streams in New Mexico generally are in mountainous regions in the north-central, south-central, and southwestern parts of the State. Other perennial streams include the San Juan and Animas Rivers in northwestern New Mexico, which originate in the San Juan Mountains of southwestern Colorado. When flow is not regulated by releases from dams, several reaches of the Pecos River south of Santa Rosa have perennial flow that is maintained by relatively large spring runoff. Large discharges in perennial streams normally are the result of spring snowmelt in the mountains, which may last several months.

Ephemeral streams are present in the remainder of the State. Some of these streams, such as the Rio Puerco, have deeply incised channels, whereas others, especially those on the eastern plains, are swale without any well-defined channel. Large discharges in ephemeral streams generally are caused by intense, short-duration thunderstorms (normally occurring from mid-June to mid-October); the runoff usually lasts for only a few hours.

The quantity of water in the hydrologic system, as evidenced by precipitation records, was generally well below normal throughout the State at the beginning of water year 1999. This was followed by a major increase in precipitation in October. However, precipitation decreased again in November, a trend that continued through February, before recovering to near normal amounts in March. Precipitation increased to above normal amounts in May, remaining generally well above normal through the summer, then decreasing at the end of the water year.

Specifically, in October precipitation ranged from 136 percent of normal in the San Francisco/Upper Gila River Basin to 393 percent of normal in the Pecos River Basin. By December precipitation totals had decreased greatly, ranging from 13 percent of normal in the Pecos River Basin to 76 percent of normal in the Mimbres River Basin. By February precipitation was less than 10 percent of normal when averaged statewide. Measurements of snowpack water content at the beginning of March were 53 percent of normal in the Rio Grande Basin and 82 percent of normal in the San Juan Basin. The streamflow forecast made at this time predicted below average to well below average streamflow.

In contrast to March, measurements of snowpack water content in May were above 100 percent of normal in the Rio Grande Basin and 97 percent of normal in the San Juan Basin. The increased amount of water in the State was exemplified by the June through August total of 5.11 inches in Albuquerque, which was the 11th wettest summer since 1892. The water year ended with most areas of the State recording less than normal precipitation totals.

The quantity of water stored in New Mexico's reservoirs often does not represent natural hydrologic conditions because operators of those reservoirs need to meet demands such as irrigation, flood control, legal compacts, and recreation. During periods of heavy storm activity, for example, reservoir operators can reduce the amount of water in storage. With this in mind, a review of water storage during water year 1999 indicates various trends. Storage at Brantley, Cochiti, and Abiquiu Reservoirs varied only slightly: storage at Brantley ranged from 1 to 4 percent of capacity, at Cochiti ranged from 9 to 12 percent of capacity, and at Abiquiu ranged from 13 to 15 percent of capacity. Storage in other reservoirs, however, did partly represent hydrologic conditions during water year 1999.

In El Vado Reservoir, for example, the quantity of water stored from October through March represented the lack of precipitation in the State, whereas the increase in water storage beginning in May represented the increase in precipitation. In like manner, water storage in Eagle Nest and Conchas Reservoirs had an overall increase between the beginning and end of the water year. Storage in Elephant Butte-Caballo increased and decreased at various times during water year 1999 in response to water demands.

Reservoir storage in most of the State's reservoirs at the end of water year 1999 generally was at greater levels than at the beginning of the water year. Specifically, the combined storage of 13 major reservoirs in the State increased by 567,200 acre-feet during water year 1999, totaling 4,761,000 acre-feet by September 30, 1999. The combined capacity of these 13 reservoirs is 8,530,000 acre-feet.

Streamflow in New Mexico has been normal or above normal since 1979. Continuing this trend, streamflows recorded at the index gaging stations were near normal or above normal at the beginning of water year 1999, and most index sites ended the year with greater streamflow than at the beginning of the water year. For example, streamflow at Rio Grande below Taos Junction Bridge (station 08276500) was 101 percent of normal in October, decreased to 80 percent of normal in March, and recovered to 405 percent of normal at the end of water year 1999.

Streamflow at Gila River near Gila (station 09430500) was 97 percent of normal at the beginning of the water year, decreased to 33 percent of normal in March, then increased dramatically to 153 percent of normal in September. In contrast, streamflow at Pecos River near Pecos (station 08378500) was 187 percent of normal at the beginning of water year 1999 and decreased to 114 percent of normal at the end of water year 1999.

Discharges for water year 1999 at four index streamflow-gaging stations compared to median annual discharge for water years 1969-98 at the same stations are listed below:

Station number	Station name	Median annual discharge in acre-ft water years 1969-98	Annual mean discharge in acre-ft water year 1999	1999 discharge as a percentage of median
08276500	Rio Grande below Taos Junction Bridge	571,900	643,400	113
08378500	Pecos River near Pecos	74,990	87,980	117
08408500	Delaware River near Red Bluff	3,876	6,640	171
09430500	Gila River near Gila	132,900	74,660	56

Surface-Water Quality

Suspended-sediment loads for water year 1999 at three index stations and median suspended-sediment loads for water years 1989-99 at the same stations are listed below:

Station number	Station name	Median suspended-sediment load for water years 1989-99 in tons	Suspended-sediment load for water year 1999, in tons	1999 load as a percentage of 1989-98 median
08313000	Rio Grande at Otowi Bridge	1,917,300	4,202,112	219
08330000	Rio Grande at Albuquerque	511,280	599,582	117
08358400	Rio Grande Floodway at San Marcial	4,090,240	7,732,738	189

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 50 sites in small drainage basins around the country. The purpose of the network is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare with conditions observed in basins more obviously affected by the activities of man.

National Stream Quality Accounting Network (NASQAN) monitors the water quality of large rivers within four of the Nation's largest river basins--the Mississippi, Columbia, Colorado, and Rio Grande. The network consists of 39 stations. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of

dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon.

This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and to determine global cycles of carbon, nutrients, and other chemicals.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) provides continuous measurement and assessment of the chemical climate of precipitation throughout the United States. As the

lead Federal agency, the USGS works together with over 100 organizations to accomplish the following objectives;

(1) To provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 191 precipitation chemistry monitoring sites. (2) To provide the mechanism to evaluate the effectiveness of the significant reduction in SO₂ emissions that began in 1995 as implementation of the Clean Air Act Amendments (CAAA) occurred. (3) To provide the scientific basis and nationwide evaluation mechanism for implementation of the Phase II CAAA emission reductions for SO₂ and NO_x scheduled to begin in 2000.

Data from the network, as well as information about individual sites, are available through the world wide web at:

<http://nadp.nrel.colostate.edu/NADP>

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; to provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and to provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 53 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, State, and Federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key Federal, State, and local water resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies.

Additional information about the NAWQA Program is available through the world wide web at:

http://www.rvares.er.usgs.gov/nawqa/nawqa_home.html

Tritium Network is a network of stations that has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data also are obtained at a number of precipitation stations. The purpose of collecting tritium data at precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for water year 1998, which began October 1, 1997 and ended September 30, 1998. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-water-level data. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station in this report, whether a stream site or well, in this report is assigned a unique identification number. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. Generally, the "downstream-order" system is used for surface-water stations, the "latitude-longitude" system is used for wells and, in New Mexico, for surface-water stations where only miscellaneous measurements are made.

Downstream-Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indention in the "List of Stations" in the front of this report.

Each indentation represents one rank. This downstream order and system of indentation shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned in downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of all types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive.

The complete eight-digit number for each station, such as 08313000, which appears just to the left station name, includes the two-digit Part number "08" plus the six-digit downstream-order number "313000." The Part number designates the major river basin; for example, Part "08" is the Rio Grande basin.

Latitude-Longitude System

The identification numbers for wells and miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of north latitude, the next seven digits denote degrees, minutes, and seconds of west longitude, and the last two digits (assigned sequentially) identify the order of sites if more than one within a 1-second grid. This site-identification number, once assigned, is arbitrary and has no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description. (See figure below.)

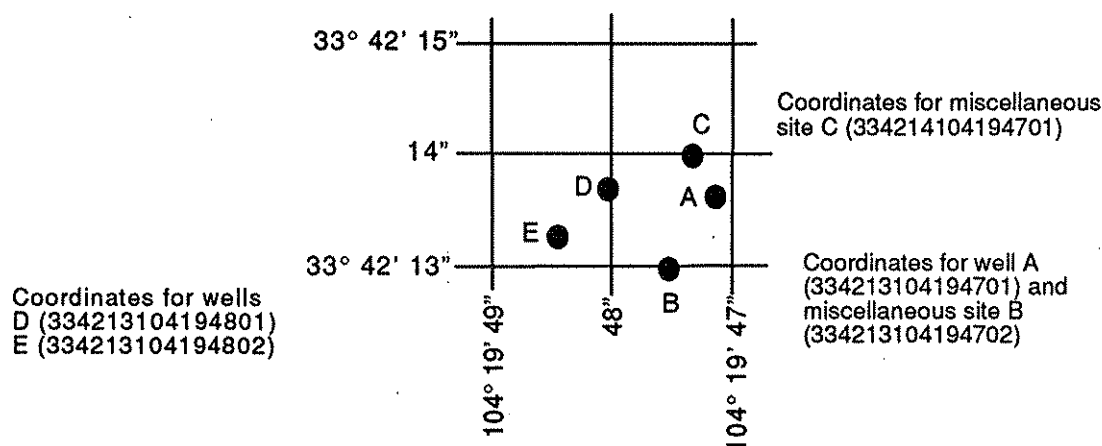
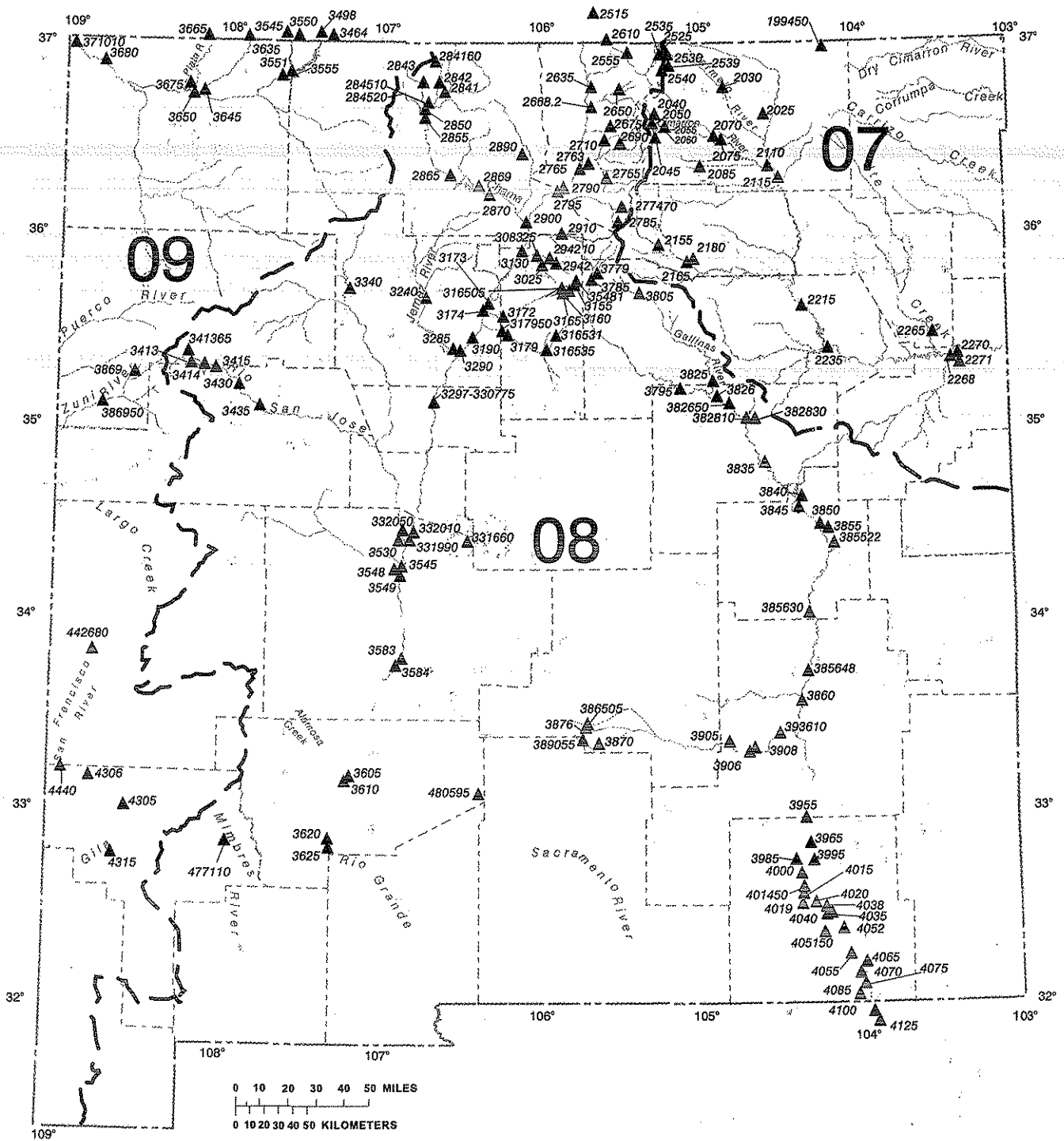


Figure 1.--System for assigning latitude longitude numbers to wells, springs, and miscellaneous sites.

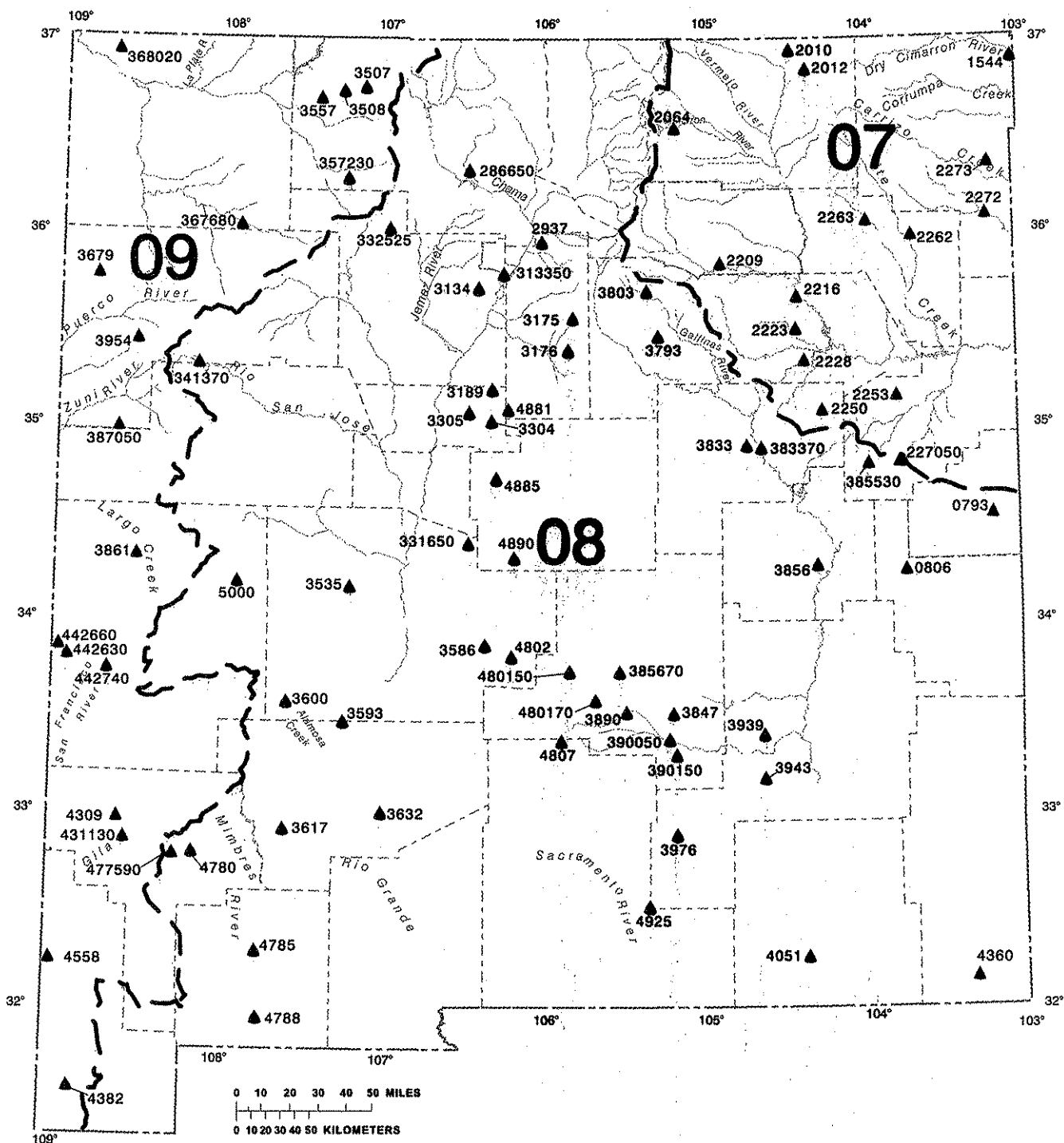


U.S. Geological Survey base

EXPLANATION

- 07 LOWER MISSISSIPPI RIVER BASIN NUMBER
- 08 WESTERN GULF OF MEXICO BASIN NUMBER
- 09 COLORADO RIVER BASIN NUMBER
- RIVER BASIN BOUNDARY
- ▲ GAGING STATION AND NUMBER--
Number by symbol is abbreviated station number. Complete national station number is: 08 401450
Basin number + station number

Figure 2.--Location of surface-water gaging stations.



U.S. Geological Survey base

EXPLANATION

- 07 LOWER MISSISSIPPI RIVER BASIN NUMBER
- 08 WESTERN GULF OF MEXICO BASIN NUMBER
- 09 COLORADO RIVER BASIN NUMBER
- RIVER BASIN BOUNDARY

477590 ▲ GAGING STATION AND NUMBER—
 Number by symbol is abbreviated
 station number. Complete national
 station number is: 08 477590
 Basin number + station number

Figure 3.--Location of partial-record stations.

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because daily reservoir storage and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles. Records of miscellaneous discharge measurements or of measurements from special studies may be considered as partial records, but they are presented separately in this report. Location of all complete-record stations and partial-record station for which data are given in this report are shown in figures 2 and 3.

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relationships between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relationship between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals, with electronic data loggers that store stage values on computer cards at selected time intervals, or with satellite data collection platform that transmit real time data at selected time intervals to office computers. Measurements of discharge are made with current meters using methods adopted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A6.

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are constructed. From these curves, rating tables indicating the approximate discharge for any stage within the range of the measurements are prepared. If it is necessary to define extremes of discharge outside the range of the current-meter measurements, the curves are extended using: (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow over dams or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed by applying the daily mean stages (gage heights) to the stage-discharge curves or tables. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on the individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

At some streamgaging stations, the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

In computing records of lake or reservoir contents, it is necessary to have available (from surveys) curves or tables defining the relationship of stage and content. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly, or yearly changes are determined. If the stage-content relationship changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relationship. Even when this is done, the contents computed may become increasingly incorrect as the lapsed time since the last survey increases. Discharges over lake or reservoir spillways are computed from stage-discharge relationships much as other stream discharges are computed.

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded gage height is so incorrect that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in sections "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

Streamflow data in this report are presented in a format considerably different from the format in data reports prior to the 1991 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table and less information is provided in the text or station manuscript above the table. These changes represent the results of reformatting the annual water-data report to meet current user needs and data preferences.

The records published for each continuous-record surface-water discharge station (gaging station) consist of five parts: the manuscript or station description; the data table of daily mean values of discharge for the current water year with summary data; a tabular statistical summary of monthly mean flow data for a designated period, by water year; and a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration; a hydrograph.

Station manuscript

The manuscript provides, under various headings, descriptive information, such as station location; period of record; historical extremes outside the period of record, record accuracy, and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gaging station with respect to the cultural and physical features in the vicinity and with respect to the reference place

mentioned in the station name is given. River mileages were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

DRAINAGE AREA.--Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.--This indicates the period for which records have been published for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not and whose location was such that flow at it reasonably can be considered equivalent to flow at the present station.

REVISED RECORDS.--Because of new information, published records occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see glossary), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily discharge will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a REMARKS paragraph is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph also is used to present information relative to the accuracy of the records, to special methods of computation, and to conditions that affect natural flow at the station. In addition, information may be presented pertaining to average discharge data for the period of record; to extremes data for the period of record and the current year; and to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the U.S. Geological Survey by a cooperating organization are identified here.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District Office (address given on the back of the title page of this report) to determine if the published records were revised after the station was discontinued. Of course, if the data for a discontinued station were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data always is accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

Headings for AVERAGE DISCHARGE, EXTREMES FOR PERIOD OF RECORD, AND EXTREMES FOR CURRENT YEAR have been deleted and the information contained in these paragraphs is now presented in the tabular summaries following the discharge table or in the REMARKS paragraph. No changes have been made to the data presentations of lake contents.

Data table of daily mean values

The daily table of discharge records for streamgaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed "TOTAL" gives the sum of the daily figures for each month; the line headed "MEAN" gives the average flow in cubic feet per second for the month; and the lines headed "MAX" and "MIN" give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month usually is expressed in cubic feet per second per square mile (line headed "CFSM"); or in inches (line headed "IN."); or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Statistics of monthly mean data

A tabular summary of the mean (line headed "MEAN"), maximum (line headed "MAX"), and minimum (line headed "MIN") of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those figures. The designated period will be expressed as "FOR WATER YEARS ____-____, BY WATER YEAR (WY)," and will list the first and last water years of the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. It will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript.

Summary statistics

A table titled "SUMMARY STATISTICS" follows the statistics of monthly mean data tabulation. This table consists of four columns, with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. The designated period selected, "WATER YEARS ____-____," will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated ANNUAL (See line headings below.), except for the "ANNUAL 7-DAY MINIMUM" statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the heading. When this occurs, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration curve statistics and runoff data also are given. Runoff data may be omitted if there is extensive regulation or diversion of flow in the drainage basin.

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments to follow clarify information presented under the various line headings of the summary statistics table.

ANNUAL TOTAL.--The sum of the daily mean values of discharge for the year. At some stations the annual total discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

ANNUAL MEAN.--The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

HIGHEST ANNUAL MEAN.--The maximum annual mean discharge occurring for the designated period.

LOWEST ANNUAL MEAN.--The minimum annual mean discharge occurring for the designated period.

HIGHEST DAILY MEAN.--The maximum daily mean discharge for the year or for the designated period.

LOWEST DAILY MEAN.--The minimum daily mean discharge for the year or for the designated period.

ANNUAL 7-DAY MINIMUM.--The lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1-March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

INSTANTANEOUS PEAK FLOW.--The maximum instantaneous discharge occurring for the water year or for the designated period. Note that secondary instantaneous peak discharges above a selected base discharge are stored in District computer files for stations meeting certain criteria. Those discharge values may be obtained by writing to the District Office. (See address on back of title page of this report.)

INSTANTANEOUS PEAK STAGE.--The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

INSTANTANEOUS LOW FLOW.--The minimum instantaneous discharge occurring for the water year or for the designated period.

ANNUAL RUNOFF.--Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

Acre-foot (AC-FT) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equal to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile area drained, assuming the runoff is distributed uniformly in time and area.

Inches (INCHES) indicates the depth to which the drainage area would be covered if all of the runoff for a given time period were uniformly distributed on it.

10 PERCENT EXCEEDS.--The discharge that has been exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.--The discharge that has been exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.--The discharge that has been exceeded 90 percent of the time for the designated period.

Hydrograph

A hydrograph for the current year follows the table for most stations. Streamflow hydrograph are semi-log plot of mean daily values with no flow day showing as blanks.

Data collected at partial-record stations follow the information for continuous-record sites. The tables of partial-record stations are followed by listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage of those events. Those measurements and others collected for some special reason are called miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol "e" and printing a table footnote (e-- Estimated) or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of the Records

The accuracy of streamflow records depends primarily on: (1) The stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of their true values; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures for more than 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value. No rounding rules apply to discharges listed for partial-record stations and miscellaneous sites. Listed discharges are those actually computed.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff because of the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation from artificial causes, or to other factors. For such stations, figures for cubic feet per second per square mile and for runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Records Available

The National Water Data Exchange (NAWDEX), U.S. Geological Survey, Reston, VA 22092, maintains an index of records of discharge collected by other agencies but not published by the Geological Survey. Information on records at specific sites can be obtained from that office upon request.

Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables is on file in the New Mexico district office. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained at the address given on the back of the title page of this report.

Records of Surface-Water Quality

Records of surface-water quality in this report represent a variety of data types and measurement frequencies. Whenever possible, records of surface-water quality are obtained at or near streamgaging stations because interpretation of surface-water quality and seasonal variation is enhanced by knowledge of corresponding discharge data. Location of surface-water-quality are shown in figure 4.

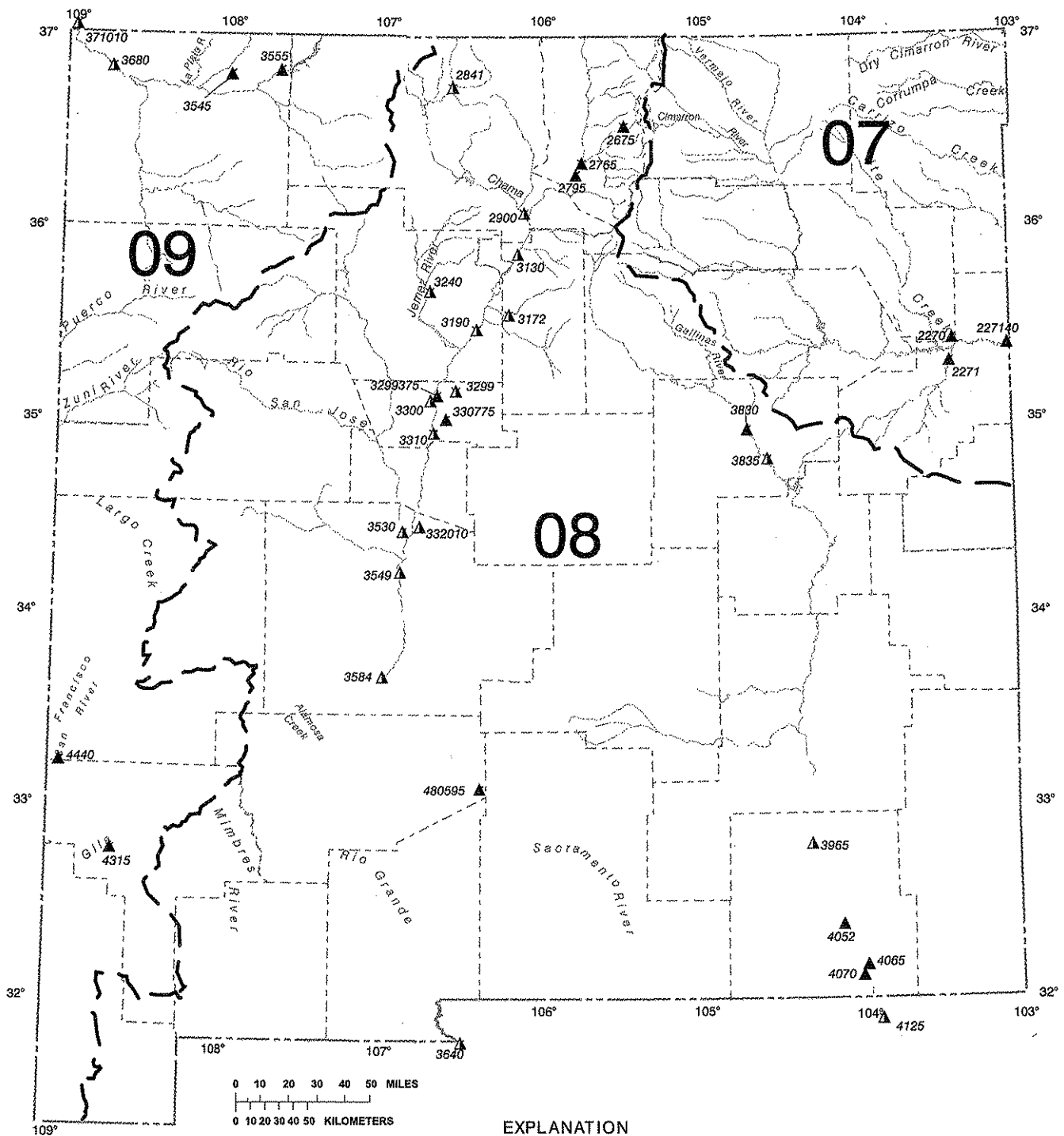
Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be once or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where water-quality data are collected systematically over a period of years, but frequency of sampling usually is less than quarterly. A miscellaneous sampling site is a location where samples are collected one time or intermittently to provide better areal coverage for defining water-quality conditions over a broad area in a river basin.

A distinction needs to be made between "continuing records", as used in reference to data for continuing-record stations, and "continuous record," which refers to a continuous graph over time or a series of discrete values recorded at short time intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, most water-quality data are obtained on a monthly or less frequent basis.

On-site Measurements and Sample Collection

When obtaining water-quality data, a major concern is assuring that onsite water-quality measurements and the samples collected for laboratory analysis are representative of the actual quality of the water. Measurements such as water temperature, pH, and dissolved oxygen are made onsite when the samples are collected because of the potential for significant change with time. To assure that measurements made in the laboratory also represent the actual environmental concentrations of constituents, prescribed procedures need to be followed in collection and processing of samples. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," (TWRI) Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed under "PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS" which appears at the end of the introductory text. Also, detailed information on collecting, treating, and shipping samples may be obtained from other references and from the New Mexico district office.



U.S. Geological Survey base

BASIN AND STATION NUMBER

- 07 LOWER MISSISSIPPI RIVER BASIN NUMBER
 08 WESTERN GULF OF MEXICO BASIN NUMBER
 09 COLORADO RIVER BASIN NUMBER

— RIVER BASIN BOUNDARY

▲ STATION AND NUMBER—Number by symbol is abbreviated station number. Complete national station number is: 08 330775

Basin number + station number

STATION AND SAMPLING FREQUENCY

- CHEMICAL QUALITY: ▲ Daily ▲ Other than daily
 SUSPENDED SEDIMENT: △ Daily △ Other than daily
 CHEMICAL QUALITY AND
 SUSPENDED SEDIMENT: ▲ Both daily ▲ Both other than daily
 ▲ Daily chemical
 quality and other
 than daily
 suspended sediment ▲ Daily suspended
 sediment and
 other than daily
 chemical quality

Figure 4.--Location of active surface-water-quality stations.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream Quality Accounting Network (see Special Networks and Programs) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals, depends on flow conditions and other factors which must be evaluated by the sampler.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and a relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For water-quality stations equipped with electronic monitors and digital recorders, the record consists of a daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records of the individual hourly values (unit values) may be obtained from the New Mexico district office.

Water Temperature

Water temperatures are measured at water-quality stations at the time of sampling. In addition, water temperatures are taken at the time of discharge measurements at streamgaging stations.

For stations where recording instruments are used, the record consisting of either daily mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the New Mexico district office.

Sediment

Suspended-sediment concentrations are determined from samples collected using depth-integrating samplers. Samples usually are obtained from several verticals in the cross section. At daily sediment stations, daily samples may be obtained from a single vertical and a coefficient applied to determine

the mean concentration in the cross section. Daily mean suspended-sediment concentrations are computed using sample concentrations and the continuous streamflow record according to the methods described in TWRI Book 3, Chap. C3. Daily suspended-sediment discharge then is computed as the product of stream discharge times the daily mean concentration times a unit conversion factor of 0.0027.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration are computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between suspended-sediment concentration and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of particle-size distribution of the suspended sediment and bed material for periodic samples are included for some stations.

Laboratory Analyses

Samples for indicator bacteria are analyzed locally. Samples for suspended-sediment are analysed at the U.S. Geological Survey laboratory in Albuquerque, New Mexico. Samples for all other constituents are analyzed at the Geological Survey National Water-Quality Laboratory in Arvada, Colorado.

Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1 and C3. Methods used by the National Water-Quality Laboratory are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

In March 1989, the National Water-Quality Laboratory identified a bias in the turbidimetric method for sulfate analysis, indicating that values below 75 mg/L have a median positive bias of 2 mg/L above the true value for the period between 1982 and 1989.

New protocols have been established by the U.S. Geological Survey for the collection and processing of surface-water samples that are analyzed for dissolved inorganic constituents¹. These protocols are designed to produce trace-element data that are free of potential contamination associated with sample collection and filtration procedures. Because of the very low concentrations of some trace constituents in the environment, special precautions are necessary to protect the sample from the introduction of trace constituents during processing that could lead to a positive bias in reported concentrations. The protocols have been tested to assure reliable results at the microgram per liter (parts per billion) level. Dissolved trace-element data published prior to implementation of the protocols in 1994 may have a potential positive bias ranging from negligible to several micrograms per liter, depending on the procedures and sampling equipment used at the site.

The USGS National Water Quality Laboratory collects quality-control data on a continuing basis to evaluate selected analytical methods to determine long-term method detection levels (LT-MDL's) and laboratory reporting levels (LRL's). These values are re-evaluated each year on the basis of the most recent quality-control data and, consequently, may change from year to year.

This reporting procedure limits the occurrence of false positive error. The chance of falsely reporting a concentration greater than the LT-MDL for a sample in which the analyte is not present is 1 percent or less. Application of the LRL limits the occurrence of false negative error. The chance of falsely reporting a non-detection for a sample in which the analyte is present at a concentration equal to or greater than the LRL is 1 percent or less.

Accordingly, concentrations are reported as <LRL for samples in which the analyte was either not detected or did not pass identification. Analyses that are detected at concentrations between the LT-MDL and LRL and that pass identification criteria are estimated. Estimated concentrations will be noted with a remark code of "E". These data should be used with the understanding that their uncertainty is greater than that of data reported without the "E" remark code.

Data Presentation

¹Horowitz, A.J., Demas, C.R., Fitzgerald, K.K., Miller, T.L., and Rickert, D.A., 1994, U.S. Geological Survey Protocol for the Collection and Processing of Surface-Water Samples for the Subsequent Determination of Inorganic Constituents in Filtered Water: U.S. Geological Survey Open-File Report 94-539, 57 p.

Water-quality records collected at a streamgaging station are published immediately following the daily discharge record. Station number and name are the same for both records. Where a daily discharge record is not available or where the location of the water quality station differs significantly from that of the nearby streamgaging station, the water-quality record is published with its own station number and name in the standard downstream-order sequence.

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperating agencies, and extremes for parameters measured on a daily basis. Tables of chemical, physical, biological, and radiochemical data obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, water temperature, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the streamgaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuing record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge"; same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge"; same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor, temperature monitor, pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

Remark Codes

The following remark codes may appear with the water-quality data in this report:

PRINTED OUTPUT	REMARK
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptable range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant).
&	Biological organism estimated as dominant.
V	Analyte was detected in both the environmental sample and the associated blanks.

Water Quality-Control Data

Data generated from quality-control (QC) samples are a requisite for evaluating the quality of the sampling and processing techniques as well as data from the actual samples themselves. Without QC data, environmental sample data cannot be adequately interpreted because the errors associated with the sample data are unknown. The various types of QC samples

collected by this district are described in the following section. Procedures have been established for the storage of water-quality-control data within the USGS. These procedures allow for storage of all derived QC data and are identified so that they can be related to corresponding environmental samples.

Blank Samples

Blank samples are collected and analyzed to ensure that environmental samples have not been contaminated by the overall data-collection process. The blank solution used to develop specific types of blank samples is a solution that is free of the analytes of interest. Any measured value signal in a blank sample for an analyte (a specific component measured in a chemical analysis) that was absent in the blank solution is believed to be due to contamination. There are many types of blank samples possible, each designed to segregate a different part of the overall data-collection process. The types of blank samples collect in this district are:

Field blank - a blank solution that is subjected to all aspects of sample collection, field processing preservation, transportation, and laboratory handling as an environmental sample.

Trip blank - a blank solution that is put in the same type of bottle used for an environmental sample and kept with the set of sample bottles before and after sample collection.

Equipment blank - a blank solution that is processed through all equipment used for collecting and processing an environmental sample (similar to a field blank but normally done in the more controlled conditions of the office).

Sampler blank - a blank solution that is poured or pumped through the same field sampler used for collecting an environmental sample.

Filter blank - a blank solution that is filtered in the same manner and through the same filter apparatus used for an environmental sample.

Splitter blank - a blank solution that is mixed and separated using a field splitter in the same manner and through the same apparatus used for an environmental sample.

Preservation blank - a blank solution that is treated with the sampler preservatives used for an environmental sample.

Reference Samples

Reference material is a solution or material prepared by a laboratory whose composition is certified for one or more properties so that it can be used to assess a measurement method. Samples of reference material are submitted for analysis to ensure that an analytical method is accurate for the known properties of the reference material. Generally, the selected reference material properties are similar to the environmental sample properties.

Replicate Samples

Replicate samples are a set of environmental samples collected in a manner such that the samples are thought to be essentially identical in composition. Replicate is the general case for which a duplicate is the special case consisting of two samples. Replicate samples are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and analytical process. There are many types of replicate samples possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this district are: Sequential samples - a type of replicate sample in which the samples are collected one after the other, typically over a short time. Split sample - a type of replicate sample in which a sample is split into subsamples contemporaneous in time and space.

Spike Samples

Spike samples are samples to which known quantities of a solution with one or more well-established analyte concentrations have been added. These samples are analyzed to determine the extent of matrix interference or degradation on the analyte concentration during sample processing and analysis.

Dissolved Trace-Element Concentrations

*NOTE.--Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter (ug/L) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter (ng/L). Data above the ug/L level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols at some stations in water year 1994.

Change in National Trends Network Procedures

*NOTE.--Sample handling procedures at all National Trends Network stations were changed substantially on January 1, 1994, in order to reduce contamination from the sample shipping container. The data for samples before and after that date are different and not directly comparable. A tabular summary of the differences based on a special intercomparison study, is available from the NADP/NTN Coordination Office, Colorado State University, Fort Collins, CO 80523 (Telephone: 303-491-5643).

ACCESS TO USGS WATER DATA

The USGS provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data

for most current or discontinued gaging stations through the world wide web (WWW). These data may be accessed at: <http://water.usgs.gov>

Some water-quality and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on magnetic tape or 3-1/2 inch floppy disk. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division District Offices (See address on the back of the title page.)

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also table for converting English units to International System (SI) Units on the inside of the back cover.

Acid neutralizing capacity (ANC) is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often formed into colonies. Some bacteria cause disease, while others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Escherichia coli (E. coli) also are present in the digestive tract of warm-blooded animals. In the laboratory, E. coli is defined as all organisms that produce orange/yellow colonies when incubated for two hours at 35°C + or - 0.2°C and transferred to 44.5°C + or - 0.2°C for 22-24 hours on mTEC agar (nutrient medium for E. coli growth), and stained with phenol red solution. Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestine and feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the

laboratory they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5°C plus or minus 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria also are bacteria found in the intestine of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as Gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C plus or minus 1.0°C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Non-ideal colony count (K) is a remark code used in reporting bacteria densities when plate counts fall outside of an ideal range. The lower limit of 20 colonies is set as the number below which statistically valid results become increasingly questionable. The upper limit, which differs according to type of bacteria, represents numbers above which interference from colony crowding, deposition of extraneous material, and other factors appear to result in increasingly questionable results.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Bottom material: See Bed material.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with BOD or with carbonaceous organic pollution from sewage or industrial wastes.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Continuing-record station is a specified site which meets one or all conditions listed:

1. When chemical samples are collected daily or monthly for 10 or more months during the water year.
2. When water temperature records include observations taken one or more times daily.
3. When sediment discharge records include periods for which sediment loads are computed and are

considered to be representative of the runoff for the water year.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an

artificial structure, or a uniform cross section over a long reach of the channel.

Cubic foot per second (ft³/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic-foot-per-second day (cfs-day) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,447 cubic meters.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Annual 7-day minimum is the lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1-March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

Instantaneous discharge is the discharge at a particular instant of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Dissolved refers to that material in a representative water sample which passes through a 0.45 micrometer membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determination of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.493 to reflect the change.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface

stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G H) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate (CaCO_3).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an eight-digit number.

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Measuring point (MP) is an arbitrary permanent reference point from which the distance to the water surface in a well is measured to obtain the water level.

Membrane filter is a thin microporous material of specific pore size used to filter bacteria, algae, and other very small particles from water.

Micrograms per gram (UG/G, $\mu\text{g/g}$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter (UG/L, $\mu\text{g/L}$) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Microsiemens per centimeter at 25 degrees Celsius (US/CM, $\mu\text{S/cm}$) is a unit for reporting specific electrical conductance.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L and is based on the mass of dry sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was

formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

Partial-record station is a site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine all diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)		Method of analysis
Clay	0.00024	- 0.004	Sedimentation
Silt	.004	- .062	Sedimentation
Sand	.062	- 2.0	Sedimentation or sieve
Gravel	2.0	- 64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass, or volume.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

pH indicates the degree of acidity or alkalinity of water and is expressed in logarithmic units. The pH value of a solution is the negative logarithm of the hydrogen-ion concentration, in moles per liter.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute)

Polychlorinated biphenyls (PCB's) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Return period is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.

Runoff in inches (IN., in.) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sea level in this report refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)--a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour period.

Suspended-sediment discharge (tons/day) is the rate at which a quantity of sediment, as measured by dry mass or volume, passes a stream section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft³/s) x 0.0027.

Suspended-sediment load is a general term that refers to the total mass of material in suspension. It is not synonymous with sediment discharge, which is a rate of transport.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry mass or volume, that passes a section during a given time.

Total sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total sediment discharge.

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 degrees Celsius. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 60 to 65 percent of the specific conductance (in microsiemens per centimeter at 25 degrees Celsius). This relation is not constant from stream to stream, and may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water, per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Surface area of a lake is that area outlined on the latest U.S.G.S. topographic map as the boundary of the lake and measured in acres. In localities not covered by topographic

maps, the areas are computed from the best maps available. All areas shown are those for the stage when the map was made.

Surficial bed material is the part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as pertains to chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is associated with the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 μ m membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total." Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Synoptic Studies Short-term investigations of specific water-quality conditions during selected seasonal or hydrologic periods to provide improved spatial resolution for critical water-quality conditions. For the period and conditions sampled, they assess the spatial distribution of selected water-quality conditions in relation to causative factors, such as land use and contaminant sources.

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term

"temperature recorder" is used in the table headings and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentration of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY) is the quantity, in tons, of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total is the amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" indicates both that the sample consists of a water-suspended sediment mixture and that the analytical method determined all of the constituent in the sample.)

Total discharge is the quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total in bottom material is the amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. Knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

Total load (tons) is the quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge, times the mg/L of the constituent, times the factor 0.0027, times the number of days.

Total recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily-soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Turbidity of a sample is the reduction of transparency because of the presence of particulate matter. In this report it is expressed in Nephelometric turbidity units (NTU), obtained from the nephelometric method for turbidity determination which measures the intensity of light scattered by suspended particles at 90 degrees from the path of an incident light source.

Volatile Organic Compounds (VOCs) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and subsequently analyzed by gas chromatography. Many VOCs are man-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They are often components of fuels, solvents, hydraulic fluids, paint thinners, and dry cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human health concern because many are toxic and are known or suspected human carcinogens (U.S. Environmental Protection Agency, 1996).

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period October 1 through the following September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1990, is called "water year 1990."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976).

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WSP is used as an abbreviation for "Water-Supply Paper" in reference to previously published reports.

TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS OF THE U.S. GEOLOGICAL SURVEY

The U.S.G.S. publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, section A of book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S.G.S., Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be made in the form of a check or money order payable to the "U.S. Geological Survey." Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and mention the "U.S. Geological Survey Techniques of Water-Resources Investigations."

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

- 1-D1. *Water temperature—influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J.F. Ficke, and G. F. Smoot: USGS-TWRI book 1, chap. D1. 1975. 65 pages.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS-TWRI book 1, chap. D2. 1976. 24 pages.

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

- 2-D1. *Application of surface geophysics to ground-water investigations*, by A.A. R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS-TWRI book 2, chap. D1. 1974. 116 pages.
- 2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F.P. Haeni: USGS-TWRI book 2, chap. D2. 1988. 86 pages.

Section E. Subsurface Geophysical Methods

- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W.S. Keys and L.M. MacCary: USGS-TWRI book 2, chap. E1. 1971. 126 pages.
- 2-E2. *Borehole geophysics applied to ground-water investigations*, by W.S. Keys: USGS-TWRI book 2, chap. E2. 1990. 150 pages.

Section F. Drilling and Sampling Methods

- 2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and W.E. Teasdale: USGS-TWRI book 2, chap. F1. 1989. 97 pages.

Book 3. Applications of Hydraulics

Section A. Surface-Water Techniques

- 3-A1. *General field and office procedures for indirect discharge measurements*, by M.A. Benson and Tate Dalrymple: USGS-TWRI book 3, chap. A1. 1967. 30 pages.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M.A. Benson: USGS-TWRI book 3, chap. A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS-TWRI book 3, chap. A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS-TWRI book 3, chap. A4. 1967. 44 pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS-TWRI book 3, chap. A5. 1967. 29 pages.
- 3-A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS-TWRI book 3, chap. A6. 1968. 13 pages.
- 3-A7. *Stage measurement at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS-TWRI book 3, chap. A7. 1968. 28 pages.
- 3-A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS-TWRI book 3, chap. A8. 1969. 65 pages.
- 3-A9. *Measurement of time of travel in streams by dye tracing*, by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS-TWRI book 3, chap. A9. 1989. 27 pages.
- 3-A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS-TWRI book 3, chap. A10. 1984. 59 pages.
- 3-A11. *Measurement of discharge by the moving-boat method*, by G.F. Smoot and C.E. Novak: USGS-TWRI book 3, chap. A11. 1969. 22 pages.
- 3-A12. *Fluorometric procedures for dye tracing*, Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS-TWRI book 3, chap. A12. 1986. 34 pages.
- 3-A13. *Computation of continuous records of streamflow*, by E.J. Kennedy: USGS-TWRI book 3, chap. A13. 1983. 53 pages.
- 3-A14. *Use of flumes in measuring discharge*, by F.A. Kilpatrick and V.R. Schneider: USGS-TWRI book 3, chap. A14. 1983. 46 pages.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS-TWRI book 3, chap. A15. 1984. 48 pages.

3-A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS-TWRI book 3, chap. A16. 1985. 52 pages.

3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS-TWRI book 3, chap. A17. 1985. 38 pages.

3-A18. *Determination of stream reaeration coefficients by use of tracers*, by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS-TWRI book 3, chap. A18. 1989. 52 pages.

3-A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS-TWRI book 3, chap. A19. 1990. 31 pages.

3-A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS-TWRI book 3, chap. A20. 1993. 38 pages.

3-A21. *Stream-gaging cableways*, by C. Russell Wagner: USGS-TWRI book 3, chap. A21. 1995. 56 pages.

Section B. Ground-Water Techniques

3-B1. *Aquifer-test design, observation, and data analysis*, by R.W. Stallman: USGS-TWRI book 3, chap. B1. 1971. 26 pages.

3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G.D. Bennett: USGS-TWRI book 3, chap. B2. 1976. 172 pages.

3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J.E. Reed: USGS-TWRI book 3, chap. B3. 1980. 106 pages.

3-B4. *Regression modeling of ground-water flow*, by R.L. Cooley and R.L. Naff: USGS-TWRI book 3, chap. B4. 1990. 232 pages.

3-B4. *Supplement 1. Regression modeling of ground-water flow -- Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems*, by R.L. Cooley: USGS-TWRI book 3, chap. B4. 1993. 8 pages.

3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction*, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS-TWRI book 3, chap. B5. 1987. 15 pages.

3-B6. *The principle of superposition and its application in ground-water hydraulics*, by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS-TWRI book 3, chap. B6. 1987. 28 pages.

3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow*, by E.J. Wexler: USGS-TWRI book 3, chap. B7. 1992. 190 pages.

Section C. Sedimentation and Erosion Techniques

3-C1. *Fluvial sediment concepts*, by H.P. Guy: USGS-TWRI book 3, chap. C1. 1970. 55 pages.

3-C2. *Field methods for measurement of fluvial sediment*, by H.P. Guy and V.W. Norman: USGS-TWRI book 3, chap. C2. 1970. 59 pages.

3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS-TWRI book 3, chap. C3. 1972. 66 pages.

Book 4. Hydrologic Analysis and Interpretation

Section A. Statistical Analysis

4-A1. *Some statistical tools in hydrology*, by H.C. Riggs: USGS-TWRI book 4, chap. A1. 1968. 39 pages.

4-A2. *Frequency curves*, by H.C. Riggs: USGS-TWRI book 4, chap. A2. 1968. 15 pages.

Section B. Surface Water

4-B1. *Low-flow investigations*, by H.C. Riggs: USGS-TWRI book 4, chap. B1. 1972. 18 pages.

4-B2. *Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS-TWRI book 4, chap. B2. 1973. 20 pages.

4-B3. *Regional analyses of streamflow characteristics*, by H.C. Riggs: USGS-TWRI book 4, chap. B3. 1973. 15 pages.

Section D. Interrelated Phases of the Hydrologic Cycle

4-D1. *Computation of rate and volume of stream depletion by wells*, by C.T. Jenkins: USGS-TWRI book 4, chap. D1. 1970. 17 pages.

Book 5. Laboratory Analysis

Section A. Water Analysis

5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M.J. Fishman and L.C. Friedman, editors: USGS-TWRI book 5, chap. A1. 1989. 545 pages.

5-A2. *Determination of minor elements in water by emission spectroscopy*, by P.R. Barnett and E.C. Mallory, Jr.: USGS-TWRI book 5, chap. A2. 1971. 31 pages.

5-A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS-TWRI book 5, chap. A3. 1987. 80 pages.

5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L.J. Britton and P.E. Greeson, editors: USGS-TWRI book 5, chap. A4. 1989. 363 pages.

5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS-TWRI book 5, chap. A5. 1977. 95 pages.

5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L.C. Friedman and D.E. Erdmann: USGS-TWRI book 5, chap. A6. 1982. 181 pages.

Section C. Sediment Analysis

- 5-C1. *Laboratory theory and methods for sediment analysis*, by H.P. Guy: USGS-TWRI book 5, chap. C1. 1969. 58 pages.

Book 6. Modeling Techniques**Section A. Ground Water**

- 6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M.G. McDonald and A.W. Harbaugh: USGS-TWRI book 6, chap. A1. 1988. 586 pages.
- 6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S.A. Leake and D.E. Prudic: USGS-TWRI book 6, chap. A2. 1991. 68 pages.
- 6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L.J. Torak: USGS-TWRI book 6, chap. A3. 1993. 136 pages.
- 6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions*, by R.L. Cooley: USGS-TWRI book 6, chap. A4. 1992. 108 pages.
- 6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details*, by L.J. Torak: USGS-TWRI book 6, chap. A5. 1993. 243 pages.
- 6-A6. *A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction*, by Eric D. Swain and Eliezer J. Wexler. 1996. 125 pages.

Book 7. Automated Data Processing and Computations**Section C. Computer Programs**

- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS-TWRI book 7, chap. C1. 1976. 116 pages.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L.F. Konikow and J.D. Bredehoeft: USGS-TWRI book 7, chap. C2. 1978. 90 pages.
- 7-C3. *A model for simulation of flow in singular and interconnected channels*, by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS-TWRI book 7, chap. C3. 1981. 110 pages.

Book 8. Instrumentation**Section A. Instruments for Measurement of Water Level**

- 8-A1. *Methods of measuring water levels in deep wells*, by M.S. Garber and F.C. Koopman: USGS-TWRI book 8, chap. A1. 1968. 23 pages.

- 8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS-TWRI book 8, chap. A2. 1983. 57 pages.

Section B. Instruments for Measurement of Discharge

- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G.F. Smoot and C.E. Novak: USGS-TWRI book 8, chap. B2. 1968. 15 pages.

Book 9. Handbooks for Water-Resources Investigations**Section A. National Field Manual for the Collection of Water-Quality Data**

- 9-A1. *National Field Manual for the Collection of Water-Quality Data: Preparations for Water Sampling*, by F.D. Wilde, D.B. Radtke, Jacob Gibbs, and R.T. Iwatsubo: USGS-TWRI book 9, chap. A1. 1998. 47 p.
- 9-A2. *National Field Manual for the Collection of Water-Quality Data: Selection of Equipment for Water Sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibbs, and R.T. Iwatsubo: USGS-TWRI book 9, chap. A2. 1998. 94 p.
- 9-A3. *National Field Manual for the Collection of Water-Quality Data: Cleaning of Equipment for Water Sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibbs, and R.T. Iwatsubo: USGS-TWRI book 9, chap. A3. 1998. 75 p.
- 9-A4. *National Field Manual for the Collection of Water-Quality Data: Collection of Water Samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibbs, and R.T. Iwatsubo: USGS-TWRI book 9, chap. A4. 1999. 156 p.
- 9-A5. *National Field Manual for the Collection of Water-Quality Data: Processing of Water Samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibbs, and R.T. Iwatsubo: USGS-TWRI book 9, chap. A5. 1999. 149 p.
- 9-A6. *National Field Manual for the Collection of Water-Quality Data: Field Measurements*, edited by F.D. Wilde and D.B. Radtke: USGS-TWRI book 9, chap. A6. 1998. Various pages.
- 9-A7. *National Field Manual for the Collection of Water-Quality Data: Biological Indicators*, edited by D.N. Myers and F.D. Wilde: USGS-TWRI book 9, chap. A7. 1997 and 1999. Various pages.
- 9-A8. *National Field Manual for the Collection of Water-Quality Data: Bottom-material samples*, by D.B. Radtke: USGS-TWRI book 9, chap. A8. 1998. 48 pages.
- 9-A9. *National Field Manual for the Collection of Water-Quality Data: Safety in Field Activities*, by S.L. Lane and R.G. Fay: USGS-TWRI book 9, chap. A9. 1998. 60 pages.

WATER RESOURCES DATA - NEW MEXICO 1999

08251500 RIO GRANDE NEAR LOBATOS, CO

LOCATION.--Lat 37°04'43", long 105°45'23", in NE¹/₄NW¹/₄ sec.27, T.33 N., R.11 E., Conejos County, Hydrologic Unit 13010002, on right bank at highway bridge, 5.7 mi north of Colorado-New Mexico State line, 8 mi downstream from Culebra Creek, 11 mi east of Lobatos, and 14 mi east of Antonito.

DRAINAGE AREA.--7,700 mi², approximately, includes 2,940 mi² in closed basin in northern part of San Luis Valley, CO.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1899 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as "at Cenicero" 1899-1901, and as "near Cenicero" 1902-4. Statistical summary computed for 1931 to current year.

REVISED RECORDS.--WSP 1312: 1919 (monthly runoff). WSP 210: Drainage area. WDR CO-78-1: 1976.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 7,427.63 ft above sea level. Prior to 1910, nonrecording gages at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversion for irrigation, and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1828, that of June 8, 1905.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN.	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	150	261	e375	e380	422	150	325	1480	988	846	1020
2	47	164	250	e375	e360	439	160	610	1450	838	790	951
3	47	161	236	e355	e390	437	165	559	1060	811	874	896
4	55	153	232	e340	e410	454	144	489	962	864	997	973
5	90	147	234	e340	e450	451	136	437	877	856	1280	1190
6	99	144	e226	e355	428	443	140	419	1110	800	1740	1300
7	98	144	e180	e365	424	444	132	383	1130	736	1870	1130
8	106	140	e150	e360	430	441	108	335	916	657	1670	1030
9	78	161	e140	e355	429	442	99	326	999	643	1750	1030
10	69	183	e130	e360	445	426	101	364	1280	716	1760	1070
11	62	179	e270	e370	e435	409	84	471	1550	629	1640	1060
12	57	146	e260	e380	e340	419	87	538	1680	478	1520	1030
13	59	164	e280	e365	e365	414	89	550	1410	472	1570	1010
14	63	198	e310	e345	e380	420	90	558	1360	450	1650	1040
15	59	231	e330	e355	405	393	83	662	1550	445	1450	1060
16	54	227	e350	e365	e380	389	80	855	1800	464	1240	942
17	51	223	e360	e345	e400	327	81	883	1910	501	1270	907
18	52	227	e370	e390	402	242	84	859	2000	490	1370	917
19	51	218	e380	e415	419	232	92	818	2100	520	1310	876
20	54	197	e350	e415	418	230	94	884	2230	597	1080	904
21	60	186	e350	e395	426	216	86	965	2000	677	1050	964
22	73	179	e320	e370	419	209	85	1040	1600	736	1230	931
23	95	178	e370	e385	415	225	126	1060	1610	635	1330	853
24	101	211	e340	e435	406	217	150	1300	1850	722	1240	829
25	92	240	e320	e440	399	212	153	1580	2060	877	1120	799
26	110	231	e330	e415	410	211	152	1580	2040	939	1020	774
27	122	221	e340	e350	412	218	147	1400	1720	923	988	725
28	203	225	e350	e375	416	208	137	1160	1610	877	997	671
29	209	230	e360	e405	---	178	131	997	1490	807	988	632
30	173	238	e360	e430	---	164	161	1010	1150	800	1020	638
31	154	---	e370	e410	---	147	---	1290	---	869	1050	---
TOTAL	2699	5696	9109	11735	11393	10079	3527	24707	45984	21817	39710	28152
MEAN	87.1	190	294	379	407	325	118	797	1533	704	1281	938
MAX	209	240	380	440	450	454	165	1580	2230	988	1870	1300
MIN	47	140	130	340	340	147	80	325	877	445	790	632
AC-FT	5350	11300	18070	23280	22600	19990	7000	49010	91210	43270	78760	55840

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1999, BY WATER YEAR (WY)

	187	316	286	265	316	421	525	1120	1246	445	175	139
MEAN	187	316	286	265	316	421	525	1120	1246	445	175	139
MAX	1401	1199	763	521	595	884	2326	4958	4470	2754	1281	938
(WY)	1942	1942	1942	1986	1986	1987	1985	1987	1941	1995	1999	1999
MIN	12.9	59.6	61.7	75.7	102	66.0	32.3	42.9	19.8	1.28	3.21	1.91
(WY)	1957	1955	1964	1957	1957	1957	1935	1963	1977	1951	1956	1956

RIO GRANDE BASIN

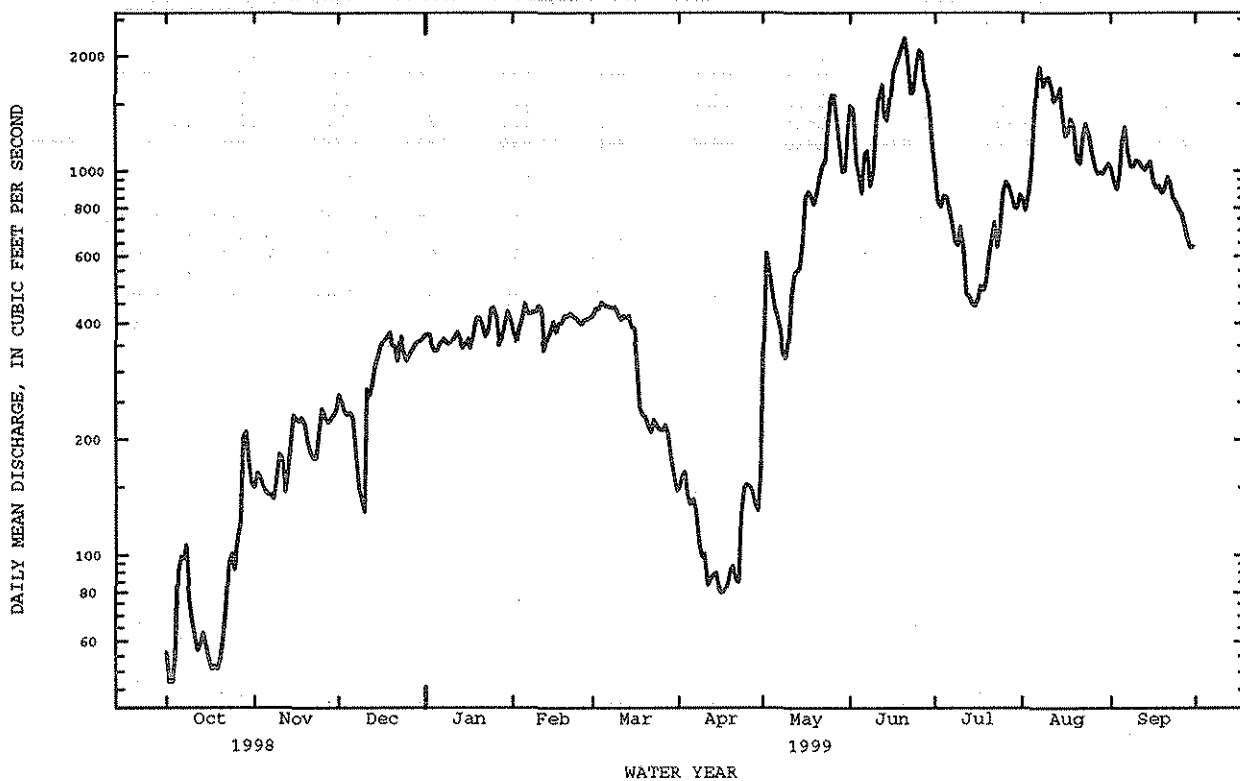
08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1931 - 1999	
ANNUAL TOTAL	120587		214608		^a 453	
ANNUAL MEAN	330		588		1264	
HIGHEST ANNUAL MEAN					70.9	
LOWEST ANNUAL MEAN					^b 9110	
HIGHEST DAILY MEAN	1450	May 23	2230	Jun 20	1987	
LOWEST DAILY MEAN	32	Sep 19	47	Oct 2	1964	
ANNUAL SEVEN-DAY MINIMUM	40	Sep 16	54	Oct 15	^c .00	
INSTANTANEOUS PEAK FLOW			2310	Jun 20	Jul 16 1950	
INSTANTANEOUS PEAK STAGE			3.96	Jun 20	^d 11600	
ANNUAL RUNOFF (AC-FT)	239200		425700		8.76	
10 PERCENT EXCEEDS	670		1320		May 8 1952	
50 PERCENT EXCEEDS	319		410		May 8 1952	
90 PERCENT EXCEEDS	53		100		40	

e Estimated

a Average discharge for 31 years (water years 1900-30), 846 ft³/s, 612,900 acre-ft/yr, includes period of extensive development for irrigation.b Maximum daily discharge for period of record, 13,100 ft³/s, June 8, 1905.

c No flow at times in 1950-51, 1956.

d Maximum discharge and stage for period of record, 13,200 ft³/s, June 8, 1905, gage height, 9.1 ft, from rating curve extended above 8,000 ft³/s.

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued
WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1969 to September 1993 (also see REMARKS). February 1996 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to September 1981.

WATER TEMPERATURE: October 1975 to September 1981.

REMARKS.--Periodic water-quality data available Sept. 1969 to Sept. 1993 under the National Stream-Quality Accounting Network (NASQAN), and Apr. 1993 to Sept. 1996 under the Rio Grande National Water-Quality Assessment Program, for this site.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,040 microsiemens, Sept. 17-18, 1977; minimum, 89 microsiemens, May 9, 1979.

WATER TEMPERATURE: Maximum, 30.0°C, July 17, 1977; minimum, 0.0°C, many days.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
NOV 17...	0915	188	322	8.0	4.5	9.6	100	31	6.3	27	4.3
FEB 18...	0930	320	218	8.1	.5	11.2	74	22	4.3	16	3.4
JUN 02...	1030	1540	231	8.0	16.5	7.2	67	20	4.4	18	3.4
SEP 15...	1100	1420	133	7.7	14.5	7.8	45	14	2.6	7.6	2.0

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)
NOV 17...	44	8.1	.4	26	218	<.01	.06	.02	.3	.2
FEB 18...	23	5.0	.2	29	159	<.01	.35	<.02	.3	.1
JUN 02...	39	4.3	.2	22	174	<.01	.16	<.02	.7	.3
SEP 15...	10	2.4	.1	21	99	<.01	<.05	<.02	.3	.1

DATE	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHOPHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (MG/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (UG/L AS SB) (01095)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)
NOV 17...	<.05	.01	.01	1	<1	3	30	<1	<1	<1
FEB 18...	.11	.0487	.04	<1	<1	3	24	<1	<1	3
JUN 02...	.21	.061	.07	4	<1	1	26	<1	<1	<1.0
SEP 15...	.12	.051	.05	3	<1	<1	14	<1	<1	<1.0

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 17...	<1	<1	33	<1	8	2	<1	1	<1	<1
FEB 18...	<1	<1	25	<1	14	2	<1	<1	<1	1
JUN 02...	<1	1	43	<1	21	1	<1	<1	<1	1
SEP 15...	<1	<1	45	<1	12	<1	<1	<1	<1	<1

RIO GRANDE BASIN

08252500 COSTILLA CREEK ABOVE COSTILLA DAM, NM

LOCATION.--Lat 36°53'52", long 105°15'16", Taos County, Hydrologic Unit 13020101, in Sangre de Cristo Grant, on left bank 1,900 ft upstream from normal high-water line of Costilla Reservoir, 2.1 mi northeast of Costilla Dam, 16 mi southeast of Costilla, and at mile 36.9.

DRAINAGE AREA.--25.1 mi².

PERIOD OF RECORD.--April 1937 to current year (seasonal records). Monthly discharge only for some periods, published in WSP 1312 and 1732. Prior to October 1951, published as "above reservoir, near Costilla."

REVISED RECORDS.--WSP 878: 1937. WSP 1923: 1937-50, drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Concrete control since Sept. 17, 1965. Elevation of gage is 9,428 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1923 for history of changes prior to Sept. 17, 1965.

REMARKS.--Records good except for estimated daily discharges, which are poor. Natural flow may be augmented by transbasin diversions or irrigation returns from about 1,300 acres irrigated from Casias Creek (station 08253000). Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 3,870 ft³/s, July 22, 1954, gage height, about 4.8 ft. from floodmarks, site and datum then in use, on basis of slope-area measurement of peak flow; minimum not determined. The flood in 1954 destroyed the gaging station and is highest since about 1909 from information by local range rider. A portion of this flow may have originated in Casias Creek basin (see REMARKS).

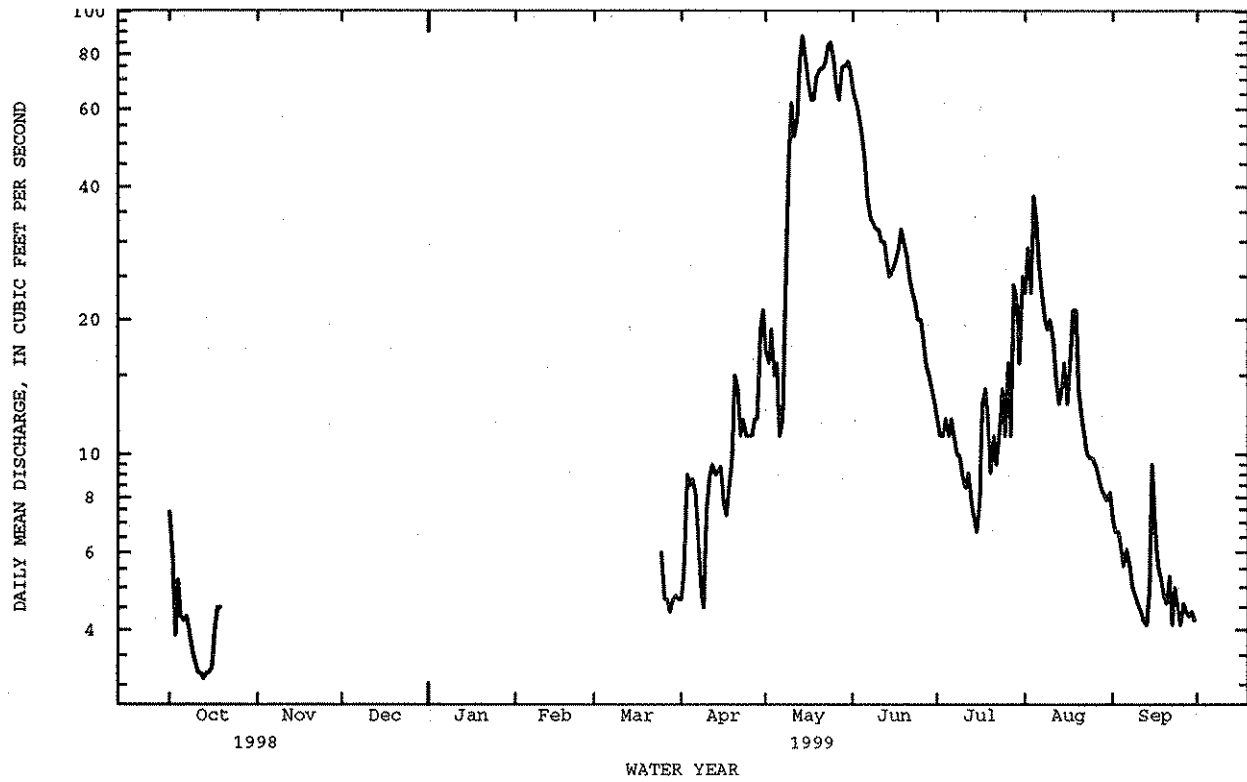
EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 110 ft³/s, at 2315 hours May 23, gage height 3.43 ft; minimum daily discharge 3.1 ft³/s, Oct. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	---	---	---	---	---	e4.7	e17	66	12	23	7.2
2	6.1	---	---	---	---	---	e5.5	e16	62	11	29	6.7
3	3.9	---	---	---	---	---	e9.0	e19	58	11	23	6.7
4	5.2	---	---	---	---	---	e8.5	e15	52	12	38	6.2
5	4.3	---	---	---	---	---	e8.8	e16	46	11	34	5.6
6	4.2	---	---	---	---	---	e8.2	e11	38	12	26	6.1
7	4.3	---	---	---	---	---	e6.6	e12	34	11	23	5.7
8	4.0	---	---	---	---	---	e4.8	e23	33	10	20	5.0
9	3.6	---	---	---	---	---	e4.5	e46	32	9.9	19	4.8
10	3.4	---	---	---	---	---	e7.4	e62	32	9.0	20	4.6
11	3.2	---	---	---	---	---	e9.0	e52	30	8.4	18	4.4
12	3.2	---	---	---	---	---	e9.5	e57	30	9.1	15	4.2
13	3.1	---	---	---	---	---	e9.0	e77	27	7.8	13	4.1
14	3.2	---	---	---	---	---	e9.2	e88	25	7.2	14	4.9
15	3.2	---	---	---	---	---	e9.4	e78	26	6.7	16	9.5
16	3.3	---	---	---	---	---	e7.7	e70	27	7.8	13	6.7
17	4.0	---	---	---	---	---	e7.3	e63	29	13	16	5.6
18	4.5	---	---	---	---	---	e8.4	e63	32	14	21	5.3
19	4.5	---	---	---	---	---	e9.8	71	30	12	21	4.8
20	---	---	---	---	---	---	e15	74	28	9.1	14	4.6
21	---	---	---	---	---	---	e14	74	25	11	12	5.3
22	---	---	---	---	---	---	e11	77	23	9.5	11	4.1
23	---	---	---	---	---	---	e12	84	22	11	10	5.0
24	---	---	---	---	---	---	e11	85	20	14	9.8	4.5
25	---	---	---	---	---	e6.0	e11	77	20	11	9.8	e4.1
26	---	---	---	---	---	e4.7	e11	67	18	16	9.4	e4.6
27	---	---	---	---	---	e4.7	e12	63	16	11	8.9	e4.4
28	---	---	---	---	---	e4.4	e12	75	15	24	8.4	e4.3
29	---	---	---	---	---	e4.7	e19	75	14	22	8.1	e4.4
30	---	---	---	---	---	e4.8	e21	77	13	16	7.9	e4.2
31	---	---	---	---	---	e4.7	---	73	---	25	8.2	---
TOTAL	---	---	---	---	---	---	296.3	1757	923	374.5	519.5	157.6
MEAN	---	---	---	---	---	---	9.88	56.7	30.8	12.1	16.8	5.25
MAX	---	---	---	---	---	---	21	88	66	25	38	9.5
MIN	---	---	---	---	---	---	4.5	11	13	6.7	7.9	4.1
AC-FT	---	---	---	---	---	---	588	3490	1830	743	1030	313

e Estimated

08252500 COSTILLA CREEK ABOVE COSTILLA DAM, NM--Continued



RIO GRANDE BASIN

08253000 CASIAS CREEK NEAR COSTILLA, NM

LOCATION.--Lat 36°53'48", long 105°15'35", Taos County, Hydrologic Unit 13020101, in Sangre de Cristo Grant, on left bank 200 ft downstream from road crossing, 900 ft upstream from normal high-water line of Costilla Reservoir, 1.8 mi northeast of Costilla Dam, and 16 mi southeast of Costilla.

DRAINAGE AREA.--16.6 mi².

PERIOD OF RECORD.--April 1937 to current year (seasonal records). Monthly discharge only for some periods, published in WSP 1312 and 1732. Records for Nov. 1-7, 1947 and Nov. 1-16, 1948, published in WSP 1118 and 1148, are unreliable and should not be used.

REVISED RECORDS.--WSP 1282: 1948-51. WSP 1923: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry and concrete control. Elevation of gage is 9,400 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 18, 1940, water-stage recorder and wooden control 100 ft downstream at datum 1.56 ft lower.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Diversion 3.5 mi upstream for irrigation of about 1,300 acres, part of which is in Costilla Creek basin. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 181 ft³/s, July 20, 1971, gage height, 2.07 ft, from rating curve extended above 85 ft³/s; minimum not determined.

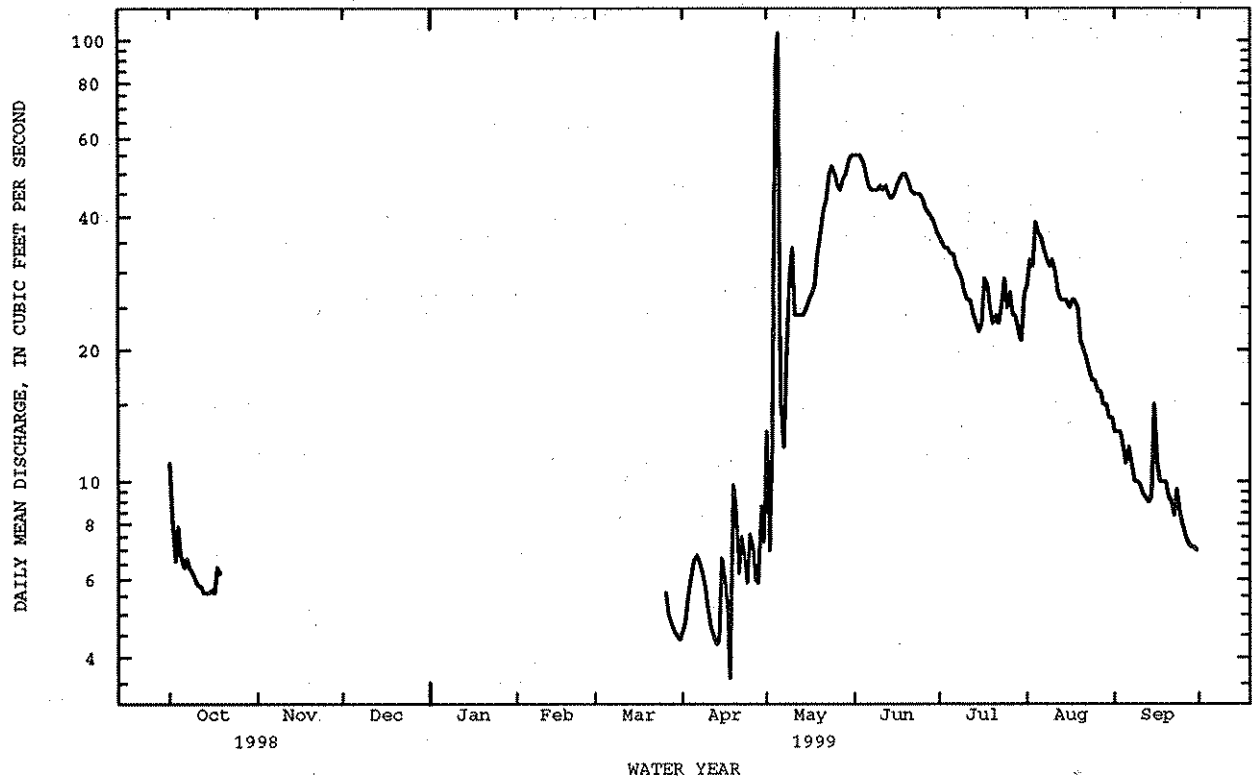
EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 180 ft³/s, at 0900 hours May 5, gage height 4.41 ft; minimum daily discharge 3.6 ft³/s, Apr. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	---	---	---	---	---	e4.6	13	55	36	28	13
2	8.2	---	---	---	---	---	e4.8	7.0	55	35	32	13
3	6.6	---	---	---	---	---	e5.6	13	55	34	31	13
4	7.9	---	---	---	---	---	e6.1	87	53	34	39	12
5	6.8	---	---	---	---	---	e6.6	104	50	33	37	11
6	6.4	---	---	---	---	---	e6.8	15	47	33	36	12
7	6.7	---	---	---	---	---	e6.6	12	46	31	34	11
8	6.4	---	---	---	---	---	e6.2	19	46	30	32	10
9	6.2	---	---	---	---	---	e5.8	30	46	29	31	10
10	6.0	---	---	---	---	---	e5.2	34	47	27	32	9.9
11	5.8	---	---	---	---	---	e4.7	24	46	26	30	9.4
12	5.8	---	---	---	---	---	e4.5	24	47	26	27	9.2
13	5.6	---	---	---	---	---	e4.3	24	45	24	26	9.0
14	5.6	---	---	---	---	---	4.4	24	44	23	26	9.3
15	5.6	---	---	---	---	---	6.7	25	45	22	26	15
16	5.7	---	---	---	---	---	6.0	26	47	23	25	11
17	5.6	---	---	---	---	---	5.3	27	49	29	26	10
18	6.4	---	---	---	---	---	3.6	28	50	28	26	10
19	6.2	---	---	---	---	---	9.8	33	50	25	25	10
20	---	---	---	---	---	---	8.7	37	48	23	21	9.3
21	---	---	---	---	---	---	6.2	41	46	24	20	9.0
22	---	---	---	---	---	---	7.5	44	45	23	19	8.4
23	---	---	---	---	---	---	6.9	50	45	25	18	9.6
24	---	---	---	---	---	---	5.9	52	45	29	17	8.5
25	---	---	---	---	---	---	7.6	50	44	25	17	8.0
26	---	---	---	---	---	e5.6	7.1	47	42	27	16	7.5
27	---	---	---	---	---	e5.0	6.0	46	41	24	16	7.3
28	---	---	---	---	---	e4.8	5.9	49	40	24	15	7.1
29	---	---	---	---	---	e4.6	8.8	50	39	22	15	7.1
30	---	---	---	---	---	e4.5	7.3	54	37	21	14	7.0
31	---	---	---	---	---	e4.4	---	55	---	27	14	---
TOTAL	---	---	---	---	---	---	185.5	1144.0	1395	842	771	296.6
MEAN	---	---	---	---	---	---	6.18	36.9	46.5	27.2	24.9	9.89
MAX	---	---	---	---	---	---	9.8	104	55	36	39	15
MIN	---	---	---	---	---	---	3.6	7.0	37	21	14	7.0
AC-FT	---	---	---	---	---	---	368	2270	2770	1670	1530	588

e Estimated

08253000 CASIAS CREEK NEAR COSTILLA, NM--Continued



08253500 SANTISTEVAN CREEK NEAR COSTILLA, NM

LOCATION.--Lat 36°53'03", long 105°16'50", Tacos County, Hydrologic Unit 13020101, in Sangre de Cristo Grant, on left bank 200 ft upstream from road crossing, 1,300 ft upstream from normal high-water line of Costilla Reservoir, 0.6 mi north of Costilla Dam, and 16 mi southeast of Costilla.

DRAINAGE AREA.--2.15 mi².

PERIOD OF RECORD.--April 1937 to current year (seasonal records). Monthly discharge only for some periods, published in WSP 1312 and 1732.

REVISED RECORDS.--WSP 1923: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry and Parshall flume. Elevation of gage is 9,480 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 27, 1940, water-stage recorder and wooden control at datum 0.99 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are poor. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20 ft³/s, June 29, 1995; maximum gage height, 1.73 ft, Aug. 11, 1941; minimum not determined.

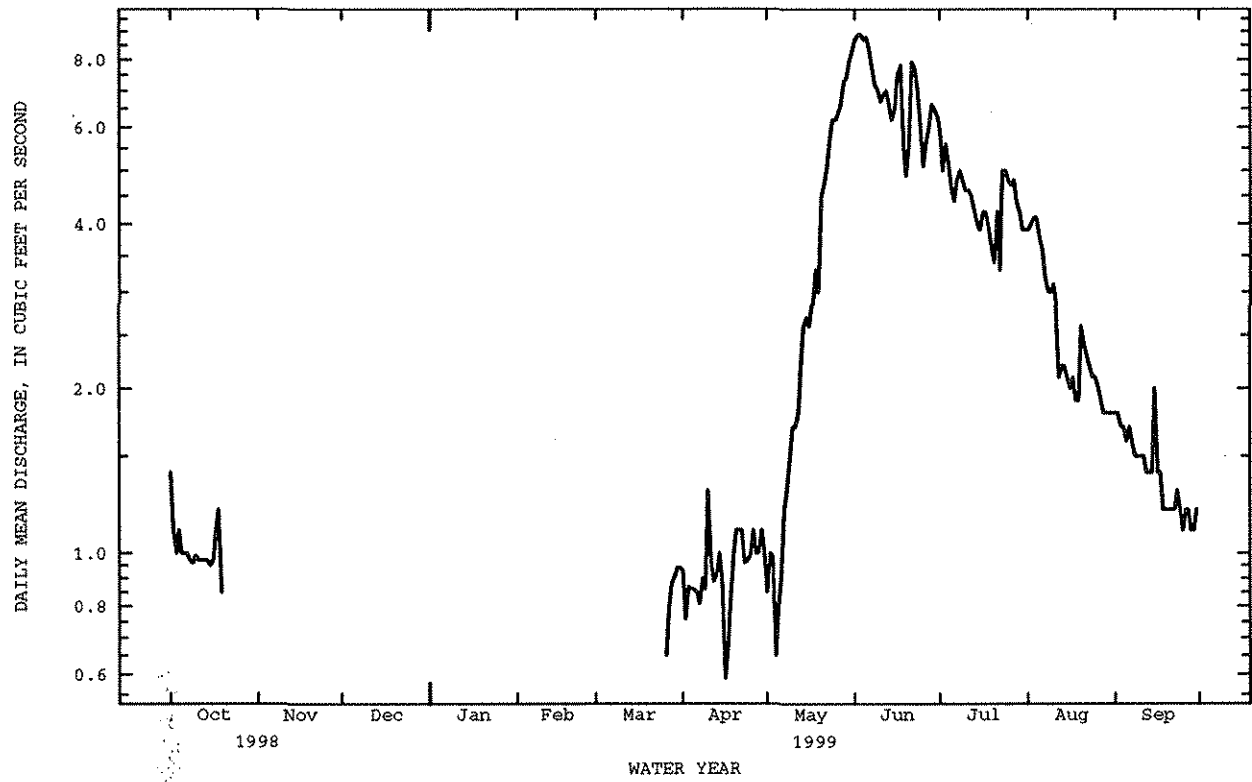
EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 19 ft³/s, at 1515 hours July 23, gage height 1.54; minimum daily 0.59 ft³/s, Apr. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	---	---	---	---	---	e.93	e.85	8.7	5.9	3.9	1.8
2	1.1	---	---	---	---	---	e.76	e1.0	8.9	5.0	4.0	1.8
3	1.0	---	---	---	---	---	e.87	e.99	8.9	5.6	4.1	1.7
4	1.1	---	---	---	---	---	e.86	e.65	8.7	5.2	4.1	1.7
5	1.0	---	---	---	---	---	e.86	e.80	8.8	4.6	3.8	1.6
6	1.0	---	---	---	---	---	e.85	e.90	8.4	e4.4	3.6	1.7
7	1.0	---	---	---	---	---	e.81	e1.2	7.7	e4.8	3.2	1.6
8	.97	---	---	---	---	---	e.90	e1.3	7.2	5.0	3.0	1.5
9	.96	---	---	---	---	---	e.86	e1.5	7.0	4.8	3.0	1.5
10	.99	---	---	---	---	---	e1.3	e1.7	6.7	4.6	3.1	1.5
11	.97	---	---	---	---	---	e.96	e1.7	6.9	4.6	2.8	1.5
12	.97	---	---	---	---	---	e.89	e1.8	7.0	4.5	2.1	1.4
13	.97	---	---	---	---	---	e.92	e2.2	6.6	4.2	2.2	1.4
14	.97	---	---	---	---	---	e1.0	e2.6	6.2	4.0	2.2	1.4
15	.95	---	---	---	---	---	e.90	e2.7	e6.5	3.9	2.1	2.0
16	.97	---	---	---	---	---	e.59	e2.6	e7.5	4.2	2.0	1.4
17	1.1	---	---	---	---	---	e.66	e2.9	7.8	4.2	2.1	1.4
18	1.2	---	---	---	---	---	e.81	e3.3	5.7	3.9	1.9	1.2
19	.85	---	---	---	---	---	e.99	e3.0	4.9	3.6	1.9	1.2
20	---	---	---	---	---	---	e1.1	4.5	5.6	3.4	2.6	1.2
21	---	---	---	---	---	---	e1.1	4.7	7.9	4.2	2.4	1.2
22	---	---	---	---	---	---	e1.1	5.1	7.7	3.3	2.3	1.2
23	---	---	---	---	---	---	e.96	5.7	7.1	5.0	2.2	1.3
24	---	---	---	---	---	---	e.97	6.2	6.2	5.0	2.1	1.2
25	---	---	---	---	---	---	e.99	6.2	5.1	4.8	2.1	1.1
26	---	---	---	---	---	e.65	e1.1	6.4	e5.6	4.7	2.0	e1.2
27	---	---	---	---	---	e.79	e1.0	6.6	e5.9	4.8	1.9	e1.2
28	---	---	---	---	---	e.88	e1.0	7.3	6.6	4.4	1.8	e1.1
29	---	---	---	---	---	e.91	e1.1	7.4	6.5	4.2	1.8	e1.1
30	---	---	---	---	---	e.94	e1.0	8.0	6.3	3.9	1.8	e1.2
31	---	---	---	---	---	e.94	---	8.3	---	3.9	1.8	---
TOTAL	---	---	---	---	---	---	28.14	110.09	210.6	138.6	79.9	42.3
MEAN	---	---	---	---	---	---	.94	3.55	7.02	4.47	2.58	1.41
MAX	---	---	---	---	---	---	1.3	8.3	8.9	5.9	4.1	2.0
MIN	---	---	---	---	---	---	.59	.65	4.9	3.3	1.8	1.1
AC-FT	---	---	---	---	---	---	56	218	418	275	158	84

e Estimated

08253500 SANTISTEVAN CREEK NEAR COSTILLA, NM--Continued



08253900 COSTILLA RESERVOIR NEAR COSTILLA, NM

LOCATION.--Lat 36°52'36", long 105°16'45", Taos County, Hydrologic Unit 13020101, in Sangre de Cristo Grant, on face of Costilla Dam on Costilla Creek, 16 mi southeast of Costilla, and at mile 34.8.

DRAINAGE AREA.--54.6 mi².

PERIOD OF RECORD.--May 1922 to September 1965 (monthend contents only), October 1965 to September 1983, April 1990 to current year. Records prior to October 1960 published in WSP 1732. Prior to October 1966, published as Costilla Lake near Costilla.

REVISED RECORDS.--WSP 1923: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Elevation of gage is 9,300 above National Geodetic Vertical datum of 1929, from topographic map.

REMARKS.--Records good except for estimated periods which are fair. Reservoir is formed by earthfill dam faced with rock. Storage began in 1920. Diversions for irrigation of about 1,300 acres above Reservoir. Reservoir is used for irrigation. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 16,500 acre-ft June 1-4, 1994, June 19-22, 1995, gage height, 107.61 ft; no storage October 1925 to February 1926, September 1956, Aug. 22 to Sept. 24, 1972, July 29 to Sept. 7, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 16,100 acre-ft, June 20-29, gage height, 106.84 ft; minimum contents, 3,230 acre-ft, Oct. 1, gage height, 63.00 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3260	4110	4810	5400	5790	6150	7730	10600	13500	16000	14900	14100
2	3300	4140	4830	5420	5800	6160	7800	10700	13700	15900	14900	14100
3	3330	4170	4860	5430	5810	6180	7870	10800	14000	15900	14900	14000
4	3360	4190	4880	5440	5830	6190	7940	10900	14200	15900	14900	14000
5	3390	4220	4900	5460	5840	6200	8010	11000	14400	15900	15000	14000
6	3410	4240	4920	5470	5850	6210	8100	11100	14500	15800	15000	13800
7	3440	4260	4940	5480	5860	6230	8170	11200	14700	15800	15000	13700
8	3460	4290	4960	5490	5880	6240	8250	11200	14800	15700	15000	13600
9	3490	4320	4980	5510	5890	6260	8310	11200	14900	15700	15000	13500
10	3510	4330	5000	5520	5910	6280	8380	11300	15000	15700	15000	13500
11	3530	4340	5020	5530	5920	6310	8470	11300	15100	15700	15000	13500
12	3550	4350	5030	5540	5930	6330	8540	11500	15200	15600	15000	13400
13	3570	4390	5050	5550	5950	6340	8650	11500	15300	15500	14900	13200
14	3590	4420	5070	5570	5960	6370	8730	11600	15300	15400	15000	13100
15	3610	4440	5090	5580	5980	6390	8810	11700	15500	15300	14900	13000
16	3630	4470	5110	5590	5990	6420	8880	11700	15600	15300	14900	12900
17	3650	4500	5130	5600	6000	6440	8970	11800	15700	15300	14900	12800
18	3670	4520	5150	5610	6010	6460	9050	11900	15900	15400	14900	12800
19	3690	4540	5180	5630	6020	6490	9160	12000	16000	15300	14800	12800
20	3720	4560	5200	5640	6040	6520	9270	e11900	16100	15200	14800	12700
21	3740	4580	5210	5650	6050	6560	9380	e12000	16100	15100	14800	12600
22	3760	4610	5230	5660	6060	6590	9500	e12000	16100	15000	14700	12500
23	3780	4630	5240	5680	6070	6620	9600	e12100	16100	15000	14700	12400
24	3800	4650	5260	5690	6090	6640	9710	e12100	16100	15100	14600	12400
25	3840	4670	5280	5700	6100	7230	9820	e12100	16100	15000	14600	12400
26	3890	4700	5300	5710	6110	7310	9920	e12200	16100	15000	14500	12400
27	3930	4720	5320	5730	6120	7380	10000	12200	16100	14900	14500	12300
28	3970	4740	5340	5740	6140	7450	10100	12400	16100	14900	14500	12300
29	4000	4770	5360	5750	---	7510	10300	12700	16000	14900	14400	12200
30	4030	4790	5380	5760	---	7590	10400	13000	16000	14800	14300	12200
31	4080	---	5390	5780	---	7670	---	13200	---	14900	14200	---
MAX	4080	4790	5390	5780	6140	7670	10400	13200	16100	16000	15000	14100
MIN	3260	4110	4810	5400	5790	6150	7730	10600	13500	14800	14200	12200
(+)	67.34	70.78	73.51	75.20	76.67	82.56	91.64	99.61	106.54	103.82	102.22	96.77
(++)	+880	+710	+600	+390	+360	+1530	+2730	+2800	+2800	-1100	-700	-2000

CAL YR 1998 MAX 11000 MIN 3200 (++) -1000
WTR YR 1999 MAX 16100 MIN 3260 (++) +9000

e Estimated

(+) GAGE HEIGHT, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-FEET

08254000 COSTILLA CREEK BELOW COSTILLA DAM, NM

LOCATION.--Lat 36°52'26", long 105°16'47", Taos County, Hydrologic Unit 13020101, in Sangre de Cristo Grant, on right bank approximately 1,000 ft downstream from Costilla Dam, 16 mi southeast of Costilla, and at mile 34.5.

DRAINAGE AREA.--54.6 mi².

PERIOD OF RECORD.--April 1937 to current year (seasonal records 1937-44, 1947-49, 1988-98). Monthly discharge only for some periods, published in WSP 1312. Prior to October 1951, published as "below reservoir near Costilla."

REVISED RECORDS.--WSP 1923: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry and concrete control. Elevation of gage is 9,290 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 7, 1989, at site 500 ft upstream at different datum.

REMARKS.--Records good. Flow regulated by Costilla Reservoir (station 08253900). Diversions for irrigation of about 1,300 acres upstream from reservoir. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 366 ft³/s, July 29, 1994, gage height, 3.57 ft; no flow at times.

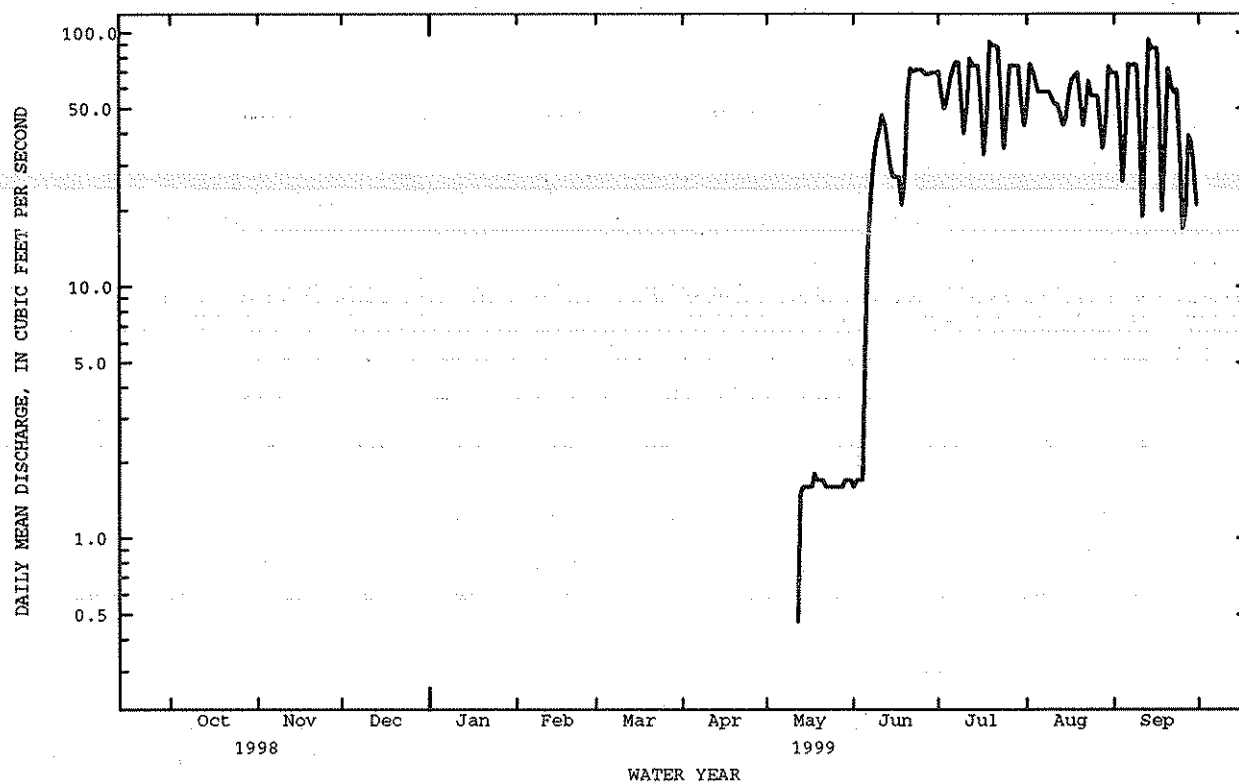
EXTREMES FOR CURRENT YEAR.--Maximum daily discharge during period of seasonal operation, 94 ft³/s, Sept. 13; minimum daily, 0.47 ft³/s, May 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.27	---	---	---	---	---	.00	.00	1.6	70	52	69
2	.00	---	---	---	---	---	.00	.00	1.7	58	75	69
3	.00	---	---	---	---	---	.00	.00	1.7	50	70	42
4	.00	---	---	---	---	---	.00	.00	1.7	54	64	26
5	.00	---	---	---	---	---	.00	.00	5.5	65	58	38
6	.00	---	---	---	---	---	.00	.00	14	71	58	75
7	.00	---	---	---	---	---	.00	.00	23	76	58	74
8	.00	---	---	---	---	---	.00	.00	31	76	58	75
9	.00	---	---	---	---	---	.00	.00	38	55	58	74
10	.00	---	---	---	---	---	.00	.00	41	40	55	43
11	.00	---	---	---	---	---	.00	.00	47	51	52	19
12	.00	---	---	---	---	---	.00	.47	43	79	52	42
13	.00	---	---	---	---	---	.00	1.5	36	74	47	94
14	.00	---	---	---	---	---	.00	1.6	30	74	43	87
15	.00	---	---	---	---	---	.00	1.6	27	74	46	87
16	.00	---	---	---	---	---	.00	1.6	27	50	58	87
17	.00	---	---	---	---	---	.00	1.6	27	33	65	46
18	.00	---	---	---	---	---	.00	1.8	21	47	67	20
19	.00	---	---	---	---	---	.00	1.7	26	92	69	39
20	.00	---	---	---	---	---	.00	1.7	57	89	55	72
21	---	---	---	---	---	---	.00	1.7	72	89	43	61
22	---	---	---	---	---	---	.00	1.6	70	88	51	58
23	---	---	---	---	---	---	.00	1.6	71	58	64	59
24	---	---	---	---	---	---	.00	1.6	71	35	56	33
25	---	---	---	---	---	.00	.00	1.6	71	45	56	17
26	---	---	---	---	---	.00	.00	1.6	69	74	56	20
27	---	---	---	---	---	.00	.00	1.6	68	74	44	39
28	---	---	---	---	---	.00	.00	1.6	69	74	35	37
29	---	---	---	---	---	.00	.00	1.7	69	74	45	28
30	---	---	---	---	---	.00	.00	1.7	69	55	73	21
31	---	---	---	---	---	.00	---	1.7	---	43	69	---
TOTAL	---	---	---	---	---	---	0.00	31.57	1199.2	1987	1752	1551
MEAN	---	---	---	---	---	---	.000	1.02	40.0	64.1	56.5	51.7
MAX	---	---	---	---	---	---	.00	1.8	72	92	75	94
MIN	---	---	---	---	---	---	.00	.00	1.6	33	35	17
AC-FT	---	---	---	---	---	---	.00	63	2380	3940	3480	3080

RIO GRANDE BASIN

08254000 COSTILLA CREEK BELOW COSTILLA DAM, NM--Continued



LOCATION.--Lat 36°58'01", long 105°30'23", Taos County, Hydrologic Unit 13020101, in Sangre de Cristo Grant, on right bank 70 ft downstream from bridge on State Highway 196, 0.5 mi upstream from diversion dam, 1.6 mi southeast of Costilla, and at mile 15.9.

PERIOD OF RECORD.--March 1936 to current year (no winter records 1936-41, 1943). Monthly discharge for March 1943 and water-year estimate for 1943, published in WSP 1312.

GAGE.--Water-stage recorder with satellite telemetry. Concrete control since Oct. 13, 1952. Elevation of gage is 7,900 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 18, 1944, at site 200 ft downstream at different datum. June 18, 1944 to Sept. 30, 1964, at site 0.4 mi upstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by Costilla Reservoir (station 08253900) 19 mi upstream. Diversions for irrigation of about 2,000 acres upstream from station. Several observations of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1999, BY WATER YEAR (WY)

MEAN	15.5	11.8	8.68	7.87	9.42	18.2	50.2	121	118	85.9	70.1	36.1
MAX	44.9	30.1	19.6	15.0	16.9	70.9	223	594	342	160	137	109
(WY)	1962	1942	1942	1950	1942	1989	1942	1942	1983	1944	1973	1957
MIN	4.85	4.11	3.71	3.44	3.38	6.92	13.1	30.8	36.0	23.8	17.3	7.93
(WY)	1964	1965	1964	1964	1964	1964	1956	1967	1946	1946	1977	1974

RIO GRANDE BASIN

08255500 COSTILLA CREEK NEAR COSTILLA, NM--Continued

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

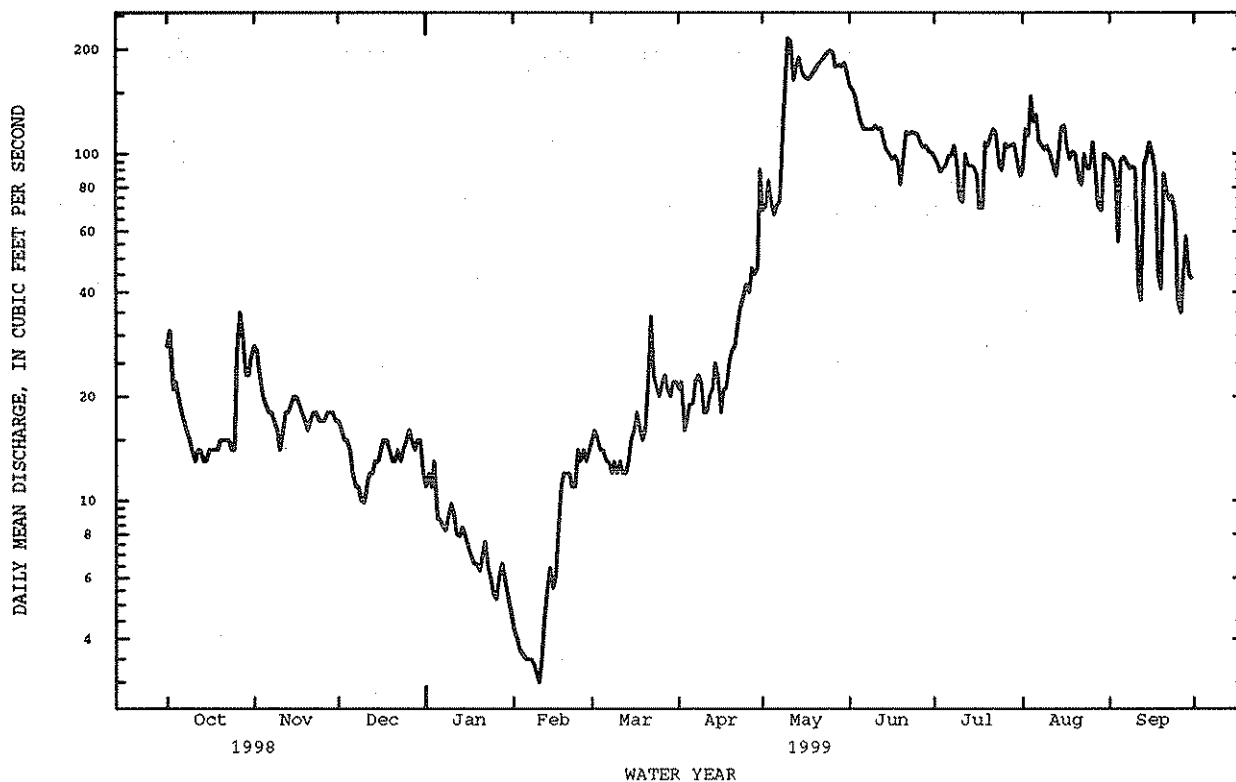
FOR 1999 WATER YEAR

WATER YEARS 1942 - 1999

ANNUAL TOTAL	16354.5	19940.0	
ANNUAL MEAN	44.8	54.6	46.4
HIGHEST ANNUAL MEAN			134
LOWEST ANNUAL MEAN			16.5
HIGHEST DAILY MEAN	161	215	1000
LOWEST DAILY MEAN	6.0	3.0	1.0
ANNUAL SEVEN-DAY MINIMUM	7.6	3.4	2.5
INSTANTANEOUS PEAK FLOW		315	1150
INSTANTANEOUS PEAK STAGE		3.65	5.37
INSTANTANEOUS LOW FLOW		1.7	.34
ANNUAL RUNOFF (AC-FT)	32440	39550	33650
10 PERCENT EXCEEDS	107	118	118
50 PERCENT EXCEEDS	25	23	19
90 PERCENT EXCEEDS	8.1	8.1	6.4

e Estimated

a Site and datum then in use.



08261000 COSTILLA CREEK AT GARCIA, CO

LOCATION.--Lat 36°59'21", long 105°31'54", Taos County, Hydrologic Unit 13020101, in Sangre de Cristo Grant, on left bank 0.4 mi downstream from old State Highway 3, 0.5 mi upstream from New Mexico-Colorado State line, 0.9 mi south of Garcia, and at mile 13.3.

DRAINAGE AREA.--200 mi², approximately.

PERIOD OF RECORD.--June 1944 to current year (seasonal records).

GAGE.--Water-stage recorder with satellite telemetry and concrete control since Oct. 9, 1956. Elevation of gage is 7,760 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Apr. 20, 1950, at site 0.4 mi downstream at different datum.

REMARKS.--Records good. Flow partly regulated by Costilla Reservoir (station 08253900) 22 mi upstream. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 444 ft³/s, June 1, 1983, gage height, 4.91 ft; no flow for many days most years.

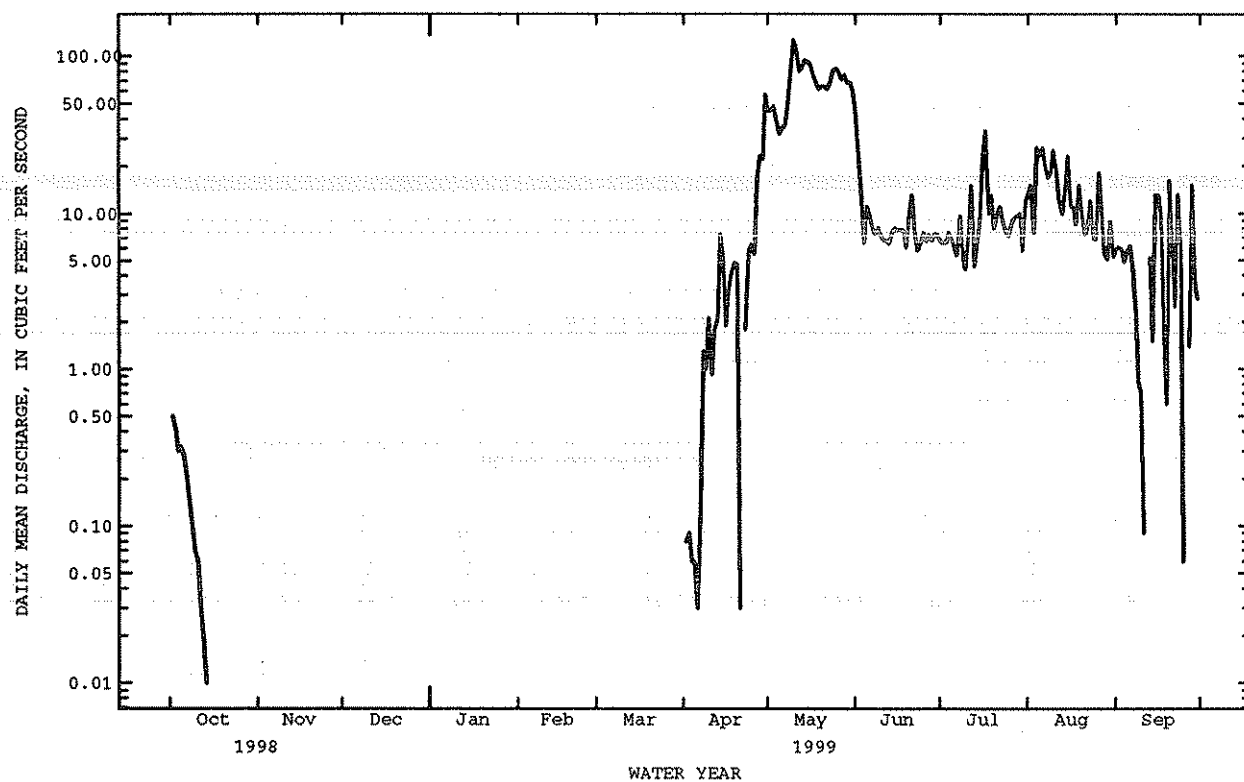
EXTREMES OUTSIDE PERIOD OF RECORD.--A major flood occurred in 1886, from information by local residents. Flood of May 11, 1942, probably reached a discharge of 1,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 200 ft³/s, at 0530 hours May 10, gage height, 4.22 ft; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	---	---	---	---	---	.00	45	44	6.6	13	5.9
2	.50	---	---	---	---	---	.08	45	23	6.5	15	6.1
3	.42	---	---	---	---	---	.09	48	14	6.5	7.5	5.9
4	.30	---	---	---	---	---	.06	38	6.5	7.5	26	4.9
5	.32	---	---	---	---	---	.06	32	11	6.8	23	5.7
6	.28	---	---	---	---	---	.03	35	10	6.1	26	6.2
7	.21	---	---	---	---	---	.09	36	8.0	5.4	20	4.5
8	.15	---	---	---	---	---	1.3	49	7.4	9.6	17	2.2
9	.10	---	---	---	---	---	1.0	84	8.0	5.6	18	.82
10	.07	---	---	---	---	---	2.1	127	7.2	4.4	25	.71
11	.06	---	---	---	---	---	.92	113	6.8	7.5	18	.09
12	.03	---	---	---	---	---	1.8	80	6.7	15	12	.00
13	.02	---	---	---	---	---	2.1	84	6.4	4.6	10	5.2
14	.01	---	---	---	---	---	7.3	94	7.5	6.4	14	1.5
15	.00	---	---	---	---	---	5.4	92	8.0	8.6	23	13
16	.00	---	---	---	---	---	1.9	89	7.8	24	11	13
17	.00	---	---	---	---	---	3.2	75	7.9	33	11	9.2
18	.01	---	---	---	---	---	4.2	68	7.8	10	8.5	2.0
19	---	---	---	---	---	---	4.8	62	6.1	13	15	.60
20	---	---	---	---	---	---	4.7	64	10	8.0	10	16
21	---	---	---	---	---	---	.03	64	13	10	7.3	5.6
22	---	---	---	---	---	---	.00	62	7.2	11	8.2	2.5
23	---	---	---	---	---	---	1.8	68	5.8	9.1	12	13
24	---	---	---	---	---	---	5.7	81	6.4	7.7	6.9	6.1
25	---	---	---	---	---	---	6.3	83	7.5	7.2	6.8	.06
26	---	---	---	---	---	---	5.5	80	6.6	8.8	18	.00
27	---	---	---	---	---	---	.00	16	71	7.3	10	1.4
28	---	---	---	---	---	---	.00	23	76	6.7	9.7	5.6
29	---	---	---	---	---	---	.00	22	68	7.4	10	5.1
30	---	---	---	---	---	---	.00	57	68	7.3	5.8	8.8
31	---	---	---	---	---	---	.00	---	60	---	12	5.3
TOTAL	---	---	---	---	---	---	178.46	2141	289.3	295.8	417.0	153.58
MEAN	---	---	---	---	---	---	5.95	69.1	9.64	9.54	13.5	5.12
MAX	---	---	---	---	---	---	57	127	44	33	26	16
MIN	---	---	---	---	---	---	.00	32	5.8	4.4	5.1	.00
AC-FT	---	---	---	---	---	---	354	4250	574	587	827	305

08261000 COSTILLA CREEK AT GARCIA, CO--Continued



08263500 RIO GRANDE NEAR CERRO, NM

LOCATION.--Lat 36°44'24", long 105°40'59", in NW¹/₄NE¹/₄ sec.20, T.29 N., R.12 E., Taos County, Hydrologic Unit 13020101, on left bank 4 mi southwest of Cerro, 5.5 mi northwest of Questa, 7.4 mi upstream from Red River, and at mile 1,693.1.

DRAINAGE AREA.--8,440 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

PERIOD OF RECORD.--May 1948 to September 1994, October 1995 to current year.

REVISED RECORDS.--WDR NM-80-1: 1978(M).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 7,110 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions upstream from station for irrigation of about 620,000 acres in Colorado and 7,000 acres in New Mexico. Several observations of water temperature were made during year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	212	284	429	448	484	191	233	1510	1090	887	1040
2	98	199	308	423	426	491	205	487	1520	953	856	998
3	97	212	296	423	410	505	224	709	1320	870	858	940
4	86	207	280	405	474	509	212	608	1070	871	1020	925
5	87	198	273	388	487	525	208	556	998	918	1140	1080
6	123	190	275	390	529	514	193	512	1040	858	1520	1240
7	147	183	256	402	473	507	199	492	1250	824	1780	1210
8	145	179	205	412	474	509	187	442	1090	730	1690	1070
9	159	178	174	406	502	508	162	388	1010	687	1650	1040
10	132	199	158	400	489	505	136	375	1170	697	1710	1070
11	116	188	152	404	502	489	137	449	1430	734	1670	1080
12	111	217	311	415	456	491	133	601	1640	606	1510	1060
13	105	189	305	424	384	491	136	670	1570	517	1500	1030
14	104	204	319	409	413	493	147	684	1330	507	1590	1040
15	107	242	358	393	429	489	146	714	1480	489	1540	1100
16	106	275	371	401	458	461	134	895	1690	490	1280	1060
17	101	269	389	411	437	455	130	1000	1890	517	1250	949
18	96	257	401	391	451	371	131	965	1910	557	1300	960
19	98	267	407	432	447	299	133	937	2040	532	1350	929
20	97	258	428	452	484	294	138	932	2150	597	1190	921
21	99	235	388	453	486	287	142	1000	2110	662	1070	968
22	107	220	388	436	484	264	134	1110	1750	790	1140	1010
23	114	214	363	412	463	262	131	1130	1570	742	1280	928
24	134	216	403	428	455	282	164	1270	1730	712	1270	881
25	150	250	375	474	469	277	203	1520	1930	848	1170	853
26	155	283	360	478	456	269	204	1750	1990	949	1080	830
27	163	273	367	454	473	265	208	1530	1780	963	1020	786
28	167	263	376	394	478	272	200	1400	1570	921	1020	741
29	247	265	391	416	---	258	187	1210	1520	895	1030	692
30	261	274	412	442	---	229	192	1130	1290	828	1020	677
31	230	---	411	464	---	211	---	1250	---	875	1070	---
TOTAL	4044	6816	10184	13061	12937	12266	5047	26949	46348	23229	39461	29108
MEAN	130	227	329	421	462	396	168	869	1545	749	1273	970
MAX	261	283	428	478	529	525	224	1750	2150	1090	1780	1240
MIN	86	178	152	388	384	211	130	233	998	439	856	677
AC-FT	8020	13520	20200	25910	25660	24330	10010	53450	91930	46070	78270	57740

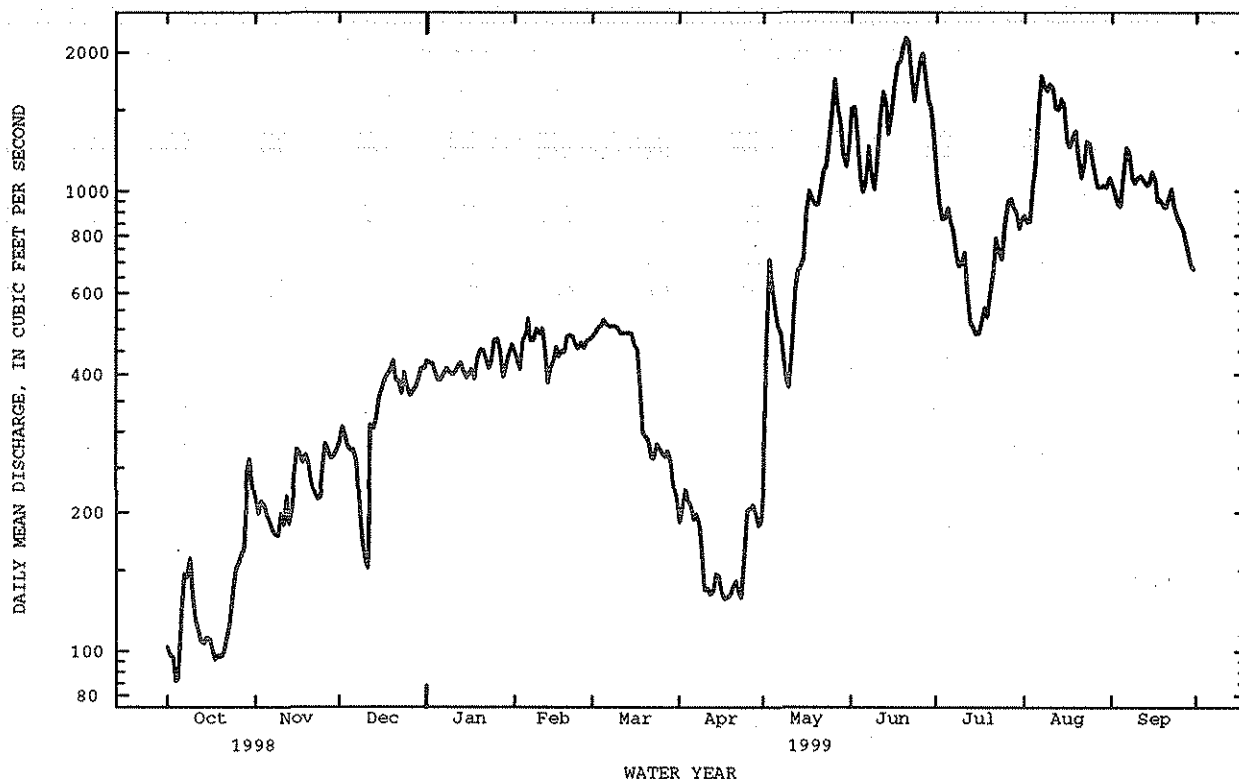
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1999, BY WATER YEAR (WY)

MEAN	217	359	304	300	360	479	544	959	1143	468	257	199
MAX	1310	1073	774	566	657	1010	2335	4577	4400	2181	1273	970
(WY)	1998	1987	1987	1987	1987	1987	1987	1987	1949	1986	1999	1999
MIN	52.7	88.1	100	116	140	110	107	84.1	58.1	51.5	48.1	44.8
(WY)	1957	1957	1964	1957	1957	1957	1955	1963	1977	1951	1956	1956

RIO GRANDE BASIN

08263500 RIO GRANDE NEAR CERRO, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1949 - 1999	
ANNUAL TOTAL	138671		229450			
ANNUAL MEAN	380		629		466	
HIGHEST ANNUAL MEAN					1275	
LOWEST ANNUAL MEAN					112	
HIGHEST DAILY MEAN	1440	May 24	2150	Jun 20	9440	Jun 22 1949
LOWEST DAILY MEAN	67	Sep 21	86	Oct 4	40	Sep 10 1977
ANNUAL SEVEN-DAY MINIMUM	76	Sep 17	101	Oct 15	42	Sep 5 1977
INSTANTANEOUS PEAK FLOW			2240	Jun 20	9740	Jun 22 1949
INSTANTANEOUS PEAK STAGE			8.83	Jun 20	15.78	Jun 22 1949
INSTANTANEOUS LOW FLOW			81	Oct 5	40	Sep 10 1977
ANNUAL RUNOFF (AC-FT)	275100		455100		337200	
10 PERCENT EXCEEDS	747		1320		1010	
50 PERCENT EXCEEDS	361		458		280	
90 PERCENT EXCEEDS	91		147		82	



LOCATION.--Lat 36°42'12", long 105°34'04", in NE¹/₄SE¹/₄ sec.32, T.29 N., R.13 E. (projected), Taos County, Hydrologic Unit 13020101, in Carson National Forest, on left bank 1.3 mi upstream from Cabresto Creek, 1.5 mi east of Questa, and at mile 9.0.

PERIOD OF RECORD.--April to October 1910 and January to September 1911 (gage heights and discharge measurements only), October 1912 to March 1924, May 1924 to September 1925, January to March 1926, September 1926 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as "Rio Colorado above Questa" 1910-11, 1926-30, and as "Rio Colorado near Questa" 1912-25, 1930-48.

GAGE.--Water-stage recorder with Satellite telemetry. Wood or concrete control since Mar. 20, 1936. Datum of gage is 7,451.92 ft above National Geodetic Vertical Datum of 1929. See WSP 1923 for history of changes prior to Oct. 4, 1938.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1999, BY WATER YEAR (WY)

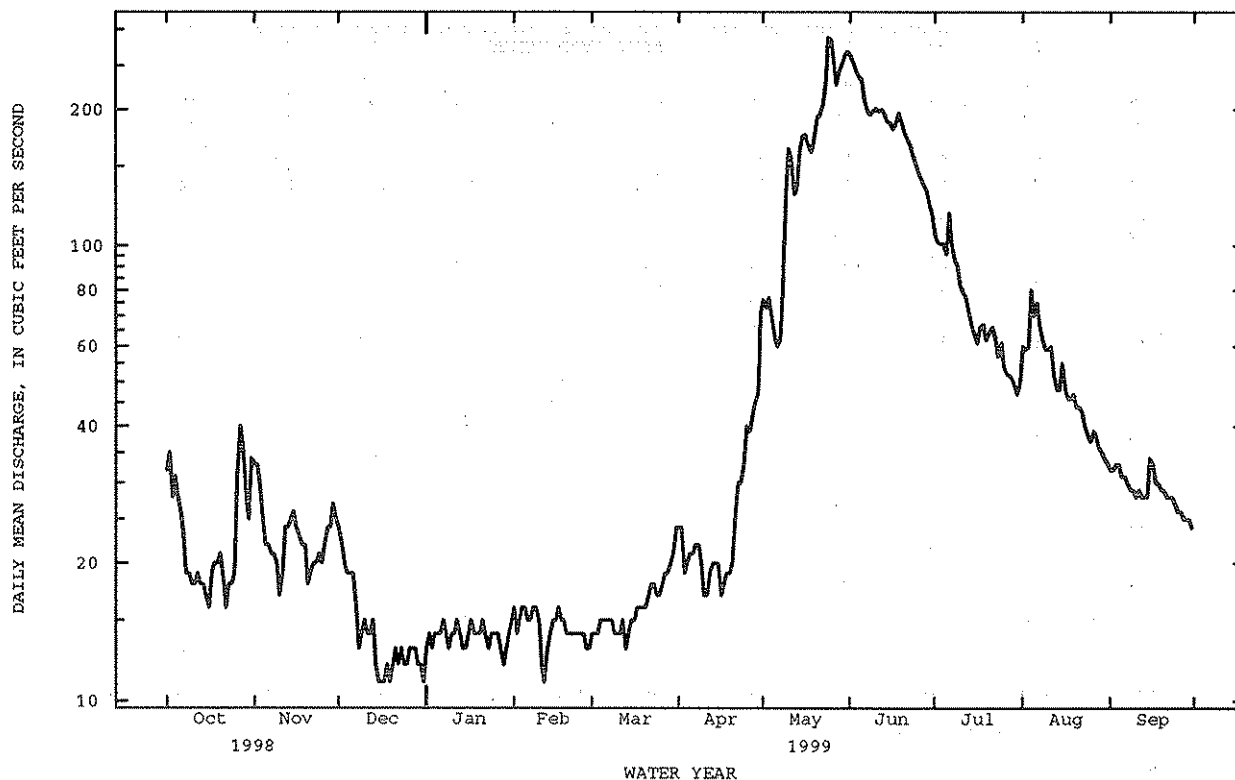
MEAN	23.0	17.2	12.2	12.3	12.8	16.0	36.8	118	142	64.6	40.3	29.1
MAX	38.1	32.8	25.3	25.2	22.8	40.0	84.1	267	405	172	70.6	62.2
{WY}	1986	1987	1994	1994	1988	1989	1985	1979	1979	1979	1966	1991
MIN	7.93	8.09	3.88	3.91	4.81	5.11	9.73	17.5	22.7	14.6	11.8	8.81
{WY}	1973	1977	1975	1973	1977	1977	1971	1971	1977	1971	1972	1978

RIO GRANDE BASIN

08265000 RED RIVER NEAR QUESTA, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1966 - 1999	
ANNUAL TOTAL	14056		19465		^a 43.8	
ANNUAL MEAN	38.5		53.3		11.8	
HIGHEST ANNUAL MEAN					87.6	
LOWEST ANNUAL MEAN					11.8	
HIGHEST DAILY MEAN	139	May 22	288	May 24	557	Jun 9 1979
LOWEST DAILY MEAN	10	Jan 7	11	Dec 15	2.5	Jan 6 1971
ANNUAL SEVEN-DAY MINIMUM	11	Dec 14	11	Dec 14	3.1	Jan 2 1973
INSTANTANEOUS PEAK FLOW			333		^b 886	
INSTANTANEOUS PEAK STAGE			4.06		5.80	
INSTANTANEOUS LOW FLOW			6.7		.60	
ANNUAL RUNOFF (AC-FT)	27880		38610		31730	
10 PERCENT EXCEEDS	89		169		109	
50 PERCENT EXCEEDS	24		24		22	
90 PERCENT EXCEEDS	13		14		8.0	

e Estimated

a Average discharge for 52 years (water years 1913-25, 1927-65), 55.9 ft³/s, 40,500 acre-ft/yr, prior to extensive upstream diversions by MolyCorp.b From rating curve extended above 450 ft³/s.

LOCATION.--Lat 36°40'54", long 105°39'21", in NW¹/₄NW¹/₄ sec.10, T.28 N., R.12 E., Taos County, Hydrologic Unit 13020101, on right bank at the State Fish Hatchery, 3.8 mi upstream from mouth, and 3.7 mi southwest of Questa.

PERIOD OF RECORD.--August 1969 to July 1978 (discharge measurements only), August 1978 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 7,080 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 5, 1999, at site about .25 mile downstream at datum 11.54 ft lower. Prior to Aug. 16, 1999, at site 250 ft upstream at datum 5.55 ft higher.

REMARKS.--Records good. Diversions for irrigation of about 3,000 acres upstream from station. Several observations of water temperature were made during the year.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	67	59	53	50	47	52	115	265	111	83	62
2	65	67	56	50	46	45	54	111	250	110	85	63
3	58	65	55	49	45	44	50	114	238	108	84	64
4	61	61	54	44	47	45	50	106	229	104	99	65
5	59	58	53	46	50	44	52	96	224	105	96	62
6	57	57	54	49	49	44	53	89	205	119	106	61
7	54	56	51	50	48	44	55	89	189	114	99	62
8	51	56	40	50	50	44	55	103	180	109	93	60
9	50	58	41	45	49	43	54	145	184	107	89	60
10	49	51	42	46	49	43	49	177	184	102	90	59
11	48	49	40	47	45	43	47	169	181	99	93	58
12	49	58	41	50	37	44	48	147	177	98	87	57
13	49	59	45	49	45	41	51	150	173	93	81	58
14	47	59	46	48	48	43	54	174	164	92	81	57
15	47	61	46	48	49	45	53	187	169	89	88	65
16	46	60	45	51	47	45	49	191	165	86	82	66
17	49	59	47	50	47	47	50	185	170	88	78	63
18	51	57	48	49	48	47	51	187	182	87	78	64
19	51	58	49	49	48	47	51	201	174	81	78	63
20	51	54	49	48	47	47	50	217	167	85	75	63
21	50	52	48	49	47	48	54	217	161	87	77	61
22	46	55	43	49	47	50	58	227	157	86	74	61
23	47	53	49	43	43	50	58	265	152	82	71	62
24	47	55	44	50	47	47	60	331	142	84	69	61
25	48	56	44	49	47	46	69	324	139	80	68	59
26	60	56	47	49	46	47	68	288	141	80	69	58
27	69	59	49	46	45	50	72	256	136	80	69	57
28	66	59	49	45	46	50	76	268	131	79	69	56
29	60	61	48	49	---	50	76	268	126	76	67	57
30	59	60	47	50	---	50	105	288	122	76	66	57
31	70	---	49	49	---	52	---	279	---	76	63	---
TOTAL	1673	1736	1478	1499	1312	1432	1724	5964	5277	2873	2507	1821
MEAN	54.0	57.9	47.7	48.4	46.9	46.2	57.5	192	176	92.7	80.9	60.7
MAX	70	67	59	53	50	52	105	331	265	119	106	66
MIN	46	49	40	43	37	41	47	89	122	76	63	56
AC-FT	3320	3440	2930	2970	2600	2840	3420	11830	10470	5700	4970	3610

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1999, BY WATER YEAR (WY)

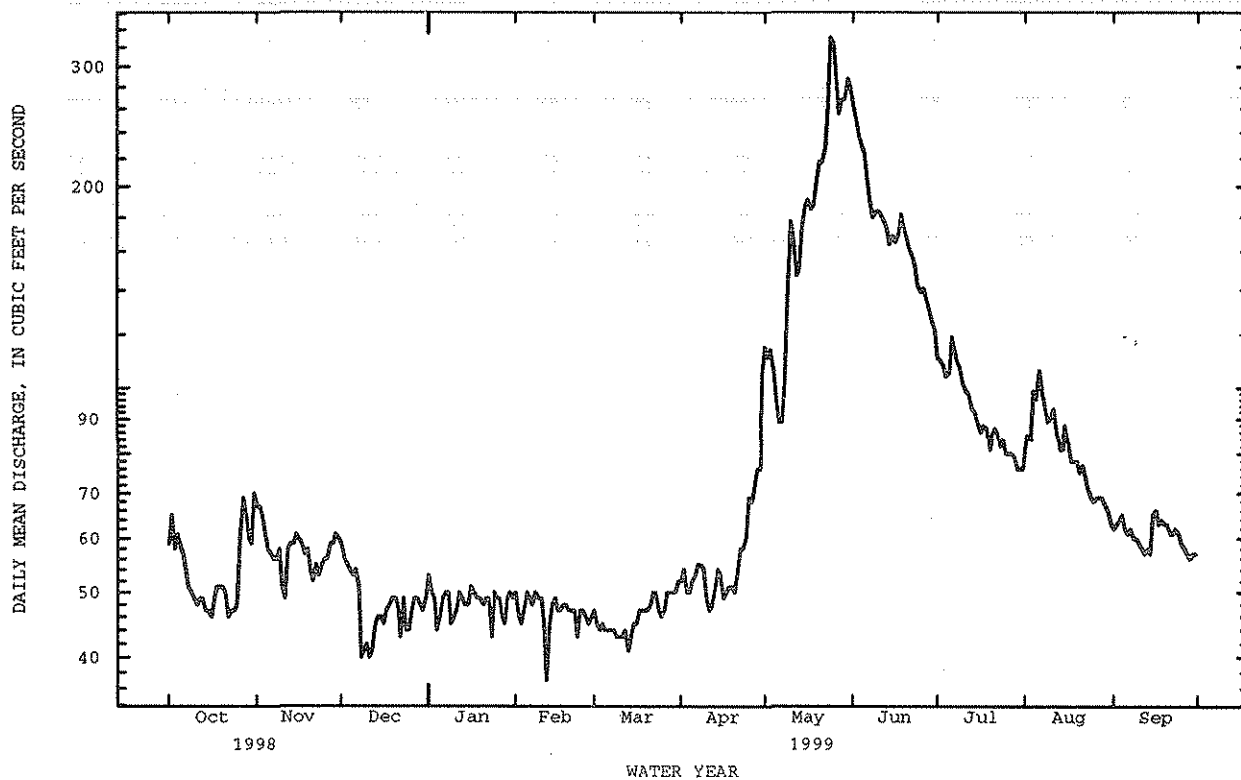
MEAN	53.7	48.6	43.6	44.3	44.5	48.4	78.1	199	219	106	71.5	61.1
MAX	71.0	59.2	51.0	55.3	57.9	72.0	144	374	520	227	95.3	86.9
(WY)	1986	1992	1987	1992	1992	1989	1985	1994	1979	1995	1993	1986
MIN	29.0	33.0	28.2	31.4	31.5	35.1	39.7	50.5	51.2	43.1	42.1	31.2
(WY)	1979	1979	1979	1979	1981	1981	1981	1981	1996	1981	1981	1978

RIO GRANDE BASIN

08266820 RED RIVER BELOW FISH HATCHERY, NEAR QUESTA, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1978 - 1999	
ANNUAL TOTAL	24544		29296		85.1	
ANNUAL MEAN	67.2		80.3		129	
HIGHEST ANNUAL MEAN					41.9	
LOWEST ANNUAL MEAN					1979	
HIGHEST DAILY MEAN	167	May 22	331	May 24	676	May 27 1979
LOWEST DAILY MEAN	35	Feb 28	37	Feb 12	26	Oct 10 1978
ANNUAL SEVEN-DAY MINIMUM	38	Feb 24	42	Dec 8	26	Dec 9 1978
INSTANTANEOUS PEAK FLOW			374	May 24	755	Jun 8 1979
INSTANTANEOUS PEAK STAGE			5.20	May 24	5.30	Jun 8 1979
INSTANTANEOUS LOW FLOW			23	Feb 12	21	Dec 14 1986
ANNUAL RUNOFF (AC-FT)	48680		58110		61640	
10 PERCENT EXCEEDS	118		169		167	
50 PERCENT EXCEEDS	54		58		55	
90 PERCENT EXCEEDS	42		46		38	

a Site and datum then in use.



LOCATION.--Lat 36°32'30", long 105°33'21", Taos County, Hydrologic Unit 13020101, in Carson National Forest, on right bank 500 ft upstream from first diversion, 1.6 mi east of Valdez, 3.8 mi downstream from South Fork, and at mile 9.2.

WATER-DISCHARGE RECORDS

GAGE.--Water-stage recorder. Concrete control since Oct. 28, 1938. Elevation of gage is 7,650 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 28, 1938, at datum 1.92 ft lower.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	25	17	e10	e9.0	11	16	51	82	61	43	24
2	24	25	17	e11	e8.8	11	16	50	84	59	42	24
3	19	23	17	e12	e9.6	11	14	48	85	57	42	25
4	20	20	17	e12	e9.8	11	14	44	83	56	46	24
5	18	19	17	e13	e10	11	14	39	89	55	48	23
6	17	19	16	e12	e9.4	11	14	36	96	63	67	22
7	16	18	e13	e11	e9.2	11	15	37	96	57	60	22
8	16	18	e12	e9.6	e8.8	11	15	46	96	52	54	21
9	16	16	e13	e9.8	e9.0	11	15	59	98	50	51	21
10	16	14	e14	e9.4	e9.2	11	15	68	98	48	51	21
11	15	16	e13	e9.0	e9.0	11	15	64	97	49	51	20
12	15	19	e14	e9.4	e8.4	10	15	57	97	48	48	21
13	15	18	e14	e9.0	e9.4	12	16	58	97	46	44	20
14	15	19	e14	e8.6	e9.0	11	15	70	96	45	43	20
15	15	21	e13	e8.6	e9.6	12	15	80	96	43	45	25
16	15	23	e12	e9.2	e9.2	12	14	83	95	42	40	23
17	16	22	e13	e8.8	e9.6	12	15	81	94	42	38	22
18	16	22	e13	e8.8	e9.6	12	15	79	93	41	39	21
19	16	19	e12	e9.2	e9.4	12	15	85	92	40	37	21
20	16	17	e11	e8.8	e9.0	12	17	94	88	44	35	20
21	16	16	e12	e8.6	e9.2	12	20	95	86	43	34	20
22	16	18	e13	e9.0	e9.4	13	22	102	85	42	32	19
23	16	17	e12	e8.4	e9.0	13	23	98	81	40	31	19
24	16	17	e12	e9.0	e9.4	13	26	100	78	39	30	19
25	16	17	e13	e8.6	e9.4	13	31	91	75	38	29	19
26	23	17	e13	e8.6	e9.0	14	29	90	73	37	29	18
27	28	17	e12	e8.0	e9.4	15	30	94	71	38	29	18
28	26	17	e11	e9.2	10	14	34	95	69	37	28	18
29	24	19	e10	e9.4	---	14	35	95	67	37	27	18
30	24	17	e11	e9.0	---	15	47	85	64	36	26	18
31	27	---	e11	e8.6	---	15	---	84	---	40	25	---
TOTAL	573	565	412	295.6	259.8	377	597	2258	2601	1425	1244	626
MEAN	18.5	18.8	13.3	9.54	9.28	12.2	19.9	72.8	86.7	46.0	40.1	20.9
MAX	28	25	17	13	10	15	47	102	98	63	67	25
MIN	15	14	10	8.0	8.4	10	14	36	64	36	25	18
AC-FT	1140	1120	817	586	515	748	1180	4480	5160	2830	2470	1240

MEAN	18.6	15.0	12.2	10.8	10.7	14.4	34.2	96.4	115	49.1	29.4	22.5
MAX	43.5	35.8	23.1	20.1	16.6	36.4	92.4	246	299	156	60.3	53.2
(WY)	1942	1942	1942	1942	1942	1989	1937	1941	1979	1995	1957	1993
MIN	10.8	8.28	7.52	6.03	6.08	7.60	11.1	20.6	21.0	14.6	10.9	9.87
(WY)	1957	1952	1964	1935	1935	1964	1977	1971	1996	1972	1972	1956

RIO GRANDE BASIN

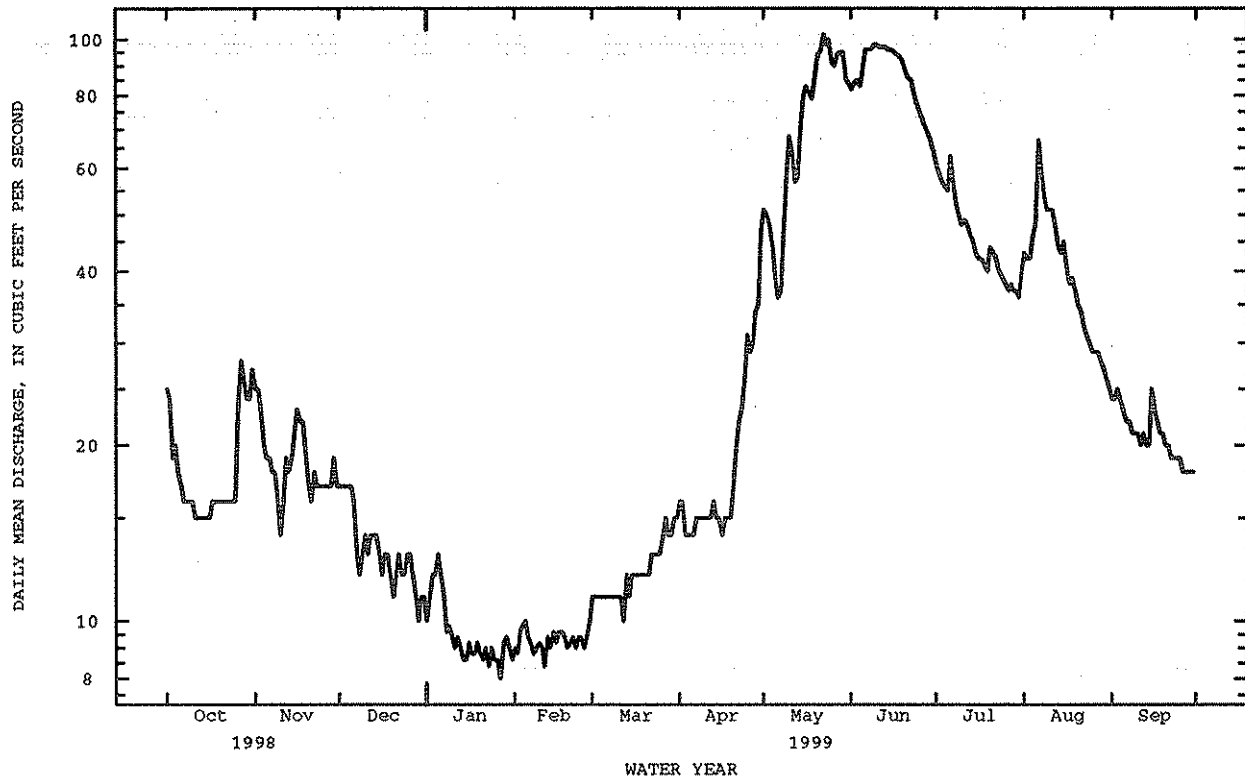
08267500 RIO HONDO NEAR VALDEZ, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1935 - 1999	
ANNUAL TOTAL	11065.0		11233.4		35.7	
ANNUAL MEAN	30.3		30.8		69.9	1942
HIGHEST ANNUAL MEAN					15.6	1971
LOWEST ANNUAL MEAN					416	May 13 1941
HIGHEST DAILY MEAN	117	Jun 5	102	May 22	3.0	Jan 21 1935
LOWEST DAILY MEAN	8.8	Feb 10	8.0	Jan 27	4.2	Jan 18 1935
ANNUAL SEVEN-DAY MINIMUM	9.2	Feb 4	8.6	Jan 21	541	May 13 1941
INSTANTANEOUS PEAK FLOW			119	May 24	^a 4.89	Feb 2 1994
INSTANTANEOUS PEAK STAGE			2.36	May 24	^b 1.0	Jan 27 1942
INSTANTANEOUS LOW FLOW					25880	
ANNUAL RUNOFF (AC-FT)	21950		22280		86	
10 PERCENT EXCEEDS	77		81		18	
50 PERCENT EXCEEDS	18		18		9.9	
90 PERCENT EXCEEDS	9.5		9.4			

e Estimated

a. Maximum gage height on Dec. 24, 1965, due to backwater from ice.

b. Result of freeze-up.



08267500 RIO HONDO NEAR VALDEZ, NM--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963, 1986 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
JAN 27...	1045	8.0	158	7.8	4.5	-1.0	574	12.2	108
JUN 22...	1150	83	115	8.0	19.0	8.5	576	8.7	99

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
JAN 27...	<.010	.39	.010	<.20	<.20	<.02	<.02	<.01
JUN 22...	<.01	.22	.02	<.20	<.20	<.02	<.02	<.01

LOCATION.--Lat 36°26'22", long 105°30'11", in SW¹/₄SE¹/₄ sec.36, T.26 N., R.13 E., Taos County, Hydrologic Unit 13020101, in Taos Pueblo Grant, on right bank 2.3 mi east of Taos Pueblo, 4.5 mi northeast of Taos, 5.8 mi upstream from Rio Lucero, and at mile 15.1.

PERIOD OF RECORD.--January 1911 to December 1916, January 1940 to December 1951, (annual maximum), water years 1952-62, October 1962 (monthly discharge only), November 1962 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder with satellite telemetry. Concrete control since Nov. 20, 1962. Elevation of gage is 7,380 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1923 for history of changes prior to Nov. 20, 1962.

REMARKS.--Records good except for estimated daily discharges, which are poor. No diversions upstream from station. Several observations of water temperature were made during the year.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	20	15	e9.2	8.0	8.8	19	102	95	24	16	11
2	25	19	15	e9.6	e8.0	9.0	19	90	87	23	17	11
3	16	18	15	e9.2	e8.2	8.9	17	87	82	22	17	12
4	16	16	e14	e10	e8.4	9.2	17	82	77	24	22	11
5	14	16	e14	e9.6	8.3	9.2	17	70	73	21	25	10
6	13	15	e13	e9.6	8.0	8.9	15	61	65	27	27	10
7	12	14	e11	e9.4	e7.8	9.0	16	63	59	23	24	10
8	11	14	e10	e8.0	7.9	8.9	16	84	56	21	21	9.9
9	11	13	e11	e8.4	8.3	8.9	16	126	56	20	20	9.7
10	11	13	e10	e8.6	8.5	9.1	15	154	54	19	21	9.5
11	10	15	e11	e8.4	e7.6	9.1	15	142	51	18	21	9.3
12	10	15	e12	e8.0	e8.0	9.2	16	117	51	19	18	9.4
13	9.8	15	e13	e7.6	e8.8	10	16	112	50	18	17	9.3
14	9.7	16	e13	e7.8	11	9.8	17	129	46	17	17	9.2
15	9.4	17	e13	e8.0	9.3	10	17	136	46	16	19	12
16	9.5	19	e11	8.0	e8.6	11	15	127	44	15	16	12
17	10	19	e10	7.9	e8.8	11	16	115	45	16	16	10
18	10	18	e9.6	7.9	8.9	11	16	105	46	16	15	10
19	10	e16	e10	8.0	8.3	10	16	107	44	19	15	9.8
20	10	e12	11	8.2	8.2	10	17	116	42	19	14	9.7
21	9.8	e13	e10	8.3	8.2	11	21	114	39	19	14	9.3
22	9.9	e14	e9.8	e8.2	8.3	13	26	121	38	18	14	9.1
23	9.8	15	e9.6	e8.4	8.6	13	27	131	37	16	13	9.1
24	9.6	14	e11	8.6	9.8	14	29	135	35	15	12	9.2
25	9.5	14	e9.4	8.3	8.9	14	32	124	33	15	12	8.9
26	12	14	e9.6	8.3	8.5	15	32	107	31	14	12	8.6
27	17	14	e9.4	e8.2	8.6	17	33	94	30	14	13	8.3
28	17	14	e9.0	e8.0	8.5	17	36	93	29	14	13	8.1
29	15	16	e9.2	e7.8	---	17	39	96	27	13	12	8.2
30	14	16	e8.8	e7.8	---	17	74	103	25	13	12	8.4
31	21	---	e8.6	e7.8	---	19	---	101	---	14	12	---
TOTAL	389.0	464	346.0	261.1	238.3	358.0	677	3344	1493	562	517	292.0
MEAN	12.5	15.5	11.2	8.42	8.51	11.5	22.6	108	49.8	18.1	16.7	9.73
MAX	25	20	15	10	11	19	74	154	95	27	27	12
MIN	9.4	12	8.6	7.6	7.6	8.8	15	61	25	13	12	8.1
AC-FT	772	920	686	518	473	710	1340	6630	2960	1110	1030	571

MEAN	9.92	9.23	7.98	6.93	7.52	13.8	50.1	121	75.2	23.4	15.5	11.6
MAX	19.1	17.5	12.5	11.1	13.3	39.7	155	356	268	75.4	32.2	32.4
(WY)	1942	1942	1992	1984	1995	1989	1942	1941	1979	1995	1991	1982
MIN	4.84	4.80	4.05	3.39	3.64	5.58	13.1	11.3	8.64	4.60	4.45	4.17
(WY)	1965	1982	1964	1964	1964	1964	1971	1972	1972	1972	1972	1972

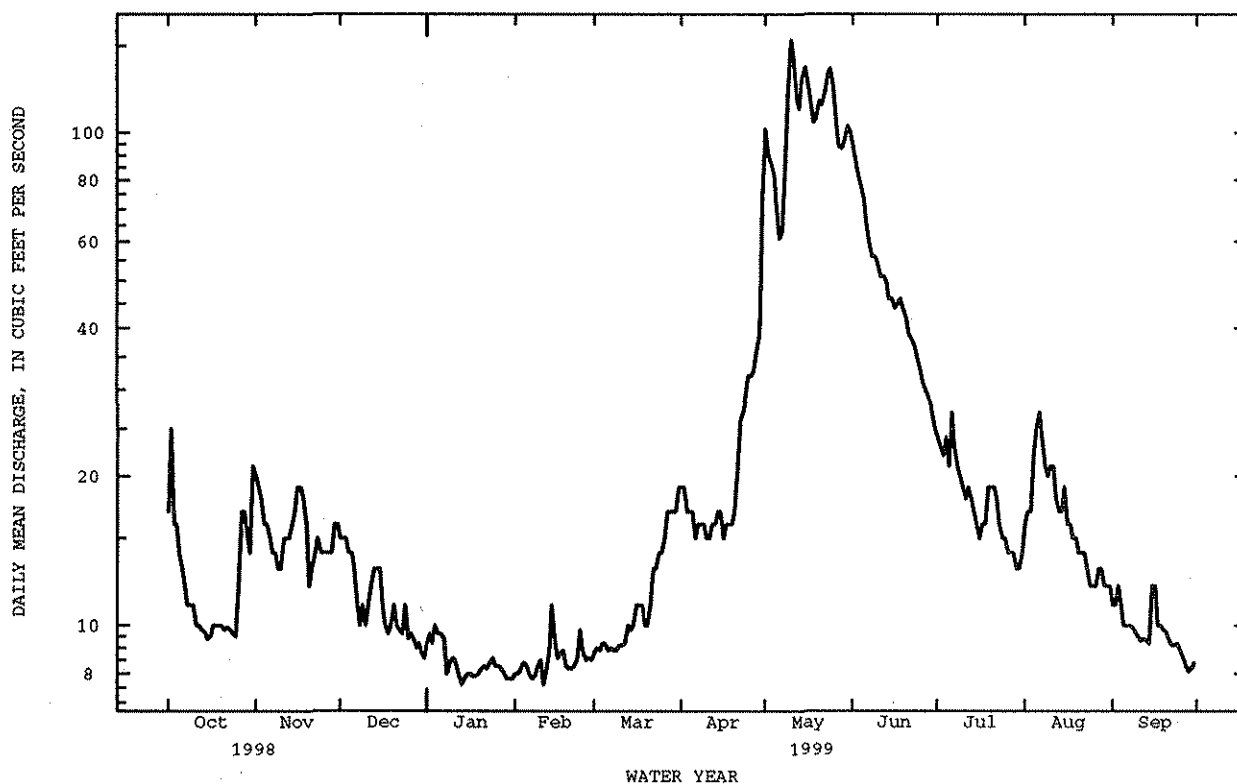
08269000 RIO PUEBLO DE TAOS NEAR TAOS, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1913 - 1999	
ANNUAL TOTAL	8300.7		8941.4		30.2	
ANNUAL MEAN	22.7		24.5		72.3	1979
HIGHEST ANNUAL MEAN					7.74	1972
LOWEST ANNUAL MEAN					926	May 26 1979
HIGHEST DAILY MEAN	122	May 21	154	May 10	2.0	Dec 3 1950
LOWEST DAILY MEAN	3.0	Jan 20	7.6	Jan 13	2.8	Jan 29 1990
ANNUAL SEVEN-DAY MINIMUM	3.1	Feb 4	7.9	Jan 12	^a 1050	May 26 1979
INSTANTANEOUS PEAK FLOW			159	May 10	^b 3.90	May 14 1941
INSTANTANEOUS PEAK STAGE			1.88	May 10	.69	Feb 27 1991
INSTANTANEOUS LOW FLOW			5.2	Mar 13		
ANNUAL RUNOFF (AC-FT)	16460		17740		21910	
10 PERCENT EXCEEDS	67		64		73	
50 PERCENT EXCEEDS	14		14		11	
90 PERCENT EXCEEDS	3.6		8.4		5.8	

e Estimated

a From rating curve extended above 370 ft³/s.

b From floodmarks, site and datum then in use.



LOCATION.--Lat 36°30'30", long 105°31'49", Taos County, Hydrologic Unit 13020101, in Tract C Taos Pueblo Grant, on right bank 200 ft upstream from diversion dam for Tenorio and Indian ditches, 2.2 mi east of Arroyo Seco, 7.4 mi northeast of Taos, and at mile 8.1.

PERIOD OF RECORD.--April to December 1910 (discharge measurements and occasional gage heights), January 1911 to September 1915, March to December 1916 (fragmentary), October 1933 to December 1951, (annual maximum), water years 1952-62, October 1962 (monthly discharge only), November 1962 to current year. Monthly discharge only for some periods, published in WSP 1312. Fragmentary records for October 1915 to February 1916, published in WSP 438, are unreliable and should not be used. Published as "near Taos." 1910-16.

GAGE.--Water-stage recorder. Concrete control since Nov. 21, 1962. Datum of gage is 8,051.44 ft above National Geodetic Vertical Datum of 1929. See WSP 1923 for history of changes prior to Nov. 21, 1962.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

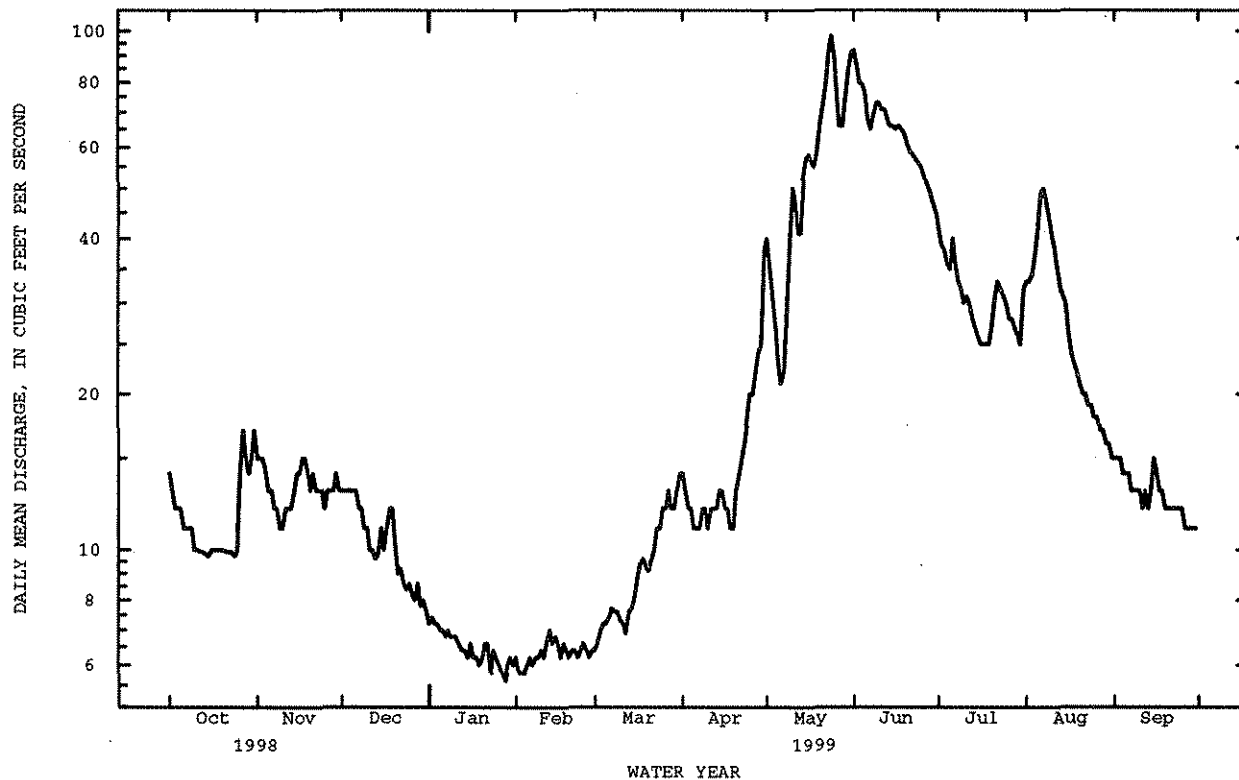
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1999, BY WATER YEAR (WY)

MEAN	11.6	9.16	7.31	6.07	6.07	9.30	22.2	59.2	71.8	30.8	18.6	13.8
MAX	27.8	22.0	14.8	10.0	9.92	21.2	47.5	156	178	101	37.5	34.5
(WY)	1942	1942	1991	1942	1991	1989	1937	1941	1941	1995	1967	1982
MIN	6.29	5.37	4.26	3.51	3.47	4.11	8.77	14.5	12.4	7.86	6.55	6.74
(WY)	1979	1977	1951	1951	1964	1977	1977	1972	1996	1972	1972	1972

08271000 RIO LUCERO NEAR ARROYO SECO, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1913 - 1999
ANNUAL TOTAL	7488.4	8104.2	
ANNUAL MEAN	20.5	22.2	22.5
HIGHEST ANNUAL MEAN			46.7
LOWEST ANNUAL MEAN			9.91
HIGHEST DAILY MEAN	98 May 30	98 May 24	246 Jun 4 1942
LOWEST DAILY MEAN	5.1 Jan 8	5.6 Jan 28	2.0 Jan 28 1981
ANNUAL SEVEN-DAY MINIMUM	5.3 Feb 19	5.9 Jan 27	2.7 Jan 22 1981
INSTANTANEOUS PEAK FLOW		112 May 24	310 Jun 8 1979
INSTANTANEOUS PEAK STAGE		2.73 May 24	3.17 Jun 20 1995
INSTANTANEOUS LOW FLOW			1.4 Nov 2 1951
ANNUAL RUNOFF (AC-FT)	14850	16070	16270
10 PERCENT EXCEEDS	50	57	54
50 PERCENT EXCEEDS	13	13	11
90 PERCENT EXCEEDS	5.6	6.4	5.5

e Estimated



RIO GRANDE BASIN

08275500 RIO GRANDE DEL RANCHO NEAR TALPA, NM

LOCATION.--Lat 36°17'52", long 105°34'55", Taos County, Hydrologic Unit 13020101, in Carson National Forest, Rancho del Rio Grande Grant, on right bank 1.4 mi downstream from Rito de la olla (locally known as Pot Creek), 3.2 mi south of Talpa, 4.3 mi upstream from Rio Chiquito, and at mile 6.9.

DRAINAGE AREA.--83 mi², approximately.

PERIOD OF RECORD.--October 1952 to September 1982, October 1983 to September 1985 (annual maximum only), October 1985 to current year. Prior to October 1955, published as "Rio Grande del Rancho nr Taos" and October 1955 to September 1960 as Rio Grande de Ranchos nr Talpa."

GAGE.--Water-stage recorder. Elevation of gage is 7,240 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 11, 1952, nonrecording gage at site 1,035 ft downstream at lower datum. Nov. 11, 1952 to Nov. 5, 1968, water-stage recorder at site 1,000 ft downstream at lower datum. Nov. 6, 1968 to Aug. 28, 1980, water-stage recorder at present site on left bank at same datum.

REMARKS.--Records good. Minor diversions for irrigation above station. Several observations of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

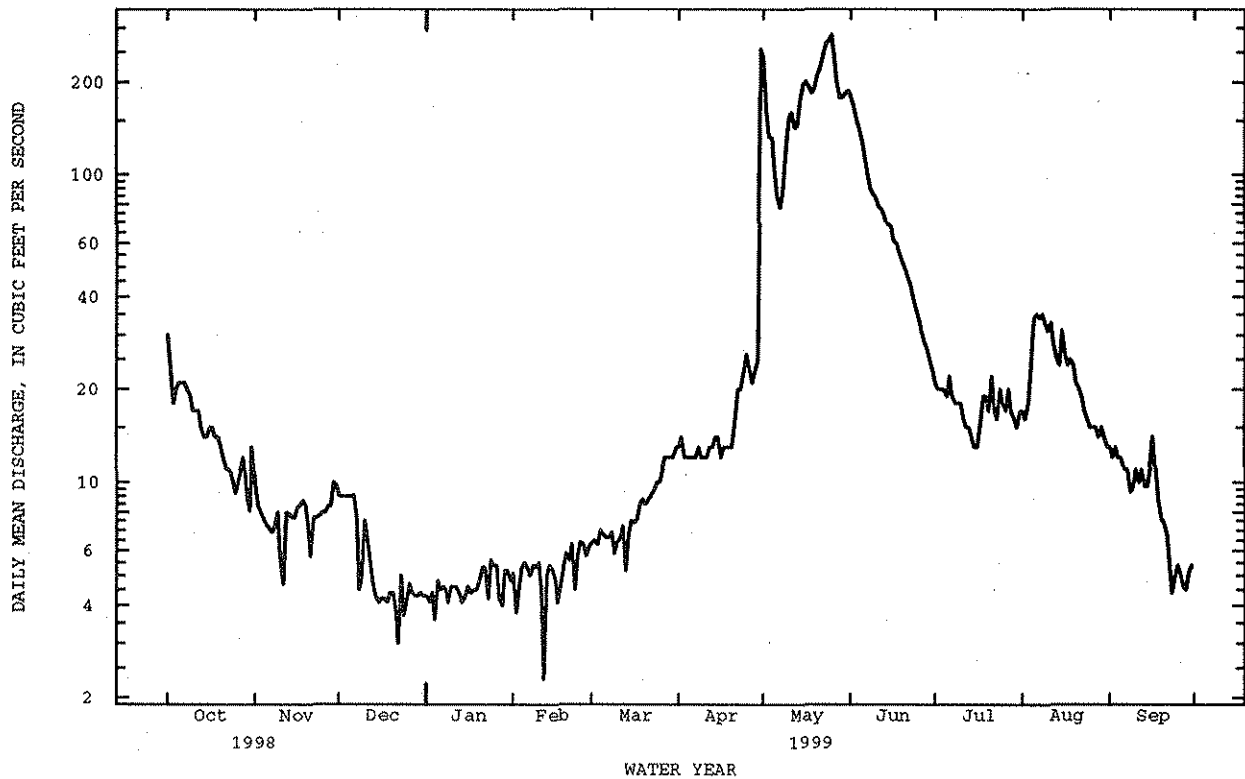
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	9.6	9.0	4.3	5.1	6.4	13	241	180	21	17	13
2	24	8.4	9.0	4.1	3.8	6.5	14	161	165	20	16	12
3	18	8.0	9.0	4.4	4.5	6.3	12	133	151	20	18	13
4	20	7.6	9.0	3.6	5.3	7.0	12	132	138	20	24	12
5	21	7.3	9.0	4.8	5.5	6.8	12	103	129	19	34	12
6	21	7.1	9.1	4.5	5.3	6.6	12	85	115	22	35	11
7	21	6.9	7.8	4.6	5.0	6.6	12	78	99	19	34	11
8	20	7.2	4.5	4.5	5.4	6.9	13	88	90	18	35	9.3
9	19	8.0	4.9	4.1	5.3	5.9	12	124	86	18	33	9.7
10	17	5.7	7.5	4.6	5.5	6.4	12	155	84	18	31	11
11	17	4.7	6.6	4.6	4.5	6.6	12	159	79	16	33	10
12	17	8.0	5.7	4.6	2.3	7.2	13	142	77	15	28	11
13	15	7.9	4.7	4.4	5.1	5.2	13	144	73	15	25	9.7
14	14	7.7	4.3	4.1	5.4	6.7	14	174	69	14	24	9.7
15	14	7.7	4.1	4.3	5.2	7.5	14	198	68	13	31	11
16	15	8.3	4.2	4.6	4.9	7.4	12	201	61	13	26	14
17	15	8.5	4.2	4.4	4.1	7.6	13	193	60	15	24	11
18	14	8.7	4.1	4.5	4.7	8.6	13	185	56	19	25	8.8
19	14	8.4	4.4	4.5	5.3	8.8	13	191	53	19	24	7.6
20	13	7.1	4.4	4.9	5.9	8.5	13	213	50	17	21	7.4
21	12	5.8	3.9	5.3	5.6	8.8	16	222	47	22	20	6.8
22	11	7.7	3.0	5.3	6.3	9.1	20	247	44	17	19	5.5
23	11	7.7	5.0	4.2	4.5	9.4	20	267	40	16	17	4.4
24	10	7.8	3.7	5.6	5.8	10	23	272	37	20	16	5.0
25	9.2	8.0	4.2	5.4	6.4	10	26	285	34	18	15	5.4
26	10	8.0	4.7	5.4	6.3	11	23	243	31	17	15	5.0
27	11	8.4	4.4	4.2	5.8	12	21	199	29	20	15	4.6
28	12	8.4	4.3	4.0	6.2	12	23	178	27	17	14	4.5
29	8.9	10	4.3	5.2	---	12	25	179	25	16	15	5.2
30	8.1	9.7	4.4	5.2	---	12	256	185	23	15	14	5.4
31	13	---	4.3	4.8	---	13	---	187	---	17	13	---
TOTAL	475.2	234.3	171.7	143.0	145.0	258.8	707	5564	2220	546	711	266.0
MEAN	15.3	7.81	5.54	4.61	5.18	8.35	23.6	179	74.0	17.6	22.9	8.87
MAX	30	10	9.1	5.6	6.4	13	256	285	180	22	35	14
MIN	8.1	4.7	3.0	3.6	2.3	5.2	12	78	23	13	13	4.4
AC-FT	943	465	341	284	288	513	1400	11040	4400	1080	1410	528

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1999, BY WATER YEAR (WY)

	MEAN	7.47	6.68	5.78	5.27	5.58	9.44	31.4	94.7	53.3	14.6	12.5	9.01
MAX	15.3	13.9	10.4	9.19	9.31	22.9	91.9	264	174	41.9	35.7	24.9	24.9
(WY)	1999	1995	1958	1958	1989	1994	1962	1994	1995	1986	1957	1957	1957
MIN	2.12	2.95	2.97	2.06	2.65	4.65	9.61	12.9	5.94	3.14	2.33	1.56	1.56
(WY)	1957	1957	1957	1955	1955	1955	1981	1981	1996	1956	1972	1956	1956

08275500 RIO GRANDE DEL RANCHO NEAR TALPA, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1953 - 1999	
ANNUAL TOTAL	6521.4		11442.0		21.4	
ANNUAL MEAN	17.9		31.3		44.0	1994
HIGHEST ANNUAL MEAN					5.96	1972
LOWEST ANNUAL MEAN					590	May 22 1991
HIGHEST DAILY MEAN	129	May 22	285	May 25		
LOWEST DAILY MEAN	3.0	Dec 22	2.3	Feb 12	.60	Jan 5 1955
ANNUAL SEVEN-DAY MINIMUM	4.0	Dec 16	4.0	Dec 16	1.2	Jan 4 1955
INSTANTANEOUS PEAK FLOW			414	Apr 30	644	May 22 1991
INSTANTANEOUS PEAK STAGE			3.22	Apr 30	4.16	May 22 1991
INSTANTANEOUS LOW FLOW			.67	Feb 12	.20	Jan 5 1955
ANNUAL RUNOFF (AC-FT)	12940		22700		15490	
10 PERCENT EXCEEDS	43		94		50	
50 PERCENT EXCEEDS	9.6		12		8.0	
90 PERCENT EXCEEDS	4.6		4.5		4.0	



RIO GRANDE BASIN

08276300 RIO PUEBLO DE TAOS BELOW LOS CORDOVAS, NM

LOCATION.--Lat 36°22'39", long 105°40'05", Taos County, Hydrologic Unit 13020101, in Gijosa Grant, on left bank 1.9 mi southwest of Los Cordovas, 2.5 mi downstream from Rio Grande del Rancho, and at mile 5.1.

DRAINAGE AREA.--380 mi².

PERIOD OF RECORD.--March 1957 to current year.

REVISED RECORDS.--WSP 1732: 1957(M). WSP 1923: 1957(P), 1958, WDR NM-81-1: 1979(P).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,650 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 4, 1984 at site 700 ft downstream at same datum.

REMARKS.--Records good. Diversions for irrigation of about 12,000 acres upstream from station, of which about 1,700 acres are irrigated by water from Rio Hondo.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

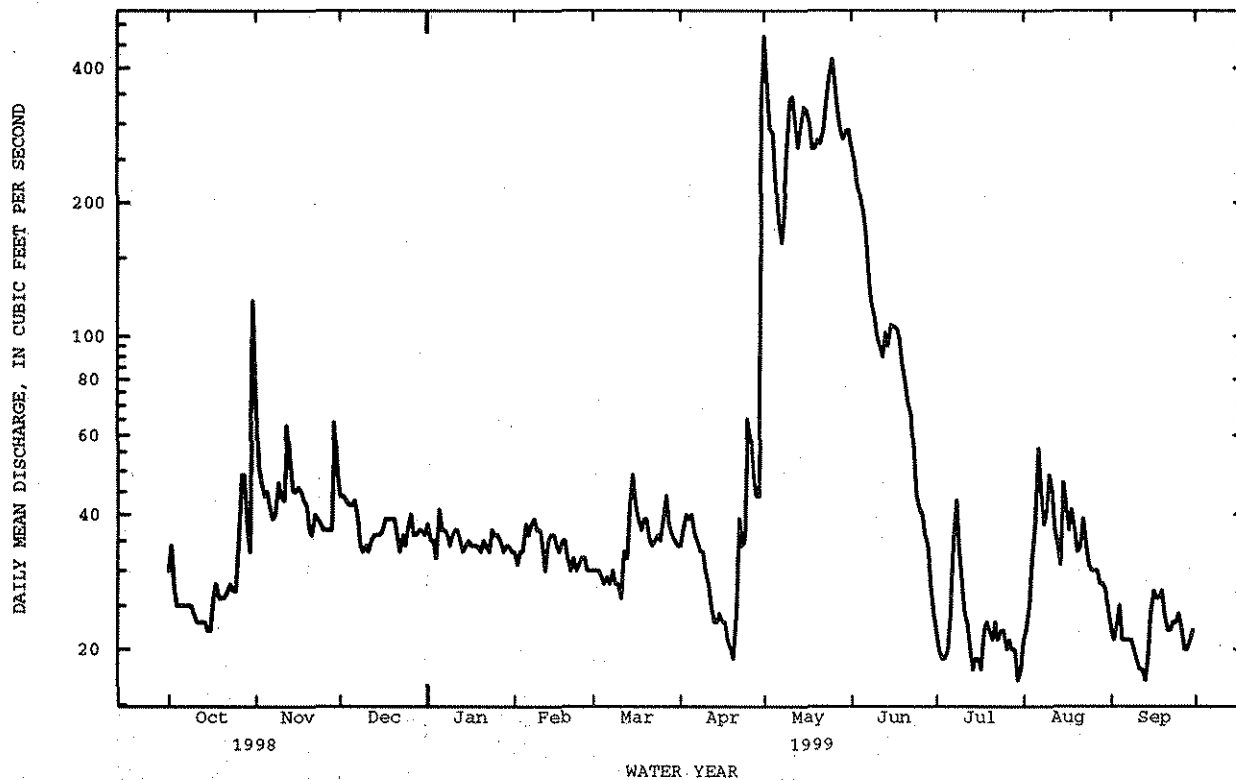
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	74	44	38	33	30	34	470	266	22	21	22
2	34	51	44	35	31	30	37	358	248	20	22	21
3	27	47	43	35	33	30	40	292	222	19	25	23
4	25	44	42	32	33	29	39	285	203	19	32	25
5	25	45	42	41	38	28	40	226	190	20	37	21
6	25	41	43	37	36	29	36	182	169	24	56	21
7	25	39	39	37	38	28	35	162	133	35	46	21
8	25	40	34	36	39	30	33	188	118	43	38	21
9	25	47	33	34	37	28	33	266	110	34	40	20
10	24	44	34	36	37	28	30	338	100	29	49	19
11	23	43	33	37	34	26	28	344	95	24	45	18
12	23	63	35	37	30	33	25	298	90	23	37	18
13	23	53	36	35	35	32	23	266	102	20	34	17
14	23	45	36	33	36	42	23	293	95	18	31	19
15	22	45	36	34	36	49	24	326	106	19	47	24
16	22	46	37	35	34	42	23	320	105	19	41	27
17	26	45	39	34	33	39	23	301	104	18	37	26
18	28	43	39	34	35	37	21	264	99	22	41	26
19	26	42	39	34	35	39	20	264	87	23	37	27
20	26	37	39	33	32	39	19	276	79	22	33	24
21	26	36	36	35	30	35	24	271	71	21	34	22
22	27	40	33	34	32	34	39	292	67	23	39	22
23	28	39	36	33	30	35	34	336	54	21	35	23
24	27	38	34	37	31	36	35	381	44	22	31	23
25	27	37	38	36	32	35	65	418	41	22	30	24
26	34	37	40	36	32	40	59	372	40	20	30	22
27	49	37	36	35	30	44	49	324	36	21	30	20
28	49	37	36	33	30	38	44	289	34	20	28	20
29	37	64	37	34	---	36	44	277	28	20	28	21
30	33	49	37	34	---	35	338	289	24	17	27	22
31	120	---	36	33	---	34	---	290	---	18	24	---
TOTAL	964	1348	1166	1087	942	1070	1317	9258	3160	698	1085	659
MEAN	31.1	44.9	37.6	35.1	33.6	34.5	43.9	299	105	22.5	35.0	22.0
MAX	120	74	44	41	39	49	338	470	266	43	56	27
MIN	22	36	33	32	30	26	19	162	24	17	21	17
AC-FT	1910	2670	2310	2160	1870	2120	2610	18360	6270	1380	2150	1310

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1999, BY WATER YEAR (WY)

	MEAN	26.9	33.3	34.1	32.9	38.0	49.5	114	256	142	30.7	25.1	23.4
MAX	74.9	71.9	56.8	48.4	60.3	113	440	1063	708	169	97.9	67.5	
(WY)	1958	1958	1987	1995	1987	1995	1994	1994	1979	1995	1957	1993	
MIN	7.88	14.3	13.5	14.0	21.5	23.9	8.32	5.71	4.69	3.89	4.28	4.26	
(WY)	1964	1973	1973	1973	1973	1971	1972	1972	1971	1972	1972	1972	

08276300 RIO PUEBLO DE TAOS BELOW LOS CORDOVAS, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1957 - 1999	
ANNUAL TOTAL	16608		22754		66.7	
ANNUAL MEAN	45.5		62.3		193	
HIGHEST ANNUAL MEAN					14.5	
LOWEST ANNUAL MEAN					1940	
HIGHEST DAILY MEAN	188	May 22	470	May 1	2.6	May 20 1994
LOWEST DAILY MEAN	11	Jun 30	17	Jul 30	3.0	Aug 16 1972
ANNUAL SEVEN-DAY MINIMUM	13	Jun 26	19	Sep 8	8.93	Aug 10 1972
INSTANTANEOUS PEAK FLOW			711	Apr 30	2380	Aug 24 1957
INSTANTANEOUS PEAK STAGE			7.92	Apr 30	8.93	May 22 1991
INSTANTANEOUS LOW FLOW			16	Jul 30	1.9	Aug 1 1972
ANNUAL RUNOFF (AC-FT)	32940		45130		48310	
10 PERCENT EXCEEDS	105		174		133	
50 PERCENT EXCEEDS	34		35		32	
90 PERCENT EXCEEDS	16		22		10	

a From rating curve extended above 900 ft³/s.

RIO GRANDE BASIN

08276500 RIO GRANDE BELOW TAOS JUNCTION BRIDGE, NEAR TAOS, NM

LOCATION.--Lat 36°19'12", long 105°45'14", in NW¹/₄NE¹/₄ sec.15, T.24 N., R.11 E., Taos County, Hydrologic Unit 13020101, on left bank 1.7 mi downstream from bridge on State Highway 567, 2.0 mi downstream from Rio Pueblo de Taos, 11.8 mi southwest of Taos, and at mile 1,657.7.

DRAINAGE AREA.--9,730 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1925 to current year. Prior to October 1930 monthly discharge only, published in WSP 1312. Published as "at Taos Junction Bridge, near Taos" prior to 1934.

REVISED RECORDS.--WSP 788: 1934(M). WSP 828: Drainage area. WSP 1392: 1931-1932, 1935, 1937, 1945, 1950.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 6,050.3 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 14, 1934, at bridge 1.7 mi upstream at different datum.

REMARKS.--Water-discharge records good. Diversions upstream from station for irrigation of about 620,000 acres in Colorado and 30,000 acres in New Mexico.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since at least 1888, about 14,000 ft³/s June 19, 1903, from records for Rio Grande at Embudo and estimated inflow. Other floods exceeding 10,000 ft³/s occurred June 9, 1905, May 28, 1920, and June 16, 1921, from comparison of records for stations near Lobatos and at Embudo.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

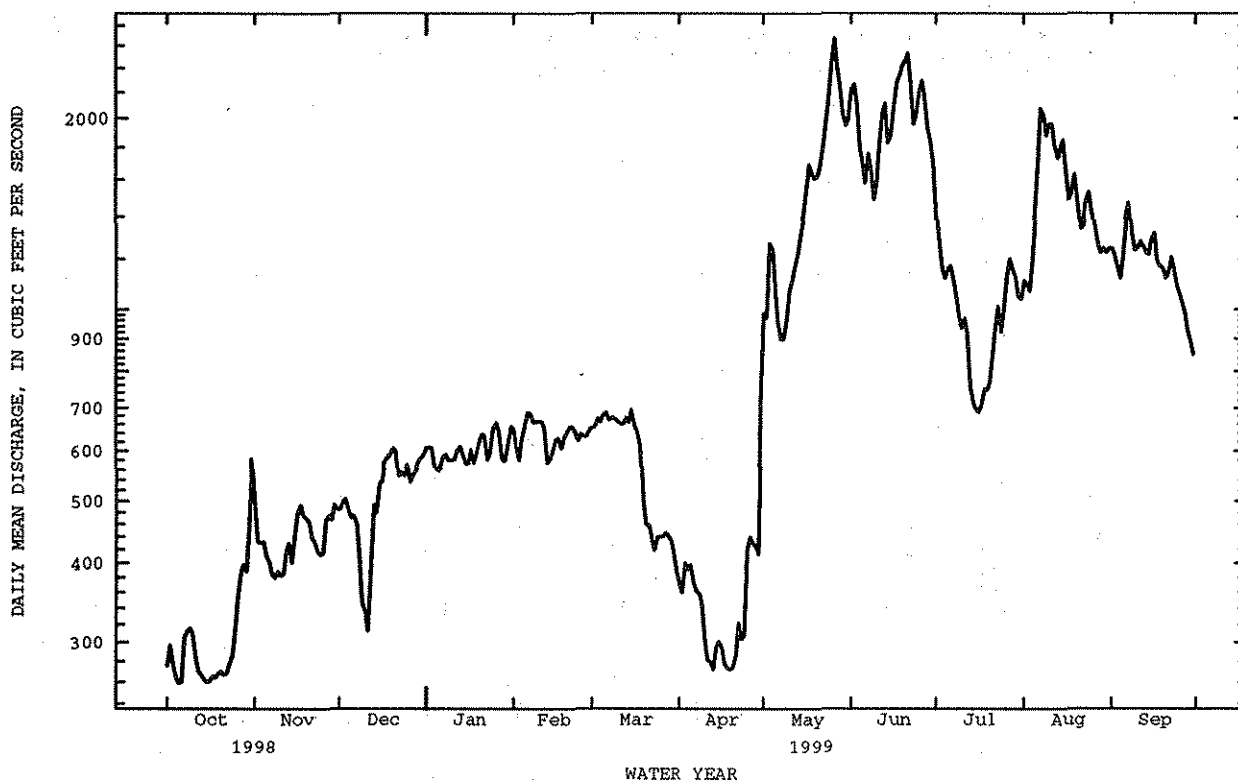
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	276	490	486	607	651	653	370	985	2220	1430	1110	1250
2	297	433	499	608	602	654	360	970	2260	1290	1100	1220
3	277	431	504	605	580	675	400	1270	2110	1160	1070	1160
4	265	432	488	568	627	667	391	1240	1790	1120	1200	1120
5	259	411	471	559	659	684	397	1080	1700	1160	1390	1210
6	260	401	474	565	689	688	373	959	1580	1170	1690	1410
7	306	384	462	589	687	672	362	897	1760	1120	2070	1470
8	312	380	411	591	665	677	358	897	1670	1050	2020	1310
9	316	388	346	580	669	674	344	963	1490	976	1880	1240
10	309	382	335	579	667	670	305	1070	1580	935	1960	1250
11	283	386	313	581	666	662	281	1110	1820	967	1960	1280
12	270	419	382	600	651	660	280	1180	2050	914	1810	1260
13	267	430	493	609	574	676	272	1230	2110	753	1730	1230
14	262	401	480	590	582	665	295	1310	1830	720	1800	1220
15	260	437	534	572	602	695	301	1400	1890	700	1850	1290
16	261	477	539	573	625	659	294	1520	2070	690	1630	1320
17	265	492	575	603	628	644	279	1690	2280	706	1490	1190
18	264	474	585	574	606	609	273	1640	2340	750	1530	1170
19	268	469	591	593	629	500	272	1610	2420	746	1630	1160
20	270	464	605	623	641	460	274	1620	2470	767	1500	1120
21	267	440	601	637	654	458	286	1680	2530	852	1340	1150
22	268	431	548	636	655	436	322	1820	2240	948	1360	1210
23	277	417	555	581	639	419	304	1980	1960	1010	1480	1160
24	286	412	548	596	623	440	308	2160	2020	923	1530	1090
25	312	414	570	649	638	440	420	2480	2210	999	1430	1060
26	351	467	536	664	633	441	439	2670	2290	1140	1340	1020
27	387	475	550	641	633	446	430	2420	2170	1200	1270	986
28	398	467	558	581	649	441	426	2240	1930	1160	1230	929
29	388	493	576	578	---	434	413	2040	1850	1120	1250	889
30	462	485	583	610	---	413	710	1950	1700	1050	1230	850
31	582	---	592	655	---	386	---	2000	---	1040	1250	---
TOTAL	9525	13082	15790	18597	17824	17698	10539	48081	60340	30566	47130	35224
MEAN	307	436	509	600	637	571	351	1551	2011	986	1520	1174
MAX	582	493	605	664	689	695	710	2670	2530	1430	2070	1470
MIN	259	380	313	559	574	386	272	897	1490	690	1070	850
AC-FT	18890	25950	31320	36890	35350	35100	20900	95370	119700	60630	93480	69870

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 1999, BY WATER YEAR (WY)

	MEAN	423	533	498	484	552	673	869	1788	1806	744	426	392
MAX	1675	1532	1018	764	865	1195	3020	6055	6007	3445	1537	2086	
(WY)	1942	1942	1942	1986	1987	1987	1942	1987	1941	1995	1929	1927	
MIN	171	224	243	263	290	259	250	233	188	185	184	161	
(WY)	1957	1957	1957	1957	1957	1957	1981	1977	1977	1959	1956	1956	

08276500 RIO GRANDE BELOW TAOS JUNCTION BRIDGE, NEAR TAOS, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1926 - 1999	
ANNUAL TOTAL	222060		324396		766	
ANNUAL MEAN	608		889		1840	
HIGHEST ANNUAL MEAN					271	
LOWEST ANNUAL MEAN					1942	
HIGHEST DAILY MEAN	1990	May 24	2670	May 26	9730	Jun 7 1948
LOWEST DAILY MEAN	216	Sep 22	259	Oct 5	159	Sep 2 1956
ANNUAL SEVEN-DAY MINIMUM	220	Sep 20	264	Oct 13	159	Sep 19 1956
INSTANTANEOUS PEAK FLOW			2720	May 26	9730	Jun 7 1948
INSTANTANEOUS PEAK STAGE			6.12	May 26	9.23	Jun 22 1949
INSTANTANEOUS LOW FLOW			256	Oct 1	155	Sep 21 1956
ANNUAL RUNOFF (AC-FT)	440500		643400		554800	
10 PERCENT EXCEEDS	1110		1820		1500	
50 PERCENT EXCEEDS	575		651		480	
90 PERCENT EXCEEDS	261		311		243	



RIO GRANDE BASIN

08276500 RIO GRANDE BELOW TAOS JUNCTION BRIDGE, NEAR TAOS, NM--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

		DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	BARO-METRIC PRES-SURE (MM HG) OF (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)		
DATE	TIME											
FEB 25...	1015	632	251	8.4	15.0	5.0	5.6	614	11.4	87		
JUL 21...	0925	859	246	8.4	23.5	19.5	25	619	8.4	81		
AUG 19...	1100	1660	182	8.1	22.0	20.0	10	620	8.4	62		
30...	1215	1240	187	8.1	29.5	19.5	9.4	619	9.6	60		
DATE		HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L) (00904)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD CO3 (00452)	ALKA-LINITY WAT DIS TOP IT FIELD CAC03 (39086)	ANC UNFLT RD TIT 4.5 LAB (MG/L AS CAC03) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
FEB 25...	1	26	5.4	17	.8	2.8	104	0	86	91	28	
JUL 21...	4	24	5.3	17	.8	3.2	88	3	78	84	30	
AUG 19...	0	18	3.8	11	.6	2.6	75	0	62	93	17	
30...	--	18	3.7	12	.7	2.4	76	0	62	75	19	
DATE		CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
FEB 25...	5.9	.4	31	169	<.010	.35	<.010	--	<.20	<.20	.17	
JUL 21...	5.4	.5	21	152	<.01	.08	<.01	--	.59	<.20	.15	
AUG 19...	2.8	.2	25	119	<.01	.09	.01	--	.44	<.20	.16	
30...	3.5	.2	24	121	<.01	.10	.02	.31	.48	.33	.10	
DATE		PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC, DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM, DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	
FEB 25...	.19	.03	--	--	--	--	--	--	21.3	--	--	
JUL 21...	.03	.03	18	<1	2	27	<1	33.3	<1	<1.0		
AUG 19...	.05	.05	10	<1	2	23	<1	19.9	<1	<1.0		
30...	.04	.05	--	--	--	--	--	39.0	--	--		
DATE		COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	
FEB 25...	--	--	--	17	--	--	<.1	--	--	<1	--	
JUL 21...	<1	1	E9	<1	1	<.1	5	1	<1	<1		
AUG 19...	<1	1	18	<1	1	<.1	3	<1	<1	<1		
30...	--	--	21	--	--	<.1	--	--	--	--		

08276500 RIO GRANDE BELOW TAOS JUNCTION BRIDGE, NEAR TAOS, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	NITRO- GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N) (00633)	NITRO- GEN,NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	NITRO- GEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N) (00626)	PHOS- PHORUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01029)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)
FEB 25...	--	--	<2	56	1400	640	2.5	<1	5	8
JUL 21...	<1	<1	--	--	--	--	--	--	--	--
AUG 19...	<1	<1	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
DATE	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
FEB 25...	16	5200	10	1000	.05	130	--	35	60	78
JUL 21...	--	--	--	--	--	--	1	78	181	94
AUG 19...	--	--	--	--	--	--	<1	115	515	67
30...	--	--	--	--	--	--	--	59	198	57

RIO GRANDE BASIN

08277470 RIO PUEBLO NEAR PENASCO, NM

LOCATION.--Lat 36°10'14", long 105°36'36", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.1, T.22 N., R.12 E., Taos County, Hydrologic Unit 13020101, on left bank 10 ft downstream from bridge on private road, 0.5 mi upstream from junction of State Highways 518 and 75, 1.0 mi downstream from Osha Canyon and 6.0 mi east of Penasco.

DRAINAGE AREA.--101 mi².

PERIOD OF RECORD.--December 1991 to current year.

GAGE.--Water-stage recorder. Datum of gage is 7,760 ft above National Geodetic Vertical Datum of 1929 from, topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Several observations of water temperature were made during year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	31	21	e10	e6.4	13	40	623	286	49	31	28
2	26	32	21	e10	e6.6	12	40	311	258	46	30	26
3	16	29	20	e10	e7.8	12	31	245	246	44	44	28
4	25	27	20	e10	e8.4	13	33	206	231	44	58	25
5	23	25	19	e11	e8.8	13	30	174	209	39	58	23
6	20	24	e15	e11	e8.2	12	31	146	177	49	52	23
7	19	23	e12	e10	e7.6	13	34	141	163	46	46	27
8	18	23	e13	e10	e8.6	11	36	173	158	47	47	22
9	17	21	e14	e11	e9.2	15	34	246	154	45	47	19
10	16	17	e14	e10	e9.6	14	31	303	147	45	44	18
11	15	36	e13	e9.8	e9.2	13	33	322	143	38	40	17
12	15	26	e16	e9.0	e8.4	13	33	281	136	35	36	17
13	14	26	e15	e8.4	e10	15	36	297	134	32	32	17
14	14	26	e14	e9.0	e11	16	39	369	131	28	36	17
15	14	27	e13	e8.6	e12	14	39	411	149	27	42	19
16	14	27	e13	e8.2	e11	15	37	370	131	26	35	22
17	15	26	e14	e8.6	e10	16	36	339	170	35	37	25
18	15	25	e14	e8.8	e11	13	34	310	148	42	35	30
19	15	24	e14	e9.0	e11	16	35	296	135	37	39	22
20	15	24	e15	e9.0	e10	17	42	318	120	31	43	19
21	16	32	e12	e8.2	e9.6	20	55	302	119	29	38	18
22	16	29	e12	e7.6	e10	24	72	313	105	29	34	17
23	16	23	e11	e8.4	e9.4	24	83	355	97	27	32	17
24	15	21	e11	e9.2	e10	25	86	470	87	38	29	17
25	14	20	e10	e8.4	e11	26	90	623	76	36	28	18
26	18	20	e11	e7.0	e11	29	85	481	72	30	27	16
27	35	20	e11	e6.6	e11	30	82	380	68	30	26	15
28	31	20	e12	e7.4	13	30	88	351	64	26	31	15
29	22	23	e12	e6.8	---	31	132	341	58	25	40	15
30	21	21	e12	e7.4	---	35	1160	338	53	21	39	15
31	32	---	e11	e6.6	---	39	---	319	---	24	32	---
TOTAL	590	748	435	275.0	269.8	589	2637	10154	4225	1100	1188	607
MEAN	19.0	24.9	14.0	8.87	9.64	19.0	87.9	328	141	35.5	38.3	20.2
MAX	35	36	21	11	13	39	1160	623	286	49	58	30
MIN	14	17	10	6.6	6.4	11	30	141	53	21	26	15
AC-FT	1170	1480	863	545	535	1170	5230	20140	8380	2180	2360	1200

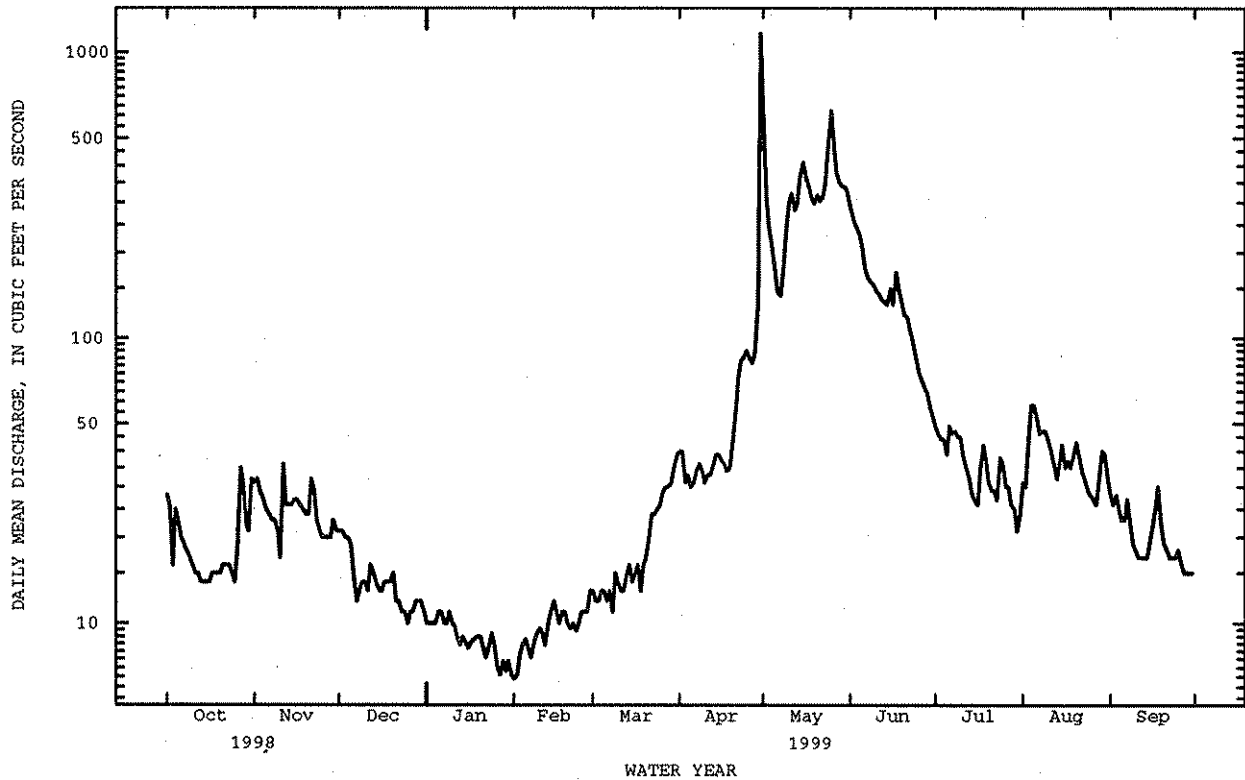
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1999, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	14.4	16.1	12.9	10.8	12.2	27.3	108	331
MAX	19.0	24.9	17.2	14.6	16.8	39.3	242	924
(WY)	1999	1999	1997	1992	1992	1997	1994	1995
MIN	11.1	12.5	10.0	8.87	9.64	14.9	38.4	31.9
(WY)	1997	1993	1993	1999	1999	1996	1996	1996

08277470 RIO PUEBLO NEAR PENASCO, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1992 - 1999	
ANNUAL TOTAL	19163.2		22817.8		69.1	
ANNUAL MEAN	52.5		62.5		124	
HIGHEST ANNUAL MEAN					14.5	
LOWEST ANNUAL MEAN					1720	
HIGHEST DAILY MEAN	327	May 21	1160	Apr 30	3.3	May 20 1994
LOWEST DAILY MEAN	7.5	Sep 29	6.4	Feb 1	3.7	Jun 21 1996
ANNUAL SEVEN-DAY MINIMUM	9.7	Jan 20	6.8	Jan 27	2200	Jun 18 1996
INSTANTANEOUS PEAK FLOW			1710	Apr 30	6.00	May 19 1994
INSTANTANEOUS PEAK STAGE			5.92	Apr 30	2.3	Mar 13 1999
INSTANTANEOUS LOW FLOW			2.3	Mar 13	50060	
ANNUAL RUNOFF (AC-FT)	38010		45260		201	
10 PERCENT EXCEEDS	150		171		17	
50 PERCENT EXCEEDS	26		25		9.7	
90 PERCENT EXCEEDS	11		10			

e Estimated



08278500 RIO SANTA BARBARA NEAR PENASCO, NM

LOCATION.--Lat 36°06'13", long 105°37'14", Taos County, Hydrologic Unit 13020101, in Santa Barbara Grant, on right bank at bridge on U.S. Forest Service Road 116, 1.4 mi below Santa Barbara Campground and 6.5 mi southeast of Penasco

DRAINAGE AREA.--38 mi² (approximately).

PERIOD OF RECORD.--November 1991 to current year. October 1952 to December 1957 published as Rio Santa Barbara nr Llano, NM (08278500).

GAGE.--Water-stage recorder. Elevation of gage is 8,640 ft above National Geodetic Vertical Datum, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Several observations of water temperature were made during year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	22	14	e8.8	e6.6	9.1	19	62	190	66	35	28
2	21	21	13	e8.6	e5.8	8.6	18	53	187	61	35	28
3	17	19	13	e8.4	e6.2	9.0	16	48	187	57	39	31
4	22	18	13	e8.4	e6.6	9.0	15	42	185	54	41	27
5	19	17	13	e7.8	e7.4	9.0	14	36	176	51	46	26
6	18	17	14	e7.8	e7.0	9.0	16	33	159	51	45	31
7	18	16	e11	e7.6	e6.6	9.1	16	36	151	e47	42	31
8	18	16	e9.4	e7.4	e7.0	8.8	17	47	148	e45	43	27
9	17	14	e9.8	e7.2	e7.4	12	16	63	147	e43	43	26
10	16	17	e10	e6.8	e7.8	9.9	16	73	145	e39	41	25
11	15	29	e9.6	e7.6	e7.4	9.5	16	73	140	e38	41	24
12	15	19	e12	e7.8	e6.6	9.1	16	65	137	e37	37	23
13	14	15	e11	e7.4	e8.2	11	18	73	136	35	36	23
14	14	15	e10	e7.0	e8.4	10	19	90	141	33	38	23
15	14	16	e9.6	e7.2	e7.8	9.7	18	98	139	31	41	24
16	14	16	e10	e7.6	e7.4	9.4	17	100	133	32	36	25
17	14	16	e11	e7.2	e6.8	9.5	16	102	149	44	35	29
18	14	15	e11	e6.8	e7.0	9.4	16	107	147	38	41	28
19	14	15	e11	e6.8	e7.4	9.4	18	131	142	37	46	24
20	15	14	e12	e6.8	e7.2	9.5	22	156	134	34	44	23
21	14	17	e9.2	e6.6	e7.0	10	26	164	126	34	41	22
22	14	15	e9.4	e6.2	e7.4	11	29	190	119	33	38	22
23	14	13	e9.0	e5.8	e6.6	12	34	211	112	34	36	22
24	14	13	e8.6	e7.2	e7.4	12	38	228	105	34	34	22
25	13	13	e8.4	e6.8	e8.0	13	38	225	99	31	33	21
26	25	13	e8.6	e6.8	e7.8	14	34	186	92	30	32	20
27	36	12	e8.6	e5.8	e7.6	14	33	169	88	30	32	19
28	25	13	e8.8	e6.0	e8.6	14	36	175	83	29	33	19
29	21	14	e9.2	e7.0	---	15	36	181	77	28	34	19
30	20	13	e9.6	e7.0	---	17	64	188	72	26	32	18
31	22	---	e9.4	e6.4	---	19	---	194	---	33	29	---
TOTAL	553	483	326.2	222.6	203.0	341.0	707	3599	4046	1215	1179	730
MEAN	17.8	16.1	10.5	7.18	7.25	11.0	23.6	116	135	39.2	38.0	24.3
MAX	36	29	14	8.8	8.6	19	64	228	190	66	46	31
MIN	13	12	8.4	5.8	5.8	8.6	14	33	72	26	29	18
AC-FT	1100	958	647	442	403	676	1400	7140	8030	2410	2340	1450

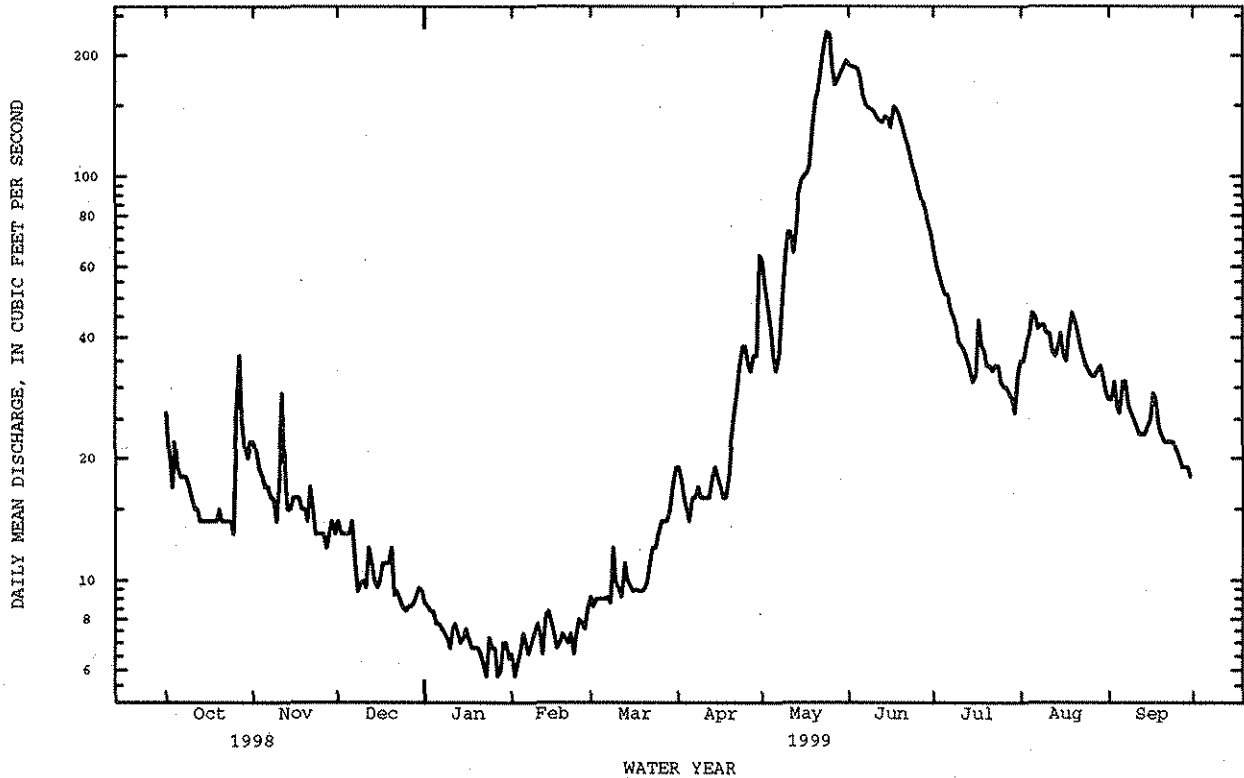
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1999, BY WATER YEAR (WY)

MEAN	14.2	11.6	8.60	7.01	6.93	11.4	35.2	109	122	38.3	39.2	24.9
MAX	17.9	17.1	13.6	9.24	9.11	17.6	75.3	199	211	62.1	129	66.5
(WY)	1996	1992	1992	1953	1992	1997	1992	1994	1995	1957	1957	1957
MIN	4.95	5.13	4.18	4.10	3.93	6.46	18.6	35.6	17.0	8.13	8.11	4.50
(WY)	1957	1957	1957	1954	1957	1957	1956	1956	1956	1956	1956	1956

08278500 RIO SANTA BARBARA NEAR PENASCO, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1953 - 1999	
ANNUAL TOTAL	14339.1		13604.8			
ANNUAL MEAN	39.3		37.3		34.9	
HIGHEST ANNUAL MEAN					50.5	
LOWEST ANNUAL MEAN					12.0	
HIGHEST DAILY MEAN	221	Jun 3	228	May 24	499	Jun 2 1994
LOWEST DAILY MEAN	6.0	Feb 27	5.8	Jan 23	3.0	Jan 31 1957
ANNUAL SEVEN-DAY MINIMUM	6.3	Feb 22	6.4	Jan 22	3.1	Jan 30 1957
INSTANTANEOUS PEAK FLOW			289	May 24	838	Jun 18 1995
INSTANTANEOUS PEAK STAGE			4.69	May 24	6.21	Jun 18 1995
INSTANTANEOUS LOW FLOW					2.4	Mar 2 1996
ANNUAL RUNOFF (AC-FT)	28440		26990		25290	
10 PERCENT EXCEEDS	98		109		97	
50 PERCENT EXCEEDS	17		18		16	
90 PERCENT EXCEEDS	7.0		7.4		6.4	

e Estimated



08279000 EMBUDO CREEK AT DIXON, NM

LOCATION.--Lat 36°12'39", long 105°54'47", in NE¹/₄SE¹/₄ sec.19, T.23 N., R.10 E., Rio Arriba County, Hydrologic Unit 13020101, on right bank 750 ft upstream from State Highway 68, 0.5 mi upstream from mouth, 0.5 mi east of Embudo Post Office, and 1.7 mi northwest of Dixon.

DRAINAGE AREA.--305 mi².

PERIOD OF RECORD.--October 1923 to February 1926, October 1926 to September 1955, (annual maximum), water years 1956-62, September 1962 to current year. Monthly discharge only for some periods, published in WSP 1312. Figures of daily discharge for July 6-25, 1932, published in WSP 733, and maximum discharges for water years 1931-33, 1935, 1937-38, 1941, are unreliable and should not be used.

REVISED RECORDS.--WSP 1512: 1931-32, 1941, 1947 (M). Also see PERIOD OF RECORD.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 5,958.60 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 30, 1938, at site about 1 mi upstream at different datum. Nov. 30, 1938 to Aug. 1, 1941, at site about 0.9 mi upstream at datum about 59.9 ft higher. Aug. 2, 1941 to Sept. 1, 1971, at site 750 ft downstream at datum 9.10 ft lower. April 1956 to Sept. 21, 1962, crest-stage gage.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Diversions upstream from station for irrigation of about 6,600 acres, a small part of which are downstream from gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e71	94	52	39	33	35	58	678	551	88	52	51
2	e64	85	54	e35	28	36	60	474	521	85	78	49
3	e50	76	53	e36	29	34	58	410	506	84	97	54
4	e64	70	52	e35	33	36	58	403	480	84	129	52
5	e59	65	52	e37	36	36	59	326	459	e120	136	45
6	e55	63	50	e36	34	35	53	276	381	e100	137	43
7	e55	62	e43	36	32	33	59	255	350	e100	116	53
8	51	61	e36	35	36	36	59	274	326	e110	104	46
9	51	64	e37	33	37	30	56	350	313	e100	114	42
10	48	51	e37	32	38	37	47	433	310	119	102	41
11	47	51	e36	34	34	37	47	447	287	91	101	38
12	46	69	e44	36	26	40	49	399	277	81	90	37
13	44	72	e42	35	38	33	47	393	299	70	78	33
14	43	67	e41	32	39	39	48	459	288	62	75	32
15	43	65	e40	33	36	43	48	514	350	60	98	41
16	41	64	e41	36	35	41	42	503	304	51	81	59
17	45	62	e42	34	32	40	43	472	393	59	77	53
18	47	62	e42	33	34	40	36	434	377	84	71	64
19	46	59	e42	34	36	41	35	444	349	87	81	53
20	46	50	46	34	34	43	34	504	324	68	89	45
21	47	49	e39	34	33	43	40	504	308	69	86	42
22	46	58	e38	30	35	46	63	543	286	65	78	39
23	46	55	e38	28	28	45	72	600	254	58	70	40
24	44	53	e37	37	34	46	83	712	227	63	63	43
25	51	52	e35	34	36	47	110	866	195	71	58	41
26	e75	50	e36	34	35	50	112	746	173	57	53	36
27	e90	50	e36	27	33	53	98	632	158	59	52	32
28	80	50	e37	28	34	53	105	613	134	54	51	31
29	65	58	e37	34	---	51	109	598	111	45	64	31
30	62	54	e38	34	---	50	586	587	92	42	71	33
31	140	---	e39	31	---	55	---	579	---	39	59	---
TOTAL	1762	1841	1292	1046	948	1284	2374	15428	9383	2325	2611	1299
MEAN	56.8	61.4	41.7	33.7	33.9	41.4	79.1	498	313	75.0	84.2	43.3
MAX	140	94	54	39	39	55	586	866	551	120	137	64
MIN	41	49	35	27	26	30	34	255	92	39	51	31
AC-FT	3490	3650	2560	2070	1880	2550	4710	30600	18610	4610	5180	2580

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1999, BY WATER YEAR (WY)

	MEAN	38.2	36.4	31.7	29.1	30.8	47.3	144	318	206	51.9	51.0	42.1
MAX	116	95.5	54.3	42.2	72.7	129	505	1231	813	204	222	190	
(WY)	1942	1942	1942	1985	1932	1989	1942	1941	1941	1937	1991	1929	
MIN	3.09	4.18	9.75	12.0	15.0	15.5	13.3	8.94	5.49	.86	2.71	2.79	
(WY)	1951	1951	1951	1951	1951	1951	1972	1972	1950	1951	1950	1950	

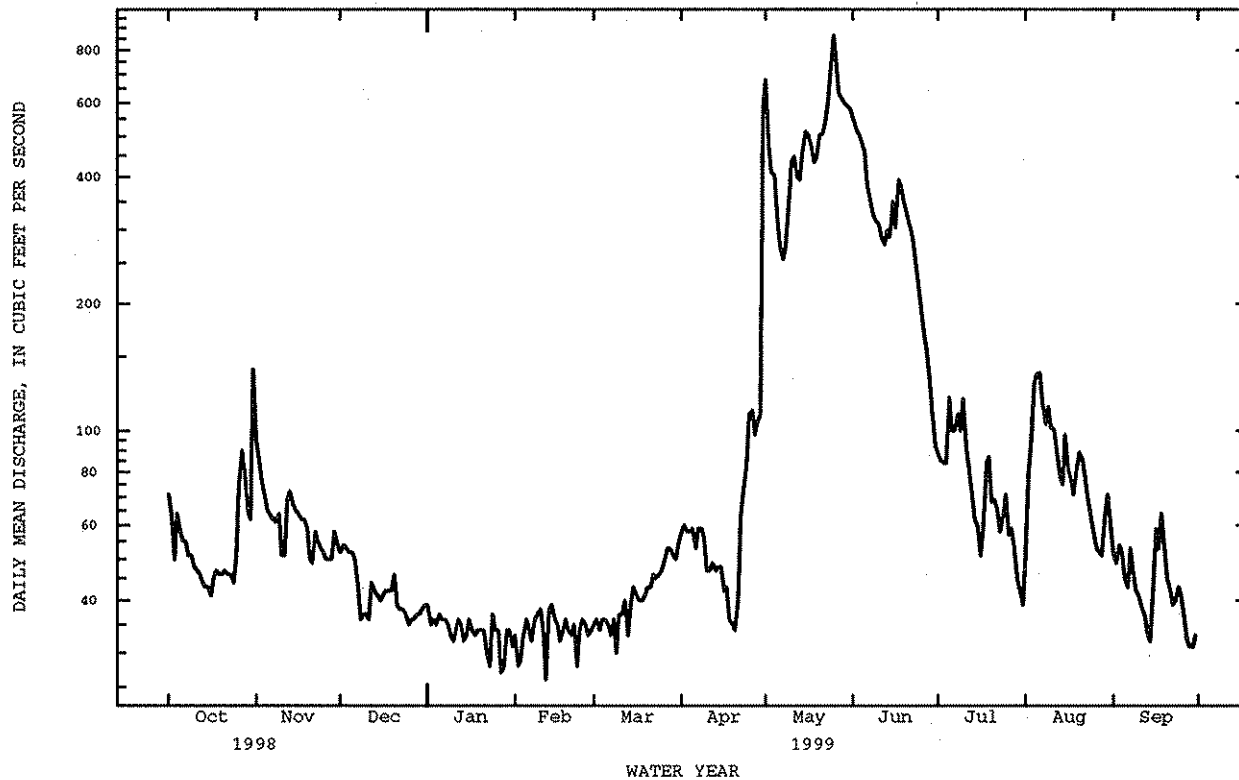
08279000 EMBUDO CREEK AT DIXON, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1924 - 1999	
ANNUAL TOTAL	38657		41593		85.9	
ANNUAL MEAN	106		114		235	
HIGHEST ANNUAL MEAN					12.8	
LOWEST ANNUAL MEAN					2590	
HIGHEST DAILY MEAN	534	May 21	866	May 25	.20	May 14 1941
LOWEST DAILY MEAN	26	Jan 22	26	Feb 12	.60	Jun 27 1950
ANNUAL SEVEN-DAY MINIMUM	29	Feb 14	31	Jan 27	.06	Jul 16 1951
INSTANTANEOUS PEAK FLOW			958	May 25	^a 4200	Aug 29 1977
INSTANTANEOUS PEAK STAGE			4.39	May 25	27.10	Aug 29 1977
INSTANTANEOUS LOW FLOW			12	Feb 12	.06	Jun 26 1950
ANNUAL RUNOFF (AC-FT)	76680		82500		62210	
10 PERCENT EXCEEDS	286		350		215	
50 PERCENT EXCEEDS	63		52		35	
90 PERCENT EXCEEDS	32		34		14	

e Estimated

a From rating curve extended above 1,600 ft³/s.

b Maximum gage height, 7.60 ft, Aug. 4, 1967



RIO GRANDE BASIN

08279500 RIO GRANDE AT EMBUDO, NM

LOCATION.--Lat 36°12'20", long 105°57'49", in SW¹/₄SW¹/₄ sec.23, T.23 N., R.9 E., Rio Arriba County, Hydrologic Unit 13020101, on right bank 0.2 mi downstream from bridge at Embudo, 2.8 mi downstream from Embudo Creek, and at mile 1,643.1.

DRAINAGE AREA.--10,400 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1889 to current year. Monthly discharge only for some periods, published in WSP 1312. Figures of daily discharge for Oct. 4 to Nov. 30, 1896, published in WSP 358, are unreliable and should not be used.

REVISED RECORDS.--WSP 358: 1900-1902. WSP 828: Drainage area. WSP 878: 1915-16. WSP 1512: 1892-99, 1904, 1916, 1931-32, 1939, 1944-45, 1950. WSP 1712: 1903(M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 5,789.14 ft above National Geodetic Vertical Datum of 1929. Jan. 1 to Feb. 28, 1889, nonrecording gage 1.2 mi upstream at different datum. March 1889 to December 1903, nonrecording gage 1,300 ft upstream at different datum. September 1912 to June 1914, water-stage recorder on downstream end of bridge pier at site 200 ft upstream at present datum.

REMARKS.--Records good. Diversions upstream from station for irrigation of about 620,000 acres in Colorado and 40,000 acres in New Mexico. Several observations of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	371	648	539	638	680	667	431	1710	2640	1480	1120	1270
2	372	537	548	641	631	669	426	1460	2680	1330	1160	1230
3	341	505	566	641	619	684	454	1640	2550	1200	1130	1190
4	332	500	546	603	639	683	454	1630	2220	1160	1260	1140
5	331	482	527	592	684	699	454	1390	2100	1230	1460	1180
6	321	466	521	601	712	706	429	1220	1900	1210	1710	1370
7	347	453	514	619	723	689	416	1130	2010	1160	2080	1470
8	363	442	461	621	686	693	420	1140	1950	1130	2060	1330
9	361	452	386	613	697	683	404	1270	1750	1060	1920	1240
10	364	437	370	609	699	686	359	1460	1790	1030	1980	1240
11	332	437	348	612	692	682	326	1520	1990	1020	2000	1260
12	312	471	364	628	671	688	323	1540	2210	991	1860	1250
13	307	523	540	638	621	688	315	1590	2320	829	1750	1220
14	298	472	523	623	611	680	333	1730	2060	776	1800	1200
15	294	490	553	604	634	718	345	1860	2120	757	1900	1270
16	294	532	576	611	647	692	338	1930	2260	733	1690	1340
17	306	558	610	631	651	669	320	2060	2530	752	1510	1220
18	310	546	621	610	640	654	307	1990	2610	813	1530	1190
19	310	531	635	616	659	559	308	1970	2630	832	1660	1180
20	315	527	649	649	659	509	309	2040	2670	807	1570	1130
21	315	496	647	669	679	503	328	2090	2740	887	1400	1140
22	313	493	569	660	685	492	402	2260	2470	955	1370	1190
23	318	479	592	616	661	471	402	2490	2150	1040	1480	1180
24	324	464	569	639	647	475	415	2740	2130	962	1550	1100
25	359	465	602	664	659	483	549	3180	2280	1010	1450	1070
26	450	505	570	696	655	486	587	3260	2370	1140	1360	1030
27	484	532	582	665	646	493	557	2980	2270	1200	1290	1000
28	513	523	588	623	663	489	560	2770	2000	1180	1240	940
29	455	545	606	606	---	489	557	2540	1890	1120	1270	905
30	535	556	618	635	---	467	1280	2440	1750	1070	1260	867
31	770	---	632	674	---	446	---	2460	---	1040	1260	---
TOTAL	11417	15067	16972	19547	18550	18692	13108	61490	67040	31904	48080	35342
MEAN	368	502	547	631	662	603	437	1984	2235	1029	1551	1178
MAX	770	648	649	696	723	718	1280	3260	2740	1480	2080	1470
MIN	294	437	348	592	611	446	307	1130	1750	733	1120	867
AC-FT	22650	29890	33660	38770	36790	37080	26000	122000	133000	63280	95370	70100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1999, BY WATER YEAR (WY)

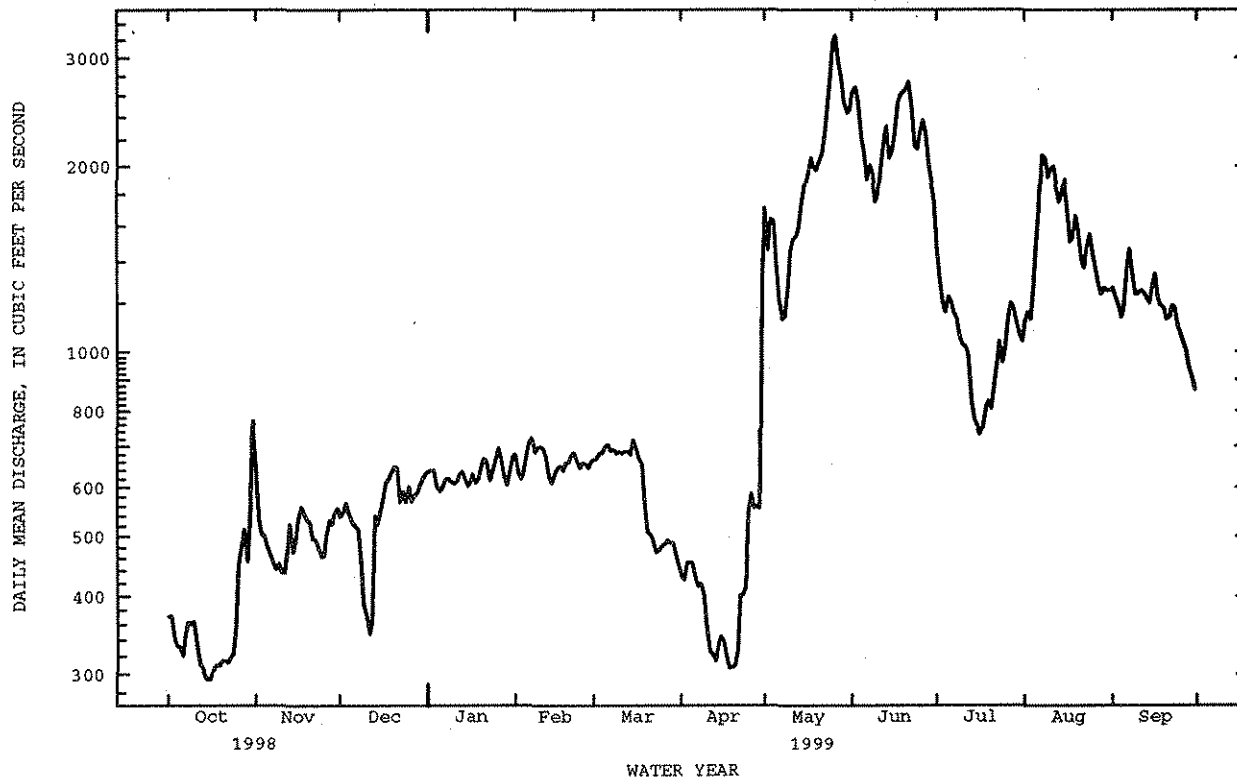
	MEAN	432	559	525	512	582	719	1010	2071	1995	788	464	396
MAX	1795	1611	1052	799	888	1290	3544	7228	6837	3540	1699	1178	
(WY)	1942	1942	1942	1942	1987	1989	1942	1941	1941	1995	1957	1999	
MIN	182	243	269	300	323	286	274	249	199	188	186	171	
(WY)	1957	1957	1957	1957	1957	1957	1981	1972	1977	1963	1956	1956	

08279500 RIO GRANDE AT EMBUDO, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1931 - 1999	
ANNUAL TOTAL	259831		357209		^a 838	
ANNUAL MEAN	712		979		2077	
HIGHEST ANNUAL MEAN					308	
LOWEST ANNUAL MEAN					11700	
HIGHEST DAILY MEAN	2420	May 24	3260	May 26	165	May 16 1941
LOWEST DAILY MEAN	260	Sep 25	294	Oct 15	166	Sep 2 1956
ANNUAL SEVEN-DAY MINIMUM	262	Sep 22	303	Oct 13	166	Sep 1 1956
INSTANTANEOUS PEAK FLOW			3310	May 26	^b 16200	Jun 19 1903
INSTANTANEOUS PEAK STAGE			7.09	May 26	15.90	Jun 19 1903
INSTANTANEOUS LOW FLOW			285	Oct 16	130	Jun 30 1902
ANNUAL RUNOFF (AC-FT)	515400		708500		607100	
10 PERCENT EXCEEDS	1420		2020		1650	
50 PERCENT EXCEEDS	618		669		517	
90 PERCENT EXCEEDS	322		364		262	

a Average discharge for 41 years (water years 1890-1930), 1,238 ft³/s, 896,900 acre-ft/yr.

b A flood of about 14,000 ft³/s, occurred between May 20 and June 10, 1905, from a comparison of records for Lobatos and Otowi Bridge. Another major flood occurred Sept. 29 or 30, 1904.



RIO GRANDE BASIN

08279500 RIO GRANDE AT EMBUDO, NM--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1997 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)
OCT							
15...	1100	297	332	8.4	21.0	14.5	6.4
NOV							
10...	1015	434	350	8.4	3.5	5.0	3.7
DEC							
17...	1015	590	305	8.5	.0	4.5	3.7
JAN							
06...	1015	585	275	8.3	.5	.0	2.6
FEB							
09...	1020	660	262	8.0	7.0	5.0	10
MAR							
24...	1400	673	323	9.0	18.0	12.5	4.7
APR							
20...	1315	308	365	8.8	25.5	14.0	25
MAY							
20...	0930	2120	206	9.0	19.5	12.0	100
JUN							
04...	0945	2280	232	8.1	24.0	12.5	15
JUL							
22...	1130	767	239	7.9	24.5	21.5	15
AUG							
26...	1545	1390	189	8.5	32.0	22.0	7.8
SEP							
17...	1400	1200	189	8.2	23.0	17.0	15

DATE	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT						
15...	614	9.4	115	60	48	68
NOV						
10...	620	10.8	104	184	216	35
DEC						
17...	625	11.8	111	83	132	47
JAN						
06...	622	12.2	102	46	73	59
FEB						
09...	621	11.6	112	58	103	59
MAR						
24...	616	--	--	98	178	--
APR						
20...	614	10.3	125	109	91	--
MAY						
20...	617	9.3	107	146	836	--
JUN						
04...	613	--	--	162	997	--
JUL						
22...	622	8.5	119	95	197	--
AUG						
26...	620	7.7	109	104	390	--
SEP						
17...	619	9.0	115	59	191	--

MEAN	93.4	86.2	61.3	56.2	70.3	191	838	1853	777	137	101	80.6
MAX	562	422	131	103	174	523	1846	4195	3200	571	352	320
(WY)	1987	1987	1987	1987	1962	1995	1962	1985	1995	1957	1957	1982
MIN	9.82	24.8	25.9	15.8	26.3	49.9	244	123	19.1	9.23	9.00	7.96
(WY)	1957	1957	1964	1963	1964	1964	1964	1977	1977	1956	1972	1956

RIO GRANDE BASIN

08284100 RIO CHAMA NEAR LA PUENTE, NM--Continued

SUMMARY STATISTICS

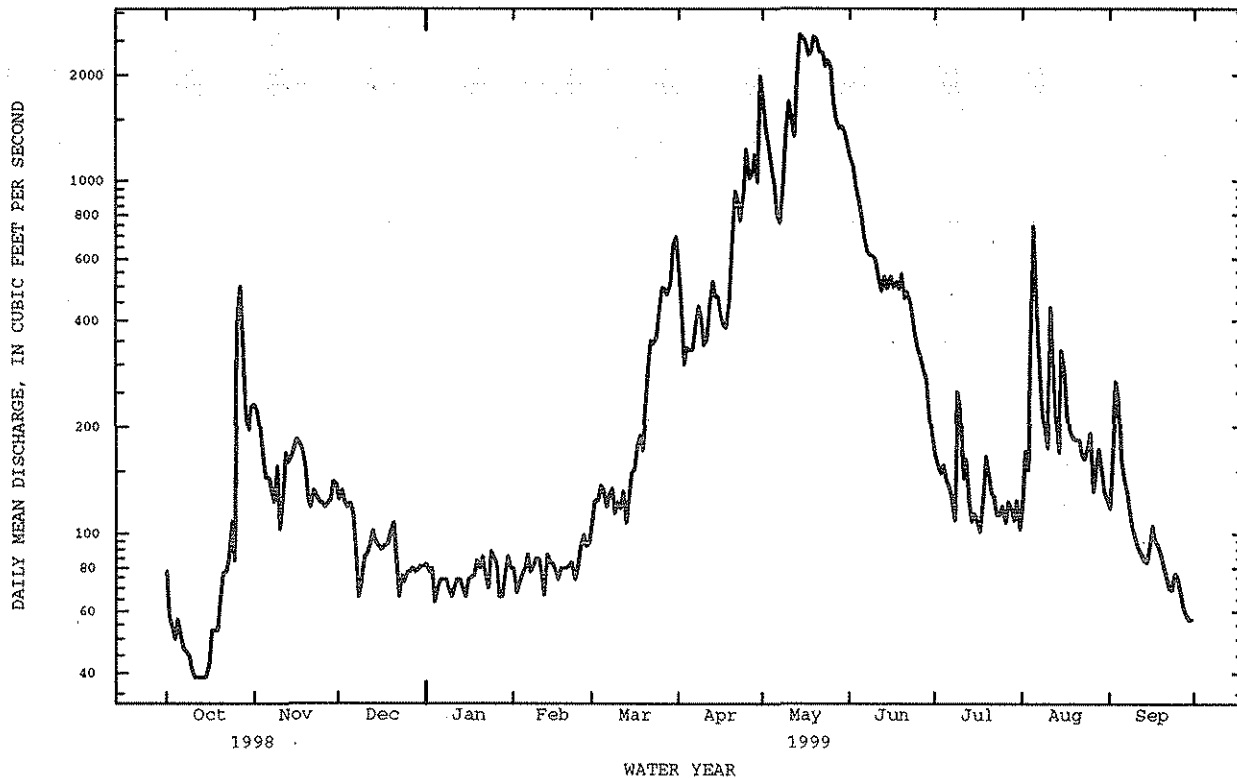
FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1956 - 1999

ANNUAL TOTAL	131475		127345			
ANNUAL MEAN	360		349		363	
HIGHEST ANNUAL MEAN					723	1985
LOWEST ANNUAL MEAN					63.0	1977
HIGHEST DAILY MEAN	2870	May 5	2600	May 14	7720	May 10 1985
LOWEST DAILY MEAN	28	Sep 28	39	Oct 11	4.4	Sep 19 1956
ANNUAL SEVEN-DAY MINIMUM	30	Sep 22	40	Oct 10	5.6	Sep 18 1956
INSTANTANEOUS PEAK FLOW			3130	May 20	^a 11200	May 28 1979
INSTANTANEOUS PEAK STAGE			5.16	May 20	6.46	May 14 1984
INSTANTANEOUS LOW FLOW			27	Feb 12	4.0	Sep 19 1956
ANNUAL RUNOFF (AC-FT)	260800		252600		263300	
10 PERCENT EXCEEDS	1200		974		1060	
50 PERCENT EXCEEDS	109		132		82	
90 PERCENT EXCEEDS	50		70		30	

e Estimated

a From rating curve extended above 5,400 ft³/s.

08284100 RIO CHAMA NEAR LA PUENTE, NM--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974, 1986 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	
MAR 09...	1330	93	184	8.3	11.5	6.5	585	9.8	104	74	
JUL 09...	1210	283	225	8.2	24.5	19.0	583	7.3	104	95	
DATE		HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
MAR 09...	--	22	4.6	6.5	.3	1.4	--	--	--	75	
JUL 09...	18	28	6.0	8.7	.4	2.3	93	0	76	86	
DATE		SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L) (70301)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
MAR 09...	17	2.5	<.1	18	117	E8.9	36	11	2.8	93	
JUL 09...	28	2.1	<.1	20	141	23.5	84	166	127	57	

LOCATION.--Lat 36°51'12", long 106°40'18", Rio Arriba County, Hydrologic Unit 13020102, in Tierra Amarilla Grant, on left bank at south portal, 0.2 mi upstream from Azotea Creek, and 6.2 mi southwest of Chama.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 7,519.87 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

COOPERATION.--Records provided by Bureau of Reclamation.

AVERAGE DISCHARGE.--29 years, 131 ft³/s, 94,910 acre-ft/yr.

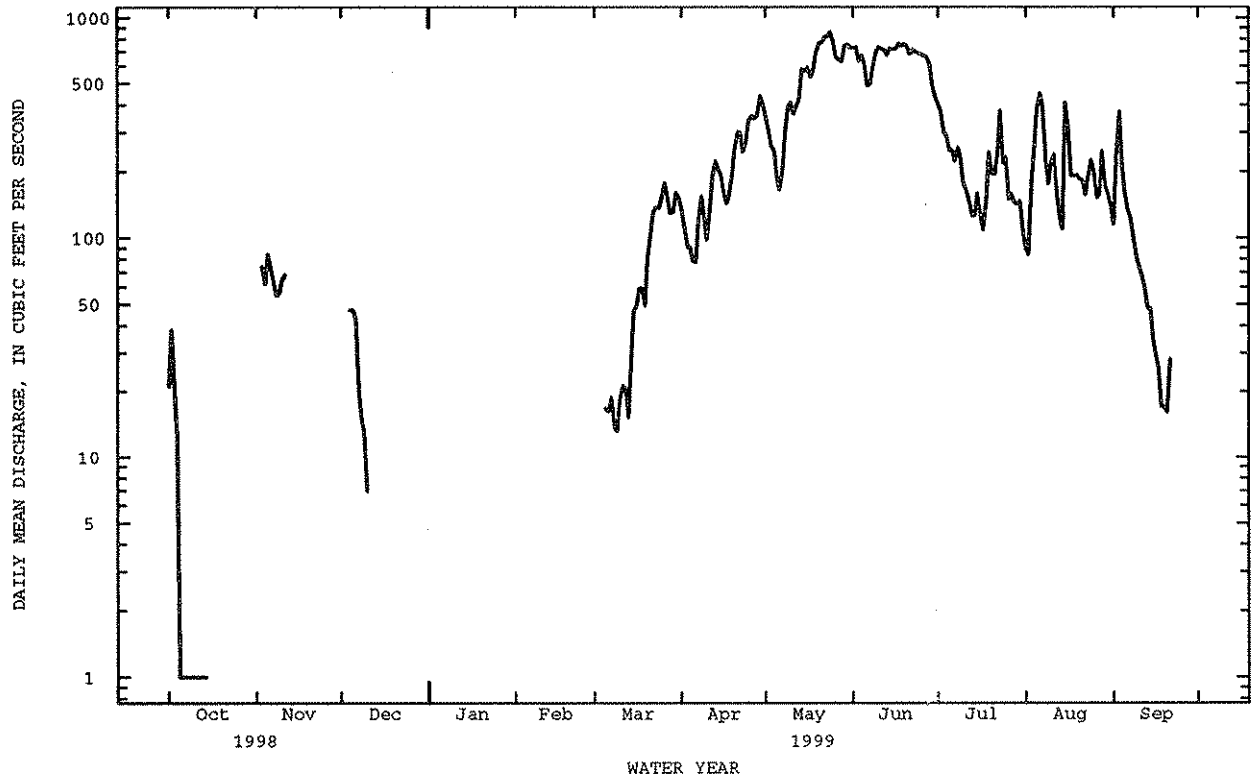
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,170 ft³/s, May 17, 1978, gage height, 7.85 ft; no flow many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 862 ft³/s, May 24; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	.00	.00	.00	.00	.00	135	360	730	405	90	116
2	38	.00	.00	.00	.00	.00	113	307	734	377	84	235
3	20	74	.00	.00	.00	.00	91	262	635	302	178	372
4	12	62	47	.00	.00	.00	91	249	674	292	249	221
5	1.0	84	47	.00	.00	17	79	190	610	249	384	165
6	1.0	72	43	.00	.00	16	78	166	489	250	452	134
7	1.0	63	20	.00	.00	19	120	201	497	223	400	125
8	1.0	55	15	.00	.00	14	154	295	596	257	225	100
9	1.0	56	13	.00	.00	13	125	397	701	232	176	84
10	1.0	65	7.0	.00	.00	18	98	410	735	179	220	75
11	1.0	68	.00	.00	.00	21	134	365	725	164	240	67
12	1.0	.00	.00	.00	.00	21	191	399	711	148	161	60
13	1.0	.00	.00	.00	.00	15	222	424	671	126	121	48
14	1.0	.00	.00	.00	.00	27	206	580	723	126	109	48
15	.00	.00	.00	.00	.00	46	195	571	717	159	409	35
16	.00	.00	.00	.00	.00	50	158	591	720	128	315	29
17	.00	.00	.00	.00	.00	59	143	537	760	109	192	25
18	.00	.00	.00	.00	.00	59	156	575	742	146	192	17
19	.00	.00	.00	.00	.00	49	195	693	756	244	194	17
20	.00	.00	.00	.00	.00	81	255	766	741	197	186	16
21	.00	.00	.00	.00	.00	105	301	770	682	194	183	28
22	.00	.00	.00	.00	.00	131	301	820	713	239	157	.00
23	.00	.00	.00	.00	.00	138	246	820	699	376	190	.00
24	.00	.00	.00	.00	.00	137	274	862	692	217	225	7.0
25	.00	.00	.00	.00	.00	152	342	768	682	233	201	.00
26	.00	.00	.00	.00	.00	177	358	654	669	150	152	.00
27	.00	.00	.00	.00	.00	154	348	646	663	159	160	.00
28	.00	.00	.00	.00	.00	130	359	630	610	145	248	.00
29	.00	.00	.00	.00	---	132	438	749	489	143	174	.00
30	.00	.00	.00	.00	---	160	404	753	430	147	159	.00
31	.00	---	.00	.00	---	152	---	730	---	104	138	---
TOTAL	101.00	599.00	192.00	0.00	0.00	2093.00	6310	16540	19996	6420	6564	2024.00
MEAN	3.26	20.0	6.19	.000	.000	67.5	210	534	667	207	212	67.5
MAX	38	84	47	.00	.00	177	438	862	760	405	452	372
MIN	.00	.00	.00	.00	.00	.00	78	166	430	104	84	.00
AC-FT	200	1190	381	.00	.00	4150	12520	32810	39660	12730	13020	4010
CAL YR 1998	TOTAL 48753.00		MEAN 134	MAX 950	MIN .00	AC-FT 96700						
WTR YR 1999	TOTAL 60839.00		MEAN 167	MAX 862	MIN .00	AC-FT 120700						

08284160 AZOTEA TUNNEL AT OUTLET, NEAR CHAMA, NM--Continued



RIO GRANDE BASIN

08284200 WILLOW CREEK ABOVE HERON RESERVOIR, NEAR LOS OJOS, NM

LOCATION.--Lat 36°44'33", long 106°37'34", Rio Arriba County, Hydrologic Unit 13020102, in Tierra Amarilla Grant, on right bank 200 ft downstream from bridge, 0.2 mi downstream from Iron Spring Creek, 3.3 mi west of Los Ojos, and at mile 9.7.

DRAINAGE AREA.--112 mi².

PERIOD OF RECORD.--October and November 1962 (monthly discharge only), December 1962 to current year. Published as "near Park View" prior to 1976.

GAGE.--Water-stage recorder. Concrete control since June 6, 1963. Datum of gage is 7,196.29 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to Apr. 1, 1971, at site 900 ft downstream at lower datum.

REMARKS.--Records represent inflow to Heron Reservoir and since Nov. 17, 1970, include San Juan River water imported through Azotea tunnel (station 08284160).

COOPERATION.--Records provided by Bureau of Reclamation.

AVERAGE DISCHARGE.--8 years (water years 1963-70), 10.5 ft³/s, 7,610 acre-ft/yr, prior to completion of Azotea tunnel. 29 years (water years 1971-99), 143 ft³/s, 103,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,610 ft³/s, Mar. 12, 1985, gage height, 6.65 ft; no flow at times most years.

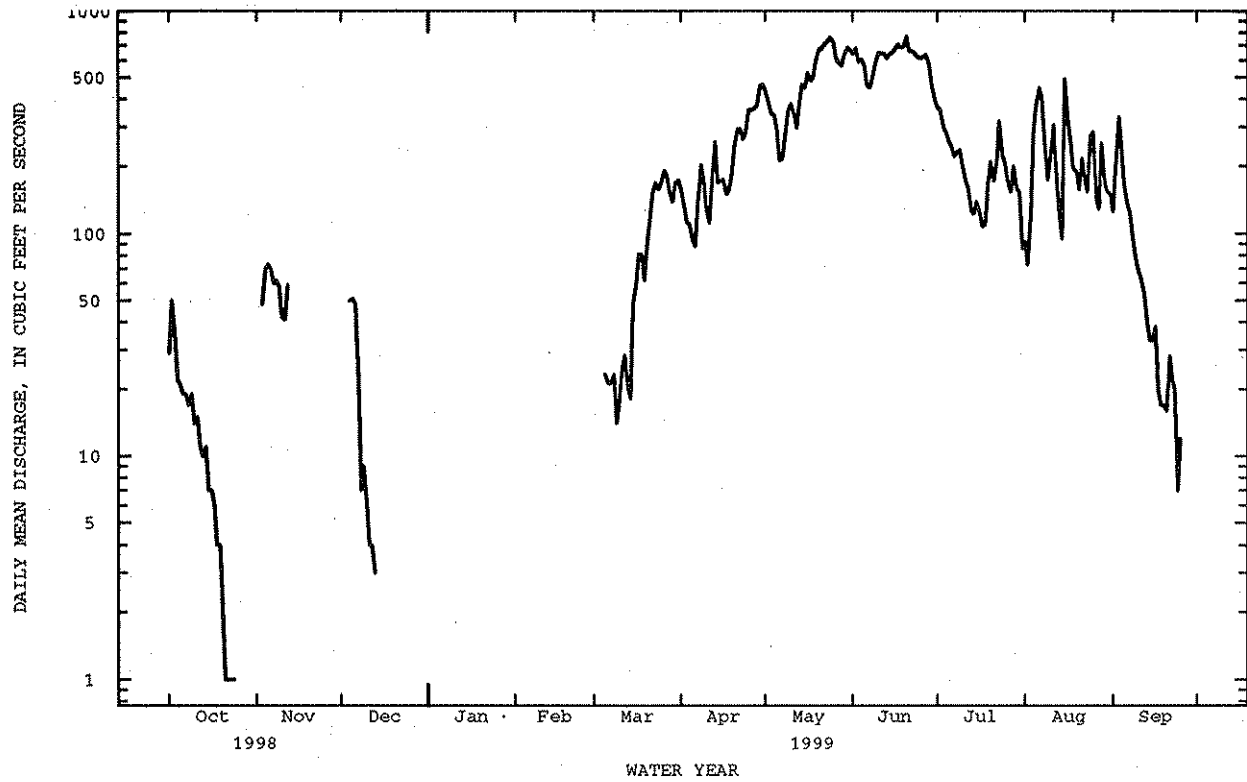
EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 769 ft³/s, June 20; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	.00	.00	.00	.00	.00	158	438	644	366	93	127
2	50	.00	.00	.00	.00	.00	137	389	679	358	73	199
3	35	48	.00	.00	.00	.00	113	345	588	302	123	332
4	22	70	50	.00	.00	.00	111	340	601	286	284	245
5	21	73	51	.00	.00	23	96	290	576	261	376	169
6	19	70	48	.00	.00	21	88	214	464	245	448	137
7	19	60	21	.00	.00	21	140	218	450	222	407	127
8	17	62	7.0	.00	.00	23	203	277	504	233	241	96
9	19	58	9.0	.00	.00	14	173	362	592	237	176	79
10	14	42	6.0	.00	.00	17	130	380	647	203	218	70
11	15	41	4.0	.00	.00	25	112	349	643	173	306	62
12	11	59	4.0	.00	.00	28	173	298	643	162	191	55
13	10	.00	3.0	.00	.00	20	257	375	613	127	120	40
14	11	.00	.00	.00	.00	18	170	462	638	123	96	33
15	7.0	.00	.00	.00	.00	48	172	452	653	140	490	33
16	7.0	.00	.00	.00	.00	59	176	524	675	127	323	38
17	6.0	.00	.00	.00	.00	81	151	485	705	108	261	20
18	4.0	.00	.00	.00	.00	81	155	504	685	111	195	17
19	4.0	.00	.00	.00	.00	62	184	598	690	169	191	17
20	2.0	.00	.00	.00	.00	88	245	674	769	210	158	16
21	1.0	.00	.00	.00	.00	120	294	679	659	173	217	28
22	1.0	.00	.00	.00	.00	155	294	716	659	206	177	22
23	1.0	.00	.00	.00	.00	169	265	727	643	319	155	20
24	1.0	.00	.00	.00	.00	158	290	759	623	226	277	7.0
25	.00	.00	.00	.00	.00	169	358	727	613	207	286	12
26	.00	.00	.00	.00	.00	191	358	613	623	166	144	.00
27	.00	.00	.00	.00	.00	184	366	583	633	155	130	.00
28	.00	.00	.00	.00	.00	155	375	569	573	200	253	.00
29	.00	.00	.00	.00	---	140	460	639	457	160	173	.00
30	.00	.00	.00	.00	---	169	466	684	398	155	155	.00
31	.00	---	.00	.00	---	173	---	667	---	86	151	---
TOTAL	326.00	583.00	203.00	0.00	0.00	2412.00	6670	15337	18340	6216	6888	2001.00
MEAN	10.5	19.4	6.55	.000	.000	77.8	222	495	611	201	222	66.7
MAX	50	73	51	.00	.00	191	466	759	769	366	490	332
MIN	.00	.00	.00	.00	.00	.00	88	214	398	86	73	.00
AC-FT	647	1160	403	.00	.00	4780	13230	30420	36380	12330	13660	3970

CAL YR 1998 TOTAL 47237.00 MEAN 129 MAX 851 MIN .00 AC-FT 93690
WTR YR 1999 TOTAL 58976.00 MEAN 162 MAX 769 MIN .00 AC-FT 117000

08284200 WILLOW CREEK ABOVE HERON RESERVOIR, NEAR LOS OJOS, NM--Continued



RIO GRANDE BASIN

08284300 HORSE LAKE CREEK ABOVE HERON RESERVOIR, NEAR LOS OJOS, NM

LOCATION.--Lat 36°42'24", long 106°44'42", Rio Arriba County, Hydrologic Unit 13020102, in Tierra Amarilla Grant, on right bank 3.7 mi northwest of Heron Dam, 7.8 mi downstream from Horse Lake, and 9.9 mi west of Los Ojos.

DRAINAGE AREA.--45 mi², approximately.

PERIOD OF RECORD.--October and November 1962 (monthly discharge only), December 1962 to current year. (Season records subsequent to 1973). Published as "near Park View" prior to 1976.

GAGE.--Water-stage recorder. Concrete control since June 10, 1963. Datum of gage is 7,188.85 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to July 1, 1971, at site 1,100 ft upstream at higher datums.

REMARKS.--Diversion upstream from station for irrigation of meadows and for off-channel stock tanks.

AVERAGE DISCHARGE--11 years (water years 1963-73), 1.10 ft³/s, 797 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,960 ft³/s, July 30, 1968, gage height, 4.9 ft, site and datum then in use, from rating curve extended above 37 ft³/s on basis of slope-area measurements at gage heights 3.20 ft and 4.9 ft; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum during period of seasonal operation 308 ft³/s, at 1345 hours, July 21, gage height 3.98, no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	4.3	.00	---	---	.00	.00	e.00	.00	e.00	.00	.00
2	.00	2.3	.00	---	---	.00	.00	e.00	e.00	e.00	.00	.00
3	.00	1.5	.00	---	---	.00	.00	e.00	e.00	e.00	.00	.00
4	.00	.50	.00	---	---	.00	.00	e.00	e.00	e.00	.00	.00
5	.00	.00	.00	---	---	.00	.00	e.00	e.00	e.00	.00	.00
6	.00	.00	.00	---	---	.00	.01	e.00	e.00	e.00	.00	.00
7	.00	.00	.00	---	---	.00	.04	.02	e.00	e.00	.00	.00
8	.00	1.5	.00	---	---	.00	.01	.00	e.00	e.00	.00	.00
9	.00	.50	.00	---	---	.00	.00	.00	e.00	e.00	.00	.00
10	.00	.10	---	---	---	.00	.00	.00	e.00	e.00	.00	.00
11	.00	.40	---	---	---	.00	.00	.00	e.00	e.00	5.0	.00
12	.00	.02	---	---	---	.00	.00	.00	e.00	e.00	3.2	.00
13	.00	.00	---	---	---	.00	.00	.00	e.00	e.00	.35	.00
14	.00	.00	---	---	---	.00	e.00	.00	e.00	e.00	.00	.00
15	.00	.00	---	---	---	.00	e.00	.00	e.00	e.00	4.4	.00
16	.00	.00	---	---	---	.00	e.00	.00	e.00	e.00	1.7	.00
17	.00	.00	---	---	---	.00	e.00	.00	e.00	e.00	.36	.00
18	.00	.00	---	---	---	.00	e.00	.00	e.00	.00	.00	.00
19	.00	.00	---	---	---	.00	e.00	.00	e.00	.00	.00	.00
20	.00	.00	---	---	---	.00	e.00	.00	e.00	.00	.00	.00
21	.00	.00	---	---	---	.00	e.00	.00	e.00	5.6	.01	.00
22	.00	.00	---	---	---	e.00	1.5	.00	e.00	.02	4.0	.00
23	.00	.00	---	---	---	e.00	1.2	.00	e.00	.00	1.1	.00
24	.00	.00	---	---	---	e.00	1.0	.00	e.00	.00	4.7	.00
25	.00	.00	---	---	---	e.00	.22	.00	e.00	.00	.00	.00
26	9.2	.00	---	---	---	e.00	e.00	.00	e.00	.00	.00	.00
27	10	.00	---	---	---	e.00	e.00	.00	e.00	.00	.00	.00
28	4.0	.00	---	---	---	e.00	e.00	.00	e.00	.00	.00	.00
29	.80	.00	---	---	---	e.00	e.00	.00	e.00	.00	.00	.00
30	.51	.00	---	---	---	e.00	e.00	.00	e.00	.00	.00	.00
31	7.6	---	---	---	---	e.00	---	.00	---	.00	.00	---
TOTAL	32.11	11.12	---	---	---	0.00	3.98	0.02	0.00	5.62	24.82	0.00
MEAN	1.04	.37	---	---	---	.000	.13	.001	.000	.18	.80	.000
MAX	10	4.3	---	---	---	.00	1.5	.02	.00	5.6	5.0	.00
MIN	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
AC-FT	64	22	---	---	---	.00	7.9	.04	.00	11	49	.00

e Estimated

08284510 HERON RESERVOIR NEAR LOS OJOS, NM

LOCATION.--Lat 36°39'56", long 106°42'13", Rio Arriba County, Hydrologic Unit 13020102, in Tierra Amarilla Grant, at Heron Dam on Willow Creek, 0.2 mi upstream from Rio Chama, 5.1 mi northeast of El Vado Dam, and 8.7 mi southwest of Los Ojos.

DRAINAGE AREA.--193 mi².

PERIOD OF RECORD.--October 1970 to current year. Published as "near Park View" prior to 1976.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to Mar. 24, 1971, nonrecording gage.

REMARKS.--Reservoir is formed by earthfill dam; storage began Oct. 21, 1970. Total capacity 401,300 acre-ft at elevation 7,186.1 ft, low point on crest of uncontrolled spillway, including 1,340 acre-ft of dead storage at elevation 7,003.0 ft, invert of gate sill of outlet tunnel. Reservoir is used for storage of transmountain water from San Juan River basin and for recreation. Figures given herein represent total storage.

COOPERATION.--Records provided by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 401,800 acre-ft, July 28, 1982, elevation, 7,186.19 ft; no storage prior to Oct. 21, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 398,330 acre-ft, Sept. 7, elevation, 7,185.59 ft; minimum, 285,600 acre-ft, Mar. 18-19, elevation, 7,164.67 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	354240	342110	326430	308140	298140	289210	287110	300640	333080	371410	383150	395690
2	354190	341730	325910	307840	297750	288910	287400	301340	334990	372030	383260	396100
3	354080	341410	325280	307380	297450	288570	287540	302240	336800	372590	383550	396740
4	353970	341080	325020	307030	297200	288330	287790	302800	337440	373220	384240	397040
5	353640	340760	324130	306720	296900	287980	287980	303250	338560	373780	385280	397270
6	353030	340390	323450	306420	296650	287590	288180	303600	338940	374180	386030	397560
7	352540	340120	322720	306070	296360	287350	288470	304050	339850	374520	386720	398330
8	352050	339900	322000	305710	296060	287060	288280	304660	341520	375200	387360	397860
9	351500	339850	321420	305360	295760	286810	288960	305360	342750	376110	387650	397980
10	350900	339260	320850	305060	295410	286570	289160	306070	344210	376510	388170	398030
11	350350	338780	320280	304860	294970	286230	289350	306780	345620	376800	388580	398030
12	349860	338190	319710	304560	294670	286130	289650	307280	347080	377080	388810	398030
13	349150	337550	319090	304200	294420	285940	290040	308040	348280	377310	388980	398030
14	348660	336900	318470	303800	294130	285890	290380	309160	349750	377480	389220	398150
15	348010	336260	317800	303550	293780	285790	290630	310220	351280	377710	389800	398150
16	347460	335730	317290	303250	293390	285740	290920	311290	352760	377990	390380	398150
17	346920	335090	317700	302900	293090	285640	291170	312210	354130	378160	390900	398150
18	346320	334400	316050	302590	292790	285600	291460	313380	355840	378450	391310	398150
19	345940	333710	315490	302140	292450	285600	291810	314560	357330	378960	391600	398090
20	345460	332970	314770	301940	292060	285640	292200	316000	358540	379310	391890	398090
21	345020	332280	314100	301790	291810	285690	293140	317540	360260	379590	392470	398090
22	344540	331640	313490	301390	291320	285740	293730	319200	361600	380050	392590	398030
23	344210	330960	312770	300990	290970	285890	294280	320910	362930	380800	392590	398030
24	343720	330270	312110	300740	290680	286030	295070	322670	364220	381480	393110	396680
25	343510	329640	311600	300490	290380	286180	295910	324240	365500	381540	393460	396450
26	343620	329110	310990	300140	290040	286420	296550	325600	367130	381770	393700	397740
27	343670	328590	310430	299740	289800	286570	297250	326640	368310	382110	393930	397500
28	343290	328060	309770	299390	289500	286620	298000	327690	369260	382400	394460	396920
29	342920	327530	309260	299140	---	286760	298590	329110	370220	382690	394690	396680
30	342590	327010	308800	298790	---	286860	299640	330590	370670	382920	394930	396450
31	342430	---	308450	298440	---	286960	---	331860	---	383090	395160	---
MAX	354240	342110	326430	308140	298140	289210	299640	331860	370670	383090	395160	398330
MIN	342430	327010	308450	298440	289500	285600	287110	300640	333080	371410	383150	395690
(+)	7175.67	7172.76	7169.17	7176.17	7165.37	7164.85	7167.42	7173.69	7180.79	7182.96	7185.05	7185.27
(++)	-12030	-15420	-18560	-10010	-8940	-2540	+12680	+32220	+38810	+12420	+12070	+1290

CAL YR 1998 MAX 376510 MIN 304350 (++) -40810
WTR YR 1999 MAX 398330 MIN 285600 (++) +41990

(+) ELEVATION, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-FEET

RIO GRANDE BASIN

08284520 WILLOW CREEK BELOW HERON DAM, NM

LOCATION.--Lat 36°39'56", long 106°42'13", Rio Arriba County, Hydrologic Unit 13020102, in Tierra Amarilla Grant, in outlet conduits of Heron Dam, 0.2 mi upstream from Rio Chama, 5.1 mi northeast of El Vado Dam, and 8.7 mi southwest of Los Ojos.

DRAINAGE AREA.--193 mi².

PERIOD OF RECORD.--January 1971 to current year.

GAGE.--Totalizing flowmeters in each of two outlet conduits in Heron Dam.

REMARKS.--Flow regulated by Heron Reservoir (station 08284510). Outlet conduits are 14-in. and 120-in. in diameter.

COOPERATION.--Records provided by Bureau of Reclamation.

AVERAGE DISCHARGE.--28 years, 127 ft³/s, 92,010 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,780 ft³/s, Dec. 18, 19, 1982; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 385 ft³/s, Nov. 11 to Dec. 8; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	230	385	165	165	165	100	.00	.00	.00	.00	.00
2	.00	230	385	165	165	165	40	.00	.00	.00	.00	.00
3	.00	230	385	165	165	165	.00	.00	.00	.00	.00	.00
4	.00	230	385	165	165	165	.00	.00	.00	.00	.00	.00
5	141	230	385	165	165	165	.00	.00	.00	.00	.00	.00
6	276	230	385	165	165	165	.00	.00	.00	.00	.00	.00
7	230	230	385	165	165	165	.00	.00	.00	.00	.00	.00
8	230	230	385	165	165	165	.00	.00	.00	.00	.00	.00
9	230	230	353	165	165	165	.00	.00	.00	.00	.00	.00
10	230	310	325	165	165	165	.00	.00	.00	.00	.00	.00
11	230	385	325	165	165	165	.00	.00	.00	.00	.00	.00
12	230	385	325	165	165	126	.00	.00	.00	.00	.00	.00
13	230	385	325	165	165	100	.00	.00	.00	.00	.00	.00
14	230	385	325	165	165	100	.00	.00	.00	.00	.00	.00
15	230	385	325	165	165	100	.00	.00	.00	.00	.00	.00
16	230	385	325	165	165	100	.00	.00	.00	.00	.00	.00
17	230	385	325	165	165	100	.00	.00	.00	.00	.00	.00
18	230	385	325	165	165	100	.00	.00	.00	.00	.00	.00
19	230	385	325	165	165	100	.00	.00	.00	.00	.00	.00
20	230	385	325	165	165	100	.00	.00	.00	.00	.00	.00
21	230	385	325	165	165	100	.00	.00	.00	.00	.00	.00
22	230	385	325	165	165	100	.00	.00	.00	.00	.00	.00
23	230	385	325	165	165	100	.00	.00	.00	.00	.00	.00
24	230	385	325	165	165	100	.00	.00	.00	.00	.00	100
25	230	385	325	165	165	100	.00	.00	.00	.00	.00	100
26	230	385	325	165	165	100	.00	.00	.00	.00	.00	100
27	230	385	325	165	165	100	.00	194	.00	.00	.00	100
28	230	385	325	165	165	100	.00	109	.00	.00	.00	100
29	230	385	325	165	---	100	.00	.00	104	.00	.00	100
30	230	385	243	165	---	100	.00	.00	96	.00	.00	100
31	230	---	165	165	---	100	---	.00	---	.00	.00	---
TOTAL	6167.00	10080	10341	5115	4620	3841	140.00	303.00	200.00	0.00	0.00	700.00
MEAN	199	336	334	165	165	124	4.67	9.77	6.67	.000	.000	23.3
MAX	276	385	385	165	165	165	100	194	104	.00	.00	100
MIN	.00	230	165	165	165	100	.00	.00	.00	.00	.00	.00
AC-FT	12230	19990	20510	10150	9160	7620	278	601	397	.00	.00	1390

CAL YR 1998 TOTAL 74396.00 MEAN 204 MAX 900 MIN .00 AC-FT 147600
WTR YR 1999 TOTAL 41507.00 MEAN 114 MAX 385 MIN .00 AC-FT 82330

08285000 EL VADO RESERVOIR NEAR TIERRA AMARILLA, NM

LOCATION.--Lat 36°35'39", long 106°44'00", Rio Arriba County, Hydrologic Unit 13020102, Tierra Amarilla Grant, at outlet tower of dam on Rio Chama, at village of El Vado, 12.4 mi southwest of Tierra Amarilla, and at mile 77.7.

DRAINAGE AREA.--873 mi², of which about 100 mi² probably is noncontributing.

PERIOD OF RECORD.--January 1935 to September 1965 (monthend contents only), October 1965 to current year. Prior to October 1967, contents at about 0730 hours.

GAGE.--Water-stage recorder. Prior to October 1967, nonrecording gage only below gage height 6,879.3 ft. Datum of gage is 8.21 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by rockfill dam, steel faced. Storage began in January 1935. Capacity 186,250 acre-ft between gage heights 6,759.0 ft and 6,902.0 ft, top of spillway gate. Dead storage, 1,480 acre-ft below 6,775.0 ft, sill of outlet works. Figures given herein represent total contents. Reservoir is used to impound water for irrigation by Middle Rio Grande Conservancy District and, since December 1972, for storage of contract water from San Juan-Chama Project. Rehabilitation of outlet works, completed in December 1966, increased valve-controlled release from about 1,750 ft³/s to about 6,000 ft³/s.

COOPERATION.--Records provided by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 204,900 acre-ft, of which 7,400 acre-ft was uncontrolled storage, June 4, 5, 1948, gage height, 6,904.2 ft; no storage at times prior to December 1966.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 179,910 acre-ft, June 8,9, elevation, 6,900.02 ft; minimum, 71,540 acre-ft, Oct.22-23 elevation 6,854.82 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79060	76960	94040	106190	109020	111760	124020	154330	179060	179560	165180	154970
2	78720	77650	94650	106240	109060	111920	124770	156490	179370	179440	164780	154850
3	78350	78160	95170	106350	109130	111970	125020	158550	179600	179370	164300	154850
4	78050	78580	95740	106440	109220	112150	125530	160100	179660	179310	164270	154850
5	77310	78990	96340	106500	109310	112520	125780	161560	179750	179250	165210	154700
6	76510	79380	96850	106590	109420	112710	126280	162760	179750	179150	165180	154560
7	75900	79720	97330	106660	109490	112940	126790	163900	179630	179060	164180	154380
8	75470	80150	97700	106750	109580	113080	127300	165390	179910	178990	163600	154090
9	75020	80780	98180	106770	109740	113240	128070	167490	179910	179180	163570	153920
10	74750	81120	98580	106840	109860	113450	128320	169020	179850	179220	163510	153800
11	74540	81700	98970	106970	109900	113620	128840	169270	179720	179060	163750	153690
12	74340	82410	99370	107060	109920	113880	129350	169180	179690	178930	163840	153570
13	74080	83050	99770	107130	110110	114020	130120	169880	179630	178840	163210	153420
14	73910	83720	100130	107220	110200	114180	130640	170530	179630	178650	161950	153310
15	73690	84420	100490	107280	110290	114370	131420	170440	179660	178520	161530	153250
16	73340	85110	100870	107350	110380	114600	131680	170560	179690	177760	161680	153160
17	72900	85830	101300	107420	110520	114840	132200	170870	179720	176410	161650	153110
18	72430	86490	101700	107530	110590	115000	132990	171640	179750	175530	161590	152990
19	72060	87100	102090	107730	110680	115170	133510	172940	179790	175000	161470	152880
20	71680	87670	102500	107870	110750	115150	134300	173720	179720	174560	160810	152760
21	71580	88210	102820	108020	110840	115260	135890	174190	179060	174030	159620	152620
22	71540	88790	103130	108070	111000	115670	137490	174690	179600	173540	158940	152470
23	71540	89370	103520	108140	111040	116220	138560	174840	179500	172700	158760	152300
24	71560	89990	103890	108320	111180	116760	140190	175470	179440	171330	158550	152270
25	71680	90560	104210	107310	111270	117440	142100	176250	179440	170410	158490	152380
26	72480	91130	104540	107370	111390	118230	143750	176630	179370	169980	158230	152380
27	73680	91660	104910	108540	111530	119030	145140	177290	179370	169390	157520	152380
28	74510	92260	105310	108630	111620	119810	147110	177610	179370	168780	156310	152360
29	74990	92890	105680	108680	---	120570	148800	178020	179530	168290	155580	152180
30	75520	93520	105880	108790	---	121700	151660	178390	179630	167310	155320	151920
31	76370	---	106080	108900	---	122870	---	178740	---	166060	155110	---
MAX	79060	93520	106080	108900	111620	122870	151660	178740	179910	179560	165210	154970
MIN	71540	76960	94040	106190	109020	111760	124020	154330	179060	166060	155110	151920
(+)	6857.66	6866.84	6872.80	6874.06	6875.25	6879.94	6890.70	6899.65	6899.93	6895.56	6891.89	5890.79
(++)	-2880	+17150	+12560	+2820	+2720	+11250	+28790	+27080	+890	-13570	-10950	-3190

CAL YR 1998 MAX 179690 MIN 71540 (++) -3730
WTR YR 1999 MAX 179910 MIN 71540 (++) +72670

(+) ELEVATION, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-FEET

RIO GRANDE BASIN

08285500 RIO CHAMA BELOW EL VADO DAM, NM

LOCATION.--Lat 36°34'48", long 106°43'24", Rio Arriba County, Hydrologic Unit 13020102, in Tierra Amarilla Grant, on left bank 1.5 mi downstream from El Vado Dam, 2.8 mi upstream from Rio Nutrias, 13 mi southwest of Tierra Amarilla, and at mile 76.2.

DRAINAGE AREA.--877 mi², of which about 100 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1913 to November 1915, April to November 1916, March, April 1920, September 1920 to August 1924, October 1935 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as "Chama River prior to 1935, as "near Tierra Amarilla" 1913-14, 1935-47, as "near El Vado" 1915-16, and as "at El Vado" 1920-24.

REVISED RECORDS.--WSP 1312: 1914, 1949. WSP 1392: 1949. WDR-NM-90: 1989.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 6,696.12 ft above National Geodetic Vertical Datum of 1929. Prior to October 1935, at site 1.5 mi upstream at different datum. October 1935 to September 1938 at site 1.1 mi upstream at datum 30.34 ft higher.

REMARKS.--Records good. Flow regulated by El Vado Reservoir (station 08285000) since 1935. Flow affected by release of transmountain water from Heron Reservoir (station 08284510) since May 1971. Diversions for irrigation of about 10,600 acres upstream from station. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 4 or 5, 1911, was greater than floods in September 1904 and May 1920, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	213	172	173	171	166	166	124	137	849	204	611	247
2	217	173	174	170	166	166	126	139	797	204	410	248
3	217	171	175	171	166	166	125	139	758	202	406	249
4	219	172	173	171	166	166	126	140	756	199	317	248
5	518	171	173	169	166	165	126	139	716	197	255	248
6	736	171	173	167	166	166	126	136	661	201	506	250
7	604	171	173	167	166	166	126	135	558	199	801	250
8	520	171	172	167	167	166	126	136	509	200	531	250
9	494	176	171	167	166	166	126	138	568	204	251	198
10	426	171	170	167	166	166	126	612	604	255	257	159
11	391	170	169	167	166	166	127	1220	562	278	255	150
12	392	170	169	167	166	137	127	1220	480	234	255	150
13	393	171	169	167	166	115	127	1380	521	189	514	150
14	395	170	170	168	166	115	127	2150	509	190	823	152
15	394	171	169	168	166	116	127	2540	482	190	536	153
16	472	172	170	168	166	115	126	2330	484	466	243	153
17	529	172	170	168	166	119	126	1920	485	797	254	153
18	529	172	169	167	166	118	127	1740	482	606	251	154
19	495	172	169	167	166	207	127	1740	480	419	251	154
20	469	173	170	168	166	274	127	1910	481	410	497	154
21	382	173	169	168	166	274	129	1910	481	404	789	154
22	314	173	169	168	165	195	131	1840	479	403	531	154
23	314	173	169	168	165	123	132	1840	444	560	255	155
24	315	173	169	168	166	123	133	1670	359	801	254	155
25	316	173	169	168	165	123	133	1560	307	616	247	153
26	323	173	169	168	165	124	133	1360	308	425	246	154
27	275	173	169	167	165	123	134	1190	277	411	498	153
28	170	173	169	167	166	124	135	1200	222	411	799	153
29	170	174	169	166	---	124	136	1080	203	411	535	215
30	172	174	170	166	---	124	136	1010	200	579	245	296
31	180	---	170	166	---	124	---	909	---	792	246	---
TOTAL	11554	5164	5282	5202	4644	4722	3857	35570	15022	11657	12869	5612
MEAN	373	172	170	168	166	152	129	1147	501	376	415	187
MAX	736	176	175	171	167	274	136	2540	849	801	823	296
MIN	170	170	169	166	165	115	124	135	200	189	243	150
AC-FT	22920	10240	10480	10320	9210	9370	7650	70550	29800	23120	25530	11130

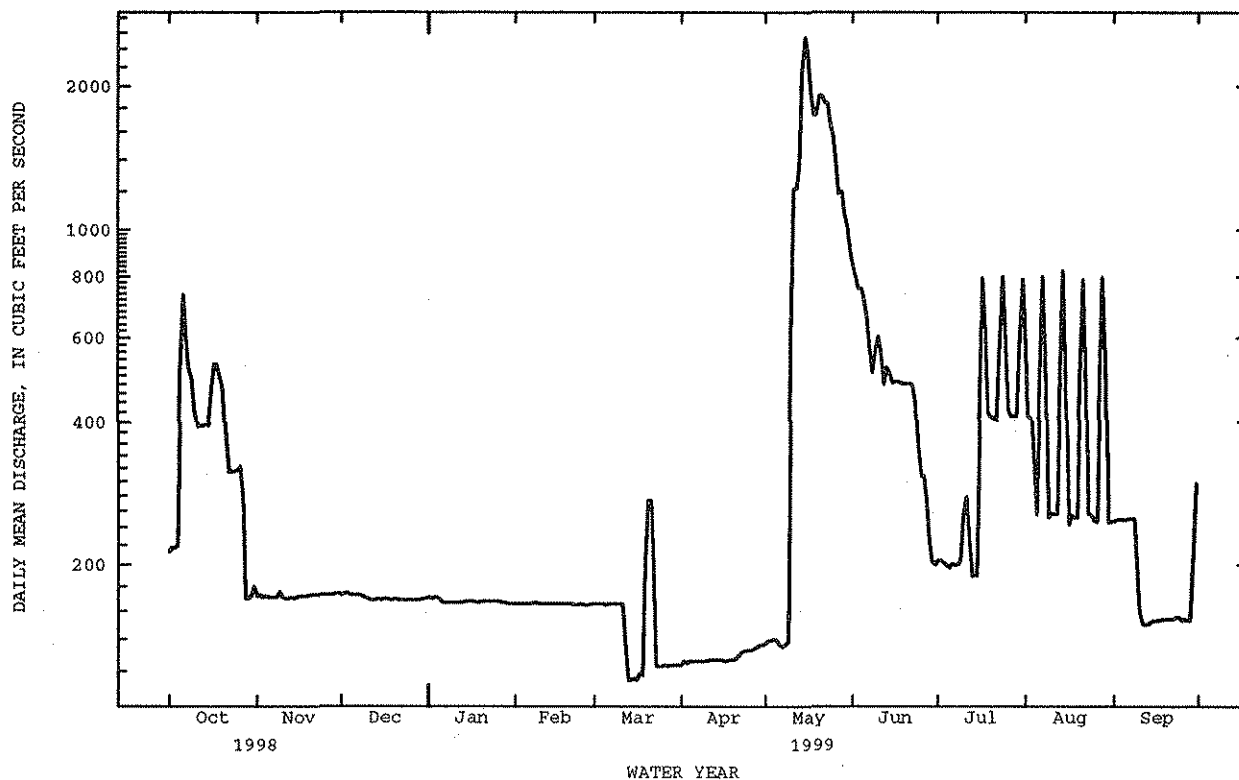
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1999, BY WATER YEAR (WY)

MEAN	217	187	290	161	173	297	855	1673	877	400	368	317
MAX	640	646	1272	435	522	962	1887	3412	2342	707	726	1010
(WY)	1998	1987	1976	1987	1986	1985	1986	1985	1995	1992	1998	1998
MIN	36.7	43.9	63.2	23.9	17.1	27.8	33.2	262	186	126	54.4	50.6
(WY)	1979	1977	1971	1978	1976	1973	1973	1972	1976	1985	1971	1972

08285500 RIO CHAMA BELOW EL VADO DAM, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1971 - 1999	
ANNUAL TOTAL	192393		121155		^a 486	
ANNUAL MEAN	527		332		754	
HIGHEST ANNUAL MEAN					194	
LOWEST ANNUAL MEAN					194	
HIGHEST DAILY MEAN	2510	May 14	2540	May 15	^b 5790	May 21 1973
LOWEST DAILY MEAN	169	Dec 11	115	Mar 13	11	Oct 1 1972
ANNUAL SEVEN-DAY MINIMUM	169	Dec 21	119	Mar 12	16	Oct 14 1974
ANNUAL RUNOFF (AC-FT)	381600		240300		352300	
10 PERCENT EXCEEDS	1170		614		1160	
50 PERCENT EXCEEDS	332		172		225	
90 PERCENT EXCEEDS	172		130		48	

- a Average discharge for 5 years (water years 1914-15, 1921-23), 448 ft³/s, 324,600 acre-ft/yr, prior to completion of El Vado Dam. 35 years (water years 1936-70), 373 ft³/s, 270,200 acre-ft/yr, prior to release of transmountain water.
- b Maximum discharge, 9,000 ft³/s, May 22, 1920, gage height, 12 ft, site and datum then in use, from rating curve extended above 3,500 ft³/s; no flow Mar. 25, 26, 31, 1955. Maximum discharge since construction of El Vado Dam in 1935, 6,610 ft³/s, May 7, 1985, gage height 7.08 ft.



LOCATION.--Lat 36°19'06", long 106°35'50", Rio Arriba County, Hydrologic Unit 13020102, on left bank 40 ft downstream from site of former bridge, 7.7 mi downstream from Rio Gallina, 9 mi northwest of Youngsville, 15.6 mi upstream from Abiquiu Dam, 30.3 mi downstream from El Vado Dam, and at mile 47.4.

PERIOD OF RECORD.--August 1961 to current year.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by El Vado Reservoir (08285000). Since May 1971 flow affected by release of transmountain water from Heron Reservoir (station 08284510). Diversions for irrigation of about 15,000 acres upstream from station. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Major floods probably occurred on Sept. 29, 1904, Oct. 4 or 5, 1911, and May 22, 1920.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	229	379	188	189	184	185	148	363	876	194	743	256
2	217	215	189	188	184	185	165	309	843	199	473	334
3	182	206	188	187	183	185	155	290	767	196	481	289
4	226	193	186	184	184	185	150	268	758	194	507	258
5	270	188	187	184	189	185	152	258	733	189	430	243
6	695	186	191	184	189	184	149	222	680	188	388	243
7	658	184	185	184	186	187	144	206	622	195	779	272
8	519	188	183	185	188	188	149	199	512	197	723	241
9	515	233	184	184	189	186	155	204	552	627	303	235
10	462	217	184	184	188	186	147	295	598	318	363	157
11	399	197	185	183	186	185	144	1240	579	315	352	143
12	398	194	185	183	185	193	144	1270	521	300	297	138
13	398	210	185	183	187	136	146	1310	503	199	318	138
14	397	192	186	183	187	130	148	1910	542	189	760	140
15	396	189	186	183	186	128	147	2450	487	188	e760	140
16	423	188	186	183	187	127	146	2370	488	217	e280	139
17	526	187	186	184	186	129	145	2060	511	713	280	141
18	525	186	186	184	186	144	144	1780	494	712	325	219
19	518	185	187	186	186	134	144	1780	487	457	282	144
20	478	183	188	188	186	292	145	1860	482	419	300	137
21	460	182	188	195	186	294	156	1970	528	403	813	136
22	330	183	183	184	186	292	195	1860	498	396	841	135
23	324	185	e182	185	183	149	186	1870	464	416	279	137
24	322	186	e183	186	185	137	187	1800	405	775	264	138
25	328	186	e184	188	185	137	277	1630	305	728	255	143
26	644	186	e185	188	185	139	256	1540	303	423	250	135
27	770	186	187	186	185	144	217	1260	299	446	280	133
28	314	187	186	184	185	142	210	1260	246	431	727	132
29	209	192	186	184	---	141	206	1170	202	451	717	133
30	196	188	187	186	---	141	208	1050	198	523	257	253
31	342	---	187	185	---	141	---	990	---	789	248	---
TOTAL	12670	5961	5763	5744	5206	5311	5065	37044	15483	11987	14075	5482
MEAN	409	199	186	185	186	171	169	1195	516	387	454	183
MAX	770	379	191	195	189	294	277	2450	876	789	841	334
MIN	182	182	182	183	183	127	144	199	198	188	248	132
AC-FT	25130	11820	11430	11390	10330	10530	10050	73480	30710	23780	27920	10870

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1999, BY WATER YEAR (WY)

MEAN	230	194	297	168	197	343	914	1786	926	413	390	325
MAX	737	676	1273	431	495	1050	1985	3741	2619	707	784	1036
(WY)	1998	1987	1976	1987	1987	1985	1985	1984	1995	1992	1998	1998
MIN	40.1	48.4	74.0	29.1	29.7	44.1	106	259	185	132	86.1	77.9
(WY)	1979	1977	1971	1978	1976	1977	1977	1972	1976	1985	1979	1972

08286500 RIO CHAMA ABOVE ABIQUIU RESERVOIR, NM--Continued

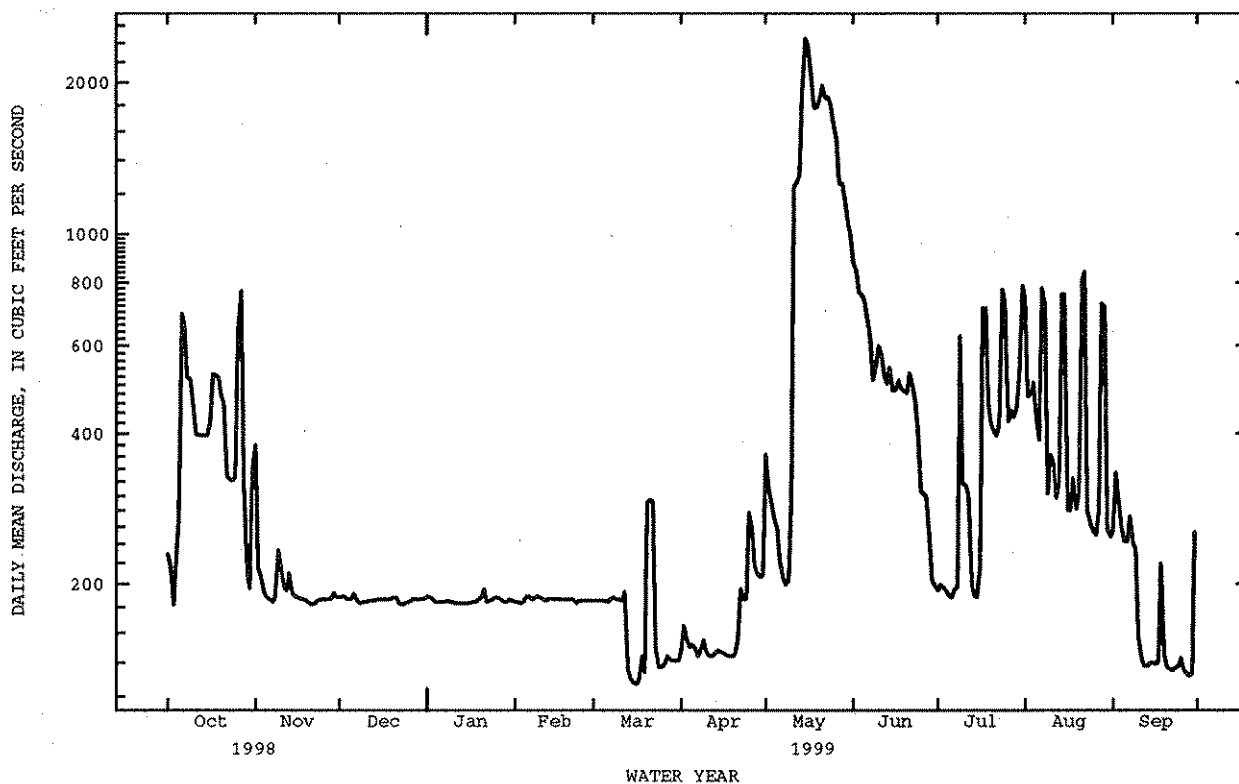
SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1971 - 1999	
ANNUAL TOTAL	201793		129791		^a 517	
ANNUAL MEAN	553		356		823	
HIGHEST ANNUAL MEAN					204	
LOWEST ANNUAL MEAN					6480	
HIGHEST DAILY MEAN	2570	May 14	2450	May 15	11	May 18 1984
LOWEST DAILY MEAN	180	Jan 1	127	Mar 16	20	Oct 3 1972
ANNUAL SEVEN-DAY MINIMUM	184	Nov 18	133	Mar 13	6680	Oct 15 1974
INSTANTANEOUS PEAK FLOW			2590	May 16	^b 7.67	May 8 1985
INSTANTANEOUS PEAK STAGE			8.91	May 16	^c 7.5	May 8 1985
INSTANTANEOUS LOW FLOW			98	Jan 10	Oct 17 1963	
ANNUAL RUNOFF (AC-FT)	400300		257400		374400	
10 PERCENT EXCEEDS	1190		727		1230	
50 PERCENT EXCEEDS	357		192		239	
90 PERCENT EXCEEDS	187		144		61	

e Estimated

a Average discharge for 9 years (water years 1962-70), 358 ft³/s, 259,400 acre-ft/yr, prior to release of transmountain water.

b Maximum gage height, 8.70 ft, May 20, 1973.

c Also occurred Oct. 18.



RIO GRANDE BASIN

08286900 ABIQUIU RESERVOIR NEAR ABIQUIU, NM

LOCATION.--Lat 36°14'24", long 106°25'44", Rio Arriba County, Hydrologic Unit 13020102, in Piedra Lumbre Grant, in operations building at Abiquiu Dam on Rio Chama, 6.6 mi northwest of Abiquiu, and at mile 32.1.

DRAINAGE AREA.--2,146 mi², of which about 100 mi² is probably noncontributing.

PERIOD OF RECORD.--February 1963 to September 1965 (monthend contents only), October 1965 to current year. October 1969 to December 1975, contents at 0800 hours.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Corps of Engineers).

REMARKS.--Reservoir is formed by earthfill dam, completed Feb. 5, 1963. Capacity, 1,198,500 acre-ft between elevations 6,060 ft, invert of outlet tunnel, and 6,350 ft, crest of spillway, based on capacity table from survey 1990. No dead storage. Reservoir is used for flood control and, since March 1976, for recreation. A desilting pool of about 2,000 acre-ft was maintained from May 1968 to 1974, when it was increased to 4,000 acre-ft and continued until December 1975. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 382,720 acre-ft, June 11, 1985, elevation, 6,256.22 ft; no storage at times prior to May 1968 and Jan. 11 to Mar. 25, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 185,700 acre-ft, Mar. 29, elevation, 6,220.45 ft; minimum, 152,190 acre-ft, Oct. 18-19, elevation, 6,210.50 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	154350	155820	162970	165580	172810	179210	184160	172380	174720	162820	169130	177160
2	154240	155710	163270	165810	173080	179450	183680	172770	173160	162490	169750	177120
3	154020	155480	163580	166030	173280	179690	183120	172690	171490	162040	170640	177160
4	153750	155560	163880	166230	173510	179920	182560	171990	170130	161620	171760	176920
5	153190	155820	164110	166410	173780	180160	181880	171100	168940	161210	172610	176760
6	152820	156090	164380	166680	174020	180360	181120	170210	167790	160950	173320	176760
7	152890	156350	164610	166950	174290	180560	180320	169440	167100	160880	174020	176760
8	152930	156620	164810	167180	174530	180800	179840	168750	166760	161290	174760	176720
9	152890	156990	165110	167370	174760	181000	179210	168060	166570	161660	174840	176640
10	152860	157300	165340	167560	174990	181240	178420	167860	166530	161810	174800	176450
11	152820	157560	165570	167790	175110	181520	177630	168750	166340	161960	174490	176210
12	152780	157860	165840	168020	175350	181880	177040	169480	166070	161810	173820	176020
13	152820	158170	166110	168250	175580	181990	176570	170210	165810	161320	174090	176090
14	152710	158470	166420	168440	175820	182120	176130	171370	165350	160950	174760	175940
15	152520	158780	166650	168670	176090	182280	175820	172540	164750	160320	175460	175970
16	152370	159080	166920	168900	176290	182440	175540	175860	164330	160280	175620	175970
17	152300	159350	167230	169130	176570	182600	175190	176920	164100	160620	175460	175970
18	152190	159570	167420	169400	176760	182800	174840	177270	163880	160880	175230	175970
19	152190	159840	167580	169630	177000	183120	174210	177390	163610	161250	174840	175970
20	152220	160140	167730	169980	177230	183520	173240	177670	163350	161660	175110	175860
21	152410	160370	168040	170290	177510	183880	172540	178060	163760	162000	175740	175740
22	152370	160600	168270	170520	177710	184330	172190	178460	164030	162370	176410	175740
23	152480	160790	168470	170710	177900	184610	172190	178850	164030	163120	176370	175700
24	152710	161060	168700	170950	178100	184770	172260	179450	164030	164100	175820	175660
25	152970	161330	168930	171180	178340	184970	172340	180200	164030	165050	175430	175460
26	153980	161590	169130	171450	178580	185170	172500	180600	163950	165620	175230	175190
27	155330	161860	169320	171680	178770	185380	172500	180240	163910	166030	175660	175070
28	155290	162170	169590	171880	178970	185580	172110	179290	163760	166450	176330	174920
29	154920	162430	169870	172110	---	185700	171800	178180	163390	167020	176960	174760
30	155110	162700	170100	172300	---	185380	171990	177120	163010	167750	177190	174680
31	155480	---	170330	172540	---	184690	---	176020	---	168440	177160	---
MAX	155480	162700	170330	172540	178970	185700	184160	180600	174720	168440	177190	177160
MIN	152190	155480	162970	165580	172810	179210	171800	167860	163010	160280	169130	174680
(+)	6211.38	6213.28	6215.26	6217.13	6218.77	6220.20	6216.99	6218.02	6214.64	6216.07	6218.31	6217.68
(++)	+1430	+7220	+7630	+2210	+6430	+5720	-12700	+4030	-13010	+5430	+8720	-2480

CAL YR 1998 MAX 185670 MIN 150000 (++) -5150
WTR YR 1999 MAX 185700 MIN 152190 (++) +20630

(+) ELEVATION, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-FEET

08287000 RIO CHAMA BELOW ABIQUIU DAM, NM

LOCATION.--Lat 36°14'12", long 106°24'59", in SE¹/₄SE¹/₄ sec.8, T.23 N., R.5 E., Rio Arriba County, Hydrologic Unit 13020102, on right bank 0.8 mi downstream from Abiquiu Dam, 5.9 mi northwest of Abiquiu, and at mile 31.3.

DRAINAGE AREA.--2,147 mi², of which about 100 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1961 to current year (monthly discharge only, October 1961).

REVISED RECORDS.--WDR-NM-90: 1989.

GAGE.--Water-stage recorder with satellite telemetry. Concrete control since Jan. 25, 1966. Elevation of gage is 6,040 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Jan. 25, 1966, at datum 1.60 ft lower.

REMARKS.--Records good. Flow controlled by El Vado Reservoir (station 08285000) 46.4 mi upstream and Abiquiu Reservoir (station 08286900) 0.8 mi upstream since February 1963. Since May 1971 flow affected by release of transmountain water from Heron Reservoir (station 08284510) 54.5 mi upstream. Diversions for irrigation of about 17,600 acres upstream from station. Several observations of water temperature taken during year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	280	255	39	60	60	58	471	452	1780	289	381	294
2	198	330	41	60	60	58	471	453	1790	286	338	344
3	196	339	39	60	60	58	471	615	1790	393	259	345
4	406	137	35	60	60	58	471	799	1670	409	258	345
5	691	51	39	60	60	58	474	797	1320	440	260	314
6	765	54	40	60	61	58	526	795	1210	326	283	279
7	606	65	40	60	61	58	596	718	967	235	302	272
8	476	60	40	60	61	59	452	653	735	235	373	275
9	449	60	40	60	62	58	413	655	645	285	419	274
10	400	57	40	60	61	58	555	655	625	359	480	248
11	369	49	39	66	61	59	553	558	604	403	596	227
12	418	39	39	69	60	60	520	970	606	397	618	227
13	448	40	39	59	60	60	419	906	769	445	523	225
14	416	41	39	60	60	60	351	663	885	505	379	183
15	399	40	39	67	60	60	316	1500	884	548	379	155
16	458	46	38	60	60	60	315	1510	803	639	379	154
17	512	48	40	60	60	59	316	1570	749	685	379	164
18	512	57	39	60	60	60	317	1720	748	447	450	183
19	481	47	72	60	62	60	434	1790	690	259	537	180
20	463	41	61	60	58	60	657	1780	583	242	539	194
21	356	43	62	61	58	60	614	1790	526	245	374	186
22	347	55	61	61	59	60	429	1790	473	243	351	154
23	357	55	61	60	58	60	299	1790	473	243	417	155
24	303	55	61	60	58	60	268	1650	437	243	500	157
25	302	55	60	61	58	58	270	1410	354	245	475	234
26	237	56	61	61	58	55	270	1360	322	230	349	284
27	197	56	61	61	58	57	329	1670	323	227	275	202
28	409	56	61	60	58	57	455	1800	322	227	305	154
29	415	56	60	60	---	89	507	1800	360	262	323	206
30	255	52	60	60	---	355	485	1800	381	282	306	270
31	255	---	60	60	---	471	---	1780	---	342	270	---
TOTAL	12376	2395	1506	1886	1672	2561	13024	38199	23824	10616	12077	6884
MEAN	399	79.8	48.6	60.8	59.7	82.6	434	1232	794	342	390	229
MAX	765	339	72	69	62	471	657	1800	1790	685	618	345
MIN	196	39	35	59	58	55	268	452	322	227	258	154
AC-FT	24550	4750	2990	3740	3320	5080	25830	75770	47250	21060	23950	13650

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1999, BY WATER YEAR (WY)

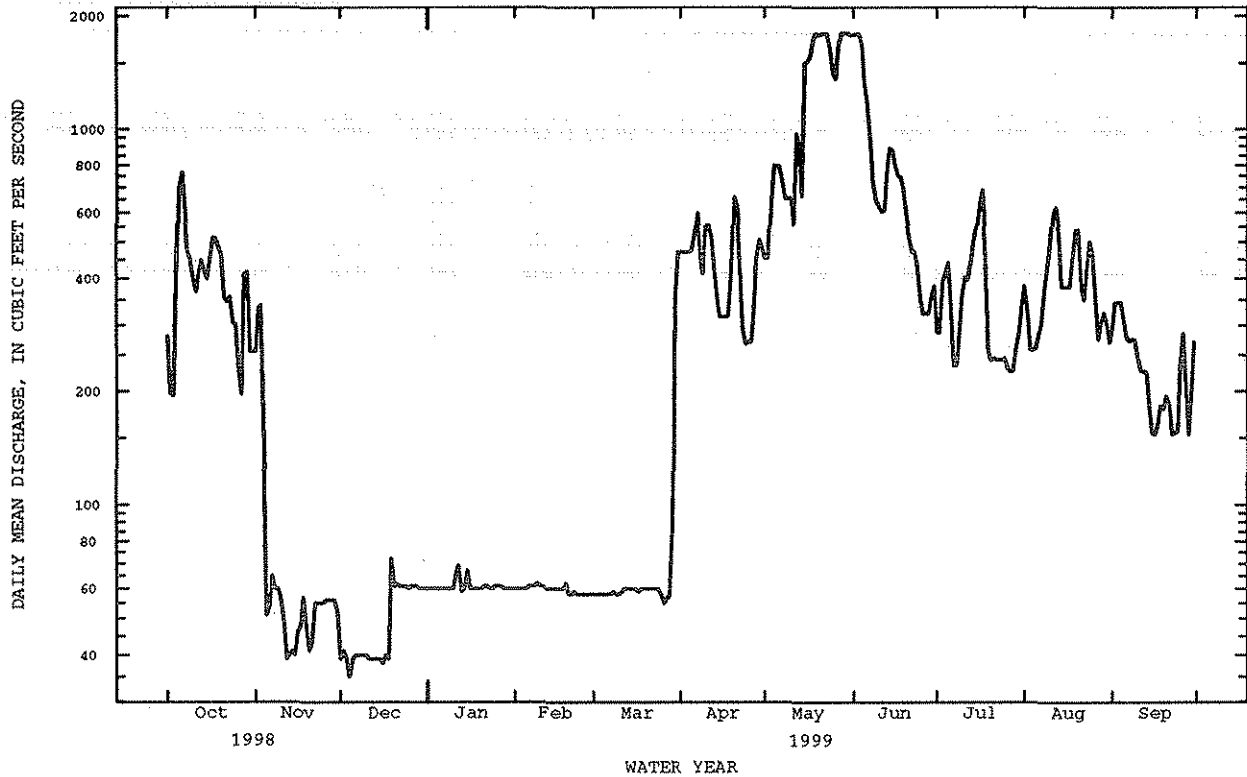
	304	297	304	186	243	415	878	1238	1089	639	471	424
MEAN	304	297	304	186	243	415	878	1238	1089	639	471	424
MAX	1261	1181	1308	860	1708	1668	1894	2055	2418	1488	1084	1199
(WY)	1988	1980	1976	1986	1987	1987	1985	1983	1984	1973	1973	1987
MIN	44.9	45.8	43.9	35.7	38.0	52.4	111	242	184	201	98.4	64.4
(WY)	1979	1990	1975	1978	1978	1977	1977	1972	1976	1972	1979	1972

RIO GRANDE BASIN

08287000 RIO CHAMA BELOW ABIQUITO DAM, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1971 - 1999	
ANNUAL TOTAL	205445		127020		8542	
ANNUAL MEAN	563		348		872	
HIGHEST ANNUAL MEAN					213	
LOWEST ANNUAL MEAN					1987	
HIGHEST DAILY MEAN	1820	May 29	1800	May 28	2660	May 15 1985
LOWEST DAILY MEAN	35	Dec 4	35	Dec 4	10	Sep 19 1972
ANNUAL SEVEN-DAY MINIMUM	39	Dec 1	39	Dec 1	21	Sep 30 1972
ANNUAL RUNOFF (AC-FT)	407500		251900		392300	
10 PERCENT EXCEEDS	1290		740		1610	
50 PERCENT EXCEEDS	370		255		316	
90 PERCENT EXCEEDS	56		56		54	

a Average discharge for 9 years (water years 1962-70), 384 ft³/s, 278,200 acre-ft/yr, prior to release of transmountain water.



08289000 RIO OJO CALIENTE AT LA MADERA, NM

LOCATION.--Lat 36°20'59", long 106°02'37", in NW¹/₄NE¹/₄ sec.1, T.24 N., R.8 E., Rio Arriba County, Hydrologic Unit 13020102, on left bank 400 ft upstream from bridge on State Highway 554, 2.4 mi south of La Madera, 2.6 mi downstream from confluence of Rio Vallecitos and Rio Tusas, 3.1 mi north of Ojo Caliente, and at mile 19.9.

DRAINAGE AREA.--419 mi².

PERIOD OF RECORD.--April 1932 to current year.

REVISED RECORDS.--WSP 1712: 1959.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 6,358.84 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 23, 1934, at site about 2.6 mi upstream at different datum. Apr. 23, 1934 to Apr. 21, 1936, at datum 12.58 ft lower and Apr. 22, 1936 to Oct. 26, 1956, at datum 13.84 ft lower, both at site 1,400 ft downstream.

REMARKS.--Records good. Diversions upstream from station for irrigation of about 3,500 acres (1962 determination). Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of Apr. 21, 1958, may have been exceeded by a flood in May 1920, from information by local resident.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	140	34	22	20	25	144	666	117	12	12	14
2	14	101	35	20	17	28	120	506	102	9.4	17	15
3	13	72	35	21	18	31	70	531	90	8.8	21	16
4	13	58	34	16	19	33	75	448	82	8.8	35	17
5	16	49	31	18	22	33	86	391	70	9.2	181	14
6	15	46	33	19	20	30	87	309	59	8.9	142	25
7	13	42	26	19	18	31	105	307	48	8.7	76	17
8	13	38	17	19	21	34	113	393	40	8.4	52	14
9	13	51	19	18	21	28	115	519	33	12	51	13
10	11	42	23	17	21	31	93	473	33	12	39	13
11	12	40	23	18	18	28	86	389	31	9.2	45	11
12	12	54	25	19	15	31	104	310	27	8.7	43	9.6
13	12	49	27	19	20	25	134	353	31	9.4	33	10
14	12	47	25	18	21	29	139	425	38	8.7	32	10
15	12	47	24	17	21	30	155	403	31	9.9	73	26
16	12	49	23	19	20	32	109	343	39	10	70	34
17	13	49	24	19	19	38	103	299	43	11	48	17
18	13	49	24	19	21	41	95	282	43	14	40	18
19	14	44	26	21	21	41	106	296	52	15	40	19
20	15	39	28	20	19	44	145	294	37	15	37	18
21	17	34	22	22	19	55	187	249	32	19	33	17
22	18	40	17	19	21	82	191	239	38	18	26	17
23	18	38	20	17	17	90	205	224	32	18	23	16
24	17	34	19	22	20	102	239	237	25	15	20	15
25	19	36	20	21	22	118	264	303	21	17	18	15
26	52	35	20	21	22	137	218	221	17	16	18	15
27	97	35	21	17	22	138	213	211	17	17	17	15
28	96	34	20	17	24	139	231	191	16	15	16	15
29	58	40	21	19	---	135	213	197	15	13	18	14
30	47	38	21	21	---	162	486	167	13	13	18	13
31	156	---	21	19	---	178	---	140	---	12	14	---
TOTAL	864	1470	758	593	559	1979	4631	10316	1272	382.1	1308	482.6
MEAN	27.9	49.0	24.5	19.1	20.0	63.8	154	333	42.4	12.3	42.2	16.1
MAX	156	140	35	22	24	178	486	666	117	19	181	34
MIN	11	34	17	16	15	25	70	140	13	8.4	12	9.6
AC-FT	1710	2920	1500	1180	1110	3930	9190	20460	2520	758	2590	957

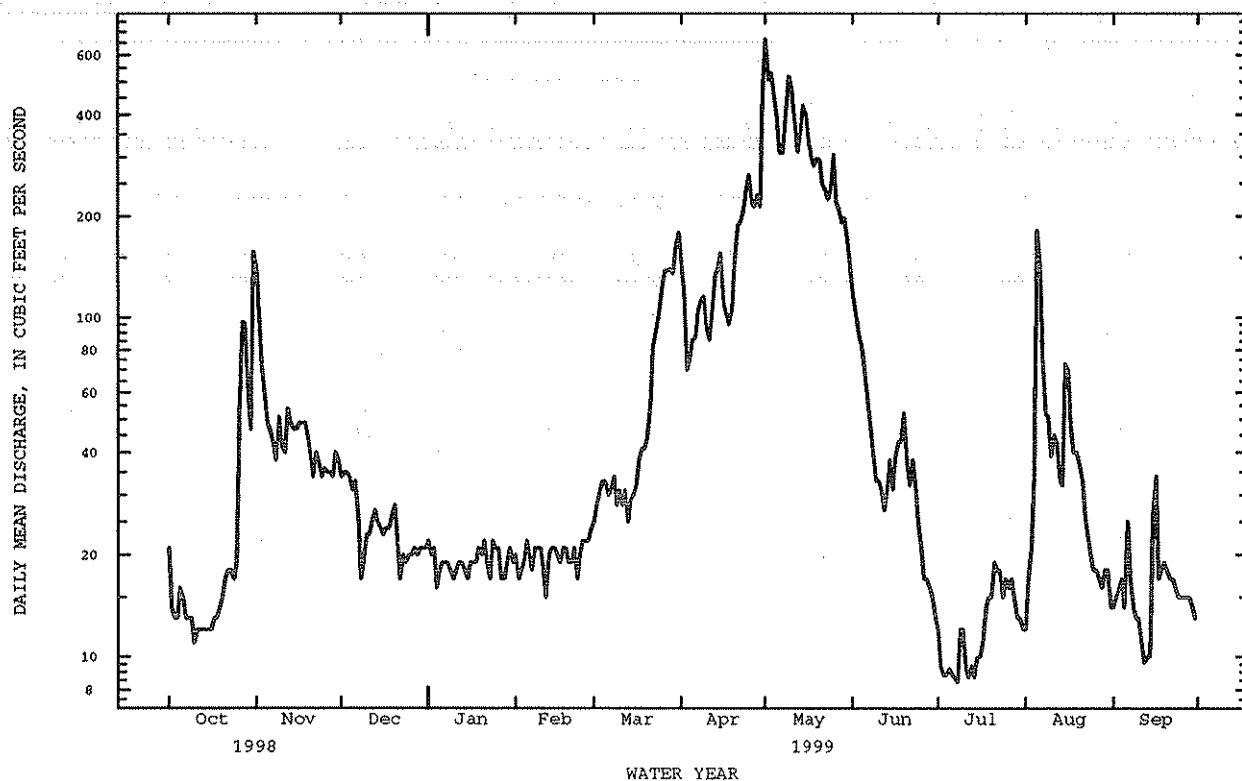
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 1999, BY WATER YEAR (WY)

	MEAN	14.9	18.3	17.9	18.6	23.2	59.4	282	329	52.4	10.1	14.6	10.9
MAX	57.5	49.2	36.0	33.5	55.5	211	979	1256	298	33.1	68.1	29.8	
(WY)	1987	1987	1987	1952	1941	1995	1937	1941	1995	1949	1967	1936	
MIN	3.98	8.82	11.2	10.0	12.0	15.5	44.5	9.32	5.09	2.64	3.13	2.30	
(WY)	1957	1957	1957	1964	1955	1981	1955	1977	1954	1951	1956	1956	

RIO GRANDE BASIN

08289000 RIO OJO CALIENTE AT LA MADERA, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1933 - 1999	
ANNUAL TOTAL	28828.0		24614.7		71.1	
ANNUAL MEAN	79.0		67.4		13.4	
HIGHEST ANNUAL MEAN					205	
LOWEST ANNUAL MEAN					13.4	
HIGHEST DAILY MEAN	1430	May 3	666	May 1	2180	Apr 23 1942
LOWEST DAILY MEAN	4.0	Jul 6	8.4	Jul 8	1.60	Aug 18 1956
ANNUAL SEVEN-DAY MINIMUM	4.4	Jul 1	8.9	Jul 2	1.1	Oct 1 1956
INSTANTANEOUS PEAK FLOW			993	Apr 30	3640	Aug 14 1994
INSTANTANEOUS PEAK STAGE			5.77	Apr 30	8.27	Aug 14 1994
INSTANTANEOUS LOW FLOW			8.1	Jul 7	.20	Aug 17 1956
ANNUAL RUNOFF (AC-FT)	57180		48820		51490	
10 PERCENT EXCEEDS	154		193		174	
50 PERCENT EXCEEDS	20		25		18	
90 PERCENT EXCEEDS	6.4		13		5.5	



LOCATION.--Lat 36°04'26", long 106°06'40", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.8, T.21 N., R.8 E., Rio Arriba County, Hydrologic Unit 13020102, in San Juan Pueblo Grant, near left downstream corner of bridge on U.S. Highway 285, 0.5 mi west of Chamita, 2.5 mi northwest of San Juan Pueblo, and at mile 2.8.

WATER-DISCHARGE RECORDS

REVISED RECORDS.--WSP 1512: 1913-15, 1934, 1936. WSP 1632: 1929(M). WSP 1732: 1931(M). WSP 1923: Drainage area.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Diversions upstream from station for irrigation of about 27,600 acres. Chamita ditch (station 08289500), on left bank, and Hernandez ditch (station 08289800), on right bank, bypass gage for irrigation of several hundred acres downstream from station. Flow regulated by El Vado Reservoir (station 08285000) 74.9 mi upstream since January 1935 and Abiquiu Reservoir (station 08286900), 29.3 mi upstream since February 1963. Since May 1971 flow affected by release of transmountain water from Heron Reservoir (station 08284510) 83.0 mi upstream. No flow at times some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	589	617	105	93	104	106	649	1360	e1960	290	309	226
2	279	467	101	88	105	106	658	1120	e1910	199	372	292
3	257	555	103	96	104	106	611	1190	e1870	279	249	321
4	310	375	99	93	108	108	597	1410	1790	334	407	306
5	715	158	97	88	111	109	625	1320	1470	403	801	295
6	852	119	97	87	109	109	640	1220	1280	401	450	260
7	764	114	95	103	107	109	804	1170	1140	218	392	251
8	536	120	e94	104	107	111	807	1140	787	217	367	247
9	478	125	e94	100	108	110	428	1310	618	261	430	252
10	439	118	94	103	107	110	868	1200	611	303	445	242
11	377	111	e95	101	105	110	932	1000	568	346	578	180
12	395	111	98	102	104	116	857	1230	546	353	644	187
13	471	110	e98	101	106	112	743	1370	624	338	612	199
14	476	108	e90	96	110	111	589	1290	864	437	401	180
15	406	108	e76	99	109	111	578	1710	883	482	543	e240
16	408	108	e74	102	107	108	492	2010	864	547	436	e260
17	516	110	e70	100	105	109	482	1900	823	674	411	e220
18	526	110	68	100	104	114	472	2060	798	599	434	e170
19	498	110	78	98	104	115	413	2130	765	286	518	e168
20	487	105	97	97	104	108	e750	2300	660	238	583	e183
21	457	99	94	105	103	112	e950	2200	520	222	504	e190
22	345	102	87	e105	103	127	751	2120	557	223	345	e178
23	410	108	92	e105	103	141	523	2100	459	236	380	e168
24	335	109	89	e105	105	156	534	2080	435	240	458	e171
25	343	107	92	e104	106	176	551	1930	357	235	501	e200
26	560	107	92	e104	103	190	534	1610	309	217	376	e250
27	399	107	95	104	101	204	489	1900	296	211	264	e280
28	487	107	91	104	106	197	612	2120	278	e205	245	e195
29	771	110	88	103	---	192	693	2070	271	e200	270	e180
30	469	108	93	105	---	326	954	e2030	323	228	282	e250
31	1090	---	93	105	---	784	---	e1980	---	249	250	---
TOTAL	15445	4923	2829	3100	2958	4803	19586	51580	24636	9671	13257	6741
MEAN	498	164	91.3	100	106	155	653	1664	821	312	428	225
MAX	1090	617	105	105	111	784	954	2300	1960	674	801	321
MIN	257	99	68	87	101	106	413	1000	271	199	245	168
AC-FT	30640	9760	5610	6150	5870	9530	38850	102300	48870	19180	26300	13370

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1999, BY WATER YEAR (WY)

MEAN	321	325	336	227	285	485	1131	1593	1085	602	454	415
MAX	1273	1224	1291	876	1677	1705	2534	2741	2346	1477	1020	1164
(WY)	1988	1980	1976	1986	1987	1987	1985	1983	1984	1983	1973	1987
MIN	37.3	60.6	77.3	63.5	66.6	85.1	120	204	117	170	95.5	83.1
(WY)	1979	1990	1975	1975	1978	1977	1977	1972	1976	1972	1979	1974

RIO GRANDE BASIN

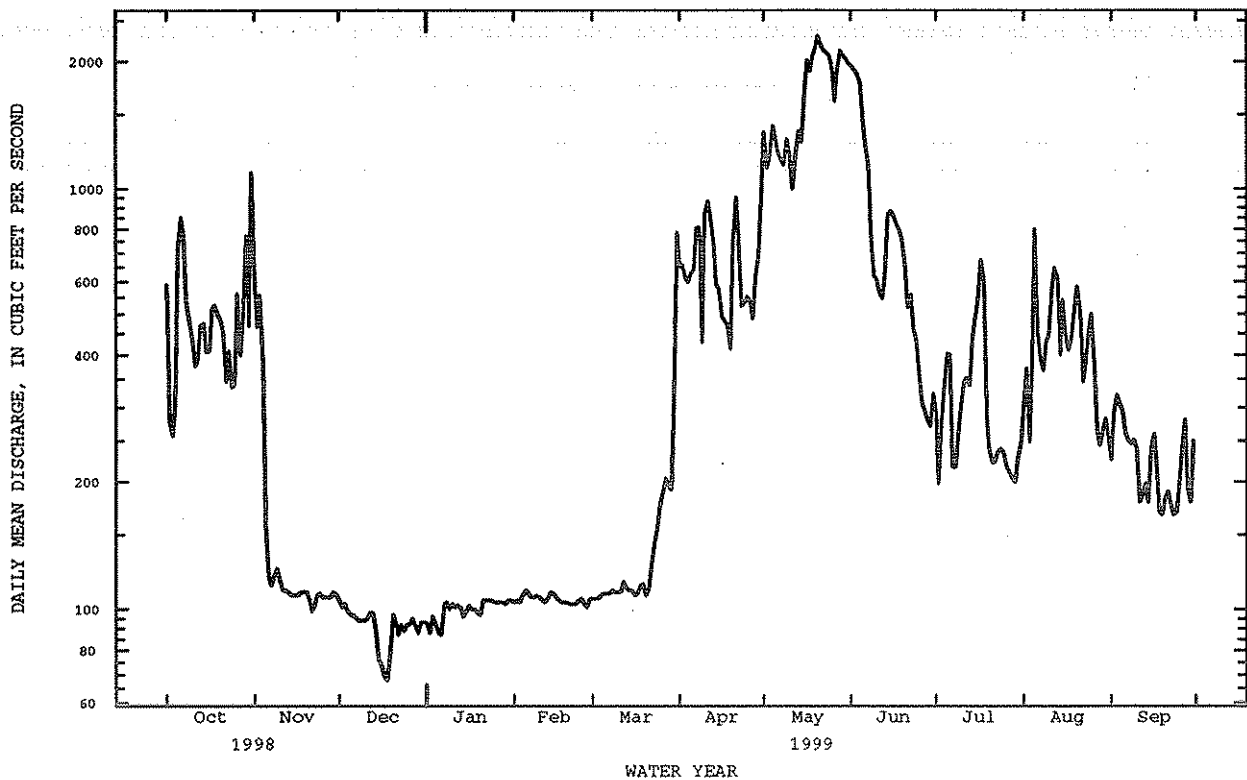
08290000 RIO CHAMA NEAR CHAMITA, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1971 - 1999	
ANNUAL TOTAL	227900		159529		^a 606	
ANNUAL MEAN	624		437		923	
HIGHEST ANNUAL MEAN					234	
LOWEST ANNUAL MEAN					3570	
HIGHEST DAILY MEAN	2430	May 5	2300	May 20	1.2	May 5 1985
LOWEST DAILY MEAN	68	Dec 18	68	Dec 18	1.7	Sep 16 1971
ANNUAL SEVEN-DAY MINIMUM	79	Dec 14	79	Dec 14	1.7	Sep 10 1971
INSTANTANEOUS PEAK FLOW			2300	May 20	^b 15000	May 22 1920
INSTANTANEOUS PEAK STAGE			6.03	May 20	11.68	Sep 1 1994
INSTANTANEOUS LOW FLOW			46	Dec 18		
ANNUAL RUNOFF (AC-FT)	452000		316400		439000	
10 PERCENT EXCEEDS	1370		1130		1710	
50 PERCENT EXCEEDS	439		250		343	
90 PERCENT EXCEEDS	107		99		80	

e Estimated

a Average discharge for 58 years (water years 1913-70), 541 ft³/s, 392,000 acre-ft/yr, prior to release of transmountain water.b From rating survey extended above 2,000 ft³/s.

c From floodmarks of slope-area measurement of peak flow.



WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

08290000 RIO CHAMA NEAR CHAMITA, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	SEDI- MENT, DIS- CHARGE, SUS- PENDEED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 15...	--	--	--	--	--	--	--	--	--	1480	1620	21
NOV 10...	--	--	--	--	--	--	--	--	--	2090	707	20
DEC 17...	--	--	--	--	--	--	--	--	--	4040	763	3.0
JAN 06...	--	--	--	--	--	--	--	--	--	1870	393	5
FEB 09...	--	--	--	--	--	--	--	--	--	1220	362	7
24...	5	<.1	1	2	<1	<1	<1	1	4	485	137	12
MAR 24...	--	--	--	--	--	--	--	--	--	1570	721	--
APR 21...	--	--	--	--	--	--	--	--	--	2310	5930	--
MAY 20...	--	--	--	--	--	--	--	--	--	2560	15800	--
27...	5	<.1	1	1	1	<1	<1	4	<1	1630	8010	7
JUN 03...	--	--	--	--	--	--	--	--	--	796	3890	--
JUL 15...	--	--	--	--	--	--	--	--	--	2010	2520	--
22...	--	--	--	--	--	--	--	--	--	81	49	--
AUG 26...	--	--	--	--	--	--	--	--	--	356	364	--
SEP 16...	--	--	--	--	--	--	--	--	--	7400	5190	--

LOCATION.--Lat 35°57'53", long 105°54'14", in SE 1/4 NW 1/4 sec.17, T.20 N., R.10 E., Santa Fe County, Hydrologic Unit 13020101, on left bank 135 ft downstream from bridge on State Highway 503, 200 ft downstream from confluence of Rio Medio and Rio Frijoles, 0.6 mi northwest of Cundiyo, 1.8 mi upstream from Santa Cruz Dam, and at mile 11.9.

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only from some periods, published in WSP 1312. Prior to October 1953, published as Rio Santa Cruz at Cundiyo.

GAGE.--Water-stage recorder. Concrete control since Jan. 3, 1954. Elevation of gage is 6,460 ft above National Geodetic Vertical Datum of 1929, from topographic map. Sept. 1, 1930 to Aug. 12, 1932, water-stage recorder at site about 1 mi downstream at different datum. Aug. 13, 1932 to Oct. 29, 1934, water-stage recorder at site 35 ft upstream at datum 0.42 ft higher. Oct. 30, 1934 to Jan. 2, 1954, water-stage recorder at present site at datum 0.64 ft lower.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

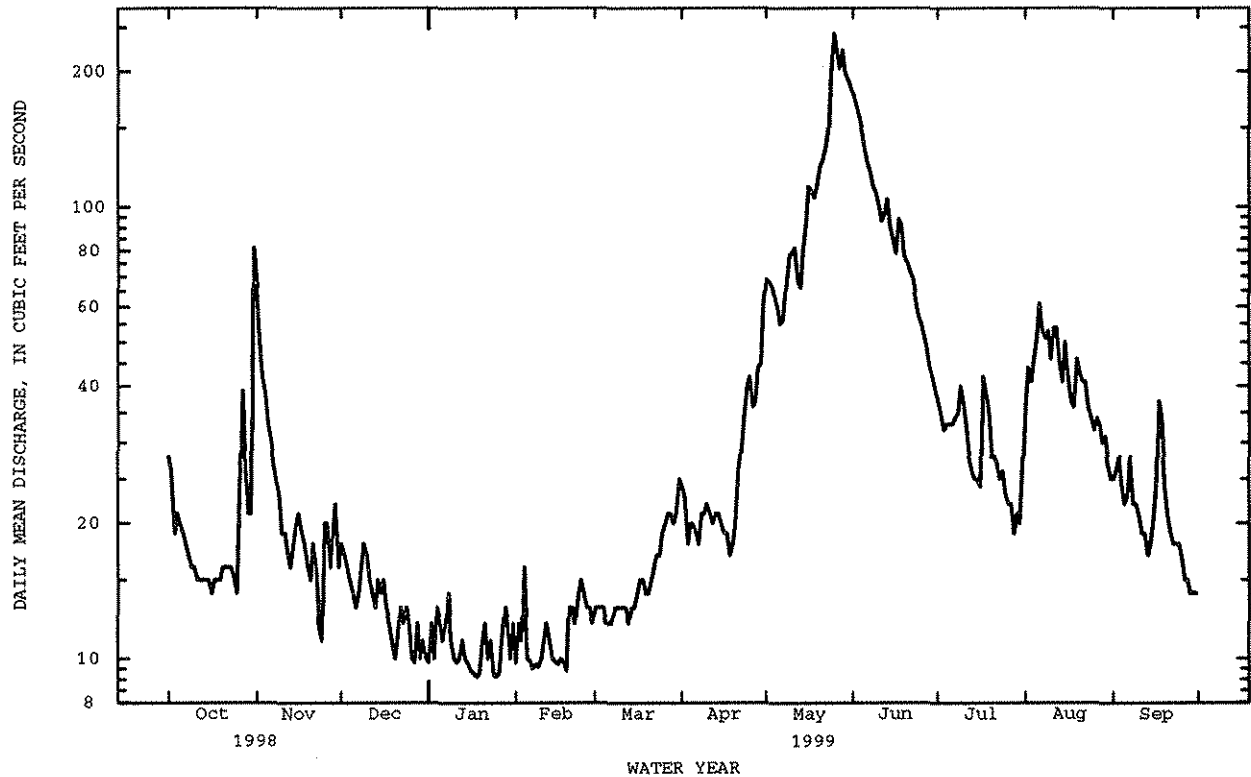
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 1999, BY WATER YEAR (WY)

MEAN	15.5	12.3	10.4	9.45	10.2	20.2	50.9	99.4	78.2	28.8	26.4	19.5
MAX	61.3	43.4	25.2	19.5	23.9	51.1	205	329	294	115	109	78.6
(WY)	1942	1942	1987	1987	1995	1985	1942	1941	1979	1986	1991	1988
MIN	3.88	4.69	3.82	4.75	5.44	6.97	13.2	15.9	7.05	5.64	4.57	2.47
(WY)	1957	1957	1951	1951	1981	1981	1951	1950	1956	1956	1956	1956

08291000 SANTA CRUZ RIVER AT CUNDIYO, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1933 - 1999	
ANNUAL TOTAL	14604.3		12968.0		31.8	
ANNUAL MEAN	40.0		35.5		75.2	
HIGHEST ANNUAL MEAN					8.93	
LOWEST ANNUAL MEAN					623	
HIGHEST DAILY MEAN	168	Jul 28	242	May 25	1.1	Jun 9 1979
LOWEST DAILY MEAN	8.0	Feb 14	9.1	Jan 18	2.2	Dec 3 1950
ANNUAL SEVEN-DAY MINIMUM	8.4	Feb 11	9.7	Jan 13	2420	Sep 11 1956
INSTANTANEOUS PEAK FLOW			332	May 24	7.80	Sep 24 1931
INSTANTANEOUS PEAK STAGE			3.27	May 24	.19	Sep 24 1931
INSTANTANEOUS LOW FLOW					23070	
ANNUAL RUNOFF (AC-FT)	28970		25720		78	
10 PERCENT EXCEEDS	98		80		15	
50 PERCENT EXCEEDS	27		20		7.6	
90 PERCENT EXCEEDS	9.8		11			

e Estimated



08294200 NAMBE FALLS RESERVOIR NEAR NAMBE, NM

LOCATION.--Lat 35°50'46", long 105°54'17", in NE¹/₄SW¹/₄, sec.29, T.19 N., R.10 E., Santa Fe County, Hydrologic Unit 13020101, on Nambe Indian Reservation, 300 ft upstream from Nambe Falls, 2.6 mi upstream from Rio En Medio, 4.4 mi southeast of Nambe Pueblo, and 5.4 mi southeast of Nambe.

DRAINAGE AREA.--34.1 mi².

PERIOD OF RECORD.--February 1976 to current year.

REVISED RECORDS.--WDR NM-77-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to July 22, 1976, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by a concrete arch and earthfill dam, storage began Feb. 23, 1976. Total capacity, 2,020 acre-ft at elevation 6,826.6 ft, crest of ogee weir spillway, including 237 acre-ft of storage in a permanent pool between elevation 6,760.9 ft, invert of outlet conduits, and 6,780.0 ft. Dead storage 121 acre-ft below elevation 6,760.9 ft. Outlet conduits are one 6-in. and two 12-in. diameter pipes. Reservoir is used for storage of irrigation water and for recreation. Figures given herein represent total storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,060 acre-ft June 9, 1979, elevation, 6,827.24 ft; no storage prior to Feb. 23, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,040 acre-ft, May 27 to June 3 and Aug. 8, elevation 6,826.89 ft; minimum, 1,090 acre-ft, Oct. 1, elevation 6,807.26 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1090	1280	1530	1680	1880	2020	1790	1630	2040	2030	1750	2030
2	1100	1300	1540	1690	1880	2020	1780	1650	2040	2030	1790	2030
3	1100	1310	1550	1690	1890	2020	1760	1680	2040	2030	1830	2030
4	1110	1320	1550	1700	1890	2020	1750	1690	2030	2030	1880	2030
5	1110	1330	1560	1710	1900	2020	1740	1700	2030	2030	1930	2030
6	1120	1330	1570	1710	1910	2020	1730	1700	2030	2030	2000	2030
7	1120	1340	1570	1720	1910	2020	1720	1710	2030	2010	2030	2030
8	1120	1350	1570	1730	1920	2020	1720	1720	2030	1990	2040	2030
9	1130	1350	1570	1730	1920	2020	1720	1740	2030	1970	2030	2010
10	1130	1360	1580	1740	1930	2010	1710	1750	2030	1950	2030	1990
11	1130	1370	1580	1750	1930	2010	1710	1770	2030	1920	2030	1960
12	1140	1380	1590	1750	1940	2020	1700	1780	2030	1910	2030	1940
13	1140	1390	1600	1760	1940	2020	1700	1800	2030	1900	2030	1920
14	1140	1400	1600	1760	1950	2020	1700	1820	2030	1890	2030	1900
15	1140	1410	1610	1770	1950	2020	1700	1850	2030	1880	2030	1890
16	1150	1420	1610	1780	1960	2010	1690	1870	2030	1860	2030	1880
17	1150	1430	1620	1780	1970	2000	1680	1900	2030	1860	2030	1880
18	1150	1440	1620	1790	1970	1990	1670	1920	2030	1850	2030	1880
19	1150	1450	1620	1800	1980	1970	1660	1950	2030	1840	2030	1870
20	1160	1450	1630	1800	1980	1960	1650	1970	2030	1830	2030	1860
21	1160	1460	1630	1810	1990	1940	1650	2000	2030	1830	2030	1850
22	1170	1470	1630	1820	1990	1930	1640	2020	2030	1840	2030	1830
23	1170	1480	1640	1820	2000	1910	1630	2030	2030	1840	2030	1820
24	1180	1480	1640	1830	2000	1900	1620	2030	2030	1840	2030	1810
25	1180	1490	1640	1840	2010	1880	1620	2030	2030	1830	2030	1800
26	1190	1500	1640	1840	2010	1870	1620	2030	2030	1820	2030	1780
27	1220	1500	1650	1850	2020	1860	1610	2040	2030	1810	2030	1760
28	1230	1510	1650	1850	2020	1840	1600	2040	2030	1790	2030	1750
29	1230	1520	1660	1860	---	1830	1590	2040	2030	1760	2030	1730
30	1240	1530	1660	1870	---	1820	1610	2040	2030	1730	2030	1720
31	1270	---	1670	1870	---	1800	---	2040	---	1740	2030	---
MAX	1270	1530	1670	1870	2020	2020	1790	2040	2040	2030	2040	2030
MIN	1090	1280	1530	1680	1880	1800	1590	1630	2030	1730	1750	1720
(+)	6811.52	6817.27	6820.19	6823.96	6826.54	6822.72	6818.91	6826.84	6826.68	6821.45	6826.70	6821.11
(++)	+200	+260	+140	+200	+150	-220	-190	+430	-10	-290	+290	-310

CAL YR 1998 MAX 2040 MIN 1060 (++) +120

WTR YR 1999 MAX 2040 MIN 1090 (++) +650

(+) ELEVATION, IN FEET, AT END OF MONTH

(++) CHANGE IN CONTENTS, IN ACRE-FEET

08294210 RIO NAMBE BELOW NAMBE FALLS DAM, NEAR NAMBE, NM

LOCATION.--Lat 35°50'46", long 105°54'17", in NE¹/₄SW¹/₄ sec.29, T.19 N., R.10 E., Santa Fe County, Hydrologic Unit 13020101, on Nambe Indian Reservation, in outlet conduits of Nambe Falls Dam, 300 ft upstream from Nambe Falls, 2.6 mi upstream from Rio En Medio, 4.4 mi southeast of Nambe Pueblo and 5.4 mi southeast of Nambe.

DRAINAGE AREA.--34.1 mi².

PERIOD OF RECORD.--January 1979 to current year.

GAGE.--Water-stage recorder with satellite telemetry and concrete control. Datum of gage is 6,840 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated days which are fair. Flow regulated by Nambe Falls Reservoir (station 08294200). Outlet conduits are one 6-in. and two 12-in. diameter pipes. During periods of spill at Nambe Falls Dam, record computed at site 1,100 ft downstream, site of discontinued station 08294300, Rio Nambe at Nambe Falls.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	4.4	2.3	1.5	1.2	3.6	13	6.9	41	25	24	14
2	4.1	4.4	2.1	1.4	1.2	5.8	13	4.1	39	23	14	14
3	4.1	4.4	2.1	1.3	1.2	4.7	13	4.1	38	43	14	16
4	4.1	4.4	2.1	1.2	1.2	4.6	13	6.6	37	53	14	14
5	4.1	4.4	2.1	1.2	1.2	4.6	13	11	35	52	14	12
6	4.1	4.4	2.1	1.1	1.2	4.5	11	11	33	55	12	15
7	4.1	4.4	2.1	1.1	1.2	4.7	8.2	11	31	68	16	15
8	e4.1	4.4	2.0	1.1	1.2	4.8	8.3	11	31	67	30	12
9	e4.1	4.4	2.0	1.1	1.2	4.6	8.1	10	30	64	35	21
10	e4.1	3.5	2.0	1.1	1.2	4.9	7.8	10	30	65	37	23
11	e4.2	2.6	2.0	1.1	1.2	4.6	7.9	10	28	64	39	23
12	e4.2	2.6	2.0	1.1	1.6	4.6	8.0	11	28	52	33	23
13	e4.2	2.5	2.0	1.1	1.4	4.5	8.0	11	28	36	30	24
14	e4.2	2.4	1.9	1.1	1.4	4.6	8.1	11	28	32	29	21
15	e4.2	2.4	1.9	1.1	1.4	4.6	8.1	11	25	22	29	17
16	e4.2	2.4	1.9	1.1	1.4	4.6	8.0	11	25	27	26	17
17	e4.2	2.4	1.9	1.1	1.4	10	11	11	33	27	24	17
18	e4.1	2.4	1.9	1.1	1.4	14	12	11	31	27	23	17
19	e4.1	2.4	1.9	1.1	1.4	14	12	14	28	27	22	17
20	e4.1	2.3	1.8	1.1	1.4	14	12	16	27	27	21	17
21	e4.1	2.3	1.7	1.1	1.4	14	13	18	25	22	20	17
22	e4.1	2.4	1.8	1.1	1.4	14	12	23	23	19	22	17
23	e4.2	2.4	1.9	1.1	1.4	14	16	33	20	18	22	17
24	e4.2	2.4	1.9	1.1	1.4	14	18	43	19	18	20	17
25	e4.2	2.4	1.9	1.2	1.4	14	14	43	18	18	20	17
26	e4.2	2.3	1.8	1.2	1.4	14	10	36	17	21	22	17
27	4.4	2.3	1.7	1.2	1.5	14	14	37	16	25	20	18
28	4.4	2.3	1.7	1.2	1.8	14	16	43	15	25	18	17
29	4.4	2.3	1.7	1.2	---	14	16	40	23	30	17	17
30	4.4	2.3	1.6	1.2	---	14	11	41	26	30	16	18
31	4.4	---	1.6	1.2	---	14	---	41	---	26	15	---
TOTAL	129.9	90.9	59.4	35.9	37.7	280.3	343.5	600.7	828	1108	698	521
MEAN	4.19	3.03	1.92	1.16	1.35	9.04	11.4	19.4	27.6	35.7	22.5	17.4
MAX	4.4	4.4	2.3	1.5	1.8	14	18	43	41	68	39	24
MIN	4.1	2.3	1.6	1.1	1.2	3.6	7.8	4.1	15	18	12	12
AC-FT	258	180	118	71	75	556	681	1190	1640	2200	1380	1030

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1999, BY WATER YEAR (WY)

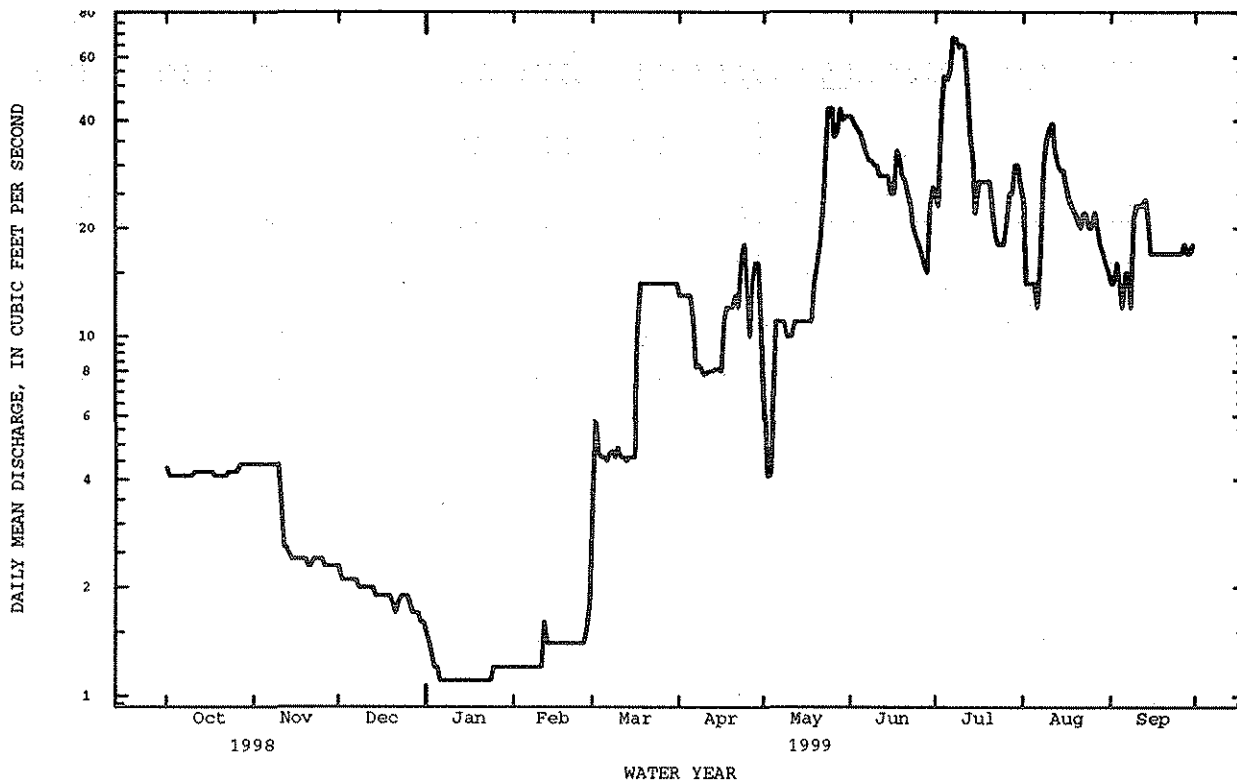
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
MEAN	7.11	4.41	2.45	2.16	2.82	6.22	16.7	39.5	48.8	23.6	17.3	12.7
MAX	19.5	11.9	8.70	5.29	7.68	17.4	42.3	85.4	125	48.4	51.9	45.4
(WY)	1989	1987	1987	1992	1995	1985	1985	1985	1979	1983	1983	1988
MIN	2.83	1.10	.45	.45	.45	.49	1.60	9.89	8.76	5.42	2.86	1.47
(WY)	1991	1997	1980	1980	1980	1979	1981	1981	1996	1996	1989	1994

RIO GRANDE BASIN

08294210 RIO NAMBE BELOW NAMBE FALLS DAM, NEAR NAMBE, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1979 - 1999	
ANNUAL TOTAL	4854.3		4733.3		14.8	
ANNUAL MEAN	13.3		13.0		25.7	
HIGHEST ANNUAL MEAN					5.42	
LOWEST ANNUAL MEAN					1985	
HIGHEST DAILY MEAN	47	May 29	68	Jul 7	236	Jun 9 1979
LOWEST DAILY MEAN	1.4	Jan 1	1.1	Jan 6	.00	Dec 31 1993
ANNUAL SEVEN-DAY MINIMUM	1.4	Jan 4	1.1	Jan 6	.21	Nov 12 1980
INSTANTANEOUS PEAK FLOW					^a 312	Jun 9 1979
INSTANTANEOUS PEAK STAGE					1.96	Jun 9 1979
INSTANTANEOUS LOW FLOW					.13	May 3 1981
ANNUAL RUNOFF (AC-FT)	9630		9390		10750	
10 PERCENT EXCEEDS	29		30		41	
50 PERCENT EXCEEDS	12		10		8.1	
90 PERCENT EXCEEDS	1.5		1.2		.54	

e Estimated

a At site 1,100 ft downstream (maximum release and spill computed at Nambé Falls Dam, 250 ft³/s, June 9, 1979).

08302500 TESUQUE CREEK ABOVE DIVERSIONS NEAR SANTA FE, NM

LOCATION.--Lat 35°44'25", long 105°53'51", in SW¹/₄SE¹/₄ sec.32, T.18 N., R.10 E., Santa Fe County, Hydrologic Unit 13020101, in Santa Fe National Forest, on left bank 0.30 mi from boundary, 1.0 mi southwest of Bishops Lodge, 1.1 mi to State Highway 22, 10 miles northeast of Santa Fe.

DRAINAGE AREA.--12 mi²,

PERIOD OF RECORD.--March 1936 to January 1952, May to October 1919 in report of State Engineer. October 1997 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 7,220 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 425 ft³/s, July 19, 1938, gage height, 4.30 ft, from floodmarks, from rating curve extended above 10 ft³/s, on basis of slope-area measurement at gage height 4.0 ft, at different datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 50 ft³/s, May 24; minimum daily discharge, 0.59 ft³/s, Dec. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

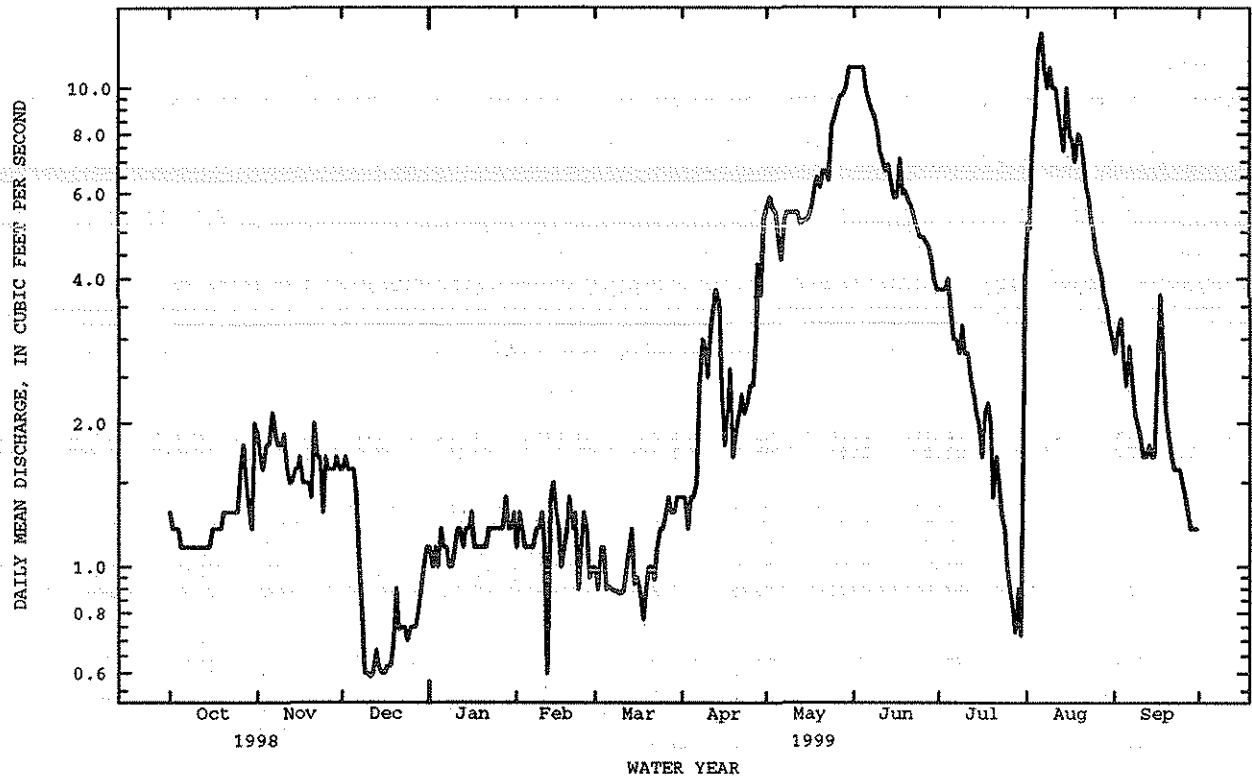
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	e1.9	1.6	e1.1	1.1	e1.0	1.4	5.6	11	3.8	5.2	2.8
2	1.2	e1.7	1.7	e1.0	1.3	e.90	1.4	5.9	11	3.8	5.1	3.1
3	1.2	e1.6	1.6	e1.1	1.2	e1.1	1.2	5.6	11	3.8	7.8	3.3
4	1.2	e1.8	1.6	e1.0	1.1	e1.1	1.4	5.5	11	4.0	8.9	2.7
5	1.1	e1.8	1.6	e1.2	1.1	e.90	1.4	4.8	e10	e3.4	12	2.4
6	1.1	e2.1	1.4	e1.1	1.1	.91	1.5	e4.4	e9.5	e3.0	e13	2.9
7	1.1	e1.9	e1.0	e1.1	1.1	.90	2.4	e5.3	e9.0	e3.0	e11	2.5
8	1.1	e1.8	e.80	e1.0	1.2	.89	3.0	5.5	8.8	e2.8	e10	2.1
9	1.1	e1.8	e.60	e1.0	1.2	.89	2.9	5.5	8.2	e3.2	e11	2.0
10	1.1	e1.9	e.60	e1.1	1.3	.88	2.5	5.5	7.4	e2.8	e10	1.9
11	1.1	e1.6	.59	e1.2	e1.1	.89	3.2	5.5	7.1	e2.8	e10	1.7
12	1.1	e1.5	e.60	e1.2	e.60	.98	3.5	5.5	6.7	e2.5	e9.0	1.7
13	1.1	e1.5	.67	e1.1	e1.4	1.1	3.8	5.2	6.9	e2.3	e8.0	1.8
14	1.1	e1.6	.62	1.2	e1.5	1.2	3.6	5.3	6.4	2.1	e7.4	1.7
15	1.1	e1.6	.60	e1.2	1.3	.92	2.3	5.3	5.9	2.0	e10	1.7
16	1.2	e1.7	e.60	1.3	e1.2	.95	1.8	5.4	5.9	1.7	e8.0	2.7
17	1.2	e1.5	.62	1.1	e1.0	.89	2.1	5.7	7.1	2.1	e7.7	3.7
18	1.2	e1.5	e.62	1.1	e1.1	.78	2.6	6.2	6.0	2.2	e7.0	2.9
19	1.2	e1.5	e.68	1.1	1.2	.90	1.7	6.5	6.1	2.0	e8.0	2.1
20	1.3	e1.4	e.90	1.1	1.4	1.0	1.9	6.2	5.8	1.4	7.8	1.9
21	1.3	e2.0	e.74	1.1	1.2	1.0	2.1	6.7	5.7	1.7	7.0	1.7
22	1.3	e1.7	e.75	1.2	1.3	.94	2.3	6.7	5.4	1.5	6.2	1.6
23	1.3	e1.7	e.75	1.2	e.90	1.1	2.1	6.4	5.1	1.3	5.9	1.6
24	1.3	e1.3	e.70	1.2	e1.1	1.2	2.2	8.3	4.9	1.2	5.1	1.6
25	1.3	e1.7	e.75	1.2	1.3	1.2	2.4	8.7	4.9	1.0	4.6	1.5
26	e1.6	e1.6	e.75	1.2	1.2	1.3	2.4	9.2	4.8	.89	4.3	1.4
27	e1.8	e1.6	e.75	1.2	e.95	1.4	3.0	9.6	4.7	.82	4.1	1.3
28	e1.5	e1.6	e.82	e1.4	e1.0	1.3	4.3	9.7	4.4	.73	3.7	1.2
29	e1.3	e1.7	e.90	1.2	---	1.3	3.7	10	4.0	.90	3.5	1.2
30	e1.2	e1.6	e1.0	1.2	---	1.4	5.3	11	3.8	.72	3.2	1.2
31	e2.0	---	e1.1	1.3	---	1.4	---	11	---	4.0	3.0	---
TOTAL	39.0	50.2	28.01	35.7	32.45	32.62	75.4	207.7	208.5	69.46	227.5	61.9
MEAN	1.26	1.67	.90	1.15	1.16	1.05	2.51	6.70	6.95	2.24	7.34	2.06
MAX	2.0	2.1	1.7	1.4	1.5	1.4	5.3	11	11	4.0	13	3.7
MIN	1.1	1.3	.59	1.0	.60	.78	1.2	4.4	3.8	.72	3.0	1.2
AC-FT	77	100	56	71	64	65	150	412	414	138	451	123

CAL YR 1998 TOTAL 1100.59 MEAN 3.02 MAX 15 MIN .59 AC-FT 2180
WTR YR 1999 TOTAL 1068.44 MEAN 2.93 MAX 13 MIN .59 AC-FT 2120

e Estimated

RIO GRANDE BASIN

08302500 TESUQUE CREEK ABOVE DIVERSIONS NEAR SANTA FE, NM--Continued



08308025 RIO TESUQUE AT GRANT BOUNDARY AT TESUQUE, NM

LOCATION.--Lat 35°46'01", long 105°56'15", in SE¹/₄NE¹/₄NW¹/₄, sec.25, T.18 N., R.9 E., Santa Fe County, Hydrologic Unit 13020201, on left bank 200 ft downstream of Tesuque Pueblo Grant Boundary, .12 mi northeast of State Highway 22, 2.1 mi northwest of Interstate 25, and 7.6 mi north of Santa Fe.

DRAINAGE AREA.--11.5 mi².

PERIOD OF RECORD.--September 1998 to October 1999 (discontinued).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,640 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 387 ft³/s, May 24, 1999, gage height 5.83 ft, from floodmarks; minimum daily discharge 0.23 ft³/s, Apr. 18-20, 1999.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 387 ft³/s, May 24, gage height 5.83 ft, from floodmarks; minimum daily discharge 0.23 ft³/s, Apr. 18-20.

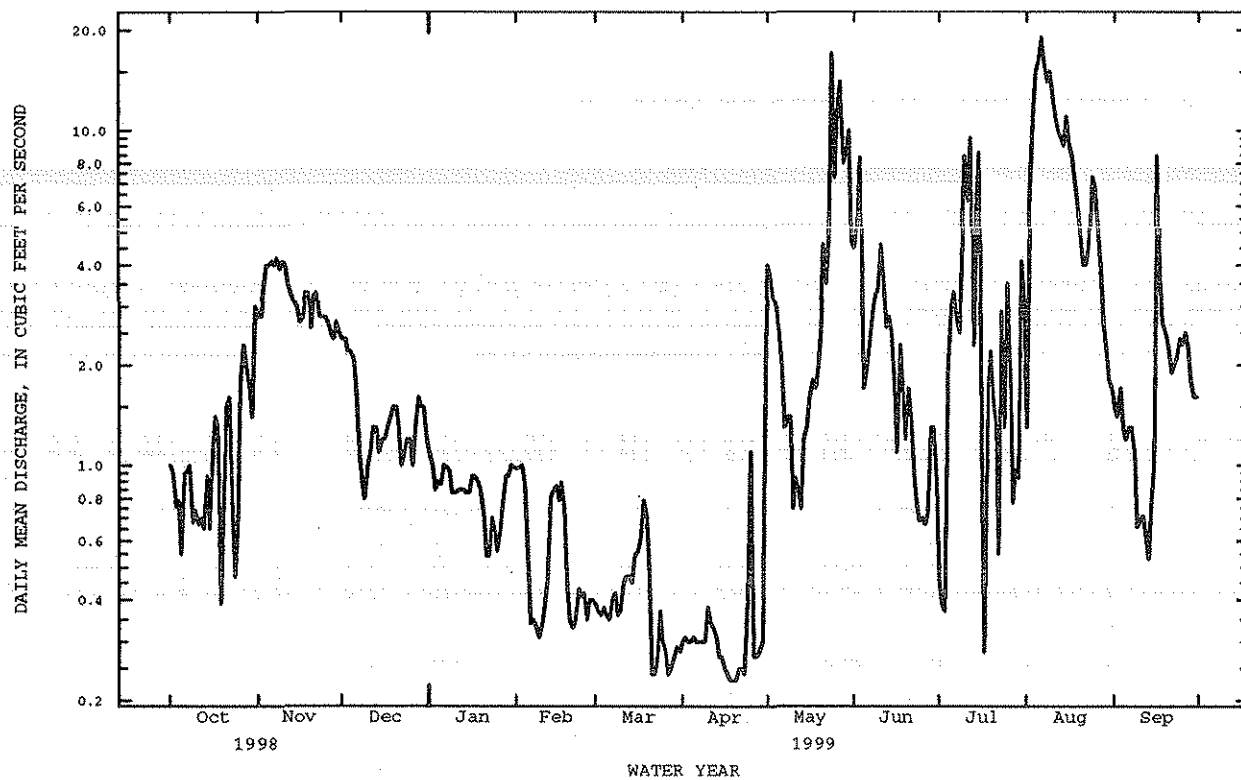
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.0	e2.8	2.4	1.1	.98	.39	.30	e4.0	4.5	.46	1.3	1.5
2	.96	e2.8	2.4	1.0	.99	.37	.31	e3.7	5.3	.39	6.0	1.4
3	.76	e3.3	2.2	e.85	1.0	.36	.30	e3.2	8.3	.37	11	1.7
4	.79	e4.0	2.2	e.90	.88	.38	.30	e3.0	1.7	1.9	15	1.3
5	.55	e4.0	2.1	e.88	.54	.36	.31	e2.5	1.9	3.0	16	1.2
6	.95	e4.1	1.7	1.0	.34	.35	.30	e2.1	2.2	3.3	e19	1.3
7	.96	e4.0	e1.1	.99	.35	.40	.30	1.3	2.8	2.8	e16	1.3
8	1.0	e4.2	e.90	.97	.33	.42	.30	1.4	3.2	2.5	e14	1.1
9	.68	e3.9	e.80	.83	.31	.36	.30	1.4	3.4	4.9	e15	.66
10	.74	e4.1	e1.0	.83	.34	.37	.38	.75	4.6	8.4	e13	.69
11	.67	e4.0	e1.1	.84	.39	.45	.34	.92	3.6	6.2	e11	.71
12	.70	e3.5	e1.3	.85	.46	.47	.33	.83	2.6	9.5	e10	.63
13	.65	e3.3	1.3	.85	.81	.47	.31	.75	2.8	e2.3	e9.5	.53
14	.93	e3.1	1.1	e.83	.84	.45	.27	1.2	2.5	5.8	e9.0	.80
15	.65	e3.0	1.2	.83	.87	.54	.27	1.3	1.7	8.6	e11	1.0
16	1.1	e2.7	1.2	.93	.79	.56	.25	1.6	1.1	e.75	e9.0	8.4
17	1.4	e2.8	1.3	.93	.89	.60	.24	1.8	2.3	e.28	e8.5	3.6
18	1.3	3.3	1.4	.90	.75	.79	.23	1.7	1.7	1.7	7.3	2.7
19	e.39	3.3	1.5	.84	.46	.73	.23	1.9	1.2	2.2	6.0	2.5
20	e.70	2.6	1.5	.72	.35	.53	.23	2.6	1.7	1.6	4.9	2.3
21	e1.5	3.2	e1.3	.54	.33	.24	.25	4.6	1.4	1.3	4.0	1.9
22	e1.6	3.3	e1.0	e.54	.35	.24	.25	3.5	.93	.55	4.0	2.0
23	e.80	2.8	e1.1	e.70	.43	.26	.24	4.8	.77	2.9	4.5	2.1
24	e.47	2.8	e1.2	.65	.41	.37	.41	17	.69	1.3	7.3	2.4
25	e.65	2.8	e1.2	.56	.42	.30	1.1	7.3	.70	3.5	6.8	2.3
26	e1.8	2.7	e1.0	.64	.35	.28	.27	12	.67	1.9	4.9	2.5
27	e2.3	2.5	e1.3	.77	.40	.24	.27	14	.72	.78	3.9	e2.3
28	e2.0	2.4	1.6	.93	.40	.25	.28	8.0	1.3	.97	2.7	e1.8
29	e1.7	2.7	1.5	.93	---	.27	.30	8.5	1.3	.92	2.2	e1.6
30	e1.4	2.5	1.5	1.0	---	.29	e2.0	10	.87	4.1	1.8	e1.6
31	e3.0	---	1.2	.99	---	.28	---	4.7	---	3.0	1.7	---
TOTAL	34.10	96.5	43.60	26.12	15.76	12.37	11.17	132.35	68.45	88.17	256.3	55.82
MEAN	1.10	3.22	1.41	.84	.56	.40	.37	4.27	2.28	2.84	8.27	1.86
MAX	3.0	4.2	2.4	1.1	1.0	.79	2.0	17	8.3	9.5	19	8.4
MIN	.39	2.4	.80	.54	.31	.24	.23	.75	.67	.28	1.3	.53
AC-FT	68	191	86	52	31	25	22	263	136	175	508	111

WTR YR 1999 TOTAL 840.71 MEAN 2.30 MAX 19 MIN .23 AC-FT 1670

e Estimated

08308025 RIO TESUQUE AT GRANT BOUNDARY AT TESUQUE, NM--Continued



08313000 RIO GRANDE AT OTOWI BRIDGE, NEAR SAN ILDEFONSO, NM

LOCATION.--Lat 35°52'29", long 106°08'30", in SW¹/₄SW¹/₄ sec.18, T.19 N., R.8 E., Santa Fe County, Hydrologic Unit 13020101, on San Ildefonso Pueblo Grant, near right bank on downstream end of pier of former railway bridge, 400 ft downstream from bridge on State Highway 502, 1.8 mi southwest of San Ildefonso Pueblo, 2.5 mi downstream from Pojoaque River, 6.8 mi west of Pojoaque, and at mile 1,614.2.

DRAINAGE AREA.--14,300 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1895 to December 1905, June 1909 to current year. Monthly discharge only for some periods, published in WSP 1312. In early reports this record was published as "at Water Tank," as "at Rio Grande," and as "near Buckman."

REVISED RECORDS.--WSP 828: Drainage area. WSP 1512: 1895-99, 1904-6, 1911-12, 1914, 1931(M), 1935. WSP 1712: 1904(M). WDR-NM-90: 1989.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 5,488.48 ft above National Geodetic Vertical Datum of 1929. See WSP 1312, 1732, or 1923 for history of changes prior to June 1, 1910.

REMARKS.--Water-discharge records good. Considerable regulation by Heron Reservoir (station 08284510), El Vado Reservoir (station 08285000) and Abiquiu Reservoir (station 08286900) on Rio Chama, which can contribute a major portion of the total flow. Flow affected by release of transmountain water from Heron Reservoir since May 1971. Diversions upstream from station for irrigation of about 620,000 acres in Colorado and 75,000 acres in New Mexico.

EXTREMES OUTSIDE PERIOD OF RECORD.--The 1920 flood is greatest since at least 1884 and probably since 1741; information from W. H. Yeo's file on floods.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1470	1480	779	821	802	778	1070	3280	4390	1970	1620	1590
2	792	1080	779	831	779	778	1080	2780	4400	1780	1880	1670
3	661	1110	801	823	744	784	1040	2790	4300	1680	1620	1770
4	617	972	780	791	742	807	1010	3150	4000	1690	1790	1700
5	999	779	758	761	824	805	1030	2880	3500	1730	2430	1590
6	1180	712	749	784	834	817	1010	2580	3010	1870	2350	1720
7	1210	680	741	788	861	809	1100	2400	2950	1620	2510	1920
8	1000	662	693	801	822	814	1110	2300	2660	1540	2530	1780
9	944	685	609	792	818	803	817	2500	2340	1660	2530	1670
10	948	674	581	780	834	793	1020	2640	2340	1610	2550	1650
11	849	637	580	779	807	792	969	2530	2390	1570	2760	1590
12	815	675	545	793	784	825	957	2660	2560	1580	2740	1600
13	879	731	710	812	756	828	914	2900	2780	1390	2560	1560
14	867	675	737	789	723	811	846	2930	2850	1330	2360	1510
15	777	677	711	776	749	828	804	3250	2890	1420	2660	1630
16	776	721	758	786	758	818	790	3790	2990	1410	2410	1820
17	916	751	770	781	774	781	719	3870	3300	1580	2120	1870
18	933	748	790	788	753	788	679	3940	3600	1630	2070	1560
19	915	737	804	770	770	751	668	3900	3600	1280	2290	1530
20	877	766	851	808	761	663	947	4030	3660	1170	2310	1460
21	884	721	841	853	785	643	1200	4080	3600	1220	2140	1450
22	719	717	761	838	782	644	1130	4150	3430	1280	1820	1480
23	820	727	770	802	770	633	999	4370	2910	1410	1930	1510
24	741	707	763	791	756	634	933	4660	2770	1370	2110	1430
25	752	705	774	811	760	670	1060	5090	2750	1340	2100	1360
26	1170	726	769	844	771	697	1160	4880	2800	1450	1860	1420
27	1050	769	764	828	744	721	1080	4950	2790	1490	1660	1390
28	1010	770	766	793	761	709	1190	4940	2510	1500	1550	1140
29	1220	784	780	750	---	692	1300	4640	2300	1410	1610	1090
30	938	824	794	777	---	721	1830	4450	2210	1420	1640	1130
31	2220	---	815	786	---	1090	---	4390	---	1540	1580	---
TOTAL	29949	23402	23123	24727	21824	23727	30462	111700	92580	46940	66090	46590
MEAN	966	780	746	798	779	765	1015	3603	3086	1514	2132	1553
MAX	2220	1480	851	853	861	1090	1830	5090	4400	1970	2760	1920
MIN	617	637	545	750	723	633	668	2300	2210	1170	1550	1090
AC-FT	59400	46420	45860	49050	43290	47060	60420	221600	183600	93110	131100	92410

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1999, BY WATER YEAR (WY)

	832	1004	952	824	948	1403	2299	3778	3354	1597	1002	906
MEAN	832	1004	952	824	948	1403	2299	3778	3354	1597	1002	906
MAX	2225	2034	1959	1757	2641	3127	6412	8390	7914	4548	2132	1553
(WY)	1998	1987	1976	1986	1987	1987	1985	1979	1995	1999	1999	1999
MIN	361	401	450	436	500	612	489	433	470	394	391	263
(WY)	1975	1978	1975	1977	1978	1977	1977	1972	1972	1972	1972	1974

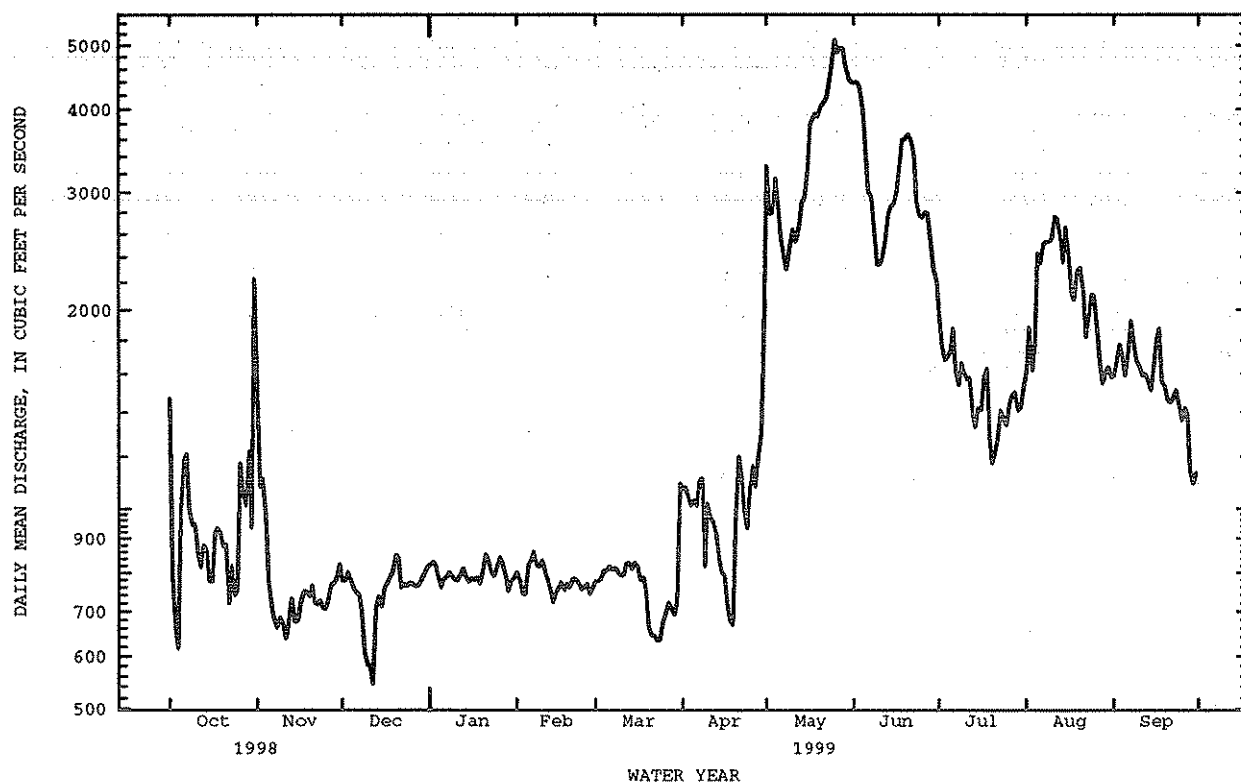
RIO GRANDE BASIN

08313000 RIO GRANDE AT OTOWI BRIDGE, NEAR SAN ILDEFONSO, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1971 - 1999	
ANNUAL TOTAL	508930		541114		^a 1576	
ANNUAL MEAN	1394		1483		2764	
HIGHEST ANNUAL MEAN					602	
LOWEST ANNUAL MEAN					12000	
HIGHEST DAILY MEAN	4130	May 25	5090	May 25	12000	May 11 1985
LOWEST DAILY MEAN	545	Dec 12	545	Dec 12	195	Aug 4 1977
ANNUAL SEVEN-DAY MINIMUM	636	Dec 8	636	Dec 8	229	Sep 11 1971
INSTANTANEOUS PEAK FLOW			5410	May 25	24400	May 23 1920
INSTANTANEOUS PEAK STAGE			6.90	May 25	^b 14.50	Sep 29 1904
INSTANTANEOUS LOW FLOW			515	Dec 12	195	Aug 4 1977
ANNUAL RUNOFF (AC-FT)	1009000		1073000		1142000	
10 PERCENT EXCEEDS	2710		2890		3670	
50 PERCENT EXCEEDS	1170		1000		1010	
90 PERCENT EXCEEDS	758		721		497	

a Average discharge for 71 years (water years 1895-1914, 1916, 1920-70), 1,530 ft³/s, 1,108,000 acre-ft/yr, prior to release of transmountain water.

b Present site and datum.



08313000 RIO GRANDE AT OTOWI BRIDGE, NEAR SAN ILDEFONSO, NM--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1947 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1947 to current year.

INSTRUMENTATION.--Automatic pumping sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 51,800 mg/L, Oct. 31, 1998; minimum daily mean, 11 mg/L, July 27, 1963 and Feb. 7, 1974.

SEDIMENT LOAD: Maximum daily, 386,000 tons, July 6, 1995; minimum daily, 3 tons, July 27, 1963.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 51,800 mg/L, Oct. 31; minimum daily mean, 142 mg/L, Aug. 30.

SEDIMENT LOAD: Maximum daily, 337,000 tons, Oct. 31; minimum daily, 371 tons, Mar. 22.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	E. COLI WATER WHOLE TOTAL UREASE (COL / 100 ML) (31633)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
OCT												
21...	1000	883	339	8.1	10.5	11.5	33	633	8.7	96	160	150
NOV												
17...	1100	752	373	8.3	7.0	6.5	17	625	11.0	109	26	24
DEC												
15...	1030	699	383	8.2	.5	1.0	6.1	632	12.6	107	7	6
JAN												
07...	1000	761	312	8.4	1.4	3.0	4.3	626	12.5	113	--	--
26...	1000	864	307	8.2	6.0	3.0	10	623	13.0	118	47	52
FEB												
18...	1000	794	314	8.4	8.0	5.5	7.5	625	10.3	100	27	39
APR												
21...	1110	1240	309	8.4	15.0	10.5	400	615	8.8	98	--	--
28...	1145	1220	344	8.1	15.0	12.0	36	622	8.8	100	160	180
MAY												
12...	1030	2760	303	8.2	20.5	10.0	--	626	9.7	105	87	82
26...	1110	4910	218	7.9	17.0	12.0	75	627	8.9	101	89	200
JUN												
03...	1015	4330	255	8.2	22.0	13.0	32	623	8.4	98	--	--
23...	1015	2900	288	8.1	24.0	18.0	--	627	8.0	103	110	71
JUL												
16...	1250	1350	317	8.6	30.0	22.5	30	628	7.7	109	520	180
AUG												
12...	1020	2800	228	8.2	23.0	18.5	22	629	7.8	101	330	200
24...	1212	2150	242	8.3	27.0	20.5	27	629	7.9	107	140	120
27...	1340	1610	225	8.1	30.0	22.5	14	627	8.2	116	--	--
SEP												
15...	1310	1530	212	8.2	21.5	18.0	30	626	8.6	111	--	--
16...	1100	1830	244	8.0	15.0	15.5	280	631	8.1	98	530	1000

RIO GRANDE BASIN

08313000 RIO GRANDE AT OTOWI BRIDGE, NEAR SAN ILDEFONSO, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	STREP- TOCOCCHI FECAL KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARE DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
OCT												
21...	210	110	--	35	6.5	17	.7	2.2	--	--	--	112
NOV												
17...	75	130	--	40	7.6	25	1	3.2	--	--	--	132
DEC												
15...	7	140	--	42	7.9	27	1	3.2	--	--	--	138
JAN												
07...	--	--	--	--	--	--	--	--	--	--	--	--
26...	58	110	--	33	6.5	19	.8	3.0	--	--	--	110
FEB												
18...	K8	100	--	32	6.3	23	1	2.9	133	0	109	110
APR												
21...	--	--	--	--	--	--	--	--	--	--	--	--
28...	220	110	11	34	6.8	20	.8	2.5	125	0	102	109
MAY												
12...	120	110	--	33	6.1	17	.7	2.3	--	--	--	94
26...	260	82	14	25	4.5	10	.5	1.9	82	0	67	79
JUN												
03...	--	--	--	--	--	--	--	--	--	--	--	--
23...	180	100	--	31	5.7	19	.8	3.0	--	--	--	88
JUL												
16...	240	110	--	34	6.7	18	.8	2.9	--	--	--	104
AUG												
12...	450	79	4	24	4.5	12	.6	2.3	91	0	75	80
24...	210	88	--	27	5.1	14	.6	2.5	--	--	--	82
27...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
15...	--	--	--	--	--	--	--	--	--	--	--	--
16...	1800	76	--	24	4.0	12	.6	2.4	--	--	--	126
DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT												
21...	48	5.2	.4	17	199	--	--	--	--	--	--	--
NOV												
17...	48	9.2	.4	23	236	--	--	--	--	--	--	--
DEC												
15...	49	9.2	.6	29	250	--	--	--	--	--	--	--
JAN												
07...	--	--	--	--	--	--	--	--	--	--	--	--
26...	36	6.8	.4	26	197	--	--	--	--	--	--	--
FEB												
18...	38	7.1	.4	28	204	<.010	.28	<.010	--	.38	.26	.09
APR												
21...	--	--	--	--	--	--	--	--	--	--	--	--
28...	52	7.4	.4	17	202	<.01	<.05	.04	.17	.6	.2	.24
MAY												
12...	47	5.8	.3	15	184	--	--	--	--	--	--	--
26...	29	3.0	.2	15	130	<.01	.07	<.01	--	.81	<.20	.33
JUN												
03...	--	--	--	--	--	--	--	--	--	--	--	--
23...	46	5.5	.4	18	182	--	--	--	--	--	--	--
JUL												
16...	50	5.3	.2	19	199	--	--	--	--	--	--	--
AUG												
12...	28	2.9	.2	21	140	<.01	.07	<.01	--	.67	<.20	.35
24...	29	4.2	.2	23	155	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
15...	--	--	--	--	--	--	--	--	--	--	--	--
16...	37	11	.3	21	187	--	--	--	--	--	--	--

08313000 RIO GRANDE AT OTOWI BRIDGE, NEAR SAN ILDEFONSO, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (006666)	PHOS- PHORUS ORTHOS DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (UG/L AS SB) (01095)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)
OCT 21...	--	--	4.7	2.9	30	<1	<1	70	<1	38.3	<1	2
NOV 17...	--	--	3.9	3.3	29	<1	1	69	<1	55.2	<1	1
DEC 15...	--	--	3.3	2.5	9	<1	3	63	<1	63.5	<1	<1
JAN 07...	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	4.6	3.3	13	<1	2	49	<1	59.8	<1	7
FEB 18...	<.03	.02	2.4	1.2	13	<1	2	44	<1	49.7	<1	5
APR 21...	--	--	--	--	--	--	--	--	--	--	--	--
28...	.01	.01	6.9	3.9	4	<1	1	58	<1	36.3	<1	<1.0
MAY 12...	--	--	8.2	5.1	11	<1	<1	51	<1	29.4	<1	<1.0
26...	.03	.02	9.4	4.6	11	<1	<1	43	<1	20.7	<1	<1.0
JUN 03...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	7.4	5.1	18	<1	<1	48	<1	36.5	<1	<1.0
JUL 16...	--	--	5.5	3.8	6	<1	1	62	<1	30.0	<1	<1.0
AUG 12...	.03	.04	6.7	3.4	7	<1	2	43	<1	19.3	<1	--
24...	--	--	5.5	3.1	6	<1	1	41	<1	19.0	<1	<1.0
27...	--	--	--	--	--	--	--	--	--	--	--	--
SEP 15...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	9.4	2.8	4	<1	1	53	<1	E12.9	<1	<1.0

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)
OCT 21...	<1	1	17	<1	3	--	4	<1	--	<1	<1
NOV 17...	<1	1	25	<1	5	--	6	<1	--	<1	<1
DEC 15...	<1	1	16	<1	7	--	6	2	--	<1	<1
JAN 07...	--	--	--	--	--	--	--	--	--	--	--
26...	<1	<1	17	<1	7	--	5	<1	--	<1	<1
FEB 18...	<1	10	16	<1	5	<.1	5	2	<1	<1	<1
APR 21...	--	--	--	--	--	--	--	--	--	--	--
28...	<1	1	10	<1	4	<.1	4	1	<1	<1	<1
MAY 12...	<1	2	17	<1	4	--	3	1	--	<1	<1
26...	<1	1	21	<1	6	<.1	2	<1	<1	<1	<1
JUN 03...	--	--	--	--	--	--	--	--	--	--	--
23...	<1	2	26	<1	2	--	2	<1	--	<1	<1
JUL 16...	<1	1	<10	<1	1	--	4	1	--	<1	<1
AUG 12...	<1	2	12	<1	1	<.1	2	<1	<1	<1	<1
24...	<1	6	E10	<1	2	--	3	<1	--	<1	<1
27...	--	--	--	--	--	--	--	--	--	--	--
SEP 15...	--	--	--	--	--	--	--	--	--	--	--
16...	<1	1	14	<1	1	--	3	<1	--	<1	<1

RIO GRANDE BASIN

08313000 RIO GRANDE AT OTOWI BRIDGE, NEAR SAN ILDEFONSO, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	NITRO- GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N) (00633)	NITRO- GEN, NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	NITRO- GEN, NH4 + ORG. TOT IN BOT MAT (MG/KG AS N) (00626)	PHOS- PHORUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01029)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)
OCT 21...	3	--	--	--	--	--	--	--	--	--	--
NOV 17...	1	--	--	--	--	--	--	--	--	--	--
DEC 15...	2	--	--	--	--	--	--	--	--	--	--
JAN 07...	--	--	--	--	--	--	--	--	--	--	--
26...	1	--	--	--	--	--	--	--	--	--	--
FEB 18...	2	<2	3.9	<20	220	<1	<1	<5	<1	1	1100
APR 21...	--	--	--	--	--	--	--	--	--	--	--
28...	1	--	--	--	--	--	--	--	--	--	--
MAY 12...	3	--	--	--	--	--	--	--	--	--	--
26...	1	--	--	--	--	--	--	--	--	--	--
JUN 03...	--	--	--	--	--	--	--	--	--	--	--
23...	1	--	--	--	--	--	--	--	--	--	--
JUL 16...	<1	--	--	--	--	--	--	--	--	--	--
AUG 12...	3	--	--	--	--	--	--	--	--	--	--
24...	<1	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
SEP 15...	--	--	--	--	--	--	--	--	--	--	--
16...	1	--	--	--	--	--	--	--	--	--	--
DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	RA-226 2 SIGMA WATER, DISS. (PCI/L) (76001)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	URANIUM NATURAL 2 SIGMA WATER, DISS. (UG/L) (75990)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 21...	--	--	--	--	--	--	2	--	608	1450	20
NOV 17...	--	--	--	--	--	--	4	--	543	1100	13
DEC 15...	--	--	--	--	--	--	4	--	163	308	--
JAN 07...	--	--	--	--	--	--	--	--	296	608	--
26...	--	--	--	--	--	--	3	--	410	956	14
FEB 18...	<10	41	<.01	7	--	--	3	--	97	208	31
APR 21...	--	--	--	--	--	--	--	--	1300	4350	--
28...	--	--	--	--	--	--	2	--	658	2170	27
MAY 12...	--	--	--	--	--	--	2	--	2550	19000	--
26...	--	--	--	--	.06	.02	1	.168	1310	17400	19
JUN 03...	--	--	--	--	--	--	--	--	1250	14600	--
23...	--	--	--	--	--	--	1	--	--	--	--
JUL 16...	--	--	--	--	--	--	2	--	305	1110	47
AUG 12...	--	--	--	--	--	--	1	--	809	6120	38
24...	--	--	--	--	.05	.01	1	.274	331	1920	43
27...	--	--	--	--	--	--	--	--	2160	9390	--
SEP 15...	--	--	--	--	--	--	--	--	141	582	--
16...	--	--	--	--	--	--	1	--	1190	5880	71

08313000 RIO GRANDE AT OTOWI BRIDGE, NEAR SAN ILDEFONSO, NM--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1	19800	78600	50800	212000	808	1700	373	828	414	900	322	677
2	6670	14600	14400	42600	397	837	351	788	507	1060	315	661
3	5360	9570	4460	13400	666	1440	301	669	1110	2240	311	659
4	4890	8140	2910	7660	589	1240	287	611	435	874	293	638
5	11900	32900	1810	3820	352	722	330	679	569	1270	297	646
6	47700	152000	1930	3700	316	638	295	625	531	1200	318	702
7	7360	24300	3120	5730	317	634	280	596	849	1970	295	644
8	2690	7320	3660	6540	358	668	253	548	1360	3010	290	637
9	2070	5280	3130	5760	336	554	271	580	891	1940	248	538
10	2740	6980	583	1070	389	611	286	602	944	2130	226	483
11	14800	33900	461	793	427	673	369	776	355	772	264	565
12	9950	22000	449	819	344	508	438	938	421	892	327	722
13	11300	26900	937	1860	378	736	404	885	477	976	273	609
14	11400	26800	1030	1870	448	894	446	949	329	642	308	674
15	11800	24800	652	1190	406	780	489	1030	243	491	348	779
16	12400	26000	572	1110	351	722	342	724	255	521	342	756
17	2890	7000	815	1650	301	628	302	637	431	903	255	537
18	1720	4340	382	773	391	840	387	821	283	574	244	518
19	1290	3180	438	876	439	964	554	1150	218	453	214	433
20	1130	2670	403	834	713	1660	370	806	253	520	248	443
21	1620	3840	337	657	542	1220	393	907	287	609	215	374
22	4180	8110	340	658	649	1380	425	963	279	590	214	371
23	3750	8300	365	716	330	686	427	926	289	600	224	383
24	5530	11000	514	980	404	831	323	688	331	676	263	451
25	6650	13600	401	764	448	937	373	823	281	576	286	518
26	10700	36200	383	753	486	1010	574	1310	296	616	372	701
27	9470	29400	458	951	401	826	286	638	248	497	382	744
28	7420	20400	388	806	329	680	308	659	318	656	314	600
29	9400	31200	345	730	398	838	328	664	---	---	359	673
30	5920	15000	392	870	468	1000	518	1090	---	---	282	552
31	51800	337000	---	---	345	760	423	895	---	---	1100	3350
TOTAL	---	1031330	---	321940	---	27617	---	24805	---	28158	---	21038

DAY	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	930	2680	9500	85100	1020	12100	507	2720	2370	10600	268	1150
2	683	1990	6920	52500	2830	33700	548	2640	5190	26400	254	1150
3	658	1840	4220	32200	1090	12700	306	1390	2590	11500	399	1920
4	1010	2750	4500	38600	600	6500	184	844	2150	10500	579	2640
5	813	2250	2000	15400	694	6500	249	1190	10700	71400	469	2010
6	1850	5060	2740	18900	1950	15700	1080	5410	8150	52000	322	1490
7	1760	5200	6840	44400	1810	14300	3080	13600	2650	18000	1420	7470
8	1160	3470	7270	45400	3800	27300	4290	17800	4310	29400	1380	6670
9	3150	6780	8790	60100	1960	12400	2560	11600	1700	11600	493	2220
10	1370	3730	9440	67200	953	6000	2810	12200	2470	17000	542	2410
11	2200	5780	7900	54300	389	2500	1100	4660	3880	29000	306	1320
12	1380	3560	9590	68900	406	2820	664	2840	4280	31600	515	2220
13	967	2390	2420	19000	421	3160	396	1500	4640	32100	1200	5060
14	986	2250	4980	41600	349	2680	193	697	3840	24500	285	1160
15	557	1210	6970	66900	644	5040	1350	5200	4570	33000	1760	8930
16	553	1180	5150	52400	724	5850	465	1800	5940	38800	5080	25500
17	394	764	1900	19800	1490	13400	2680	12400	3030	17500	6980	37700
18	475	871	3420	36400	2970	28900	3660	16300	1130	6350	2600	10900
19	404	728	3080	32400	3990	38800	1340	4670	2520	15600	1580	6520
20	1810	4650	2220	24100	3880	38300	882	2790	1630	10200	1750	6880
21	724	2340	2300	25300	2880	27900	350	1140	1690	9730	1000	3910
22	1380	4300	2690	30200	5110	46900	519	1800	2660	13100	1140	4580
23	709	1910	2690	31700	3380	26800	600	2280	1530	7940	818	3340
24	482	1210	2460	31000	2410	18000	2140	7990	1570	8920	977	3780
25	602	1740	5040	70200	1430	10600	598	2150	1600	9120	619	2270
26	1740	5410	2930	38600	1400	10600	530	2080	356	1800	980	3790
27	2040	5970	3380	45200	1090	8200	334	1340	255	1150	822	3080
28	1410	4540	2900	38700	1730	11700	278	1120	472	1970	537	1670
29	1600	5620	4270	53600	1050	6540	307	1170	400	1740	280	821
30	3150	18200	3030	36400	1320	7860	348	1330	142	628	246	751
31	---	---	2460	29100	---	---	1180	5020	322	1370	---	---
TOTAL	---	110373	---	1305600	---	463750	---	149671	---	554518	---	163312

YEAR 4202112

08315480 SANTA FE RIVER ABOVE MCCLURE RESERVOIR NEAR SANTA FE, NM

LOCATION.--Lat 35°41'20", long 105°49'25", in NE¹/₄, SE¹/₄, SE¹/₄, sec.24, T.17 N., R. 11 E., Santa Fe County, Hydrologic Unit 13020201, in Santa Fe National Forest, on right bank upstream from flow line of McClure Reservoir, 0.20 mi upstream from McClure Reservoir, 2.3 mi upstream from Nichols Reservoir, and 6.0 mi east of Santa Fe.

PERIOD OF RECORD.--July 1998 to current year.

GAGE.--Water-stage recorder with satellite telemetry with 1 ft and 8 ft Parshall Flume. Elevation of gage is 7,920 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 105 ft³/s, Aug. 8, 1999, gage height, 2.05 ft; minimum daily discharge, .90 ft³/s, Mar. 1-4, 1999.

EXTREMES FOR WATER YEAR 1998.--Maximum discharge, 21 ft³/s, July 30, gage height, 0.70 ft; minimum daily discharge, 2.1 ft³/s, Sept. 28, 29.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 105 ft³/s, Aug. 8, gage height, 2.05; minimum daily discharge, 0.90 ft³/s, Mar. 1-4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	e6.5	13	e8.6
2	---	---	---	---	---	---	---	---	---	6.1	11	e8.3
3	---	---	---	---	---	---	---	---	---	6.1	e11	8.1
4	---	---	---	---	---	---	---	---	---	6.0	e12	7.8
5	---	---	---	---	---	---	---	---	---	5.8	e12	7.5
6	---	---	---	---	---	---	---	---	---	5.7	e13	7.3
7	---	---	---	---	---	---	---	---	---	e5.5	e14	7.2
8	---	---	---	---	---	---	---	---	---	e5.0	14	e6.0
9	---	---	---	---	---	---	---	---	---	e4.4	13	4.3
10	---	---	---	---	---	---	---	---	---	4.4	13	4.2
11	---	---	---	---	---	---	---	---	---	4.4	12	4.1
12	---	---	---	---	---	---	---	---	---	4.4	12	3.8
13	---	---	---	---	---	---	---	---	---	4.0	11	3.6
14	---	---	---	---	---	---	---	---	---	e3.7	11	3.3
15	---	---	---	---	---	---	---	---	---	3.5	10	3.2
16	---	---	---	---	---	---	---	---	---	4.2	9.5	3.2
17	---	---	---	---	---	---	---	---	---	5.2	9.1	3.0
18	---	---	---	---	---	---	---	---	---	4.2	8.7	3.0
19	---	---	---	---	---	---	---	---	---	4.1	8.4	2.8
20	---	---	---	---	---	---	---	---	---	3.6	8.3	2.7
21	---	---	---	---	---	---	---	---	---	3.4	8.2	2.6
22	---	---	---	---	---	---	---	---	---	3.5	7.8	2.5
23	---	---	---	---	---	---	---	---	---	3.7	7.5	2.6
24	---	---	---	---	---	---	---	---	---	3.5	7.2	2.4
25	---	---	---	---	---	---	---	---	---	3.6	8.1	2.4
26	---	---	---	---	---	---	---	---	---	4.8	9.9	2.2
27	---	---	---	---	---	---	---	---	---	7.3	8.3	2.2
28	---	---	---	---	---	---	---	---	---	e9.1	7.9	2.1
29	---	---	---	---	---	---	---	---	---	9.1	8.5	2.1
30	---	---	---	---	---	---	---	---	---	11	8.7	2.6
31	---	---	---	---	---	---	---	---	---	11	8.4	---
TOTAL	---	---	---	---	---	---	---	---	---	166.8	316.5	125.7
MEAN	---	---	---	---	---	---	---	---	---	5.38	10.2	4.19
MAX	---	---	---	---	---	---	---	---	---	11	14	8.6
MIN	---	---	---	---	---	---	---	---	---	3.4	7.2	2.1
AC-FT	---	---	---	---	---	---	---	---	---	331	628	249

08315480 SANTA FE RIVER ABOVE MCCLURE RESERVOIR NEAR SANTA FE, NM--Continued

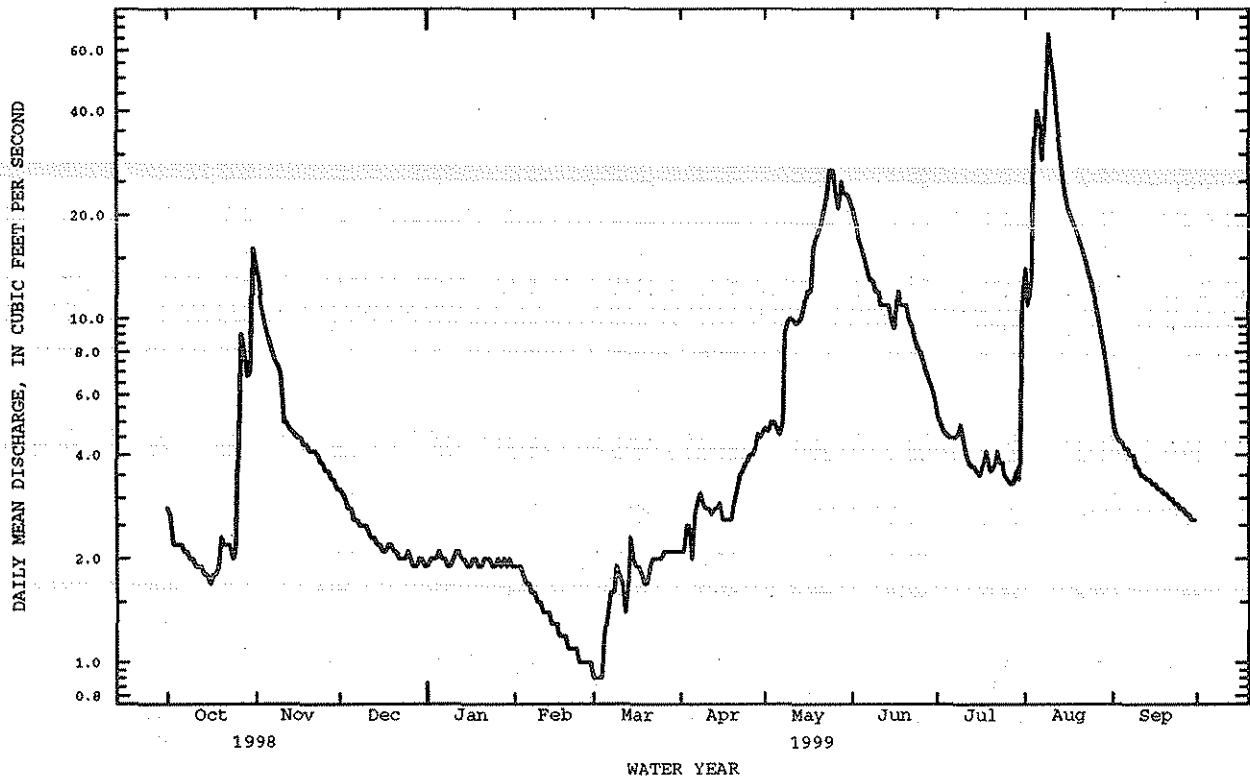
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	14	e3.2	e1.9	e1.9	e.90	2.1	e4.8	21	5.2	14	e5.0
2	2.7	13	e3.1	e2.0	e1.9	e.90	2.1	e4.7	19	5.0	11	e4.6
3	2.2	11	e3.0	e2.0	e1.9	e.90	2.5	e5.0	17	4.7	13	e4.4
4	2.2	10	e2.8	e2.0	e1.8	e.90	2.5	e5.0	16	4.6	31	e4.4
5	2.2	9.2	e2.8	e2.1	e1.7	e1.2	2.0	e4.8	15	4.5	40	e4.2
6	2.2	8.6	e2.6	e2.0	e1.7	e1.4	2.7	e4.6	14	4.5	37	e4.2
7	2.1	8.1	e2.6	e2.0	e1.6	1.6	2.9	e5.0	13	4.5	29	e4.0
8	2.1	7.6	e2.5	e1.9	e1.6	1.6	3.1	9.1	13	4.6	44	e4.0
9	2.0	7.3	e2.5	e1.9	e1.5	1.9	2.9	9.8	12	4.9	67	e3.7
10	2.0	6.9	e2.5	e2.0	e1.5	1.8	2.8	10	12	4.5	57	e3.7
11	1.9	e5.0	e2.4	e2.1	e1.4	1.7	2.8	10	11	4.0	48	e3.5
12	1.9	e5.0	e2.3	e2.1	e1.4	1.4	2.7	9.7	11	3.8	38	e3.5
13	1.9	e4.8	e2.3	e2.0	e1.4	1.7	2.8	9.8	11	3.7	31	e3.4
14	1.8	e4.7	e2.2	e2.0	e1.3	2.3	2.8	10	11	3.7	27	e3.4
15	1.8	e4.6	e2.2	e1.9	e1.3	2.0	2.9	11	9.9	3.6	23	e3.3
16	1.7	e4.5	e2.1	e1.9	e1.3	1.9	2.6	12	9.4	3.5	21	e3.3
17	1.8	e4.5	e2.1	e2.0	e1.2	1.9	2.6	12	12	3.7	20	e3.2
18	1.8	e4.3	e2.2	e2.0	e1.2	1.8	2.6	16	11	4.1	19	e3.2
19	1.9	e4.3	e2.2	e1.9	e1.2	1.7	2.6	17	11	3.8	18	e3.1
20	2.3	e4.1	e2.1	e1.9	e1.1	1.7	2.9	18	11	3.6	e17	e3.1
21	2.2	e4.1	e2.1	e2.0	e1.1	1.9	3.2	19	10	3.7	e16	e3.0
22	2.2	e4.1	e2.0	e2.0	e1.1	2.0	3.5	21	9.6	4.1	e15	e3.0
23	2.2	e4.0	e2.0	e2.0	e1.1	2.0	3.6	23	8.8	3.8	e14	e2.9
24	2.0	e3.8	e2.0	e1.9	e1.0	2.0	3.8	27	8.3	3.8	e13	e2.9
25	2.1	e3.8	e2.1	e1.9	e1.0	2.0	4.0	27	8.0	3.5	e12	e2.8
26	4.0	e3.6	e2.0	e2.0	e1.0	2.1	4.0	23	7.5	3.4	e11	e2.8
27	e9.0	e3.6	e1.9	e1.9	e1.0	2.1	4.2	21	7.0	3.3	e10	e2.7
28	8.1	e3.4	e1.9	e2.0	e1.0	2.1	4.6	25	6.6	3.3	e9.0	e2.7
29	6.8	e3.4	e2.0	e1.9	---	2.1	4.5	23	6.3	3.6	e8.0	e2.6
30	7.0	e3.2	e2.0	e2.0	---	2.1	e4.7	23	5.8	3.4	e7.0	e2.6
31	16	---	e1.9	e1.9	---	2.1	---	22	---	12	e6.0	---
TOTAL	102.9	178.5	71.6	61.1	38.2	53.70	93.0	442.3	338.2	132.4	726.0	103.2
MEAN	3.32	5.95	2.31	1.97	1.36	1.73	3.10	14.3	11.3	4.27	23.4	3.44
MAX	16	14	3.2	2.1	1.9	2.3	4.7	27	21	12	67	5.0
MIN	1.7	3.2	1.9	1.9	1.0	.90	2.0	4.6	5.8	3.3	6.0	2.6
AC-FT	204	354	142	121	76	107	184	877	671	263	1440	205

WTR YR 1999 TOTAL 2341.10 MEAN 6.41 MAX 67 MIN .90 AC-FT 4640

e Estimated

08315480 SANTA FE RIVER ABOVE MCCLURE RESERVOIR NEAR SANTA FE, NM--Continued



08315500 MCCLURE RESERVOIR NEAR SANTA FE, NM

LOCATION.--Lat 35°41'18", long 105°50'06", in NE¹/₄SW¹/₄, sec.24, T.17 N., R.10 E., Santa Fe County, Hydrologic Unit 13020201, in Santa Fe National Forest, at McClure Dam on Santa Fe River, 2.1 mi upstream from Nichols Reservoir, 5.8 mi east of Santa Fe, and at mile 37.1.

DRAINAGE AREA.--17.4 mi².

PERIOD OF RECORD.--September 1929, July to October 1930, April 1931 to June 1946, September 1947 to current year. Prior to October 1947, published in WSP 1312. Prior to October 1965, monthend contents only. Prior to January 1980 at site on outlet tower.

GAGE.--Water-stage recorder. Elevation of gage is 7,790 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1947, nonrecording gages at same site and various datums all referred to the Public Service Co. of New Mexico assumed datum, 165.9 ft lower.

REMARKS.--Reservoir is formed by earthfill dam, completed in 1926, capacity, 561 acre-ft, raised 3 ft in 1935, capacity, 650 acre-ft, and raised 36.5 ft more in 1947, capacity, 2,615 acre-ft at gage height 96.6 ft, crest of concrete spillway. Between October 1947 and May 1953 varying amounts of sandbag bulkheads were placed on crest of spillway to increase capacity. Between May 1953 and December 1971 spillway was equipped with radial gates that opened automatically thereby increasing capacity to over 3,000 acre-ft. Radial gates were removed during 1972, capacity, 2,615 acre-ft. In 1995, modifications to the dam and spillway increased capacity to 3,257 acre-ft. Only the storage of Rio Grande water in excess of 1,061 acre-ft is subject to terms of the Rio Grande Compact. No dead storage. Water is for municipal use of City of Santa Fe.

COOPERATION.--Capacity table and supplementary gage readings, provided by Public Service Co. of New Mexico.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,280 acre-ft, June 8, 1997, gage height, 86.03 ft; no contents Jan. 25 to May 8, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 3,260 acre-ft; Aug. 13-29. Sept. 1-3, 6 and 16-19, gage height, 7,885.82 ft; minimum, 1,670 acre-ft, Oct. 25, gage height, 7862.85 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1910	1750	2040	2160	2240	2280	2360	e2280	2670	e2750	2220	3260
2	1900	1780	2050	2170	2240	2280	2360	e2270	2690	e2680	2230	3260
3	1880	1800	2050	2170	2240	2280	2360	e2260	2710	e2680	2280	3260
4	1870	1810	2060	2170	2240	2290	2380	2260	2730	e2670	2360	3250
5	1850	1830	2070	2170	2240	2290	2370	2250	2740	e2680	2460	3250
6	1840	1840	2070	2180	2250	2290	2380	2240	2750	e2680	2550	3260
7	1830	1850	2070	2180	2250	2290	2380	2230	2760	e2670	2620	3250
8	1820	1860	2080	2180	2250	2290	2390	2230	2770	e2690	2740	3250
9	1810	1870	2080	2180	2250	2290	2390	2220	2770	e2690	2910	3250
10	1800	1870	2090	2190	2250	2300	2390	2220	2770	2690	3040	3250
11	1790	1880	2090	2190	2250	2300	2400	2230	2770	2690	3150	3250
12	1770	1890	2100	2190	2260	2300	2400	2230	2770	2700	3230	3250
13	1750	1900	2100	2190	2260	2310	2400	2230	2780	2700	3260	3250
14	1740	1910	2100	2190	2260	2310	e2390	2240	2780	2710	3260	3250
15	1730	1920	2110	2200	2260	2310	e2380	2250	2780	2710	3260	3250
16	1720	1930	2110	2200	2260	2310	e2380	2260	2780	2700	3260	3260
17	1720	1940	2120	2200	2270	2310	e2380	2270	2790	2670	3260	3260
18	1710	1950	2120	2200	2270	2320	e2380	2280	2800	2650	3260	3260
19	1700	1960	2130	2210	2270	2320	e2370	2300	2800	2630	3260	3260
20	1700	1960	2130	2210	2270	2320	e2360	2320	2810	2610	3260	3250
21	1700	1970	2130	2210	2270	2330	e2370	2340	2810	2580	3260	3250
22	1690	1980	2130	2220	2270	2330	e2360	2370	2810	2560	3260	3250
23	1690	1990	2140	2220	2270	2330	e2360	2380	2810	2540	3260	3250
24	1680	1990	2140	2220	2280	2330	e2350	2390	2800	2520	3260	3250
25	1670	2000	2140	2220	2280	2340	e2340	2470	2790	2500	3260	3250
26	1680	2010	2140	2220	2280	2340	e2320	2500	2790	2450	3260	3250
27	1690	2010	2150	2230	2280	2340	e2320	2530	2780	2400	3260	3250
28	1690	2020	2150	2230	2280	2350	e2320	2560	2770	2340	3260	3250
29	1690	2030	2150	2230	---	2350	e2320	2590	2760	2290	3260	3250
30	1690	2040	2160	2230	---	2350	e2300	2620	2750	2240	3250	3250
31	1730	---	2160	2230	---	2350	---	2650	---	2230	3250	---
MAX	1910	2040	2160	2230	2280	2350	2400	2650	2810	2750	3260	3260
MIN	1670	1750	2040	2160	2240	2280	2300	2220	2670	2230	2220	3250
(+)	7863.83	7868.76	7870.67	7871.79	7872.48	7873.55	---	7877.71	7879.05	7871.72	7885.75	7885.74
(++)	-190	+310	+120	+70	+50	+70	-50	+350	+100	-520	+1020	0

CAL YR 1998 MAX 3190 MIN 1670 (++) +410
WTR YR 1999 MAX 3260 MIN 1670 (++) +1330

e Estimated

(+) ELEVATION, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-FEET

08316000 SANTA FE RIVER NEAR SANTA FE, NM

LOCATION.--Lat 35°41'12", long 105°50'35", in NE¹/₄SE¹/₄ sec.23, T.17 N., R.10 E., Santa Fe County, Hydrologic Unit 13020201, in Santa Fe National Forest, on left bank 0.4 mi downstream from McClure Dam, 5.3 mi east of Santa Fe, and at mile 36.6.

DRAINAGE AREA.--18.2 mi².

PERIOD OF RECORD.--June 1910, January 1913 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to October 1953, published as "Santa Fe Creek near Santa Fe."

REVISED RECORDS.--WSP 1512: 1933, 1936-37(M), 1942, drainage area. WSP 1732: 1923, 1925. WDR NM-75-1: 1927.

GAGE.--Water-stage recorder with satellite telemetry and concrete control. Elevation of gage is 7,720 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1312 for history of changes prior to Oct. 1, 1947.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by McClure Reservoir (station 08315500), completed in 1926, raised in 1935 1947, and again in 1989. Several observations of water temperature were made during year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Peaks which probably exceeded 1,000 ft³/s occurred Aug. 19, 1872, and Sept. 29 or 30, 1904. Without regulation the flood of Sept. 23, 1929, might have exceeded 1,500 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	6.5	e.39	.50	.68	.50	.47	16	10	9.5	30	5.8
2	11	6.1	e.39	.50	.69	.50	.50	16	10	9.5	12	8.0
3	11	5.0	e.39	.49	.68	.50	e.47	16	10	9.5	1.7	8.5
4	11	3.2	e.38	1.1	.69	.50	.46	16	10	9.2	2.0	6.1
5	11	2.3	e.38	.50	.68	.50	.51	16	10	9.1	2.2	5.3
6	11	2.3	e.38	.50	.68	.50	.47	12	10	9.1	2.4	7.3
7	11	2.3	e.38	.50	.68	.51	.48	12	10	9.1	2.2	6.3
8	11	2.3	.44	.50	.68	.51	.49	12	10	3.9	2.4	5.0
9	10	2.3	.48	.50	.68	.50	.48	12	10	.90	2.9	4.9
10	10	1.7	.40	.50	e.66	.50	.48	12	10	.89	1.9	4.6
11	10	.67	.40	.50	e.70	.50	.48	10	10	.93	1.2	4.0
12	7.7	.62	.41	.52	e.90	.56	.50	9.1	10	.99	.96	4.4
13	5.7	.60	.39	.59	e.59	e.51	2.4	9.2	10	.97	19	4.3
14	5.7	.59	.40	.60	e.59	e.50	4.4	9.2	10	.98	31	4.2
15	5.7	.59	.39	.59	e.59	.50	4.4	9.1	10	.99	27	4.1
16	5.7	.59	.39	.59	.59	.50	4.4	9.2	10	9.3	23	4.4
17	5.7	.59	.39	.59	.59	.50	4.4	9.2	10	15	20	8.1
18	5.8	.59	.39	.59	.59	.53	4.4	9.1	10	15	18	5.8
19	5.9	.59	.39	.59	.59	.50	4.5	9.3	10	15	16	4.6
20	6.0	.59	.39	.59	.59	.52	2.7	9.5	10	15	15	4.1
21	6.0	.58	.37	.62	.59	.52	5.5	9.7	10	14	14	3.8
22	5.7	e.43	.60	.59	.59	.53	8.6	9.8	10	14	12	3.6
23	5.7	e.42	e.62	.59	.59	.53	8.6	9.9	10	15	11	3.6
24	5.7	e.42	e1.2	.59	.59	.55	8.7	10	10	15	10	3.6
25	5.7	e.42	.58	.59	.52	.46	8.6	10	9.8	15	9.4	3.3
26	5.9	e.41	.50	.59	.50	.48	8.5	10	9.7	23	9.0	3.1
27	6.1	e.41	.50	e.66	.50	.49	5.3	10	9.7	31	8.4	2.9
28	6.0	e.40	.50	e.66	.50	.47	3.1	10	9.6	30	7.9	2.6
29	5.9	e.40	.50	e.66	---	.46	12	10	9.6	30	7.4	2.4
30	6.0	e.40	.50	e.67	---	.47	16	10	9.6	30	6.7	2.5
31	6.8	---	.50	e.68	---	.46	---	10	---	30	6.5	---
TOTAL	236.4	44.31	14.32	18.24	17.50	15.56	122.29	342.3	298.0	391.85	333.16	141.2
MEAN	7.63	1.48	.46	.59	.62	.50	4.08	11.0	9.93	12.6	10.7	4.71
MAX	11	6.5	1.2	1.1	.90	.56	16	16	10	31	31	8.5
MIN	5.7	.40	.37	.49	.50	.46	.46	9.1	9.6	.89	.96	2.4
AC-FT	469	88	28	36	35	31	243	679	591	777	661	280

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1999, BY WATER YEAR (WY)

MEAN	4.75	2.95	2.52	2.34	2.64	4.79	12.6	23.3	17.6	9.50	8.51	6.87
MAX	22.6	13.5	7.19	6.87	14.2	30.0	68.5	92.9	75.2	56.2	74.0	36.0
(WY)	1942	1942	1959	1970	1916	1916	1915	1941	1921	1919	1921	1929
MIN	.58	.20	.22	.20	.25	.34	.23	.53	.70	1.06	.81	.90
(WY)	1957	1997	1997	1997	1997	1972	1981	1955	1955	1981	1951	1959

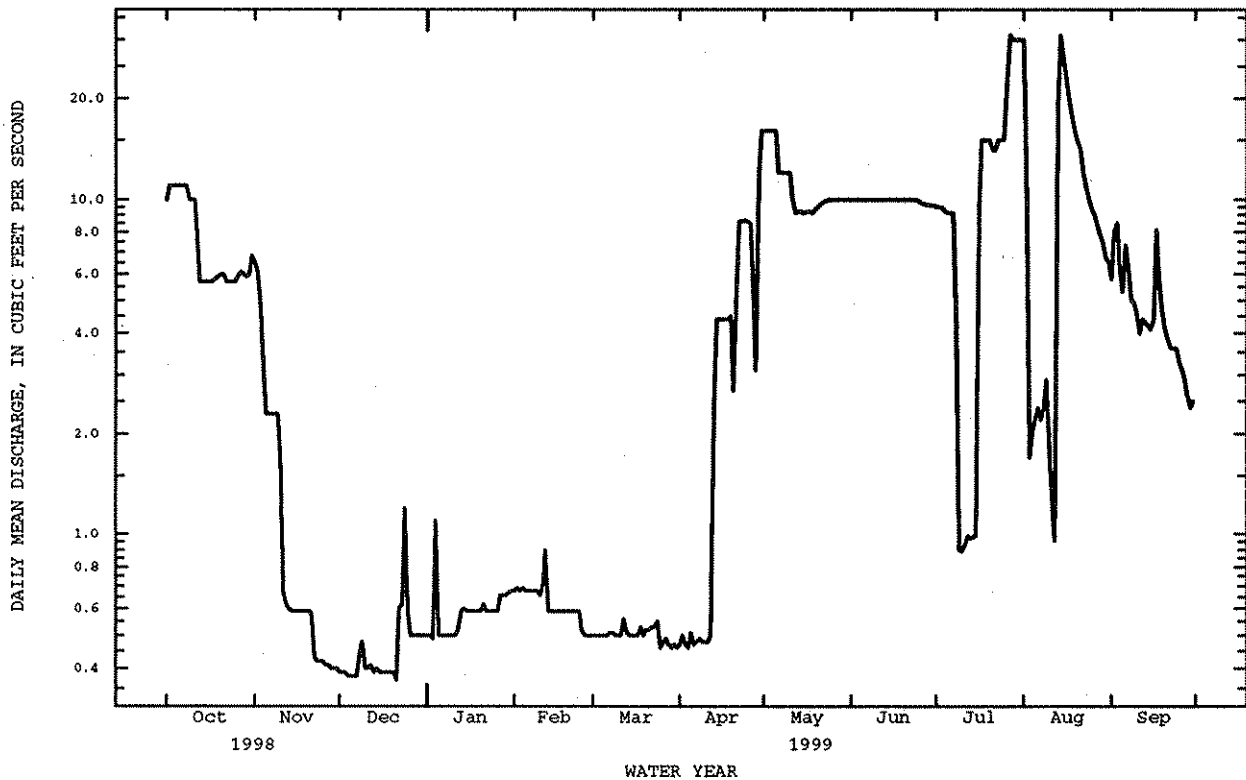
08316000 SANTA FE RIVER NEAR SANTA FE, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1913 - 1999
ANNUAL TOTAL	3042.43	1975.13	
ANNUAL MEAN	8.34	5.41	8.20
HIGHEST ANNUAL MEAN			26.2
LOWEST ANNUAL MEAN			1.88
HIGHEST DAILY MEAN	29 Apr 3	31 Jul 27	378 Sep 23 1929
LOWEST DAILY MEAN	.37 Dec 21	.37 Dec 21	.10 Feb 7 1927
ANNUAL SEVEN-DAY MINIMUM	.38 Dec 1	.38 Dec 1	.16 Nov 16 1996
INSTANTANEOUS PEAK FLOW		35 Jul 31	^a 1500 Aug 14 1921
INSTANTANEOUS PEAK STAGE		2.34 Jul 31	^b 5.17 Aug 14 1921
INSTANTANEOUS LOW FLOW		.28 Dec 21	.05 Apr 7 1981
ANNUAL RUNOFF (AC-FT)	6030	3920	5940
10 PERCENT EXCEEDS	17	12	18
50 PERCENT EXCEEDS	10	3.1	4.2
90 PERCENT EXCEEDS	.55	.47	1.0

e Estimated

a From rating curve extended above 150 ft³/s.

b Site and datum then in use.



08316500 NICHOLS RESERVOIR NEAR SANTA FE, NM

LOCATION.--Lat 35°41'24", long 105°52'46", in SE¹/₄NE¹/₄ sec.21, T.17 N., R.10 E., Santa Fe County, Hydrologic Unit 13020201, in Santa Fe National Forest, at Nichols Dam on Santa Fe River, 0.6 mi east of Twomile Reservoir, 3.3 mi east of Santa Fe, and at mile 34.4.

DRAINAGE AREA.--22.8 mi².

PERIOD OF RECORD.--March 1943 to September 1965 (monthend contents only), October 1965 to current year. Prior to January 1980 at site on outlet tower.

GAGE.--Water-stage recorder. Datum of gage is 7,313.2 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earthfill dam. No contents prior to Mar. 16, 1943. Capacity, 685 acre-ft between gage heights 121.2 ft, bottom of lower operational gate and 167.0 ft, crest of spillway. Dead storage, 14 acre-ft. Water is for municipal use of City of Santa Fe.

COOPERATION.--Survey to compute capacity table and supplementary gage readings, provided by Public Service Co. of New Mexico.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 836 acre-ft, June 8, 1952, gage height, 171.8 ft; minimum, 16 acre-ft, Feb. 11 to Mar. 10, 1944, Feb. 1-19, 1948.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 636 acre-ft, Aug. 2; maximum gage height, 165.36 ft; minimum, 144 acre-ft, Sept. 30, gage height, 140.36 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	389	513	477	385	e350	292	250	303	566	509	612	500
2	396	531	473	385	e348	290	241	326	566	496	636	491
3	402	546	469	385	e345	288	236	351	564	482	631	485
4	405	555	465	386	343	286	221	378	559	473	622	484
5	411	561	460	e387	341	284	214	408	553	467	607	478
6	417	566	456	e388	340	282	213	429	548	467	592	468
7	423	570	451	e387	339	281	213	441	544	466	578	457
8	429	574	446	e385	337	279	212	453	539	458	562	451
9	435	575	442	e382	336	278	210	465	533	445	552	436
10	440	564	436	e379	335	276	209	476	528	422	537	421
11	445	556	432	e379	335	274	205	483	522	400	520	404
12	446	549	427	e379	332	273	197	488	517	380	504	386
13	443	546	422	e377	331	272	192	493	512	361	508	370
14	438	543	417	e377	329	271	193	498	511	338	537	356
15	428	540	412	e373	327	270	193	500	512	317	562	341
16	419	537	407	e372	325	267	193	500	520	306	581	326
17	409	533	405	e371	323	267	193	501	530	305	597	320
18	402	530	403	e369	321	267	193	499	537	316	604	313
19	402	526	402	e367	317	266	193	496	542	332	611	306
20	407	522	400	e365	312	265	190	489	552	346	609	298
21	411	517	398	e365	309	265	189	483	567	359	605	289
22	415	513	396	e365	308	264	195	478	576	371	602	278
23	419	509	394	e362	307	263	200	477	576	378	598	269
24	422	504	392	e362	303	263	209	492	571	380	593	257
25	429	500	391	e360	301	262	220	506	563	383	586	238
26	439	496	389	e358	297	261	231	519	546	403	579	219
27	451	491	387	e358	295	260	241	530	538	440	567	200
28	459	487	385	e356	294	259	241	543	531	472	552	183
29	468	484	384	e352	---	259	255	556	525	506	540	164
30	478	481	384	e351	---	258	278	564	519	540	528	144
31	503	---	384	e351	---	257	---	565	---	575	515	---
MAX	503	575	477	388	350	292	278	565	576	575	636	500
MIN	389	481	384	351	294	257	189	303	511	305	504	144
(+)	160.43	159.55	159.38	---	150.76	148.54	149.92	162.75	161.03	163.14	160.89	140.36
(++)	+113	-22	-97	-33	-57	-37	+21	+287	-46	+56	-60	-371

CAL YR 1998 MAX 692 MIN 338 (++) -201
WTR YR 1999 MAX 636 MIN 144 (++) -246

e Estimated

(+) GAGE HEIGHT, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-Feet

08316505 SANTA FE RIVER BELOW NICHOLS RESERVOIR NEAR SANTA FE, NM

LOCATION.--Lat 35°41'22", long 105°52'55", in SE¹/₄SW¹/₄SE¹/₄, sec.21, T.17 N., R.10 E., Santa Fe County, Hydrologic Unit 1302020, in Santa Fe National Forest, on right bank 0.12 mi downstream from Nichols Reservoir, 4.4 mi downstream from Two Mile Reservoir, and 3.1 mi east of Santa Fe. *Two Mile Reservoir*

PERIOD OF RECORD.--May 1998 to September 1999 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 7,460 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by Nichols Reservoir (08316500).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 194 ft³/s, July 3, 1999, gage height, 1.91 ft; no flow during some days.

EXTREMES FOR WATER YEAR 1998.--Maximum discharge, 22 ft³/s, June 5, gage height, 1.36 ft; minimum, no flow during some days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 194 ft³/s, July 3, gage height, 1.91 ft; minimum, no flow during some days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	3.7	2.8	1.4	.01
2	---	---	---	---	---	---	---	---	3.5	1.1	1.0	.01
3	---	---	---	---	---	---	---	---	3.1	.23	.01	.01
4	---	---	---	---	---	---	---	---	6.9	5.2	.01	.01
5	---	---	---	---	---	---	---	---	18	4.7	.01	1.9
6	---	---	---	---	---	---	---	---	18	.05	.01	2.2
7	---	---	---	---	---	---	---	---	14	.06	.01	2.8
8	---	---	---	---	---	---	---	---	.80	.06	7.2	1.5
9	---	---	---	---	---	---	---	---	.03	.09	1.1	.01
10	---	---	---	---	---	---	---	---	.13	.06	2.0	.01
11	---	---	---	---	---	---	---	---	.14	3.8	1.7	.01
12	---	---	---	---	---	---	---	---	.32	5.3	.17	3.2
13	---	---	---	---	---	---	---	---	.73	5.4	.01	.95
14	---	---	---	---	---	---	---	---	.72	5.8	.01	.01
15	---	---	---	---	---	---	---	---	.18	1.6	.01	.01
16	---	---	---	---	---	---	---	---	.05	.04	1.0	.01
17	---	---	---	---	---	---	---	---	.06	.04	.01	.01
18	---	---	---	---	---	---	---	---	.06	3.8	.01	1.5
19	---	---	---	---	---	---	---	---	.75	8.2	.01	5.1
20	---	---	---	---	---	---	---	---	3.0	.33	.01	1.1
21	---	---	---	---	---	---	---	---	2.7	.31	.01	4.1
22	---	---	---	---	---	---	---	7.9	5.7	1.6	.71	1.3
23	---	---	---	---	---	---	---	7.5	6.1	.49	.52	.01
24	---	---	---	---	---	---	---	7.5	1.6	.03	1.4	.01
25	---	---	---	---	---	---	---	6.7	.05	7.0	2.7	.01
26	---	---	---	---	---	---	---	6.7	.11	.10	2.8	4.0
27	---	---	---	---	---	---	---	6.0	4.9	1.6	.01	.68
28	---	---	---	---	---	---	---	4.9	2.1	.02	.01	.01
29	---	---	---	---	---	---	---	4.3	5.2	.01	3.9	.01
30	---	---	---	---	---	---	---	3.8	4.8	.01	.65	.01
31	---	---	---	---	---	---	---	3.8	---	.01	.02	---
TOTAL	---	---	---	---	---	---	---	---	107.43	59.84	28.42	30.50
MEAN	---	---	---	---	---	---	---	---	3.58	1.93	.92	1.02
MAX	---	---	---	---	---	---	---	---	18	8.2	7.2	5.1
MIN	---	---	---	---	---	---	---	---	.03	.01	.01	.01
AC-FT	---	---	---	---	---	---	---	---	213	119	56	60

RIO GRANDE BASIN

08316505 SANTA FE RIVER BELOW NICHOLS RESERVOIR NEAR SANTA FE, NM--Continued

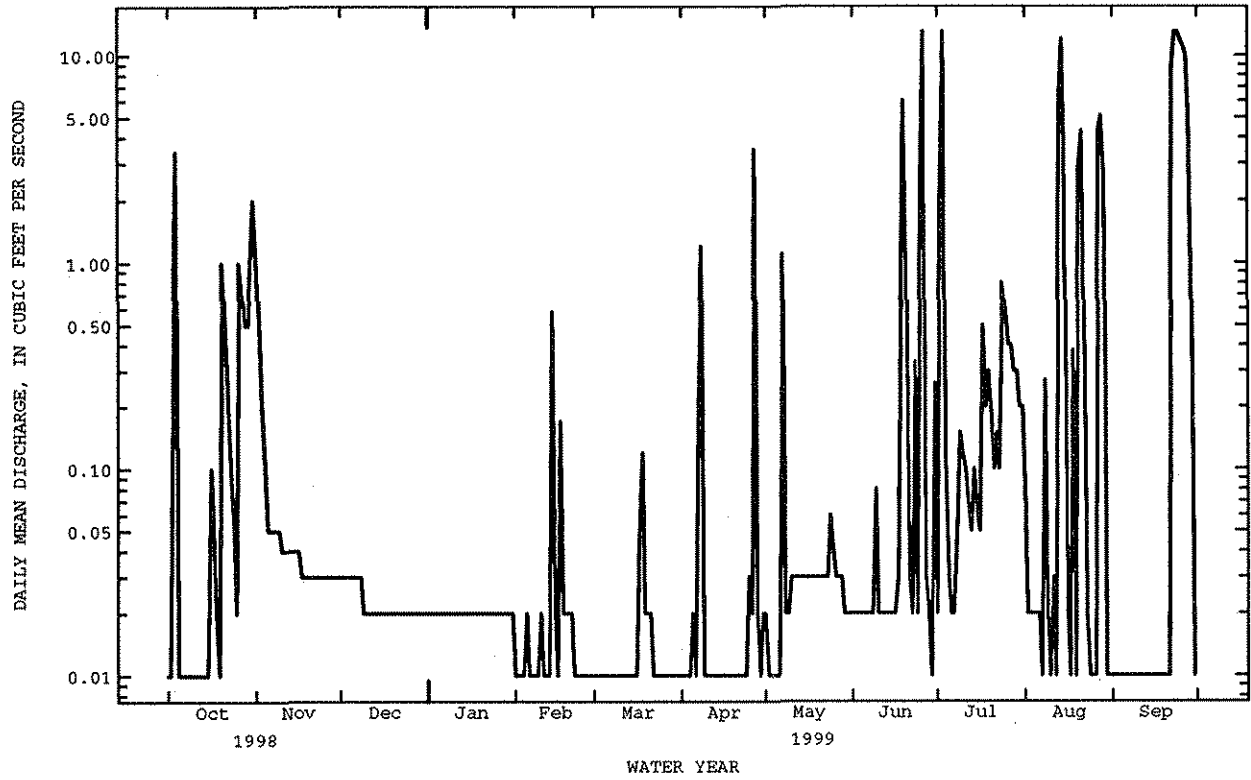
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	e1.0	e.03	e.02	e.01	.01	.01	.02	.02	.02	.08	e.01
2	.01	e.50	e.03	e.02	e.01	.01	.01	.01	.02	1.9	.02	e.01
3	.50	e.20	e.03	e.02	.01	.01	.01	.01	.02	13	.02	.01
4	3.4	e.10	e.03	e.02	.01	.01	.01	.01	.02	.11	.02	.01
5	.01	e.05	e.03	e.02	.02	.01	.02	.01	.02	.03	.02	e.01
6	.01	e.05	e.03	e.02	.01	.01	.01	.01	.02	.02	.02	.01
7	e.01	e.05	e.03	e.02	.01	.01	.20	1.1	.02	.02	.01	.01
8	e.01	e.05	e.03	e.02	.01	.01	1.2	.02	.02	e.05	.27	.01
9	e.01	e.05	e.02	e.02	.01	.01	.01	.02	.08	e.15	.02	.01
10	e.01	e.04	e.02	e.02	.02	.01	.01	.03	.02	e.12	.01	.01
11	e.01	e.04	e.02	e.02	.01	.01	.01	.03	.02	e.10	.03	.01
12	e.01	e.04	e.02	e.02	.01	.01	.01	.03	.02	e.07	.01	.01
13	e.01	e.04	e.02	e.02	.01	.01	.01	.03	.02	e.05	6.4	.01
14	e.01	e.04	e.02	e.02	.58	.01	.01	.03	.02	e.10	12	.01
15	e.01	e.04	e.02	e.02	.02	.01	.01	.03	.02	e.07	3.4	.01
16	e.10	e.04	e.02	e.02	.01	.01	.01	.03	.02	e.05	.02	.01
17	e.05	e.03	e.02	e.02	.17	.05	.01	.03	.03	e.50	.01	.01
18	e.02	e.03	e.02	e.02	.02	.12	.01	.03	.53	e.20	.38	.01
19	e.01	e.03	e.02	e.02	.02	.02	.01	.03	6.0	e.30	.01	.01
20	e1.0	e.03	e.02	e.02	.02	.02	.01	.03	.82	e.20	2.8	.01
21	e.50	e.03	e.02	e.02	.02	.02	.01	.03	.03	e.10	4.3	.01
22	e.20	e.03	e.02	e.02	.01	.01	.01	.03	.02	e.15	.49	8.7
23	e.10	e.03	e.02	e.02	.01	.01	.01	.03	.33	e.10	.02	13
24	e.05	e.03	e.02	e.02	.01	.01	.01	.06	.02	e.80	.01	13
25	e.02	e.03	e.02	e.02	.01	.01	.03	.04	2.4	e.60	.01	12
26	e1.0	e.03	e.02	e.02	.01	.01	.02	.03	13	e.40	.01	11
27	e.70	e.03	e.02	e.02	.01	.01	3.5	.03	.03	e.40	4.3	10
28	e.50	e.03	e.02	e.02	.01	.01	.02	.03	.02	e.30	5.1	5.0
29	e.50	e.03	e.02	e.02	---	.01	.01	.02	.01	e.30	2.6	.53
30	e1.0	e.03	e.02	e.02	---	.01	.02	.02	.26	e.20	.01	.01
31	e2.0	---	e.02	e.02	---	.01	---	.02	---	e.20	e.01	---
TOTAL	11.78	2.75	0.70	0.62	1.08	0.49	5.23	1.88	23.88	20.61	42.41	73.45
MEAN	.38	.092	.023	.020	.039	.016	.17	.061	.80	.66	1.37	2.45
MAX	3.4	1.0	.03	.02	.58	.12	3.5	1.1	13	13	12	13
MIN	.01	.03	.02	.02	.01	.01	.01	.01	.01	.02	.01	.01
AC-FT	23	5.5	1.4	1.2	2.1	1.0	10	3.7	47	41	84	146

WTR YR 1999 TOTAL 184.88 MEAN .51 MAX 13 MIN .01 AC-FT 367

e Estimated

08316505 SANTA FE RIVER BELOW NICHOLS RESERVOIR NEAR SANTA FE, NM--Continued



LOCATION.--Lat 35°41'19", long 105°57'02", Santa Fe County, Hydrologic Unit 13020201, on left bank 0.15 mi upstream from St. Francis Dr, 0.20 mi southwest of Cerrillos Rd, and 4.1 mi downstream from Two Mile Reservoir.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by Two Mile Reservoir and McClure Reservoir (08315500).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24 ft³/s, May 24, gage height 5.69 ft; minimum, no flow most of time.

[illegible]

08316530 SANTA FE RIVER ABOVE ST. FRANCIS DR, AT SANTA FE, NM--Continued

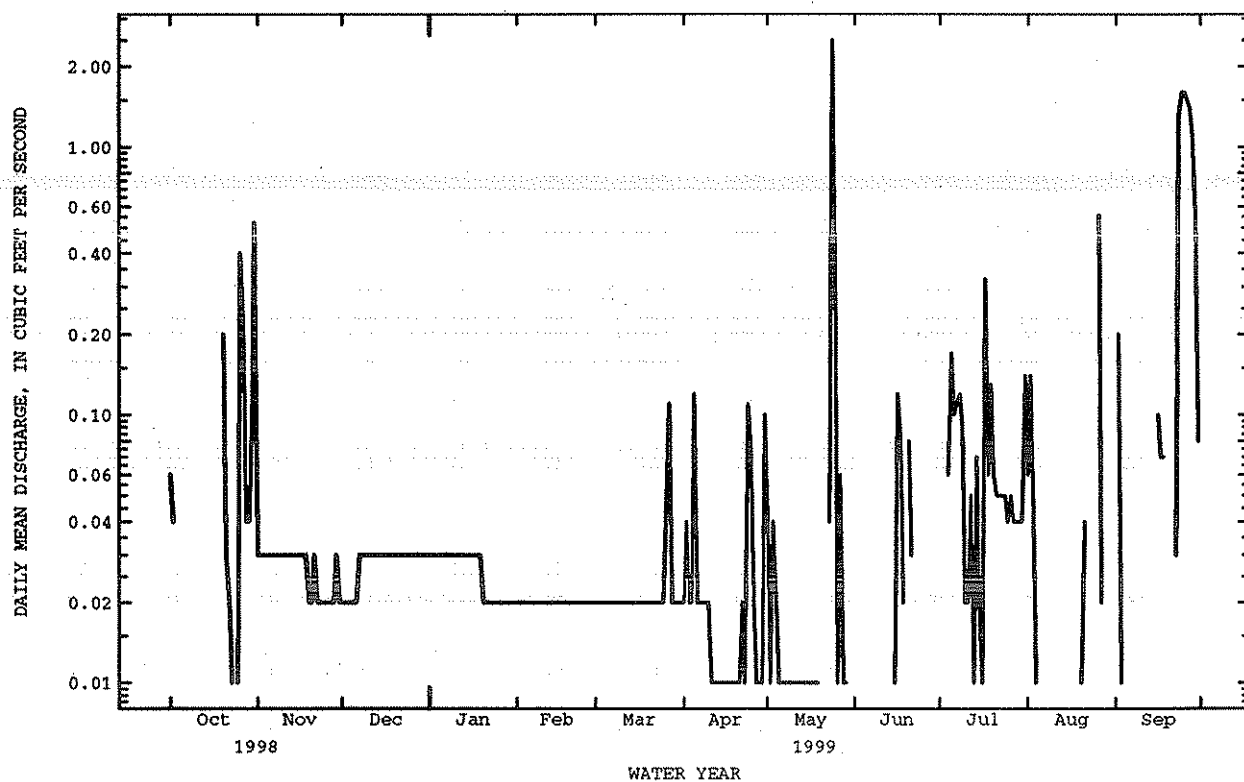
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.03	.02	.03	.02	.02	.02	.05	.00	.00	.06	.00
2	.04	.03	.02	.03	.02	.02	.04	.01	.00	.00	.14	.20
3	.00	.03	.02	.03	.02	.02	.02	.04	.00	.00	.04	.01
4	.00	.03	.02	.03	.02	.02	.02	.02	.00	.06	.01	.00
5	.00	.03	.02	.03	.02	.02	.12	.01	.00	.17	.00	.00
6	.00	.03	.02	.03	.02	.02	.02	.01	.00	.10	.03	.03
7	.00	.03	.03	.03	.02	.02	.02	.01	.00	.11	.00	.00
8	.00	.03	.03	.03	.02	.02	.02	.01	.00	.12	.00	.01
9	.00	.03	.03	.03	.02	.02	.02	.01	.00	.09	.00	.00
10	.00	.03	.03	.03	.02	.02	.02	.01	.00	.02	.01	.00
11	.00	.03	.03	.03	.02	.02	.01	.01	.00	.02	.00	.00
12	.00	.03	.03	.03	.02	.02	.01	.01	.00	.05	.00	.00
13	.00	.03	.03	.03	.02	.02	.01	.01	.00	.01	.00	.00
14	.00	.03	.03	.03	.02	.02	.01	.01	.00	.07	.01	.00
15	.00	.03	.03	.03	.02	.02	.01	.01	.01	.02	.00	.00
16	.05	.03	.03	.03	.02	.02	.01	.01	.12	.01	.00	.10
17	.00	.03	.03	.03	.02	.02	.01	.01	.08	.32	.00	.07
18	.00	.03	.03	.03	.02	.02	.01	.01	.02	.06	.00	.07
19	.00	.02	.03	.03	.02	.02	.01	.01	.00	.13	.00	.00
20	.20	.02	.03	.02	.02	.02	.01	e.00	.08	.06	.01	.00
21	.03	.03	.03	.02	.02	.02	.01	e.00	.03	.05	.04	.00
22	.02	.02	.03	.02	.02	.02	.02	e.00	.00	.05	.00	.03
23	.01	.02	.03	.02	.02	.02	.01	.04	.00	.05	.01	1.3
24	.00	.02	.03	.02	.02	.02	.11	2.5	.00	.05	.00	1.6
25	.01	.02	.03	.02	.02	.02	.08	.36	.00	.04	.00	1.6
26	.40	.02	.03	.02	.02	.05	.02	.01	.00	.05	.56	1.5
27	.22	.02	.03	.02	.02	.11	.01	.06	.00	.04	.02	1.4
28	.04	.02	.03	.02	.02	.02	.01	.01	.00	.04	.00	1.1
29	.04	.03	.03	.02	---	.02	.01	.01	.00	.04	.01	.55
30	.09	.02	.03	.02	---	.02	.10	.00	.00	.04	.00	.08
31	.52	---	.03	.02	---	.02	---	.00	---	.14	.00	---
TOTAL	1.73	0.80	0.87	0.81	0.56	0.74	0.80	3.26	0.34	2.01	0.95	9.65
MEAN	.056	.027	.028	.026	.020	.024	.027	.11	.011	.065	.031	.32
MAX	.52	.03	.03	.03	.02	.11	.12	2.5	.12	.32	.56	1.6
MIN	.00	.02	.02	.02	.02	.02	.01	.00	.00	.00	.00	.00
AC-FT	3.4	1.6	1.7	1.6	1.1	1.5	1.6	6.5	.7	4.0	1.9	19

WTR YR 1999 TOTAL 22.52 MEAN .062 MAX 2.5 MIN .00 AC-FT 45

e Estimated

08316530 SANTA FE RIVER ABOVE ST. FRANCIS DR, AT SANTA FE, NM--Continued



08316535 SANTA FE RIVER AT RICARDO ROAD AT SANTA FE, NM

LOCATION.---Lat 35°40'44", long 105°58'27", in Santa Fe County, Hydrologic Unit 13020201, on right bank 0.16 mi south of Ricardo Rd, 0.76 mi to St. Francis Dr, and 4.9 mi downstream from Two Mile Reservoir.

PERIOD OF RECORD.---October 1998 to September 1999 (discontinued).

GAGE.---Water-stage recorder. Elevation of gage is 6,790 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.---Records poor. Flow regulated by Two Mile Reservoir and Nichols Reservoir.

EXTREMES FOR PERIOD OF RECORD.---Maximum discharge, 157 ft³/s, June 17, 1999, gage height, 5.24 ft, on basis of step-backwater analysis of channel; no flow most of time.

EXTREMES FOR CURRENT YEAR.---Maximum discharge, 157 ft³/s, June 17, gage height, 5.24 ft, on basis of step-backwater analysis of channel; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.10	e.60	.01	e.00	e.00	e.00	e.00	.01	.00	.00	e.00	.36
2	e.20	e.10	.01	e.00	e.00	e.00	e.00	.00	.00	.00	e1.0	2.7
3	e.10	e.03	.01	e.00	e.00	e.00	e.00	.01	e.01	.00	20	.29
4	e.04	e.02	.01	e.00	e.00	.00	e.00	.01	.00	.00	6.2	.15
5	e.01	e.01	.01	e.01	e.00	.00	e.02	.01	.00	.68	1.3	.12
6	e.00	e.01	.01	.02	e.00	.00	.01	.01	.00	.10	.93	.22
7	e.00	e.01	.01	.01	e.00	.00	.00	.01	.00	.01	.25	.18
8	e.00	e.00	.01	.01	e.00	e.00	.00	.01	.00	.01	.08	e.14
9	e.00	e.00	.01	.00	e.00	e.00	.00	.01	.00	.01	.05	.10
10	e.00	e.00	.08	.00	e.00	e.00	.00	.02	.00	.01	.03	.11
11	e.01	e.00	.02	.01	e.00	e.00	.00	.02	.00	.01	.03	.10
12	e.04	e.00	e.01	.00	e.00	e.02	.00	.02	.00	.00	.02	.12
13	e.02	e.00	e.02	.00	.00	e.01	.00	.02	.00	.00	.01	.18
14	e.01	e.00	e.01	.00	.00	e.00	.00	.03	.00	.00	.01	.22
15	e.01	e.00	e.01	.00	.00	e.00	.00	.03	.00	.00	.00	e.10
16	e.00	e.00	e.01	.00	.00	e.00	.00	.03	12	.00	.00	e.10
17	e.00	e.00	e.00	.00	.00	e.00	.00	.04	17	.02	.00	.95
18	e.00	e.00	e.00	.00	.00	e.02	.00	.04	6.1	.02	.00	.10
19	e.10	e.00	e.00	.00	.00	e.01	.00	.04	.48	.01	.00	.04
20	e.50	e.00	e.00	.00	.01	e.00	.00	.05	e.50	.00	.00	.00
21	e.20	e.00	e.00	.02	.01	e.00	.00	.05	7.0	.00	.00	.00
22	e.03	e.00	e.00	e.01	e.01	e.00	.00	.02	1.2	.00	.00	e.00
23	e.02	e.00	e.00	.00	.00	e.01	.00	.01	.38	.00	.00	e.10
24	e.01	.00	.00	.00	.00	e.00	e.03	1.2	.17	.00	.00	.15
25	e.02	.00	.01	e.00	.00	e.00	.02	.06	.05	.00	.00	.17
26	e.45	.00	.01	e.00	e.00	e.00	.00	.00	.02	e.00	e1.0	1.8
27	e.60	.00	e.01	e.00	e.00	e.00	.00	.15	.01	e.00	.40	4.2
28	e.25	.00	e.01	e.00	e.00	e.00	e.00	.01	e.01	e.00	.36	3.8
29	e.06	.02	e.01	e.00	---	e.00	e.00	.00	.00	e.00	.27	2.4
30	e.70	.00	e.00	e.00	---	e.00	e.02	.00	.00	e.00	.29	.01
31	e.80	---	e.00	e.00	---	e.00	---	.00	---	e.00	.04	---
TOTAL	4.28	0.80	0.30	0.09	0.03	0.07	0.10	1.92	44.93	0.88	32.27	18.91
MEAN	.14	.027	.010	.003	.001	.002	.003	.062	1.50	.028	1.04	.63
MAX	.80	.60	.08	.02	.01	.02	.03	1.2	17	.68	20	4.2
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	8.5	1.6	.6	.2	.06	.1	.2	3.8	89	1.7	64	38

WTR YR 1999 TOTAL 104.58 MEAN .29 MAX 20 MIN .00 AC-FT 207

e Estimated

08317200 SANTA FE RIVER ABOVE COCHITI LAKE, NM

LOCATION.--Lat 35°32'49", long 106°13'41", in NW¹/₄ sec.8, T.15 N., R.7 E., Santa Fe County, Hydrologic Unit 13020201 in Mesita de Juana Lopez Grant, on right bank at foot of La Bajada Hill, 5.0 mi upstream from Cochiti Dam, 6.3 mi east of Pena Blanca, and at mile 7.9.

DRAINAGE AREA.--231 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1970 to September 1999 (discontinued).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 5,505 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water-discharge records good. Surface and ground-water diversions and returns for municipal supply of City of Santa Fe in upper part of basin. Diversions for irrigation of about 400 acres upstream from station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	17	11	13	10	11	6.7	11	9.7	5.1	7.2	5.2
2	7.8	11	12	13	10	9.7	8.3	9.8	7.6	5.8	6.9	5.3
3	7.2	9.6	12	13	11	8.2	8.6	8.9	6.9	5.1	18	8.2
4	6.7	10	12	14	11	7.8	8.8	8.7	7.2	5.0	22	6.1
5	6.7	11	12	13	11	8.3	9.1	8.5	6.5	4.8	11	5.5
6	e5.8	10	12	12	11	7.6	9.0	9.7	6.6	5.8	11	4.8
7	e4.2	10	13	12	11	8.5	8.6	9.4	6.7	5.8	10	5.0
8	e5.2	10	13	12	11	9.8	8.4	8.0	6.3	7.1	10	4.6
9	e6.6	11	13	12	11	10	7.9	8.8	6.2	9.8	10	5.2
10	e5.2	11	13	12	10	9.9	8.3	7.7	6.0	7.9	8.7	4.6
11	e5.1	11	13	12	12	9.5	8.1	8.3	5.7	6.8	9.3	4.9
12	e5.0	11	13	12	12	11	8.3	8.1	5.6	5.6	8.5	5.1
13	e4.9	11	13	10	12	11	8.0	8.0	5.4	4.5	6.8	5.0
14	e4.5	11	13	10	12	11	7.4	6.7	5.2	4.3	6.3	5.1
15	e5.3	11	13	11	13	10	7.4	6.7	5.2	6.2	7.5	5.2
16	e6.8	11	13	11	13	9.3	7.4	6.6	6.0	6.1	6.5	5.4
17	e5.5	11	13	11	12	9.2	7.1	6.4	13	5.4	5.9	6.0
18	e5.8	11	13	11	9.7	11	7.1	6.4	17	7.3	5.9	7.1
19	e6.1	10	13	11	11	11	7.2	6.6	11	6.3	6.3	6.3
20	e5.9	9.6	13	11	12	11	7.3	6.8	10	7.2	5.3	6.2
21	e6.2	11	13	12	13	9.9	7.2	6.7	12	6.5	5.4	6.4
22	6.0	11	17	11	12	9.6	7.2	6.1	8.2	6.7	6.0	5.9
23	8.5	11	21	11	10	9.5	7.5	6.9	7.0	5.5	5.9	5.3
24	8.4	9.8	17	11	11	9.1	7.1	36	7.9	6.0	5.3	5.6
25	8.5	11	13	11	12	8.6	9.7	24	7.2	4.8	4.8	7.1
26	13	12	13	10	11	8.1	8.4	13	6.5	6.5	15	6.8
27	24	11	13	10	11	8.6	8.7	15	6.3	4.9	18	6.7
28	13	12	14	10	11	7.9	7.6	18	6.0	4.9	6.3	5.6
29	10	13	13	10	---	8.2	8.2	13	5.7	4.8	6.1	5.6
30	12	12	13	11	---	7.9	12	12	5.4	5.1	6.1	5.7
31	91	---	13	11	---	6.5	---	11	---	91	5.7	---
TOTAL	322.9	332.0	413	354	316.7	288.7	242.6	322.8	226.0	268.6	267.7	171.5
MEAN	10.4	11.1	13.3	11.4	11.3	9.31	8.09	10.4	7.53	8.66	8.64	5.72
MAX	91	17	21	14	13	11	12	36	17	91	22	8.2
MIN	4.2	9.6	11	10	9.7	6.5	6.7	6.1	5.2	4.3	4.8	4.6
AC-FT	640	659	819	702	628	573	481	640	448	533	531	340

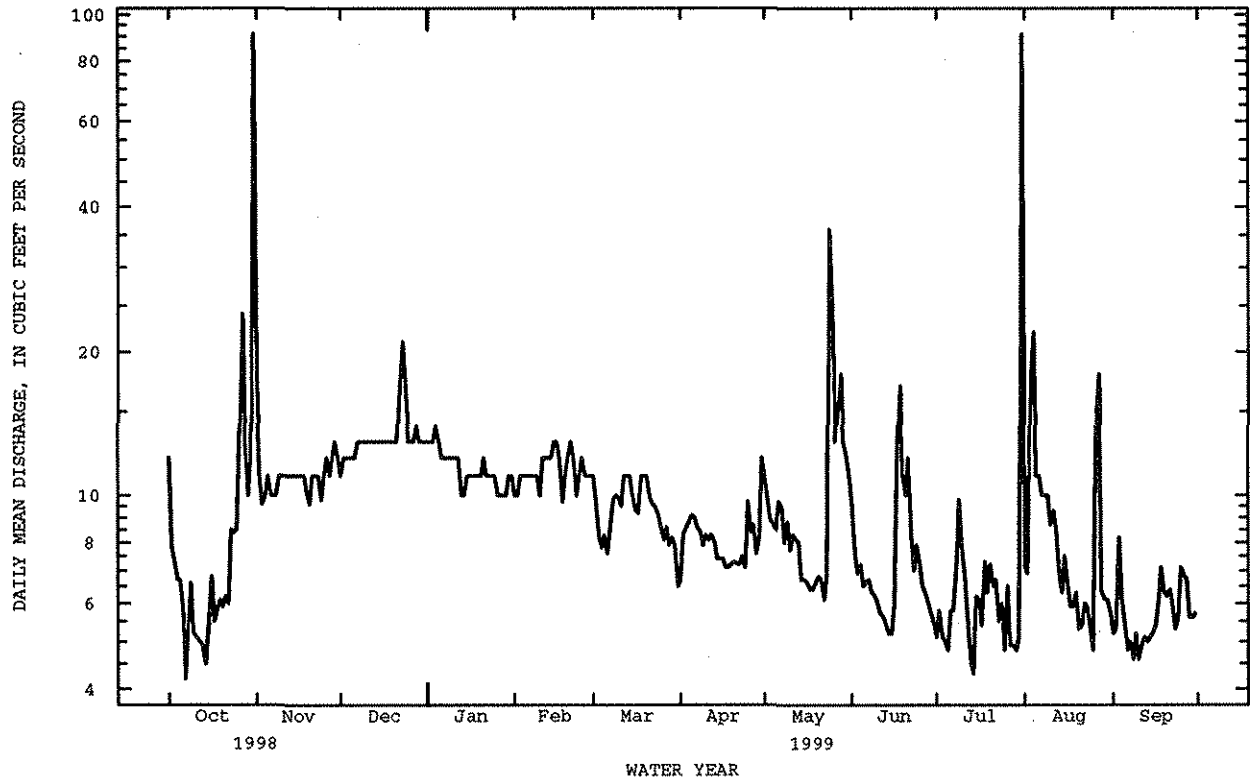
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1999, BY WATER YEAR (WY)

	7.81	9.31	10.5	10.3	10.4	11.0	20.3	17.8	14.6	8.94	7.96	7.62
MEAN	7.81	9.31	10.5	10.3	10.4	11.0	20.3	17.8	14.6	8.94	7.96	7.62
MAX	16.4	15.5	15.4	14.6	16.6	28.6	306	69.3	75.3	28.0	32.8	19.2
(WY)	1986	1995	1997	1997	1992	1992	1973	1979	1971	1991	1990	1990
MIN	3.98	5.53	6.84	6.51	7.18	6.15	3.64	1.60	1.19	2.29	2.14	2.61
(WY)	1980	1980	1971	1971	1971	1971	1971	1970	1971	1980	1971	1970

08317200 SANTA FE RIVER ABOVE COCHITI LAKE, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1970 - 1999	
ANNUAL TOTAL	3866.1		3526.5		11.5	
ANNUAL MEAN	10.6		9.66		40.1	
HIGHEST ANNUAL MEAN					6.09	
LOWEST ANNUAL MEAN					1000	
HIGHEST DAILY MEAN	91	Oct 31	91	Oct 31	.00	Apr 17 1992
LOWEST DAILY MEAN	2.7	Jun 18	4.2	Oct 7	.00	Jul 16 1971
ANNUAL SEVEN-DAY MINIMUM	3.4	Jun 17	4.9	Sep 6	.01	Jul 12 1971
INSTANTANEOUS PEAK FLOW			1770	Jul 31	^a 11400	Jul 26 1971
INSTANTANEOUS PEAK STAGE			4.84	Jul 31	9.58	Jul 26 1971
INSTANTANEOUS LOW FLOW			1.6	Jul 29	.00	Jul 16 1971
ANNUAL RUNOFF (AC-FT)	7670		6990		8360	
10 PERCENT EXCEEDS	17		13		16	
50 PERCENT EXCEEDS	11		8.8		8.2	
90 PERCENT EXCEEDS	5.0		5.3		3.1	

e Estimated

a From rating curve extended above 160 ft³/s on basis of slope-area measurements at gage heights 5.69 ft and 9.58 ft.

RIO GRANDE BASIN

08317200 SANTA FE RIVER ABOVE COCHITI LAKE, NM--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD---Water years 1974-75, 1979, 1981 to August 1999 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM HG) (00025)	OXYGEN, DIS-SOLVED OF (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
APR 06...	1310	7.7	687	8.6	17.0	15.0	626	8.7	106	140	45
MAY 18...	1215	6.3	689	8.8	23.5	21.0	626	8.5	117	150	46
JUN 17...	1210	14	422	8.3	24.5	20.5	631	7.1	96	100	32
AUG 18...	1135	5.8	586	8.8	28.0	25.0	632	7.3	107	110	35

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CAC03) (39086)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CAC03) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
APR 06...	7.3	85	3	10	265	14	241	200	42	54
MAY 18...	7.7	78	3	9.8	239	20	230	244	44	50
JUN 17...	4.9	46	2	7.4	174	0	142	221	26	27
AUG 18...	6.0	77	3	11	184	12	171	177	39	52

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
APR 06...	.5	25	414	.000	.02	.02	.03	.47	.52	.50
MAY 18...	.5	28	404	--	<.01	<.02	.01	.59	.70	.60
JUN 17...	.4	15	246	.210	.01	.22	<.01	--	2.5	.27
AUG 18...	.6	21	347	--	<.01	.14	.03	.49	.65	.52

DATE	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)
APR 06...	.37	.35	.17	2	<1	3	107	<1	242	<1
MAY 18...	.72	.68	.70	2	<1	4	87	<1	254	<1
JUN 17...	1.1	.33	.35	6	<1	4	77	<1	150	<1
AUG 18...	.73	.68	.67	5	<1	4	68	<1	262	<1

08317200 SANTA FE RIVER ABOVE COCHITI LAKE, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	CHROMIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGANESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MOLYBDENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELENIUM, TOTAL (UG/L AS SE) (01147)
APR 06...	<1.0	<1	3	<10	<1	10	<.1	6	3	<1
MAY 18...	<1.0	1	2	E8	<1	8	<.1	10	3	<1
JUN 17...	<1.0	1	2	E10	<1	<1	<.1	6	2	<1
AUG 18...	<1.0	1	4	E8	1	12	<.1	7	4	<1

DATE	SELENIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L) (09511)	RA-226 2 SIGMA WATER DISS, (PCI/L) (76001)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)	URANIUM NATURAL 2 SIGMA WATER DISS, (UG/L) (75990)	SEDIMENT, DISCHARGE, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. * FINER THAN .062 MM (70331)
APR 06...	<1	<1	36	.08	.02	9	2.11	24	.50	47
MAY 18...	<1	<1	32	.07	.02	8	1.26	21	.36	79
JUN 17...	<1	<1	18	.13	.03	5	.868	865	33	92
AUG 18...	<1	<1	39	.09	.02	3	.436	44	.69	75

RIO GRANDE BASIN

08317300 COCHITI LAKE NEAR COCHITI PUEBLO, NM

LOCATION.--Lat 35°37'01", long 106°18'58", in NW¹/₄SW¹/₄ sec.16, T.16 N., R.6 E., Sandoval County, Hydrologic Unit 13020201, in Pueblo de Cochiti Grant, in control tower at Cochiti Dam, 1.7 mi northeast of Cochiti Pueblo, and at mile 1,588.1.

DRAINAGE AREA.--14,900 mi² approximately, including 2,940 mi², in closed basin in San Luis Valley, CO.

PERIOD OF RECORD.--November 1973 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S.Army Corps of Engineers). Prior to Apr. 15, 1975, at site 1.3 mi upstream at same datum.

REMARKS.--Lake is formed by an earthfill dam on Rio Grande and Santa Fe River. Storage began on Nov. 12, 1973. Capacity, based on capacity table effective Jan. 1, 1992, 502,330 acre-ft between elevations 5,247.0 ft and 5,450.0 ft, crest of service spillway. Dead storage 560 acre-ft below elevation 5,255.0 ft. Invert of outlet structure. Lake was created primarily for flood and sediment control. A 50,000 acre-ft permanent pool is authorized for recreational purposes.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 301,000 acre-ft, July 3, 1986, elevation, 5,417.32 ft; no storage prior to Nov. 12, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 61,540 acre-ft, Nov. 2, elevation, 5,343.70 ft; minimum, 45,060 acre-ft, Mar. 30, elevation, 5,336.25 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58960	61130	57900	52440	48040	48200	45480	50210	53300	47710	47970	47740
2	58780	61540	57920	52550	47870	48200	45830	50430	52940	47730	49040	47770
3	57970	60650	58000	52650	47670	48200	46150	49660	52360	47620	49070	47990
4	57010	59620	58070	52620	47680	48230	46330	49470	51590	47500	49800	48220
5	56660	58540	58110	52330	47840	48270	45580	48690	50890	47440	52120	48160
6	57080	58010	58090	52090	48000	48300	47060	48110	50130	47900	53880	48240
7	57690	57920	58130	51920	48200	48350	47440	47620	49760	48080	54000	48690
8	57930	57780	58210	51800	48210	48350	47820	47740	49440	48040	52670	49070
9	57940	57500	58110	51710	48090	48280	47810	48020	48880	48050	51750	49140
10	57900	57300	58060	51550	47970	48170	47750	48090	48410	48030	51240	49060
11	57680	57260	58070	51440	47860	48150	47790	47750	48150	47740	50260	48790
12	57450	57240	58070	51320	47840	48330	47920	47510	48050	47730	49140	48490
13	57310	57330	58200	51260	47830	48540	48060	47840	48010	47630	48550	48210
14	57270	57400	58340	51100	47730	48680	48080	47810	47950	47300	48390	47820
15	57100	57410	58210	50850	47650	48720	47950	47850	47720	47150	48470	47580
16	56940	57480	58170	50600	47640	48750	47850	48620	48080	47000	48330	47970
17	56980	57510	58170	50320	47700	48670	47680	48620	48460	47020	48080	48760
18	57170	57550	58310	50120	47740	48700	47400	48530	48600	47650	48020	48760
19	57360	57520	58480	49860	47750	48750	47080	48370	48440	47660	47950	48700
20	57590	57570	58720	49650	47790	48640	47060	48430	48460	47530	47930	48300
21	57720	57540	58880	49530	47850	48450	47570	48280	48550	47420	47860	47740
22	57410	57470	58890	49470	47900	48220	48020	47840	48220	47470	47530	47530
23	57300	57520	58790	49390	48150	47940	48190	47830	47420	47660	47400	47560
24	57330	57640	58850	49220	48550	47590	48150	48830	47220	47910	47500	47680
25	57310	57710	58980	49280	48410	47220	48020	51570	47490	47880	47490	47720
26	58030	57800	59120	49320	48330	46800	47960	53100	47610	47940	47580	47800
27	58310	57860	59230	49290	48280	46360	47750	53640	47540	47990	47700	47880
28	57590	57830	59370	49200	48230	45900	47680	54430	47390	48180	47680	47820
29	57410	57820	59550	48910	---	45460	47910	54580	47190	48060	47680	47680
30	58000	57900	59700	48550	---	45060	48100	54240	47440	47840	47750	47720
31	59550	---	59800	48270	---	45140	---	53770	---	47820	47760	---
MAX	59550	61540	59800	52650	48550	48750	48190	54580	53300	48180	54000	49140
MIN	56660	57240	57900	48270	47640	45060	45480	47510	47190	47000	47400	47530
(+)	5342.34	5341.18	5342.52	5339.24	5339.21	5336.33	5339.09	5343.57	5338.49	5338.84	5338.79	5338.75
(++)	+760	-1650	+1900	-11530	-40	-3090	+2960	+5670	-6330	+380	-60	-40

CAL YR 1998 MAX 61780 MIN 56660 (++) +2470
WTR YR 1999 MAX 61540 MIN 45060 (++) -11070

(+) ELEVATION, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-FEET

08317400 RIO GRANDE BELOW COCHITI DAM, NM

LOCATION.--Lat 35°37'05", long 106°19'24", in SW¹/₄NE¹/₄ sec.17, T.16 N., R.6 E., Sandoval County, Hydrologic Unit 13020201, in Pueblo de Cochiti Grant, on right bank 320 ft upstream from bridge on State Highway 22, 700 ft downstream from Cochiti Dam, 1.4 mi northeast of Cochiti Pueblo, and at mile 1,587.6.

DRAINAGE AREA.--14,900 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 5,226.08 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Nov. 14, 1973, at site 2.4 mi downstream at elevation 5,210 ft, from topographic map. Nov. 14, 1973, to Jan. 8, 1976, at site 320 ft downstream at datum 1.79 ft lower.

REMARKS.--Records good. Discharges include flow of Santa Fe River, which is intercepted by Cochiti Dam and released through the combined outlet works. Flow regulated by Cochiti Dam since Nov. 12, 1973. Diversions upstream from station for irrigation of about 620,000 acres in Colorado and about 81,000 acres in New Mexico. Cochiti Eastside Main Canal, on left bank, and Sili Main Canal, on right bank, head at Cochiti Dam and bypass gage for irrigation of about 6,000 acres downstream from station; see tabulation below for monthly and yearly diversion.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of May 15, 1941, reached a discharge of 23,400 ft³/s at a nearby site upstream from mouth of Santa Fe River. The flood of May 23, 1920, probably exceeded 23,400 ft³/s, and is likely the highest since 1905.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1240	943	777	780	968	707	678	1930	4800	1570	1210	1350
2	1010	1190	762	774	940	651	676	2670	4760	1430	1240	1350
3	858	1660	750	766	922	650	680	2980	4730	1350	1550	1360
4	853	1640	746	829	777	607	689	3090	4510	1350	1110	1360
5	782	1430	750	901	756	583	641	3190	4000	1350	955	1350
6	748	993	746	899	802	584	607	2820	3520	1340	1450	1350
7	751	777	709	880	802	584	652	2510	3230	1330	2300	1360
8	757	778	666	864	905	605	692	2060	2900	1310	3080	1350
9	762	830	666	857	970	650	731	2110	2620	1300	2930	1350
10	765	794	612	859	964	666	746	2430	2440	1350	2750	1420
11	762	699	571	861	915	624	736	2670	2430	1380	3100	1450
12	722	705	572	874	848	567	702	2570	2550	1260	3190	1440
13	697	705	574	834	823	560	678	2690	2820	1180	2730	1440
14	700	706	677	849	823	563	675	2880	2960	1160	2290	1430
15	675	707	749	894	824	609	706	2870	2960	1150	2370	1350
16	648	692	749	888	792	640	701	3270	2980	1140	2430	1300
17	650	717	755	887	780	637	687	3760	3130	1130	2080	1290
18	654	742	742	886	776	610	690	3860	3440	1140	1850	1320
19	656	736	727	883	774	581	691	3640	3520	1110	1980	1330
20	624	732	734	886	761	567	693	3710	3400	1010	2090	1430
21	669	734	756	890	758	575	732	3990	3310	944	1980	1460
22	751	741	781	861	753	590	761	4330	3400	943	1860	1350
23	681	697	784	847	647	600	793	4380	3140	945	1710	1240
24	627	669	730	846	572	614	839	4330	2580	975	1730	1150
25	592	669	705	752	853	638	927	3840	2340	1030	1850	1110
26	564	670	709	808	839	716	1060	4350	2460	1070	1630	1100
27	938	733	712	853	799	752	1070	4950	2540	1100	1450	1100
28	1170	780	715	861	799	743	1040	4830	2340	1090	1400	1020
29	1030	781	716	928	---	714	1040	4850	2100	1150	1350	919
30	863	775	741	979	---	689	1290	4860	1790	1190	1340	877
31	789	---	772	985	---	682	---	4830	---	1180	1350	---
TOTAL	23988	25425	22155	26761	22942	19558	23303	107250	93700	36957	60335	38706
MEAN	774	848	715	863	819	631	777	3460	3123	1192	1946	1290
MAX	1240	1660	784	985	970	752	1290	4950	4800	1570	3190	1460
MIN	564	669	571	752	572	560	607	1930	1790	943	955	877
AC-FT	47580	50430	43940	53080	45510	38790	46220	212700	185900	73300	119700	76770
(+)	7570	0	0	0	1160	7010	7050	7760	8180	8070	6910	8000
(++)	4300	0	0	0	0	3680	3960	4530	4440	4860	4020	4120

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1999, BY WATER YEAR (WY)

MEAN	605	907	924	849	993	1255	2035	3276	3091	1701	921	729
MAX	2045	1878	1787	2245	3639	2868	6320	6101	6205	5643	3683	1635
(WY)	1998	1987	1987	1986	1986	1986	1985	1984	1983	1979	1986	1986
MIN	214	331	461	428	493	438	281	353	392	293	254	121
(WY)	1975	1990	1978	1977	1978	1977	1977	1972	1972	1972	1972	1974

(+) DIVERSION, IN ACRE-FEET, BY COCHITIT EASTSIDE MAIN CANAL AT HEAD

(++) DIVERSION, IN ACRE-FEET, BY SILI MAIN CANAL AT HEAD

RIO GRANDE BASIN

08317400 RIO GRANDE BELOW COCHITI DAM, NM--Continued

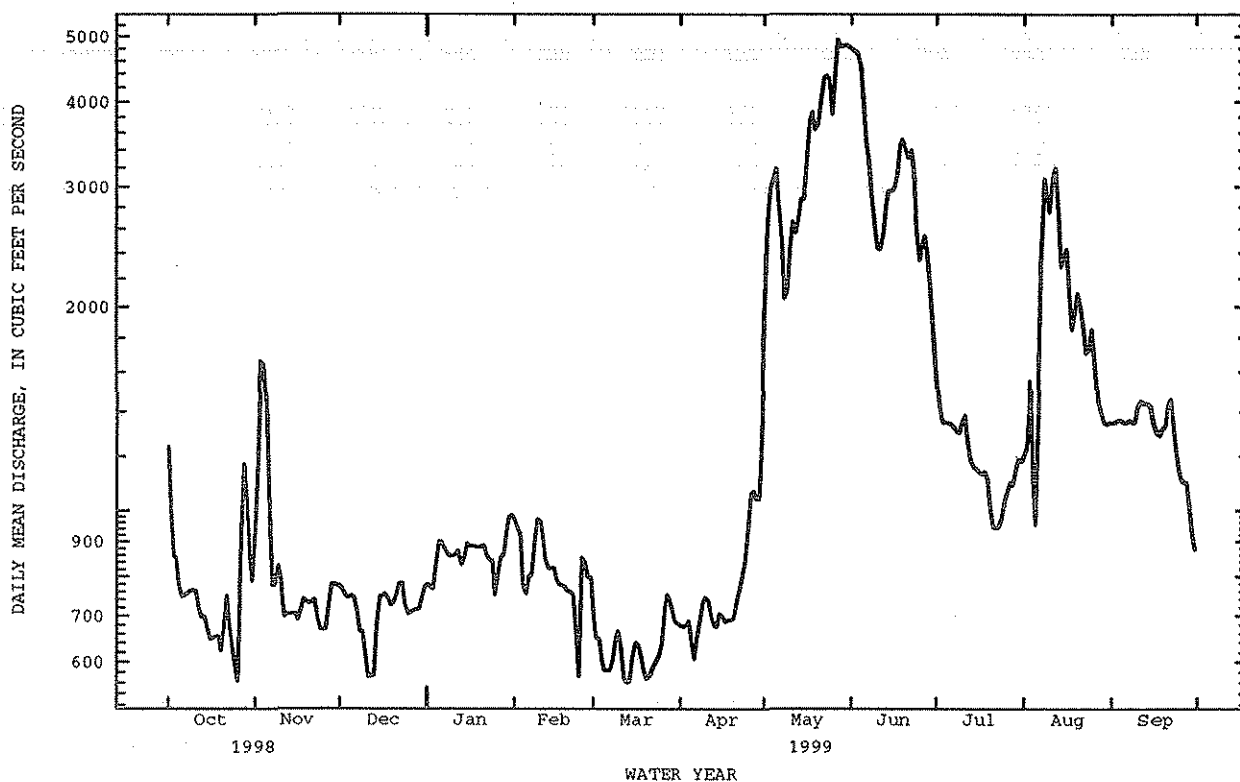
SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1971 - 1999	
ANNUAL TOTAL	459156		501080		1441	
ANNUAL MEAN	1258		1373		2355	1986
HIGHEST ANNUAL MEAN					452	1977
LOWEST ANNUAL MEAN					8290	May 7 1985
HIGHEST DAILY MEAN	4070	May 9	4950	May 27	51	Aug 4 1977
LOWEST DAILY MEAN	564	Oct 26	560	Mar 13	39	Sep 16 1977
ANNUAL SEVEN-DAY MINIMUM	620	Dec 8	591	Mar 18	10300	Jul 26 1971
INSTANTANEOUS PEAK FLOW					7.90	Jul 26 1971
INSTANTANEOUS PEAK STAGE					51	Aug 5 1977
INSTANTANEOUS LOW FLOW						
ANNUAL RUNOFF (AC-FT)	910700		993900		1044000	
10 PERCENT EXCEEDS	2500		2980		3660	
50 PERCENT EXCEEDS	1040		890		886	
90 PERCENT EXCEEDS	717		651		380	

e Estimated

a From rating curve extended above 2,600 ft³/s.

b Site and datum then in use.

c Aug. 3-5, 1997, Aug 27,28, 1978, result of regulation.



08317900 GALISTEO RESERVOIR NEAR CERRILLOS, NM

LOCATION.--Lat 35°27'44", long 106°12'30", in NW¼ sec.9 T.14 N., R.7 E., Santa Fe County, Hydrologic Unit 13020201, in Mesita de Juana Lopez Grant, at Galisteo Dam on Galisteo Creek, 5.0 mi northwest of Cerrillos, and at mile 11.8.

DRAINAGE AREA.--596 mi².

PERIOD OF RECORDS.--October 1970 to current year.

GAGE.--Water-stage recorder above elevation 5,500.3 ft, nonrecording below. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir is formed by an earthfill dam, completed Oct. 11, 1970. Capacity, based on capacity table effective January 1972, 88,990 acre-ft between elevations 5,496.0 ft, sill of ungated outlet conduit, and 5,608.0 ft, crest of uncontrolled spillway. No dead storage. Reservoir is used for flood control. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,510 acre-ft, July 26, 1971, elevation, 5,517.00; no storage most of time.

EXTREMES FOR CURRENT YEAR.--No storage all year.

Capacity table (elevation, in feet, and contents, in acre-feet)

(Based on survey by U.S. Army Corps of Engineers in 1972)

5,500	0	5,504	41
5,501	2	5,505	69
5,502	9	5,506	109
5,503	21	5,508	244

08317950 GALISTEO CREEK BELOW GALISTEO DAM, NM

LOCATION.--Lat 35°27'53", long 106°12'49", in NE¹/₄NE¹/₄ sec.8, T.14 N., R.7 E., Santa Fe County, Hydrologic Unit 13020201, in Mesita de Juana Lopez Grant, on right bank 0.4 mi downstream from Galisteo Dam, 5.3 mi northwest of Cerrillos, and at mile 11.4.

DRAINAGE AREA.--597 mi².

PERIOD OF RECORD.--March 1970 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,450 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Dec. 21, 1981, at site 1,200 ft downstream at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by Galisteo Reservoir 0.4 mi upstream. Diversions for irrigation of about 50 acres upstream from station. Several observations of water temperature were made during the year. No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	80	.00	e.31	e.23	e.12	.00	1.1	.00	.00	176	.00
2	5.9	6.2	.00	e.29	e.20	e.12	.00	.42	.00	.00	72	90
3	.00	2.0	.00	e.53	e.23	e.12	.06	e.23	.00	.00	130	209
4	.00	.28	.00	e.66	e.37	e.13	.13	.27	.00	.00	55	9.3
5	.00	.00	.00	e.49	e.20	.14	.08	.09	.00	16	109	.00
6	.00	.00	.00	e.50	e.26	e.15	.00	.00	.00	2.7	26	5.6
7	.00	.00	e.00	e.77	e.33	e.17	.00	.00	.00	.00	14	.00
8	.00	.00	.00	e.38	e.50	.18	.00	.00	.00	.00	141	.00
9	.00	.03	.00	e.36	e.21	.32	.00	.00	.00	.00	1190	.00
10	.00	.00	.00	e.28	e.32	.34	.00	.00	.00	.00	68	.00
11	.00	.00	.00	e.19	e.12	e.16	.00	.00	.00	.00	101	.00
12	.00	.00	.00	e.15	e.12	e.13	.00	.00	.00	.00	11	.00
13	.00	.00	.00	e.12	e.09	.27	.00	.00	52	.00	e2.5	.00
14	.00	.00	.00	e.18	e.09	.22	.00	.00	88	.00	e9.8	34
15	.00	.00	.00	e.74	e.10	.17	.00	.00	.82	.00	51	18
16	.00	.00	.00	e.32	e.10	1.0	.00	.00	8.5	.00	4.5	7.0
17	.00	.00	.00	e.28	e.10	.00	.00	.00	89	221	.00	6.5
18	.00	.00	.00	e.23	e.11	.73	.00	.00	27	124	.00	17
19	.00	.00	.00	e.19	e.12	.54	.00	.00	1.4	13	.00	4.8
20	.07	.00	.00	e.12	e.10	.30	.00	.00	9.1	e2.5	.00	.00
21	.00	.00	.00	e.17	e.10	.19	.00	.00	68	e4.0	.00	.00
22	.00	.00	e.00	e.16	e.10	e.12	.00	.00	82	e12	.00	.00
23	.00	.00	.00	e.11	e.10	e.13	.00	.00	3.6	e.70	.00	.00
24	.00	.00	.00	e.14	e.12	e.08	.00	86	.00	e.40	.00	.00
25	.00	.00	.00	e.10	e.10	.00	.10	4.0	.00	e.22	.00	.00
26	.36	.00	e2.7	e.09	e.11	e.12	.06	.58	.00	e.15	.00	.00
27	40	.00	e.80	e.16	e.12	.17	.00	13	.00	e.20	.00	.00
28	5.4	.00	e.34	e.20	e.13	.05	.00	19	.00	e.00	7.9	.00
29	.06	.00	e.28	e.60	---	.00	.00	6.8	.00	e.00	.00	.00
30	18	.00	e.25	e.28	---	.00	4.7	.99	.00	6.9	.00	.00
31	682	---	e.15	e.27	---	.00	---	.00	---	130	.00	---
TOTAL	755.99	88.51	4.52	9.37	4.78	6.17	5.13	132.48	429.42	533.77	2168.70	401.20
MEAN	24.4	2.95	.15	.30	.17	.20	.17	4.27	14.3	17.2	70.0	13.4
MAX	682	80	2.7	.77	.50	1.0	4.7	86	89	221	1190	209
MIN	.00	.00	.00	.09	.09	.00	.00	.00	.00	.00	.00	.00
AC-FT	1500	176	9.0	19	9.5	12	10	263	852	1060	4300	796

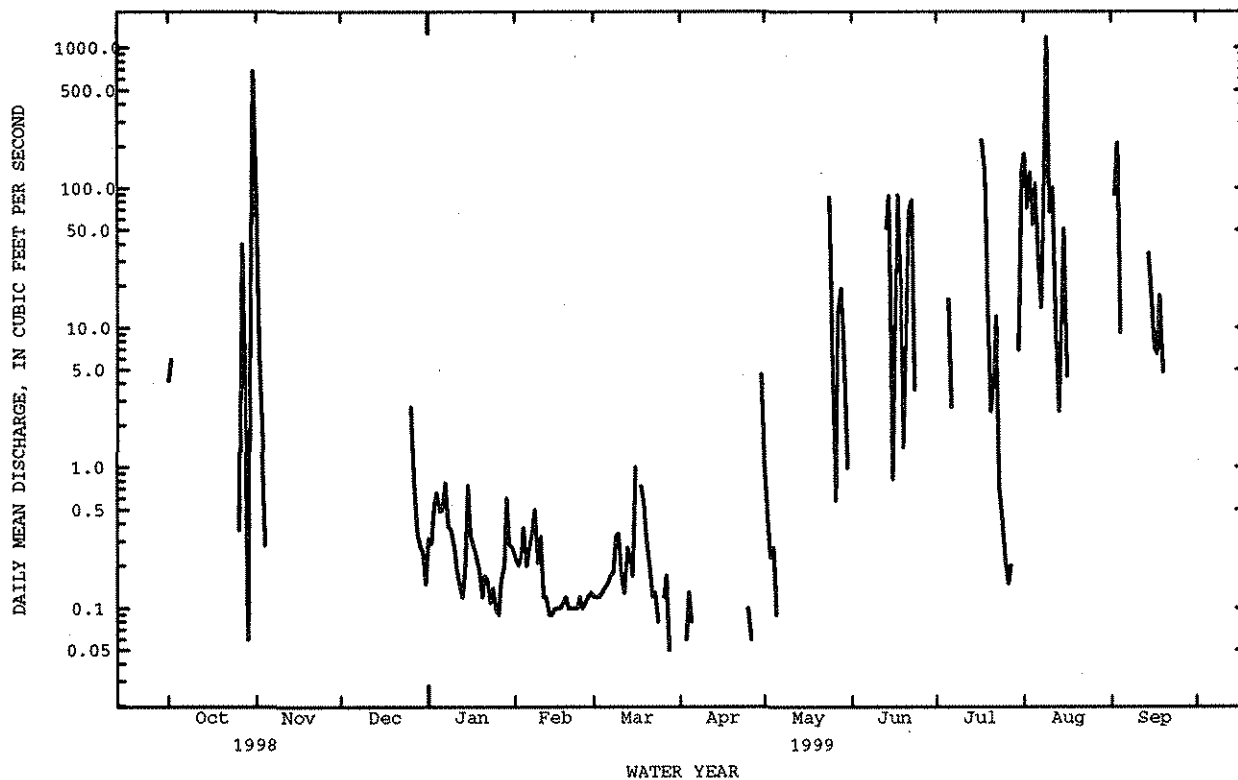
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1999, BY WATER YEAR (WY)

MEAN	4.87	1.66	1.48	1.41	2.00	2.91	2.78	3.12	6.45	20.8	18.2	9.83
MAX	28.9	7.70	6.55	6.25	11.6	19.8	23.8	31.7	33.8	110	70.0	52.4
(WY)	1982	1995	1987	1993	1993	1993	1973	1985	1996	1971	1999	1972
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.15	.000
(WY)	1980	1980	1980	1981	1981	1981	1981	1971	1971	1987	1987	1979

08317950 GALISTEO CREEK BELOW GALISTEO DAM, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1970 - 1999	
ANNUAL TOTAL	1654.73		4540.04		6.22	
ANNUAL MEAN	4.53		12.4		12.8	
HIGHEST ANNUAL MEAN					1.28	
LOWEST ANNUAL MEAN					1190	
HIGHEST DAILY MEAN	682	Oct 31	1190	Aug 9	1190	Aug 9 1999
LOWEST DAILY MEAN	.00	Apr 25	.00	Oct 3	.00	May 15 1970
ANNUAL SEVEN-DAY MINIMUM	.00	May 4	.00	Oct 3	.00	May 30 1970
INSTANTANEOUS PEAK FLOW					3460	Aug 24 1997
INSTANTANEOUS PEAK STAGE					5.57	Aug 24 1997
INSTANTANEOUS LOW FLOW					.00	Oct 1 1997
ANNUAL RUNOFF (AC-FT)	3280		9010		4500	
10 PERCENT EXCEEDS	7.2		11		7.6	
50 PERCENT EXCEEDS	.00		.00		.40	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated



08319000 RIO GRANDE AT SAN FELIPE, NM

LOCATION.--Lat 35°26'39", long 106°26'23", in SW¹/₄NW¹/₄, sec.17, T.14 N., R.5 E., Sandoval County, Hydrologic Unit 13020201, in San Felipe Grant, on right bank 200 ft downstream from Tonque Arroyo, 1,700 ft upstream from steel highway bridge, 0.8 mi upstream from San Felipe Pueblo, 11 mi northeast of Bernalillo, and at mile 1,572.7.

DRAINAGE AREA.--16,100 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1925 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1926-30, WSP 1392: 1937(M), WSP 1512: 1931-32, 1933(M), 1934-36, 1938(M).

GAGE.--Water-stage recorder. Datum of gage is 5,115.73 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 27, 1957, at site 1,800 ft downstream at datum 5.35 ft lower, except period May 16, 1945, to Sept. 30, 1946, when it was 5.94 ft lower than present datum.

REMARKS.--Water-discharge records good. Flow completely regulated since November 1973 by Cochiti Dam (station 08317300) 17 mi upstream. Prior to November 1973 some regulation of flow by El Vado Reservoir (station 08285000) and Abiquiu Reservoir (station 08286900). Since May 1971 flow affected by release of transmountain water from Heron Reservoir (station 08284510). Diversions for irrigation of about 705,000 acres upstream from station, some of which is irrigated downstream by Cochiti Eastside Main Canal and San Felipe eastside acequia, which bypass station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Other major floods occurred in 1874, 1884, and 1904.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1160	988	769	752	925	815	884	1500	5130	1890	1480	1460
2	1080	910	762	749	903	780	893	2170	4650	1730	1680	1460
3	927	1220	741	750	896	750	894	2760	4600	1610	1850	1670
4	916	1220	742	777	818	738	907	2860	4520	1620	1650	1490
5	885	1190	743	862	762	737	885	3070	4180	1630	1070	1490
6	830	963	743	864	807	734	807	2820	3860	1650	1330	1480
7	828	761	733	852	807	738	826	2570	3600	1600	1910	1480
8	834	752	682	836	840	743	875	2210	3340	1530	2830	1470
9	836	776	681	832	904	791	895	2100	3130	1510	3770	1470
10	842	802	650	832	907	795	905	2390	2940	1530	2900	1500
11	835	693	598	833	900	783	900	2700	2940	1600	3190	1550
12	822	695	594	832	871	730	883	2570	3000	1510	3330	1560
13	792	693	592	832	836	727	845	2630	3210	1370	3010	1550
14	793	692	642	846	837	729	841	2820	3420	1360	2580	1560
15	782	692	744	885	838	750	842	2820	3340	1370	2570	1500
16	762	692	745	886	827	791	836	3060	3390	1350	2650	1410
17	765	715	751	887	814	794	820	3540	3550	1370	2400	1440
18	771	748	742	885	815	810	815	3850	3700	1700	2090	1450
19	777	750	721	886	813	782	802	3930	3790	1360	2140	1440
20	769	749	726	886	814	753	792	3960	3720	1250	2310	1510
21	763	750	738	890	813	752	811	4060	3620	1130	2170	1600
22	853	750	776	883	819	748	848	4300	3720	1130	2070	1480
23	809	727	778	862	730	761	866	4450	3540	1130	1870	1380
24	730	679	752	860	658	776	917	4570	3100	1140	1770	1290
25	713	674	707	816	856	807	967	4120	2780	1200	1960	1230
26	684	672	707	804	877	857	1040	4370	2860	1240	1830	1240
27	837	705	707	860	846	904	1060	5110	2980	1260	1600	1230
28	1110	765	705	863	841	902	1030	5240	2820	1260	1550	1180
29	1010	771	705	884	---	896	1040	5480	2530	1330	1480	1090
30	951	767	713	929	---	874	1160	5510	2220	1390	1480	1020
31	1020	---	748	929	---	872	---	5480	---	1420	1470	---
TOTAL	26486	23961	22137	26344	23374	24419	26886	109020	104180	44170	65990	42680
MEAN	854	799	714	850	835	788	896	3517	3473	1425	2129	1423
MAX	1160	1220	778	929	925	904	1160	5510	5130	1890	3770	1670
MIN	684	672	592	749	658	727	792	1500	2220	1130	1070	1020
AC-FT	52530	47530	43910	52250	46360	48440	53330	216200	206600	87610	130900	84660
(+)	3650	0	0	0	0	3840	3160	3660	3760	3410	3090	3640

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1999, BY WATER YEAR (WY)

	734	942	995	916	1063	1376	2213	3454	3348	1926	1094	875
MEAN	734	942	995	916	1063	1376	2213	3454	3348	1926	1094	875
MAX	2164	2072	1969	2163	3695	3054	6126	6160	6534	5979	3667	1781
(WY)	1998	1987	1987	1986	1986	1986	1985	1985	1983	1979	1986	1986
MIN	289	389	500	462	552	546	378	521	746	565	596	206
(WY)	1975	1990	1978	1977	1977	1977	1977	1977	1989	1974	1978	1974

(+) MONTHLY DIVERSIONS, IN ACRE-FEET, OF COCHITI EASTSIDE CANAL, RECORD OF THE FLOW FURNISHED BY MIDDLE RIO GRANDE CONSERVANCY DISTRICT.

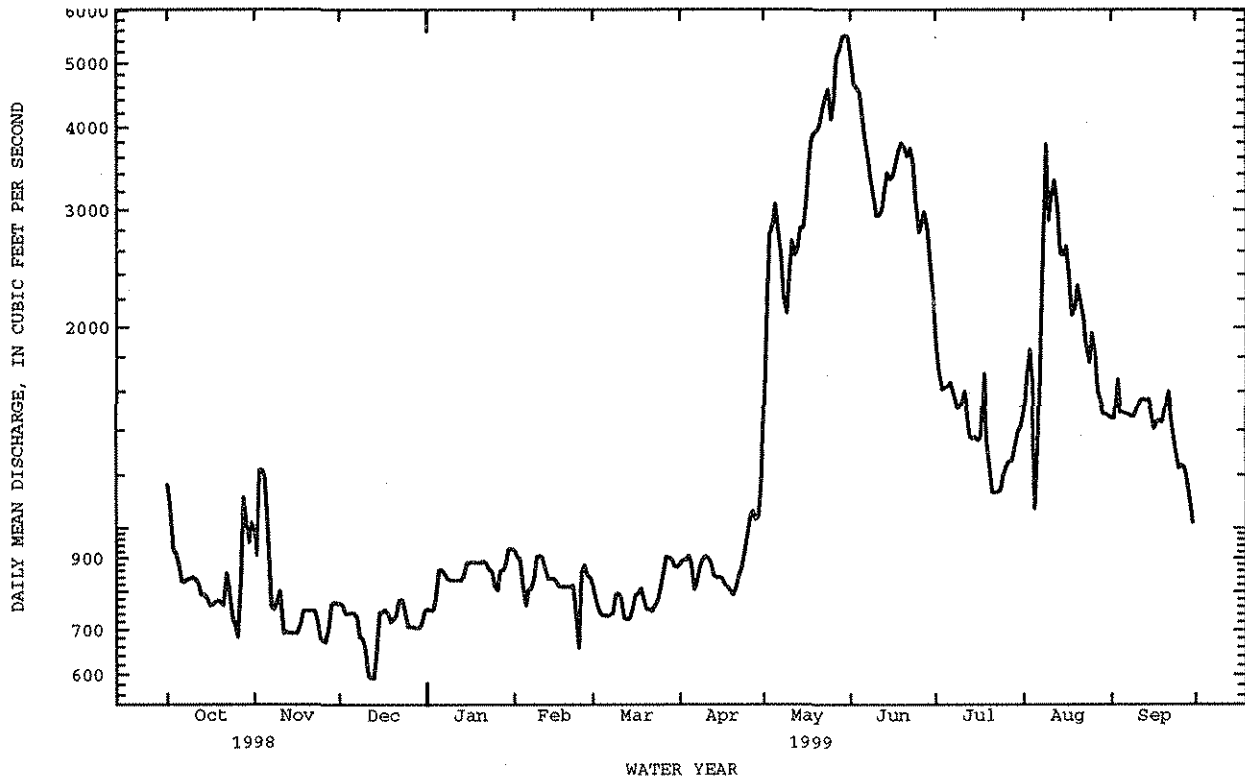
08319000 RIO GRANDE AT SAN FELIPE, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1974 - 1999	
ANNUAL TOTAL	477116		539647		^a 1579	
ANNUAL MEAN	1307		1478		2493	
HIGHEST ANNUAL MEAN					547	
LOWEST ANNUAL MEAN					8100	
HIGHEST DAILY MEAN	4130	May 9	5510	May 30	67	May 7 1985
LOWEST DAILY MEAN	592	Dec 13	592	Dec 13	135	Aug 28 1978
ANNUAL SEVEN-DAY MINIMUM	634	Dec 8	634	Dec 8	273000	Aug 23 1978
INSTANTANEOUS PEAK FLOW			6210	May 28	^b 11.13	May 26 1937
INSTANTANEOUS PEAK STAGE			6.71	May 28	32	Jun 26 1937
INSTANTANEOUS LOW FLOW			258	Feb 24	1144000	Jul 7 1934
ANNUAL RUNOFF (AC-FT)	946400		1070000		3820	
10 PERCENT EXCEEDS	2520		3200		1010	
50 PERCENT EXCEEDS	1090		903		482	
90 PERCENT EXCEEDS	742		734			

a Average discharge for 48 years (water years 1926-1973), 1,374 ft³/s, 995,500 acre-ft/yr, prior to closure of Cochiti.

b From rating curve extended above 15,000 ft³/s.

c Site and datum then in use.



08319000 RIO GRANDE AT SAN FELIPE, NM--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PER-CENT SATURATION) (00301)	HARDNESS TOTAL (MG/L AS CaCO3) (00900)	
OCT 16...	1000	781	339	8.4	19.0	17.0	7.2	627	9.1	115	--	
NOV 23...	1200	746	357	8.2	20.0	8.0	--	640	11.2	113	140	
JAN 07...	1230	869	347	8.4	17.0	4.5	3.0	633	12.0	112	--	
FEB 10...	1300	907	332	8.4	18.5	6.0	5.3	625	14.4	141	--	
19...	1115	806	332	8.4	16.5	5.0	3.6	631	12.4	118	110	
MAR 22...	1230	782	327	8.3	19.0	10.0	4.2	628	--	--	--	
JUL 12...	1440	1460	304	8.3	31.5	23.5	20	641	7.9	111	110	
14...	1310	1350	305	7.3	23.0	21.0	20	642	8.2	110	--	
28...	1010	1280	315	8.0	28.5	22.0	20	639	8.1	111	110	
AUG 11...	1500	3270	275	8.0	23.0	21.5	120	636	7.8	107	--	
SEP 15...	1245	1610	246	7.7	16.0	19.0	23	635	9.3	121	--	
DATE		HARDNESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L) (00904)	CALCIUM DISSOLVED (MG/L AS Ca) (00915)	MAGNESIUM, DISSOLVED (MG/L AS Mg) (00925)	SODIUM, DISSOLVED (MG/L AS Na) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	BICARBONATE WATER DIS IT FIELD HCO3 (00453)	CARBONATE WATER DIS IT FIELD CO3 (00452)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CaCO3 (39086)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
OCT 16...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 23...	--	45	7.8	26	.9	2.9	248	0	203	128	46	
JAN 07...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 10...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	35	6.7	22	.9	3.2	143	0	117	120	40	
MAR 22...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 12...	23	33	6.2	20	.8	3.2	103	0	85	97	45	
14...	--	--	--	--	--	--	--	--	--	--	--	--
28...	11	34	6.2	20	.8	3.0	121	0	99	102	44	
AUG 11...	--	--	--	--	--	--	--	--	--	--	--	--
SEP 15...	--	--	--	--	--	--	--	--	--	--	--	--
DATE		CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITROGEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)
OCT 16...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 23...	7.3	.4	19	232	276	<.01	<.05	.03	.09	.2	.1	
JAN 07...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 10...	--	--	--	--	--	--	--	--	--	--	--	--
19...	7.6	.4	27	--	213	<.010	.15	<.010	--	.29	.28	
MAR 22...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 12...	5.7	.9	20	--	185	<.01	.03	.02	.24	.38	.26	
14...	--	--	--	--	--	--	--	--	--	--	--	--
28...	6.1	.4	17	--	190	<.01	<.02	<.01	--	.33	<.20	
AUG 11...	--	--	--	--	--	--	--	--	--	--	--	--
SEP 15...	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G (UG/G) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	RA-226 2 SIGMA WATER, DISS, (PCI/L) (76001)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	URANIUM NATURAL 2 SIGMA WATER, DISS, (UG/L) (75990)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 16...	--	--	--	--	--	--	--	--	36	76	85
NOV 23...	<5	180	<.1	16	--	--	3	--	40	81	88
JAN 07...	--	--	--	--	--	--	--	--	--	--	--
FEB 10...	--	--	--	--	--	--	--	--	29	71	83
19...	--	--	--	--	.07	.02	4	.810	35	76	76
MAR 22...	--	--	--	--	--	--	--	--	18	38	79
JUL 12...	--	--	--	--	--	--	2	--	81	319	80
14...	--	--	--	--	--	--	--	--	68	248	--
28...	--	--	--	--	--	--	2	--	69	238	84
AUG 11...	--	--	--	--	--	--	--	--	598	5280	--
SEP 15...	--	--	--	--	--	--	--	--	60	261	--

08324000 JEMEZ RIVER NEAR JEMEZ, NM

LOCATION.--Lat 35°39'42", long 106°44'34", Sandoval County, Hydrologic Unit 13020202, in Canon de San Diego Grant, on left bank 0.7 mi downstream from Rio Guadalupe, 3.5 mi north of Jemez, and at mile 29.5.

DRAINAGE AREA.--470 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1936 to May 1941, August 1949 to October 1950, May 1951 to September 1952 (irrigation seasons only), March 1953 to current year. Monthly discharge only for some periods, published in WSP 1732. Published as Jemez Creek near Jemez, 1936-41.

REVISED RECORDS.--WSP 1712: Drainage area. WSP 1923, 1957-58.

GAGE.--Water-stage recorder with satellite telemetry. Concrete control since Dec. 6, 1965. Datum of gage is 5,622 ft above National Geodetic Vertical Datum of 1929 (plane-table survey by Topographic Division, U.S. Geological Survey, 1952). June 22, 1936 to Mar. 11, 1937, at site 60 ft upstream at datum 0.50 ft higher. Mar. 12, 1937, to July 8, 1938, at present site at datum 0.7 ft higher. July 9, 1938, to May 6, 1941, at site 60 ft upstream at datum 0.70 ft higher.

REMARKS.--Water-discharge records good. Diversion for irrigation of about 300 acres upstream from station. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since at least 1890 occurred between May 6 and 15, 1941, after gage was destroyed (discharge probably exceeded 6,000 ft³/s), from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	107	51	35	31	33	91	416	71	23	73	51
2	36	94	54	31	28	30	90	304	55	24	81	53
3	29	82	52	25	28	26	60	257	51	22	107	67
4	29	66	49	26	31	27	64	213	48	25	128	82
5	31	59	47	30	33	28	66	234	43	38	315	60
6	30	58	50	32	32	27	67	171	40	36	395	51
7	27	55	39	30	30	28	87	147	43	42	203	51
8	25	53	27	29	31	32	118	134	43	36	124	49
9	26	62	29	27	36	31	129	137	41	34	236	45
10	25	49	41	29	38	34	103	143	37	38	235	43
11	24	41	37	29	34	37	88	145	35	34	205	41
12	23	62	36	31	28	41	83	124	34	32	147	38
13	23	59	40	30	33	39	84	134	43	30	103	36
14	24	63	36	28	33	44	92	150	45	31	94	38
15	23	66	36	27	34	50	107	155	42	31	217	42
16	25	67	36	30	31	54	97	136	78	33	197	50
17	28	64	36	30	29	53	88	121	78	33	125	50
18	26	59	36	30	32	53	85	110	98	36	95	78
19	28	51	36	32	32	48	87	108	67	55	81	67
20	31	43	38	33	33	59	98	114	62	52	71	52
21	36	39	32	36	32	66	115	101	112	147	66	44
22	41	49	23	29	34	63	139	99	56	71	70	40
23	39	46	36	25	28	59	153	111	51	48	62	37
24	37	45	30	36	31	60	161	188	41	43	78	36
25	39	46	30	34	34	61	189	178	34	57	60	37
26	88	45	32	33	39	68	196	138	29	46	54	35
27	207	47	34	28	30	79	198	114	29	89	89	33
28	133	45	31	27	30	81	192	150	29	54	68	32
29	86	54	32	31	---	76	159	136	25	44	63	30
30	74	55	32	32	---	82	368	104	23	42	62	30
31	98	---	33	29	---	93	---	84	---	36	56	---
TOTAL	1470	1731	1151	934	895	1562	3654	4856	1483	1362	3960	1398
MEAN	47.4	57.7	37.1	30.1	32.0	50.4	122	157	49.4	43.9	128	46.6
MAX	207	107	54	36	39	93	368	416	112	147	395	82
MIN	23	39	23	25	28	26	60	84	23	22	54	30
AC-FT	2920	3430	2280	1850	1780	3100	7250	9630	2940	2700	7850	2770

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1999, BY WATER YEAR (WY)

	MEAN	36.0	38.4	29.5	29.0	36.0	91.2	266	241	68.7	33.2	47.6	34.7
MAX	109	128	58.2	50.6	77.1	301	961	1118	274	78.5	128	95.8	
(WY)	1987	1987	1987	1995	1995	1995	1958	1973	1979	1986	1999	1991	
MIN	14.5	18.4	17.0	16.6	19.9	26.0	30.9	13.5	10.5	14.5	15.8	11.1	
(WY)	1957	1957	1957	1977	1955	1996	1996	1996	1996	1972	1956	1956	

RIO GRANDE BASIN

08324000 JEMEZ RIVER NEAR JEMEZ, NM--Continued

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

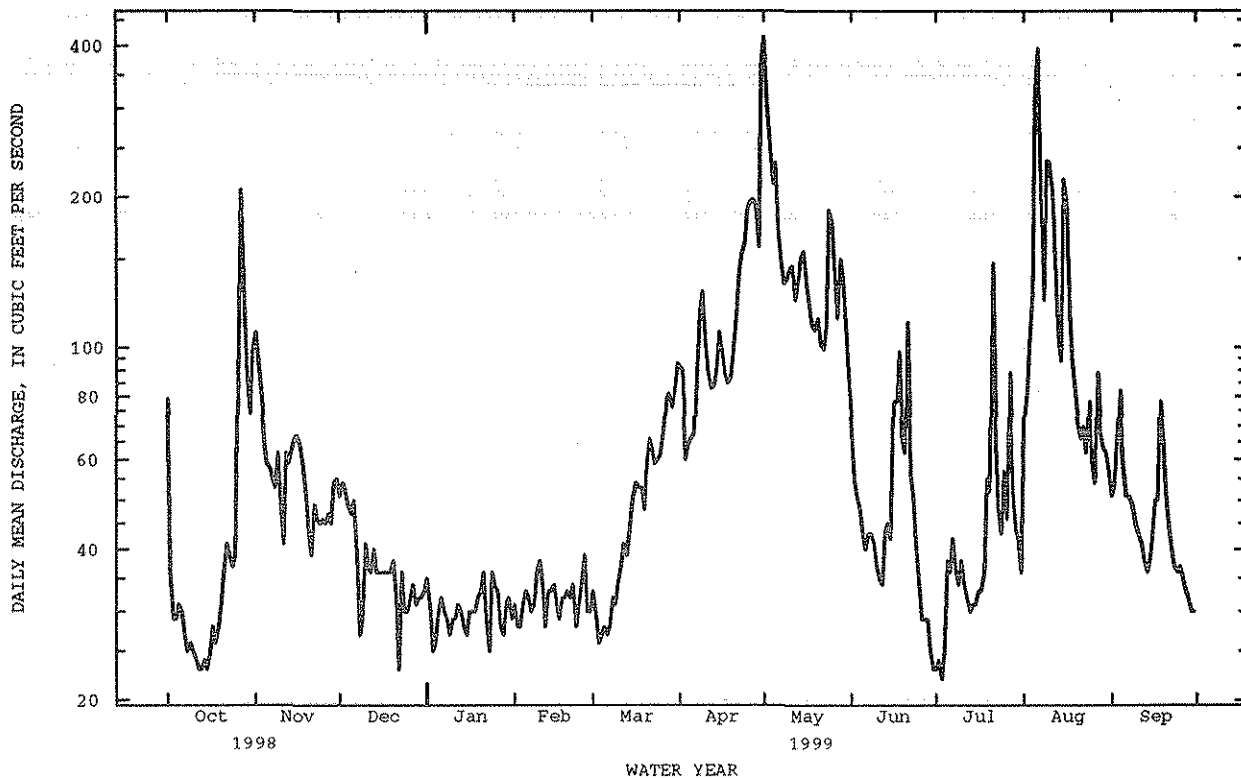
FOR 1999 WATER YEAR

WATER YEARS 1954 - 1999

ANNUAL TOTAL	30821		24456			
ANNUAL MEAN	84.4		67.0		79.4	
HIGHEST ANNUAL MEAN					189	1973
LOWEST ANNUAL MEAN					22.9	1996
HIGHEST DAILY MEAN	833	Mar 26	416	May 1	3160	Apr 21 1958
LOWEST DAILY MEAN	17	Sep 27	22	Jul 3	2.1	Jul 25 1981
ANNUAL SEVEN-DAY MINIMUM	19	Sep 23	24	Oct 10	6.0	Jul 23 1981
INSTANTANEOUS PEAK FLOW			1590	Jul 21	^a 5900	Apr 21 1958
INSTANTANEOUS PEAK STAGE			6.21	Jul 21	^b 10.10	Jul 15 1985
INSTANTANEOUS LOW FLOW			16	Dec 22	1.2	Jul 25 1981
ANNUAL RUNOFF (AC-FT)	61130		48510		57490	
10 PERCENT EXCEEDS	246		136		179	
50 PERCENT EXCEEDS	37		45		34	
90 PERCENT EXCEEDS	25		28		18	

a From rating curve extended above 2,200 ft³/s, on basis of contracted-opening measurement of peak flow.

b Present datum.



08324000 JEMEZ RIVER NEAR JEMEZ, NM--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, (PER-CENT SATUR-ATION) (00301)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	
MAR 31...	1230	88	289	7.9	21.5	11.5	617	9.0	102	84	29	2.9	
JUN 16...	1130	35	471	8.4	25.5	20.0	626	8.0	108	110	39	4.2	
DATE		SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
MAR 31...	23	1		4.0	118	0	97	98	6.5	25	.4	23	172
JUN 16...	43	2		7.4	159	5	138	147	8.2	54	.8	33	274
DATE		NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	
MAR 31...		<.01	<.02	<.01	.50	<.20	.09	.08	.01	10	<1	21	
JUN 16...		<.01	<.02	<.01	<.20	.21	<.02	<.02	<.01	5	<1	47	
DATE		BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	
MAR 31...		60	<1	210	<1	<1.0	<1	<1	38	<1	12	2	
JUN 16...		76	<1	448	<1	<1.0	<1	<1	14	<1	12	4	
DATE		NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L) (09511)	RA-226 2 SIGMA WATER, DISS. (PCI/L) (76001)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)	URANIUM NATURAL 2 SIGMA WATER, DISS. (UG/L AS U) (75990)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	
MAR 31...		<1	<1	<1	<1	--	--	<1	--	--	--	--	
JUN 16...		<1	<1	<1	<1	1.6	.33	1	.207	17	1.6	88	

08328500 JEMEZ CANYON RESERVOIR NEAR BERNALILLO, NM

LOCATION.--Lat 35°23'40", long 106°32'50", in SW¹/₄SW¹/₄ sec.32, T.14 N., R.4 E., Sandoval County, Hydrologic Unit 13020202, at corner of outlet works control tower of Jemez Canyon Dam on Jemez River, 2.8 mi upstream from mouth, and 6 mi north of Bernalillo.

DRAINAGE AREA.--1,034 mi².

PERIOD OF RECORD.--October 1953 to September 1965 (monthend contents only), October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir is formed by earthfill dam, completed October 19, 1953. Capacity, 172,800 acre-ft, from capacity table adapted January 1, 1992, between elevations 5,125.0 ft, sill of outlet gates, and 5,252.3 ft, operating deck of spillway. Maximum controlled capacity, 102,700 acre-ft at elevation 5,232.0 ft (floor of spillway, which is located about 0.8 mi south of dam). Capacity by original survey was 189,100 acre-ft. Original plan for reservoir operation was to desilt all flow above 30 ft³/s by storage for one day before releasing to Rio Grande, and for possible detention during flood stage on Rio Grande. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 72,110 acre-ft, June 1, 1987, elevation, 5,220.24 ft; no storage most of time prior to March 1979.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 24,210 acre-ft, Oct. 28, elevation, 5,194.30 ft; minimum contents, 17,110 acre-ft, Apr. 21, elevation, 5,189.74 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23960	23950	23690	21250	18200	17660	17360	19100	23360	20850	19900	19730
2	24170	23940	23550	21200	18070	17660	17390	19580	23260	20790	20340	19700
3	24170	23810	23420	21180	17950	17650	17410	19920	23170	20730	20610	19710
4	24120	23640	23440	21100	17850	17640	17400	20180	23020	20690	21290	19790
5	24050	23590	23470	21030	17780	17630	17370	20390	22900	20640	21900	19820
6	24040	23660	23480	20950	17800	17620	17360	20570	22810	20580	22650	19780
7	24040	23700	23440	20880	17790	17590	17350	20720	22680	20570	22780	19750
8	24010	23780	23340	20800	17800	17570	17350	20830	22550	20570	22700	19680
9	23950	23680	23250	20730	17800	17550	17400	20880	22470	20550	22640	19620
10	23860	23520	23280	20660	17850	17540	17450	20960	22310	20510	22600	19560
11	23750	23430	23310	20580	17860	17510	17430	21010	22180	20460	22440	19510
12	23640	23390	23350	20540	17830	17580	17440	21080	22050	20450	22150	19440
13	23570	23390	23380	20450	17830	17620	17430	21140	21940	20390	21740	19400
14	23550	23390	23420	20380	17840	17650	17410	21260	21900	20410	21340	19330
15	23480	23400	23420	20310	17840	17650	17420	21400	21840	20380	21300	19270
16	23430	23430	23430	20220	17860	17640	17380	21510	22110	20340	21020	19230
17	23390	23460	23420	20160	17860	17650	17310	21610	22260	20330	20560	19230
18	23370	23470	23430	20110	17860	17750	17220	21660	22370	20460	20210	19250
19	23340	23470	23400	20050	17870	17850	17180	21740	22410	20510	20150	19290
20	23350	23470	23400	19990	17860	17880	17120	21800	22390	20540	20120	19290
21	23340	23440	23350	19980	17880	17910	17110	21840	22650	20440	20040	19270
22	23340	23420	23240	19870	17890	17900	17140	21890	22690	20600	19990	19260
23	23370	23420	23160	19760	17860	17850	17180	21990	22550	20510	19940	19250
24	23380	23400	23130	19670	17800	17760	17300	22550	22320	20380	19920	19250
25	23400	23420	23120	19590	17720	17630	17480	22890	22090	20320	19910	19240
26	23480	23470	23160	19500	17700	17580	17660	23040	21850	20210	19870	19250
27	24070	23520	23210	19400	17690	17610	17840	23050	21590	20060	19860	19240
28	24210	23600	23210	19290	17680	17610	18050	23160	21310	19990	19870	19240
29	23960	23680	23210	19070	---	17550	18220	23300	21060	19980	19870	18810
30	23810	23730	23190	18760	---	17410	18400	23380	20910	19960	19840	18790
31	23900	---	23170	18430	---	17350	---	23400	---	19910	19790	---
MAX	24210	23950	23690	21250	18200	17910	18400	23400	23360	20850	22780	19820
MIN	23340	23390	23120	18430	17680	17350	17110	19100	20910	19910	19790	18790
(+)	5194.06	5193.93	5193.50	5191.04	5190.32	5189.99	5191.01	5195.13	5193.22	5192.38	5192.28	5191.38
(++)	-20	-170	-560	-4740	-750	-330	+1050	+5000	-2490	-1000	-120	-1000

CAL YR 1998 MAX 28330 MIN 22060 (++) +150
WTR YR 1999 MAX 24210 MIN 17110 (++) -5130

(+) ELEVATION, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-FEET

08329000 JEMEZ RIVER BELOW JEMEZ CANYON DAM, NM

LOCATION.--Lat 35°23'24", long 106°32'03", in NE¹/₄ sec.5, T.13 N., R.4 E., Sandoval County, Hydrologic Unit 13020202, on right bank 0.8 mi downstream from Jemez Canyon Dam, 2.0 mi upstream from mouth, and 6 mi north of Bernalillo.

DRAINAGE AREA.--1,038 mi².

PERIOD OF RECORD.--March 1936 to January 1938, March 1943 to current year. Published as "Jemez Creek" prior to 1948, and as "near Bernalillo" prior to 1954.

REVISED RECORDS.--WSP 1178: 1949. WSP 1212: 1950. WSP 1512: 1936, 1943, 1945, 1947-48, 1949(M), 1950. WSP 1732: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 5,095.60 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Apr. 24, 1951, at site 0.8 mi upstream at datum 24.51 ft higher. Apr. 24, 1951, to June 25, 1958, at site 37 ft upstream at datum 4.40 ft above present datum. Supplementary water-stage recorder at gages on Jemez Canyon Dam at datum 5,125.00 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark) used at times since January 1953.

REMARKS.--Records good except for estimated daily discharges, which are poor. Subsequent to October 1953, flow at this station can be completely regulated by Jemez Canyon Reservoir (station 08328500). However, reservoir is designed essentially for desilting and flood control rather than storage. Diversions for irrigation of about 3,000 acres upstream from station. No flow for many days.

EXTREMES OUTSIDE PERIOD OF RECORD.--A flood in 1900 was probably less than 16,000 ft³/s, but highest observed outside period of record.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	68	e26	35	147	24	46	18	52	8.0	12	29
2	3.3	99	e25	34	82	20	46	19	51	8.0	19	29
3	3.4	135	e24	34	82	21	46	41	51	8.0	87	26
4	3.4	135	e27	47	82	21	46	59	51	7.9	154	22
5	3.3	73	24	58	58	21	46	59	51	7.8	148	22
6	3.3	9.5	23	58	25	21	46	59	50	7.9	150	23
7	3.4	8.9	46	57	25	20	46	59	50	8.3	150	24
8	3.4	8.6	65	56	25	19	46	60	50	8.1	154	24
9	25	90	43	56	23	19	46	60	50	7.5	159	24
10	37	111	16	56	23	20	46	60	50	6.9	259	24
11	36	68	9.6	56	23	18	46	60	40	6.6	314	22
12	35	61	9.2	56	23	17	46	61	27	6.5	316	17
13	20	47	9.1	56	23	17	46	46	25	6.8	316	18
14	6.6	41	18	56	23	17	46	30	15	7.2	317	17
15	6.2	41	25	55	19	18	46	30	9.3	6.7	318	16
16	5.6	40	24	55	17	18	71	30	23	6.7	376	15
17	5.3	39	28	55	18	17	94	30	22	7.3	424	15
18	5.2	39	29	55	18	16	94	29	40	6.7	271	15
19	5.4	39	29	56	19	16	71	27	41	6.8	90	14
20	5.5	38	29	56	19	17	74	28	43	34	51	14
21	5.4	38	37	56	11	17	65	28	39	63	50	11
22	5.2	38	43	64	12	36	49	25	49	60	50	e11
23	5.2	41	33	72	32	54	50	26	93	56	40	e10
24	5.2	36	22	72	51	65	49	24	111	53	32	e9.0
25	5.3	25	22	72	51	85	49	24	108	53	32	8.2
26	5.3	9.3	22	72	36	65	49	56	106	55	31	8.4
27	44	9.6	22	72	23	44	50	81	107	58	30	7.2
28	152	9.5	21	73	24	44	19	52	108	61	30	5.5
29	210	9.4	28	137	---	76	19	52	108	40	29	5.2
30	142	28	36	185	---	109	19	52	48	11	29	5.1
31	70	---	35	183	---	72	---	52	---	11	29	---
TOTAL	869.3	1434.8	849.9	2105	1014	1044	1512	1337	1668.3	694.7	4467	490.6
MEAN	28.0	47.8	27.4	67.9	36.2	33.7	50.4	43.1	55.6	22.4	144	16.4
MAX	210	135	65	185	147	109	94	81	111	63	424	29
MIN	3.3	8.6	9.1	34	11	16	19	18	9.3	6.5	12	5.1
AC-FT	1720	2850	1690	4180	2010	2070	3000	2650	3310	1380	8860	973

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1999, BY WATER YEAR (WY)

	MEAN	26.5	29.6	21.5	24.2	28.4	66.1	185	190	76.8	26.1	45.3	21.9
MAX	193	179	74.4	67.9	75.1	288	772	968	988	358	247	157	
(WY)	1987	1958	1987	1999	1987	1995	1985	1973	1958	1987	1991	1988	
MIN	.000	2.22	.20	.25	.34	13.7	.96	.000	.000	.000	.13	.000	
(WY)	1956	1997	1985	1985	1985	1981	1996	1972	1946	1947	1950	1945	

RIO GRANDE BASIN

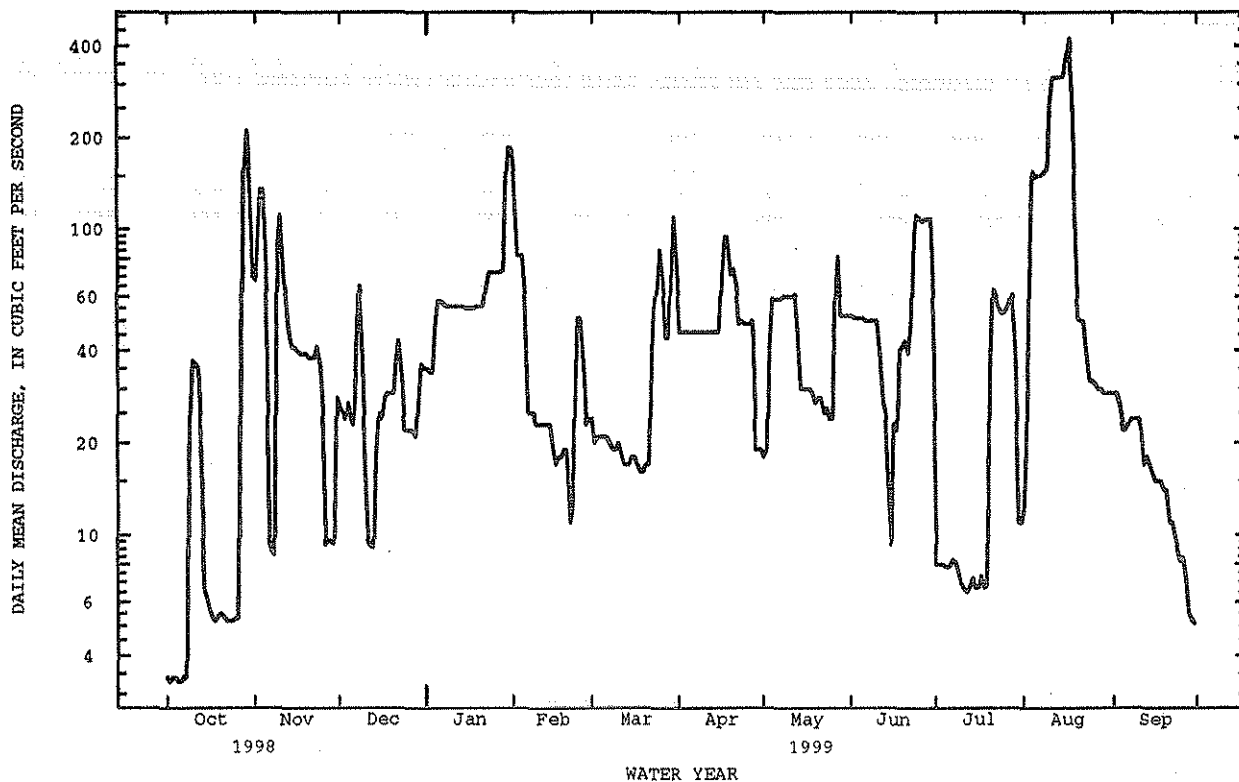
08329000 JEMEZ RIVER BELOW JEMEZ CANYON DAM, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1943 - 1999	
ANNUAL TOTAL	20059.0		17486.6		62.4	
ANNUAL MEAN	55.0		47.9		178	1973
HIGHEST ANNUAL MEAN					10.6	1953
LOWEST ANNUAL MEAN					3640	Jun 19 1958
HIGHEST DAILY MEAN	457	Apr 29	424	Aug 17	.00	May 24 1943
LOWEST DAILY MEAN	2.8	Sep 17	3.3	Oct 2	.00	May 24 1943
ANNUAL SEVEN-DAY MINIMUM	3.0	Sep 13	3.4	Oct 1	.00	Aug 29 1943
INSTANTANEOUS PEAK FLOW					^a 16300	Apr 28 1998
INSTANTANEOUS PEAK STAGE					6.63	
ANNUAL RUNOFF (AC-FT)	39790		34680		45170	
10 PERCENT EXCEEDS	152		91		154	
50 PERCENT EXCEEDS	27		34		18	
90 PERCENT EXCEEDS	3.8		7.7		.00	

e Estimated

a From rating curve extended above 3,000 ft³/s.

b Site and datum then in use.



08329700 CAMPUS WASH AT ALBUQUERQUE, NM

LOCATION.--Lat 35°05'40", long 106°37'22", in SE¹/₄ sec.16, T.10 N., R.3 E., Bernalillo County, Hydrologic Unit 13020203, on right bank 100 ft west of southwest corner of University of New Mexico North Golf Course, 200 ft downstream from Barelbas Stormwater Pumping Station outfall, 600 ft downstream from Tucker Road bridge, and 1,500 ft northeast of intersection of Lomas and University Boulevards. in Albuquerque.

DRAINAGE AREA.--3.80 mi².

PERIOD OF RECORD.--April 1982 to September 1996 (seasonal records). October 1996 to current year.

GAGE.--Water-stage and rainfall recorder and concrete-lined channel. Elevation of gage is 5,140 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharge, which are poor. Recording rain gage at station. Prior to water year 1997 some minor streamflow may exist on days where daily mean discharges have been recorded as zero due to the sensitivity limits of the streamflow monitoring equipment. See tabulation below for monthly precipitation in inches.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	.36	.21	.08	.15	.31	.35	.35	.54	.62	.55	.96
2	.46	.38	.13	e.10	e.15	.38	1.4	.38	.51	.62	4.7	1.6
3	.44	.38	.20	e.10	e.15	.40	.36	.39	.52	1.8	22	2.1
4	.42	.36	.20	e.10	.17	.33	.25	.36	.47	10	7.8	.93
5	.70	.37	.17	e.10	.15	.25	.30	.37	.58	.89	7.2	.93
6	.39	.34	.06	e.10	.10	.23	.31	.34	.44	.71	2.1	.99
7	.38	.34	e.05	e.10	.12	.16	.39	.38	.51	.59	.74	1.0
8	.39	.34	e.05	.10	.17	.11	.52	.35	.48	.54	3.0	1.1
9	.41	2.8	e.10	e.10	.17	.24	.40	.35	.34	.96	.62	1.3
10	.39	.22	.16	e.10	.15	.28	.47	.42	.35	.56	5.2	.77
11	.34	.27	e.10	e.10	e.15	.25	.40	.38	.38	.55	1.2	.74
12	.37	2.3	e.10	.07	e.15	3.7	.47	.37	.44	.60	1.1	.73
13	.45	.27	e.10	.10	e.15	1.5	.73	.39	.59	.66	1.0	.97
14	.45	.28	e.10	.12	e.20	.26	1.1	.37	.72	.56	1.1	.76
15	.39	.24	e.10	e.15	.24	.88	.35	.37	.66	.56	2.8	1.0
16	.48	.30	e.10	.19	e.20	.34	.31	.36	1.2	.58	1.0	.77
17	.42	.30	e.10	.19	e.20	5.4	.30	.41	3.0	1.2	1.0	.75
18	.47	.28	e.10	.18	.22	4.3	.44	.44	.81	6.0	1.0	.73
19	.90	.26	.08	.25	.35	.49	.44	.49	.64	.91	.99	4.0
20	7.6	.22	.05	.26	.37	.31	.38	.41	.59	.75	.98	.76
21	.43	.19	e.05	2.1	.29	.31	.36	.51	.69	1.1	.95	.76
22	.38	.17	e.05	.42	.30	.31	.34	.49	.64	.62	.95	.76
23	.36	.22	e.05	e.15	e.30	.28	.38	2.0	.64	.62	.97	.84
24	.37	.26	e.05	.14	.29	.34	8.0	.72	.55	.57	.92	.75
25	.39	.27	e.05	.11	.30	.32	.53	.92	.60	.56	.93	.71
26	3.2	.24	e.05	.18	.31	9.9	.43	.50	.60	.57	.95	.73
27	13	.23	e.10	e.15	.62	.51	.38	.90	1.2	.57	.95	.76
28	.44	.23	e.10	e.15	.22	.30	.34	2.5	.71	.57	1.9	.80
29	.37	1.3	.13	.17	---	.33	.34	.57	.70	.58	.80	.79
30	1.8	.20	.09	e.15	---	.37	.44	.51	.64	.61	.90	.77
31	8.6	---	.08	e.15	---	.32	---	.61	---	1.5	.92	---
TOTAL	48.59	13.92	3.06	6.46	6.34	33.41	21.21	17.91	20.74	37.53	77.22	30.56
MEAN	1.57	.46	.099	.21	.23	1.08	.71	.58	.69	1.21	2.49	1.02
MAX	13	2.8	.21	2.1	.62	9.9	8.0	2.5	3.0	10	22	4.0
MIN	.34	.17	.05	.07	.10	.11	.25	.34	.34	.54	.55	.71
AC-FT	96	28	6.1	13	13	66	42	36	41	74	153	61
(+)	1.43	0.31	0.00	0.15	0.00	1.39	0.71	0.29	0.38	1.30	2.88	1.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1999, BY WATER YEAR (WY)

	1997	1998	1999	1997	1998	1999	1997	1998	1999	1997	1998	1999
MEAN	1.31	.53	.25	.23	.33	1.10	.96	.77	.81	2.00	2.02	1.37
MAX	1.83	.58	.56	.32	.62	1.97	1.32	1.06	1.19	2.43	2.49	2.44
(WY)	1997	1997	1998	1997	1998	1998	1997	1998	1997	1999	1999	1997
MIN	.54	.46	.096	.15	.15	.26	.71	.58	.55	1.21	1.77	.65
(WY)	1998	1999	1997	1998	1997	1997	1999	1999	1998	1999	1998	1998

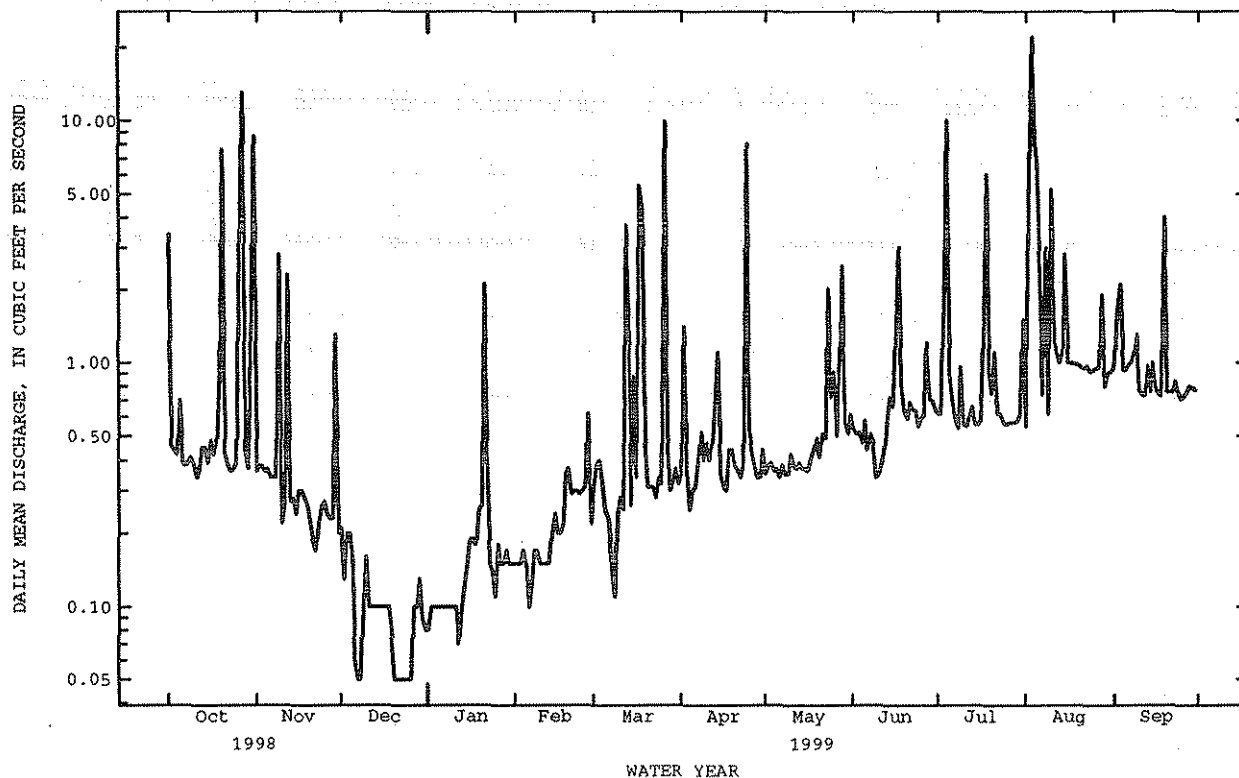
(+) TOTAL RAINFALL ACCUMULATION IN INCHES.

RIO GRANDE BASIN

08329700 CAMPUS WASH AT ALBUQUERQUE, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1997 - 1999	
ANNUAL TOTAL	370.91		316.95			
ANNUAL MEAN	1.02		.87			
HIGHEST ANNUAL MEAN					.98	
LOWEST ANNUAL MEAN					1.09	
HIGHEST DAILY MEAN	39	Mar 15	22	Aug 3	39	Mar 15 1998
LOWEST DAILY MEAN	.05	Jan 25	.05	Dec 7	.87	1999
ANNUAL SEVEN-DAY MINIMUM	.05	Dec 20	.05	Dec 20	.00	Nov 28 1996
INSTANTANEOUS PEAK FLOW			289	Jul 4	.05	Jan 6 1997
INSTANTANEOUS PEAK STAGE			1.92	Jul 4	4.50	Jul 14 1990
ANNUAL RUNOFF (AC-FT)	736		629		709	
10 PERCENT EXCEEDS	1.8		1.3		1.5	
50 PERCENT EXCEEDS	.43		.40		.39	
90 PERCENT EXCEEDS	.10		.10		.10	

e Estimated



08329720 EMBUDO ARROYO AT ALBUQUERQUE, NM

LOCATION.--Lat 35°06'09", long 106°29'32", in NW¹/₄NE¹/₄ sec. 14, T.10N., R.4E., Bernalillo County, Hydrologic Unit 13020203, on left bank of concrete lined channel, approximately 90 ft upstream of Monte Largo Bridge over Embudo Arroyo, between Indian School Rd to the south and Rover St to the north in Albuquerque.

DRAINAGE AREA.--3.8 mi².

PERIOD OF RECORD.--October 1998 to current year.

GAGE.--Water-stage recorder, crest-stage gage and concrete weir control. Elevation of gage is 6,040 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. Recording rain gage located in drainage basin, approximately 1 mi upstream. Site used for gathering water quality data of undeveloped upper drainage basin, which represents undeveloped foothill east of Albuquerque.

EXTREMES PERIOD OF RECORD.--Maximum discharge, 6.2 ft³/s, at 1342 hours, July 31, 1999 gage height, 2.66 ft, from rating curve based on theoretical weir-flow computations. No flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6.2 ft³/s, at 1342 hours, July 31, gage height, 2.66 ft, from rating curve based on theoretical weir-flow computations. No flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.29	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	e.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.01	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.02	---	.00	.00	---	.00	---	.00	---	.05	.00	---
TOTAL	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.42	0.00
MEAN	.001	.000	.000	.000	.000	.000	.000	.000	.000	.002	.014	.000
MAX	.02	.00	.00	.00	.00	.00	.00	.00	.00	.05	.29	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.08	.00	.00	.00	.00	.00	.00	.00	.00	.1	.8	.00

WTR YR 1999 TOTAL 0.51 MEAN .001 MAX .29 MIN .00 AC-FT 1.0

e Estimated

08329835 NORTH FLOODWAY CHANNEL AT ALBUQUERQUE, NM

LOCATION.--Lat 35°07'03", long 106°36'42", in SE¹/₄ sec.3, T.10 N., R.3 E., Bernalillo County, Hydrologic Unit 13020203, on right bank of concrete-lined drainage channel, 300 ft downstream (north) of bridge on Candelaria Boulevard. NE, and 3,000 ft downstream from confluence of Campus Wash and Embudo Arroyo in Albuquerque.

DRAINAGE AREA.--40.0 mi².

PERIOD OF RECORD.--May 1982 to current year (seasonal records).

GAGE.--Water-stage recorder and concrete-lined channel. Elevation of gage is 5,110 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Some minor streamflow may exist on days where daily mean discharges have been recorded as zero due to the sensitivity limits of the streamflow monitoring equipment. See tabulation below for monthly precipitation in inches.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,250 ft³/s, July 9, 1988, gage height, 12.10 ft, from floodmarks from step-backwater analysis of channel; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 2,410 ft³/s, at 1127 hours Aug. 10, gage height, 6.80 ft; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00
2	.04	.00	.00	---	---	---	6.5	.00	.00	.00	5.8	7.8
3	.00	.00	---	---	---	---	.00	.00	.00	1.8	229	7.4
4	.00	.00	---	---	---	---	.00	.00	.00	63	65	.00
5	.57	.00	---	---	---	---	.41	.00	.00	24	48	.00
6	.00	.00	---	---	---	---	.00	.00	.00	.47	28	.00
7	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
8	.00	.00	---	---	---	---	.00	.00	.00	.00	5.0	.00
9	.00	31	---	---	---	---	.00	.00	.00	.63	.00	2.2
10	.00	.00	---	---	---	---	.00	.00	.00	.00	84	.00
11	.00	.00	---	---	---	---	.00	.00	.00	.00	.10	.00
12	.00	26	---	---	---	e40	.00	.00	.00	.00	.00	.00
13	.00	.00	---	---	---	10	6.4	.00	.00	.00	.00	.97
14	.00	.00	---	---	---	.00	9.9	.00	.00	.00	8.4	.00
15	.00	.00	---	---	---	.00	.00	.00	.00	12	18	2.8
16	.00	.00	---	---	---	.00	.00	.00	79	.00	.00	.00
17	.00	.00	---	---	---	51	.00	.00	19	3.2	.00	.00
18	.00	.00	---	---	---	42	.00	.00	1.9	60	.00	.00
19	1.8	.00	---	---	---	4.0	.00	.00	.20	.39	.00	38
20	62	.00	---	---	---	.00	.00	.00	6.2	12	.00	.00
21	.45	.00	---	---	---	.00	.00	.00	.00	.41	3.0	.00
22	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	---	---	---	.00	.00	14	.00	1.9	.00	.00
24	.00	.00	---	---	---	.00	78	e4.0	.00	.00	.00	.00
25	.00	.00	---	---	---	.00	6.2	e5.0	.00	.00	.00	.00
26	26	.00	---	---	---	71	.00	.00	.00	.00	4.2	.00
27	104	.00	---	---	---	3.5	.00	2.1	18	.00	.00	.00
28	e1.0	.00	---	---	---	.00	.00	54	.00	.95	13	.00
29	.00	9.3	---	---	---	.00	.00	.00	.00	.00	.06	.00
30	17	.00	---	---	---	.00	3.8	.00	.00	.00	.00	.00
31	104	---	---	---	---	.00	---	.00	---	63	.00	---
TOTAL	336.86	66.30	---	---	---	---	111.21	79.10	124.30	243.75	511.56	59.17
MEAN	10.9	2.21	---	---	---	---	3.71	2.55	4.14	7.86	16.5	1.97
MAX	104	31	---	---	---	---	78	54	79	63	229	38
MIN	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
AC-FT	668	132	---	---	---	---	221	157	247	483	1010	117
(+)	---	---	---	---	---	---	---	---	---	0.07	2.45	0.57

e Estimated

(+) TOTAL RAINFALL ACCUMULATION IN INCHES.

153

LOCATION.--Lat 35°07'16", long 106°34'04", in NE¹/₄SE¹/₄ sec. 1, T.10 N., R.3 E., Bernalillo County, Hydrologic Unit 13020203, on left bank 300 ft above Louisiana Boulevard, 900 ft south of Comanche Rd, and 1,700 ft north of Candelaria Rd, in Albuquerque.

REVISED RECORD.--WDR NM-99-1: 1992-1998(M), (mean daily values).

GAGE.--Water-stage and rainfall recorder and concrete lined channel. Elevation of gage is 5,300 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to 1983 at site 300 ft downstream on Louisiana Boulevard bridge, at different datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Some minor streamflow may exist on days where daily mean discharges have been recorded as zero due to the sensitivity limits of the streamflow monitoring equipment. Recording rain gage at station. See tabulation below for monthly precipitation in inches.

REVISIONS.--Revised figures for discharge for water years 1992-1998, superseding those published in corresponding annual reports are given here in.

EXTREMES FOR WATER-YEARS 1992-1998.--Minimum discharges, no flow most of time.

Water year	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Water year	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
1992	July 23	1535	620	3.48	1996	June 26	1135	983	4.33
1993	Aug 2	0945	1120	4.55	1997	July 28	1405	977	4.32
1994	May 11	1635	1160	4.61	1998	Aug 1	1727	492	3.40
1995	Sept 7	1800	1180	4.63					

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	.30	.40	.00
2	---	---	---	---	---	---	---	---	---	.18	.24	.00
3	---	---	---	---	---	---	---	---	---	.32	.35	.00
4	---	---	---	---	---	---	---	---	---	.26	.36	.00
5	---	---	---	---	---	---	---	---	---	.37	.25	.00
6	---	---	---	---	---	---	---	---	---	.53	4.8	.00
7	---	---	---	---	---	---	---	---	---	.60	.54	.00
8	---	---	---	---	---	---	---	---	---	.53	.19	.00
9	---	---	---	---	---	---	---	---	---	2.0	.30	.00
10	---	---	---	---	---	---	---	---	---	1.7	.28	.14
11	---	---	---	---	---	---	---	---	---	.64	.56	.34
12	---	---	---	---	---	---	---	---	.30	.72	.11	.20
13	---	---	---	---	---	---	---	---	.35	.40	.00	.18
14	---	---	---	---	---	---	---	---	.69	.27	.00	.54
15	---	---	---	---	---	---	---	---	.64	.25	.00	5.5
16	---	---	---	---	---	---	---	---	.30	.13	.00	.26
17	---	---	---	---	---	---	---	---	.20	.25	.00	.19
18	---	---	---	---	---	---	---	---	.29	.21	.00	.17
19	---	---	---	---	---	---	---	---	.37	.29	.00	4.1
20	---	---	---	---	---	---	---	---	.40	.27	.03	.25
21	---	---	---	---	---	---	---	---	.33	.23	.00	.21
22	---	---	---	---	---	---	---	---	.43	.24	.00	.17
23	---	---	---	---	---	---	---	---	.36	19	.00	.15
24	---	---	---	---	---	---	---	---	.30	2.1	.06	.17
25	---	---	---	---	---	---	---	---	.28	.32	.00	.16
26	---	---	---	---	---	---	---	---	.41	.42	.00	.12
27	---	---	---	---	---	---	---	---	.30	.30	.00	.09
28	---	---	---	---	---	---	---	---	.35	.21	.00	.12
29	---	---	---	---	---	---	---	---	.44	.24	.00	.10
30	---	---	---	---	---	---	---	---	.42	.51	.00	.22
31	---	---	---	---	---	---	---	---	---	2.7	.03	---
TOTAL	---	---	---	---	---	---	---	---	---	36.49	8.50	13.38
MEAN	---	---	---	---	---	---	---	---	---	1.18	.27	.45
MAX	---	---	---	---	---	---	---	---	---	.19	4.8	5.5
MIN	---	---	---	---	---	---	---	---	---	.13	.00	.00
AC-FT	---	---	---	---	---	---	---	---	---	72	17	27

RIO GRANDE BASIN

08329838 SOUTH FORK HAHN ARROYO AT ALBUQUERQUE, NM--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	.02	.12	---	---	---	.12	3.5	.21	.00	4.0	.18
2	.15	.05	.10	---	---	---	.10	.01	.01	.00	24	.17
3	.03	.07	.00	---	---	---	.00	.11	.10	.00	1.1	.10
4	.07	.09	4.4	---	---	---	.00	.03	.11	.00	.30	.05
5	.11	.03	11	---	---	---	.00	.05	.03	.11	.14	.06
6	.13	.04	2.4	---	---	---	.02	.00	.09	.09	.15	1.5
7	.11	.02	.26	---	---	---	.00	.10	.11	.20	.11	.43
8	.05	.01	.03	---	---	---	.00	.11	.01	.26	.17	.28
9	.05	.03	.07	---	---	---	.06	.01	.00	.29	.14	.38
10	.05	.06	---	---	---	---	.00	.88	.00	.00	.17	.17
11	.01	4.1	---	---	---	---	.00	1.7	.00	.00	.15	.02
12	.05	.04	---	---	---	---	.00	1.0	.00	4.0	.25	.51
13	.02	1.1	---	---	---	---	.00	.74	.00	.32	23	1.7
14	.03	.17	---	---	---	---	.06	.07	.00	.65	1.3	.51
15	.00	1.1	---	---	---	---	.02	.02	.00	.97	.15	.15
16	.00	1.2	---	---	---	---	.02	.01	.16	.32	.16	.14
17	.07	.46	---	---	---	---	.00	.60	.01	.16	.30	.09
18	.05	.37	---	---	---	---	.07	.03	.00	.11	.21	.30
19	.06	1.1	---	---	---	---	.07	.02	.00	1.2	1.2	.01
20	.09	5.9	---	---	---	---	.30	.03	.00	9.7	6.3	.24
21	.05	4.8	---	---	---	---	.21	.21	.41	.22	.22	.57
22	1.2	.61	---	---	---	---	.06	.05	.01	.14	.17	.24
23	1.1	.54	---	---	---	.00	.02	.01	.00	.76	.13	.31
24	.25	1.1	---	---	---	.32	.00	.01	.00	.41	.11	.12
25	1.3	1.2	---	---	---	.18	.00	.08	.00	.07	.12	.03
26	.09	.34	---	---	---	.30	.20	.01	.00	.16	3.4	.05
27	.07	1.1	---	---	---	.67	.03	.08	.00	.13	4.6	.13
28	3.2	1.4	---	---	---	.05	.06	.04	.01	.13	1.1	.28
29	1.6	.00	---	---	---	3.2	.01	.09	.00	13	.81	1.4
30	.09	.00	---	---	---	.21	.00	.05	.00	.23	1.1	.47
31	.49	---	---	---	---	.08	---	.06	---	.12	.42	---
TOTAL	10.65	27.05	---	---	---	---	1.43	9.71	1.27	33.75	75.48	10.59
MEAN	.34	.90	---	---	---	---	.048	.31	.042	1.09	2.43	.35
MAX	3.2	5.9	---	---	---	---	.30	3.5	.41	13	24	1.7
MIN	.00	.00	---	---	---	---	.00	.00	.00	.00	.11	.01
AC-FT	21	54	---	---	---	---	2.8	19	2.5	67	150	21

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.03	---	---	---	---	.94	.01	.00	.10	6.7	.34
2	.00	.02	---	---	---	---	.94	.00	.00	.00	.45	.40
3	.00	.00	---	---	---	---	.00	.00	.02	.02	2.0	1.8
4	.01	.00	---	---	---	---	.00	.00	.00	.08	.25	.87
5	.01	.00	---	---	---	---	.00	.00	.00	.87	.23	2.0
6	.01	.00	---	---	---	---	.00	.00	.13	.09	.24	.96
7	1.5	.00	---	---	---	---	.00	.00	.28	.14	.35	.35
8	.02	.06	---	---	---	---	1.3	.00	.16	2.1	4.1	.27
9	.01	2.2	---	---	---	---	3.0	.00	.14	.01	.20	.26
10	.02	.00	---	---	---	---	.09	1.0	.17	.39	.25	.28
11	.02	.83	---	---	---	---	1.2	29	.06	.23	.26	3.8
12	.08	.07	---	---	---	---	.00	1.3	.18	.18	.30	.25
13	.14	3.2	---	---	---	---	.02	.98	.29	1.7	.31	1.9
14	.03	.74	---	---	---	---	.00	.00	.12	.12	14	.73
15	.03	.48	---	---	---	---	.00	.00	.13	.24	15	.07
16	.04	1.8	---	---	---	---	.00	.00	.11	.21	.31	.20
17	2.2	---	---	---	---	.00	.00	.00	.14	.20	.44	.20
18	.45	---	---	---	---	.12	.31	.00	.57	.21	.46	.13
19	.41	---	---	---	---	.09	.00	.00	.55	3.6	.41	1.2
20	.02	---	---	---	---	1.5	.00	.00	.16	.68	.80	.09
21	.01	---	---	---	---	.04	.11	.00	10	23	.47	.09
22	.00	---	---	---	---	.05	.00	.31	.42	.57	.35	.19
23	.01	---	---	---	---	2.3	.08	.09	.12	.24	.37	.08
24	.22	---	---	---	---	.08	.00	.01	.04	.27	.36	.34
25	.00	---	---	---	---	.11	.01	4.0	.01	.18	.33	.09
26	.00	---	---	---	---	.04	.00	8.2	.02	.20	1.7	2.4
27	.00	---	---	---	---	.51	.00	.19	.08	.20	.43	.16
28	.00	---	---	---	---	.00	.00	.05	.04	8.5	.45	.15
29	.00	---	---	---	---	.00	.00	.24	.06	.55	.34	.17
30	.00	---	---	---	---	.00	.00	.00	.07	.18	.36	.10
31	.00	---	---	---	---	.28	---	.16	---	1.9	.21	---
TOTAL	5.24	---	---	---	---	---	8.00	45.54	14.07	46.96	52.43	19.87
MEAN	.17	---	---	---	---	---	.27	1.47	.47	1.51	1.69	.66
MAX	2.2	---	---	---	---	---	3.0	29	10	23	15	3.8
MIN	.00	---	---	---	---	---	.00	.00	.00	.00	.20	.07
AC-FT	10	---	---	---	---	---	16	90	28	93	104	39

08329838 SOUTH FORK HAHN ARROYO AT ALBUQUERQUE, NM--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	---	---	---	---	---	.03	.03	.13	.57	.07	.08
2	.38	---	---	---	---	---	.09	.09	.12	.23	.14	.00
3	.19	---	---	---	---	---	.04	.03	.03	.09	.17	.01
4	.12	---	---	---	---	---	.68	.19	.04	.07	.11	.05
5	.13	---	---	---	---	---	1.3	.02	.08	.03	.00	.06
6	.11	---	---	---	---	---	.04	.03	.06	.08	.07	.05
7	.06	---	---	---	---	---	.03	.01	.07	.04	.14	21
8	.10	---	---	---	---	---	.07	.05	.10	.36	.14	1.7
9	.07	---	---	---	---	---	.01	.80	.07	.05	.09	.32
10	1.3	---	---	---	---	---	1.4	.02	.05	.13	3.2	.02
11	.02	---	---	---	---	---	.04	.00	.00	.07	.41	.10
12	.00	---	---	---	---	---	.01	.00	.09	.05	.01	.05
13	.00	---	---	---	---	---	.06	.03	.12	.05	.00	.07
14	1.7	---	---	---	---	---	.03	.00	.06	.35	.06	.10
15	.99	---	---	---	---	---	.05	.00	.10	.08	.06	.12
16	1.1	---	---	---	---	---	.03	.00	.06	.09	.05	.08
17	.26	---	---	---	---	---	.03	.44	.05	.92	.07	.01
18	---	---	---	---	---	---	.02	.00	.03	3.8	.31	.18
19	---	---	---	---	---	---	2.1	.01	.13	.15	.06	.08
20	---	---	---	---	---	---	.08	.00	.11	.06	.05	.10
21	---	---	---	---	---	.02	.02	.00	.06	.03	2.0	.09
22	---	---	---	---	---	.02	.17	.00	.06	.00	1.3	.18
23	---	---	---	---	---	.02	.21	.00	.20	.01	1.8	.11
24	---	---	---	---	---	.04	.04	.01	.04	.05	.32	.02
25	---	---	---	---	---	.02	.01	.01	.02	.08	.16	.15
26	---	---	---	---	---	.01	.02	.02	.08	.05	.28	.16
27	---	---	---	---	---	.02	.10	.04	.04	.55	1.9	.18
28	---	---	---	---	---	.03	2.2	.25	.09	.00	.19	6.3
29	---	---	---	---	---	.02	.82	.39	.25	.01	1.7	.48
30	---	---	---	---	---	.05	1.0	.31	.27	.03	.33	.13
31	---	---	---	---	---	.05	---	.09	---	.06	.09	---
TOTAL	---	---	---	---	---	---	10.73	2.87	2.61	8.14	15.28	31.98
MEAN	---	---	---	---	---	---	.36	.093	.087	.26	.49	1.07
MAX	---	---	---	---	---	---	2.2	.80	.27	3.8	3.2	21
MIN	---	---	---	---	---	---	.01	.00	.00	.00	.00	.00
AC-FT	---	---	---	---	---	---	21	5.7	5.2	16	30	63

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.23	---	---	---	---	.00	.00	.00	.18	---	---
2	.17	.46	---	---	---	---	.00	.00	.04	.23	---	---
3	.18	.09	---	---	---	---	.00	.00	.05	.11	---	---
4	.17	.03	---	---	---	---	.00	.04	.07	.12	---	e.07
5	.25	.03	---	---	---	---	.00	.01	.09	.08	---	.12
6	.20	.00	---	---	---	---	.00	.05	.06	.05	.02	.65
7	.01	.00	---	---	---	---	.00	.03	.07	.39	.01	.12
8	.04	.00	---	---	---	---	.04	.04	.05	.61	.24	.05
9	.24	.00	---	---	---	---	.01	.15	.06	1.8	.07	.09
10	.15	.09	---	---	---	---	.02	.05	.05	.60	.08	.06
11	.14	.03	---	---	---	---	.03	.00	.07	.26	.03	.06
12	.22	.04	---	---	---	.00	.03	.02	.09	e.20	.03	.59
13	.13	.00	---	---	---	.00	.03	.04	.08	e.20	.00	.09
14	.03	.00	---	---	---	.00	.05	.04	2.3	e.20	.03	10
15	.06	.00	---	---	---	.00	.04	.26	.14	e.20	.05	.38
16	.05	.00	---	---	---	.00	.01	.04	.07	e.20	.05	.13
17	.09	.08	---	---	---	.00	.01	.09	.08	e.20	.00	4.3
18	.00	.05	---	---	---	.04	.02	.02	.06	e.20	.00	2.0
19	.00	.04	---	---	---	.03	.01	.02	.05	e.20	.05	.29
20	.07	.00	---	---	---	.05	.01	.08	.05	e.20	2.4	.09
21	.03	.00	---	---	---	.05	.01	.14	.05	e.20	.32	.03
22	.24	.00	---	---	---	.08	.03	.09	.00	e.20	5.6	.06
23	.00	.00	---	---	---	.00	.04	.04	.08	---	3.8	.11
24	.00	.09	---	---	---	.05	.03	.04	.08	---	1.4	.12
25	.01	.04	---	---	---	.06	.03	.00	.11	---	18	.07
26	.03	.07	---	---	---	.06	.03	.66	29	---	5.6	.61
27	.10	.00	---	---	---	.06	.00	.04	2.0	---	.15	.07
28	.05	.00	---	---	---	.06	.01	.11	17	---	---	.01
29	.12	---	---	---	---	.03	.00	.07	.60	---	---	.00
30	.00	---	---	---	---	.10	.00	.04	.42	---	---	.11
31	.00	---	---	---	---	.00	---	.05	---	---	---	---
TOTAL	2.82	---	---	---	---	---	0.49	2.26	52.87	---	---	---
MEAN	.091	---	---	---	---	---	.016	.073	1.76	---	---	---
MAX	.25	---	---	---	---	---	.05	.66	.29	---	---	---
MIN	.00	---	---	---	---	---	.00	.00	.00	---	---	---
AC-FT	5.6	---	---	---	---	---	1.0	4.5	105	---	---	---

RIO GRANDE BASIN

08329838 SOUTH FORK HAHN ARROYO AT ALBUQUERQUE, NM--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	DAILY MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.07	.25	.08	.01	.04	.21	.15	.02	.02	.03	.06
2	.13	.03	.18	e.02	.00	.02	.23	.12	.13	.02	.07	.04
3	.13	.84	.18	e.20	.04	.04	.43	.01	.08	.01	.00	.05
4	17	.07	.21	e.00	.00	.15	3.8	.04	.09	.01	18	.05
5	.26	.08	.26	1.6	.05	.08	.16	.13	.12	.00	2.6	.08
6	.04	.08	.10	.38	.13	.14	.09	.12	.50	.02	.06	.02
7	.07	.11	.02	.00	.03	.10	.19	.13	1.4	.02	.06	.02
8	.06	.17	.00	e.00	.01	.06	.25	.10	4.5	.03	.10	.04
9	.10	.01	.16	e.00	.00	.05	.23	.19	.12	.02	.05	.08
10	.10	.03	.19	e.00	.08	.23	.23	.04	.18	19	.55	.07
11	.08	.09	.13	e.00	.01	.14	.71	.22	.11	.45	.32	.11
12	.02	.10	.12	e.10	.01	.17	2.5	.16	.10	.00	.08	.12
13	.01	.09	.19	e.10	.16	.23	.23	.17	.14	.00	.06	.11
14	.12	.10	.09	e.00	.08	.17	.13	.16	.01	.04	.18	.00
15	.11	.16	.07	e1.0	.01	.06	.12	.13	.25	.02	.06	.45
16	.12	.06	.68	e1.0	.01	.11	.12	.44	.14	1.8	.06	.23
17	.10	.06	.19	e.50	.10	.16	.15	.01	.14	.27	.13	.06
18	.09	.13	e.00	e.50	.08	.14	.15	.04	.09	.14	.08	.06
19	.05	.20	e.00	e.10	.09	.14	.02	3.3	.17	.19	.04	.85
20	.05	.31	e.00	e.00	.09	.17	.06	.40	.06	.00	.04	1.7
21	.27	.16	e.00	.00	.08	.14	.20	2.0	.01	.05	.08	6.6
22	.08	.12	.00	.00	.04	.05	.15	.27	.02	.19	14	.29
23	.14	1.8	.15	.00	.02	.07	1.5	.18	.10	.19	1.1	.07
24	.09	.98	.18	.00	.07	.05	3.1	.40	.06	.04	.02	.07
25	.05	.10	.15	.00	.09	1.3	1.3	.15	.00	.02	.05	.09
26	.19	.15	.27	.51	.34	.01	.74	.10	.04	.00	.04	.08
27	.53	.15	.10	.57	.80	.54	.28	.14	.04	.97	.06	.00
28	3.3	.15	.00	.07	.35	.08	.16	.10	.00	31	.04	.00
29	.20	1.3	.00	.09	---	.03	.15	.15	.00	.47	.03	.05
30	.02	1.2	.11	.04	---	.06	.13	.08	.04	7.7	.02	.06
31	.06	---	.12	.07	---	.18	---	.00	---	9.7	.23	---
TOTAL	23.67	8.90	4.10	6.93	2.78	4.91	17.72	9.63	8.66	72.39	38.24	11.51
MEAN	.76	.30	.13	.22	.099	.16	.59	.31	.29	2.34	1.23	.38
MAX	.17	1.8	.68	1.6	.80	1.3	3.8	3.3	4.5	.31	.18	6.6
MIN	.01	.01	.00	.00	.00	.01	.02	.00	.00	.00	.00	.00
AC-FT	47	18	8.1	14	5.5	9.7	35	19	17	144	76	23

WTR YR 1997 TOTAL 209.44 MEAN .57 MAX 31 MIN .00 AC-FT 415

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	DAILY MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.00	.08	.10	.05	.01	.16	.10	.10	.97	8.1	.07
2	3.7	.00	2.5	.16	.14	.14	.26	.14	.09	.08	.19	.08
3	.09	.05	.77	.03	.17	.15	.26	.15	.10	.10	.13	.10
4	.00	.05	.12	.04	.90	.15	.04	.19	.07	1.6	.08	.09
5	.00	.03	.09	.12	.49	.16	.09	.17	.08	.01	.12	.00
6	.06	.10	.00	.23	.13	.07	.17	.14	.01	.09	.11	.01
7	.62	.09	.43	.30	.04	1.4	.23	.16	.00	.05	.16	.09
8	.06	.03	.15	.12	1.1	.03	.14	.11	.11	.15	.00	.10
9	.05	.01	.19	.26	.29	.18	.19	.00	.10	.62	.02	.08
10	.05	.04	.12	.03	.08	.14	.10	.00	.43	.22	.13	.08
11	.00	1.0	.66	.94	.03	.14	.00	.10	.17	.02	.08	.08
12	.00	1.4	.60	.09	.03	.16	.11	.08	.10	.01	.17	.03
13	.06	.71	.01	.13	.03	.14	.24	.10	.01	.12	.12	.02
14	.07	.47	.01	.19	.02	.76	.10	.10	.01	.12	.08	.10
15	.07	1.4	.09	.19	3.2	8.5	.13	.10	.10	.09	.36	.23
16	.04	.16	.83	.03	.15	3.9	.22	.00	.10	2.3	.05	.11
17	.05	.14	.06	.01	.07	.91	.08	.00	.07	.33	.12	.07
18	.00	.16	.84	.01	.03	1.3	.02	.12	.08	.01	.11	.11
19	.00	.09	.05	.16	.05	.42	.15	.15	.07	.08	.35	.00
20	.07	.13	.62	.08	.10	.09	.19	.13	.01	.07	.17	.01
21	.03	.06	.71	.09	.01	.06	.11	.11	.01	.08	1.1	.08
22	.13	.01	.12	.18	.01	.06	.13	.11	.12	5.9	.02	.07
23	.07	.14	1.6	.18	.12	.10	.22	.00	.07	.31	.01	.07
24	.31	.10	.05	.16	.16	.15	.12	.11	.07	.19	1.4	.07
25	.01	.08	.03	.01	.15	.14	.03	.11	.07	.15	1.6	.10
26	.01	.04	.05	.20	.16	.80	6.3	.08	.04	.01	.23	.00
27	.04	.53	e.05	.12	.13	.20	.51	.08	.00	.20	.12	.00
28	.05	.06	e.05	.15	.05	.07	.29	.08	.01	.19	.10	.09
29	.07	.01	e.20	.20	---	.16	.21	.07	.10	.63	.03	.34
30	.05	.01	.65	.11	---	.38	.28	.00	.08	.21	.01	.57
31	.06	---	.13	.01	---	.16	---	.04	---	.10	.10	---
TOTAL	5.88	7.10	11.86	4.63	7.89	21.03	11.08	2.83	2.38	15.01	15.37	2.85
MEAN	.19	.24	.38	.15	.28	.68	.37	.091	.079	.48	.50	.095
MAX	3.7	1.4	2.5	.94	3.2	8.5	6.3	.19	.43	5.9	8.1	.57
MIN	.00	.00	.00	.01	.01	.01	.00	.00	.00	.01	.00	.00
AC-FT	12	14	24	9.2	16	42	22	5.6	4.7	30	30	5.7

CAL YR 1997 TOTAL 197.61 MEAN .54 MAX 31 MIN .00 AC-FT 392

WTR YR 1998 TOTAL 107.91 MEAN .30 MAX 8.5 MIN .00 AC-FT 214

08329838 SOUTH FORK HAHN ARROYO AT ALBUQUERQUE, NM--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.59	.05	.05	.06	.13	.14	.08	.35	.10	.08	.05	.10
2	.07	.07	.08	.05	.11	.17	.51	.01	.10	.08	.25	.38
3	.02	.10	.05	.11	.11	.12	.12	.07	.10	.08	8.1	.23
4	.05	.06	.05	e.10	.06	.12	.04	.14	.10	1.9	2.2	.00
5	.08	.20	.03	.08	.13	.12	.21	.12	.03	2.9	8.4	.00
6	.08	.05	.06	.07	.04	.04	.10	.10	.04	.14	.76	.14
7	.03	.05	.66	.10	.07	.05	.10	.09	.09	.09	.02	.11
8	.04	.06	.42	.10	.04	.11	.06	.00	.09	.10	.15	.11
9	.06	.89	.14	.14	.02	.12	.07	.04	.09	.12	.08	.33
10	.05	.05	.10	.05	.04	.11	.05	.13	.10	.00	8.0	.10
11	.07	.06	.06	.05	e.05	.05	.03	.11	.09	.08	.15	.00
12	.08	1.1	.05	.05	.05	1.5	.05	.12	.03	.13	.10	.07
13	.11	.07	.05	.09	.06	.43	.54	.08	.01	.13	.17	.11
14	.12	.04	.15	.09	.03	.09	.35	.11	.12	.08	.43	.12
15	.07	.05	.14	.13	.06	.11	.05	.00	.09	1.9	.71	.32
16	.07	.12	.10	.05	.05	.11	.08	.00	31	.14	.08	.14
17	.02	.06	.05	.03	.08	1.5	.03	.14	1.2	.05	.18	.11
18	.02	.10	.10	.08	.06	1.6	.04	.11	.54	6.0	.11	.01
19	.32	.06	.03	.09	.08	.41	.13	.12	.09	.19	.15	.24
20	3.2	.05	.09	.06	.04	.05	.09	.11	.46	.63	.23	.09
21	.13	.03	.10	1.2	.04	.05	.06	.11	.13	.15	.02	.07
22	.09	.05	e.10	.11	.07	.09	.06	.03	.11	.22	.08	.09
23	.06	.05	e.05	.04	.07	.11	.15	.44	.08	.20	.17	.15
24	.09	.04	e.05	.12	.07	.03	3.9	.48	.18	.00	.09	.11
25	.09	.05	.00	.09	.07	.08	.20	.50	.09	.06	.11	.00
26	1.5	.04	.00	.09	.10	4.2	.10	.13	.02	.14	.12	.03
27	2.9	.08	.00	.06	.06	.23	.07	.19	1.4	.07	.14	.14
28	.09	.05	.00	.05	.03	.08	.08	10	.23	.10	2.0	.14
29	.07	.54	.06	.05	---	.08	.09	.51	.11	.11	.12	.08
30	.70	.07	.05	.06	---	.06	.55	.06	.08	.07	.12	.08
31	3.8	---	.08	.06	---	.08	---	.20	---	3.5	.08	---
TOTAL	14.67	4.29	2.95	3.51	1.82	12.04	7.99	14.60	36.90	19.44	33.37	3.60
MEAN	.47	.14	.095	.11	.065	.39	.27	.47	1.23	.63	1.08	.12
MAX	3.8	1.1	.66	1.2	.13	4.2	3.9	10	31	6.0	8.4	.38
MIN	.02	.03	.00	.03	.02	.03	.03	.00	.01	.00	.02	.00
AC-FT	29	8.5	5.9	7.0	3.6	24	16	29	73	39	66	7.1
(+)	1.67	0.45	0.13	0.14	0.03	1.29	0.80	1.10	1.83	2.02	2.12	0.45

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1999, BY WATER YEAR (WY)

	1997	1998	1999	1997	1998	1999	1997	1998	1999	1997	1998	1999
MEAN	.48	.23	.20	.16	.15	.41	.41	.29	.53	1.15	.94	.20
MAX	.76	.30	.38	.22	.28	.68	.59	.47	1.23	2.34	1.23	.38
(WY)	1997	1997	1998	1997	1998	1998	1997	1999	1999	1997	1997	1997
MIN	.19	.14	.095	.11	.065	.16	.27	.091	.079	.48	.50	.095
(WY)	1998	1999	1999	1999	1999	1997	1999	1998	1998	1998	1998	1998

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

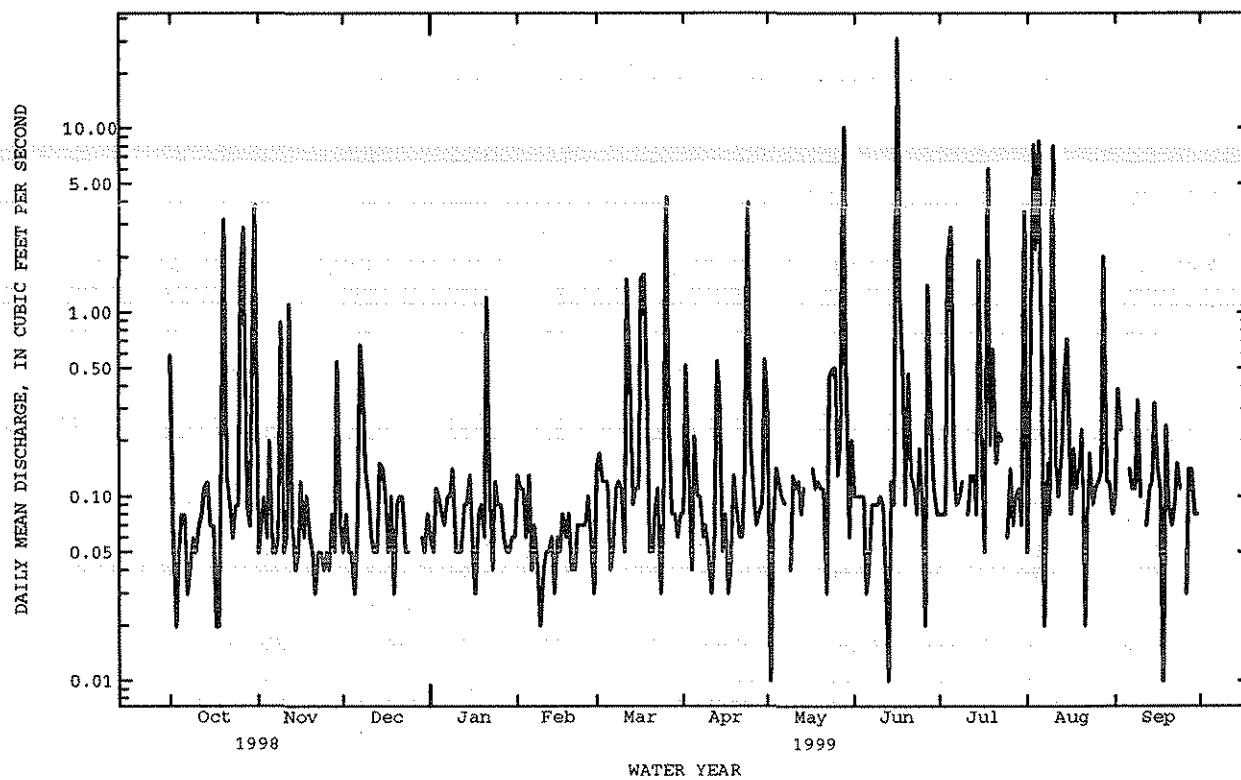
WATER YEARS 1997 - 1999

ANNUAL TOTAL	104.98	155.18	
ANNUAL MEAN	.29	.43	.43
HIGHEST ANNUAL MEAN			.57
LOWEST ANNUAL MEAN			.30
HIGHEST DAILY MEAN	8.5 Mar 15	31 Jun 16	31 Jul 28 1997
LOWEST DAILY MEAN	.00 Apr 11	.00 Dec 25	.00 Dec 8 1996
ANNUAL SEVEN-DAY MINIMUM	.02 Dec 23	.02 Dec 23	.01 Jan 19 1997
INSTANTANEOUS PEAK FLOW		1240 Jun 16	1240 Jun 16 1999
INSTANTANEOUS PEAK STAGE		4.72 Jun 16	4.72 Jun 16 1999
ANNUAL RUNOFF (AC-FT)	208	308	313
10 PERCENT EXCEEDS	.42	.52	.56
50 PERCENT EXCEEDS	.10	.09	.10
90 PERCENT EXCEEDS	.01	.03	.01

e Estimated

(+) TOTAL RAINFALL ACCUMULATION IN INCHES.

08329838 SOUTH FORK HAHN ARROYO AT ALBUQUERQUE, NM--Continued



08329839 NORTH FORK HAHN ARROYO AT ALBUQUERQUE, NM

LOCATION.--Lat 35°07'37", long 106°34'04", in NE¹/₄SE¹/₄ sec. 1, T.10 N., R.3 E., Bernalillo County, Hydrologic Unit 13020203, on right bank 200 ft above Louisiana Boulevard, 1,150 ft north of Comanche Rd, and 1,450 ft south of Montgomery Boulevard, in Albuquerque.

DRAINAGE AREA.--1.51 mi².

PERIOD OF RECORD.--May 1979 to December 1983, June 1992 to September 1996 (seasonal records). October 1996 to current year.

REVISED RECORD.--WDR NM-99-1: 1992-1998(M), (mean daily values).

GAGE.--Water-stage and rainfall recorder and concrete lined channel. Elevation of gage is 5,290 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to 1983 at site 200 ft downstream on Louisiana Boulevard bridge, at different datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Some minor streamflow may exist on days where daily mean discharges have been recorded as zero due to the sensitivity limits of the streamflow monitoring equipment. Recording rain gage at station. See tabulation below for monthly precipitation in inches.

REVISIONS.--Revised figures for discharge for water years 1992-1998, superseding those published in corresponding annual reports are given here in.

EXTREMES FOR WATER-YEARS 1992-1998.--Minimum discharges, no flow most of time.

Water year	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Water year	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
1992	July 23	1550	24	1.24	1996	June 28	1700	118	1.68
1993	Aug 1	1950	191	1.90	1997	July 30	1650	143	1.76
1994	Aug 1	1950	58	1.44	1998	July 22	1442	29	1.28
1995	Sept 28	1210	9.7	1.12					

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	.00	.00	.00
2	---	---	---	---	---	---	---	---	---	.00	.00	.00
3	---	---	---	---	---	---	---	---	---	.00	.00	.00
4	---	---	---	---	---	---	---	---	---	.00	.00	.00
5	---	---	---	---	---	---	---	---	---	.00	.00	.00
6	---	---	---	---	---	---	---	---	---	.00	.44	.00
7	---	---	---	---	---	---	---	---	---	.00	.00	.00
8	---	---	---	---	---	---	---	---	---	.00	.00	.00
9	---	---	---	---	---	---	---	---	---	.00	.00	.00
10	---	---	---	---	---	---	---	---	---	.00	.00	.00
11	---	---	---	---	---	---	---	---	---	.00	.88	.00
12	---	---	---	---	---	---	---	---	.00	.00	.26	.00
13	---	---	---	---	---	---	---	---	.00	.00	.00	.00
14	---	---	---	---	---	---	---	---	.00	.00	.00	.00
15	---	---	---	---	---	---	---	---	.00	.00	.00	.41
16	---	---	---	---	---	---	---	---	.00	.00	.00	.00
17	---	---	---	---	---	---	---	---	.00	.00	.00	.00
18	---	---	---	---	---	---	---	---	.00	.00	.00	.00
19	---	---	---	---	---	---	---	---	.00	.00	.00	.08
20	---	---	---	---	---	---	---	---	.00	.00	.07	.00
21	---	---	---	---	---	---	---	---	.00	.00	.00	.00
22	---	---	---	---	---	---	---	---	.00	.00	.00	.00
23	---	---	---	---	---	---	---	---	.00	.54	.00	.00
24	---	---	---	---	---	---	---	---	.00	.03	.14	.00
25	---	---	---	---	---	---	---	---	.00	.00	.00	.00
26	---	---	---	---	---	---	---	---	.00	.00	.00	.00
27	---	---	---	---	---	---	---	---	.00	.00	.00	.00
28	---	---	---	---	---	---	---	---	.00	.00	.00	.00
29	---	---	---	---	---	---	---	---	.00	.00	.00	.00
30	---	---	---	---	---	---	---	---	.00	.00	.00	.00
31	---	---	---	---	---	---	---	---	---	.08	.08	---
TOTAL	---	---	---	---	---	---	---	---	---	0.65	1.87	0.49
MEAN	---	---	---	---	---	---	---	---	---	.021	.060	.016
MAX	---	---	---	---	---	---	---	---	---	.54	.88	.41
MIN	---	---	---	---	---	---	---	---	---	.00	.00	.00
AC-FT	---	---	---	---	---	---	---	---	---	1.3	3.7	1.0

RIO GRANDE BASIN

08329839 NORTH FORK HAHN ARROYO AT ALBUQUERQUE, NM--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	---	---	---	.00	---	.00	.00	3.1	.00
2	.00	.00	.00	---	---	---	.00	---	.00	.00	.00	.00
3	.00	.00	.00	---	---	---	.00	---	.00	.00	.00	.00
4	.00	.00	.01	---	---	---	.00	---	.00	.00	.00	.00
5	.00	.00	.61	---	---	---	.00	.00	.00	.00	.00	.00
6	.00	.00	.22	---	---	---	.00	.00	.00	.00	.00	.26
7	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00
11	.00	.33	---	---	---	---	.00	.00	.00	.00	.00	.00
12	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
13	.00	.00	---	---	---	---	.00	.00	.00	.00	1.7	.10
14	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
15	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
16	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
17	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
18	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
19	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
20	.00	.09	---	---	---	---	.00	.00	.00	.00	.00	.00
21	.00	.22	---	---	---	---	---	.00	.00	.00	.00	.00
22	.00	.00	---	---	---	.00	---	.00	.00	.00	.00	.00
23	.00	.00	---	---	---	.00	---	.00	.00	.00	---	.00
24	.00	.00	---	---	---	.00	---	.00	.00	.00	---	.00
25	.00	.00	---	---	---	.00	---	.00	.00	.00	---	.00
26	.00	.19	---	---	---	.00	---	.00	.00	.00	---	.00
27	.00	.00	---	---	---	.00	---	.00	.00	.00	.26	.00
28	.14	.00	---	---	---	.00	---	.00	.00	.00	.13	.00
29	.01	.00	---	---	---	.08	---	.00	.00	.00	.00	.00
30	.00	.00	---	---	---	.00	---	.00	.00	.00	.05	.00
31	.00	---	---	---	---	.00	---	.00	---	.00	.00	---
TOTAL	0.15	0.83	---	---	---	---	---	---	0.00	0.00	---	0.36
MEAN	.005	.028	---	---	---	---	---	---	.000	.000	---	.012
MAX	.14	.33	---	---	---	---	---	---	.00	.00	---	.26
MIN	.00	.00	---	---	---	---	---	---	.00	.00	---	.00
AC-FT	.3	1.6	---	---	---	---	---	---	.00	.00	---	.7

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	---	---	---	---	.00	.00	.00	.00	1.1	.00
2	.00	.00	---	---	---	---	.00	.00	.00	.00	.46	.00
3	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.19
4	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
5	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.38
6	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.24
7	.05	.00	---	---	---	---	.00	.00	.00	.00	.00	.14
8	.00	.00	---	---	---	---	.00	.00	.00	.00	.54	.00
9	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
10	.00	.00	---	---	---	---	.00	.00	.00	.00	.06	.00
11	.00	.00	---	---	---	---	.00	.73	.00	.00	.00	.00
12	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.09
13	.00	.18	---	---	---	---	.00	.09	.00	.00	.00	.40
14	.00	.00	---	---	---	---	.00	.00	.00	.00	.51	.03
15	.00	.00	---	---	---	---	.00	.00	.00	.00	2.3	.00
16	.00	.02	---	---	---	---	.00	.00	.00	.00	.00	.00
17	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
18	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
19	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
20	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
21	.00	---	---	---	---	---	.00	.00	.28	.99	.00	.00
22	.00	---	---	---	---	---	.00	.00	.07	.00	.00	.00
23	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
24	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
25	.00	---	---	---	---	---	.00	.51	.00	.00	.00	.00
26	.00	---	---	---	---	---	.00	.72	.00	.00	.00	.00
27	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
28	.00	---	---	---	---	---	.00	.00	.00	.18	.00	.00
29	.00	---	---	---	---	---	.00	.00	.00	.13	.00	.00
30	.00	---	---	---	---	---	.00	.00	.00	.11	.00	.00
31	.00	---	---	---	---	---	---	.00	---	.00	.00	---
TOTAL	0.05	---	---	---	---	---	0.00	2.05	0.35	1.41	4.97	1.47
MEAN	.002	---	---	---	---	---	.000	.066	.012	.045	.16	.049
MAX	.05	---	---	---	---	---	.00	.73	.28	.99	2.3	.40
MIN	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
AC-FT	.1	---	---	---	---	---	.00	4.1	.7	2.8	9.9	2.9

08329839 NORTH FORK HAHN ARROYO AT ALBUQUERQUE, NM--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
2	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
3	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
4	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
5	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
6	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
7	.00	---	---	---	---	---	.00	.00	.00	.00	.00	---
8	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
9	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
10	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
11	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
12	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
13	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
14	.12	---	---	---	---	---	.00	.00	.00	.00	.00	.00
15	.05	---	---	---	---	---	.00	.00	.00	.00	.00	.00
16	.03	---	---	---	---	---	.00	.00	---	.00	.00	.00
17	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
18	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
19	.00	---	---	---	---	---	.62	.00	.00	.00	.00	.00
20	.00	---	---	---	---	.00	1.3	.00	.00	.00	.00	.00
21	---	---	---	---	---	.00	.70	.00	.00	.00	.00	.00
22	---	---	---	---	---	.00	.66	.00	.00	.00	.00	.00
23	---	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
24	---	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
25	---	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
26	---	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
27	---	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
28	---	---	---	---	---	.00	.00	.00	.00	.00	.00	.69
29	---	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
30	---	---	---	---	---	.00	.00	.00	---	.00	.00	.00
31	---	---	---	---	---	.00	---	.00	---	.00	.00	---
TOTAL	---	---	---	---	---	---	3.28	0.00	---	0.00	0.00	---
MEAN	---	---	---	---	---	---	.11	.000	---	.000	.000	---
MAX	---	---	---	---	---	---	1.3	.00	---	.00	.00	---
MIN	---	---	---	---	---	---	.00	.00	---	.00	.00	---
AC-FT	---	---	---	---	---	---	6.5	.00	---	.00	.00	---

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	---	---	---	---	.00	.00	.00	.00	---	---
2	.00	.00	---	---	---	---	.00	.00	.00	.00	---	---
3	.00	.00	---	---	---	---	.00	.00	.00	.00	---	---
4	.00	.00	---	---	---	---	.00	.00	.00	.00	---	.00
5	.00	.00	---	---	---	---	.00	.00	.00	.00	---	.00
6	.00	.00	---	---	---	---	.00	.00	.00	.00	---	.11
7	.00	.00	---	---	---	---	.00	.00	.00	.10	---	.40
8	.00	.00	---	---	---	---	.00	.00	.00	.00	---	.00
9	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
10	.00	.00	---	---	---	---	.00	.00	.00	.06	.00	.00
11	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
12	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
13	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
14	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	1.3
15	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.70
16	.00	.00	---	---	---	.00	.00	.00	.00	.09	.00	.07
17	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.75
18	.00	.00	---	---	---	.00	.00	.00	.00	---	.00	.58
19	.00	.00	---	---	---	.00	.00	.00	.00	---	.00	.03
20	.00	.00	---	---	---	.00	.00	.00	.00	---	.21	.00
21	.00	.00	---	---	---	.00	.00	.00	.00	---	.56	.00
22	.00	.00	---	---	---	.00	.00	.00	.00	---	1.5	.00
23	.00	.00	---	---	---	.00	.00	.00	.00	---	1.1	.00
24	.00	.00	---	---	---	.00	.00	.00	.00	---	.85	.00
25	.00	.00	---	---	---	.00	.00	.00	.00	---	1.1	.00
26	.00	---	---	---	---	.00	.00	.00	2.2	---	1.4	.00
27	.00	.00	---	---	---	.00	.00	.00	.10	---	.48	.00
28	.00	.00	---	---	---	.00	.00	.00	1.0	---	---	.00
29	.00	---	---	---	---	.00	.00	.00	.00	---	---	.00
30	.00	---	---	---	---	.00	.00	.00	.00	---	---	.00
31	.00	---	---	---	---	.00	---	.00	---	---	---	---
TOTAL	0.00	---	---	---	---	---	0.00	0.00	3.30	---	---	---
MEAN	.000	---	---	---	---	---	.000	.000	.11	---	---	---
MAX	.00	---	---	---	---	---	.00	.00	2.2	---	---	---
MIN	.00	---	---	---	---	---	.00	.00	.00	---	---	---
AC-FT	.00	---	---	---	---	---	.00	.00	6.5	---	---	---

RIO GRANDE BASIN

08329839 NORTH FORK HAHN ARROYO AT ALBUQUERQUE, NM--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	DAILY MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.45	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	e.00	.00	.00	.03	.00	.00	.00	.00	.00
4	2.3	.00	.00	e.00	.00	.00	1.4	.00	.00	.00	.28	.00
5	.09	.00	.00	.00	.00	.00	.28	.00	.00	.00	.22	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.72	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	1.2	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.44	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.79	.21	.00
11	.00	.00	.00	.00	.00	.00	.10	.00	.00	.45	.02	.00
12	.00	.00	.00	.00	.00	.00	.70	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.34	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.24	.00	.00	.00	.00	.74	.00	.00	.00	.00
20	.00	.00	.09	.04	.00	.00	.00	.00	.00	.00	.00	.10
21	.00	.00	.00	.12	.00	.00	.00	.00	.00	.00	.00	.88
22	.00	.00	.00	.40	.00	.00	.00	.00	.00	.00	.91	.00
23	.00	.00	.00	.47	.00	.00	.24	.00	.00	.00	.07	.00
24	.00	.00	.00	.12	.00	.00	.85	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.17	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.32	.00	.00	.00	.00	.00
28	.67	.00	.00	.00	.01	.00	.00	.00	.00	1.6	.00	.00
29	.15	.00	.00	.00	---	.00	.00	.00	.00	.08	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	2.0	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	1.5	.00	---
TOTAL	3.21	0.00	0.33	1.16	0.01	0.00	4.48	0.74	2.36	6.42	2.16	0.98
MEAN	.10	.000	.011	.037	.000	.000	.15	.024	.079	.21	.070	.033
MAX	2.3	.00	.24	.47	.01	.00	1.4	.74	1.2	2.0	.91	.88
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	6.4	.00	.7	2.3	.02	.00	8.9	1.5	4.7	13	4.3	1.9

WTR YR 1997 TOTAL 21.85 MEAN .060 MAX 2.3 MIN .00 AC-FT 43

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	DAILY MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.71	.00	.00	.00	.00	.00	.00	.20	.00
2	.17	.00	.09	.70	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.70	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.38	.03	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.29	.00	.00	.00	.00	.00	.00	.00	.00
7	.14	.00	.00	.70	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.13	.15	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.07	.41	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.70	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.01	.71	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.15	.00	.70	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.40	.00	.22	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	1.0	.01	.00	.85	.88	.00	.00	.00	.00	.04	.00
16	.00	.70	.00	.00	.29	.49	.00	.00	.00	.00	.00	.00
17	.00	.70	.00	.00	.00	.07	.00	.00	.00	.00	.00	.00
18	.00	.53	.02	.00	.00	.03	.00	.00	.00	.00	.00	.00
19	.00	.04	.44	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.38	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.17	.00	.00	.00	.00	.00	.00	.00	.04	.00
22	.00	.00	.05	.00	.00	.00	.00	.00	.00	.26	.00	.00
23	.00	.00	.38	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.70	.00	.00	.00	.00	.00	.00	.00	.22	.00
25	.00	.00	.70	.00	.00	.00	.00	.00	.00	.00	.14	.00
26	.00	.00	.51	.00	.00	.00	.31	.00	.00	.00	.00	.00
27	.00	.00	.25	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.29	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.29	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.70	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.31	3.67	4.99	6.04	1.73	1.47	0.31	0.00	0.00	0.26	0.64	0.00
MEAN	.010	.12	.16	.19	.062	.047	.010	.000	.000	.008	.021	.000
MAX	.17	1.0	.70	.71	.85	.88	.31	.00	.00	.26	.22	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.6	7.3	9.9	12	3.4	2.9	.6	.00	.00	.5	1.3	.00

CAL YR 1997 TOTAL 27.28 MEAN .075 MAX 2.0 MIN .00 AC-FT 54
 WTR YR 1998 TOTAL 19.42 MEAN .053 MAX 1.0 MIN .00 AC-FT 39

08329839 NORTH FORK HAHN ARROYO AT ALBUQUERQUE, NM--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.00	.00	.00	.00	.00	.00	.04	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.95	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.18	.17	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.27	.37	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00
9	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.77	e.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.38	.00	e.00
16	.00	.00	.00	.00	.00	.00	.00	.00	1.9	.00	.00	e.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	e.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.1	.00	e.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00
20	.33	.00	.00	.00	.00	.00	.00	.00	.13	.00	.00	e.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00
24	.00	.00	.00	.00	.00	.00	.28	.00	.00	.00	.00	e.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00
26	.04	.00	.00	.00	.00	.17	.00	.00	.00	.00	.00	e.00
27	.14	.00	.00	.00	.00	.00	.00	.00	.09	.00	.00	e.00
28	.00	.00	.00	.00	.00	.00	.00	1.5	.00	.00	.00	e.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	e.00
30	.02	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	e.00
31	.19	---	.00	.00	---	.00	---	.00	---	.13	.00	---
TOTAL	0.74	0.03	0.00	0.00	0.00	0.17	0.28	1.54	2.14	2.06	2.39	0.00
MEAN	.024	.001	.000	.000	.000	.005	.009	.050	.071	.066	.077	.000
MAX	.33	.03	.00	.00	.00	.17	.28	1.5	1.9	1.1	.95	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	1.5	.06	.00	.00	.00	.3	.6	3.1	4.2	4.1	4.7	.00
(+)	1.60	0.47	0.07	0.17	0.03	1.61	0.85	1.01	1.86	1.82	2.25	0.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1999, BY WATER YEAR (WY)

	1997	1998	1999	1997	1998	1999	1997	1998	1999	1997	1998	1999
MEAN	.046	.041	.057	.077	.021	.018	.056	.025	.050	.094	.056	.011
MAX	.10	.12	.16	.19	.062	.047	.15	.050	.079	.21	.077	.033
(WY)	1997	1998	1998	1998	1998	1998	1997	1999	1997	1997	1999	1997
MIN	.010	.000	.000	.000	.000	.000	.009	.000	.000	.008	.021	.000
(WY)	1998	1997	1999	1999	1999	1997	1999	1998	1998	1998	1998	1998

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1997 - 1999

ANNUAL TOTAL	11.22	9.35	
ANNUAL MEAN	.031	.026	.046
HIGHEST ANNUAL MEAN			.060
LOWEST ANNUAL MEAN			.026
HIGHEST DAILY MEAN	.88 Mar 15	1.9 Jun 16	2.3 Oct 4 1996
LOWEST DAILY MEAN	.00 Jan 14	.00 Oct 2	.00 Oct 1 1996
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 14	.00 Oct 2	.00 Oct 6 1996
INSTANTANEOUS PEAK FLOW		104 Jun 16	439 Aug 14 1980
INSTANTANEOUS PEAK STAGE		1.63 Jun 16	1.94 Aug 14 1980
ANNUAL RUNOFF (AC-FT)	22	19	33
10 PERCENT EXCEEDS	.01	.00	.03
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated

(+) TOTAL RAINFALL ACCUMULATION IN INCHES.

08329840 HAHN ARROYO AT ALBUQUERQUE, NM

LOCATION.--Lat 35°07'33", long 106°35'23", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.2, T.10 N., R.3 E., Bernalillo County, Hydrologic Unit 13020203, 860 ft below San Mateo Boulevard Bridge on right bank, 750 ft north of Comanche Road, and 2,050 ft south of Montgomery Boulevard in Albuquerque.

DRAINAGE AREA.--4.23 mi².

PERIOD OF RECORD.--June 1978 to September 1996 (seasonal records). October 1996 to current year.

REVISED RECORD.--WDR NM-99-1: 1992-1998(M), (mean daily values).

GAGE.--Water-stage and rainfall recorder and concrete-lined channel. Elevation of gage is 5,190 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to 1992 at site on downstream side of San Mateo Boulevard Bridge, at different datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Some minor streamflow may exist on days where daily mean discharges have been recorded as zero due to the sensitivity limits of the streamflow monitoring equipment. Recording rain gage at station. Development within basin is predominantly residential, but there are some commercial areas. See tabulation below for monthly precipitation in inches.

REVISIONS.--Revised figures for discharge for water years 1992-1998, superseding those published in corresponding annual reports are given here in.

EXTREMES FOR WATER-YEARS 1992-1998.--Minimum discharges, no flow most of time.

Water year	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Water year	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
1992	May 29	1835	372	1.80	1996	June 28	1700	962	2.74
1993	Aug 13	1440	1070	2.85	1997	July 30	1650	1020	2.80
1994	May 11	1630	839	2.61	1998	July 22	1450	538	2.25
1995	Oct 14	2150	180	1.67					

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	---	---	---	---	---	.00	.00	.00	.00	.00	2.2
2	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.51
3	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.26
4	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.99
5	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.55
6	.00	---	---	---	---	---	.00	.00	3.7	.00	3.0	.51
7	.00	---	---	---	---	---	.00	2.8	.00	.00	.00	2.2
8	.00	---	---	---	---	---	.00	.00	2.9	.00	.01	2.3
9	.00	---	---	---	---	---	.00	.00	.00	.00	.00	1.8
10	.00	---	---	---	---	---	.00	.00	.00	1.2	.01	1.3
11	.00	---	---	---	---	---	.00	.00	.00	.00	.00	3.5
12	.00	---	---	---	---	---	.00	.00	.00	.00	4.8	1.7
13	.00	---	---	---	---	---	.61	.00	.00	.00	.12	1.1
14	.00	---	---	---	---	---	.28	.00	.00	.00	.07	2.6
15	.00	---	---	---	---	---	.00	.00	.00	.00	.00	18
16	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.81
17	.00	---	---	---	---	---	.00	.00	.00	.00	.07	.25
18	.00	---	---	---	---	---	.00	.00	.00	.00	1.3	.85
19	.00	---	---	---	---	---	.00	.00	.00	.00	.38	11
20	.00	---	---	---	---	.00	.00	1.3	.00	.00	4.3	1.2
21	.00	---	---	---	---	.00	.00	.00	.00	.00	3.1	.38
22	.00	---	---	---	---	.00	.00	4.8	.00	.00	.00	.46
23	.00	---	---	---	---	.00	.00	.00	.00	6.2	1.3	.50
24	.00	---	---	---	---	.00	.00	.00	.00	.36	7.5	.80
25	.00	---	---	---	---	.00	.00	.12	.00	.00	.57	.62
26	.00	---	---	---	---	.00	.00	.00	.00	.00	.32	.35
27	.00	---	---	---	---	.00	.00	.00	.00	.00	.31	.42
28	.00	---	---	---	---	.00	.00	.00	.00	.00	.07	.82
29	.00	---	---	---	---	.00	.00	10	.00	.00	.76	.94
30	.07	---	---	---	---	.00	.00	.85	.00	.00	.46	.94
31	.00	---	---	---	---	.00	---	.00	---	.68	3.3	---
TOTAL	0.07	---	---	---	---	---	0.89	19.87	6.60	8.44	31.75	59.86
MEAN	.002	---	---	---	---	---	.030	.64	.22	.27	1.02	2.00
MAX	.07	---	---	---	---	---	.61	10	3.7	6.2	7.5	18
MIN	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.25
AC-FT	.1	---	---	---	---	---	1.8	39	13	17	63	119

08329840 HAHN ARROYO AT ALBUQUERQUE, NM--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.88	---	---	---	---	---	.84	59	.21	.00	23	.00
2	.98	---	---	---	---	---	1.9	.00	.04	.00	.61	.01
3	.00	---	---	---	---	---	1.0	.53	.23	.00	1.8	.00
4	.81	---	---	---	---	---	.00	1.4	.01	.00	.05	.00
5	.86	---	---	---	---	---	.00	.16	.05	.00	.02	.00
6	.85	---	---	---	---	---	.00	.03	.04	.00	.02	2.7
7	.52	---	---	---	---	---	.00	.09	.17	.00	.00	.00
8	.20	---	---	---	---	---	.00	.00	.24	.00	.02	.01
9	.10	---	---	---	---	---	.00	.00	.04	.00	.12	.01
10	.00	---	---	---	---	---	.00	1.6	.54	.00	.39	.00
11	---	---	---	---	---	---	.00	5.1	1.5	2.7	.02	.00
12	---	---	---	---	---	---	.00	3.9	.49	.98	.01	.76
13	---	---	---	---	---	---	.00	2.8	1.0	.00	29	5.5
14	---	---	---	---	---	---	.00	.43	2.0	.65	2.0	3.4
15	---	---	---	---	---	---	.00	.12	.51	.00	.00	.50
16	---	---	---	---	---	---	.00	.15	2.1	.00	.00	1.1
17	---	---	---	---	---	---	.00	2.3	2.6	.00	.00	.10
18	---	---	---	---	---	---	.00	.23	2.2	.00	.00	.48
19	---	---	---	---	---	---	.00	.12	.04	.00	1.7	.00
20	---	---	---	---	---	---	.10	.18	.00	9.3	3.8	.89
21	---	---	---	---	---	---	.14	.41	4.1	1.9	.00	3.0
22	---	---	---	---	---	---	4.2	.00	.20	.11	.00	3.0
23	---	---	---	---	---	---	.00	6.9	.00	1.1	.03	.30
24	---	---	---	---	---	---	4.2	.48	.16	.30	.00	.62
25	---	---	---	---	---	---	.15	.61	.80	.06	.07	.12
26	---	---	---	---	---	---	.78	4.7	.14	.09	.54	.00
27	---	---	---	---	---	---	1.5	4.4	.32	.01	.03	.07
28	---	---	---	---	---	---	.00	4.5	.04	.08	8.2	.00
29	---	---	---	---	---	---	12	5.1	.06	.00	.06	.00
30	---	---	---	---	---	---	5.7	3.4	.00	.00	.02	.00
31	---	---	---	---	---	---	.92	---	.21	---	4.1	---
TOTAL	---	---	---	---	---	---	38.27	80.28	19.95	32.06	89.59	22.57
MEAN	---	---	---	---	---	---	1.28	2.59	.67	1.03	2.89	.75
MAX	---	---	---	---	---	---	6.9	59	4.1	9.3	29	5.5
MIN	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
AC-FT	---	---	---	---	---	---	76	159	40	64	178	45

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1993 TO SEPTEMBER 1994
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	---	---	---	---	1.6	.22	.00	---	e24	.00
2	.00	.00	---	---	---	---	2.1	.99	.00	---	e.55	.23
3	.00	.00	---	---	---	---	.00	1.6	.00	---	.03	e3.8
4	.00	.00	---	---	---	---	.00	2.0	.00	---	.31	e.00
5	.00	.00	---	---	---	---	.00	2.1	.00	---	.00	e7.2
6	.00	.00	---	---	---	---	.00	1.8	.19	---	.00	e2.4
7	3.9	.00	---	---	---	---	.00	4.0	.72	---	.00	e1.2
8	.00	.00	---	---	---	---	.00	.00	.98	---	17	.00
9	.00	6.2	---	---	---	---	1.8	.85	.82	---	.59	.00
10	.00	.00	---	---	---	---	.00	9.0	.38	---	1.5	.52
11	.00	2.0	---	---	---	---	1.6	e47	.00	---	.89	.00
12	.00	.00	---	---	---	---	.00	e4.6	.61	---	1.2	.00
13	.30	9.2	---	---	---	---	.00	e3.8	.73	---	1.4	e8.7
14	.00	.83	---	---	---	---	.00	.00	.13	---	8.3	e2.7
15	.00	.98	---	---	---	---	.57	.00	.00	---	e31	.24
16	.00	2.6	---	---	---	---	1.6	.00	.03	---	.00	.00
17	9.6	---	---	---	---	---	.00	1.1	.13	---	.01	.00
18	.59	---	---	---	---	---	1.3	2.7	.00	1.3	.00	.00
19	.01	---	---	---	---	---	3.3	.07	.00	2.9	.11	.00
20	.00	---	---	---	---	---	7.6	.00	.00	.25	.00	.01
21	.00	---	---	---	---	---	.76	1.3	.00	e16	e51	.00
22	.00	---	---	---	---	---	.67	2.9	e1.7	.00	e.05	.04
23	.00	---	---	---	---	---	14	1.3	e.24	---	.36	.00
24	.00	---	---	---	---	---	4.4	2.2	.00	---	.00	.00
25	.00	---	---	---	---	---	.77	4.5	16	---	.00	.08
26	.00	---	---	---	---	---	.01	.48	19	---	.00	.00
27	.00	---	---	---	---	---	3.5	8.5	.00	---	.51	.11
28	.00	---	---	---	---	---	.00	3.0	.00	---	.00	.11
29	.00	---	---	---	---	---	.00	1.8	.42	e15	.00	.16
30	.00	---	---	---	---	---	.00	4.2	.00	---	e.81	.02
31	.00	---	---	---	---	---	.14	---	.25	---	4.4	.00
TOTAL	14.40	---	---	---	---	---	43.32	115.57	---	---	99.33	27.85
MEAN	.46	---	---	---	---	---	1.44	3.73	---	---	3.20	.93
MAX	9.6	---	---	---	---	---	8.5	47	---	---	31	8.7
MIN	.00	---	---	---	---	---	.00	.00	---	---	.00	.00
AC-FT	29	---	---	---	---	---	86	229	---	---	197	55

RIO GRANDE BASIN

08329840 HAHN ARROYO AT ALBUQUERQUE, NM--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	---	---	---	---	---	.00	.16	.17	8.4	e.50	e.20
2	.00	---	---	---	---	---	.00	.00	.00	.34	e.50	e.00
3	1.3	---	---	---	---	---	.00	.00	.00	.00	e.50	e.00
4	.96	---	---	---	---	---	.64	.90	.00	.00	e.40	e.00
5	1.0	---	---	---	---	---	1.3	.44	.00	.00	e.00	e.00
6	1.5	---	---	---	---	---	.00	.79	.00	.00	e.00	e.00
7	1.5	---	---	---	---	.00	.00	.00	.00	.00	e.50	e50
8	2.0	---	---	---	---	.00	.00	1.4	.00	1.8	e.50	e5.0
9	2.3	---	---	---	---	.00	.00	4.3	.00	.00	e.00	e1.0
10	1.9	---	---	---	---	.00	2.4	.00	.00	.00	.00	e.00
11	2.0	---	---	---	---	.00	.00	.00	.00	.00	.00	e.00
12	1.9	---	---	---	---	.00	.00	.00	.00	.00	3.2	e.00
13	2.0	---	---	---	---	.00	.00	.00	.00	.00	13	.00
14	19	---	---	---	---	.00	.00	.00	.00	e2.0	6.0	.00
15	22	---	---	---	---	.00	.00	.00	.00	e.50	.00	.00
16	32	---	---	---	---	.00	.00	.00	.00	e.50	e.00	.00
17	18	---	---	---	---	.00	.00	9.2	.00	e3.0	.00	.00
18	1.2	---	---	---	---	.00	e2.0	.40	.00	e15	.00	.00
19	.00	---	---	---	---	.00	e5.0	.00	.00	e1.0	.00	.00
20	1.7	---	---	---	---	.00	e4.0	.00	.00	e.50	e.00	.00
21	.75	---	---	---	---	.00	e2.0	.00	.00	e.20	e5.0	.00
22	.20	---	---	---	---	.00	.00	.00	.00	e.00	e3.0	.00
23	.15	---	---	---	---	.00	1.5	.00	.75	e.00	e4.0	.00
24	---	---	---	---	---	.00	e2.0	.00	.00	e.20	e1.0	.00
25	---	---	---	---	---	.00	.00	.00	.00	e.50	e.50	.00
26	---	---	---	---	---	.00	.00	.00	.00	e.50	e1.0	.00
27	---	---	---	---	---	.00	.00	.00	.00	e2.0	e5.0	.00
28	---	---	---	---	---	.00	8.3	1.3	.15	e.00	e.50	e20
29	---	---	---	---	---	.00	3.4	4.7	.54	e.00	e4.0	e2.0
30	---	---	---	---	---	.00	4.9	1.8	7.9	e.20	e2.0	e.50
31	---	---	---	---	---	.00	---	.27	---	e.50	e.20	---
TOTAL	---	---	---	---	---	---	37.44	25.66	9.51	37.14	51.30	78.70
MEAN	---	---	---	---	---	---	1.25	.83	.32	1.20	1.65	2.62
MAX	---	---	---	---	---	---	8.3	9.2	7.9	15	13	50
MIN	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
AC-FT	---	---	---	---	---	---	74	51	19	74	102	156

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.99	---	---	---	---	e.10	.37	.97	3.5	---	.53
2	.00	1.2	---	---	---	---	e.10	.33	1.7	4.9	---	.46
3	.00	.16	---	---	---	---	e.10	e.30	e1.0	1.1	---	.64
4	.00	.05	---	---	---	---	e.10	e.30	e1.0	.52	1.7	1.9
5	.00	.00	---	---	---	---	e.10	e.30	e1.0	.47	1.1	1.4
6	.00	.00	---	---	---	---	.74	e.30	e1.0	.31	.47	5.9
7	.00	.00	---	---	---	---	.06	e.30	e1.0	3.4	1.1	3.6
8	.00	.00	---	---	---	---	e.20	e.30	e1.0	3.2	3.8	1.5
9	.11	.00	---	---	---	---	e.20	e.30	e.80	11	2.1	1.3
10	.00	1.1	---	---	---	---	e.20	e.30	e.50	5.8	1.3	.64
11	.00	.68	---	---	---	---	.82	e.30	e.50	2.0	1.7	e.50
12	.00	.00	---	---	---	---	.71	e.30	e.50	.82	1.3	e3.0
13	.00	.00	---	---	---	.00	.67	e.30	e.50	.03	.63	1.0
14	.00	.00	---	---	---	.00	e.20	e.30	12	.19	.50	29
15	.00	.00	---	---	---	.00	e.20	e1.0	.36	1.1	1.3	2.1
16	.00	.00	---	---	---	.01	.76	e.30	.71	6.0	.83	.90
17	.00	.00	---	---	---	.01	.00	e.30	.51	.81	.49	14
18	.00	.00	---	---	---	.06	.00	e.30	.30	3.5	.29	15
19	.00	.00	---	---	---	.07	.00	e.30	.45	.93	1.0	1.8
20	.12	.00	---	---	---	.33	.67	e.30	.53	.21	7.0	.52
21	.00	.00	---	---	---	.08	.62	e.30	1.1	.20	2.9	.35
22	.00	.00	---	---	---	.40	e.20	e.30	.41	.58	22	.35
23	.17	.00	---	---	---	.19	e.20	e.30	1.3	e.20	19	.78
24	.00	.00	---	---	---	.52	e.20	e.30	1.5	---	7.6	.65
25	.00	.00	---	---	---	.94	e.20	e.30	.58	---	22	.76
26	.00	.04	---	---	---	e.20	e.30	5.5	54	---	24	4.3
27	.00	.00	---	---	---	e.10	.49	1.1	13	---	e2.0	.36
28	.00	.00	---	---	---	e.10	.93	1.6	25	---	.74	.07
29	.00	.00	---	---	---	e.10	e.30	2.0	4.7	---	12	.08
30	.00	---	---	---	---	e.10	.68	1.1	3.6	---	1.4	.50
31	.01	---	---	---	---	e.10	---	1.8	---	---	.59	---
TOTAL	0.41	---	---	---	---	---	10.05	21.40	131.52	---	---	93.89
MEAN	.013	---	---	---	---	---	.34	.69	4.38	---	---	3.13
MAX	.17	---	---	---	---	---	.93	5.5	54	---	---	29
MIN	.00	---	---	---	---	---	.00	.30	.30	---	---	.07
AC-FT	.8	---	---	---	---	---	20	42	261	---	---	186

08329840 HAHN ARROYO AT ALBUQUERQUE, NM--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.84	.46	.56	.71	.00	.61	2.1	.19	.00	.04	.01	.08
2	.99	.21	.93	e.50	.01	.05	.35	.13	.23	.01	.15	.07
3	1.1	3.8	.80	e.50	.09	.54	2.6	.00	.15	.12	.00	.08
4	e44	.61	1.1	e.50	.07	.70	15	.06	.15	.35	21	.15
5	e1.0	.78	.93	8.2	.32	.86	.08	.28	.17	.54	12	.14
6	e.50	.83	.82	2.1	.78	.92	.07	.19	1.9	.61	.30	.12
7	e.50	.89	.47	e.50	.00	.66	.36	.25	7.1	.89	.37	.00
8	.48	1.6	.15	e.30	.00	.07	.40	.23	17	.68	.58	.13
9	.78	.28	1.6	e.20	.00	.11	.41	.51	.26	1.6	.14	.47
10	.82	.30	2.0	e.20	.02	.59	.36	.07	.22	31	4.4	.13
11	.69	.92	1.5	.23	.00	.46	3.1	.42	.14	1.4	3.2	.99
12	.15	.80	.79	.52	.03	.55	11	.45	.19	.00	1.9	.45
13	.12	.70	.69	.74	1.0	2.7	.21	.34	.16	.00	1.0	.31
14	1.0	1.0	.67	e.20	.25	.84	.19	.45	.00	.00	2.7	.00
15	.88	.87	.00	4.2	.00	.21	.14	.33	1.4	.02	1.5	2.3
16	.83	.53	.98	4.6	.00	.21	.13	2.4	.32	4.2	2.0	.60
17	.69	.66	.61	2.5	.13	.61	.10	.01	.21	.70	2.4	.17
18	.59	1.0	e.30	3.0	.19	.65	.09	.10	.17	.90	3.0	.65
19	.49	2.2	e.80	.85	.24	1.1	.05	8.8	.35	1.2	1.9	4.2
20	.46	3.0	e.50	e.20	.30	.58	.03	.52	.20	.12	1.1	9.1
21	2.4	1.9	e.20	e.20	.24	.34	.53	6.8	.04	.56	e1.5	34
22	.58	1.2	.18	e.80	.00	.12	.43	.25	.42	.82	e25	.93
23	.87	8.6	.98	e.80	.00	.14	7.2	.31	1.6	2.3	5.2	.60
24	.66	5.8	.69	e.20	.30	.43	15	1.6	.81	.33	.00	2.1
25	.49	.38	.89	e.20	.53	8.6	4.4	.15	.56	.24	.05	2.2
26	1.6	.68	1.3	e2.0	1.2	.14	3.1	.15	.32	.01	.05	1.2
27	5.7	.71	1.1	e1.5	3.9	3.9	.32	.15	.16	7.6	.09	.01
28	15	.66	.12	.09	2.5	.64	.21	.10	.10	47	.08	.37
29	1.1	7.1	.07	.16	---	.85	.20	.20	.00	1.2	.08	1.5
30	.54	5.8	.92	.06	---	.95	.16	.14	.16	25	.00	6.9
31	.38	---	.86	.05	---	2.0	---	.01	---	24	1.0	---
TOTAL	86.23	54.27	23.51	36.81	12.10	31.13	68.32	25.59	34.39	153.44	92.70	69.95
MEAN	2.78	1.81	.76	1.19	.43	1.00	2.28	.83	1.15	4.95	2.99	2.33
MAX	44	8.6	2.0	8.2	3.9	8.6	15	8.8	17	47	25	34
MIN	.12	.21	.00	.05	.00	.05	.03	.00	.00	.00	.00	.00
AC-FT	171	108	47	73	24	62	136	51	68	304	184	139

WTR YR 1997 TOTAL 688.44 MEAN 1.89 MAX 47 MIN .00 AC-FT 1370

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.88	.04	.59	1.4	.10	.00	1.1	.27	2.3	4.4	13	.42
2	9.0	.01	14	1.1	.59	.95	1.9	.17	1.0	1.9	1.1	.44
3	.13	.10	3.4	.46	.74	.95	2.0	.11	.54	2.5	.75	.48
4	.00	.05	.52	.46	5.2	1.1	.18	.27	.50	14	.26	.34
5	.00	.00	.22	.91	2.7	1.2	.55	.59	.69	.39	.58	.00
6	.10	.17	.00	4.0	.49	.64	1.1	.26	.34	.81	.67	.09
7	4.8	.05	2.1	1.1	.16	14	1.3	.35	.06	.27	.81	.52
8	.12	.08	.84	2.4	5.5	.34	.95	.35	.77	2.4	.08	.65
9	.07	.00	1.1	4.6	2.8	.34	1.2	.03	.81	5.0	.55	.44
10	.15	.15	1.4	4.6	1.7	.49	.55	.05	2.9	1.0	1.7	.50
11	.00	5.2	4.3	6.6	.53	.58	.00	.39	.64	.10	1.1	.43
12	.01	7.6	5.7	.19	.52	.88	.23	.37	.45	.01	.87	.35
13	.15	3.5	.67	.31	.47	.57	1.4	.56	.09	.45	.70	.38
14	.25	1.3	.59	.71	.82	3.1	.72	.41	.06	.52	.24	.70
15	.25	6.3	1.3	.83	20	39	.84	.34	.47	.56	1.9	1.2
16	.15	.09	6.9	.17	.07	15	1.5	.08	.60	8.5	.48	.77
17	.24	.33	.95	.00	.05	3.0	.54	.09	.25	1.1	.75	.50
18	.00	.74	7.1	.00	.04	5.4	.07	.68	.28	.00	.72	.59
19	.00	.37	.84	.25	.00	1.2	.77	.69	.28	.19	2.3	.17
20	.35	.54	4.0	.26	.39	.26	1.0	.91	.06	.34	2.4	.05
21	.18	.28	2.9	.17	.02	.06	.32	.65	.14	.24	6.9	.61
22	1.2	.02	1.2	.32	.00	.03	.30	.75	1.1	.10	.28	.43
23	.50	.46	9.6	.03	.19	.30	.72	.42	.40	1.9	.19	.91
24	2.2	1.1	.35	.00	.64	.38	.22	1.4	.58	.86	8.1	.83
25	.02	1.1	.00	.00	.64	.50	.00	1.9	.57	.81	12	1.1
26	.06	.19	e.00	.49	.73	4.5	24	1.4	.55	.36	1.5	.11
27	.91	3.5	e.1	.36	.46	.58	.75	1.8	.20	1.1	.85	.06
28	.92	.24	.12	.32	.09	.30	.40	1.9	.87	.74	.67	1.1
29	.75	.01	e.1	.41	---	1.5	.42	2.0	2.0	5.8	.07	2.7
30	.79	.00	7.2	.25	---	2.5	.47	1.6	.82	3.8	.26	1.9
31	1.3	---	2.3	.00	---	1.1	---	1.8	---	3.1	.65	---
TOTAL	25.48	33.52	80.39	32.70	45.64	100.75	45.50	22.59	20.32	73.15	62.43	18.77
MEAN	.82	1.12	2.59	1.05	1.63	3.25	1.52	.73	.68	2.36	2.01	.63
MAX	9.0	7.6	14	6.6	20	39	24	2.0	2.9	14	13	2.7
MIN	.00	.00	.00	.00	.00	.00	.00	.03	.06	.00	.07	.00
AC-FT	51	66	159	65	91	200	90	45	40	145	124	37

CAL YR 1997 TOTAL 663.82 MEAN 1.82 MAX 47 MIN .00 AC-FT 1320

WTR YR 1998 TOTAL 561.24 MEAN 1.54 MAX 39 MIN .00 AC-FT 1110

RIO GRANDE BASIN

08329840 HAHN ARROYO AT ALBUQUERQUE, NM--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	.17	.47	e.80	e.60	1.0	.65	2.9	1.0	e.80	.68	1.3
2	.86	.31	.82	e.80	e.60	1.4	4.6	.59	1.1	e.80	3.0	3.5
3	.02	.36	.39	.82	e.60	.99	.82	.83	1.1	e2.0	33	1.9
4	.57	.12	.29	1.2	.62	.98	.30	1.3	.93	e10	12	.66
5	.96	.56	.18	.82	e.50	.95	1.7	1.2	.37	e15	10	.00
6	.88	.19	.47	1.1	.41	.33	1.0	.89	.77	e1.0	6.1	1.8
7	.86	.14	4.5	1.3	.46	.46	.90	.74	1.6	e.90	.25	1.4
8	.20	.10	1.3	e1.0	.42	1.2	.81	.10	.97	e.80	1.3	1.4
9	.25	5.0	e.80	e.80	.20	1.5	.89	.39	.98	e1.5	1.4	2.4
10	.09	.24	e.70	e.60	.20	1.5	.49	1.0	.98	e.90	18	1.0
11	.11	.26	e.50	e.40	.09	1.3	.25	.81	.89	e.80	2.1	.01
12	.23	6.4	e.50	.15	.05	12	1.7	.65	.20	e.80	.88	.26
13	.31	.52	e.70	.21	.06	2.1	7.7	.51	.00	e.90	1.2	1.4
14	.37	.25	e.80	.57	.10	.33	4.2	.63	1.1	1.0	1.8	1.0
15	.22	.20	e.80	.48	.19	.68	2.4	.00	.82	8.4	5.8	2.2
16	.19	.87	e.80	.19	.20	.58	3.7	.00	e170	.98	1.5	1.3
17	.11	.39	e.80	.15	.41	11	1.2	.67	6.2	1.5	1.6	1.2
18	.00	.75	e.80	.29	.45	11	.84	.70	3.5	13	.99	.04
19	.95	.42	e.80	.34	.33	3.0	e.80	.88	.94	2.3	1.2	2.1
20	12	.27	e.80	.37	.14	.41	e.70	.88	5.0	2.7	1.5	.87
21	.57	.12	e.80	6.8	.14	.27	e.70	.89	1.5	.98	.01	.99
22	.28	.26	e.90	.29	.38	.77	e.80	.14	.67	1.3	.69	.50
23	.44	.26	.99	.37	.81	.96	e.80	3.0	.30	.85	1.2	1.7
24	.16	.22	.99	.39	1.2	.27	e20	4.4	.84	.00	.56	1.1
25	.13	.29	e.80	.29	1.3	.65	e1.0	4.2	.39	.30	.64	.36
26	4.9	.26	e.60	.29	1.3	14	1.7	1.8	.00	.97	.65	.34
27	15	.61	.00	.19	.35	1.1	3.4	2.0	3.7	.54	1.3	.94
28	.34	.37	e.50	.40	.17	.34	.71	7.5	e.90	.58	4.5	.83
29	.30	4.5	.57	.43	---	2.3	2.8	3.9	e.80	.85	1.4	.42
30	2.7	.81	1.0	.32	---	1.3	4.1	.08	e.80	.52	1.8	.39
31	18	---	e.80	.78	---	.71	---	2.1	---	7.4	.89	---
TOTAL	73.00	25.22	25.17	22.94	12.28	75.38	71.66	45.68	208.35	80.37	117.94	33.31
MEAN	2.35	.84	.81	.74	.44	2.43	2.39	1.47	6.95	2.59	3.80	1.11
MAX	18	6.4	4.5	6.8	1.3	14	20	7.5	170	15	33	3.5
MIN	.00	.10	.00	.15	.05	.27	.25	.00	.00	.00	.01	.00
AC-FT	145	50	50	46	24	150	142	91	413	159	234	66
(+)	1.62	0.43	0.13	0.10	0.00	1.56	0.66	0.84	1.99	1.56	2.20	0.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1999, BY WATER YEAR (WY)

	1997	1998	1999	1997	1998	1999	1997	1998	1999	1997	1998	1999
MEAN	1.99	1.26	1.39	.99	.83	2.23	2.06	1.01	2.92	3.30	2.94	1.36
MAX	2.78	1.81	2.59	1.19	1.63	3.25	2.39	1.47	6.95	4.95	3.80	2.33
(WY)	1997	1997	1998	1997	1998	1998	1999	1999	1999	1997	1999	1997
MIN	.82	.84	.76	.74	.43	1.00	1.52	.73	.68	2.36	2.01	.63
(WY)	1998	1999	1997	1999	1997	1997	1998	1998	1998	1998	1998	1998

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

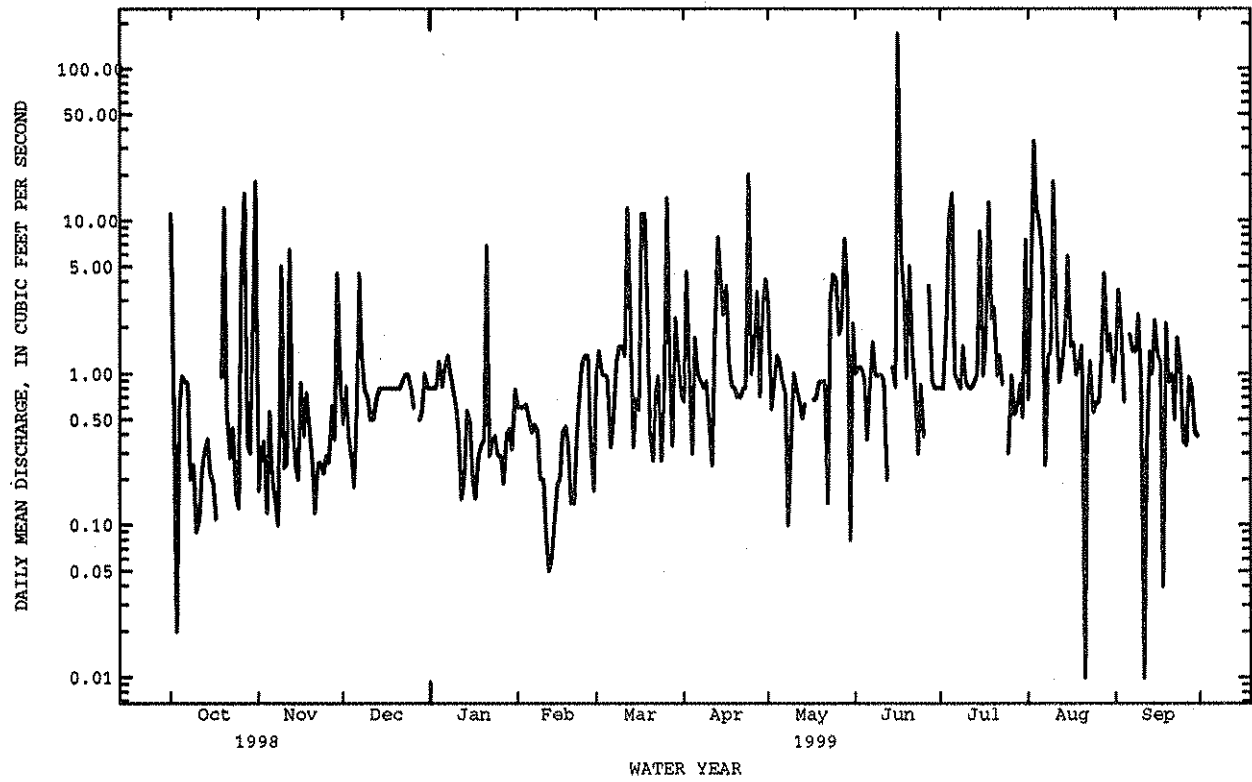
WATER YEARS 1997 - 1999

ANNUAL TOTAL	545.24	791.30	
ANNUAL MEAN	1.49	2.17	1.86
HIGHEST ANNUAL MEAN			2.17
LOWEST ANNUAL MEAN			1.54
HIGHEST DAILY MEAN	39	Mar 15	170
LOWEST DAILY MEAN	.00	Jan 17	.00
ANNUAL SEVEN-DAY MINIMUM	.08	Feb 16	.13
INSTANTANEOUS PEAK FLOW			6120
INSTANTANEOUS PEAK STAGE			5.98
ANNUAL RUNOFF (AC-FT)	1080	1570	1350
10 PERCENT EXCEEDS	2.9	4.1	3.9
50 PERCENT EXCEEDS	.56	.80	.64
90 PERCENT EXCEEDS	.09	.19	.07

e Estimated

(+) TOTAL RAINFALL ACCUMULATION IN INCHES.

08329840 HAHN ARROYO AT ALBUQUERQUE, NM--Continued



08329872 PINO ARROYO AT VENTURA BOULEVARD AT ALBUQUERQUE, NM

LOCATION.--Lat 35°09'16", long 106°32'22", Bernalillo County, Hydrologic Unit 13020203, in Elena Gallegos Grant, on left bank in Tanoan Country Club, and 30 ft upstream from Ventura Boulevard in Albuquerque.

DRAINAGE AREA.--5.40 mi².

PERIOD OF RECORD.--August 1990 to September 1996 (seasonal records). October 1996 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,490 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair, except for estimated daily discharges, which are poor. See tabulation below for monthly precipitation in inches.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.26	.02	.08	.03	.02	.05	.27	.19	.07	.16	.11	.16
2	.12	.04	.06	.01	.02	.05	.24	.19	.14	.15	.33	.18
3	.11	.05	.05	.00	.04	.05	.10	.11	.13	.19	1.8	.16
4	.11	.07	.04	.01	.04	.05	.11	.08	.22	.51	.51	.11
5	.08	.09	.06	e.05	.03	.06	e.15	.08	.16	.43	.68	.09
6	.08	.06	.08	e.05	.02	.05	e.10	.11	.11	.20	.36	.13
7	.06	.11	.13	e.05	.01	.04	e.10	.12	.14	.14	.05	.18
8	.07	.12	.07	e.05	.02	.09	e.10	.11	.19	.15	.17	.14
9	.14	.29	.07	e.05	.04	.07	.08	.17	.20	.21	.14	.13
10	.12	.07	.06	e.05	.03	.11	.07	.14	.21	.13	.54	.13
11	.10	.06	.04	e.05	.03	.11	.08	.07	.18	.13	.06	.12
12	.16	.31	.06	e.05	.04	.44	.08	.06	.18	.18	.05	.09
13	.15	.05	.07	e.05	.04	.12	.28	.08	.18	.13	.06	.11
14	.10	.02	.06	.04	.04	.11	.25	.12	.24	.17	.12	.13
15	.08	.03	.10	.05	.05	.11	.12	.09	.17	.16	.23	.37
16	.09	.08	.08	.07	.03	.11	.09	.13	.55	.13	.09	.15
17	.07	.11	.02	.06	.02	.38	.13	.10	.26	.12	.17	.12
18	.07	.06	.05	.10	.03	.49	e.10	.10	.09	.48	.18	.15
19	.10	.06	.02	.09	.02	.13	e.10	.09	.08	.15	.14	.13
20	1.8	.05	.01	.16	.03	.06	e.10	.10	.16	.08	.13	.09
21	.05	.04	.01	.35	.01	.04	e.10	.09	.13	.11	.10	.07
22	.04	.04	.03	.02	.03	.08	e.10	.09	.08	.12	.11	.08
23	.05	.07	.03	.02	.04	.05	e.10	.18	.07	.13	.15	.14
24	.07	.08	.00	.03	.07	.09	e1.5	.17	.08	.15	.10	.07
25	.06	.10	.02	.02	.07	.08	e.30	.16	.10	.15	.13	.07
26	.28	.04	.06	.03	.13	.68	e.10	.07	.12	.13	.19	.06
27	.65	.06	.06	.01	.16	.09	.07	.08	.31	.12	.12	.09
28	.09	.06	.06	e.01	.07	.16	.09	1.7	.19	.15	.16	.13
29	.06	.20	.06	.01	---	.08	.08	.82	.15	.15	.25	.13
30	.20	.07	.08	.01	---	.08	.18	.08	.17	.15	.23	.10
31	.93	---	.04	.02	---	.08	---	.07	---	.19	.19	---
TOTAL	6.35	2.51	1.66	1.60	1.18	4.19	5.27	5.75	5.06	5.55	7.65	3.81
MEAN	.20	.084	.054	.052	.042	.14	.18	.19	.17	.18	.25	.13
MAX	1.8	.31	.13	.35	.16	.68	1.5	1.7	.55	.51	1.8	.37
MIN	.04	.02	.00	.00	.01	.04	.07	.06	.07	.08	.05	.06
AC-FT	13	5.0	3.3	3.2	2.3	8.3	10	11	10	11	15	7.6
(+)	1.33	0.39	0.08	0.10	0.00	0.83	0.69	0.86	0.86	0.65	2.29	0.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1999, BY WATER YEAR (WY)

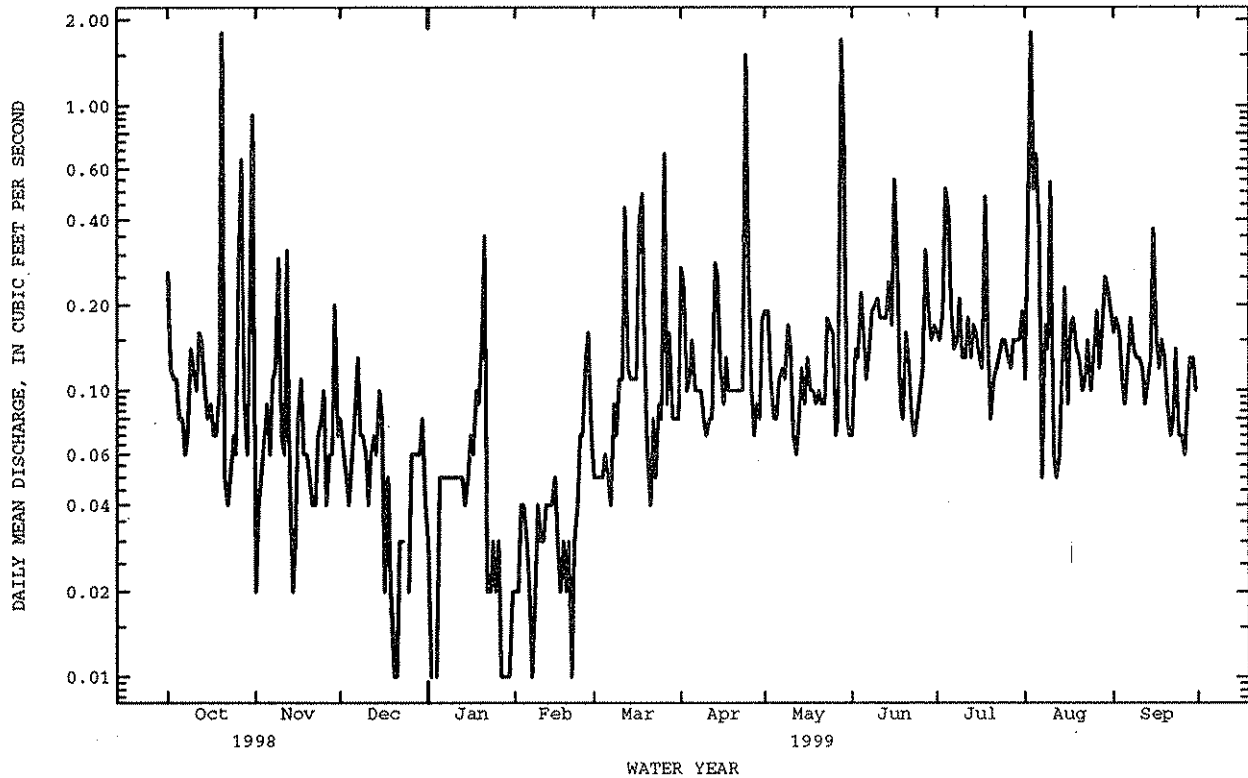
MEAN	.21	.13	.070	.056	.050	.17	.19	.16	.18	.33	.26	.24
MAX	.25	.19	.10	.069	.071	.27	.26	.19	.24	.59	.36	.46
(WY)	1997	1998	1998	1997	1998	1998	1997	1997	1997	1997	1997	1997
MIN	.17	.084	.054	.046	.036	.12	.14	.11	.14	.18	.17	.13
(WY)	1998	1999	1999	1998	1997	1997	1998	1998	1998	1999	1998	1999

(+) TOTAL RAINFALL ACCUMULATION IN INCHES.

08329872 PINO ARROYO AT VENTURA BOULEVARD AT ALBUQUERQUE, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1997 - 1999	
ANNUAL TOTAL	50.27		50.58			
ANNUAL MEAN	.14		.14		.17	
HIGHEST ANNUAL MEAN					.23	1997
LOWEST ANNUAL MEAN					.14	1999
HIGHEST DAILY MEAN	3.0	Mar 15	1.8	Oct 20	6.4	Sep 21 1997
LOWEST DAILY MEAN	.00	Dec 24	.00	Dec 24	.00	Dec 18 1996
ANNUAL SEVEN-DAY MINIMUM	.02	Dec 19	.01	Jan 27	.01	Dec 18 1996
INSTANTANEOUS PEAK FLOW			140	Oct 20	140	Oct 20 1998
INSTANTANEOUS PEAK STAGE			3.09	May 29	3.09	May 29 1999
ANNUAL RUNOFF (AC-FT)	100		100		124	
10 PERCENT EXCEEDS	.20		.23		.25	
50 PERCENT EXCEEDS	.10		.10		.11	
90 PERCENT EXCEEDS	.04		.03		.03	

e Estimated



RIO GRANDE BASIN

08329880 ACADEMY ACRES DRAIN AT ALBUQUERQUE, NM

LOCATION.--Lat 35°09'02", long 106°34'18", in NE¹/₄SE¹/₄ sec.25, T.11 N., R.3 E., Bernalillo County, Hydrologic Unit 13020203, on left bank of concrete-lined channel, 250 ft north of intersection of Esther Avenue and Burlison Drive, and 0.4 mi north of Academy Road in Albuquerque.

DRAINAGE AREA.--0.124 mi².

PERIOD OF RECORD.--June 1976 to current year (seasonal records).

GAGE.--Water-stage recorder and V-notch weir. Elevation of gage is 5,310 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. Recording rain gage at station. The basin is primarily urban residential. Some minor streamflow may exist on days where daily mean discharges have been recorded as zero due to the short duration of peak flows. See tabulation below for monthly precipitation in inches. No flow most of time.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 103 ft³/s, Aug. 3, 1978, gage height, 4.09 ft, from rating curve extended above 10 ft³/s on basis of slope-area measurement of peak flow; no flow most time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 40 ft³/s, at 1842 hours June 16, gage height, 3.31 ft; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	---	---	---	.02	.00	.00	.00	.07	.01
3	.00	.00	.00	---	---	---	.00	.00	.00	.06	.54	.00
4	.00	.00	---	---	---	---	.00	.00	.00	.15	.12	.00
5	.00	.00	---	---	---	---	.00	.00	.00	.03	.14	.00
6	.00	.00	---	---	---	---	.00	.00	.00	.00	.01	.00
7	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
8	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
9	.00	.05	---	---	---	---	.00	.00	.00	.00	.00	.00
10	.00	.00	---	---	---	---	.00	.00	.00	.00	.26	.00
11	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
12	.00	.03	---	---	---	e.15	.00	.00	.00	.00	.00	.00
13	.00	.00	---	---	---	.00	.02	.00	.00	.00	.00	.00
14	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	---	---	---	.00	.00	.00	.00	.09	.01	.10
16	.00	.00	---	---	---	.00	.00	.00	1.0	.00	.00	.00
17	.00	.00	---	---	---	.09	.00	.00	.02	.00	.00	.00
18	.00	.00	---	---	---	.12	.00	.00	.00	.11	.00	.00
19	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
20	e.06	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	---	---	---	.00	.00	.03	.00	.00	.00	.00
24	.00	.00	---	---	---	.00	.16	.06	.00	.00	.00	.00
25	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
26	.07	.00	---	---	---	.31	.00	.00	.00	.00	.00	.00
27	.22	.00	---	---	---	.00	.00	.00	.06	.00	.00	.00
28	.00	.00	---	---	---	.00	.00	.01	.00	.00	.00	.00
29	.00	.02	---	---	---	.00	.00	.00	.00	.00	.00	.00
30	.02	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
31	.21	---	---	---	---	.00	---	.00	---	.01	.00	---
TOTAL	0.63	0.10	---	---	---	---	0.20	0.10	1.08	0.45	1.15	0.11
MEAN	.020	.003	---	---	---	---	.007	.003	.036	.015	.037	.004
MAX	.22	.05	---	---	---	---	.16	.06	1.0	.15	.54	.10
MIN	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
AC-FT	1.2	.2	---	---	---	---	.4	.2	2.1	.9	2.3	.2
(+)	1.80	0.51	0.09	0.16	0.00	1.56	0.68	0.43	1.93	1.27	2.12	0.48

e Estimated

(+) TOTAL RAINFALL ACCUMULATION IN INCHES.

08329888 LA CUEVA ARROYO TRIBUTARY AT ALBUQUERQUE, NM

LOCATION.--Lat 35°11'22", long 106°29'43", Bernalillo County, Hydrologic Unit 13020203, in Elena Gallegos Grant, on the left bank of a concrete lined arroyo, approximately 100 ft upstream of a box culvert passing under Tramway Blvd., in the extreme northeast corner of Albuquerque city limits. This site is located approximately .5 mi south of the old gage site La Cueva Arroyo Tributary at Tramway Blvd. (08329890).

DRAINAGE AREA.--0.5103 mi².

PERIOD OF RECORD.--May 1999 to current year (seasonal records).

GAGE.--Water-stage recorder. Elevation of gage is 6,080 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair.

EXTREMES PERIOD OF RECORD.--Maximum discharge, 11.0 ft³/s, Aug. 10, 1999, gage height 1.55 ft; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 11.0 ft³/s, Aug. 10 at 1105 hours; gage height 1.55 ft; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	.00	.00	.00	.04
2	---	---	---	---	---	---	---	---	.00	.00	.00	.00
3	---	---	---	---	---	---	---	---	.00	.00	.05	.00
4	---	---	---	---	---	---	---	---	.00	.04	.09	.00
5	---	---	---	---	---	---	---	---	.00	.00	.01	.00
6	---	---	---	---	---	---	---	---	.00	.00	.01	.00
7	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
8	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
9	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
10	---	---	---	---	---	---	---	.00	.00	.00	.11	.00
11	---	---	---	---	---	---	---	.00	.00	.00	.02	.00
12	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
13	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
14	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
15	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
16	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
17	---	---	---	---	---	---	---	.00	.02	.00	.00	.00
18	---	---	---	---	---	---	---	.00	.00	.01	.00	.00
19	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
20	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
21	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
22	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
23	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
24	---	---	---	---	---	---	---	.02	.00	.00	.00	.00
25	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
26	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
27	---	---	---	---	---	---	---	.00	.00	.00	.03	.00
28	---	---	---	---	---	---	---	.03	.00	.00	.00	.00
29	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
30	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
31	---	---	---	---	---	---	---	.00	---	.00	.00	---
TOTAL	---	---	---	---	---	---	---	---	0.02	0.05	0.32	0.04
MEAN	---	---	---	---	---	---	---	---	.001	.002	.010	.001
MAX	---	---	---	---	---	---	---	---	.02	.04	.11	.04
MIN	---	---	---	---	---	---	---	---	.00	.00	.00	.00
AC-FT	---	---	---	---	---	---	---	---	.04	.1	.6	.08
(+)	2.82	0.25	0.05	0.40	0.02	2.20	1.92	1.50	0.95	2.26	7.29	1.39

(+) TOTAL RAINFALL ACCUMULATION IN INCHES.

08329900 NORTH FLOODWAY CHANNEL NEAR ALAMEDA, NM

LOCATION.--Lat 35°11'58", long 106°35'53", Bernalillo County, Hydrologic Unit 13020203, in Elena Gallegos Grant, on left bank 0.5 mi upstream from Edith Boulevard, 1.1 mi upstream from mouth, and 1.2 mi northeast of Alameda.

DRAINAGE AREA.--87.9 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1968 to September 1989 (seasonal records). October 1989 to current year.

GAGE.--Water-stage recorder with satellite telemetry and concrete-lined channel. Elevation of gage is 5,015 ft above National Geodetic Vertical Datum of 1929, from U.S. Army Corps of Engineers plan and profile map.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are fair. Low flow values of 17 ft³/s or less are obtained from gaging station (08329914), 500 ft downstream. Prior to water year 1997, any discharges below 17 ft³/s, were reported as "zero flow" in the mean daily values tables. Floodway channel intercepts flow of numerous arroyos in northeast Albuquerque and discharges into the Rio Grande at a point 1.6 mi north of Alameda.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	e.77	e.60	e.45	.19	.10	.39	.76	.19	e.76	2.3	1.2
2	.71	e.77	e.60	e.45	.20	.09	23	.26	.20	e.76	.91	17
3	.76	e.76	e.58	e.50	.20	.13	.64	.24	.28	4.0	522	20
4	.77	e.76	e.54	e.45	.13	.14	.22	.41	.28	157	169	1.8
5	.76	e.76	e.54	e.40	.23	.13	.72	.61	.29	62	49	.98
6	.76	e.76	1.6	e.35	.15	.12	.67	.57	.35	7.8	111	1.1
7	.77	e.75	23	e.30	.11	.08	.77	.52	.38	e.77	1.0	e1.1
8	.77	e.75	.69	e.25	.19	.07	.60	.54	.42	e.76	7.8	1.3
9	.77	69	e.77	e.20	.09	.10	.69	.23	.42	.73	2.9	1.5
10	.77	e.77	e.76	e.15	.08	.12	.23	.13	e.60	1.2	188	2.6
11	.77	e.77	e.68	e.10	e.10	.11	.24	.39	e.60	e.77	16	1.5
12	.77	62	e.68	.08	e.10	80	.22	.56	e.60	e.76	.86	1.5
13	.77	2.4	e.70	.08	e.10	65	.68	.61	e.60	e.76	.83	1.5
14	e.77	e.77	e.70	.08	.09	.80	40	.46	e.61	.88	70	2.0
15	e.76	e.76	e.66	.07	.08	.56	.54	.25	e.61	66	48	7.7
16	e.76	e.76	e.60	.09	.09	.78	.53	.11	274	1.3	1.6	2.0
17	e.75	e.74	e.60	.07	.11	147	.30	.16	33	9.1	1.3	1.7
18	e.76	e.74	e.60	.07	.16	148	.27	.43	13	137	1.2	1.8
19	e.76	e.70	e.58	.08	.12	6.9	.54	.43	e.77	7.4	1.1	68
20	163	e.68	e.58	.08	.09	.40	.55	.45	19	20	1.1	2.2
21	1.3	e.68	e.56	65	.09	.10	.53	.37	e.77	2.8	4.2	1.6
22	e.77	e.65	e.56	.26	.08	.09	.51	.43	e.77	1.1	1.7	1.7
23	e.77	e.65	e.54	.12	.11	.13	.38	34	e.76	1.8	1.6	2.1
24	e.76	e.60	e.54	.13	.17	.09	134	20	e.76	.95	1.6	1.9
25	e.76	e.60	e.54	.15	.18	.12	39	17	e.77	.65	1.4	1.6
26	68	e.50	e.50	.17	.15	145	.17	.64	e.77	.65	6.6	1.6
27	238	e.50	e.50	.17	.14	16	.13	.62	32	.69	1.8	1.9
28	2.3	e.48	e.50	.10	.16	.08	.13	120	e.77	.76	26	1.9
29	e.77	30	e.48	.10	---	.07	e.13	5.9	e.78	1.1	3.5	1.8
30	54	e.75	e.48	.09	---	.08	10	.14	e.77	.64	1.1	1.8
31	235	---	e.45	.14	---	.13	---	.12	---	108	1.2	---
TOTAL	820.14	181.58	41.71	70.73	3.69	612.52	256.78	207.34	385.12	598.89	1246.60	156.38
MEAN	26.5	6.05	1.35	2.28	.13	19.8	8.56	6.69	12.8	19.3	40.2	5.21
MAX	238	69	23	65	.23	148	134	120	274	157	522	68
MIN	.71	.48	.45	.07	.08	.07	.13	.11	.19	.64	.83	.98
AC-FT	1630	360	83	140	7.3	1210	509	411	764	1190	2470	310

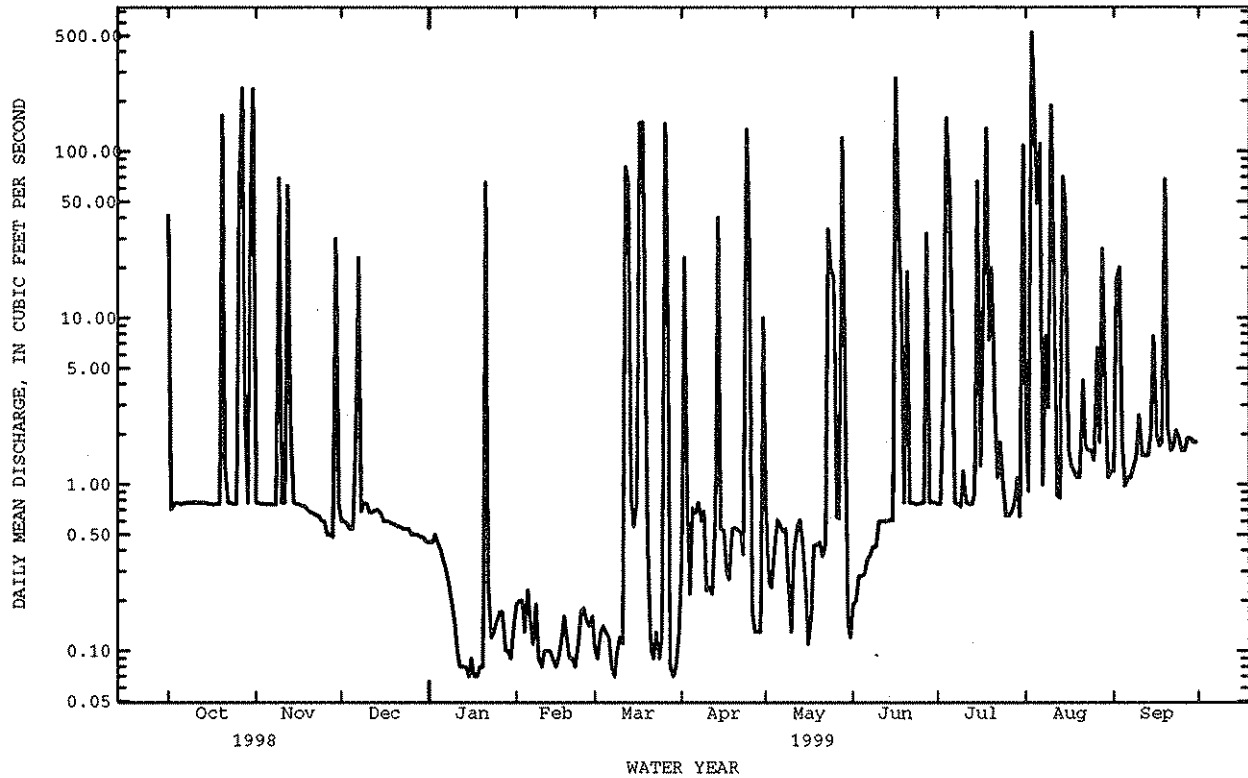
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1999, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	10.9	9.39	5.85	9.70	4.53	7.40	8.34	11.0	9.18	30.9
MAX	28.0	24.5	28.5	39.9	19.7	20.8	42.9	41.2	27.6	75.0
(WY)	1995	1995	1994	1995	1993	1998	1997	1994	1996	1991
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	8.24
(WY)	1996	1990	1990	1990	1991	1996	1991	1996	1995	1995

08329900 NORTH FLOODWAY CHANNEL NEAR ALAMEDA, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1990 - 1999	
ANNUAL TOTAL	3237.09		4581.48		13.8	
ANNUAL MEAN	8.87		12.6		21.6	
HIGHEST ANNUAL MEAN					7.01	
LOWEST ANNUAL MEAN						
HIGHEST DAILY MEAN	342	Mar 15	522	Aug 3	961	Jul 14 1990
LOWEST DAILY MEAN	.08	Mar 24	.07	Jan 15	.00	Oct 1 1989
ANNUAL SEVEN-DAY MINIMUM	.26	Jan 20	.08	Jan 12	.00	Oct 5 1989
INSTANTANEOUS PEAK FLOW			5120	Jun 16	^a 11000	Aug 14 1980
INSTANTANEOUS PEAK STAGE			6.40	Jun 16	10.40	Aug 14 1980
ANNUAL RUNOFF (AC-FT)	6420		9090		10020	
10 PERCENT EXCEEDS	12		28		25	
50 PERCENT EXCEEDS	.75		.70		.00	
90 PERCENT EXCEEDS	.40		.11		.00	

e Estimated

a From rating curve extended above 2,900 ft³/s.

08329900 NORTH FLOODWAY CHANNEL NEAR ALAMEDA, NM--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1982-83, 1991 to current year.

REMARKS.--Sediment samples were collected with a ISCO automatic pump sampler at fixed times during an event.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
AUG			
10...	1135	560	1390
10...	1150	2500	1900
10...	1200	2760	1230
10...	1220	2130	721
10...	1235	1610	610

08329911 NORTH CAMINO ARROYO AT SUNSET HILLS IN ALBUQUERQUE, NM

LOCATION.--Lat 35°11'41", long 106°32'02", Bernalillo County, Hydrologic Unit 13020203, in Elena Callegos Grant, on right bank of concrete lined arroyo, 10 feet above Holbrook Ave. Bridge over North Camino Arroyo. This is located approximately 100 feet north of intersection of Holbrook Ave. and Elena Drive, and 1.3 miles north of Paseo del Norte, on the northern edge of Albuquerque, NM.

DRAINAGE AREA.--2.06 mi².

PERIOD OF RECORD.--August 1997 to current year (seasonal records).

GAGE.--Water-stage recorder. Elevation of gage is 5,645 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10 ft³/s, at 1955 hours, July 17, 1999, gage height, 1.20 ft, from step-forward analysis of concrete lined stream channel, no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 10 ft³/s, at 1955 hours, July 17, gage height, 1.20 ft; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.01	.00	---	---	---	.00	.00	.00	.00	.00	.01
2	.00	.00	.00	---	---	---	.04	.00	.00	.00	.03	.01
3	.00	.00	---	---	---	---	.00	.00	.00	.01	.31	.02
4	.00	.00	---	---	---	---	.01	.00	.00	.13	.16	.01
5	.00	.00	---	---	---	---	.01	.00	.00	.02	.13	.00
6	.00	.00	---	---	---	---	.00	.00	.00	.00	.05	.00
7	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
8	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
9	.00	.07	---	---	---	---	.00	.00	.00	.00	.00	.00
10	.00	.00	---	---	---	---	.00	.00	.00	.00	.11	.00
11	.00	.00	---	---	---	---	.00	.00	.00	.00	.15	.00
12	.00	.13	---	---	---	---	.00	.00	.00	.00	.05	.00
13	.00	.01	---	---	---	---	.04	.00	.00	.00	.00	.00
14	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
15	.00	.00	---	---	---	.00	.00	.00	.00	.00	.06	.00
16	.00	.00	---	---	---	.00	.00	.00	.05	.00	.00	.00
17	.00	.00	---	---	---	.07	.00	.00	.03	.91	.00	.01
18	.00	.00	---	---	---	.15	.00	.00	.02	.29	.00	.00
19	.00	.00	---	---	---	.01	.00	.00	.02	.00	.00	.03
20	.96	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
21	.08	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	---	---	---	.00	.00	.03	.00	.00	.00	.03
24	.00	.00	---	---	---	.00	.09	.04	.00	.00	.00	.01
25	.00	.00	---	---	---	.00	.00	.01	.00	.00	.00	.00
26	.05	.00	---	---	---	.17	.00	.00	.00	.00	.00	.00
27	.18	.00	---	---	---	.00	.00	.00	.01	.00	.07	.00
28	.00	.00	---	---	---	.00	.00	.03	.00	.01	.00	.00
29	.00	.04	---	---	---	.00	.00	.00	.00	.00	.00	.00
30	.03	.00	---	---	---	.00	.01	.00	.00	.00	.00	.00
31	.25	---	---	---	---	.00	---	.00	---	.01	.00	---
TOTAL	1.56	0.26	---	---	---	---	0.20	0.11	0.13	1.38	1.12	0.13
MEAN	.050	.009	---	---	---	---	.007	.004	.004	.045	.036	.004
MAX	.96	.13	---	---	---	---	.09	.04	.05	.91	.31	.03
MIN	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
AC-FT	3.1	.5	---	---	---	---	.4	.2	.3	2.7	2.2	.3

RIO GRANDE BASIN

08329928 RIO GRANDE NEAR ALAMEDA, NM

LOCATION.--Lat 35°10'54", long 106°39'20", Bernalillo County, Hydrologic Unit 13020203, on downstream side of Paseo del Norte bridge in Albuquerque, and at mile 1548.0.

DRAINAGE AREA.--17,263 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: March 1999 to current year.

REMARKS.--Water temperatures are collected hourly by two temperature data loggers deployed in the flow at the site and daily means calculated from the composite readings. River stage data is being recorded by the gage.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily mean, 24.8°C, Aug. 30, 1999; minimum daily mean, 6.2°C, Mar. 19, 1999.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum daily mean, 24.8°C, Aug. 30; minimum daily mean, 6.2°C, Mar. 19.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	11.5	13.2	15.9	23.1	23.1	23.9
2	---	---	---	---	---	---	10.5	13.0	16.3	23.5	22.6	23.5
3	---	---	---	---	---	---	8.3	13.1	16.0	22.9	22.6	23.1
4	---	---	---	---	---	12.8	8.1	11.8	16.3	23.2	22.3	22.1
5	---	---	---	---	---	8.9	8.3	12.3	15.9	24.5	22.1	22.4
6	---	---	---	---	---	9.2	11.0	12.3	16.3	24.1	21.9	22.4
7	---	---	---	---	---	9.2	12.5	13.1	16.9	23.5	21.8	22.2
8	---	---	---	---	---	9.0	11.8	14.3	17.3	23.7	22.0	22.2
9	---	---	---	---	---	8.7	11.3	15.4	17.4	23.9	22.3	22.1
10	---	---	---	---	---	9.4	11.1	14.2	18.0	23.1	22.2	22.1
11	---	---	---	---	---	9.4	11.0	14.4	18.2	22.7	22.1	22.0
12	---	---	---	---	---	8.6	12.1	14.6	18.7	23.5	22.6	21.7
13	---	---	---	---	---	7.6	13.3	15.7	19.2	23.7	22.5	21.7
14	---	---	---	---	---	9.9	14.1	15.7	19.2	24.0	22.3	21.7
15	---	---	---	---	---	10.9	13.6	15.7	19.6	22.7	22.3	21.6
16	---	---	---	---	---	11.0	12.0	15.7	19.7	21.8	22.3	21.5
17	---	---	---	---	---	10.8	11.7	15.8	19.5	21.3	23.3	21.4
18	---	---	---	---	---	7.3	13.4	16.1	19.0	21.1	23.0	21.3
19	---	---	---	---	---	6.2	14.2	16.2	18.8	21.0	23.1	21.2
20	---	---	---	---	---	8.2	15.3	15.8	18.7	20.9	23.3	21.2
21	---	---	---	---	---	8.9	15.8	16.0	18.6	21.0	23.1	21.0
22	---	---	---	---	---	10.4	14.6	16.1	18.7	21.2	23.3	21.0
23	---	---	---	---	---	11.0	15.4	15.9	19.1	21.3	23.4	20.8
24	---	---	---	---	---	10.9	15.1	15.6	20.5	21.5	23.3	20.7
25	---	---	---	---	---	11.3	13.8	15.4	21.2	21.6	23.5	20.7
26	---	---	---	---	---	11.5	13.2	15.6	21.5	21.8	23.9	20.6
27	---	---	---	---	---	11.8	14.2	15.6	21.7	22.0	24.1	20.5
28	---	---	---	---	---	12.2	14.2	15.8	22.3	22.2	24.5	20.5
29	---	---	---	---	---	12.1	13.1	15.6	23.4	22.5	24.4	20.4
30	---	---	---	---	---	12.2	14.1	15.7	22.7	22.7	24.8	20.0
31	---	---	---	---	---	12.1	---	16.0	---	22.9	24.3	---
MEAN	---	---	---	---	---	---	12.6	14.9	18.9	22.5	23.0	21.6
MAX	---	---	---	---	---	---	15.8	16.2	23.4	24.5	24.8	23.9
MIN	---	---	---	---	---	---	8.1	11.8	15.9	20.9	21.8	20.0

08329930 CORRALES RIVERSIDE DRAIN NEAR CORRALES, NM

LOCATION.--Lat. 35°12'19", long 106°38'30", T.11 N., R. 106 W., Town of Alameda Grant, Bernalillo County, Hydrologic Unit 13020203, located on the right bank of dredged drain, 1/4 mile above Alameda Blvd. Bridge on right bank of Rio Grande. Site is approximately 0.2 miles north of intersection of Coors Blvd. (State Hwy 448) and Alameda Blvd. (State Hwy 46).

PERIOD OF RECORD.--June 1996 to June 1999 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 4,995 feet above National Geodetic Vertical datum of 1929, from topographic map.

REMARKS.--Records are good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 207 ft³/s, July 28, 1997, gage height, 8.15 ft; base flows of approximately 20 ft³/s from November to March.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 92 ft³/s, June 16, 1999, gage height, 7.71 ft; base flows of approximately 20 ft³/s from November to March.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	20	21	16	36	15	43	49	62	---	---	---
2	56	15	21	16	33	14	49	50	65	---	---	---
3	53	16	21	16	29	14	63	54	79	---	---	---
4	49	19	21	16	28	14	67	49	73	---	---	---
5	46	20	21	16	27	13	65	47	62	---	---	---
6	47	20	20	16	26	31	48	46	56	---	---	---
7	50	18	21	16	25	50	40	42	55	---	---	---
8	46	18	20	16	23	49	49	39	48	---	---	---
9	42	19	20	15	23	39	49	40	46	---	---	---
10	38	21	20	15	23	37	42	41	43	---	---	---
11	36	22	20	14	25	38	36	46	42	---	---	---
12	38	22	19	14	25	37	42	42	42	---	---	---
13	34	22	19	16	24	43	40	42	40	---	---	---
14	41	22	19	18	23	38	35	41	45	---	---	---
15	42	23	19	20	23	39	35	45	50	---	---	---
16	47	23	19	22	22	40	36	42	56	---	---	---
17	52	21	19	22	27	41	35	44	62	---	---	---
18	50	20	19	24	37	46	35	50	67	---	---	---
19	49	20	18	23	16	47	35	49	54	---	---	---
20	55	20	18	23	16	43	37	49	53	---	---	---
21	49	20	19	27	16	39	36	47	52	---	---	---
22	48	20	19	35	16	36	37	47	52	---	---	---
23	49	20	19	35	16	33	34	46	51	---	---	---
24	48	20	18	35	16	31	41	56	44	---	---	---
25	42	20	18	34	15	38	47	58	40	---	---	---
26	41	20	17	34	16	48	48	52	47	---	---	---
27	48	20	17	37	16	58	44	57	41	---	---	---
28	53	20	17	36	15	55	42	62	50	---	---	---
29	62	21	17	36	---	53	35	75	50	---	---	---
30	62	21	16	36	---	49	43	76	39	---	---	---
31	59	---	16	37	---	38	---	73	---	---	---	---
TOTAL	1492	603	588	736	637	1166	1288	1556	1566	---	---	---
MEAN	48.1	20.1	19.0	23.7	22.8	37.6	42.9	50.2	52.2	---	---	---
MAX	62	23	21	37	37	58	67	76	79	---	---	---
MIN	34	15	16	14	15	13	34	39	39	---	---	---
AC-FT	2960	1200	1170	1460	1260	2310	2550	3090	3110	---	---	---

CAL YR 1998 TOTAL 14325 MEAN 39.2 MAX 70 MIN 15 AC-FT 28410

08329931 CORRALES MAIN CANAL OUTFLOW AT ALBUQUERQUE, NM

LOCATION.--Lat 35°09'41", long 106°40'27", in SW¹/₄ of the SW¹/₄, Sec. 19, T. 11 N., R. 2 E., Bernalillo County, Hydrologic Unit 13020203, located on the right bank of the concrete-lined Main Canal and in the concrete box culvert which passes directly over the Corrales Riverside Drain. This is approximately ¹/₄ mi east and 1,000 feet north of the intersection of Coors Blvd. and La Orilla Road on the west side of Albuquerque.

PERIOD OF RECORD.--June 1996 to June 1999 (seasonal records) (discontinued).

GAGE.--Water-stage recorder in concrete-lined box culvert. Elevation of gage is 4,990 feet above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. Periods of missing record cannot be estimated, due to lack of upstream gages and the variable return flows received from irrigation run-off.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 136 ft³/s, Mar. 10, 1999, gage height, 1.34 ft; no flow from approximately Nov. 15 to Mar. 1.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 136 ft³/s, Mar. 10, at 1445 hours, gage height, 1.34 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	.02	---	---	---	e.76	14	9.0	10	---	---	---
2	22	.00	---	---	---	e.76	16	5.6	12	---	---	---
3	21	.00	---	---	---	.76	16	4.3	8.5	---	---	---
4	23	.01	---	---	---	.76	15	5.3	6.8	---	---	---
5	22	.00	---	---	---	.75	14	16	7.0	---	---	---
6	11	.00	---	---	---	.79	16	15	7.2	---	---	---
7	10	.00	---	---	---	.93	17	14	4.9	---	---	---
8	16	.00	---	---	---	.93	11	16	4.1	---	---	---
9	16	.00	---	---	---	22	12	13	9.1	---	---	---
10	12	.00	---	---	---	41	13	10	13	---	---	---
11	9.0	.00	---	---	---	29	12	8.4	15	---	---	---
12	7.4	.00	---	---	---	13	11	6.2	16	---	---	---
13	10	.00	---	---	---	13	7.3	13	10	---	---	---
14	12	.00	---	---	---	11	11	13	13	---	---	---
15	9.4	.00	---	---	---	10	17	10	16	---	---	---
16	10	.00	---	---	---	9.6	18	15	19	---	---	---
17	9.7	.00	---	---	---	9.3	16	12	12	---	---	---
18	4.5	.00	---	---	---	20	15	16	13	---	---	---
19	5.8	---	---	---	---	17	14	14	10	---	---	---
20	20	---	---	---	---	20	17	10	8.6	---	---	---
21	25	---	---	---	---	23	17	8.6	7.8	---	---	---
22	27	---	---	---	---	22	16	9.9	7.1	---	---	---
23	27	---	---	---	---	22	15	11	3.3	---	---	---
24	25	---	---	---	---	22	11	12	13	---	---	---
25	23	---	---	---	---	20	11	9.2	14	---	---	---
26	19	---	---	---	---	19	10	11	8.0	---	---	---
27	22	---	---	---	---	14	12	12	17	---	---	---
28	14	---	---	---	---	13	7.0	10	10	---	---	---
29	8.7	---	---	---	---	13	14	11	5.9	---	---	---
30	9.9	---	---	---	---	6.5	10	9.9	13	---	---	---
31	10	---	---	---	---	15	---	9.6	---	---	---	---
TOTAL	484.4	---	---	---	---	410.84	405.3	340.0	314.3	---	---	---
MEAN	15.6	---	---	---	---	13.3	13.5	11.0	10.5	---	---	---
MAX	27	---	---	---	---	41	18	16	19	---	---	---
MIN	4.5	---	---	---	---	.75	7.0	4.3	3.3	---	---	---
AC-FT	961	---	---	---	---	815	804	674	623	---	---	---

e Estimated

08329935 ARROYO 19A AT ALBUQUERQUE, NM

LOCATION.--Lat 35°09'24", long 106°43'27", in NE¹/₄NE¹/₄ sec.28, T.11 N., R.2 E., Bernalillo County, Hydrologic Unit 13020203, on right bank 900 ft upstream from culvert under 81st Street, 1,200 ft south of city water tank, and 0.6 mi south of intersection of 81st Street and Atrisco Drive at Albuquerque.

DRAINAGE AREA.--1.50 mi².

PERIOD OF RECORD.--June 1977 to current year (seasonal records).

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 5,330 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 19, 1986 at site 450 ft downstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Recording rain gage at station. The basin drains undeveloped semidesert terrain above the escarpment west of Albuquerque. See tabulation below for monthly precipitation in inches. No flow most of time.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 234 ft³/s, Aug. 2, 1999, gage height, 2.93 ft, on basis of 2 slope-area measurements of peak flow needed to extend rating beyond flume capacity. no flow most time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 234 ft³/s, at 2100 hours, Aug. 2; gage height, 2.93 ft; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	---	---	---	.00	.00	.00	.00	3.1	.00
3	.00	.00	---	---	---	---	.00	.00	.00	.00	e.04	.00
4	.00	.00	---	---	---	---	.00	.00	.00	.00	.17	.00
5	.00	.00	---	---	---	---	.00	.00	.00	.00	1.9	.00
6	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
7	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
8	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
9	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
10	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
11	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
12	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
13	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
14	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
15	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
16	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
17	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	---	---	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	5.21	0.00
MEAN	.000	.000	---	---	---	---	.000	.000	.000	.000	.17	.000
MAX	.00	.00	---	---	---	---	.00	.00	.00	.00	3.1	.00
MIN	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	---	---	---	---	.00	.00	.00	.00	10	.00

e Estimated

08329938 LADERA ARROYO AT ALBUQUERQUE, NM

LOCATION.--Lat 35°06'59", long 106°43'59", in Town of Atrisco Land Grant, Bernalillo County, Hydrologic Unit 13020203, on left bank, 0.25 mi northwest of City of Albuquerque water storage tank, on dirt road extension of 98th Street, and 2.3 mi west of North Coors Road in Albuquerque.

DRAINAGE AREA.--0.34 mi².

PERIOD OF RECORD.--May 1981 to current year (seasonal records).

GAGE.--Water-stage recorder. Elevation of gage is 5,220 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 5, 1986 at site 0.2 mi downstream at different datum.

REMARKS.--Records fair. Recording rain gage at station. The basin is undeveloped semidesert terrain, part of which, is above the escarpment west of Albuquerque. See tabulation below for monthly precipitation in inches.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 195 ft³/s, Aug. 2, 1999 gage height, 4.12 ft, from slope-area indirect measurement; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 195 ft³/s, Aug. 2, at 2107 hours, gage height, 4.12 ft; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	---	---	---	.00	.00	.00	.00	3.5	.00
3	.00	.00	---	---	---	---	.00	.00	.00	.00	.36	.00
4	.00	.00	---	---	---	---	.00	.00	.00	.00	.58	.00
5	.00	.00	---	---	---	---	.00	.00	.00	.00	1.4	.00
6	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
7	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
8	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
9	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
10	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
11	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
12	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
13	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
14	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
15	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
16	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.03
20	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	---	---	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	5.84	0.03
MEAN	.0000	.0000	---	---	---	---	.0000	.0000	.0000	.0000	.19	.001
MAX	.00	.00	---	---	---	---	.00	.00	.00	.00	3.5	.03
MIN	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	---	---	---	---	.00	.00	.00	.00	12	.06
(+)	1.30	0.49	0.02	0.16	0.00	1.09	0.29	0.21	0.74	2.52	7.01	1.11

(+) TOTAL RAINFALL ACCUMULATION IN INCHES.

08330000 RIO GRANDE AT ALBUQUERQUE, NM

LOCATION.--Lat 35°05'21", long 106°40'48", Bernalillo County, Hydrologic Unit 13020203, in Atrisco Grant, on downstream side of Central Ave. Bridge in Albuquerque, and at mile 1,540.0.

DRAINAGE AREA.--17,440 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1941 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1946(M).

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 4,946.16 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 18, 1947, at various sites at datum about 2.00 ft higher; Sept. 15, 1982, to Sept. 20, 1983, at site 1.0 mi upstream at different datum.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Flow completely regulated since November 1973 by Cochiti Dam (station 08317300) 50 mi upstream. Possible regulation by operation of reservoirs on Rio Chama and by flood and silt-detention reservoirs on Galisteo Creek and Jemez River (stations 08285000, 08286900, 08317900, 08328500). Since May 1971 flow affected by release of transmountain water from Heron Reservoir (station 08284510). Diversions upstream from station for irrigation of about 718,000 acres, several hundred of which are downstream from station.

COOPERATION.--Records for Albuquerque Riverside drain and Arenal, Armijo, and Atrisco canals provided by Middle Rio Grande Conservancy District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	816	1450	971	857	1260	811	681	1370	4550	1450	1130	1130
2	1030	1170	974	844	1160	758	733	1970	4550	1290	977	1130
3	819	1410	1020	839	1110	724	764	2710	4550	1150	2060	1310
4	692	1680	924	850	1080	684	757	2790	4450	1140	2370	1330
5	672	1660	897	924	969	621	772	3040	4100	1250	1400	1260
6	611	1370	888	971	913	644	693	3000	3720	1180	1780	1210
7	561	1070	8862	972	921	680	636	2760	3250	1110	1710	1190
8	542	933	8863	965	923	695	648	2430	2990	1040	2450	1160
9	538	958	891	954	995	692	676	1970	2740	1080	3390	1140
10	554	1070	862	953	1010	732	712	2220	2500	1100	3030	1140
11	549	963	790	947	987	641	766	2580	2390	1100	2980	1200
12	545	903	743	954	977	577	729	2600	2380	1080	3120	1210
13	507	933	735	944	927	647	647	2510	2510	938	3000	1210
14	465	885	729	946	900	579	630	2620	2850	860	2590	1210
15	459	888	824	978	878	564	586	2610	2770	890	2560	1230
16	463	893	888	1010	857	573	590	2620	2830	873	2630	1130
17	467	879	895	1010	844	610	559	3190	3170	847	2660	1070
18	483	915	897	1020	840	746	550	3600	3070	1180	2250	1090
19	494	943	865	1030	832	781	556	3580	3250	1060	1930	1100
20	648	943	840	1050	810	694	525	3660	3250	887	2050	1110
21	633	945	830	1100	796	682	549	3720	3090	855	2020	1190
22	652	941	866	1070	788	644	555	3940	3130	813	1950	1170
23	699	935	886	1070	791	626	567	4220	3150	802	1780	1090
24	626	885	867	1070	753	615	650	4210	2790	764	1700	998
25	558	857	806	1060	688	639	888	4130	2350	783	1710	924
26	543	842	784	969	883	692	827	3590	2190	825	1730	892
27	732	835	782	1040	843	938	927	4390	2360	794	1450	883
28	1020	892	782	1070	825	813	921	4520	2410	749	1390	868
29	1250	953	784	1080	---	768	922	4440	2070	709	1300	796
30	1220	956	804	1220	---	763	1060	4380	1850	769	1210	733
31	1280	---	829	1260	---	723	---	4460	---	785	1160	---
TOTAL	21128	30957	26378	31027	25560	21356	21076	99830	91260	30153	63467	33104
MEAN	682	1032	851	1001	913	689	703	3220	3042	973	2047	1103
MAX	1280	1680	1020	1260	1260	938	1060	4520	4550	1450	3390	1330
MIN	459	835	729	839	688	564	525	1370	1850	709	977	733
AC-FT	41910	61400	52320	61540	50700	42360	41800	198000	181000	59810	125900	65660
(+)	16160	1030	664	1540	2490	7190	14750	17220	19650	18570	15530	19280

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1999, BY WATER YEAR (WY)

	MEAN	484	980	1047	968	1083	1318	2108	3335	3013	1573	838	618
MAX	1802	2302	2276	2159	3562	2790	6343	6203	6113	5439	3452	1554	
(WY)	1998	1987	1987	1986	1986	1986	1985	1980	1983	1979	1986	1986	
MIN	38.4	145	480	486	590	480	137	148	336	287	278	51.4	
(WY)	1978	1990	1975	1977	1978	1977	1977	1977	1989	1974	1978	1974	

(+) COMBINED FLOW, IN ACRE-FEET, OF ALBUQUERQUE RIVERSIDE DRAIN, AND ARENAL, ARMIJO AND ATRISCO CANALS, THIS FLOW WHICH BY PASSES RIVER GAGE, CAN BE ADDED TO RIVER RECORDS TO GET THE ENTIRE FLOW IN VALLEY CROSS SECTION.

RIO GRANDE BASIN

08330000 RIO GRANDE AT ALBUQUERQUE, NM--Continued

SUMMARY STATISTICS

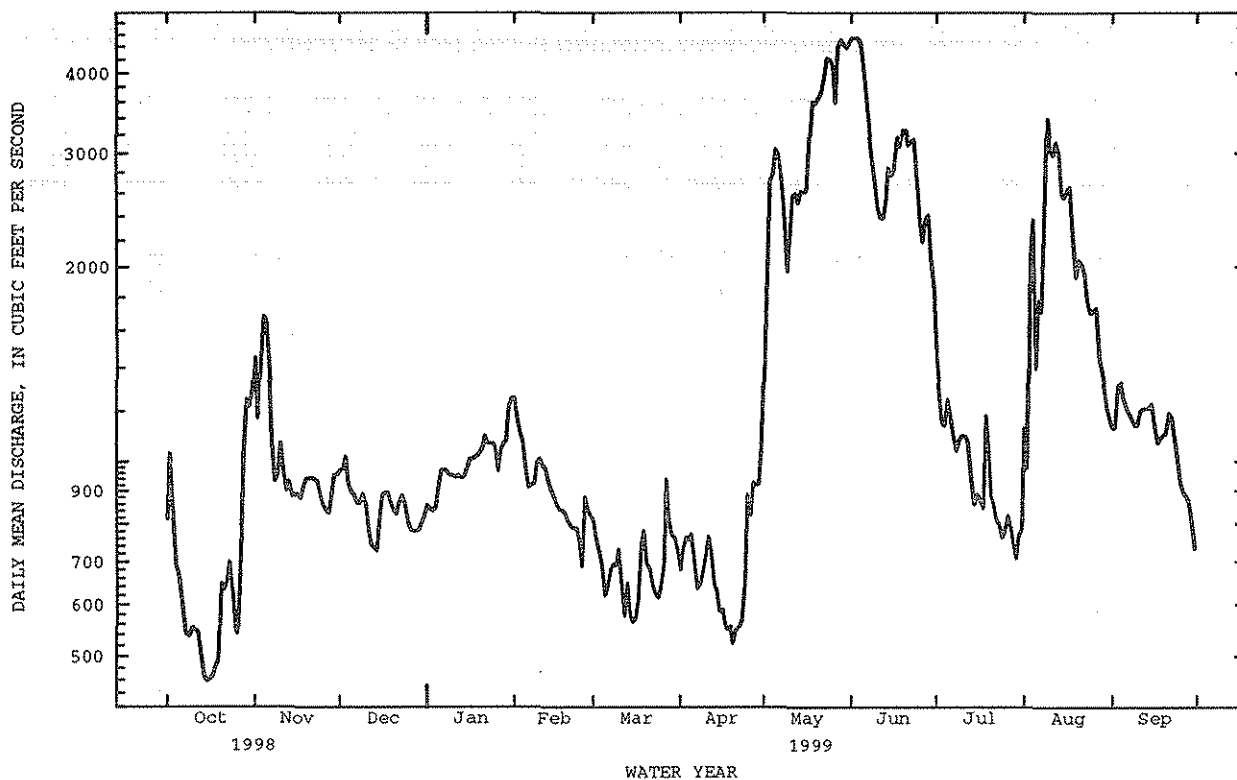
FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1974 - 1999

ANNUAL TOTAL	432584		495296			
ANNUAL MEAN	1185		1357			^a 1447
HIGHEST ANNUAL MEAN						2486
LOWEST ANNUAL MEAN						356
HIGHEST DAILY MEAN	3940	May 9	4550	Jun 1		8650
LOWEST DAILY MEAN	459	Oct 15	459	Oct 15		.00
ANNUAL SEVEN-DAY MINIMUM	477	Oct 13	477	Oct 13		.00
INSTANTANEOUS PEAK FLOW			4920	May 28		^b 25000
INSTANTANEOUS PEAK STAGE			5.79	May 28		7.82
INSTANTANEOUS LOW FLOW			426	Oct 14		147
ANNUAL RUNOFF (AC-FT)	858000		982400			1049000
10 PERCENT EXCEEDS	2530		2980			3630
50 PERCENT EXCEEDS	945		953			886
90 PERCENT EXCEEDS	651		635			305

e Estimated

a Average discharge for 33 years (water years 1942-74), 1,440 ft³/s, 1,043,000 acre-ft, prior to closure of Cochiti Dam.b From rating curve extended above 13,900 ft³/s.

08330000 RIO GRANDE AT ALBUQUERQUE, NM--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: May 1969 to September 1969 (partial-record station), October 1969 to current year.

INSTRUMENTATION.--Automatic pumping sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 45,500 mg/L, July 21, 1971; minimum daily mean, no flow on many days in 1971, 1972, and 1977.

SEDIMENT LOAD: Maximum daily, 275,000 tons, July 27, 1971; minimum daily, 0 ton on many days in 1971, 1972, and 1977.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 8,050 mg/L, Aug. 3; minimum daily mean, 39 mg/L, Apr. 26.

SEDIMENT LOAD: Maximum daily, 53,700 tons, Aug. 3; minimum daily, 61 tons, Apr. 20.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)
OCT							
22...	1000	613	373	8.2	12.5	13.5	17
NOV							
19...	0920	951	392	8.3	8.0	8.0	9.8
30...	1045	984	390	7.6	17.5	10.5	18
DEC							
28...	1330	782	402	7.6	9.0	5.0	3.0
FEB							
11...	0930	987	374	8.3	.0	1.0	5.7
APR							
29...	1400	926	366	7.5	--	18.0	35
JUN							
02...	1345	4550	273	7.7	30.0	17.0	120
29...	1315	2060	323	7.3	28.5	24.5	20
JUL							
29...	0910	722	361	7.4	23.0	22.0	--
AUG							
30...	1045	1230	298	7.7	22.0	22.5	16
SEP							
29...	1225	787	278	7.8	12.0	15.0	21

DATE	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT						
22...	648	8.3	94	65	108	91
NOV						
19...	640	9.3	94	50	128	90
30...	628	11.5	126	95	252	--
DEC						
28...	673	13.8	123	--	--	--
FEB						
11...	645	12.3	102	31	83	96
APR						
29...	631	8.2	105	436	1090	--
JUN						
02...	634	8.1	101	400	4910	--
29...	636	8.0	116	363	2020	22
JUL						
29...	640	7.6	104	123	240	--
AUG						
30...	641	7.8	108	319	1060	--
SEP						
29...	647	9.0	105	94	200	63

RIO GRANDE BASIN

08330000 RIO GRANDE AT ALBUQUERQUE, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	STREAM WIDTH (FT) (00004)	STREAM DEPTH, MEAN (FT) (00064)	STREAM VELOC- ITY, MEAN (F/S) (00055)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)
OCT 28...	1055	980	--	--	--	10.5	1150	3040	23	29
NOV 30...	1130	954	281	1.3	2.08	6.0	547	1410	--	--
DEC 29...	1245	793	--	--	--	5.0	61	131	--	--
FEB 02...	1315	1100	288	1.7	2.22	6.0	216	642	--	--
FEB 25...	1158	468	256	1.0	1.74	6.5	156	197	--	--
MAR 29...	1300	758	266	1.4	1.98	13.0	643	1320	--	--
APR 27...	1130	969	268	1.6	2.23	12.0	164	429	31	36
MAY 24...	1500	4080	343	3.4	3.49	15.5	648	7140	12	14
JUN 25...	1230	2380	--	--	--	20.5	777	4990	7	9
JUL 16...	1030	872	263	1.5	2.14	21.0	95	224	48	56
AUG 20...	1240	2140	--	--	--	21.0	355	2050	22	25
SEP 17...	1300	1080	265	1.8	2.32	19.0	152	444	--	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70341)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)
OCT 28...	29	34	--	40	41	43	79	100	0
NOV 30...	--	--	--	7	9	16	77	100	2
DEC 29...	--	--	--	33	44	73	100	--	0
FEB 02...	--	--	--	14	15	25	70	100	0
FEB 25...	--	--	--	15	16	26	100	--	0
MAR 29...	--	--	--	5	5	15	80	100	--
APR 27...	42	49	58	61	72	93	100	--	--
MAY 24...	17	19	24	28	36	65	99	100	--
JUN 25...	10	11	13	14	15	24	70	100	0
JUL 16...	63	69	77	80	80	100	--	--	--
AUG 20...	30	35	45	48	49	59	99	100	2
SEP 17...	--	--	--	74	77	90	100	--	0

08330000 RIO GRANDE AT ALBUQUERQUE, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)
OCT 28...	4	11	55	79	87	91	95	100	--
NOV 30...	3	9	46	78	86	90	93	100	--
DEC 29...	1	9	58	91	97	98	99	100	--
FEB 02...	1	9	62	91	96	98	99	100	--
25...	1	6	49	75	81	83	86	90	100
MAR 29...	0	6	53	89	96	98	99	100	--
APR 27...	0	7	56	91	99	100	--	--	--
MAY 24...	0	12	60	88	95	98	100	--	--
JUN 25...	1	13	65	90	96	98	99	100	--
JUL 16...	0	7	57	84	91	95	96	100	--
AUG 20...	4	12	59	91	98	99	100	--	--
SEP 17...	1	6	48	84	95	98	98	100	--

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1060	2340	191	748	86	226	111	257	83	282	66	145
2	1150	3180	136	428	85	224	122	277	69	214	70	143
3	1370	3100	129	510	104	286	82	185	86	256	86	168
4	514	965	106	479	80	201	86	197	69	202	73	135
5	218	395	97	434	69	168	93	234	64	168	74	124
6	183	300	73	273	71	170	108	284	56	137	73	128
7	145	220	83	241	70	e163	98	257	71	177	90	164
8	125	183	80	201	117	e273	75	197	51	128	95	178
9	114	165	97	255	212	512	72	186	64	173	93	174
10	107	160	146	422	113	265	67	173	51	141	99	196
11	106	157	128	333	107	227	69	176	54	143	87	149
12	103	152	110	270	147	295	66	171	65	172	84	130
13	96	132	116	294	134	266	77	197	66	166	84	147
14	90	113	108	258	152	299	78	198	54	132	64	99
15	85	105	104	249	146	326	77	204	49	116	63	96
16	86	107	102	247	138	330	96	263	65	150	70	109
17	71	89	94	224	100	242	97	263	73	166	66	110
18	114	148	157	390	99	240	84	231	55	124	85	172
19	93	123	104	266	75	175	75	209	65	147	82	173
20	119	227	103	263	68	155	74	208	53	116	74	140
21	171	294	118	302	78	174	83	248	55	119	67	123
22	111	196	100	255	86	201	65	187	59	125	98	170
23	103	196	103	261	105	251	79	229	53	114	88	149
24	77	130	95	226	116	271	73	211	67	136	86	143
25	76	114	84	194	136	295	83	238	64	118	123	213
26	88	129	79	180	149	314	66	174	51	121	113	211
27	133	273	70	157	107	225	77	216	55	126	342	906
28	395	1220	77	186	178	376	69	200	53	119	110	242
29	230	799	79	202	123	260	56	164	---	---	89	185
30	118	391	80	206	107	232	92	306	---	---	93	191
31	237	852	---	---	108	243	97	331	---	---	96	186
TOTAL	---	16955	---	8954	---	7885	---	6871	---	4288	---	5599

RIO GRANDE BASIN

08330000 RIO GRANDE AT ALBUQUERQUE, NM--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	75	138	1060	3840	164	2020	261	1030	773	2490	154	467
2	66	131	459	2420	198	2440	239	833	2820	7440	156	475
3	73	150	425	3130	48	585	171	534	8050	53700	239	907
4	70	143	294	2220	137	1640	122	376	4640	29000	3380	12300
5	77	160	515	4270	148	1640	111	387	5780	21600	949	3230
6	81	152	564	4570	134	1340	101	322	4240	20900	330	1080
7	64	112	456	3390	115	1010	94	282	2640	12100	264	852
8	51	90	430	2830	140	1140	80	224	2720	18000	267	837
9	52	96	314	1680	205	1510	153	446	1420	13100	327	998
10	48	92	450	2720	271	1830	156	467	3750	30800	426	1310
11	61	127	484	3400	282	1820	178	532	1800	14500	310	1000
12	52	102	438	3080	264	1700	167	491	986	8280	221	720
13	48	84	346	2340	310	2100	131	332	636	5140	214	699
14	55	94	379	2690	650	5040	123	285	1710	11600	228	747
15	48	75	373	2630	640	4780	118	284	464	3210	282	935
16	49	78	288	2040	609	4630	119	282	442	3140	279	856
17	49	73	363	3150	694	5900	114	260	296	2130	203	586
18	51	76	444	4340	568	4700	1770	6390	261	1580	254	745
19	48	71	420	4050	363	3170	4960	14600	225	1180	236	700
20	43	61	445	4400	302	2640	636	1540	235	1310	267	799
21	58	86	488	4900	281	2340	419	955	193	1050	316	1010
22	53	80	506	5390	199	1680	676	1490	655	3450	252	801
23	47	73	453	5160	217	1850	372	797	305	1470	172	508
24	65	117	417	4740	193	1460	666	1380	1210	5440	210	563
25	85	219	482	5400	209	1320	262	553	521	2370	162	406
26	39	88	551	5360	271	1600	362	809	247	1160	126	304
27	55	139	586	6980	327	2080	212	457	196	770	108	258
28	48	120	491	6000	234	1520	182	368	394	1480	138	324
29	44	110	529	6350	300	1670	189	362	409	1450	123	264
30	235	764	435	5150	301	1510	618	1300	220	718	114	226
31	---	---	248	2980	---	---	224	488	173	543	---	---
TOTAL	---	3901	---	121600	---	68665	---	38856	---	281101	---	34907
YEAR		599582										

e Estimated

08330540 TRAMWAY FLOODWAY CHANNEL AT ALBUQUERQUE, NM

LOCATION.--Lat 35°04'43", long 106°29'51", Bernalillo County, Hydrologic Unit 13020203, on right bank 300 ft downstream from Copper Boulevard Bridge, near corner of Tramway and Copper Boulevards NE in Albuquerque.

DRAINAGE AREA.--1.60 mi².

PERIOD OF RECORD.--July 1987 to current year (seasonal record).

GAGE.--Water-stage recorder, crest-stage gage and concrete-lined channel. Elevation of gage is 5,760 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. Some minor streamflow may exist on days where daily mean discharges have been recorded as zero due to the sensitivity limits of the streamflow monitoring equipment.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,250 ft³/s, July 9, 1988, gage height, 7.62 ft, from floodmarks, from step-backwater analysis of channel; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 169 ft³/s, at 1055 hours, Aug. 10, gage height, 2.30 ft; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	.01	.00	---	---	---	.02	.03	.11	.31	.48	.29
2	.02	.06	.00	---	---	---	.78	.05	.10	.16	.34	.45
3	.11	.00	---	---	---	---	.11	.05	.12	.34	8.2	.62
4	.01	.02	---	---	---	---	.42	.02	.01	1.3	1.4	.17
5	.10	.01	---	---	---	---	.46	.00	.01	1.5	1.6	.12
6	.05	.02	---	---	---	---	.00	.01	.03	.33	.77	.14
7	.05	.01	---	---	---	---	.02	.01	.01	.46	.16	.19
8	.03	.00	---	---	---	---	.10	.15	.02	.26	1.2	.13
9	.02	1.0	---	---	---	---	.04	.28	.02	.12	.23	.43
10	.05	.00	---	---	---	---	.03	.10	.03	.07	2.9	.24
11	.03	.01	---	---	---	---	.05	.03	.00	.03	.33	.17
12	.07	.75	---	---	---	e1.3	.11	.03	.00	.05	.16	.18
13	.06	.01	---	---	---	.78	.65	.06	.09	.08	.09	.21
14	.02	.03	---	---	---	.19	.40	.10	.02	.04	1.5	.16
15	.30	.00	---	---	---	.07	.12	.02	.03	1.2	.88	.59
16	.02	.06	---	---	---	.14	.05	.00	.82	.33	.24	.13
17	.03	.00	---	---	---	1.8	.06	.00	.83	.45	.23	.19
18	.00	.02	---	---	---	1.5	.12	.00	.29	1.7	.15	.29
19	.20	.01	---	---	---	.52	.13	.06	.34	.37	.19	.85
20	1.6	.02	---	---	---	.15	.15	.21	.65	.96	.13	.56
21	.14	.01	---	---	---	.19	.45	.24	.20	.30	.26	.21
22	.04	.00	---	---	---	.10	.28	.26	.17	.20	.22	.30
23	.19	.03	---	---	---	.00	.27	.64	.15	.60	.24	.31
24	.05	.00	---	---	---	.15	2.7	.54	.20	.33	.24	.33
25	.09	.00	---	---	---	.19	.51	.48	.15	.30	.19	.13
26	.57	.00	---	---	---	1.5	.01	.47	.16	.25	.44	.12
27	2.4	.00	---	---	---	.59	.02	1.0	.91	.29	.28	.27
28	.04	.02	---	---	---	.44	.11	.96	.28	.24	.36	.14
29	.03	.46	---	---	---	.27	.22	.34	.25	.30	.21	.09
30	1.2	.00	---	---	---	.10	.65	.19	.22	.19	.32	.15
31	2.7	---	---	---	---	.09	---	.11	---	2.3	.47	---
TOTAL	10.39	2.56	---	---	---	---	9.04	6.44	6.22	15.36	24.41	8.16
MEAN	.34	.085	---	---	---	---	.30	.21	.21	.50	.79	.27
MAX	2.7	1.0	---	---	---	---	2.7	1.0	.91	2.3	8.2	.85
MIN	.00	.00	---	---	---	---	.00	.00	.00	.03	.09	.09
AC-FT	21	5.1	---	---	---	---	18	13	12	30	48	16

e Estimated

08330600 TIJERAS ARROYO NEAR ALBUQUERQUE, NM

LOCATION.--Lat 35°00'09", long 106°38'57", in SW¹/₄SW¹/₄ sec.17, T.9 N., R.3 E., Bernalillo County, Hydrologic Unit 13020203, on left bank 800 ft upstream from bridge on Broadway Boulevard SE, 0.2 mi downstream from bridge on Interstate Highway 25, and 3.0 mi south of Albuquerque.

DRAINAGE AREA.--128 mi².

PERIOD OF RECORD.--October 1951 to September 1968 (annual maximum only), August 1974 to September 1998 (seasonal records).
October 1998 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,000 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Mar. 10, 1988, at site 1,700 ft downstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are fair

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,930 ft³/s, July 9, 1988, gage height, 9.6 ft, from floodmarks, from slope-area measurement of peak flow; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 520 ft³/s, at 0912 hours, Aug. 3, gage height, 5.08 ft, from rating curve extended above 10 ft³/s on basis of step-backwater analysis of channel; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.9	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e47	.78
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.9	e14	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.9	e4.8	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e3.0	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	34	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e9.0	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e9.3	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.1	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.19	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.3	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	1.3	.00	.00	.00
20	.03	.00	.00	.00	.00	.00	.00	.00	.00	.12	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.40	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.9	.00
24	.00	.00	.00	.00	.00	.00	.35	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	1.6	.00	.00	.00	.00	.00
26	.14	.00	.00	.00	.00	.21	.00	.00	.00	.00	e1.3	.00
27	3.9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.2	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	e.13	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	e5.0	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	9.07	0.00	0.00	0.00	0.00	0.21	1.95	0.00	1.32	7.62	134.82	0.78
MEAN	.29	.0000	.0000	.0000	.0000	.007	.065	.0000	.044	.25	4.35	.026
MAX	5.0	.00	.00	.00	.00	.21	1.6	.00	1.3	3.9	47	.78
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	18	.00	.00	.00	.00	.4	3.9	.00	2.6	15	267	1.5

WTR YR 1999 TOTAL 155.77 MEAN .43 MAX 47 MIN .00 AC-FT 309

e Estimated

08330775 SOUTH DIVERSION CHANNEL ABOVE TIJERAS ARROYO NEAR ALBUQUERQUE, NM

LOCATION.--Lat 35°00'09", long 106°39'02", Bernalillo County, Hydrologic Unit 13020203, on right bank 600 ft upstream from confluence with Tijeras Arroyo, and 2.5 mi south of Albuquerque.

DRAINAGE AREA.--11.0 mi².

PERIOD OF RECORD.--June 1988 to current year.

GAGE.--Water-stage recorder, crest stage gage and concrete control. Elevation of gage is 4,930 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for a estimated daily discharge, which is poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	1.3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	23	1.5
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.9	13	1.9
5	.00	.00	.41	.00	.00	.00	.00	.00	.00	6.7	1.0	.18
6	.00	.00	.47	.00	.00	.00	.00	.00	.00	.87	11	.00
7	.00	.00	.60	.00	.00	.00	.00	.00	.00	.00	.41	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00
9	.00	.06	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.2	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.5	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.1	.00
13	.00	e.10	.00	.00	.00	1.9	.00	.00	.00	.75	.05	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.22	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.2	.00
17	.00	.00	.00	.00	.00	1.5	.00	.00	.00	.00	.11	.00
18	.00	.00	.00	.00	.00	2.4	.00	.00	1.1	4.1	.00	.00
19	.00	.00	.00	.00	.00	.60	.00	.00	.32	.78	.00	.00
20	4.1	.00	.00	.00	.00	.00	.00	.00	.32	.24	.00	.53
21	.31	.00	.10	.05	.00	.00	.00	.00	.00	.17	.00	.17
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.2	.00
24	.00	.00	.00	.00	.00	.00	2.2	.53	.00	.00	.83	.00
25	.00	.00	.00	.00	.00	.00	4.2	.26	.00	.00	.07	.00
26	.00	.00	.00	.00	.00	8.5	.00	.14	.00	.00	.00	.00
27	15	.00	.00	.00	.00	2.6	.00	.05	.00	.00	.00	.00
28	1.8	.00	.00	.00	.00	.09	.00	3.6	.00	.00	.11	.00
29	.00	.00	.00	.00	.00	.00	.00	1.3	.00	.00	.00	.00
30	.20	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00	.00
31	8.0	---	.00	.00	.00	.00	---	.04	---	.00	.00	---
TOTAL	32.81	0.16	1.58	0.05	0.00	17.59	6.40	6.01	1.74	22.51	60.02	4.28
MEAN	1.06	.005	.051	.002	.000	.57	.21	.19	.058	.73	1.94	.14
MAX	15	.10	.60	.05	.00	8.5	4.2	3.6	1.1	8.9	23	1.9
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	65	.3	3.1	.1	.00	35	13	12	3.5	45	119	8.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1999, BY WATER YEAR (WY)

	MEAN	.70	.94	.085	.055	.079	.18	.39	.40	.48	1.78	1.91	1.01
MAX	2.88	4.50	.39	.18	.21	.57	3.11	1.83	3.14	6.48	4.65	2.79	
(WY)	1995	1995	1995	1995	1998	1999	1990	1994	1996	1990	1994	1997	
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.021	.19	.000	
(WY)	1996	1990	1994	1994	1996	1996	1989	1989	1989	1993	1990	1998	

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1988 - 1999

ANNUAL TOTAL	145.01	153.15	
ANNUAL MEAN	.40	.42	.66
HIGHEST ANNUAL MEAN			.94
LOWEST ANNUAL MEAN			.32
HIGHEST DAILY MEAN	28	Aug 25	189
LOWEST DAILY MEAN	.00	Jan 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00
INSTANTANEOUS PEAK FLOW			475
INSTANTANEOUS PEAK STAGE			3.34
ANNUAL RUNOFF (AC-FT)	288	304	479
10 PERCENT EXCEEDS	.00	.56	.40
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated

a From rating curve extended above 30 ft³/s, on basis of step-back water analysis.

b From floodmarks.

08330915 ALBUQUERQUE RIVERSIDE DRAIN NEAR ISLETA, NM

LOCATION.--Lat 34°56'09", long 106°40'44", in SE¹/₄SE¹/₄ sec.12, T.8 N., R.2 E., Valencia County, Hydrologic Unit 13020203, in Isleta Pueblo Grant, on left bank 0.2 mi east of the Rio Grande River, 0.4 mi west of Railroad crossing, and 0.9 mile west of Highway 47.

PERIOD OF RECORD.--October 1997 to June 1999 (discontinued).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,900 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 295 ft³/s, Aug. 26, 1998, gage height, 7.14 ft; minimum daily discharge, 42 ft³/s, Jan. 13-15, 1998.

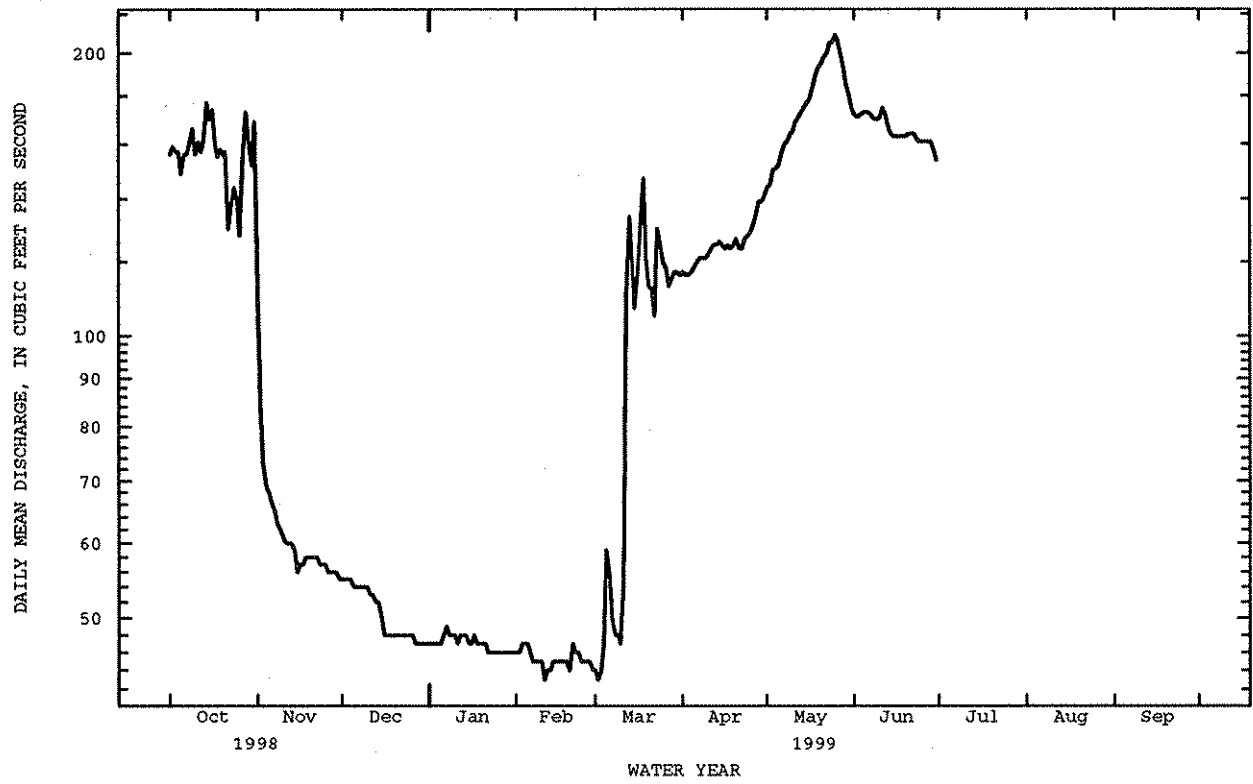
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 209 ft³/s, May 25, gage height, 7.83 ft; minimum daily discharge, 43 ft³/s, Feb.11, Mar. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	156	110	e55	47	46	44	117	144	172	---	---	---
2	159	84	e55	47	46	43	116	145	171	---	---	---
3	157	73	e55	47	47	44	116	150	172	---	---	---
4	157	69	e55	47	47	47	117	151	173	---	---	---
5	149	68	54	47	47	59	118	152	173	---	---	---
6	156	66	54	48	46	56	120	156	173	---	---	---
7	156	65	54	49	45	50	121	160	172	---	---	---
8	160	63	54	48	45	48	121	161	170	---	---	---
9	166	62	54	48	45	48	121	164	170	---	---	---
10	156	61	54	48	45	47	122	165	171	---	---	---
11	161	60	53	47	43	55	124	169	175	---	---	---
12	157	60	53	48	44	111	125	171	172	---	---	---
13	161	60	52	48	44	134	125	173	167	---	---	---
14	177	59	52	48	45	120	126	175	164	---	---	---
15	170	e56	50	47	45	107	125	177	163	---	---	---
16	174	e57	48	47	45	117	124	179	163	---	---	---
17	161	e57	48	48	45	131	125	184	163	---	---	---
18	155	e58	48	47	45	147	124	189	163	---	---	---
19	158	e58	48	47	45	121	125	193	163	---	---	---
20	156	e58	48	47	44	113	127	195	164	---	---	---
21	157	e58	48	47	47	112	124	198	164	---	---	---
22	130	e58	48	46	46	105	124	200	164	---	---	---
23	137	e57	48	46	46	130	127	205	162	---	---	---
24	144	e57	48	46	45	e125	128	205	161	---	---	---
25	140	e57	48	46	45	e120	129	209	161	---	---	---
26	128	e56	48	46	45	e118	132	206	161	---	---	---
27	158	e56	47	46	45	113	135	200	161	---	---	---
28	173	e56	47	46	44	115	139	193	161	---	---	---
29	159	e56	47	46	---	117	139	185	158	---	---	---
30	152	e55	47	46	---	117	141	180	154	---	---	---
31	169	---	47	46	---	116	---	175	---	---	---	---
TOTAL	4849	1870	1567	1457	1267	2930	3757	5509	4981	---	---	---
MEAN	156	62.3	50.5	47.0	45.2	94.5	125	178	166	---	---	---
MAX	177	110	55	49	47	147	141	209	175	---	---	---
MIN	128	55	47	46	43	43	116	144	154	---	---	---
AC-FT	9620	3710	3110	2890	2510	5810	7450	10930	9880	---	---	---

e Estimated

08330915 ALBUQUERQUE RIVERSIDE DRAIN NEAR ISLETA, NM--Continued



08330940 ATRISCO RIVERSIDE DRAIN AT ISLETA, NM

LOCATION.--Lat 34°56'06", long 106°41'07", in NE¹/₄NW¹/₄ sec.12, T.8 N., R.2 E., Valencia County, Hydrologic Unit 13020203, in Isleta Pueblo Grant, on left bank 0.4 mi upstream of Railroad cross over Rio Grande, 0.8 mi east of Isleta Blvd. 1.1 mi downstream from Interstate 25,

PERIOD OF RECORD.--October 1997 to June 1999 (discontinued).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,900 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 101 ft³/s, June 17, 1999, gage height, 5.47 ft; maximum gage height, 5.88 ft, due to backwater at gage; minimum daily discharge, 34 ft³/s, Apr. 23, 1998.

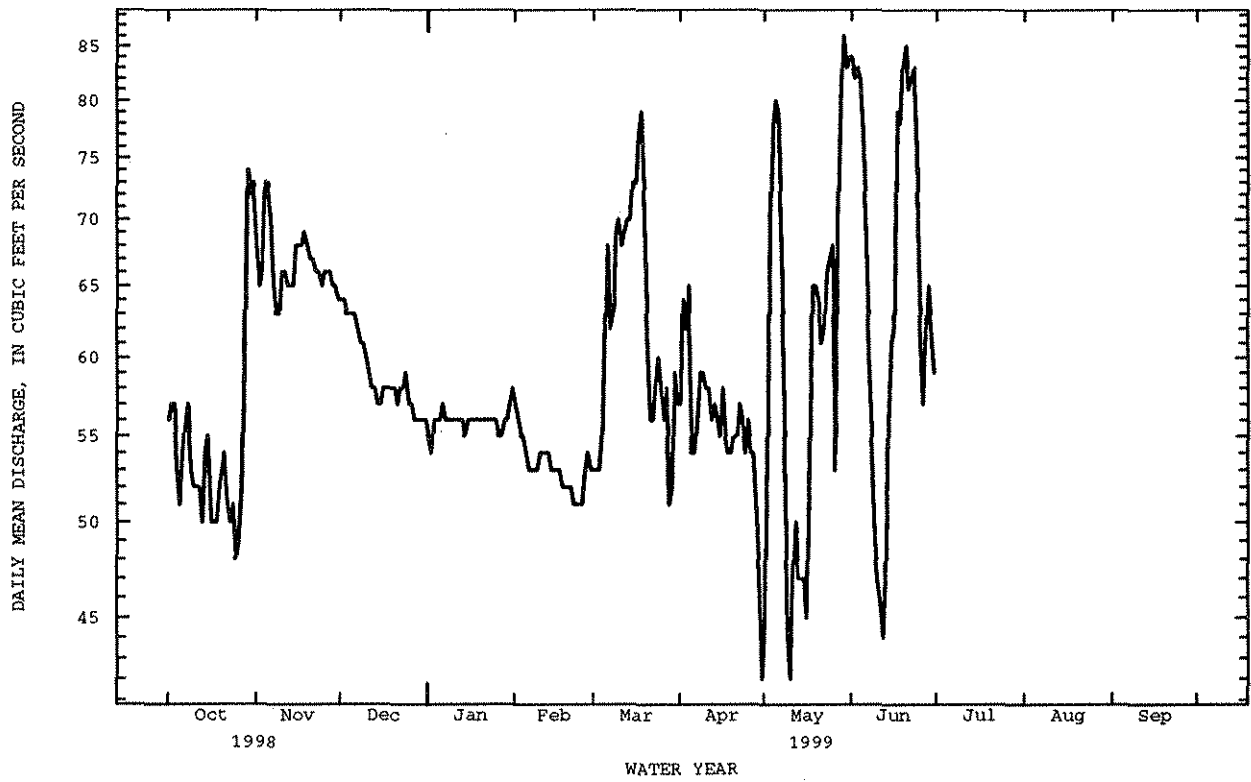
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 101 ft³/s, June 17, gage height, 5.47 ft; maximum gage height, 5.88 ft, due to backwater at gage; minimum daily discharge, 42 ft³/s, Apr. 30, May 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	68	e64	55	57	53	57	44	84	---	---	---
2	57	65	e64	54	56	53	64	54	82	---	---	---
3	57	66	e63	56	55	53	62	70	83	---	---	---
4	53	73	e63	56	55	55	65	78	82	---	---	---
5	51	73	e63	56	54	61	54	80	77	---	---	---
6	54	70	e63	57	53	68	54	79	70	---	---	---
7	56	65	e62	56	53	62	56	67	60	---	---	---
8	57	63	61	56	53	63	59	56	55	---	---	---
9	53	63	61	56	53	69	59	44	49	---	---	---
10	52	66	60	56	54	70	58	42	47	---	---	---
11	52	66	59	56	54	68	58	47	46	---	---	---
12	52	65	58	56	54	69	56	50	44	---	---	---
13	50	65	58	56	54	70	57	47	47	---	---	---
14	54	65	57	55	53	70	56	47	56	---	---	---
15	55	e68	57	56	53	73	55	47	61	---	---	---
16	50	e68	58	56	53	73	58	45	62	---	---	---
17	50	e68	58	56	53	77	55	54	79	---	---	---
18	50	69	58	56	52	79	54	65	78	---	---	---
19	52	68	58	56	52	72	54	65	83	---	---	---
20	53	67	58	56	52	63	55	64	85	---	---	---
21	54	67	57	56	52	56	55	61	81	---	---	---
22	51	66	58	56	51	56	57	62	82	---	---	---
23	50	66	58	56	51	58	56	66	83	---	---	---
24	51	65	59	56	51	60	54	67	75	---	---	---
25	48	e66	57	56	51	58	56	68	62	---	---	---
26	49	e66	57	55	53	56	54	53	57	---	---	---
27	52	e66	56	55	54	58	54	70	61	---	---	---
28	60	e65	56	56	53	51	51	80	65	---	---	---
29	74	e65	56	56	---	52	47	86	62	---	---	---
30	72	e64	56	57	---	59	42	83	59	---	---	---
31	73	---	56	58	---	57	---	84	---	---	---	---
TOTAL	1698	1997	1829	1734	1489	1942	1672	1925	2017	---	---	---
MEAN	54.8	66.6	59.0	55.9	53.2	62.6	55.7	62.1	67.2	---	---	---
MAX	74	73	64	58	57	79	65	86	85	---	---	---
MIN	48	63	56	54	51	51	42	42	44	---	---	---
AC-FT	3370	3960	3630	3440	2950	3850	3320	3820	4000	---	---	---

e Estimated

08330940 ATRISCO RIVERSIDE DRAIN AT ISLETA, NM--Continued



08331000 RIO GRANDE AT ISLETA, NM

WATER-QUALITY RECORDS

LOCATION.--Lat 34°55'14", long 106°40'44", in NE $\frac{1}{4}$ /SE $\frac{1}{4}$ /SW $\frac{1}{4}$ sec. 13, T.8 N., R.2 E., Bernalillo County, Hydrologic Unit 13020203, in Isleta Pueblo Grant, on right bank 0.5 mi upstream from Isleta Diversion Dam, 1.0 mi west from State Highway 47, 1.2 mi from Isleta Pueblo, and at mile 1527.7.

DRAINAGE AREA.--18,100 mi² (estimated), including 2,940 mi² in closed basin in San Luis valley, Co.

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT												
22...	1200	E652	432	8.1	15.5	13.5	21	650	8.5	96	--	--
NOV												
19...	1130	E943	442	8.2	13.0	9.0	28	642	9.3	96	--	--
25...	1147	E857	443	8.1	20.0	10.5	19	610	9.3	105	--	--
DEC												
28...	1130	E782	431	7.8	16.5	5.0	4.5	620	3.2	31	--	--
JAN												
28...	0900	E1070	450	8.1	5.0	4.0	7.3	637	11.8	108	--	--
FEB												
11...	1200	E987	418	8.0	5	3.0	5.5	646	12.6	111	--	--
23...	1000	E980	407	8.2	19.0	6.5	10	644	10.8	104	45	250
APR												
29...	1215	E922	407	8.0	--	18.0	300	635	8.2	105	--	--
MAY												
13...	1115	E2510	391	8.1	26.5	16.5	25	639	7.9	97	83	150
JUN												
02...	1045	E4550	286	7.4	18.5	17.0	250	637	7.6	94	--	--
29...	1030	E2410	326	7.4	26.5	22.5	20	640	6.8	94	--	--
JUL												
13...	1345	E938	353	8.3	32.0	26.5	35	645	6.8	101	180	99
29...	1120	E709	414	7.8	26.0	23.5	100	642	6.9	97	--	--
AUG												
25...	1025	E1710	332	8.1	20.5	23.0	--	643	6.8	95	380	370
30...	0845	E1160	342	7.8	17.0	23.0	45	642	6.5	91	--	--
SEP												
29...	0940	E796	336	7.4	12.0	12.5	28	650	11.1	122	--	--

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

08331000 RIO GRANDE AT ISLETA, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible][illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

08331000 RIO GRANDE AT ISLETA, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

08331105 BARR/CHICAL DIVERSION AT ISLETA, NM

LOCATION.--Lat 34°54'39", long 106°40'44", in NE¹/₄SW¹/₄, sec.24, T.8 N., R.2 E., Valencia County, Hydrologic Unit 13020203, in Isleta Pueblo Grant, on right bank 0.1 mi upstream from Highway 147, 0.20 northeast of bridge over the Rio Grande, and 0.8 mi east of Isleta Pueblo.

PERIOD OF RECORD.--October 1997 to June 1999 (discontinued).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,900 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 91 ft³/s, June 26, 1998, gage height, 7.13 ft; minimum daily discharge, 69 ft³/s, Feb. 3,5,6, 1999.

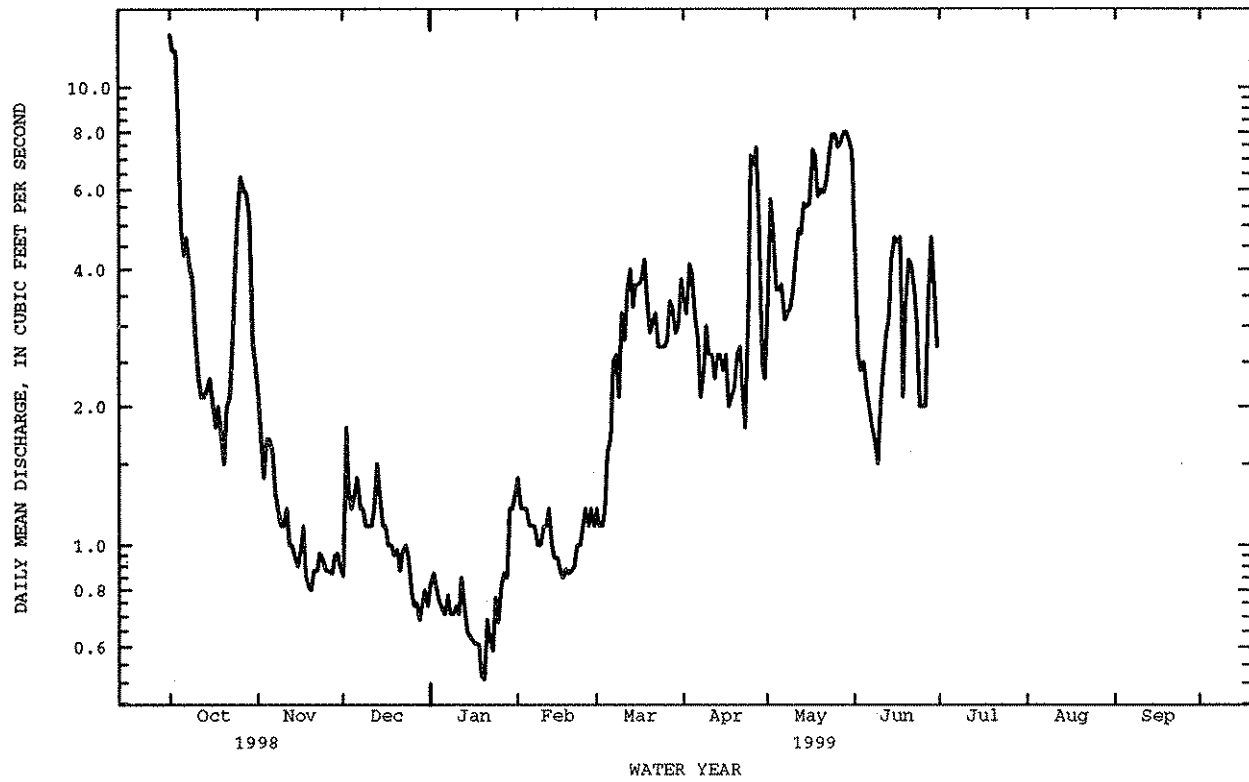
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15 ft³/s, Oct. 1, gage height, 5.36 ft; minimum daily discharge, .51 ft³/s, Jan. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	2.1	.86	.83	1.4	e1.2	3.4	3.2	4.6	---	---	---
2	12	1.7	1.8	.87	1.2	e1.1	3.2	5.7	2.6	---	---	---
3	12	1.4	1.3	.81	1.2	e1.1	4.1	4.9	2.4	---	---	---
4	8.4	1.7	1.2	.76	1.2	e1.2	3.9	3.6	2.5	---	---	---
5	5.0	1.7	1.3	.73	1.1	1.6	3.2	3.6	2.2	---	---	---
6	4.3	1.6	1.4	.71	1.1	1.7	2.8	3.7	2.0	---	---	---
7	4.7	1.3	1.2	.78	1.1	2.5	2.1	3.1	1.8	---	---	---
8	4.1	1.2	1.2	.71	1.0	2.6	2.4	3.2	1.7	---	---	---
9	3.8	1.1	1.1	.71	1.0	2.1	3.0	3.3	1.5	---	---	---
10	2.9	1.1	1.1	.74	1.1	3.2	2.6	3.6	2.0	---	---	---
11	2.3	1.2	1.1	.71	1.1	2.8	2.6	4.2	2.4	---	---	---
12	2.1	1.0	1.2	.85	1.2	3.6	2.3	4.9	2.9	---	---	---
13	2.1	1.0	1.5	.73	1.0	4.0	2.6	4.8	3.1	---	---	---
14	2.2	.94	1.3	.65	.94	3.3	2.6	5.6	4.2	---	---	---
15	2.3	.90	1.1	.63	.94	3.7	2.4	5.5	4.7	---	---	---
16	2.0	.97	1.1	.62	.88	3.7	2.6	5.6	4.6	---	---	---
17	1.8	1.1	1.0	.61	.85	3.8	2.0	7.3	4.7	---	---	---
18	2.0	.86	1.0	.61	.89	4.2	2.1	7.1	2.1	---	---	---
19	1.7	.81	.95	.52	.87	3.4	2.2	5.8	3.3	---	---	---
20	1.5	.80	.98	.51	.88	2.9	2.6	6.0	4.2	---	---	---
21	2.0	.88	.88	.69	.90	3.1	2.7	5.9	4.1	---	---	---
22	e2.1	.88	.97	.63	1.0	3.2	2.1	6.3	3.6	---	---	---
23	e2.7	.96	1.0	.59	1.0	2.7	1.8	7.2	3.0	---	---	---
24	e4.2	.93	.95	.77	1.1	2.7	3.1	7.9	2.0	---	---	---
25	e5.4	.88	.80	.68	1.2	2.7	7.1	7.9	2.0	---	---	---
26	6.4	.88	.74	.82	1.1	2.8	6.8	7.4	2.0	---	---	---
27	6.0	.87	.75	.87	e1.2	3.4	7.4	7.6	3.4	---	---	---
28	5.9	.95	.69	.85	e1.1	3.3	5.1	8.0	4.7	---	---	---
29	5.2	.96	.75	1.2	---	2.9	2.5	8.0	3.8	---	---	---
30	2.8	.89	.80	1.2	---	3.0	2.3	7.6	2.7	---	---	---
31	2.5	---	.74	1.3	---	3.8	---	7.2	---	---	---	---
TOTAL	135.4	33.56	32.76	23.69	29.55	87.3	95.6	175.7	90.8	---	---	---
MEAN	4.37	1.12	1.06	.76	1.06	2.82	3.19	5.67	3.03	---	---	---
MAX	13	2.1	1.8	1.3	1.4	4.2	7.4	8.0	4.7	---	---	---
MIN	1.5	.80	.69	.51	.85	1.1	1.8	3.1	1.5	---	---	---
AC-FT	269	67	65	47	59	173	190	349	180	---	---	---

e Estimated

08331105 BARR/CHICAL DIVERSION AT ISLETA, NM--Continued



RIO GRANDE BASIN

08331660 ABO ARROYO NEAR BLUE SPRINGS, NM

LOCATION.--Lat 34°26'47", long 106°29'46", in NE¹/₄SE¹/₄NW¹/₄ sec. 35, T.3N., R 4 E., Socorro County, Hydrologic Unit 13020203, 2.5 mi northeast to U.S. Highway 60 at Blue Springs and 20 mi east of Bernardo, NM.

DRAINAGE AREA.--242 mi².

PERIOD OF RECORD.--August 14, 1996 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,520 ft above National Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	2.5	.75	.69	.70	.54	.46	.25	.26	.02	3.1	.28
2	1.9	1.1	.79	.68	.70	.53	.49	.27	.24	.00	.32	.25
3	.86	.98	.81	2.0	.70	.52	.49	.25	.23	.00	14	.30
4	.80	.93	.72	.65	.68	.53	.48	.30	.20	.06	450	.29
5	.76	.84	.70	.65	.69	.52	.49	.26	.21	.15	13	.26
6	.77	.84	.72	.67	.73	.47	.46	.24	.20	.10	260	.25
7	.76	.81	.87	.68	.70	.50	.46	.23	.21	.06	1.3	.23
8	.76	.80	.74	.67	.72	.53	.48	.22	.20	.03	.69	.15
9	.75	1.1	1.9	.67	.69	.51	.47	.17	.19	2.7	.64	.15
10	.74	.99	.65	.67	.70	.50	.43	.18	.17	1.4	.91	.16
11	.72	.89	e.68	.67	.65	.48	.40	.19	.13	.14	.53	.16
12	.71	.85	e.68	.68	.68	.54	.40	.19	.08	.07	.46	.13
13	.72	.85	e.68	.69	1.6	.60	.41	.16	.13	.03	.41	.10
14	.71	.83	e.68	.68	.58	.53	.45	.16	.12	.00	.37	.10
15	.70	.82	.68	.69	.59	.52	.40	.15	.11	.01	1.6	.11
16	.71	.81	.68	.68	.58	.51	.41	.14	.10	.00	.43	.09
17	.75	.81	.69	.70	.59	.58	.37	.15	.11	.68	.45	.16
18	.75	.82	.70	.69	.58	.62	.37	.12	.11	19	.35	.20
19	.76	.78	.68	.69	.58	.57	.36	.12	.13	1.9	.32	.13
20	.78	.74	.69	.70	.57	.54	.36	.15	.13	.33	.31	.07
21	.74	.75	.68	.76	.55	.52	.37	.14	.65	.15	.28	.05
22	.83	.74	1.1	.74	.58	.52	.35	.19	4.1	7.5	.25	.07
23	.84	.73	e.90	.69	.56	.50	.27	.22	.28	1.3	2.7	.09
24	.85	.74	e.80	.67	.57	.46	.31	.25	.20	.19	7.9	.09
25	.86	.74	.81	.67	.57	.45	.46	.26	.16	.13	7.7	.07
26	.88	.73	.66	.71	.58	.47	.38	.30	.15	.12	.47	.06
27	2.8	.73	.67	.70	.56	.50	.33	.30	.13	.08	115	.06
28	1.5	.75	.68	.64	.55	.48	.23	.40	.10	.08	1.8	.04
29	.94	.83	.66	.72	---	.46	.22	.36	.05	173	12	.03
30	.92	.79	.67	.72	---	.46	.24	.27	.03	7.7	.94	.05
31	81	---	.66	.69	---	.46	---	.25	---	6.6	.33	---
TOTAL	108.67	26.62	23.78	22.61	18.53	15.92	11.80	6.84	9.11	290.85	898.56	4.18
MEAN	3.51	.89	.77	.73	.66	.51	.39	.22	.30	9.38	29.0	.14
MAX	.81	2.5	1.9	2.0	1.6	.62	.49	.40	4.1	173	450	.30
MIN	.70	.73	.65	.64	.55	.45	.22	.12	.03	.00	.25	.03
AC-FT	216	53	47	45	37	32	23	14	18	577	1780	8.3

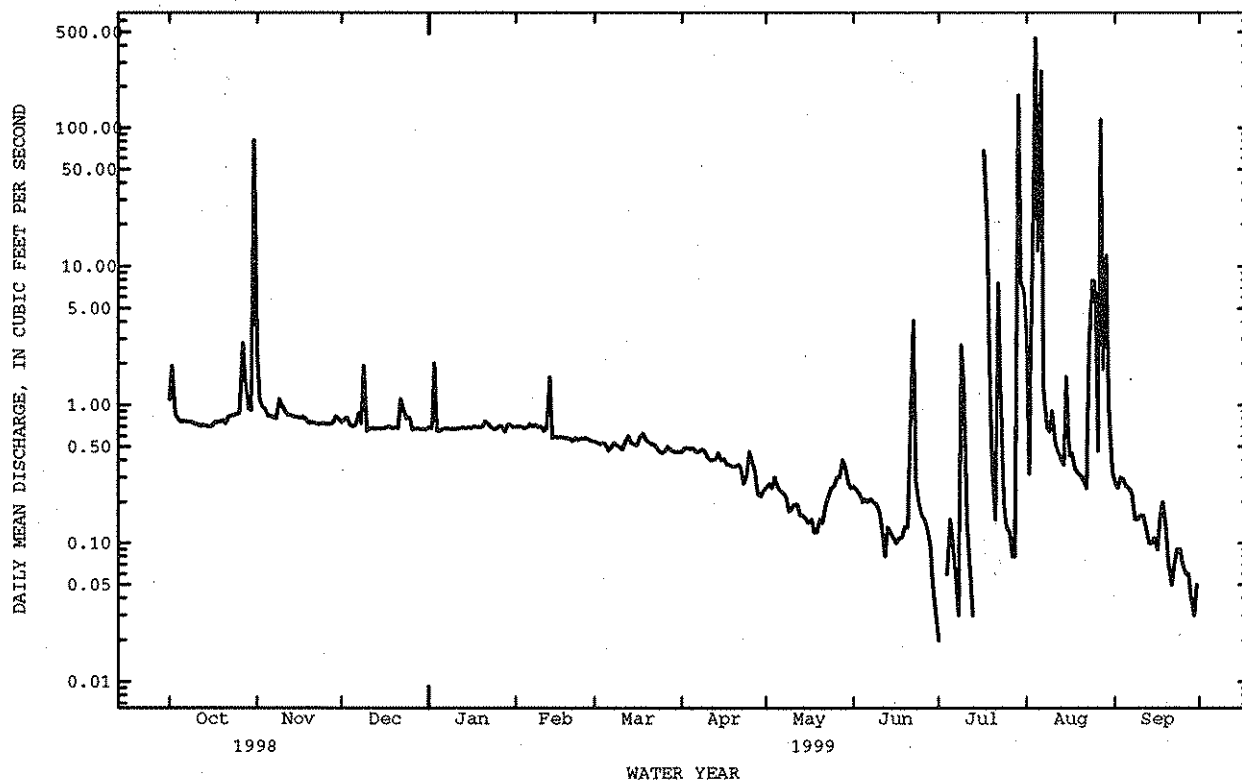
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1999, BY WATER YEAR (WY)

MEAN	3.10	.69	.69	.65	.65	1.07	.70	.60	15.1	30.7	20.7	26.1
MAX	4.98	.89	.90	.81	.88	2.20	1.13	1.07	44.6	57.7	29.0	71.6
(WY)	1997	1999	1998	1998	1998	1998	1998	1998	1997	1997	1999	1997
MIN	.81	.39	.41	.40	.41	.50	.39	.22	.30	9.38	9.82	.14
(WY)	1998	1997	1997	1997	1997	1997	1999	1999	1999	1999	1998	1999

08331660 ABO ARROYO NEAR BLUE SPRINGS, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1996 - 1999
ANNUAL TOTAL	1489.09	1437.47	
ANNUAL MEAN	4.08	3.94	8.30
HIGHEST ANNUAL MEAN			17.1 1997
LOWEST ANNUAL MEAN			3.85 1998
HIGHEST DAILY MEAN	459 Jul 4	450 Aug 4	1330 Jun 7 1997
LOWEST DAILY MEAN	.25 Jun 30	.00 Jul 2	.00 Jul 2 1999
ANNUAL SEVEN-DAY MINIMUM	.30 Jun 24	.04 Jun 28	.04 Jun 28 1999
INSTANTANEOUS PEAK FLOW		5470 Aug 4	13100 Jul 31 1997
INSTANTANEOUS PEAK STAGE		3.77 Aug 4	6.30 Jul 31 1997
INSTANTANEOUS LOW FLOW		.00 Jul 2	.00 Jul 2 1999
ANNUAL RUNOFF (AC-FT)	2950	2850	6010
10 PERCENT EXCEEDS	1.8	1.0	1.3
50 PERCENT EXCEEDS	.85	.55	.53
90 PERCENT EXCEEDS	.51	.11	.19

e Estimated



08331990 RIO GRANDE CONVEYANCE CHANNEL NEAR BERNARDO, NM

LOCATION.--Lat 34°24'52", long 106°48'11", Socorro County, Hydrologic Unit 13020203, in Sevilleta or Belen Grant, 0.2 mi south of U.S. Highway 60, 1.8 mi east of Bernardo, about 3 mi upstream from floodway, and 4 mi upstream from Rio Puerco.

PERIOD OF RECORD.--June 1936 to September 1937, October 1964 to current year. July 1943 to September 1964, included in composite flow of "Rio Grande near Bernardo." October 1960 to September 1964, monthly acre-ft published in WSP 1923 (daily records available in district files). Beginning October 1952, flow in conveyance channel represents controlled diversion from Rio Grande. Prior to October 1952, records called "San Francisco Riverside drain near Bernardo" are not equivalent.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,720.00 ft above National Geodetic Vertical Datum of 1929. Prior to October 1964, 0.2 mi upstream at various datums.

REMARKS.--Records good except for estimated daily discharges, which are poor. Conveyance channel is 1 of 4 channels (stations 08332010, 08332030, and 08332050) carrying flow in valley cross section. Original design and plan were for conveyance channel to carry flows up to about 2,000 ft³/s. For combined monthly flow in acre-ft of this channel, floodway, Bernardo interior drain, and Lower San Juan Riverside drain, see tabulation below daily table for station 08332010. Several observations of water temperature were made during the year. No flow many days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	17	e9.7	9.8	9.7	8.5	7.4	58	57	e47	22	30
2	43	15	e9.7	9.8	9.7	8.5	7.3	62	e59	e45	19	35
3	29	e17	e9.8	9.7	9.7	10	7.4	72	e57	e47	19	32
4	44	e16	e9.8	9.7	9.7	18	7.4	70	e56	e45	17	27
5	32	e15	e9.7	9.9	10	19	7.8	59	e55	e43	15	33
6	27	e14	e9.8	8.9	10	16	7.8	52	e56	e41	11	38
7	36	e12	e9.8	7.4	9.7	11	7.8	51	e55	e39	9.8	38
8	43	e11	e9.7	7.4	9.7	13	8.5	52	e54	e36	10	38
9	44	e11	9.8	7.4	9.7	10	9.8	52	e54	e35	11	38
10	47	e11	9.7	7.4	9.5	8.4	9.8	53	e53	e33	12	36
11	43	e10	9.9	7.8	9.3	7.8	9.0	44	e51	e34	14	36
12	36	e10	9.8	8.5	9.1	7.9	9.6	51	e50	e32	16	36
13	38	e9.8	9.7	8.5	9.4	7.8	10	51	e49	e31	17	36
14	46	e9.8	9.7	8.5	9.1	7.9	12	48	e49	e29	17	37
15	45	e9.9	9.6	8.5	8.9	7.9	12	50	e48	e28	26	38
16	35	e9.8	9.1	8.5	9.0	7.9	11	54	e49	e24	28	44
17	39	e9.7	9.4	8.6	9.0	9.5	12	55	e50	e23	24	46
18	38	e9.7	9.6	8.9	9.0	18	12	55	e52	22	26	53
19	40	e9.8	9.5	9.0	9.0	14	11	56	e54	21	27	54
20	46	e9.7	9.5	9.0	9.0	9.7	20	54	e53	21	24	53
21	34	e9.7	9.6	9.4	8.6	10	42	55	e53	23	23	56
22	34	e9.8	10	9.9	8.2	9.8	49	60	e56	21	28	56
23	42	e9.8	10	10	8.5	9.5	45	59	e55	17	26	56
24	37	e9.7	10	10	9.0	9.1	45	67	e54	14	36	62
25	31	e9.7	10	10	9.0	9.1	52	61	e55	15	38	76
26	38	e9.8	10	10	8.9	9.6	60	53	e55	13	30	72
27	47	e9.8	10	10	8.8	9.4	58	53	e57	16	29	70
28	43	e9.7	10	10	9.0	8.5	54	55	e55	16	32	59
29	50	e9.7	10	10	---	10	61	60	e52	13	32	49
30	46	e9.8	9.9	9.9	---	9.2	64	59	e49	12	33	43
31	40	---	9.7	9.6	---	7.8	---	60	---	20	31	---
TOTAL	1243	334.7	302.5	282.0	258.2	322.8	729.6	1741	1602	856	702.8	1377
MEAN	40.1	11.2	9.76	9.10	9.22	10.4	24.3	56.2	53.4	27.6	22.7	45.9
MAX	50	17	10	10	10	19	64	72	59	47	38	76
MIN	27	9.7	9.1	7.4	8.2	7.8	7.3	44	48	12	9.8	27
AC-FT	2470	664	600	559	512	640	1450	3450	3180	1700	1390	2730

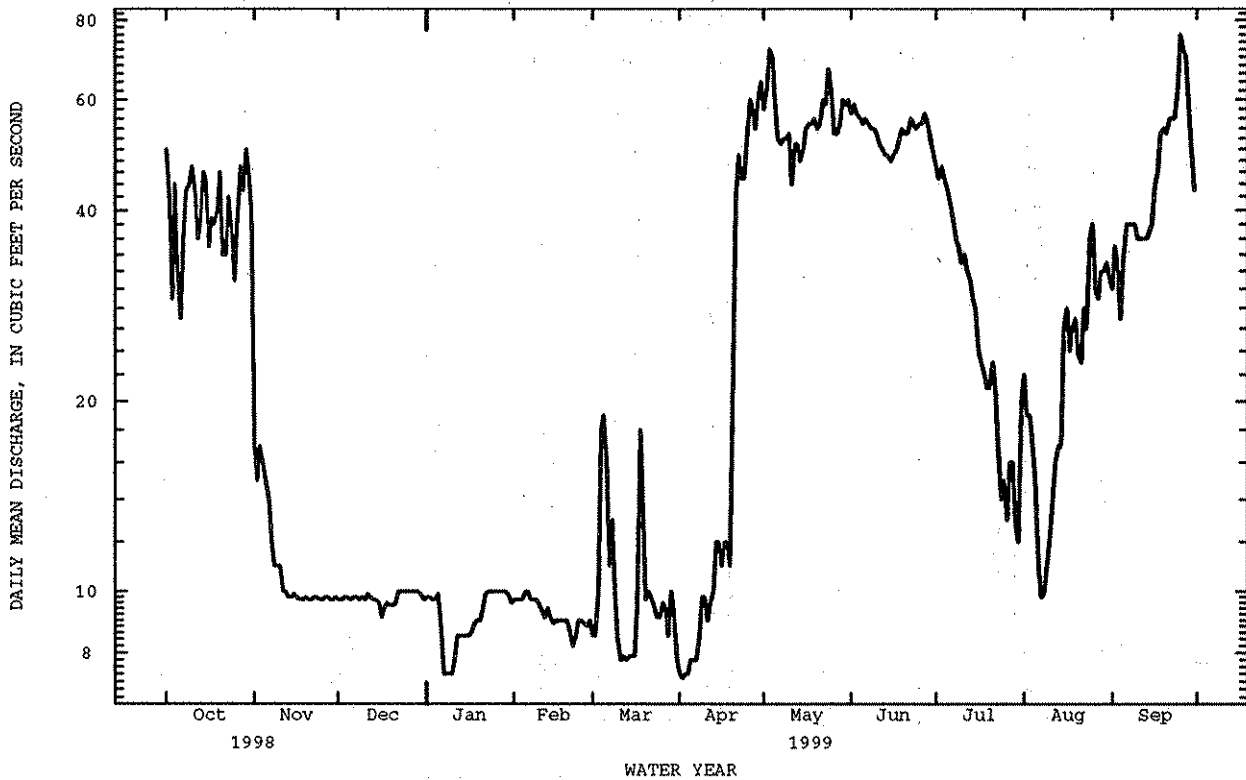
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1999, BY WATER YEAR (WY)

	1964	1978	1995	1995	1995	1977	1977	1977	1972	1964	1977	1964
MEAN	83.1	291	261	239	238	198	204	206	177	95.3	84.9	66.3
MAX	682	1395	1579	1417	1006	1028	1354	1259	1664	1690	890	570
(WY)	1970	1971	1974	1974	1970	1966	1966	1973	1973	1973	1973	1973
MIN	.000	1.54	2.62	2.42	2.55	3.93	2.92	.64	.000	.000	.013	.000
(WY)	1964	1978	1995	1995	1995	1977	1977	1977	1972	1964	1977	1964

08331990 RIO GRANDE CONVEYANCE CHANNEL NEAR BERNARDO, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1964 - 1999	
ANNUAL TOTAL	8148.8		9751.6		178	
ANNUAL MEAN	22.3		26.7		2.25	
HIGHEST ANNUAL MEAN					1017	
LOWEST ANNUAL MEAN					2.25	
HIGHEST DAILY MEAN	61	Sep 15	76	Sep 25	2050	Aug 2 1973
LOWEST DAILY MEAN	7.6	Jun 21	7.3	Apr 2	.00	Oct 1 1963
ANNUAL SEVEN-DAY MINIMUM	9.5	Dec 15	7.6	Mar 31	.00	Oct 1 1963
INSTANTANEOUS PEAK FLOW					2220	Aug 22 1958
ANNUAL RUNOFF (AC-FT)	16160		19340		129100	
10 PERCENT EXCEEDS	43		55		775	
50 PERCENT EXCEEDS	15		17		7.6	
90 PERCENT EXCEEDS	9.8		8.9		.60	

e Estimated



RIO GRANDE BASIN

08332010 RIO GRANDE FLOODWAY NEAR BERNARDO, NM

LOCATION.--Lat 34°25'01", long 106°48'00", Socorro County, Hydrologic Unit 13020203, in Belen or Sevilleta Grant, on downstream side of bridge on U.S. Highway 60, 2.0 mi east of Bernardo, and at mile 1,487.2, and 5.0 mi downstream from heading of conveyance channel.

DRAINAGE AREA.--19,230 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1936 to January 1939, October 1941 to current year. Monthly discharge only October 1942 to June 1943, published in WSP 1312, and October 1960 to September 1964, published in WSP 1923 (daily records available in district files). Published as "Rio Grande near Bernardo" prior to October 1964. Prior to October 1952, flow of Bernardo interior drain was included only when it carried river overflow; the entire flow has been included from October 1952 to September 1964. Flow in the conveyance channel, formerly "San Francisco Riverside drain," has been included in records prior to October 1964.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 4,722.55 ft above National Geodetic Vertical Datum of 1929. Prior to May 7, 1996, gage at a datum 3.00 ft higher.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Since November 1973 flow completely regulated by Cochiti Dam (station 08317300) 100 mi upstream. Floodway is 1 of 4 channels (stations 08331990, 08332030, and 08332050) carrying flow in valley cross section. For combined monthly flow in acre-ft of floodway, conveyance channel, Bernardo interior drain and Lower San Juan Riverside drain see tabulation below. Diversions for irrigation of about 740,000 acres upstream from station. No flow for many days most years.

AVERAGE DISCHARGE.--19 years (water years 1937-38, 1942-58), 1,125 ft³/s, 815,100 acre-ft/yr. Includes flow of floodway, conveyance channel, and Bernardo interior drain. 15 years (water years 1959-73), 898 ft³/s, Riverside drain, prior to closure of Cochiti Dam. 26 years (water years 1974-99), 1,316 ft³/s, 1,065,000 acre-ft/yr, includes flow of floodway, conveyance channel, Bernardo interior drain, and lower San Juan Riverside drain, since closure of Cochiti Dam.

EXTREMES FOR PERIOD OF RECORD (1936-39 AND SINCE 1941).--Maximum discharge, 21,000 ft³/s, Apr. 25, 1942, gage height, 6.90 ft; no flow most years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,520 ft³/s, May 25; minimum daily, 53 ft³/s, Apr. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

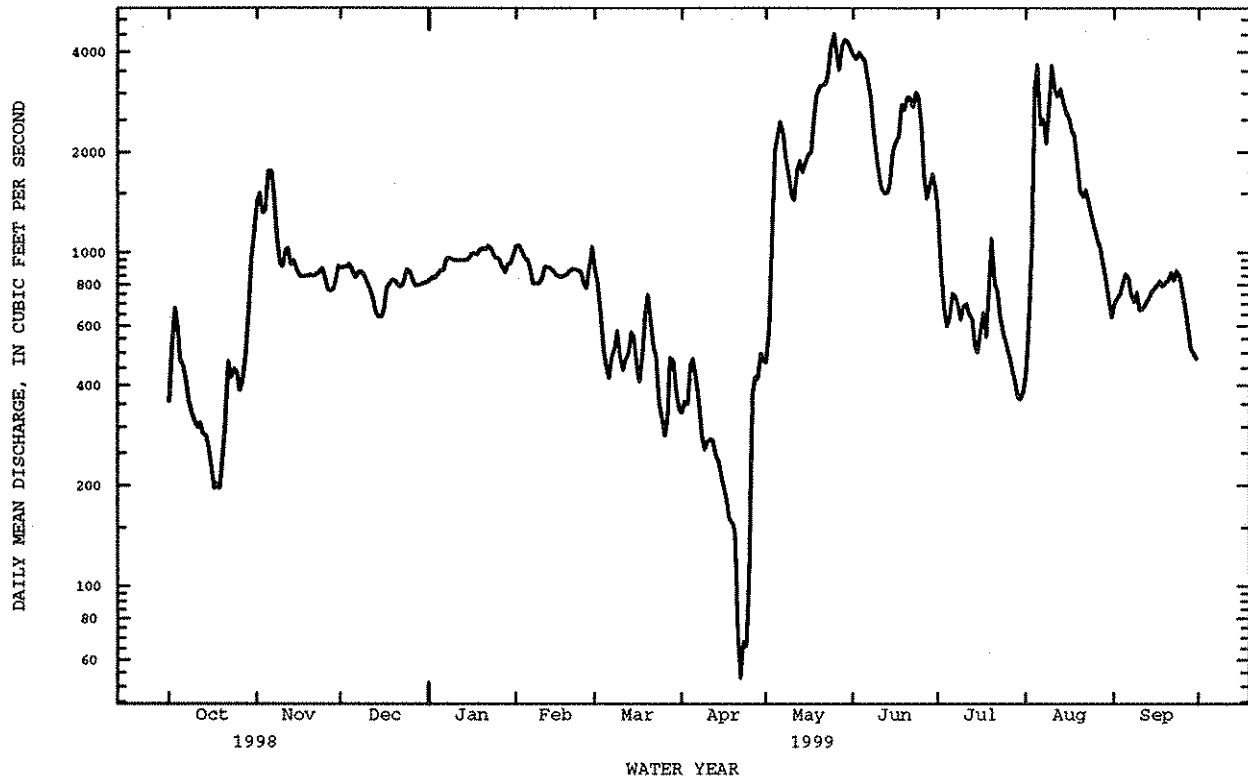
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	358	1430	900	825	1050	e894	332	469	3900	1290	437	e700
2	514	1510	907	844	1050	e817	359	597	3800	913	618	e730
3	680	1320	904	837	1010	659	350	1070	3970	679	1100	e750
4	607	1340	922	863	965	526	461	2030	3830	601	3130	e810
5	478	1760	885	885	947	461	478	2260	3760	641	3660	e860
6	456	1760	843	885	884	422	418	2470	3330	751	2420	e840
7	419	1490	876	962	808	482	367	2270	2920	746	2520	e750
8	365	1130	878	966	806	519	285	1910	2380	696	2120	e710
9	331	927	855	956	809	580	257	1680	1960	627	2720	e760
10	315	908	808	947	831	496	271	1480	1730	688	3630	e670
11	299	1020	774	947	902	444	276	1440	1560	700	3080	e680
12	309	1030	737	948	905	477	274	1800	1500	652	2940	e700
13	287	919	662	949	900	501	246	1890	1510	634	3090	e730
14	283	950	642	950	886	575	238	1740	1600	526	2830	e760
15	261	891	641	959	857	558	217	1880	2020	503	2650	e780
16	224	858	676	990	850	454	196	1970	2140	589	2540	e800
17	197	848	786	994	844	410	181	2010	2240	660	2340	821
18	203	849	811	988	853	503	160	2530	2780	559	2260	793
19	197	850	827	1020	859	659	155	2980	2680	776	1860	813
20	240	857	819	1030	880	745	146	3150	2930	1100	1540	825
21	295	849	799	1020	891	610	69	3180	2930	804	1470	867
22	470	861	790	1050	888	517	53	3200	2740	768	1540	825
23	424	878	820	1030	886	489	68	3460	3010	646	1420	880
24	448	894	888	984	875	351	66	4110	2950	567	1280	855
25	441	845	879	965	816	323	105	4520	2410	536	e1190	780
26	386	775	836	957	783	283	374	3960	1700	491	e1090	683
27	419	768	796	909	e894	318	424	3530	1450	452	e1040	602
28	492	775	800	871	e1040	483	418	4210	1600	419	e930	519
29	676	817	803	925	---	473	497	4330	1720	370	e820	497
30	960	910	809	924	---	388	476	4260	1550	363	e730	481
31	1130	---	813	990	---	337	---	4070	---	387	e640	---
TOTAL	13164	31019	25186	29370	24969	15754	8217	80456	74600	20134	59635	22271
MEAN	425	1034	812	947	892	508	274	2595	2487	649	1924	742
MAX	1130	1760	922	1050	1050	894	497	4520	3970	1290	3660	880
MIN	197	768	641	825	783	283	53	469	1450	363	437	481
AC-FT	26110	61530	49960	58260	49530	31250	16300	159600	148000	39940	118300	44170
(+)	46920	67700	55440	63500	54160	41890	30150	178980	164630	54860	133300	61440

CAL YR 1998 TOTAL 360523 MEAN 988 MAX 3610 MIN 44 AC-FT 715100 (+) MEAN 1184 AC-FT 857600
WTR YR 1999 TOTAL 404775 MEAN 1109 MAX 4520 MIN 53 AC-FT 802900 (+) MEAN 1316 AC-FT 952900

e Estimated

(+) COMBINED FLOW, IN ACRE-FEET, AND MEAN, IN CUBIC FEET PER SECOND, OF FLOODWAY, CONVEYANCE CHANNEL, BERNARDO INTERIOR DRAIN AND LOWER SAN JUAN RIVERSIDE DRAIN.

08332010 RIO GRANDE FLOODWAY NEAR BERNARDO, NM--Continued



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1964 to current year.

INSTRUMENTATION.--Automatic pumping sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION (water years 1975-99): Maximum daily mean, 21,400 mg/L, Aug. 11, 1979; minimum daily mean, no flow on many days of most years.

SEDIMENT LOAD: Maximum daily, 356,000 tons, Aug. 11, 1967; minimum daily, 0 ton on many days each year.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 19,800 mg/L, Jan. 13; minimum daily mean, 67 mg/L, Oct. 19, Apr. 22.

SEDIMENT LOAD: Maximum daily, 62,200 tons, Aug. 5; minimum daily, 9.6 ton, Apr. 22.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)
OCT							
28...	0945	457	464	8.4	14.0	11.0	56
NOV							
18...	1000	849	496	8.4	14.0	10.0	46
DEC							
11...	1310	755	522	7.0	--	5.0	45
FEB							
25...	1300	746	450	8.0	14.5	10.5	30
AUG							
31...	1120	631	393	8.3	--	29.0	110

DATE	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)	SEDI- MENT, DIS- SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT						
28...	645	9.7	104	157	194	98
NOV						
18...	644	9.4	99	272	624	60
DEC						
11...	646	10.2	94	--	--	--
FEB						
25...	641	9.6	103	232	467	--
AUG						
31...	644	6.9	107	608	1040	--

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	STREAM WIDTH (FT) (00004)	STREAM DEPTH, MEAN (FT) (00064)	STREAM VELOC- ITY, MEAN (F/S) (00055)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)
OCT									
05...	1415	462	--	--	--	18.5	709	884	66
NOV									
12...	0939	1040	--	--	--	7.0	477	1340	--
DEC									
09...	1500	855	342	1.5	1.70	--	291	672	--
JAN									
07...	1200	942	342	1.3	2.05	6.5	377	959	--
FEB									
25...	1200	836	--	--	--	--	232	524	--
MAR									
19...	1400	662	--	--	--	--	290	518	--
APR									
22...	1500	53	56.0	.82	1.15	--	88	13	--
MAY									
25...	1200	4520	--	--	--	--	1780	21700	18
JUN									
15...	1255	2130	333	2.7	5.63	--	1490	8570	--
JUL									
13...	1300	654	--	--	--	26.5	194	343	53
AUG									
31...	1120	631	--	--	--	29.0	608	1040	29
SEP									
21...	1300	895	--	--	--	--	325	785	32

08332010 RIO GRANDE FLOODWAY NEAR BERNARDO, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70341)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
OCT 05...	76	80	87	--	92	94	97	100	--
NOV 12...	--	--	--	--	44	49	72	100	--
DEC 09...	--	--	--	--	41	56	91	100	--
JAN 07...	--	--	--	--	33	43	81	100	--
FEB 25...	--	--	--	--	35	56	93	100	--
MAR 19...	--	--	--	--	57	64	91	100	--
APR 22...	--	--	--	--	58	67	87	100	--
MAY 25...	22	26	29	33	35	52	74	99	100
JUN 15...	--	--	--	--	15	17	56	100	--
JUL 13...	66	74	78	81	82	88	97	100	--
AUG 31...	39	44	46	48	49	50	60	98	100
SEP 21...	41	50	55	59	59	62	88	100	--
DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)
OCT 05...	1	5	29	88	98	100	--	--	--
NOV 12...	0	1	16	77	95	99	100	--	--
DEC 09...	0	2	32	90	98	100	--	--	--
JAN 07...	2	6	29	92	100	--	--	--	--
FEB 25...	0	2	34	83	96	98	99	99	100
MAR 19...	0	1	16	88	98	99	100	--	--
APR 22...	0	5	43	97	99	99	99	99	100
MAY 25...	0	1	15	82	98	100	--	--	--
JUN 15...	--	0	22	90	99	100	--	--	--
JUL 13...	0	3	35	89	99	100	--	--	--
AUG 31...	0	1	19	85	99	100	--	--	--
SEP 21...	0	1	33	87	98	100	--	--	--

RIO GRANDE BASIN

08332010 RIO GRANDE FLOODWAY NEAR BERNARDO, NM--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1	574	555	811	3130	219	532	814	1820	846	2400	580	e1340
2	714	1000	2100	8830	225	551	1360	3080	1500	4250	618	e1460
3	1600	2940	4430	16100	249	608	849	1920	1510	4100	391	703
4	1390	2280	2310	8450	271	676	716	1670	1020	2650	257	368
5	1120	1460	1560	7400	324	772	724	1730	1050	2680	247	310
6	683	838	880	4180	313	712	494	1180	1050	2500	319	377
7	445	507	523	2130	329	778	427	1110	1080	2370	791	1030
8	356	352	342	1050	352	832	490	1280	1220	2660	736	1030
9	284	254	290	726	277	639	726	1870	712	1560	516	823
10	248	211	302	742	295	642	1180	3020	299	670	204	274
11	227	183	320	882	356	744	4910	12600	535	1300	186	224
12	269	224	470	1300	304	606	9640	24700	614	1500	201	260
13	235	183	807	2000	341	608	19800	50700	565	1370	210	289
14	186	143	868	2230	429	743	13400	34400	615	1470	259	412
15	124	88	622	1500	478	827	8450	21800	438	1020	300	454
16	89	54	466	1080	518	955	6100	16300	557	1280	230	290
17	77	41	430	984	688	1460	3680	9870	450	1030	161	181
18	78	43	648	1490	560	1230	2540	6780	413	951	167	233
19	67	36	905	2080	580	1300	1760	4850	387	898	398	727
20	88	58	1030	2380	899	1980	1170	3250	378	899	524	1060
21	122	98	1410	3240	795	1720	521	1430	346	833	395	654
22	368	481	1600	3720	883	1880	842	2400	335	802	333	468
23	257	295	1240	2940	1420	3150	901	2510	372	890	447	600
24	228	276	996	2400	2060	4940	716	1900	358	845	288	273
25	183	219	486	1120	3090	7320	706	1840	287	632	293	256
26	141	147	281	588	3740	8460	648	1680	287	622	174	133
27	151	171	285	591	1110	2400	456	1120	522	e1260	181	157
28	219	295	244	511	1520	3280	258	607	460	e1290	479	716
29	404	748	232	512	953	2060	349	871	---	---	497	637
30	600	1560	238	586	527	1150	387	967	---	---	394	414
31	659	2060	---	---	1010	2210	675	1820	---	---	308	282
TOTAL	---	17800	---	84872	---	55765	---	221075	---	44732	---	16435
DAY	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	240	215	2080	2630	290	3050	264	913	798	943	400	e756
2	260	253	2330	3780	255	2620	348	849	1040	1780	357	e704
3	228	216	2870	8430	250	2680	413	763	1680	5170	536	e1090
4	304	382	5010	28600	251	2590	387	627	5840	54200	583	e1280
5	356	462	4830	29500	276	2800	420	726	6250	62200	952	e2210
6	320	362	5400	36100	252	2270	388	794	2490	17300	2070	e4700
7	236	238	4930	30200	194	1530	396	803	2790	19600	1190	e2410
8	112	86	4630	23900	167	1070	481	902	1970	11300	602	e1150
9	101	70	5290	24000	151	803	430	730	2150	16000	452	e928
10	122	90	4700	19600	121	565	622	1150	2910	28900	462	e836
11	132	99	492	1930	100	421	793	1500	1570	13600	434	e797
12	129	95	1180	6270	92	376	512	899	1240	9900	370	e699
13	122	81	1210	6230	90	365	300	511	1290	10800	348	e686
14	167	108	1150	5400	102	446	876	1220	1240	9480	378	e776
15	225	132	591	3010	307	1760	843	1140	1800	13000	349	e735
16	162	86	503	2680	1100	6330	575	912	1950	13600	290	e626
17	161	79	439	2380	600	3720	849	1520	990	6270	299	662
18	140	61	532	3670	1050	8120	566	856	857	5230	298	637
19	127	53	605	4930	1090	7910	707	1700	647	3260	371	817
20	132	52	601	5130	645	5100	3500	10600	522	2170	439	980
21	103	19	518	4460	542	4280	1240	2760	507	2040	377	886
22	67	9.6	491	4240	429	3180	713	1480	489	2040	273	610
23	100	19	565	5300	2250	19900	646	1130	526	2030	344	820
24	109	19	879	9970	1780	14300	489	748	805	2770	430	991
25	83	27	1490	18200	478	3120	628	910	754	e2430	444	936
26	1600	1870	1060	11500	368	1740	468	620	1210	e3560	427	787
27	1890	2200	392	3750	314	1230	417	510	1260	e3540	301	491
28	778	874	364	4140	338	1470	456	508	1460	e3670	213	299
29	820	1100	406	4770	360	1670	2880	2860	693	e1530	203	273
30	1740	2220	1020	11700	247	1030	1280	1260	640	e1260	214	278
31	---	---	700	7750	---	---	541	564	771	e1330	---	---
TOTAL	---	11577.6	---	334150	---	106446	---	42465	---	330903	---	29850
YEAR	1296070.6											

e Estimated

08332050 BERNARDO INTERIOR DRAIN NEAR BERNARDO, NM

LOCATION.--Lat 34°24'56", long 106°49'15", Socorro County, Hydrologic Unit 13020203, on right bank 110 ft upstream from culvert on U.S. Highway 60, and 1.0 mi east of Bernardo.

PERIOD OF RECORD.--June 1936 to May 1937, October 1943 to current year. Monthly discharge only June 1936 to May 1937, published in WSP 828. October 1943 to September 1960 included in composite records for station 08332000 "Rio Grande near Bernardo." October 1960 to September 1964, monthly acre-ft published in WSP 1923. Daily records available in district files beginning October 1943.

GAGE.--Water-stage recorder. Elevation of gage is 4,710 ft above National Geodetic Vertical Datum of 1929, from topographic map. June 4, 1936, to May 17, 1937, nonrecording gage 300 ft downstream, and Oct. 1, 1943 to Jan. 12, 1978, water-stage recorder at site 150 ft downstream at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. This drain is 1 of 4 channels (stations 08331990, 08332010, and 08332030) carrying flow in valley cross section. For combined monthly flow in acre-ft of this drain, conveyance channel, floodway, and Lower San Juan Riverside drain, see tabulation below daily table for station 08332010. Several observations of water temperature were made during the year. Prior to 1952, drain was subject to overflow from floodway.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	139	46	20	29	25	9.6	73	e89	135	80	101	84
2	96	37	22	29	25	9.4	80	e79	107	78	88	99
3	87	28	26	27	25	12	83	e88	104	85	106	93
4	128	27	31	21	24	26	89	e102	112	95	99	90
5	98	27	31	24	27	60	58	e98	105	77	90	102
6	76	27	31	23	25	63	79	e104	104	81	66	79
7	107	26	32	24	25	59	95	e110	84	85	62	90
8	125	28	31	25	25	60	69	e100	81	72	71	97
9	116	28	31	25	25	23	79	e90	85	83	71	109
10	122	28	31	20	26	22	76	e105	73	80	80	104
11	129	28	32	16	27	47	61	e115	68	76	91	117
12	112	29	26	15	28	50	74	e125	71	58	99	126
13	120	35	23	18	28	44	72	120	79	62	106	133
14	131	35	30	22	29	66	73	108	73	70	115	143
15	111	35	24	26	29	38	67	94	79	84	105	115
16	103	37	45	26	29	44	57	106	84	88	107	113
17	104	37	e35	24	29	49	55	102	79	121	110	125
18	125	32	e25	27	26	43	62	134	97	137	110	134
19	136	24	e15	22	25	58	e53	141	96	131	105	126
20	147	25	12	21	28	58	e56	142	98	131	89	92
21	120	25	13	25	28	51	e60	135	105	120	83	101
22	124	22	12	26	28	32	e59	128	88	109	116	117
23	130	22	11	27	21	33	e65	134	85	116	87	128
24	121	23	11	25	9.2	60	e63	145	66	88	95	114
25	134	21	10	24	10	77	e71	116	73	105	97	115
26	142	20	11	25	10	71	e78	89	73	106	94	132
27	122	25	24	23	10	72	e72	88	91	106	88	130
28	109	28	27	23	9.8	64	e80	93	74	81	95	111
29	137	30	22	27	---	61	e88	133	73	69	101	101
30	142	24	19	27	---	72	e90	131	84	71	106	90
31	124	---	29	25	---	69	---	137	---	87	99	---
TOTAL	3717	859	742	741	656.0	1503.0	2137	3481	2626	2832	2932	3310
MEAN	120	28.6	23.9	23.9	23.4	48.5	71.2	112	87.5	91.4	94.6	110
MAX	147	46	45	29	29	77	95	145	135	137	116	143
MIN	76	20	10	15	9.2	9.4	53	79	66	58	62	79
AC-FT	7370	1700	1470	1470	1300	2980	4240	6900	5210	5620	5820	6570

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1999, BY WATER YEAR (WY)

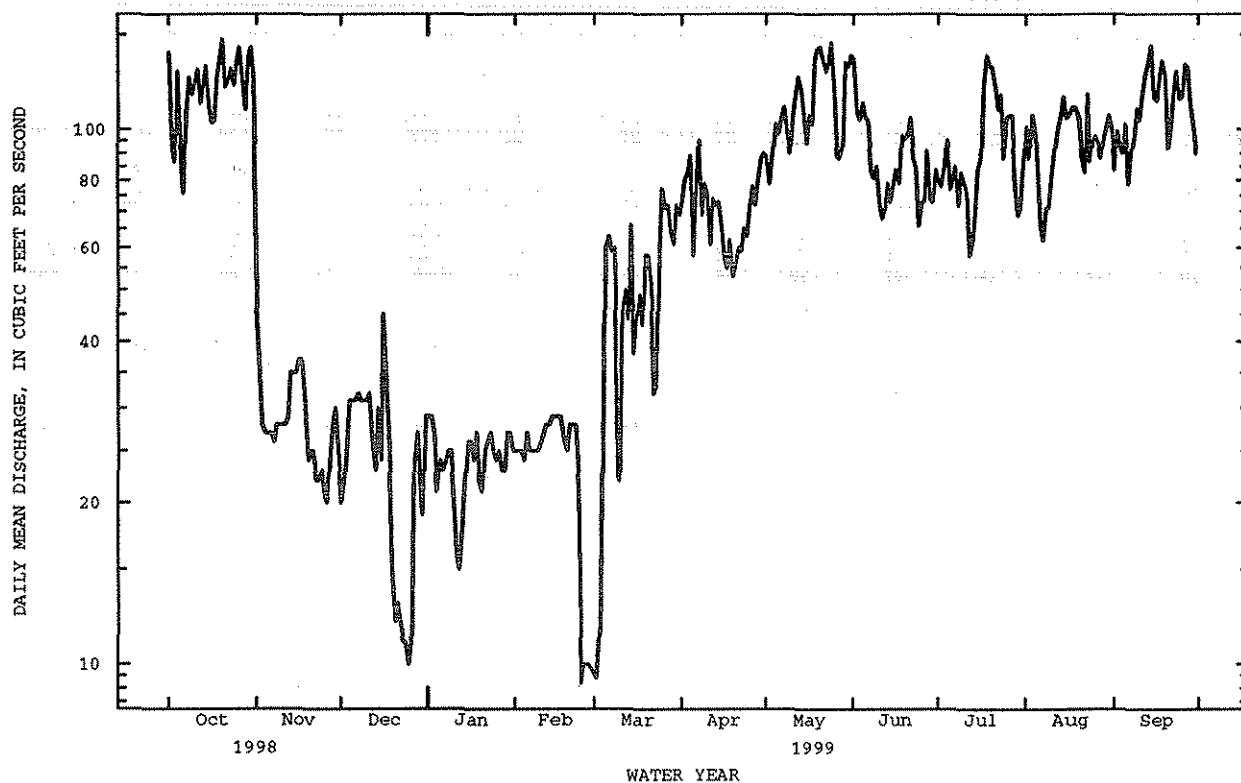
	MEAN	76.5	30.7	27.3	25.9	25.8	48.4	59.4	64.0	58.5	61.1	70.5	74.9
MAX	168	87.9	74.2	87.7	74.5	96.9	118	137	134	146	146	164	
(WY)	1996	1987	1987	1990	1990	1985	1969	1996	1992	1992	1992	1995	
MIN	.11	1.37	3.50	3.30	3.90	5.61	4.81	4.84	1.64	.18	.006	.010	
(WY)	1957	1957	1955	1957	1957	1954	1955	1954	1954	1956	1954	1956	

RIO GRANDE BASIN

08332050 BERNARDO INTERIOR DRAIN NEAR BERNARDO, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1954 - 1999	
ANNUAL TOTAL	23266.71		25536.0		52.9	
ANNUAL MEAN	63.7		70.0		92.1	
HIGHEST ANNUAL MEAN					4.29	
LOWEST ANNUAL MEAN						
HIGHEST DAILY MEAN	171	Sep 6	147	Oct 20	208	May 5 1983
LOWEST DAILY MEAN	.61	Feb 12	9.2	Feb 24	.00	Jul 31 1954
ANNUAL SEVEN-DAY MINIMUM	9.9	Feb 8	9.7	Feb 24	.00	Jul 31 1954
INSTANTANEOUS PEAK FLOW					208	May 5 1983
ANNUAL RUNOFF (AC-FT)	46150		50650		38340	
10 PERCENT EXCEEDS	128		125		115	
50 PERCENT EXCEEDS	52		73		40	
90 PERCENT EXCEEDS	21		23		6.0	

e Estimated



08334000 RIO PUERCO ABOVE ARROYO CHICO, NEAR GUADALUPE, NM

LOCATION.--Lat 35°36'04", long 107°09'56", (revised) in SW¹/₄ sec.21, T.16 N., R.3 W., Sandoval County, Hydrologic Unit 13020204, on right bank 1.6 mi upstream from Arroyo Chico, 5.5 mi northeast of village of Guadalupe, and at mile 106.8.

DRAINAGE AREA.--420 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1951 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 5,950 ft above National Geodetic Vertical Datum of 1929. Prior to July 14, 1966, at datum 1.01 ft higher.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 3,700 acres upstream from station in past years, but present diversion negligible. Several observations of water temperature were made during the year. No flow for many days most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 29, 1943, probably exceeded 5,000 ft³/s based on records for stations upstream and downstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e10	41	4.0	e.70	e.80	.00	.03	e23	11	.00	371	10
2	e3.5	16	2.2	e.00	e.60	.00	.14	e35	7.2	.00	287	516
3	.85	8.4	1.7	e.00	e.90	.00	.10	e28	5.6	.00	74	255
4	.45	6.6	.89	e.00	e.90	.00	2.4	24	3.8	.00	93	50
5	.32	5.1	.48	e.00	e1.2	.00	3.2	21	2.2	.00	175	11
6	.24	5.1	e.30	e.15	2.3	.00	2.0	18	1.6	.00	124	6.5
7	.20	4.6	e.00	e1.0	2.6	.00	2.5	16	.85	.00	58	4.5
8	.17	4.1	e.00	e1.5	2.4	.00	3.3	15	.40	4.1	56	2.6
9	.15	7.1	e.00	e.10	1.6	.02	2.1	16	.32	.75	588	1.6
10	.15	14	e.00	e.70	1.6	.01	1.4	21	.00	e150	134	1.2
11	.10	11	e.00	e1.0	1.2	.00	.81	27	.00	e65	174	.72
12	.08	7.2	e.00	e2.5	.63	.07	.46	28	.00	e10	80	.32
13	.08	6.6	e.00	e1.2	.68	.01	.31	24	.00	e.10	51	.38
14	.08	7.1	e.00	e1.7	.49	.00	.23	33	.00	.00	42	.50
15	.08	4.5	e.00	e1.5	.29	.00	.18	34	.00	.00	40	.34
16	.05	4.0	e.00	e1.4	.23	.48	.18	30	.00	.00	44	.21
17	.00	3.1	e.00	e1.4	.49	1.8	.23	32	.02	98	37	.77
18	.01	2.2	e.00	e1.8	.45	3.0	.24	30	9.2	49	29	19
19	.00	2.1	e.00	4.0	.44	3.3	.28	26	2.0	e365	33	4.3
20	.00	2.1	e.00	3.6	.31	3.0	.20	29	5.9	e100	25	2.2
21	.00	1.2	e.00	e2.5	.35	2.2	.23	31	17	e120	17	.95
22	.00	2.5	e.00	e2.7	.42	1.5	5.2	26	2.4	69	61	.48
23	.07	1.4	e.00	e2.0	.25	1.1	9.7	34	.33	14	38	.38
24	.13	2.8	e.00	5.4	.13	.66	9.0	52	.01	12	16	.34
25	.66	2.4	e.00	3.3	.16	.41	70	62	.00	70	20	.15
26	216	2.1	e.25	4.4	.10	.34	39	49	.00	e180	12	.08
27	457	1.9	e.25	e.60	.02	.75	21	34	.00	e60	21	.06
28	186	2.2	e.30	e.90	.00	.57	18	27	.00	9.1	70	.00
29	26	2.8	e.40	e1.5	---	.38	22	35	.00	365	15	.05
30	13	4.2	e.42	e1.4	---	.20	e21	21	.00	100	22	.09
31	72	---	e.65	e.70	---	.09	---	14	---	53	20	---
TOTAL	987.37	185.4	11.84	49.65	21.54	19.89	235.42	895	69.83	1894.05	2827	889.72
MEAN	31.9	6.18	.38	1.60	.77	.64	7.85	28.9	2.33	61.1	91.2	29.7
MAX	457	41	4.0	5.4	2.6	3.3	70	62	17	365	588	516
MIN	.00	1.2	.00	.00	.00	.00	.03	14	.00	.00	12	.00
AC-FT	1960	368	23	98	43	39	467	1780	139	3760	5610	1760

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1999, BY WATER YEAR (WY)

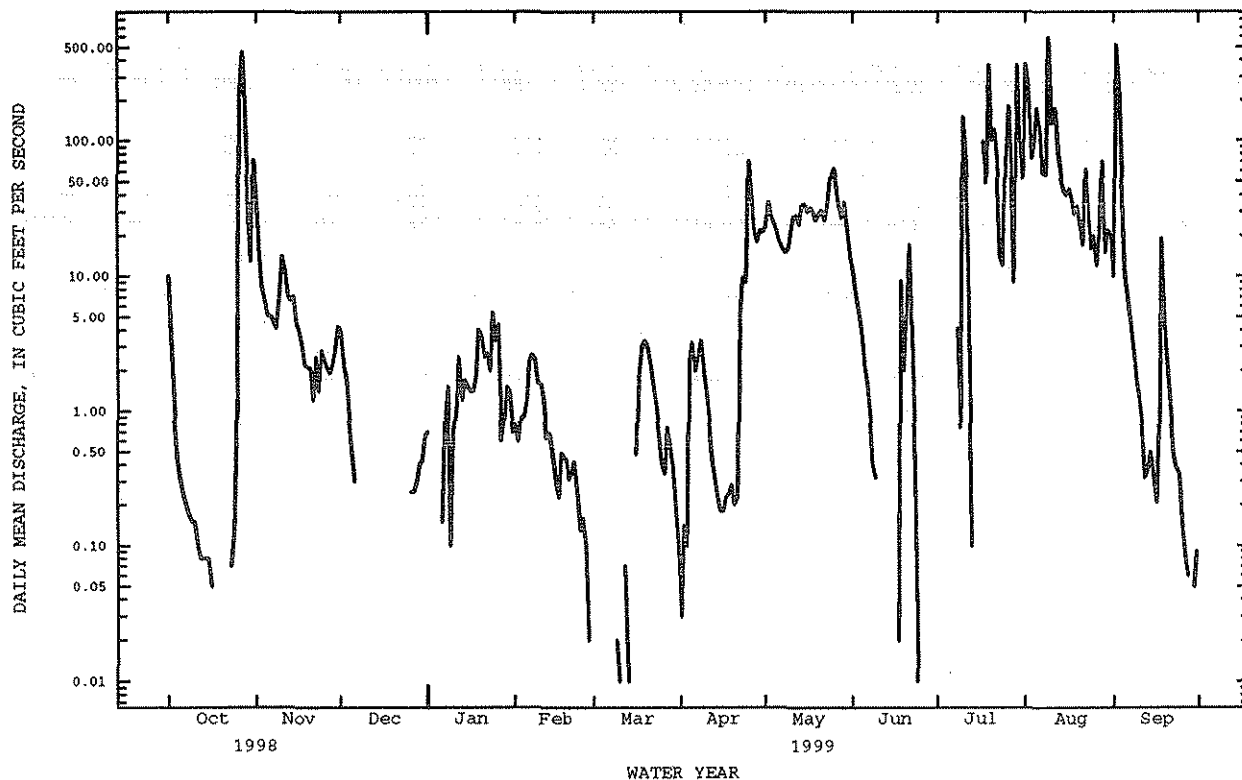
	MEAN	7.94	3.06	1.39	2.89	12.1	16.8	19.2	40.7	16.4	17.4	25.2	12.4
MAX	129	28.2	15.9	48.2	79.2	161	99.3	236	113	83.0	101	90.3	
(WY)	1958	1987	1987	1993	1979	1960	1958	1973	1995	1996	1957	1972	
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1953	1953	1953	1953	1953	1953	1953	1964	1964	1953	1959	1962	1952

RIO GRANDE BASIN

08334000 RIO PUERCO ABOVE ARROYO CHICO, NEAR GUADALUPE, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1952 - 1999	
ANNUAL TOTAL	7196.90		8086.71		14.7	
ANNUAL MEAN	19.7		22.2		48.6	
HIGHEST ANNUAL MEAN					1.11	
LOWEST ANNUAL MEAN					1973	
HIGHEST DAILY MEAN	457	Oct 27	588	Aug 9	2000	Oct 20 1957
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 17	.00	Oct 1 1951
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Dec 7	.00	Oct 1 1951
INSTANTANEOUS PEAK FLOW			1970	Sep 2	^a 6940	Jul 29 1967
INSTANTANEOUS PEAK STAGE			9.85	Sep 2	13.53	Jul 29 1967
ANNUAL RUNOFF (AC-FT)	14280		16040		10620	
10 PERCENT EXCEEDS	64		51		40	
50 PERCENT EXCEEDS	3.9		1.5		.20	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated

a From rating curve extended above 1,300 ft³/s, on basis of slope-area measurements at gage heights 7.75 ft and 10.60 ft.

08334000 RIO PUERCO ABOVE ARROYO CHICO, NEAR GUADALUPE, NM--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGES: July 1948 to June 1956, October 1981 to current year.

INSTRUMENTATION.--Automatic pumping sediment sampler.

REMARKS.--Daily suspended-sediment samples are collected when flow is observed on this ephemeral stream.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 214,000 mg/L, Aug. 28, 1988; minimum daily mean, no flow on many days each year.

SEDIMENT LOADS: Maximum daily, 730,000 tons, July 27, 1955; minimum daily, 0 ton on many days each year.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 111,000 mg/L, Aug. 9; minimum daily mean, no flow on many days.

SEDIMENT LOADS: Maximum daily, 194,000 tons, Aug. 9; minimum daily, 0 ton on many days.

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1	64400	e1740	89200	10700	10500	115	210	e.41	412	e.89	0	.00
2	67000	e633	32200	1450	5770	35	0	e.00	419	e.68	0	.00
3	47400	113	19200	433	5540	25	0	e.00	518	e1.3	0	.00
4	15500	20	15200	273	4770	12	0	e.00	721	e1.8	0	.00
5	3460	3.0	10800	148	1550	2.3	0	e.00	562	e1.8	0	.00
6	2110	1.4	11300	158	1070	e.87	85	e.03	571	3.8	0	.00
7	1580	.86	50400	610	0	e.00	571	e1.5	992	7.3	0	.00
8	1330	.61	43900	486	0	e.00	687	e2.8	703	4.8	0	.00
9	1130	.46	50000	956	0	e.00	756	e.2	774	3.8	20	.00
10	1350	.55	36500	1910	0	e.00	393	e.75	1680	7.6	89	.01
11	1170	.35	16700	521	0	e.00	932	e2.5	850	2.8	0	.00
12	601	.12	20800	408	0	e.00	1200	e8.1	302	.53	4	.00
13	519	.10	22200	396	0	e.00	905	e2.9	356	.68	1	.00
14	607	.12	17700	347	0	e.00	1160	e5.3	354	.49	0	.00
15	492	.10	11100	134	0	e.00	1200	e4.9	241	.19	0	.00
16	105	.02	13100	141	0	e.00	868	e3.3	227	.15	38	.25
17	0	.00	14400	119	0	e.00	970	e3.7	294	.54	493	3.0
18	3	.00	16800	103	0	e.00	692	e3.4	502	.93	1030	8.8
19	0	.00	13300	79	0	e.00	1720	18	122	.21	1650	15
20	0	.00	3840	22	0	e.00	1560	16	166	.20	1460	12
21	0	.00	1740	6.3	0	e.00	3180	e22	240	.30	675	4.1
22	0	.00	6300	73	0	e.00	3070	e22	370	.43	835	3.4
23	15	.01	5320	24	0	e.00	2750	e15	152	.10	741	2.2
24	31	.01	8910	69	0	e.00	5330	83	55	.03	545	.98
25	788	6.4	11700	87	0	e.00	1560	15	84	.04	422	.46
26	83200	63000	6480	45	40	e.03	1010	14	40	.01	405	.38
27	103000	127000	1850	9.8	1	e.00	891	e1.4	3	.00	553	1.2
28	69200	37500	1100	6.2	20	e.02	1030	e2.5	0	.00	431	.68
29	40500	3090	3370	26	32	e.04	809	e3.3	---	---	359	.37
30	28000	1600	9140	105	52	e.06	409	e1.6	---	---	480	.26
31	88000	22500	---	---	716	e1.3	472	e.89	---	---	587	.15
TOTAL	---	257210.11	---	19845.3	---	191.62	---	254.48	---	41.40	---	53.24

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

e Estimated

08341300 BLUEWATER CREEK ABOVE BLUEWATER DAM, NEAR BLUEWATER, NM

LOCATION.--Lat 35°16'04", long 108°06'50", SW¹/₄SW¹/₄, sec. 16, T.12 N., R.12 W., Cibola County, Hydrologic Unit 13020207, on left bank 2.0 mi south of Bluewater Dam, 7.0 mi west of Bluewater, and 11 mi east of Thoreau.

DRAINAGE AREA.--75.0 mi².

PERIOD OF RECORD.--October 1953 to September 1978 (annual maximum only), July 1989 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 7,410 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

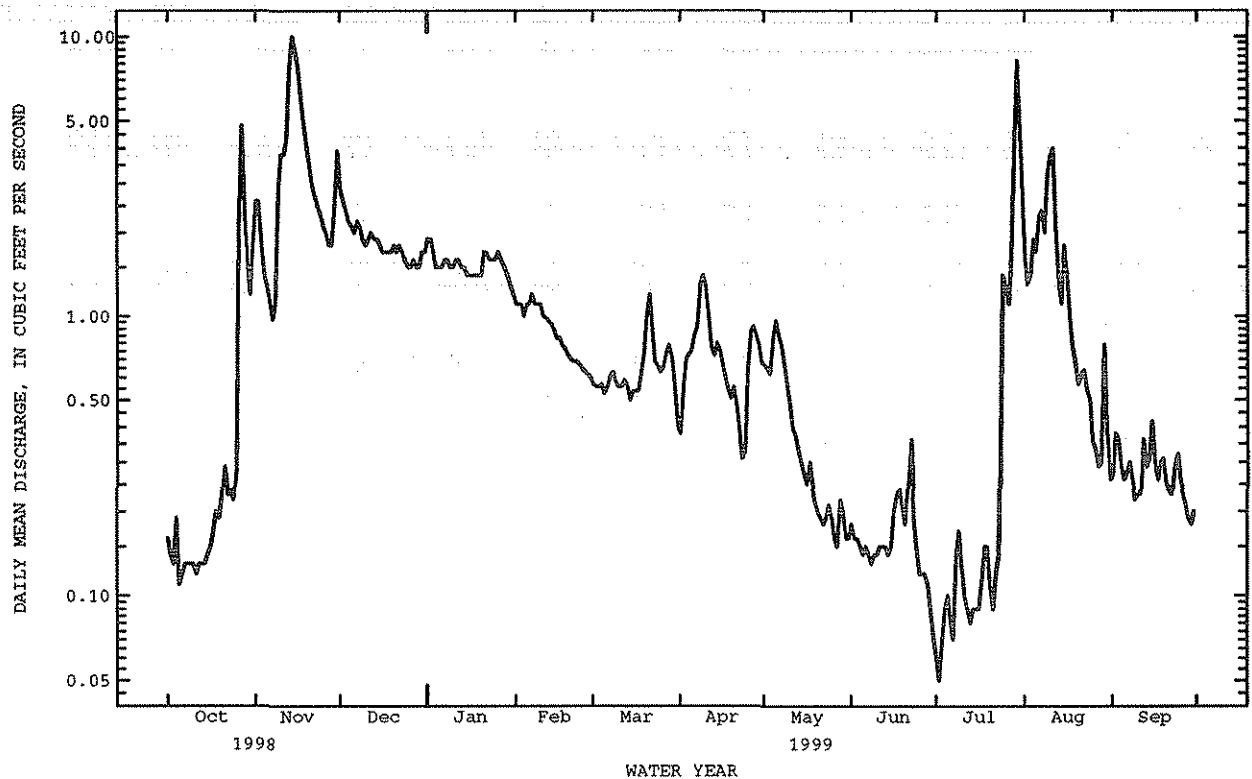
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	2.6	2.9	1.9	1.1	.57	.38	.67	.18	.06	1.6	.27
2	.14	2.6	2.6	1.9	1.1	.56	.54	.65	.16	.05	1.3	.38
3	.13	1.9	2.4	1.7	1.1	.56	.70	.62	.16	.07	1.4	.36
4	.19	1.4	2.2	1.5	1.0	.57	.73	.85	.15	.09	1.9	.29
5	.11	1.3	2.1	1.5	1.1	.53	.75	.96	.14	.10	1.7	.26
6	.12	1.1	2.0	1.5	1.1	.56	.86	.86	.15	.08	2.3	.28
7	.13	.97	2.2	1.6	1.2	.61	.92	.78	.14	.07	2.4	.30
8	.13	1.1	2.1	1.6	1.1	.63	1.3	.68	.13	.14	2.0	.25
9	.13	2.9	1.9	1.5	1.1	.58	1.4	.56	.14	.17	3.2	.22
10	.13	3.8	1.8	1.5	1.1	.56	1.3	.48	.14	.13	3.7	.23
11	.12	3.8	1.9	1.6	1.0	.56	1.0	.40	.15	.10	4.0	.23
12	.13	4.3	2.0	1.6	.99	.59	.78	.37	.15	.09	2.1	.36
13	.13	7.5	1.9	1.5	.96	.56	.72	.33	.15	.08	1.3	.29
14	.13	10	1.9	1.5	.94	.50	.80	.30	.14	.09	1.1	.31
15	.14	9.1	1.8	1.4	.89	.54	.76	.27	.15	.09	1.8	.42
16	.15	8.0	1.7	1.4	.83	.54	.67	.25	.20	.09	1.4	.29
17	.17	6.1	1.7	1.4	.84	.54	.60	.30	.23	.11	.99	.26
18	.20	5.0	1.7	1.4	.78	.63	.55	.25	.24	.15	.79	.30
19	.19	4.1	1.7	1.4	.77	.73	.51	.22	.21	.15	.67	.31
20	.23	3.5	1.8	1.4	.73	1.0	.56	.20	.18	.11	.57	.25
21	.29	3.0	1.7	1.7	.70	1.2	.48	.19	.25	.09	.62	.24
22	.23	2.7	1.8	1.7	.69	.89	.39	.18	.36	.12	.64	.23
23	.24	2.5	1.7	1.6	.69	.69	.31	.19	.19	.14	.55	.29
24	.22	2.3	1.6	1.6	.67	.66	.33	.21	.15	1.4	.51	.32
25	.29	2.1	1.5	1.6	.65	.63	.62	.19	.12	1.3	.36	.26
26	2.1	2.0	1.5	1.7	.63	.66	.88	.16	.12	1.1	.33	.23
27	4.8	1.8	1.6	1.6	.62	.74	.92	.15	.12	1.7	.29	.21
28	2.5	1.8	1.5	1.5	.60	.79	.86	.22	.11	3.8	.30	.19
29	1.5	2.4	1.5	1.4	---	.71	.79	.20	.09	8.2	.79	.18
30	1.2	3.9	1.7	1.3	---	.57	.68	.16	.07	5.1	.39	.20
31	1.8	---	1.7	1.2	---	.40	---	.16	---	2.7	.26	---
TOTAL	18.13	105.57	58.1	47.7	24.98	19.86	22.09	12.01	4.87	27.67	41.26	8.21
MEAN	.58	3.52	1.87	1.54	.89	.64	.74	.39	.16	.89	1.33	.27
MAX	4.8	10	2.9	1.9	1.2	1.2	1.4	.96	.36	8.2	4.0	.42
MIN	.11	.97	1.5	1.2	.60	.40	.31	.15	.07	.05	.26	.18
AC-FT	36	209	115	95	50	39	44	24	9.7	55	82	16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1999, BY WATER YEAR (WY)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	.44	1.20	.96	2.50	8.75	62.5	40.1	4.43	.95	.56	1.69
MAX	1.90	3.52	2.54	17.9	42.1	227	225	14.6	1.78	1.32	5.42
(WY)	1994	1999	1995	1993	1995	1993	1993	1993	1993	1998	1997
MIN	.093	.055	.050	.091	.48	.55	.43	.37	.077	.052	.023
(WY)	1991	1991	1991	1991	1990	1990	1990	1996	1990	1996	1990

08341300 BLUEWATER CREEK ABOVE BLUEWATER DAM, NEAR BLUEWATER, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1989 - 1999	
ANNUAL TOTAL	7731.93		390.45		10.5	
ANNUAL MEAN	21.2		1.07		44.6	1993
HIGHEST ANNUAL MEAN					.24	1990
LOWEST ANNUAL MEAN					845	Mar 25 1998
HIGHEST DAILY MEAN	845	Mar 25	10	Nov 14	.00	Jun 24 1990
LOWEST DAILY MEAN	.09	Sep 27	.05	Jul 2	.00	Aug 3 1990
ANNUAL SEVEN-DAY MINIMUM	.11	Sep 22	.07	Jun 30	.00	Jul 16 1953
INSTANTANEOUS PEAK FLOW			11	Nov 14	3570	Jul 16 1953
INSTANTANEOUS PEAK STAGE			2.23	Nov 14	8.99	Jul 16 1953
INSTANTANEOUS LOW FLOW			.04	Jul 1	.00	Apr 24 1990
ANNUAL RUNOFF (AC-FT)	15340		774		7570	
10 PERCENT EXCEEDS	51		2.1		17	
50 PERCENT EXCEEDS	1.4		.67		.72	
90 PERCENT EXCEEDS	.19		.14		.10	



08341365 COTTONWOOD CREEK NEAR THOREAU, NM

LOCATION.--Lat 35°20'32", long 108°12'42", in NE¹/₄SE¹/₄ sec.21, T.13 N., R. 13., McKinley County, Hydrologic Unit 13020207, on left bank 4.0 mi southeast of Thoreau, and 4.0 mi northwest of north end of Bluewater Lake.

DRAINAGE AREA.--77.0 mi.

PERIOD OF RECORD.--July 1989 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 7,420 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. No flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	6.7	3.2	e.00	e.00	e.00	.00	.11	.00	.00	.00	.00
2	.00	3.3	2.0	e.00	e.00	e.00	.16	.09	.00	.00	27	.00
3	.00	.16	1.3	e.00	e.00	e.00	.15	.07	.00	.00	2.8	.00
4	.00	.00	.99	e.00	e.00	e.00	.38	.83	.00	.00	.12	.00
5	.00	.00	.66	e.00	e.00	e.00	.56	1.2	.00	.00	.00	.00
6	.00	.00	.54	e.00	e.00	e.00	.79	1.9	.00	.00	.09	.00
7	.00	.00	.46	e.00	e.00	e.00	3.3	1.3	.00	.00	.00	.00
8	.00	.00	e.00	e.00	e.00	e.00	4.7	.80	.00	.00	.00	.00
9	.00	8.0	e.00	e.00	e.00	e.00	4.9	.38	.00	.00	4.8	.00
10	.00	17	e.00	e.00	e.00	e.00	3.0	.16	.00	.00	4.5	.00
11	.00	14	e.00	e.00	e.00	e.00	2.0	.06	.00	.00	.31	.00
12	.00	16	e.00	e.00	e.00	e.00	1.5	.00	.00	.00	.02	.00
13	.00	23	e.00	e.00	e.00	e.00	1.1	.00	.00	.00	.00	.00
14	.00	21	e.00	e.00	e.00	e.00	e.92	.00	.00	.00	.00	.00
15	.00	16	e.00	e.00	e.00	e.00	e.88	.00	.00	.00	.00	.00
16	.00	12	e.00	e.00	e.00	.46	e.64	.00	.00	.00	.00	.00
17	.00	8.4	e.00	e.00	e.00	.40	e.53	.00	.00	.00	.00	.00
18	.00	5.9	e.00	e.00	e.00	.36	e.43	.00	.00	.00	.00	.00
19	.00	4.3	e.00	e.00	e.00	.34	e.35	.00	.00	.00	.00	.00
20	.00	3.3	e.00	e.00	e.00	.28	.29	.00	.00	.00	.00	.00
21	.00	1.8	e.00	e.00	e.00	.21	.23	.00	.00	.00	.00	.00
22	.00	.61	e.00	e.00	e.00	e.20	.19	.00	.00	.00	.00	.00
23	.00	.46	e.00	e.00	e.00	e.21	.10	.00	.00	.00	.00	.00
24	.00	.34	e.00	e.00	e.00	.15	.18	.00	.00	.00	.00	.00
25	.00	.29	e.00	e.00	e.00	.10	.32	.00	.00	.00	.00	.00
26	11	.21	e.00	e.00	e.00	.06	.71	.00	.00	.00	.00	.00
27	10	.17	e.00	e.00	e.00	.08	.95	.00	.00	.00	2.2	.00
28	4.6	.18	e.00	e.00	e.00	.02	.56	.00	.00	.00	.89	.00
29	.10	1.8	e.00	e.00	---	.05	.34	.00	.00	.00	2.1	.00
30	.00	5.2	e.00	e.00	---	.03	.16	.00	.00	.00	2.0	.00
31	.00	---	e.00	e.00	---	.00	---	.00	---	.00	.01	---
TOTAL	25.70	170.12	9.15	0.00	0.00	2.95	30.32	6.90	0.00	0.00	46.84	0.00
MEAN	.83	5.67	.30	.000	.000	.095	1.01	.22	.000	.000	1.51	.000
MAX	11	23	3.2	.00	.00	.46	4.9	1.9	.00	.00	27	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	51	337	18	.00	.00	5.9	60	14	.00	.00	93	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1999, BY WATER YEAR (WY)

MEAN	.094	.72	.20	3.44	6.48	40.2	21.3	2.39	.26	.13	.50	1.02
MAX	.83	5.67	1.19	34.2	33.4	143	62.8	8.32	.93	.78	1.51	11.0
(WY)	1999	1999	1993	1993	1993	1993	1991	1995	1995	1998	1999	1997
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1990	1990	1990	1990	1990	1990	1990	1990	1994	1993	1994	1991

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1989 - 1999
ANNUAL TOTAL	5185.08	291.98	
ANNUAL MEAN	14.2	.80	6.41
HIGHEST ANNUAL MEAN			21.6
LOWEST ANNUAL MEAN			.006
HIGHEST DAILY MEAN	344	27	470
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		168	^a 813
INSTANTANEOUS PEAK STAGE		4.51	7.64
ANNUAL RUNOFF (AC-FT)	10280	579	4640
10 PERCENT EXCEEDS	44	1.4	10
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated

a From rating curve extended above 2,000 ft³/s.

08341400 BLUEWATER LAKE NEAR BLUEWATER, NM

LOCATION.--Lat 35°17'31", long 108°06'40", in SE¹/₄ sec.9, T.12 N., R.12 W., Cibola County, Hydrologic Unit 13020207, at left end of Bluewater Dam on Bluewater Creek, and 9.5 mi west of Bluewater.

DRAINAGE AREA.--201 mi².

PERIOD OF RECORD.--June 1927 to December 1950 (monthend contents only, published in WSP 1732), April 1958 to current year (monthend contents only).

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 7,345.57 ft above National Geodetic Vertical Datum of 1929. July 1958 to January 1961, nonrecording gage at nearby site, same datum. Gage heights have been converted to sea-level elevations.

REMARKS.--Lake is formed by concrete arch dam. Storage began in 1927. Capacity, 38,500 acre-ft, survey of 1945 at elevation 7,402.6 ft, crest of uncontrolled siphon spillway, which is vented to avoid drawdown below crest, and 44,200 acre-ft, at elevation 7,405.6 ft, crest of ungated spillway over dam. Capacity table used through 1944 showed a capacity of 50,300 acre-ft at crest of ungated spillway over dam, and that used from 1945-50, 43,500 acre-ft. Tables used prior to 1958 are not available and no adjustments are made for changes in tables. Dead storage, 3.4 acre-ft at elevation 7,345.4 ft, sill of lower outlet tube. Lake not usually drawn below conservation-pool level elevation, 7,365.36 ft, below which ownership is by State Game and Fish Department. Above this level, water is owned and used by Bluewater-Toltec Irrigation Co. Figures given herein represent total contents at 2400 hours.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents determined, 47,100 acre-ft, Apr. 30, 1941. Contents may have been greater on Apr. 28, 1941, when peak discharge of 800 ft³/s occurred at station 8 mi downstream; no storage at times prior to 1947.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 15,230 acre-ft, Oct. 1, elevation, 7,385.15 ft; minimum, 5,090 acre-ft, Sept. 30, elevation, 7,370.22 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15230	14920	15150	14960	14770	14510	14160	13840	10840	8150	6190	5870
2	15210	14930	15140	14950	14760	14500	14160	13840	10720	8050	6180	5850
3	15220	14910	15150	14940	14750	14510	14160	13830	10620	7980	6180	5840
4	15150	14910	15140	14930	14750	14480	14170	13810	10480	7900	6170	5820
5	15100	14900	15140	14920	14740	14440	14140	13790	10350	7820	6180	5800
6	15080	14900	15140	14920	14740	14430	14130	13770	10230	7740	6170	5790
7	15050	14870	15130	14910	14730	14460	14150	13750	10100	7660	6150	5770
8	15020	14870	15130	14900	14730	14410	14110	13670	9980	7590	6150	5760
9	14990	14960	15120	14890	14720	14420	14100	13610	9850	7540	6130	5730
10	14960	14970	15120	14880	14730	14380	14100	13520	9710	7450	6140	5710
11	14920	14970	15110	14880	14690	14370	14080	13400	9570	7380	6120	5680
12	14890	15010	15100	14870	14690	14360	14070	13280	9430	7300	6110	5650
13	14870	15040	15100	14870	14690	14340	14080	13160	9300	7220	6090	5630
14	14850	15080	15090	14860	14680	14330	14050	13040	9180	7140	6080	5600
15	14820	15120	15090	14860	14660	14330	14040	12920	9060	7070	6070	5570
16	14800	15150	15080	14850	14650	14320	14030	12780	8950	6990	6070	5540
17	14780	15180	15080	14830	14660	14320	14010	12660	8910	6920	6050	5510
18	14740	15160	15080	14850	14630	14330	13990	12510	8830	6870	6040	5480
19	14740	15160	15070	14830	14620	14320	13980	12360	8780	6810	6020	5440
20	14740	15160	15050	14820	14610	14310	13980	12220	8740	6740	6010	5410
21	14730	15160	15040	14840	14620	14310	13970	12070	8700	6660	6000	5380
22	14730	15160	15040	14830	14590	14290	13940	11920	8650	6610	5990	5360
23	14720	15160	15050	14820	14580	14270	13910	11760	8600	6540	5970	5330
24	14700	15150	15030	14800	14570	14250	13920	11630	8550	6460	5950	5310
25	14770	15150	15020	14800	14560	14240	13910	11510	8500	6400	5940	5280
26	14850	15150	15010	14800	14540	14250	13910	11380	8450	6340	5910	5240
27	14870	15140	14980	14790	14530	14240	13900	11280	8400	6280	5890	5200
28	14870	15140	14980	14790	14520	14230	13870	11200	8340	6230	5870	5170
29	14860	15150	14970	14780	---	14220	13850	11130	8280	6220	5920	5130
30	14890	15150	14970	14780	---	14200	13840	11040	8210	6210	5900	5090
31	14930	---	14970	14780	---	14190	---	10950	---	6200	5880	---
MAX	15230	15180	15150	14960	14770	14510	14170	13840	10840	8150	6190	5870
MIN	14700	14870	14970	14780	14520	14190	13840	10950	8210	6200	5870	5090
(+)	7384.82	7385.06	7384.87	7384.65	7384.37	7384.00	7383.59	7380.02	7376.14	7372.63	7372.00	7370.21
(++)	-340	+220	-180	-190	-260	-330	-350	-2890	-2740	-2010	-320	-790

CAL YR 1998 MAX 27490 MIN 5770 (++) +9100
WTR YR 1999 MAX 15230 MIN 5090 (++) -10180

(+) ELEVATION, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-FEET

08341500 BLUEWATER CREEK BELOW BLUEWATER DAM, NM

LOCATION.--Lat 35°18'13", long 108°05'56", in NW¹/₄NW¹/₄ sec. 3, T.12 N., R. 12 W., Cibola County, Hydrologic Unit 13020207, on left bank 0.5 mi downstream from Bluewater Dam and 11 mi west of Bluewater.

DRAINAGE AREA.--201 mi².

PERIOD OF RECORD.--March 1951 to September 1960, July 1989 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 7,290 ft above National Geodetic Vertical Datum of 1929, from topographic map. March 14, 1951 to September 30, 1960 at site 0.5 mi upstream at different datum.

REMARKS.--Records good. Flow regulated by Bluewater Lake (station 08341400) 0.5 mi upstream, since 1927. No flow at times in 1955, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood known occurred Sept. 6, 1909, where Bluewater Dam washed out; stage and discharge not determined. Another major flood probably occurred July 12-19, 1919 when a stage of 13.5 was reached at station (08342000) 8.0 mi downstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	2.8	3.4	2.4	1.6	1.6	1.9	2.2	44	30	3.8	4.6
2	1.7	2.7	3.4	2.4	1.7	1.6	2.1	2.1	47	34	3.8	4.5
3	1.7	2.7	3.4	2.4	1.7	1.6	1.8	2.1	47	38	3.9	4.4
4	1.6	2.7	3.4	2.4	1.7	1.6	1.7	2.4	59	38	4.0	4.2
5	1.6	2.7	3.5	2.4	1.8	1.6	1.6	2.2	64	38	4.1	4.1
6	3.2	2.7	3.5	2.3	1.8	1.5	1.6	2.1	63	37	4.2	4.0
7	7.2	2.7	3.4	2.3	1.7	1.6	1.6	9.3	64	37	4.1	3.9
8	7.9	2.9	2.9	2.3	1.7	1.6	1.7	32	64	37	4.2	3.8
9	8.7	3.7	2.5	2.3	1.6	1.5	1.6	32	68	37	4.2	6.2
10	9.4	3.1	2.5	2.3	1.5	1.5	1.7	34	74	36	4.3	7.4
11	9.8	3.1	2.6	2.3	1.5	1.5	1.7	64	74	36	4.3	6.5
12	8.5	3.1	2.6	2.3	1.6	1.5	1.7	63	74	37	4.3	6.7
13	7.1	3.3	2.6	2.2	1.7	1.5	1.8	65	72	36	4.4	7.3
14	7.1	3.7	2.6	2.0	1.7	1.5	1.8	66	64	36	4.7	9.1
15	6.6	3.7	2.6	2.0	1.6	1.6	1.8	65	64	36	4.6	10
16	3.7	3.7	2.6	1.9	1.6	1.6	1.8	62	64	36	5.1	10
17	3.7	3.6	2.7	2.0	1.6	1.6	1.9	72	58	36	4.7	10
18	3.7	3.5	2.6	2.0	1.6	1.7	1.9	83	34	36	4.7	9.9
19	3.7	3.5	2.7	2.0	1.5	1.6	1.9	86	17	36	4.7	9.6
20	3.9	3.5	2.7	1.9	1.3	1.6	2.0	85	17	36	4.8	9.6
21	3.9	3.5	2.6	2.0	1.3	1.5	2.0	83	17	36	4.9	9.3
22	4.2	3.6	2.4	1.9	1.3	1.5	2.0	83	18	37	4.9	9.3
23	4.3	3.6	2.4	1.9	1.3	1.6	2.1	83	18	36	4.9	9.1
24	4.3	3.5	2.4	1.8	1.4	1.6	2.2	84	17	36	4.9	8.9
25	4.8	3.4	2.4	1.8	1.3	1.6	2.2	79	17	37	5.0	8.7
26	6.4	3.4	2.5	1.8	1.3	1.7	2.2	69	17	36	7.0	8.6
27	4.2	3.4	2.5	1.8	1.4	1.6	2.2	55	17	37	8.3	8.5
28	2.7	3.5	2.5	1.8	1.6	1.6	2.3	45	17	38	8.2	8.5
29	2.6	3.5	2.5	1.7	---	1.6	2.2	38	17	39	7.8	10
30	2.7	3.4	2.5	1.7	---	1.7	2.1	38	24	4.2	5.1	12
31	3.3	---	2.5	1.6	---	1.7	---	37	---	3.9	4.7	---
TOTAL	145.9	98.2	85.4	63.9	43.4	49.1	57.1	1525.4	1311	1063.1	152.6	228.7
MEAN	4.71	3.27	2.75	2.06	1.55	1.58	1.90	49.2	43.7	34.3	4.92	7.62
MAX	9.8	3.7	3.5	2.4	1.8	1.7	2.3	86	74	39	8.3	12
MIN	1.6	2.7	2.4	1.6	1.3	1.5	1.6	2.1	17	3.9	3.8	3.8
AC-FT	289	195	169	127	86	97	113	3030	2600	2110	303	454

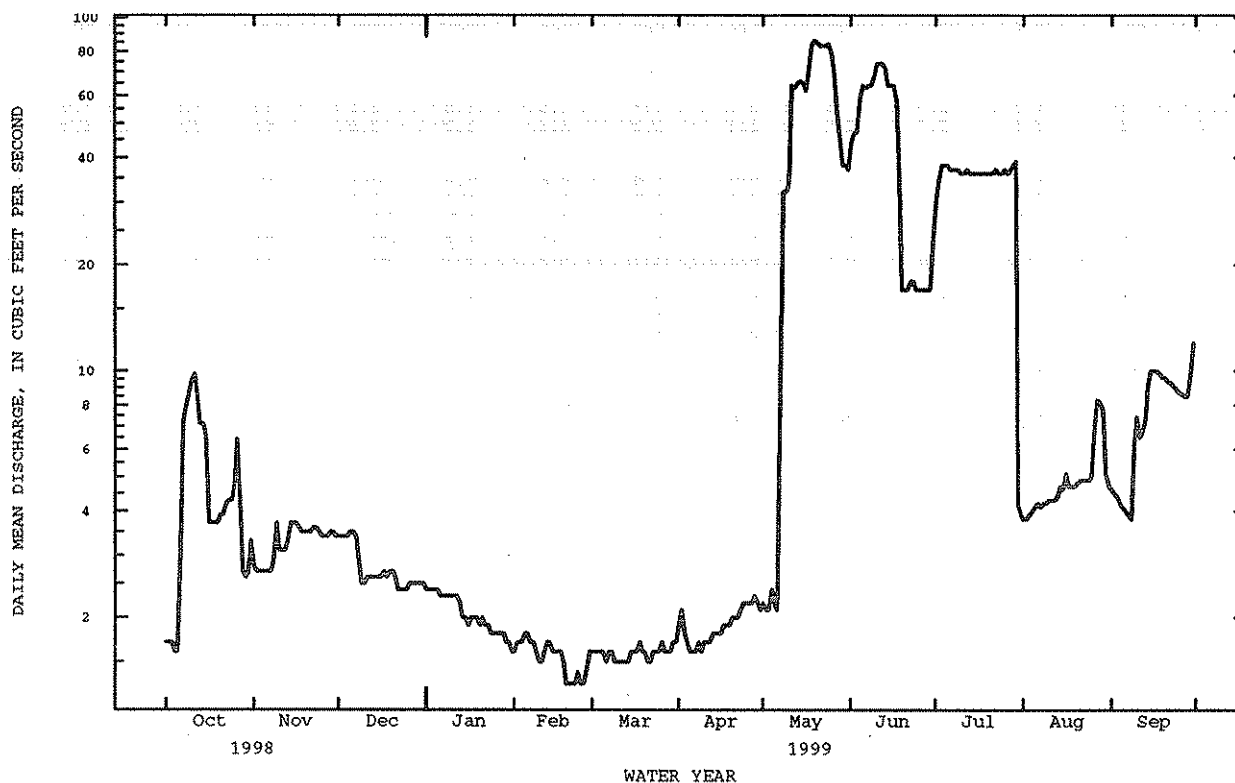
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1999, BY WATER YEAR (WY)

MEAN	2.86	1.49	1.33	1.30	1.38	2.38	6.06	35.7	30.4	30.1	18.0	10.8
MAX	15.1	4.48	3.90	4.39	5.03	6.25	21.7	67.4	53.3	59.1	41.0	33.0
(WY)	1994	1994	1994	1994	1994	1993	1994	1995	1995	1995	1995	1993
MIN	.49	.44	.28	.39	.41	.51	.62	.65	.46	.48	.48	.39
(WY)	1990	1997	1991	1991	1997	1997	1990	1990	1990	1990	1990	1989

RIO GRANDE BASIN

08341500 BLUEWATER CREEK BELOW BLUEWATER DAM, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1989 - 1999	
ANNUAL TOTAL	5678.82		4823.8		12.1	
ANNUAL MEAN	15.6		13.2		22.1	
HIGHEST ANNUAL MEAN					.61	
LOWEST ANNUAL MEAN					1995	
HIGHEST DAILY MEAN	78	Jul 7	86	May 19	98	May 5 1995
LOWEST DAILY MEAN	.74	Feb 1	1.3	Feb 20	.14	Dec 9 1990
ANNUAL SEVEN-DAY MINIMUM	.75	Jan 26	1.3	Feb 20	.17	Dec 5 1990
INSTANTANEOUS PEAK FLOW					^a 108	May 4 1995
INSTANTANEOUS PEAK STAGE					3.35	Jul 6 1994
ANNUAL RUNOFF (AC-FT)	11260		9570		8780	
10 PERCENT EXCEEDS	40		38		41	
50 PERCENT EXCEEDS	5.5		3.5		1.5	
90 PERCENT EXCEEDS	.83		1.6		.47	

a From rating curve extended above 50 ft³/s.

08343000 RIO SAN JOSE AT GRANTS, NM

LOCATION.--Lat 35°09'16", long 107°52'11", in SW¹/₄NW¹/₄ sec.26, T.11 N., R.10 W., Cibola County, Hydrologic Unit 13020207, on right bank upstream 1,500 ft from El Morro St., 0.2 mi south of Santa Fe Ave. in Grants, and at mile 67.8.

DRAINAGE AREA.--1,020 mi², approximately.

PERIOD OF RECORD.--October 1912 to February 1914, June 1914, October 1914 to February 1915, May 1915 to June 1921, September 1921 to June 1923, October 1923 to May 1926, September to December 1926, May 1949 to September 1966, June 1968 to current year. Monthly discharge only for some periods published in WSP 1312. Prior to October 1967, published as "Bluewater Creek at Grants."

REVISED RECORDS.--WSP 1512: 1913-14. WSP 1712: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,468.34 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). See WSP 1732 or 1923 for history of changes prior to Jan. 1, 1926. Prior to 1992 at site on right bank at bridge at El Morro St., at same datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow slightly regulated by Bluewater Lake (station 08341400) 24 mi upstream. Diversions and ground-water withdrawals for irrigation of about 4,500 acres upstream from station. No flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood observed occurred Sept. 6 or 7, 1909, when Bluewater Dam washed out. A flood in July 1919 probably exceeded the one in 1952.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	7.1	.00	.00	.00	.00	.00	.00	.00	.00	.16	.00
2	.00	2.6	.00	.00	.00	.00	.00	.00	.00	.00	.03	22
3	.00	1.2	.00	.00	.00	.00	.00	.00	.00	.00	.80	3.6
4	.00	e.58	.00	.00	.00	.00	.00	.00	.00	.00	1.0	.66
5	.00	e.12	.00	.00	.00	.00	.00	.00	.00	.00	.58	.33
6	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00	.39	.15
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.16	.04
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00
9	.00	1.8	.00	.00	.00	.00	.00	.00	.00	1.3	.00	.00
10	.00	1.9	.00	.00	.00	.00	.00	.00	.00	.56	.01	.00
11	.00	.99	.00	.00	.00	.00	.00	.00	.00	.18	.02	.00
12	.00	.53	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00
13	.00	.22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	3.7	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	2.9	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.81	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.67	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.91	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.70	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.25	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	3.2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	3.3	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.3	.00
28	2.1	.00	.00	.00	.00	.00	.00	.00	.00	.00	15	.00
29	.80	.00	.00	.00	.00	.00	.00	.00	.00	9.9	.81	.00
30	2.4	.00	.00	.00	.00	.00	.00	.00	.00	5.6	.34	.00
31	29	---	.00	.00	---	.00	---	.00	---	.42	.11	---
TOTAL	40.80	17.11	0.00	0.00	0.00	0.00	0.00	0.00	9.99	17.97	20.75	26.78
MEAN	1.32	.57	.000	.000	.000	.000	.000	.000	.33	.58	.67	.89
MAX	29	7.1	.00	.00	.00	.00	.00	.00	3.7	9.9	15	22
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	81	34	.00	.00	.00	.00	.00	.00	20	36	41	53

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1999, BY WATER YEAR (WY)

MEAN	.23	.021	.000	.009	.000	.22	5.44	1.73	.015	.12	.49	.29
MAX	2.51	.57	.000	.29	.000	6.30	87.0	22.5	.33	1.20	7.79	5.49
(WY)	1970	1999	1969	1998	1969	1985	1980	1983	1999	1981	1993	1972
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1969	1969	1969	1969	1969	1969	1969	1969	1968	1968	1969	1968

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1968 - 1999
ANNUAL TOTAL	94.41	133.40	
ANNUAL MEAN	.26	.37	.71
HIGHEST ANNUAL MEAN			8.10
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	29 Oct 31	29 Oct 31	355 Apr 21 1980
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Jun 1 1968
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 1	.00 Jun 1 1968
INSTANTANEOUS PEAK FLOW		116 Sep 2	^a 1760 Aug 28 1952
INSTANTANEOUS PEAK STAGE		2.94 Sep 2	5.35 Aug 28 1952
ANNUAL RUNOFF (AC-FT)	187	265	517
10 PERCENT EXCEEDS	.00	.33	.00
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated

a From rating curve extended above 300 ft³/s, on basis of velocity-area studies.

08343500 RIO SAN JOSE NEAR GRANTS, NM

LOCATION.--Lat 35°04'27", long 107°45'01", in SE¹/₄SE¹/₄ sec.23, T.10 N., R.9 W., Cibola County, Hydrologic Unit 13020207, on right bank at west boundary of Acoma Pueblo Grant, 8.5 mi southeast of Grants, and at mile 57.4.

DRAINAGE AREA.--2,300 mi², approximately, of which 1,130 mi² does not contribute directly to surface runoff.

PERIOD OF RECORD.--June 1936 to current year. Prior to October 1955, published as "San Jose River near Grants."

REVISED RECORDS.--WSP 898: 1936-39(M). WSP 1512: 1943. WSP 1712: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 6,269.47 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow slightly regulated by Bluewater Lake (station 08341400), 34 mi upstream. Diversions and ground-water withdrawal for irrigation of about 5,100 acres upstream from station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood probably occurred Sept. 6 or 7, 1909, following destruction of Bluewater Dam. The peak of Sept. 20, 1963, may have been exceeded by those of July 1919, August and September 1929, and August 1935.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	4.1	2.9	2.9	3.3	3.3	3.3	2.9	3.3	3.6	3.5	3.6
2	4.1	4.1	2.9	3.0	3.3	3.3	3.2	2.9	3.4	3.8	2.9	6.4
3	4.1	4.1	2.9	2.9	3.3	3.3	3.0	3.0	3.5	4.1	30	4.6
4	4.1	4.0	2.9	2.9	3.3	3.3	3.1	2.7	3.6	4.0	11	13
5	4.1	3.9	2.9	3.0	3.3	3.3	3.0	2.7	3.7	4.3	59	4.3
6	4.1	3.9	2.8	3.0	3.3	3.3	3.0	2.8	3.8	4.5	26	3.2
7	4.1	3.8	2.8	3.0	3.3	3.3	3.0	2.9	3.9	4.4	3.8	3.1
8	4.1	3.8	2.8	3.0	3.3	3.1	3.0	2.9	4.2	4.7	2.4	3.3
9	4.1	3.7	2.8	3.0	3.3	3.2	3.0	3.0	4.2	4.8	2.4	3.3
10	4.1	3.5	2.8	3.0	3.2	3.2	2.9	2.9	4.4	4.7	2.7	3.1
11	4.1	3.4	2.8	3.2	3.2	3.2	3.0	2.7	4.6	7.0	2.9	3.1
12	4.1	3.4	2.8	3.3	3.3	3.1	3.0	2.8	4.7	6.0	2.8	3.1
13	4.1	3.1	2.8	3.3	3.3	3.1	2.9	2.9	4.8	5.4	2.9	3.0
14	4.1	3.1	2.8	3.3	3.3	3.2	2.8	2.9	5.0	6.1	2.9	2.9
15	4.1	3.1	2.9	3.3	3.3	3.3	2.8	2.8	5.4	6.0	2.9	3.0
16	4.1	3.1	2.8	3.3	3.3	3.3	2.8	2.9	5.5	6.3	3.0	3.0
17	4.1	3.0	2.9	3.3	3.3	3.2	2.9	2.9	5.7	6.3	3.1	2.9
18	4.1	3.0	3.0	3.3	3.3	3.1	2.9	2.9	14	5.6	3.3	2.9
19	4.1	2.9	2.9	3.3	3.3	3.0	2.9	2.8	15	5.3	3.5	3.0
20	4.1	2.9	2.8	3.3	3.3	3.1	2.8	2.8	12	8.3	3.4	3.1
21	4.1	2.9	2.8	3.1	3.3	3.2	2.8	2.8	7.7	6.4	3.7	3.3
22	4.1	2.9	2.9	3.0	3.2	3.1	2.9	2.8	6.6	4.0	4.7	3.3
23	4.1	2.9	2.8	3.2	3.3	3.2	3.1	2.8	7.7	4.0	4.3	3.2
24	4.1	2.9	2.8	3.3	3.2	3.3	3.1	2.8	6.1	4.3	4.3	3.4
25	4.1	2.9	2.8	3.3	3.3	3.3	3.1	2.7	6.3	4.2	4.4	3.6
26	4.1	2.9	2.8	3.3	3.2	3.3	3.0	2.9	6.5	8.8	4.5	3.8
27	4.1	2.9	2.8	3.3	3.3	3.3	3.0	2.9	6.8	14	4.4	3.7
28	4.1	2.9	2.8	3.3	3.3	3.3	3.1	3.0	3.1	6.6	7.2	3.6
29	4.1	2.9	2.9	3.3	---	3.3	3.2	3.1	3.2	8.3	24	3.8
30	4.1	2.9	3.0	3.3	---	3.3	3.0	3.2	3.4	4.2	9.0	3.8
31	4.1	---	3.0	3.3	---	3.3	---	3.3	---	3.8	4.3	---
TOTAL	127.1	98.9	88.4	98.3	91.9	100.1	89.6	89.4	172.1	173.8	249.2	113.4
MEAN	4.10	3.30	2.85	3.17	3.28	3.23	2.99	2.88	5.74	5.61	8.04	3.78
MAX	4.1	4.1	3.0	3.3	3.3	3.3	3.3	3.3	15	14	59	13
MIN	4.1	2.9	2.8	2.9	3.2	3.0	2.8	2.7	3.1	3.6	2.4	2.9
AC-FT	252	196	175	195	182	199	178	177	341	345	494	225

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1999, BY WATER YEAR (WY)

	5.56	5.28	5.14	5.47	5.63	5.53	8.05	7.90	5.43	6.70	9.07	6.48
MEAN	5.56	5.28	5.14	5.47	5.63	5.53	8.05	7.90	5.43	6.70	9.07	6.48
MAX	16.6	9.76	7.82	10.5	11.6	11.4	91.3	128	10.2	24.0	53.2	24.6
(WY)	1973	1980	1978	1945	1944	1985	1980	1941	1941	1957	1957	1975
MIN	2.43	3.01	2.51	2.84	3.28	3.23	2.86	2.49	3.25	3.38	3.16	3.52
(WY)	1990	1994	1994	1994	1994	1999	1994	1996	1998	1994	1994	1990

08343500 RIO SAN JOSE NEAR GRANTS, NM--Continued

SUMMARY STATISTICS

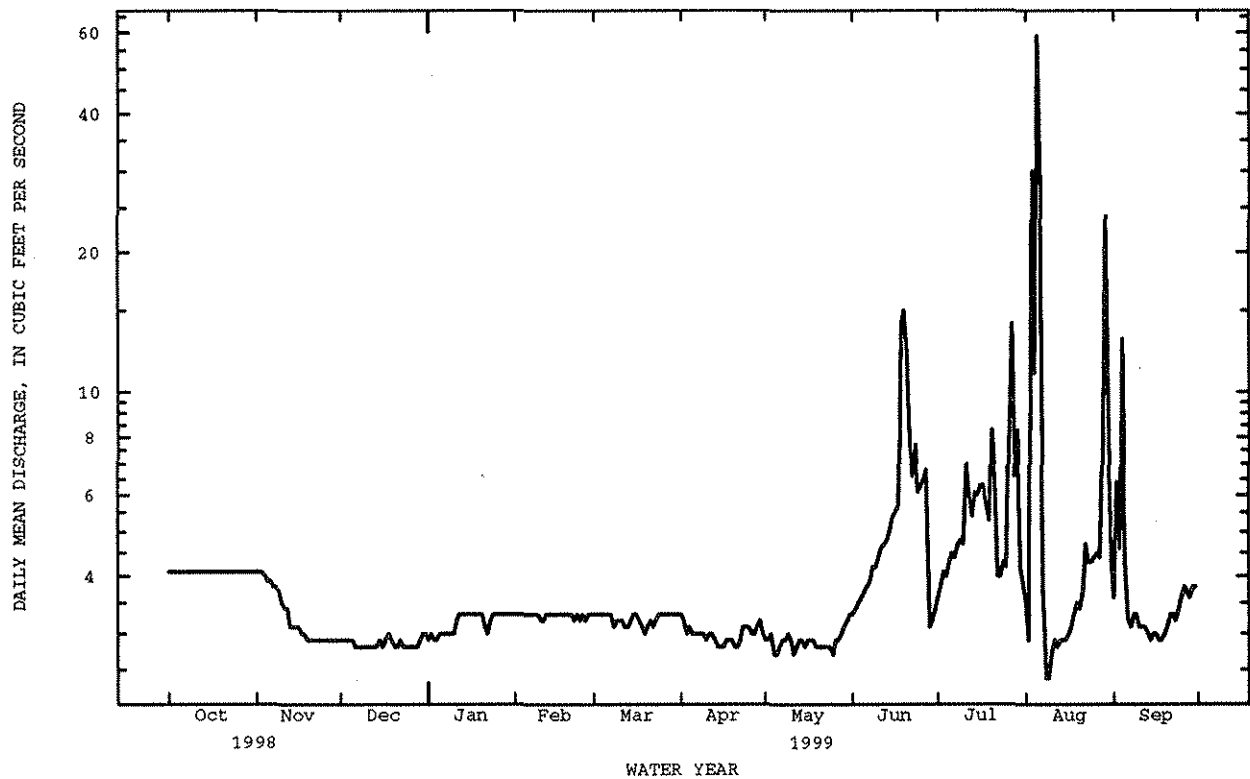
FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1937 - 1999

ANNUAL TOTAL	1390.9	1492.2	6.36	
ANNUAL MEAN	3.81	4.09	19.3	1941
HIGHEST ANNUAL MEAN			3.53	1994
LOWEST ANNUAL MEAN			538	Aug 30 1957
HIGHEST DAILY MEAN	5.0 Jan 1	59 Aug 5	1.6	May 30 1996
LOWEST DAILY MEAN	2.7 Aug 5	2.4 Aug 8	1.7	May 30 1996
ANNUAL SEVEN-DAY MINIMUM	2.8 Dec 6	2.7 Aug 8	^a 1400	Sep 20 1963
INSTANTANEOUS PEAK FLOW		322 Aug 5	4.87	Sep 20 1963
INSTANTANEOUS PEAK STAGE		3.24 Aug 5	1.5	May 29 1996
INSTANTANEOUS LOW FLOW			4610	
ANNUAL RUNOFF (AC-FT)	2760	2960	7.0	
10 PERCENT EXCEEDS	4.4	5.3	5.1	
50 PERCENT EXCEEDS	4.0	3.3	3.9	
90 PERCENT EXCEEDS	2.9	2.8		

a From rating curve extended above 450 ft³/s, on basis of slope-area measurements at gage heights 3.19 ft and 4.87 ft.



RIO GRANDE BASIN

08353000 RIO PUERCO NEAR BERNARDO, NM

LOCATION.--Lat 34°24'33", long 106°51'09", in SE¹/₄ sec.8, T.2 N., R.1 E., Socorro County, Hydrologic Unit 13020204, on left bank 300 ft upstream of bridge on former U.S. Highway 85, 0.2 mi upstream from Interstate Highway 25, 1.2 mi southwest of Bernardo, 3.0 mi upstream from mouth, and 18 mi south of Belen.

DRAINAGE AREA.--7,350 mi², approximately, of which at least 1,130 mi² does not contribute directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1939 to current year. Fragmentary gage-height record and footnotes concerning no flow for the period September 1910 to August 1914, published in WSP 358 and 388, are in error and should not be used.

REVISED RECORDS.--WSP 1512: 1941-42, 1944-45, 1946(P), 1947-49. WSP 1632: 1957. WSP 1732: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 4,722.34 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 24, 1969, at datum 3.10 ft higher.

REMARKS.--Water-discharge records fair except for estimated daily discharges, which are poor. Diversions for irrigation of about 11,500 acres upstream from station (includes 3,700 acres irrigated wholly or partly from wells).

EXTREMES OUTSIDE PERIOD OF RECORD.--The greatest flood since about 1880 occurred Sept. 23, 1929, from information by local residents (discharge, about 35,000 ft³/s, estimated on basis of peak at Rio Puerco). Another flood occurred Aug. 12, 1929 (discharge, 30,600 ft³/s, by slope-area measurement, from reports of New Mexico State Engineer).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	269	97	e.00	1.1	.45	.01	.31	.22	17	.00	72	22
2	262	196	e.00	1.6	.00	.04	.37	.26	4.5	.00	42	19
3	349	105	e.50	1.5	.00	.05	.34	.23	.28	.00	435	128
4	83	55	e.45	1.5	.00	.05	.37	.23	e.20	.00	813	453
5	12	18	e.40	.82	.00	.04	.32	.11	e.16	.00	1150	379
6	e3.0	e15	e.35	1.0	.00	.05	.29	.08	e.13	.00	1060	146
7	e.90	e11	e.30	.59	.00	.05	.28	1.1	e.10	1.4	964	52
8	e.50	e8.0	e.25	.13	.00	.05	.25	2.8	.00	1.3	848	24
9	e.40	e4.6	e.20	.00	.00	.09	.25	3.0	.00	32	330	16
10	e.30	e2.4	e.15	.00	e.10	.08	.22	1.8	.00	14	210	15
11	e.20	e.76	e.10	.01	.00	.12	.26	.39	.00	137	626	8.9
12	e.15	e.25	e.08	1.5	.00	.17	.24	.20	.00	509	746	3.4
13	e.10	.00	e.05	1.6	.00	.40	.23	.21	.00	109	531	.96
14	.00	.00	.00	1.5	.00	.25	.26	.14	.00	22	124	.45
15	.00	.00	.00	1.4	.00	.30	.17	.09	.00	9.7	112	.83
16	.00	e1.0	.00	1.4	.00	.26	.25	.14	.00	2.9	161	103
17	.00	e2.0	.00	1.4	.00	.47	.24	.22	.00	.00	103	54
18	.00	e1.5	.08	1.6	.00	.76	.28	.28	.00	100	132	28
19	.00	e.00	.40	1.7	.00	.44	.28	.07	.06	98	86	34
20	.00	e.00	1.6	1.7	.00	.35	.26	.00	50	560	40	42
21	.00	e.00	1.1	1.6	.00	.30	.27	.00	39	594	25	31
22	.00	e.00	.54	1.5	.00	.26	.25	.00	21	444	11	18
23	.00	e.00	.54	1.4	.01	.25	.21	.46	87	277	7.9	9.8
24	.00	e.00	.16	1.3	.03	.25	.32	2.7	69	259	12	5.6
25	.00	e.00	.02	1.5	.04	.27	.44	285	25	48	17	2.0
26	e8.0	e.00	.00	1.5	.02	.38	.27	28	4.0	22	7.3	.39
27	e9.0	e.00	.00	1.3	.02	.38	.20	41	.16	185	2.3	.07
28	231	e.00	.00	1.1	.01	.26	.31	47	.00	132	.07	.03
29	618	e.00	.00	.40	---	.28	.22	58	.00	24	.06	.00
30	465	e.00	.00	.79	---	.28	.13	23	.00	15	85	.00
31	104	---	.00	.77	---	.26	---	25	---	234	83	---
TOTAL	2415.55	517.51	7.27	35.21	0.68	7.20	8.09	521.73	317.59	3830.30	8835.63	1596.43
MEAN	77.9	17.3	.23	1.14	.024	.23	.27	16.8	10.6	124	285	53.2
MAX	618	196	1.6	1.7	.45	.76	.44	285	87	594	1150	453
MIN	.00	.00	.00	.00	.00	.01	.13	.00	.00	.00	.06	.00
AC-FT	4790	1030	14	70	1.3	14	16	1030	630	7600	17530	3170

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1999, BY WATER YEAR (WY)

	MEAN	50.1	7.26	1.25	2.50	15.3	18.3	14.6	42.1	20.0	64.6	188	86.2
MAX	586	100	26.6	70.0	142	208	179	885	203	362	922	584	
(WY)	1942	1987	1985	1993	1979	1960	1973	1941	1941	1955	1957	1972	
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.92	.000
(WY)	1952	1940	1940	1940	1942	1942	1944	1950	1945	1942	1986	1956	

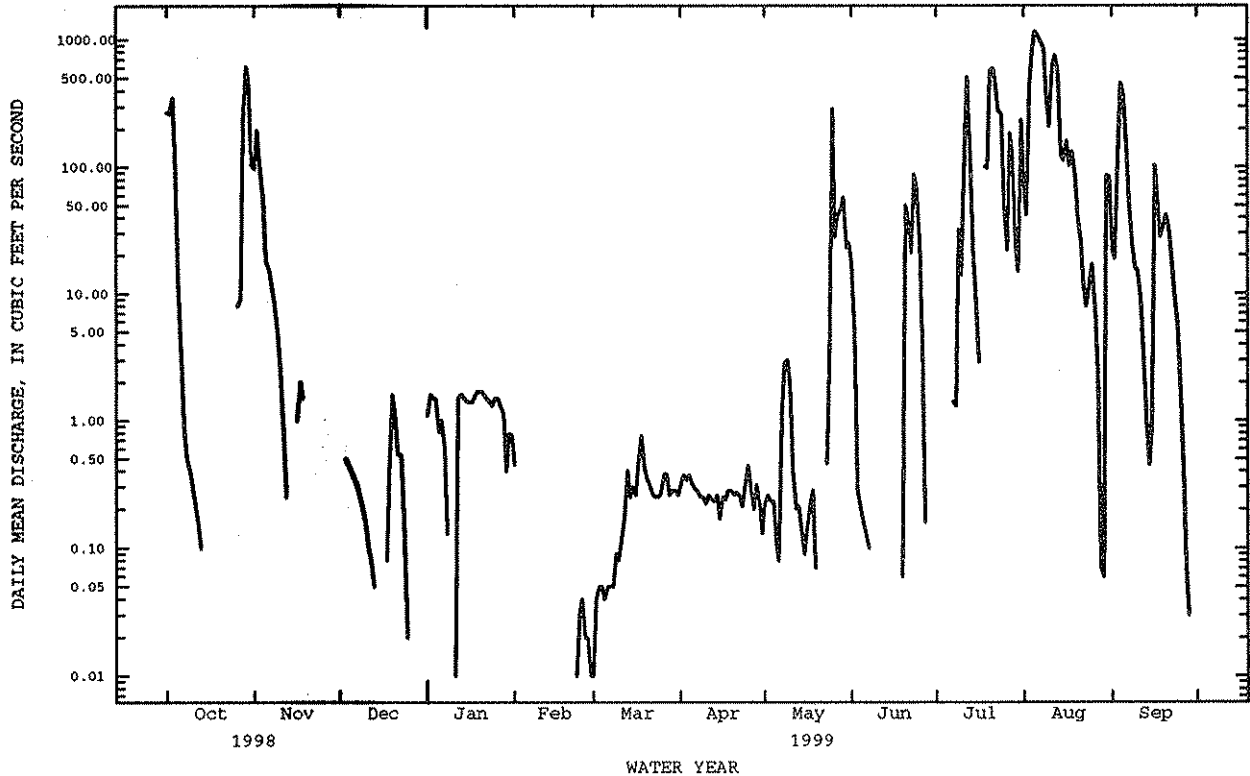
08353000 RIO PUERCO NEAR BERNARDO, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1940 - 1999
ANNUAL TOTAL	8089.16	18093.19	
ANNUAL MEAN	22.2	49.6	42.6
HIGHEST ANNUAL MEAN			171
LOWEST ANNUAL MEAN			5.47
HIGHEST DAILY MEAN	618 Oct 29	1150 Aug 5	5980 May 5 1941
LOWEST DAILY MEAN	.00 Jan 6	.00 Oct 14	.00 Nov 1 1939
ANNUAL SEVEN-DAY MINIMUM	.00 Feb 27	.00 Oct 14	.00 Nov 1 1939
INSTANTANEOUS PEAK FLOW		1330 Aug 6	^a 18800 Sep 23 1941
INSTANTANEOUS PEAK STAGE		11.18 Aug 6	^b 16.90 Aug 12 1955
ANNUAL RUNOFF (AC-FT)	16040	35890	30840
10 PERCENT EXCEEDS	50	117	67
50 PERCENT EXCEEDS	.40	.31	.00
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated

a From rating curve extended above 7,800 ft³/s.

b Maximum gage height, 16.9 ft, present datum, Aug. 12, 1955.



08353000 RIO PUERCO NEAR BERNARDO, NM--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1947 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1947 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1947 to current year.

INSTRUMENTATION.--Automatic pumping sediment sampler.

REMARKS.--Daily suspended-sediment samples are collected when flow is observed on this ephemeral stream.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 267,000 mg/L, July 26, 1957; minimum daily mean, no flow on many days of each year.

SEDIMENT LOAD: Maximum daily, 2,240,000 tons, Aug. 7, 1957; minimum daily, 0 ton on many days of each year.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 263,000 mg/L, Aug. 29; minimum daily mean, no flow on many days.

SEDIMENT LOAD: Maximum daily, 165,000 tons, July 20; minimum daily, 0 ton on many days.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)		
OCT	30...	1030	552	1230	8.0	23.0	9.5	17000	640	9.0	94	--
NOV	18...	1145	E1.5	3770	8.4	16.5	10.0	2000	644	10.4	111	--
JAN	07...	1430	.22	2500	8.4	12.0	9.0	22	639	10.8	113	--
FEB	26...	0930	.04	5700	8.1	17.0	6.0	4	642	10.8	105	--
MAR	05...	1008	.04	6140	8.1	20.0	11.5	2	641	10.4	116	--
	17...	1140	.04	6180	--	11.0	9.0	4	640	11.2	118	--
MAY	25...	1036	426	997	8.0	26.0	10.0	12000	641	8.0	85	--
JUL	08...	1210	1.3	8530	7.9	37.0	24.5	18000	642	--	--	1600
AUG	16...	1400	184	1740	8.0	25.5	23.0	7800	648	6.8	94	--
SEP	03...	1120	26	1680	8.0	--	23.0	30000	641	6.1	85	--

[illegible]

08353000 RIO PUERCO NEAR BERNARDO, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (UG/L AS SB) (01095)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)
OCT 30...	--	--	--	--	--	--	--	--	--	--
NOV 18...	--	--	--	--	--	--	--	--	--	--
JAN 07...	--	--	--	--	--	--	--	--	--	--
FEB 26...	--	--	--	--	--	--	--	--	--	--
MAR 05...	--	--	--	--	--	--	--	--	--	--
MAR 17...	--	--	--	--	--	--	--	--	--	--
MAY 25...	--	--	--	--	--	--	--	--	--	--
JUL 08...	3000	1500	.9	11	6900	<4	<4	2	132	<4
AUG 16...	--	--	--	--	--	--	--	--	--	--
SEP 03...	--	--	--	--	--	--	--	--	--	--

DATE	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)
OCT 30...	--	--	--	--	--	--	--	--	--	--
NOV 18...	--	--	--	--	--	--	--	--	--	--
JAN 07...	--	--	--	--	--	--	--	--	--	--
FEB 26...	--	--	--	--	--	--	--	--	--	--
MAR 05...	--	--	--	--	--	--	--	--	--	--
MAR 17...	--	--	--	--	--	--	--	--	--	--
MAY 25...	--	--	--	--	--	--	--	--	--	--
JUL 08...	2570	<4	<1.0	<4	10	<50	<4	<4	9	12
AUG 16...	--	--	--	--	--	--	--	--	--	--
SEP 03...	--	--	--	--	--	--	--	--	--	--

DATE	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	RA-226 2 SIGMA WATER, DISS, (PCI/L) (76001)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	URANIUM NATURAL 2 SIGMA WATER, DISS, (UG/L) (75990)	SEDI- MENT, DIS- SUS- PENDEED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 30...	--	--	--	--	--	--	--	42400	63100	99
NOV 18...	--	--	--	--	--	--	--	2230	--	100
JAN 07...	--	--	--	--	--	--	--	--	--	--
FEB 26...	--	--	--	--	--	--	--	--	--	--
MAR 05...	--	--	--	--	--	--	--	--	--	--
MAR 17...	--	--	--	--	--	--	--	--	--	--
MAY 25...	--	--	--	--	--	--	--	24000	27600	--
JUL 08...	4	<4	5	.33	.07	13	3.08	57600	202	100
AUG 16...	--	--	--	--	--	--	--	26600	13200	--
SEP 03...	--	--	--	--	--	--	--	83400	5850	--

RIO GRANDE BASIN

08353000 RIO PUERCO NEAR BERNARDO, NM--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1	67600	49100	34800	13700	0	e.00	581	3.3	52	.10	52	.00
2	89200	71100	69700	37200	0	e.00	856	3.8	0	.00	287	.04
3	99000	99700	40700	11800	189	e.26	852	3.4	0	.00	323	.05
4	59400	15100	46100	6870	162	e.20	854	3.4	0	.00	433	.07
5	38000	1300	42000	2030	132	e.14	393	1.1	0	.00	188	.02
6	22800	e185	43700	e1100	141	e.13	515	1.7	0	.00	307	.04
7	1720	e4.2	41200	e472	60	e.05	183	.46	0	.00	532	.08
8	200	e.26	38000	e201	115	e.08	25	.01	0	.00	493	.08
9	150	e.16	35800	e23	59	e.03	0	.00	0	.00	571	.15
10	210	e.17	31000	e6.6	90	e.04	0	.00	375	e.10	487	.11
11	100	e.05	11000	e.00	78	e.02	1	.00	0	.00	454	.14
12	120	e.04	9500	e.00	40	e.01	539	2.1	0	.00	417	.23
13	210	e.06	0	.00	15	e.00	816	3.6	0	.00	1140	1.5
14	0	.00	0	.00	0	.00	632	2.6	0	.00	715	.49
15	0	.00	0	.00	0	.00	557	2.3	0	.00	882	.75
16	0	.00	250	e.68	0	.00	253	1.1	0	.00	521	.38
17	0	.00	650	e3.5	0	.00	236	.96	0	.00	955	1.5
18	0	.00	1450	e5.9	62	.02	155	.69	0	.00	1750	3.9
19	0	.00	0	e.00	256	.48	140	.63	0	.00	417	.52
20	0	.00	0	e.00	2300	12	126	.57	0	.00	255	.25
21	0	.00	0	e.00	939	3.1	114	.50	0	.00	217	.20
22	0	.00	0	e.00	491	.78	108	.45	0	.00	192	.15
23	0	.00	0	e.00	397	.73	104	.42	65	.00	195	.14
24	0	.00	0	e.00	24	.04	102	.38	102	.01	171	.12
25	0	.00	0	e.00	2	.00	142	.62	81	.01	206	.16
26	250	e5.4	0	e.00	0	.00	121	.50	95	.00	269	.30
27	5400	e131	0	e.00	0	.00	144	.54	85	.00	268	.30
28	19500	27700	0	e.00	0	.00	96	.33	73	.00	135	.10
29	43400	72400	0	e.00	0	.00	25	.03	---	---	201	.16
30	47000	57000	0	e.00	0	.00	62	.18	---	---	198	.17
31	41700	12100	---	---	0	.00	68	.16	---	---	180	.15
TOTAL	---	405826.34	---	73412.68	---	18.11	---	35.83	---	0.22	---	12.25

DAY	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	218	.19	142	.12	89200	4070	0	.00	114000	23300	79600	4680
2	308	.31	189	.16	63500	770	0	.00	74500	10400	99000	5430
3	299	.29	170	.13	47500	41	0	.00	118000	145000	76600	16800
4	319	.35	186	.14	30500	e17	0	.00	44700	98600	55400	75200
5	316	.30	74	.06	95000	e41	0	.00	34900	107000	59200	58700
6	221	.21	72	.04	86000	e30	0	.00	27500	81200	77600	30300
7	235	.20	1590	11	21000	e5.7	24300	289	17300	44900	71300	10100
8	265	.20	1900	14	0	.00	39000	221	27000	61600	67200	4380
9	200	.16	2570	22	0	.00	51300	5160	41900	34200	59800	2650
10	227	.16	1240	8.4	0	.00	31300	1370	49600	40400	54300	2190
11	194	.16	282	.33	0	.00	50200	46300	54900	92300	43100	1040
12	177	.14	132	.09	0	.00	108000	149000	58400	122000	28400	274
13	194	.15	136	.12	0	.00	83400	24600	81800	122000	9560	29
14	138	.14	108	.09	0	.00	78900	4670	67800	22800	1080	1.6
15	113	.08	63	.05	0	.00	74700	1970	67400	24500	474	1.5
16	169	.14	105	.09	0	.00	35500	419	46000	22400	78500	26500
17	164	.12	162	.22	0	.00	0	.00	23100	6460	67300	9880
18	200	.16	238	.35	0	.00	72100	19800	36000	13100	54900	4160
19	192	.16	65	.03	41	.14	88400	29200	31100	7590	70200	7090
20	182	.15	0	.00	53600	17500	110000	165000	52600	5920	45900	5600
21	180	.14	0	.00	108000	11600	69600	111000	40100	2690	55500	4830
22	137	.11	0	.00	104000	6450	53000	62700	53900	1620	45400	2210
23	142	.13	123	.60	75500	23200	57400	44200	84600	2010	46600	1230
24	218	.25	584	7.7	87200	16100	80200	58000	135000	4320	41000	678
25	249	.30	19300	16100	80900	5530	60100	8560	147000	6620	2540	18
26	155	.16	20100	1490	49100	634	43400	2860	180000	3590	308	.36
27	115	.09	48600	5840	1270	1.8	47700	37000	183000	1110	174	.04
28	212	.19	64700	8090	0	.00	94900	40300	217000	41	214	.02
29	144	.14	62400	11000	0	.00	39900	3260	263000	38	0	.00
30	85	.06	54400	4370	0	.00	46900	3240	121000	23700	0	.00
31	---	---	80800	5530	---	---	113000	82200	105000	24300	---	---
TOTAL---	5.34	---	52485.72	---	85990.64	---	901319.00	---	1155709	---	273972.52	---

YEAR 2948787.65

e Estimated

08354500 SOCORRO MAIN CANAL NORTH AT SAN ACACIA, NM

LOCATION.--Lat 34°15'17", long 106°53'43", in SE¹/₄NW¹/₄ sec.1, T.1 S., R.1 W., Socorro County, Hydrologic Unit 13020203, on right bank at San Acacia, and 0.5 mi downstream from point of diversion.

PERIOD OF RECORD.--April 1936 to September 1964 (monthly discharge only), October 1964 to current year.

REVISED RECORDS.--WSP 1242: 1951.

GAGE.--Water-stage recorder. Datum of gage is 4,660.16 ft above National Geodetic Vertical Datum of 1929 (U.S. Bureau of Reclamation bench mark). Prior to Mar. 8, 1958, at site 300 ft upstream (in old channel) at datum 0.42 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are poor. This canal is 1 of 3 channels (stations 08354800, 08354900) carrying flow in valley cross section. For combined monthly flow in acre-ft of this canal, conveyance channel, and floodway, see tabulation below daily table for 08354900. Canal diverts water from right bank of Rio Grande for irrigation of about 8,000 acres. Alamillo acequia and 3 other smaller ditches divert water from canal upstream from station for irrigation of about 400 acres. Discharge records collected at the canal heading from October 1964 to September 1965 indicate that 7,770 acre-ft or 9% reaching the regular gaging station. Several observations of water temperature were made during the year. No flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	254	6.3	.00	.00	.00	82	242	e250	275	273	145	253
2	233	.00	.00	.00	.00	136	239	e265	253	276	176	257
3	221	.00	.00	.00	.00	178	240	e280	256	271	191	249
4	222	.00	.00	.00	.00	248	242	e290	262	273	184	252
5	218	.00	.00	.00	.00	273	227	e257	264	269	160	231
6	218	.00	.00	.00	.00	269	234	e260	264	266	159	263
7	223	.00	.00	.00	.00	268	229	e268	261	268	160	274
8	217	.00	.00	.00	.00	238	225	e271	269	245	161	262
9	221	.00	.00	.00	.00	239	231	e261	299	253	188	256
10	221	.00	.00	.00	.00	235	234	e250	313	242	185	261
11	221	.00	.00	.00	.00	234	234	e247	314	257	172	268
12	218	.00	.00	.00	.00	243	241	e244	293	256	185	268
13	215	.00	.00	.00	.00	244	252	237	287	249	191	268
14	218	.00	.00	.00	.00	244	e261	240	287	240	197	270
15	221	.00	.00	.00	.00	244	e250	242	287	248	192	265
16	216	.00	.00	.00	.00	248	e259	242	280	258	202	263
17	224	.00	.00	.00	.00	239	e248	244	273	261	226	259
18	224	.00	.00	.00	.00	237	e236	252	270	180	231	264
19	228	.00	.00	.00	.00	246	e220	250	266	165	237	268
20	227	.00	.00	.00	.00	241	e210	253	266	164	267	265
21	220	.00	.00	.00	.00	241	e190	252	267	163	272	264
22	221	.00	.00	.00	.00	243	e185	255	264	163	279	262
23	220	.00	.00	.00	.00	240	e176	260	267	161	260	253
24	225	.00	.00	.00	.00	234	e187	258	256	161	254	219
25	223	.00	.00	.00	.00	234	e197	252	257	199	258	218
26	221	.00	.00	.00	.00	233	e210	242	258	208	258	226
27	206	.00	.00	.00	.00	236	e220	246	259	211	253	225
28	192	.00	.00	.00	.00	238	e225	253	253	205	257	219
29	191	.00	.00	.00	---	233	e230	269	251	202	257	244
30	191	.00	.00	.00	---	234	e237	285	262	214	260	257
31	191	---	.00	.00	---	232	---	284	---	225	258	---
TOTAL	6761	6.30	0.00	0.00	0.00	7184	6811	7959	8133	7026	6675	7603
MEAN	218	.21	.000	.000	.000	232	227	257	271	227	215	253
MAX	254	6.3	.00	.00	.00	273	261	290	314	276	279	274
MIN	191	.00	.00	.00	.00	82	176	237	251	161	145	218
AC-FT	13410	12	.00	.00	.00	14250	13510	15790	16130	13940	13240	15080

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1999, BY WATER YEAR (WY)

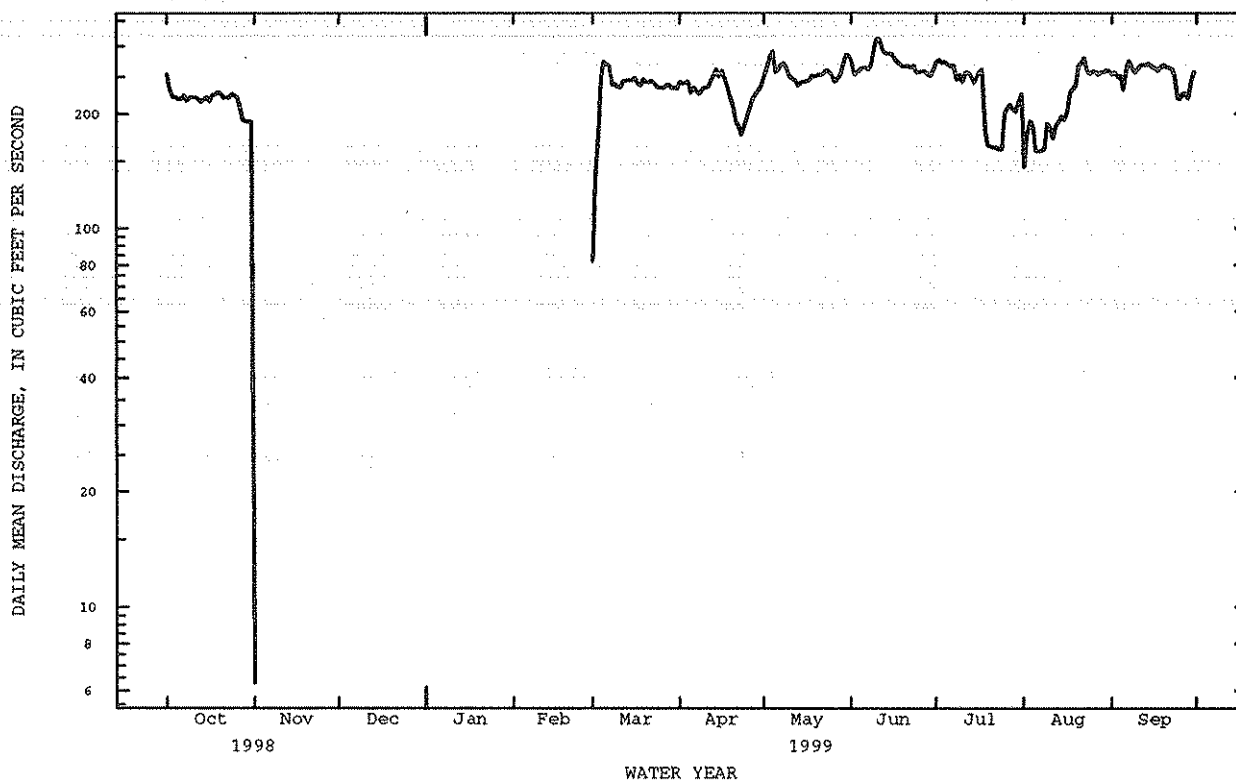
	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
MEAN	132	8.66	7.14	6.53	4.82	154	202	202	198	178	153	135
MAX	257	86.0	79.0	56.7	52.4	234	254	279	298	291	277	253
(WY)	1994	1989	1976	1976	1979	1995	1998	1997	1994	1995	1995	1999
MIN	17.1	.000	.000	.000	.000	39.4	121	81.0	49.9	43.8	56.2	12.6
(WY)	1964	1967	1964	1964	1964	1983	1967	1977	1977	1964	1964	1975

RIO GRANDE BASIN

08354500 SOCORRO MAIN CANAL NORTH AT SAN ACACIA, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1964 - 1999	
ANNUAL TOTAL	56448.30		58158.30		116	
ANNUAL MEAN	155		159		170	
HIGHEST ANNUAL MEAN					63.7	
LOWEST ANNUAL MEAN					1995	
HIGHEST DAILY MEAN	301	Jun 16	314	Jun 11	325	Aug 5 1995
LOWEST DAILY MEAN	.00	Jan 1	.00	Nov 2	.00	Oct 18 1963
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Nov 2	.00	Nov 2 1963
ANNUAL RUNOFF (AC-FT)	112000		115400		83860	
10 PERCENT EXCEEDS	269		267		244	
50 PERCENT EXCEEDS	208		221		124	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated



08354800 RIO GRANDE CONVEYANCE CHANNEL AT SAN ACACIA, NM

LOCATION.--Lat 34°14'54", long 106°54'04", in SW¹/₄ sec.1, T.1 S., R.1 W., Socorro County, Hydrologic Unit 13020203, on right bank 75 ft upstream from railway crossing, 0.5 mi south of San Acacia, and 1.2 mi downstream from San Acacia diversion dam.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1958 to September 1964 included in composite flow of station 08355000, "Rio Grande at San Acacia," October 1960 to September 1964 (monthly discharge published in WSP 1923 with records for station 08355000), October 1964 to January 1994, October 1994 to current year. Daily records 1958-64 are available in files at district office.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 4,652.50 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Conveyance channel, constructed in 1958, is 1 of 3 channels (stations 08354500, 08354900) carrying flow in valley cross section. Original design and plan were for conveyance channel to carry all flows up to about 2,000 ft/s. For combined monthly flow in acre-ft of this channel, floodway, and Socorro main canal north, see tabulation below daily table for station 08354900. No flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	e7.0	.00	.00	.00	.00	.84	12	783	55	10	7.4
2	.00	e.00	.00	.00	.00	.00	.80	12	740	54	10	8.2
3	21	e.00	.00	.00	.00	.00	.71	11	740	53	8.1	8.2
4	47	e.00	.00	.00	.00	.00	.71	11	721	59	5.3	8.4
5	47	e.00	.00	.00	.00	.18	.78	9.2	727	71	4.1	8.5
6	47	e.00	.00	.00	.00	.18	.92	7.4	732	64	3.1	8.8
7	47	.00	.00	.00	.00	.21	.88	7.1	725	63	2.6	9.2
8	46	.00	.00	.00	.00	.22	.91	7.0	711	63	2.4	9.2
9	47	.00	.00	.00	.00	.26	.90	6.9	602	54	2.3	8.5
10	48	.00	.00	.00	.00	.30	.81	6.7	266	49	2.0	6.7
11	49	.00	.00	.00	.00	.31	.70	6.7	74	45	1.7	5.9
12	48	.00	.00	.00	.00	.33	.72	6.7	68	45	1.5	5.8
13	49	.00	.00	.00	.00	.34	.74	7.1	66	45	1.4	5.7
14	50	.00	.00	.00	.00	.34	.76	7.7	64	62	1.4	5.7
15	50	.00	.00	.00	.00	.37	.82	425	63	67	1.3	5.6
16	50	.00	.00	.00	.00	.40	.86	719	62	59	1.3	5.3
17	e16	.00	.00	.00	.00	.46	.85	712	59	59	1.3	5.3
18	e.00	.00	.00	.00	.00	.46	.99	720	58	41	1.4	5.3
19	e.00	.00	.00	.00	.00	.49	1.0	685	58	37	1.3	5.4
20	e.00	.00	.00	.00	.00	.49	.92	688	59	36	1.3	5.2
21	.00	.00	.00	.00	.00	.66	.81	725	58	36	1.3	4.9
22	.00	.00	.00	.00	.00	.69	.47	702	58	36	1.1	e4.7
23	.00	.00	.00	.00	.00	.69	.29	697	58	35	1.1	e4.6
24	.00	.00	.00	.00	.00	.87	.30	679	58	34	.85	e4.4
25	.00	.00	.00	.00	.00	.88	5.6	636	59	32	.41	e4.2
26	.00	.00	.00	.00	.00	.90	12	661	59	32	.52	e4.0
27	62	.00	.00	.00	.00	.88	13	678	55	20	4.0	e3.8
28	122	.00	.00	.00	.00	.88	13	692	54	11	6.7	3.2
29	125	.00	.00	.00	---	.87	12	655	53	11	7.0	3.6
30	123	.00	.00	.00	---	.87	12	633	54	11	7.1	3.8
31	128	---	.00	.00	---	.84	---	681	---	11	7.1	---
TOTAL	1222.00	7.00	0.00	0.00	0.00	14.37	86.09	11506.5	7944	1350	100.98	179.5
MEAN	39.4	.23	.000	.000	.000	.46	2.87	371	265	43.5	3.26	5.98
MAX	128	7.0	.00	.00	.00	.90	13	725	783	71	10	9.2
MIN	.00	.00	.00	.00	.00	.00	.29	6.7	53	11	.41	3.2
AC-FT	2420	14	.00	.00	.00	.29	171	22820	15760	2680	200	356

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1999, BY WATER YEAR (WY)

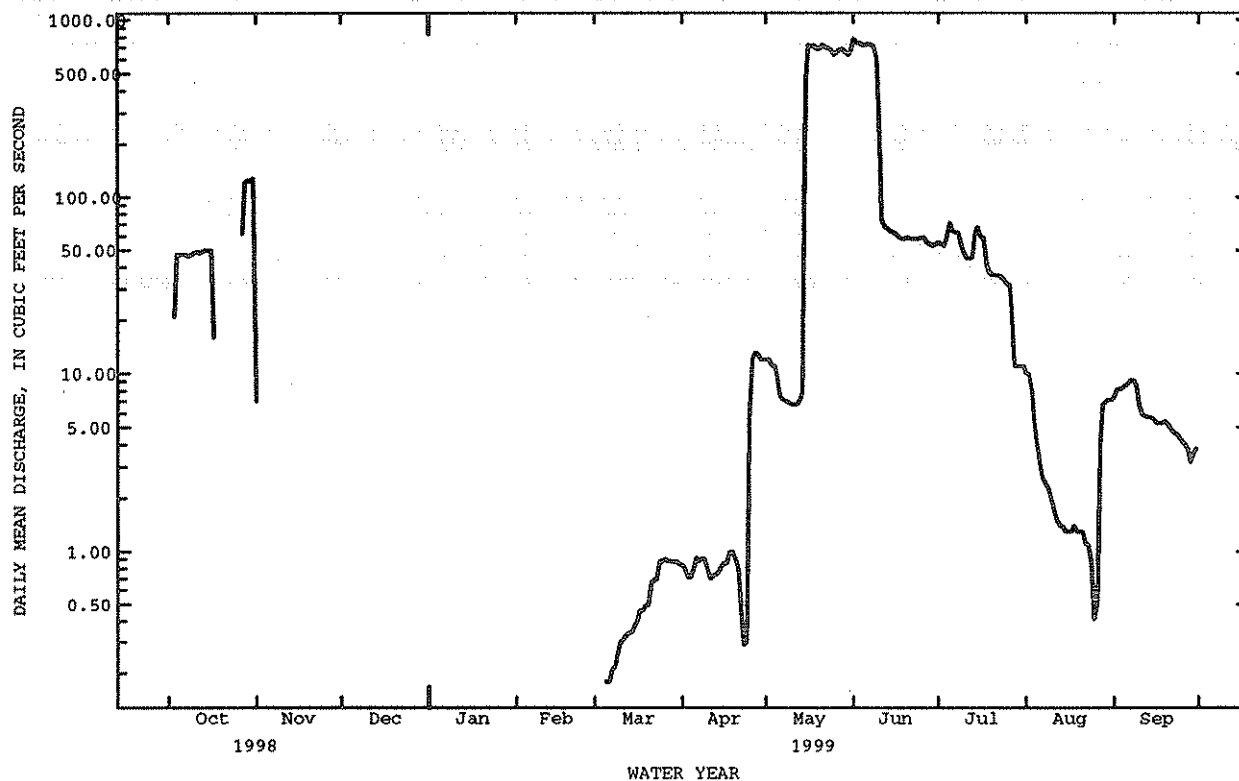
	MEAN	122	564	574	466	472	380	355	494	376	185	164	119
MAX	765	1644	1823	1513	1255	1240	1506	1663	1580	1522	829	633	
(WY)	1985	1966	1966	1974	1962	1966	1979	1979	1980	1979	1967	1972	
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
(WY)	1988	1988	1986	1988	1987	1991	1991	1995	1986	1987	1987	1987	

RIO GRANDE BASIN

08354800 RIO GRANDE CONVEYANCE CHANNEL AT SAN ACACIA, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1959 - 1999	
ANNUAL TOTAL	52522.85		22410.44		355	
ANNUAL MEAN	144		61.4		1033	
HIGHEST ANNUAL MEAN					.049	
LOWEST ANNUAL MEAN					1973	
HIGHEST DAILY MEAN	1540	Jun 1	783	Jun 1	1950	May 12 1966
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Jul 22 1959
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 18	.00	Jul 20 1963
ANNUAL RUNOFF (AC-FT)	104200		44450		257200	
10 PERCENT EXCEEDS	501		65		1240	
50 PERCENT EXCEEDS	.00		.90		10	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated



08354800 RIO GRANDE CONVEYANCE CHANNEL AT SAN ACACIA, NM--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: January 1959 to September 1985, October 1988 to September 1989, October 1996 to current year.

INSTRUMENTATION.--Automatic pumping sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 141,000 mg/L, Aug. 10, 1959; minimum daily mean, no flow on many days of most years.

SEDIMENT LOAD: Maximum daily, 528,000 tons, Aug. 28, 1972; minimum daily, 0 ton on many days during most years.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 36,400 mg/L, July 20; minimum daily mean, no flow on many days.

SEDIMENT LOAD: Maximum daily, 17,800 tons, May 28; minimum daily, 0 ton on many days.

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	0	.00	772	e15	0	.00	0	.00	0	.00	0	.00
2	0	.00	0	e.00	0	.00	0	.00	0	.00	0	.00
3	8990	1120	0	e.00	0	.00	0	.00	0	.00	0	.00
4	13400	1710	0	e.00	0	.00	0	.00	0	.00	0	.00
5	5640	716	0	e.00	0	.00	0	.00	0	.00	839	.45
6	3600	453	0	e.00	0	.00	0	.00	0	.00	426	.21
7	2770	350	0	.00	0	.00	0	.00	0	.00	59	.03
8	2420	303	0	.00	0	.00	0	.00	0	.00	35	.02
9	2530	325	0	.00	0	.00	0	.00	0	.00	45	.03
10	2460	322	0	.00	0	.00	0	.00	0	.00	33	.03
11	2220	291	0	.00	0	.00	0	.00	0	.00	18	.01
12	2120	278	0	.00	0	.00	0	.00	0	.00	19	.02
13	2180	287	0	.00	0	.00	0	.00	0	.00	22	.02
14	2080	280	0	.00	0	.00	0	.00	0	.00	24	.02
15	1860	252	0	.00	0	.00	0	.00	0	.00	25	.03
16	1950	261	0	.00	0	.00	0	.00	0	.00	37	.04
17	876	e38	0	.00	0	.00	0	.00	0	.00	58	.07
18	0	e.00	0	.00	0	.00	0	.00	0	.00	41	.05
19	0	e.00	0	.00	0	.00	0	.00	0	.00	52	.07
20	0	e.00	0	.00	0	.00	0	.00	0	.00	270	.35
21	0	.00	0	.00	0	.00	0	.00	0	.00	252	.45
22	0	.00	0	.00	0	.00	0	.00	0	.00	120	.22
23	0	.00	0	.00	0	.00	0	.00	0	.00	395	.73
24	0	.00	0	.00	0	.00	0	.00	0	.00	91	.21
25	0	.00	0	.00	0	.00	0	.00	0	.00	154	.37
26	0	.00	0	.00	0	.00	0	.00	0	.00	55	.14
27	5060	1650	0	.00	0	.00	0	.00	0	.00	79	.19
28	4210	1390	0	.00	0	.00	0	.00	0	.00	207	.49
29	13400	4510	0	.00	0	.00	0	.00	---	---	353	.82
30	12400	4110	0	.00	0	.00	0	.00	---	---	309	.73
31	5410	1840	---	---	0	.00	0	.00	---	---	296	.67
TOTAL	---	20486.00	---	15.00	---	0.00	---	0.00	---	0.00	---	6.47

RIO GRANDE BASIN

08354800 RIO GRANDE CONVEYANCE CHANNEL AT SAN ACACIA, NM--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	60	.14	252	8.5	5090	10800	224	33	583	16	1780	35
2	45	.10	240	7.6	2620	5240	219	32	6460	176	1130	25
3	42	.08	221	6.8	4280	8540	242	35	4220	97	4030	90
4	109	.21	202	5.9	4070	7930	515	91	1890	27	3940	99
5	79	.17	173	4.3	3850	7550	1080	207	1380	15	3000	69
6	399	1.0	159	3.2	1330	2620	9870	1700	438	3.7	3470	82
7	377	.89	154	3.0	1340	2640	5780	986	295	2.1	2180	54
8	65	.16	149	2.8	2470	4750	3350	574	288	1.8	1240	31
9	50	.12	143	2.7	2230	4050	2630	380	216	1.3	876	21
10	43	.09	154	2.8	760	636	12000	1560	582	3.1	716	13
11	33	.06	136	2.5	342	68	18500	2270	291	1.3	574	9.3
12	43	.08	135	2.4	268	49	20400	2460	198	.82	454	7.6
13	62	.12	135	2.6	247	44	19900	2390	184	.71	371	6.0
14	254	.52	158	3.3	234	41	24400	4420	309	1.2	374	6.2
15	111	.24	1110	2000	274	47	20600	3870	255	.89	442	7.6
16	208	.48	716	1390	574	95	30400	4850	252	.90	1290	22
17	266	.61	571	1100	846	135	21000	3370	227	.82	1440	25
18	425	1.2	820	1590	740	116	9510	1140	162	.60	882	15
19	184	.52	1160	2150	1070	168	25600	2540	386	1.3	683	12
20	23	.06	2630	5100	1070	169	36400	3590	1040	3.6	973	17
21	34	.07	5830	11400	1800	283	4830	466	959	3.3	738	13
22	34	.05	7820	14800	1100	172	1380	133	302	.89	509	e8.4
23	27	.02	9380	17700	756	119	1200	114	165	.50	478	e7.5
24	27	.02	7930	14600	1850	289	939	85	152	.35	1380	e22
25	128	3.6	6670	11800	1210	193	664	57	240	.30	578	e8.6
26	271	9.1	8820	16100	589	93	666	57	253	.79	257	e3.7
27	287	10	7930	14600	330	49	1350	62	914	11	200	e2.7
28	282	9.6	9560	17800	257	37	6700	192	1300	23	244	3.3
29	286	9.7	8810	16000	253	37	4580	137	3100	59	217	3.0
30	271	9.0	6330	11100	246	36	5890	182	1700	33	187	2.7
31	---	---	9190	17200	---	---	1940	58	2900	56	---	---
TOTAL	---	58.01	---	176488.4	---	56996	---	38041	---	543.27	---	711.6
YEAR	293345.75											

e Estimated

08354900 RIO GRANDE FLOODWAY AT SAN ACACIA, NM

LOCATION.--Lat 34°15'23", long 106°53'18", Socorro County, Hydrologic Unit 13020203, in Sevilleta Grant, on right bank 0.2 mi downstream from San Acacia diversion dam, 0.3 mi east of San Acacia, 2 mi downstream from Rio Salado, and at mile 1,472.6.

DRAINAGE AREA.--26,770 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, Co.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1936 to September 1958 (prior to construction of conveyance channel), October 1958 to September 1964 (flow in conveyance channel included), October 1964 to current year. Prior to October 1964 published as 08355000 "Rio Grande at San Acacia" and records are not equivalent.

REVISED RECORDS.--WSP 1242: 1951. WSP 1732: 1958(M). WRD 1969: 1967.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 4,654.50 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 19, 1953, at several sites 0.1 mi upstream at different datums. Mar. 19, 1953, to Aug. 19, 1965, at site 0.4 mi downstream at datum 3.60 ft higher. Aug. 19, 1965, to Aug. 15, 1967, at same site at datum 1.89 ft higher. Datum on Aug. 21, 1987, was lowered 2.00 ft. on April 26, 1996 10.00 ft was added to gage datum. Floodway is bypassed by Socorro main canal north and since Oct. 1958 by conveyance channel.

REMARKS.--Water-discharge records fair except for estimated daily discharges, which are poor. Floodway is 1 of 3 channels (stations 08354500, 08354800) carrying flow in valley cross section. For combined monthly flow in acre-ft of floodway, conveyance channel, and Socorro main canal north, see tabulation below. Normal plan is for floodway to carry flow when combined capacities of conveyance channel (about 2,000 ft³/s) and Socorro main canal north (about 200 ft³/s) is exceeded, during periods of silt sluicing, and when river silt load is excessive. Diversions upstream from station for irrigation of about 760,000 acres; this includes Socorro main canal north, which bypasses station and irrigates about 8,000 acres. No flow at times.

AVERAGE DISCHARGE.--22 years (water years 1937-58), 1,192 ft³/s, 863,000 acre-ft/yr, prior to construction of conveyance channel; does not include Socorro main canal north. 15 years (water years 1959-73), 911 ft³/s, 660,000 acre-ft/yr, combined flow of floodway, conveyance channel and Socorro main canal north, prior to closure of Cochiti Dam. 26 years (water years 1974-99), 1,467 ft³/s, 1,063,000 acre-ft/yr, combined flow of floodway, conveyance channel, and Socorro Main Canal North, since closure of Cochiti Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,400 ft³/s, Aug. 5, 1936, gage height, 10.75 ft, site and datum then in use; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,720 ft³/s, Aug. 6; minimum daily, 145 ft³/s, Apr. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	501	1310	779	1000	1150	870	274	760	3330	e1230	347	646
2	544	1800	751	990	1100	770	324	824	3050	e1040	337	624
3	865	1780	740	973	1090	741	347	1360	3050	730	1160	957
4	793	1500	707	959	1050	492	447	2240	3000	e657	3850	1250
5	592	1880	670	991	1060	422	624	2330	2860	e645	e4520	1580
6	465	1980	627	1070	1070	386	505	2160	2510	e888	4720	1130
7	494	2090	585	1170	1030	397	418	2030	2040	786	4540	844
8	444	e1750	543	1050	1050	460	329	1750	e1650	782	4250	791
9	386	e1410	546	980	1050	450	237	e1370	e1600	664	3890	627
10	366	e1100	651	998	1040	347	232	e1220	1700	1620	4000	613
11	304	e1200	707	970	1080	290	241	e1150	1700	935	4540	628
12	343	e1250	756	942	988	329	284	1240	1490	1270	3590	626
13	285	e1100	758	955	974	405	260	1720	1440	908	3530	628
14	215	e1050	794	948	1040	453	242	1540	1530	735	2800	654
15	212	e1020	816	980	1010	585	246	1130	1780	665	2400	815
16	178	e980	832	1000	995	373	221	1050	1990	428	2660	866
17	181	e970	926	1010	992	324	214	1080	1930	308	2380	829
18	228	e950	946	1070	995	367	213	1500	2570	635	2220	763
19	230	1060	970	1130	972	575	210	2120	2480	929	1830	784
20	264	1010	1020	1140	977	794	205	2220	2760	1370	1470	805
21	364	e1000	1030	1100	970	624	170	2220	2860	1220	1480	792
22	451	e990	1040	922	977	449	145	2320	2720	1080	1610	722
23	448	e980	1020	1020	954	400	162	2550	2750	896	1460	860
24	411	966	1050	1080	987	270	171	3230	2750	778	1240	934
25	426	948	1030	1100	973	259	188	4140	2250	628	1090	834
26	356	871	1010	1110	932	250	387	3340	1680	570	998	760
27	326	809	978	1070	917	287	802	2590	1470	515	1100	692
28	436	742	984	1020	1100	372	688	3380	1520	440	1160	583
29	1040	740	984	1080	---	569	809	3760	1710	326	945	501
30	1220	779	970	1070	---	408	796	3820	1520	282	989	511
31	928	---	996	1070	---	282	---	3570	---	378	825	---
TOTAL	14296	36015	26216	31968	28523	14000	10391	65714	65690	24338	71931	23649
MEAN	461	1200	846	1031	1019	452	346	2120	2190	785	2320	788
MAX	1220	2090	1050	1170	1150	870	809	4140	3330	1620	4720	1580
MIN	178	740	543	922	917	250	145	760	1440	282	337	501
AC-FT	28360	71440	52000	63410	56580	27770	20610	130300	130300	48270	142700	46910
(+)	44190	71470	52000	63410	56580	42050	34290	168900	162200	64890	156100	62346

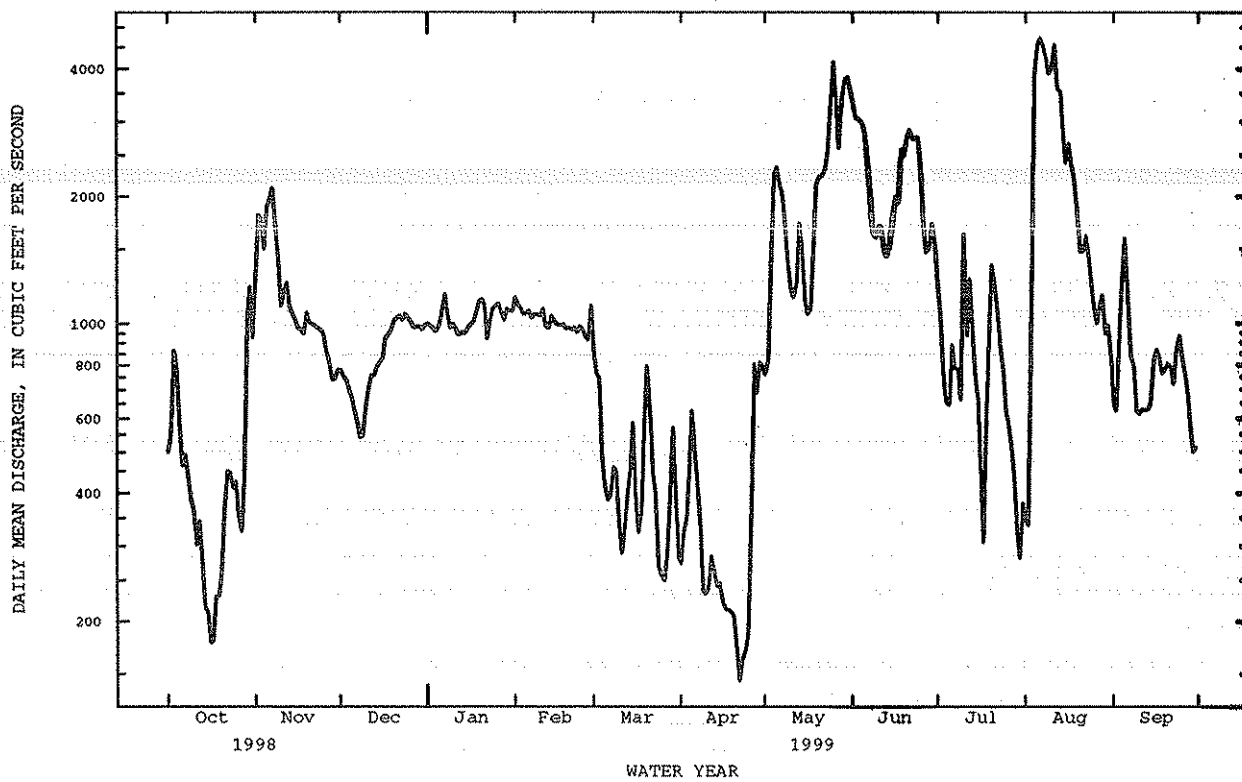
CAL YR 1998 TOTAL 322923 MEAN 885 MAX 3290 MIN 84 AC-FT 640500 (+) MEAN 1184 AC-FT 856700
WTR YR 1999 TOTAL 412731 MEAN 1131 MAX 4720 MIN 145 AC-FT 818700 (+) MEAN 1351 AC-FT 978547

e Estimated

(+) COMBINED FLOW, IN ACRE-FEET, AND MEAN, IN CUBIC FEET PER SECOND, OF FLOODWAY, CONVEYANCE CHANNEL AND SOCORRO MAIN CANAL NORTH.

RIO GRANDE BASIN

08354900 RIO GRANDE FLOODWAY AT SAN ACACIA, NM--Continued



08354900 RIO GRANDE FLOODWAY AT SAN ACACIA, NM--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1937-56, 1959 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: July 1946 to June 1956, January 1959 to current year.

INSTRUMENTATION.--Automatic pumping sediment sampler.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 223,000 mg/L, Aug. 11, 1946; minimum daily mean, no flow on many days of most years.

SEDIMENT LOAD: Maximum daily, 1,760,000 tons, Aug. 12, 1955; minimum daily, 0 ton on many days of most years.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 49,100 mg/L, Aug. 3; minimum daily mean, 38 mg/L, Aug. 28.

SEDIMENT LOAD: Maximum daily, 476,000 tons, Aug. 6; minimum daily, 39 tons Apr. 21, 22.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)
OCT							
27...	1300	293	532	8.4	11.0	13.5	95
NOV							
03...	1440	1710	589	7.8	22.5	14.0	2900
12...	1340	1250	595	8.2	16.5	10.5	140
DEC							
17...	1330	944	512	--	--	7.0	97
JAN							
08...	0946	1020	532	8.0	15.5	7.0	70
FEB							
23...	1515	1040	488	7.8	20.5	10.0	19
MAR							
10...	1430	367	518	8.0	--	12.5	30
APR							
07...	1300	436	533	8.2	19.5	11.0	7.5
MAY							
21...	1200	2220	361	7.9	29.0	21.0	150
JUN							
30...	1215	1510	--	--	--	27.5	--
AUG							
27...	1345	1140	416	8.1	--	27.0	220

DATE	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	SEDI- MENT, DIS- SOLVED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT						
27...	645	8.2	93	529	418	87
NOV						
03...	641	8.4	97	1280	5910	--
12...	647	9.9	105	808	--	85
DEC						
17...	646	10.6	103	6120	15600	--
JAN						
08...	641	10.8	106	1110	3060	--
FEB						
23...	645	9.8	103	424	1190	--
MAR						
10...	637	10.0	113	--	--	--
APR						
07...	642	9.5	103	100	118	--
MAY						
21...	644	7.9	105	767	4600	--
JUN						
30...	--	--	--	233	950	--
AUG						
27...	646	6.7	100	1940	5970	--

RIO GRANDE BASIN

08354900 RIO GRANDE FLOODWAY AT SAN ACACIA, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	STREAM WIDTH (FT) (00004)	STREAM DEPTH, MEAN (FT) (00064)	STREAM VELOC- ITY, MEAN (F/S) (00055)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	
OCT 05...	1045	559	113	2.7	1.81	16.0	7270	11000	40	
NOV 03...	1440	1710	114	3.1	4.89	14.0	1280	5910	--	
DEC 17...	1330	944	152	1.5	4.23	7.0	6120	15600	44	
JAN 08...	1230	1020	103	2.7	3.62	--	1180	3250	--	
FEB 11...	1430	1090	158	2.5	2.72	--	786	2310	--	
MAR 16...	1430	407	105	1.9	2.05	--	8930	9810	--	
APR 07...	1300	436	106	2.0	2.10	11.0	100	118	--	
MAY 21...	0800	2230	162	5.2	2.65	21.0	787	4740	23	
JUN 30...	1215	1510	140	4.0	2.67	27.5	233	950	36	
JUL 15...	1206	848	--	--	--	--	12300	28200	60	
AUG 27...	1345	1140	139	2.7	2.99	27.0	1940	5970	25	
SEP 13...	1600	609	105	2.7	2.14	--	669	1100	24	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70341)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
OCT 05...	45	48	52	--	65	79	98	100	--	--
NOV 03...	--	--	--	--	27	38	89	100	--	--
DEC 17...	51	55	60	--	72	82	95	99	100	100
JAN 08...	--	--	--	--	28	42	81	100	--	--
FEB 11...	--	--	--	--	28	39	75	100	--	--
MAR 16...	--	--	--	--	1	1	9	95	100	100
APR 07...	--	--	--	--	44	45	75	100	--	--
MAY 21...	27	30	37	--	81	97	99	100	--	--
JUN 30...	46	55	64	74	78	86	100	--	--	--
JUL 15...	76	84	91	--	99	99	100	--	--	--
AUG 27...	28	30	32	--	40	46	60	94	100	100
SEP 13...	28	32	41	--	57	83	99	100	--	--

08354900 RIO GRANDE FLOODWAY AT SAN ACACIA, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)
OCT 05...	7	30	70	96	97	97	97	97	100
NOV 03...	0	2	40	90	93	95	97	98	100
DEC 17...	0	2	26	87	97	98	99	100	--
JAN 08...	0	1	18	94	99	100	--	--	--
FEB 11...	--	0	11	85	97	99	100	--	--
MAR 16...	--	0	6	74	93	97	99	100	--
APR 07...	--	0	2	53	86	94	98	98	100
MAY 21...	0	1	6	32	54	71	86	97	100
JUN 30...	--	--	--	--	--	--	--	--	--
JUL 15...	0	3	68	99	100	--	--	--	--
AUG 27...	5	25	59	90	98	99	99	99	100
SEP 13...	1	12	67	80	83	85	87	89	100

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER												
1	11800	18700	15300	54300	1710	3610	2500	6750	3990	12300	1960	4840
2	9030	14200	15100	73200	1580	3200	2940	7860	4790	14100	714	1460
3	16600	42000	10300	50200	1570	3140	2230	5880	4630	13700	310	633
4	13700	30300	7810	31600	1480	2830	1460	3780	3030	8640	248	329
5	5160	8330	9180	46800	1410	2550	1790	4800	2380	6850	288	328
6	3700	4660	8510	45400	1330	2260	2210	6360	3680	10700	232	243
7	2720	3620	5700	32300	1190	1870	2020	6370	5740	16000	186	200
8	3100	3730	4480	e12100	1070	1580	1580	4490	5170	14700	200	251
9	2520	2630	3680	e14000	934	1390	2200	5800	5140	14500	188	229
10	2400	2380	4120	e12200	1200	2100	2560	6910	5020	14100	145	139
11	1900	1560	3620	e11700	1160	2220	2840	7450	2950	8670	120	94
12	2180	2020	2200	e7430	1200	2450	2160	5500	1520	4070	141	126
13	1460	1130	1460	e4310	1140	2330	1950	5040	2550	6710	215	242
14	938	549	1460	e4140	1010	2160	2050	5240	4360	12200	246	304
15	857	494	1260	e3470	1000	2200	2580	6820	7310	19800	312	504
16	424	204	1490	e3940	911	2050	2200	5960	5080	13700	154	163
17	478	245	2470	e6470	878	2200	2870	7860	3880	10400	98	86
18	645	397	4740	e12200	985	2510	3840	11100	3940	10600	150	172
19	607	377	4750	13700	884	2320	4940	15100	3880	10200	323	508
20	629	468	3150	8650	715	1960	4630	14300	3260	8610	376	808
21	7470	7840	3620	e9770	732	2040	3120	9290	2310	6050	304	524
22	4570	6280	3520	e9410	1100	3090	2360	5890	1780	4700	242	295
23	3720	4600	3440	e9100	1110	3080	2910	8070	1450	3720	240	262
24	1850	2060	2910	7590	1060	3000	3660	10600	1320	3520	150	111
25	2280	2620	2500	6400	958	2680	4310	12800	1820	4740	129	91
26	1340	1320	2140	5040	864	2350	5180	15500	3040	7680	86	58
27	463	412	1820	3970	918	2420	4440	12900	4780	12300	79	62
28	1270	2270	1590	3190	982	2600	3480	9570	5030	15000	107	120
29	17200	48400	1770	3550	1350	3600	3080	8970	---	---	259	408
30	16800	55700	1890	3980	1880	4930	3360	9710	---	---	151	167
31	13700	34300	---	---	1860	5020	3330	9640	---	---	133	102
TOTAL	---	303796	---	519210	---	81740	---	256310	---	288260	---	13859

RIO GRANDE BASIN

08354900 RIO GRANDE FLOODWAY AT SAN ACACIA, NM--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	112	84	57	117	1890	17000	402	e1310	31300	28100	11000	19500
2	129	119	73	164	1710	14100	2420	e6730	46800	42800	6100	10300
3	94	89	148	570	2330	19200	4500	8800	49100	155000	17100	49800
4	104	130	390	2430	807	6600	11700	e20800	41900	431000	23400	81600
5	194	335	755	4710	1280	9880	28400	e49600	32000	e378000	35700	156000
6	130	184	1460	8530	1880	12700	17400	e42200	34300	476000	18100	55200
7	70	79	2030	11100	1830	10100	6890	14700	14200	174000	14300	32600
8	85	75	2340	11000	1540	e6890	11200	22800	14100	161000	21300	47500
9	74	48	1700	e6400	1650	e7150	39800	71400	13900	146000	3050	5170
10	78	50	552	e1830	1600	7470	37900	190000	21700	240000	2250	3740
11	81	53	480	e1490	1330	6140	37600	94600	32400	447000	2470	4180
12	76	58	625	2220	816	3280	38900	133000	24800	240000	1980	3350
13	87	61	1370	6480	677	2630	25600	64800	27400	260000	1020	1740
14	90	59	873	3630	718	2970	9840	19000	28400	215000	507	898
15	84	56	876	2660	905	4400	11500	22100	20600	133000	617	1360
16	90	54	1130	3200	1320	7090	4680	5500	24900	182000	3600	9090
17	100	58	1280	3730	701	3660	2630	2160	24700	159000	4710	10600
18	93	53	3000	13800	1020	7230	21400	40000	16000	95800	3570	7350
19	96	54	4380	24900	1350	9080	34600	99300	11800	58500	2280	4830
20	85	47	4410	26400	1730	12900	45700	171000	12300	48000	3650	8050
21	85	39	3340	20100	1680	12900	31600	105000	27000	109000	2160	4600
22	99	39	3460	21700	1600	11700	25900	75700	12900	55700	1760	3420
23	116	51	4360	30100	1930	14700	24000	58600	8670	34300	1670	3930
24	116	53	6030	53100	2730	20400	32000	67800	8010	26900	1980	5010
25	96	49	7010	78900	2100	12800	19800	32900	9030	26800	1780	4020
26	129	162	6870	62200	1800	8230	8760	13600	7040	19000	1900	3900
27	127	289	3770	26500	1190	4710	22900	36400	6440	19000	1560	2930
28	38	70	4440	41000	988	4080	35800	45900	12400	38700	1370	2150
29	60	134	4540	46100	892	4090	16200	14400	18700	47900	1250	1690
30	63	137	3940	40700	208	869	23600	19900	11100	29600	1280	1860
31	---	---	3810	36800	---	---	13000	14100	11800	26900	---	---
TOTAL	---	2769	---	592561	---	264949	---	1564100	---	4504000	---	546368

YEAR 8937922

e Estimated

08358300 RIO GRANDE CONVEYANCE CHANNEL AT SAN MARCIAL, NM

LOCATION.--Lat 33°41'15", long 106°59'40", Socorro County, Hydrologic Unit 13020203, in Pedro Armendaris Grant No. 34, on right bank 0.4 mi northwest of Atchison, Topeka and Santa Fe Railway Co. bridge over floodway channel, 1.0 mi southwest of former site of San Marcial, 3.5 mi downstream from railroad bridge near Tiffany siding, and 51 mi downstream from heading at San Acacia.

PERIOD OF RECORD.--October 1958 to September 1959, October 1964 to current year. Prior to October 1964 monthly discharge only published with record for Rio Grande at San Marcial (station 08358500).

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 4,454.00 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to Apr. 29, 1958, at datum 4.19 ft higher.

REMARKS.--Records good. Original design and plan were for conveyance channel to carry all flows up to about 2,000 ft³/s. Conveyance channel is 1 of 2 channels (station 08358400) carrying flow in valley cross section. For combined monthly flow in acre-ft of this channel and floodway, see tabulation below daily table for station 08358400. No flow from River since 1965.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	278	357	228	233	232	259	316	310	391	335	358	e391
2	320	299	242	231	252	315	319	302	383	312	300	e363
3	301	273	261	241	254	333	332	308	367	311	314	e374
4	308	259	258	242	236	329	337	281	347	346	390	398
5	349	253	255	227	235	373	364	288	351	360	421	392
6	325	248	232	228	235	365	365	298	377	356	409	388
7	325	248	232	229	234	343	367	313	391	380	381	397
8	314	246	231	232	233	350	373	324	365	393	359	393
9	308	249	244	236	233	316	336	344	327	399	375	375
10	293	245	240	234	232	297	343	337	301	398	378	365
11	294	223	236	235	231	283	343	332	307	411	407	e345
12	307	225	236	236	247	290	362	304	303	429	408	329
13	301	225	237	238	233	321	331	328	332	415	387	359
14	310	228	228	238	222	328	322	354	332	387	379	315
15	322	230	231	235	226	353	309	348	291	362	388	351
16	296	233	228	236	227	340	332	350	323	367	396	352
17	272	232	229	238	235	333	326	361	340	385	384	374
18	271	226	235	240	230	347	342	374	367	449	338	397
19	267	213	234	240	225	379	338	367	361	446	366	421
20	296	211	234	242	231	385	272	352	391	420	359	420
21	343	215	239	254	236	388	233	383	410	383	362	375
22	361	220	230	263	235	376	260	360	395	385	374	392
23	369	216	234	257	231	353	238	367	392	368	379	405
24	349	214	233	248	225	352	251	397	384	364	e365	413
25	362	215	233	249	229	345	268	405	310	355	330	379
26	361	219	233	252	226	349	299	404	318	359	374	367
27	370	220	232	248	229	357	303	405	316	347	351	379
28	382	222	233	239	228	365	323	396	345	328	379	331
29	361	226	232	236	---	353	323	402	342	317	383	331
30	348	225	232	236	---	332	313	385	323	302	388	325
31	370	---	233	234	---	310	---	420	---	296	388	---
TOTAL	10033	7115	7315	7427	6522	10519	9540	10899	10482	11465	11570	11196
MEAN	324	237	236	240	233	339	318	352	349	370	373	373
MAX	382	357	261	263	254	388	373	420	410	449	421	421
MIN	267	211	228	227	222	259	233	281	291	296	300	315
AC-FT	19900	14110	14510	14730	12940	20860	18920	21620	20790	22740	22950	22210

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1999, BY WATER YEAR (WY)

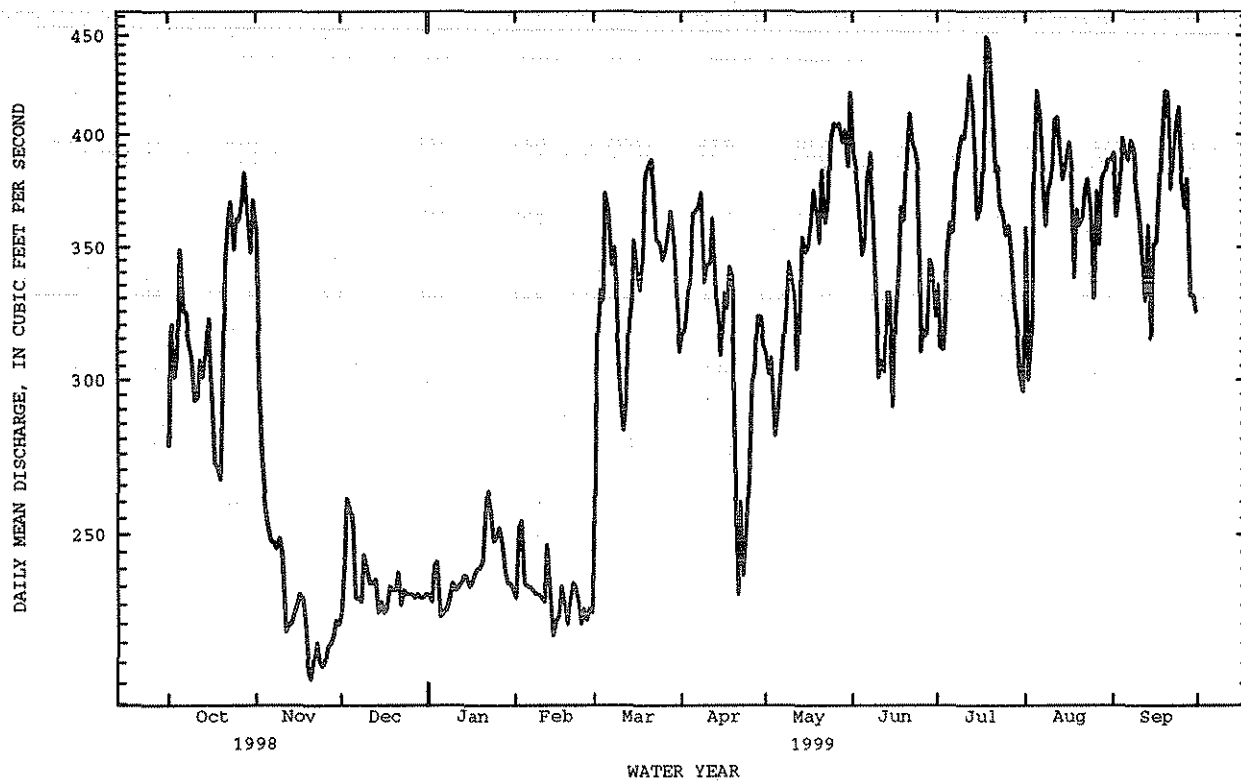
	MEAN	265	508	499	418	412	427	458	533	467	338	286	258
MAX	759	1729	1880	1558	1112	1394	1679	1782	1652	1690	986	730	
(WY)	1985	1970	1966	1974	1985	1966	1966	1969	1973	1973	1973	1972	
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
(WY)	1969	1977	1975	1975	1975	1977	1976	1976	1976	1976	1976	1974	

RIO GRANDE BASIN

08358300 RIO GRANDE CONVEYANCE CHANNEL AT SAN MARCIAL, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1965 - 1999	
ANNUAL TOTAL	112376		114083		405	
ANNUAL MEAN	308		313		1137	
HIGHEST ANNUAL MEAN					1973	
LOWEST ANNUAL MEAN					1977	
HIGHEST DAILY MEAN	463	May 18	449	Jul 18	2200	May 14 1966
LOWEST DAILY MEAN	180	Jun 28	211	Nov 20	.00	Sep 7 1968
ANNUAL SEVEN-DAY MINIMUM	197	Jun 25	215	Nov 19	.00	Sep 7 1968
ANNUAL RUNOFF (AC-FT)	222900		226300		293700	
10 PERCENT EXCEEDS	401		391		1060	
50 PERCENT EXCEEDS	296		323		278	
90 PERCENT EXCEEDS	230		231		.00	

e Estimated



08358400 RIO GRANDE FLOODWAY AT SAN MARCIAL, NM

LOCATION.--Lat 33°40'50", long 106°59'30", Socorro County, Hydrologic Unit 13020203, in Pedro Armendaris Grant No. 33, on pier of the Atchison, Topeka, and Santa Fe Railway Co. bridge, 1.1 mi downstream from former site of San Marcial, 18.5 mi southwest of San Antonio, and at mile 1,425.2.

DRAINAGE AREA.--27,700 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to current year. Records collected at this site January 1895 to September 1964 represented total flow of the river and were published as Rio Grande at San Marcial (station 08358500). Records of daily discharge for floodway only, April 1950, to September 1964, are available in files of district office.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 4,455.19 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are fair. Floodway is 1 of 2 channels (station 08358300) carrying flow in valley cross section. Prior to 1950 all flow was in floodway channel. Normal plan is for floodway to carry flow when capacity of conveyance channel (about 2,000 ft³/s) is exceeded. Combined monthly discharge in acre-ft is given at end of each year table. Diversion for irrigation of about 775,000 acres upstream from station (includes about 13,800 acre-ft diverted from conveyance channel).

AVERAGE DISCHARGE.--35 years (water years 1965-99), 819 ft³/s, 593,370 acre-ft/yr. Total flow of river, 104 years (water years 1895-1999), 1,273 ft³/s, 922,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, since January 1895, about 50,000 ft³/s, Oct. 11, 1904; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,840 ft³/s, May 31; Minimum daily discharge, 3.8 ft³/s, Apr. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	471	1260	e580	551	882	941	112	250	4680	1360	306	478
2	479	1570	e630	585	1070	567	66	221	4080	1050	388	315
3	572	1710	e750	634	1080	451	79	251	3570	672	950	459
4	891	1300	818	623	1050	476	109	636	3470	355	2350	1060
5	489	1390	775	600	907	262	118	1770	3420	264	3680	1790
6	327	1720	719	554	840	171	266	1850	3540	321	4020	1150
7	216	1670	630	507	881	153	253	2190	3060	607	2920	783
8	218	1270	618	514	772	129	188	1850	2570	498	1670	543
9	182	996	620	585	756	169	154	1390	1810	504	1280	486
10	138	768	575	595	755	178	84	1160	1470	605	1660	344
11	117	706	566	774	748	161	64	870	1300	1080	2700	310
12	80	819	574	776	822	102	e45	780	1080	499	4000	269
13	82	777	527	842	870	97	e40	1070	949	1060	3580	257
14	69	703	422	786	797	123	e35	1140	982	496	2770	289
15	38	689	432	827	794	165	e25	1110	1210	391	1870	325
16	30	629	497	898	720	285	e20	1080	1560	474	1900	443
17	23	606	491	820	717	210	e15	1110	1550	298	1870	560
18	15	635	629	789	704	155	e10	1140	1620	319	1690	620
19	14	645	577	816	777	126	e8.0	1420	1810	1710	1790	536
20	23	643	514	802	701	225	e7.0	2130	1910	2020	1290	536
21	25	684	704	886	674	505	e6.5	2410	2230	1880	965	593
22	58	645	685	940	683	477	3.8	2520	2310	1730	1010	584
23	108	627	e940	895	641	270	e4.5	2300	2120	1130	1050	578
24	156	638	e840	858	664	195	e5.5	2500	2630	812	1090	880
25	139	668	917	811	716	135	e15	2790	2270	639	927	1050
26	171	e670	753	801	767	85	e20	3370	1610	348	820	776
27	171	e620	1070	767	672	87	e30	3650	1090	259	633	599
28	173	582	627	739	670	73	e65	3110	1090	198	764	461
29	668	604	582	672	---	95	135	3630	1330	341	874	348
30	1340	e620	551	763	---	213	177	4300	1650	125	592	253
31	1200	---	497	790	---	173	---	4840	---	97	562	---
TOTAL	8683	26864	20110	22800	22130	7454	2160.3	58838	63971	22142	51971	17675
MEAN	280	895	649	735	790	240	72.0	1898	2132	714	1676	589
MAX	1340	1720	1070	940	1080	941	266	4840	4680	2020	4020	1790
MIN	14	582	422	507	641	73	3.8	221	949	97	306	253
AC-FT	17220	53280	39890	45220	43890	14790	4280	116700	126900	43920	103100	35060
(+)	37120	67390	54400	59950	56830	35650	23200	138320	147690	66660	126050	57270

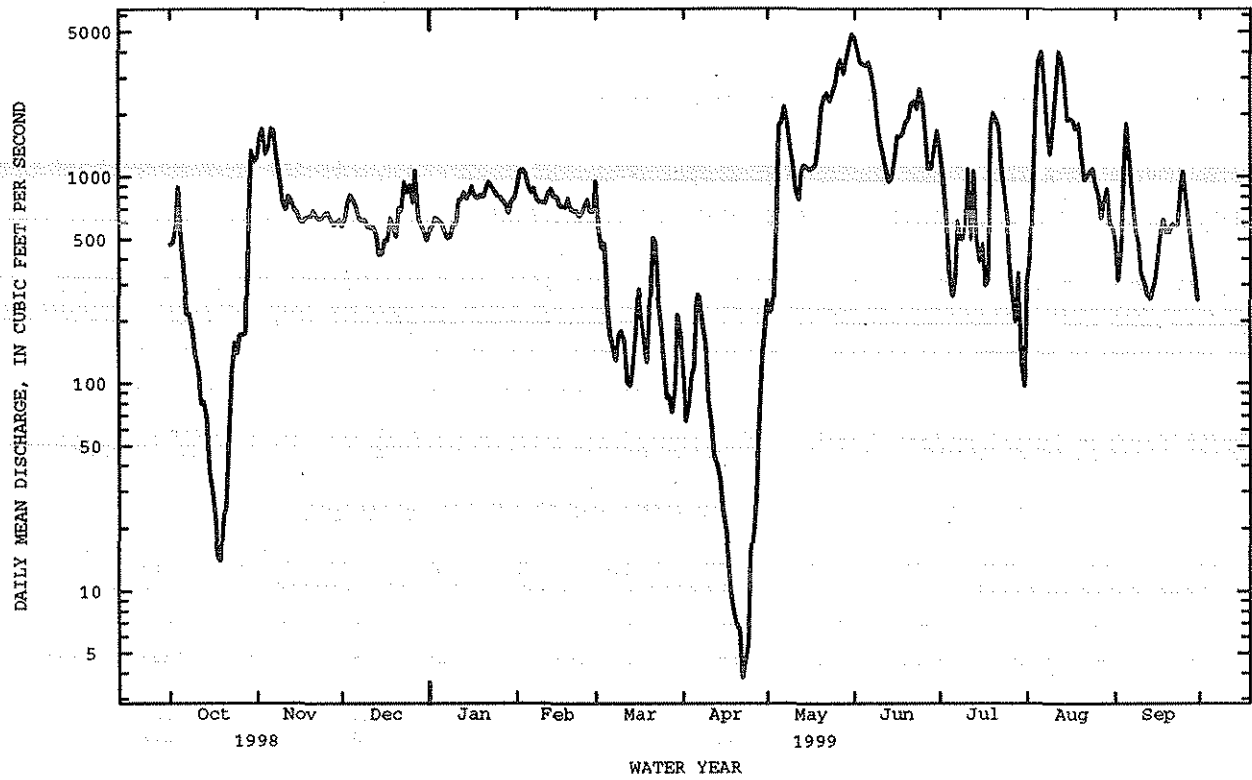
CAL YR 1998 TOTAL 275528.33 MEAN 755 MAX 2720 MIN .00 AC-FT 546500 (+) MEAN 1063 AC-FT 769400
WTR YR 1999 TOTAL 324798.3 MEAN 890 MAX 4840 MIN 3.8 AC-FT 644200 (+) MEAN 1203 AC-FT 870500

e Estimated

(+) COMBINED FLOW, IN ACRE-FEET, AND MEAN, IN CUBIC FEET PER SECOND, OF FLOODWAY AND CONVEYANCE CHANNEL.

RIO GRANDE BASIN

08358400 RIO GRANDE FLOODWAY AT SAN MARCIAL, NM--Continued



08358400 RIO GRANDE FLOODWAY AT SAN MARCIAL, NM--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1905-07, 1946 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: July 1946 to current year.

INSTRUMENTATION.--Automatic pumping sediment sampler.

REMARKS.--Records of chemical analyses and sediment discharge for years prior to 1946 have been published in Water Bulletins of International Boundary and Water Commission.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 135,000 mg/L, July 23, 1977; minimum daily mean, no flow on many days each year.

SEDIMENT LOAD: Maximum daily, 1,200,000 tons, Sept. 21, 1982; minimum daily, 0 ton on many days each year.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 57,000 mg/L, July 11; minimum daily mean, 40 mg/L Apr. 23.

SEDIMENT LOAD: Maximum daily, 201,000 tons, Aug. 4; minimum daily, .49 ton Apr. 22, 23.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L AS CaCO3) (00900)
OCT											
27...	1045	164	502	8.4	11.0	13.5	380	652	8.7	98	--
NOV											
05...	1300	1120	579	7.8	--	13.0	3900	646	10.0	112	--
12...	1130	743	526	8.3	14.5	8.0	500	651	10.7	106	--
DEC											
16...	1053	535	580	8.1	--	5.0	200	654	11.2	102	--
JAN											
11...	1300	770	527	7.9	16.0	5.5	200	647	11.0	103	--
FEB											
24...	1230	662	550	8.0	19.5	9.0	32	650	10.3	105	--
MAR											
15...	1330	153	500	8.2	--	13.0	55	645	11.3	127	--
APR											
01...	1140	112	566	8.4	22.0	12.5	78	641	10.4	117	170
MAY											
20...	1125	2430	392	8.2	26.5	18.5	260	645	7.4	94	120
21...	1350	2180	627	8.6	32.0	24.5	20	637	8.4	122	--
JUN											
03...	1145	3560	339	7.9	28.0	20.0	300	646	6.8	89	--
16...	1230	1530	369	8.3	28.0	23.5	150	649	7.4	103	--
JUL											
14...	1040	496	902	7.9	30.5	24.0	19000	652	6.3	88	190
AUG											
03...	1150	483	791	8.1	19.0	23.0	8900	655	6.6	90	220
25...	1400	980	403	8.1	--	27.0	560	649	7.2	107	--
27...	1345	618	416	8.1	--	27.0	--	646	6.7	100	--
SEP											
08...	1400	562	580	8.0	--	24.0	3200	650	6.1	86	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

08358400 RIO GRANDE FLOODWAY AT SAN MARCIAL, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	NITRO- GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N) (00633)	NITRO- GEN,NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	NITRO- GEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N) (00626)	PHOS- PHORUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01029)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)
OCT 27...	--	--	--	--	--	--	--	--	--	--	--
NOV 05...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
DEC 16...	--	--	--	--	--	--	--	--	--	--	--
JAN 11...	--	--	--	--	--	--	--	--	--	--	--
FEB 24...	--	--	--	--	--	--	--	--	--	--	--
MAR 15...	--	--	--	--	--	--	--	--	--	--	--
APR 01...	<2	3.5	300	110	<1	<5	7	<5	3	7200	<10
MAY 20...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
JUN 03...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
JUL 14...	--	--	--	--	--	--	--	--	--	--	--
AUG 03...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
SEP 08...	--	--	--	--	--	--	--	--	--	--	--

DATE	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	RA-226 2 SIGMA DISS, (PCI/L) (76001)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	URANIUM NATURAL 2 SIGMA DISS, (UG/L) (75990)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. * FINER THAN .062 MM (70331)
OCT 27...	--	--	--	--	--	--	--	1530	676	95
NOV 05...	--	--	--	--	--	--	--	8280	25000	--
12...	--	--	--	--	--	--	--	2060	4120	80
DEC 16...	--	--	--	--	--	--	--	1250	1810	--
JAN 11...	--	--	--	--	--	--	--	1820	3780	--
FEB 24...	--	--	--	--	--	--	--	1010	1810	--
MAR 15...	--	--	--	--	--	--	--	596	246	--
APR 01...	130	<.01	27	--	--	3	--	210	64	88
MAY 20...	--	--	--	--	--	3	--	3120	20500	76
21...	--	--	--	--	--	--	--	--	--	--
JUN 03...	--	--	--	--	--	--	--	2510	24100	--
16...	--	--	--	--	--	--	--	1490	6160	--
JUL 14...	--	--	--	.08	.02	4	1.03	76800	103000	--
AUG 03...	--	--	--	--	--	4	--	32300	42100	96
25...	--	--	--	--	--	--	--	2600	6880	--
27...	--	--	--	--	--	--	--	--	--	--
SEP 08...	--	--	--	--	--	--	--	8420	12800	--

08358400 RIO GRANDE FLOODWAY AT SAN MARCIAL, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

		DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	STREAM WIDTH (FT) (00004)	STREAM DEPTH, MEAN (FT) (00064)	STREAM VELOC- ITY, MEAN (F/S) (00055)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	
DATE	TIME											
OCT												
06...	1200	325	--	--	--	12.0	6470	5680	63	73	81	
NOV												
05...	1300	1120	192	1.7	3.39	13.0	8280	25000	59	70	74	
DEC												
16...	1300	527	--	--	--	7.0	1230	1750	21	22	25	
JAN												
11...	1300	770	192	1.3	307	5.5	1820	3780	16	18	20	
FEB												
24...	1200	662	193	1.1	2.98	--	1120	2000	15	19	25	
MAR												
15...	1330	153	65.0	1.4	1.74	13.0	596	246	--	--	--	
APR												
21...	1400	6.6	22.0	.52	.57	--	67	1.2	--	--	--	
MAY												
20...	1430	2430	--	--	--	--	3470	22800	16	18	20	
JUN												
16...	1230	1530	196	2.5	3.09	23.5	1490	6160	14	15	17	
JUL												
16...	1230	555	--	--	--	26.0	11300	16900	58	66	85	
AUG												
25...	1400	980	193	1.7	2.94	27.0	2600	6880	40	50	54	
SEP												
08...	1400	562	217	1.4	1.82	24.0	8420	12800	69	79	90	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70341)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)
OCT												
06...	88	--	91	93	100	--	2	10	86	100	--	--
NOV												
05...	79	--	90	96	100	--	0	6	74	100	--	--
DEC												
16...	33	--	51	76	100	--	3	16	76	99	100	100
JAN												
11...	27	--	55	87	100	--	0	10	83	100	--	--
FEB												
24...	33	44	47	83	98	100	1	17	90	100	--	--
MAR												
15...	--	--	32	49	99	100	0	4	85	100	--	--
APR												
21...	--	--	56	57	87	100	0	1	50	99	100	100
MAY												
20...	28	--	68	86	99	100	2	18	91	100	--	--
JUN												
16...	22	--	53	73	99	100	1	14	79	100	--	--
JUL												
16...	93	--	98	100	--	--	0	4	74	100	--	--
AUG												
25...	60	--	77	96	100	--	0	5	77	100	--	--
SEP												
08...	95	--	97	98	100	--	0	4	68	100	--	--

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	476	150	1710	1150	5710	72300	8130	30000	16500	17400	2840	3690
2	281	51	2110	1250	2710	30100	6620	18900	32600	34200	2320	1980
3	322	70	1080	729	1240	12000	4990	9180	34000	93000	5080	13900
4	535	158	4640	9780	3050	28500	3480	3350	32300	201000	14300	42400
5	1560	493	5530	25000	7380	68000	2990	2130	16400	161000	19600	96800
6	909	642	4090	20500	9610	91900	3110	2700	14300	155000	17100	54200
7	594	406	4110	24400	7880	65400	4300	8150	13900	115000	11800	25200
8	968	491	1760	8790	7960	55000	3600	4880	7660	35700	8840	13000
9	980	413	1300	4830	9100	44400	2240	3100	9550	33700	6080	8060
10	443	105	3700	11300	7240	29000	4610	13400	12900	59600	3510	3260
11	218	38	5220	12200	4900	17300	57000	177000	15800	118000	2620	2200
12	236	e29	5500	11600	3120	9210	33600	45400	13000	140000	2940	2140
13	220	e24	4730	13600	1120	2860	37200	108000	8340	81100	1810	1240
14	670	e63	3680	11400	692	1830	24400	34000	6000	44800	1400	1100
15	259	e18	3760	11200	683	2250	14900	16600	8690	43400	2140	1900
16	242	e13	5860	17100	1280	5530	14700	18900	15600	87500	7090	8660
17	245	e10	5670	17000	6680	27300	8660	6980	23200	118000	7370	11900
18	153	e4.0	5070	15600	15600	69600	6090	5460	20200	92500	14500	24800
19	96	e2.1	4840	18500	24100	120000	23900	137000	17300	83500	6720	9730
20	126	e2.4	2550	14700	10300	53700	29800	177000	20200	70300	5060	7320
21	114	e2.0	4590	30100	12400	74900	37800	191000	18700	50600	5170	8280
22	46	.49	6890	46800	16700	104000	35600	166000	28400	78000	4780	7530
23	40	e.49	5710	35500	11500	66000	40600	124000	18000	51200	4690	7320
24	120	e1.8	5960	40300	21500	157000	28600	63600	11600	34000	7400	18100
25	160	e6.5	8290	62600	20500	126000	35000	59800	3660	9450	7050	20000
26	145	e7.8	8640	78800	13800	60000	21800	20800	3190	7050	6390	13400
27	220	e14	9030	89700	10300	30400	9720	6890	3020	5160	4900	8020
28	2100	e369	7500	63000	9560	28100	6250	3400	4220	8740	2250	2840
29	2420	878	8500	83600	8440	30200	28000	26100	4850	11500	1130	1080
30	2170	1030	7180	83000	8780	39100	24000	8130	4060	6470	710	509
31	---	---	6090	79600	---	---	11100	2990	3410	5170	---	---
TOTAL	---	5492.58	---	943629	---	1521880	---	1494840	---	2052040	---	420550

e Estimated

08360500 ELEPHANT BUTTE RESERVOIR AT ELEPHANT BUTTE, NM

LOCATION.--Lat 33°09'15", long 107°11'28", in NW¹/₄ sec.30, T.13 S., R.3 W., Sierra County, Hydrologic Unit 13020211, at dam on Rio Grande, 1 mi west of Elephant Butte, 4 mi northeast of Truth or Consequences (Hot Springs), and at mile 1,383.2.

DRAINAGE AREA.--29,445 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

PERIOD OF RECORD.--March 1915 to December 1939 (monthend contents only published in WSP 1312), January 1940 to September 1965 (monthend contents only), October 1965 to current year.

REVISED RECORDS.--WSP 1442: 1954(m). WSP 1632: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 43.3 ft above National Geodetic Vertical Datum of 1929. Oct. 16, 1939, to May 2, 1940, and prior to September 1930, nonrecording gages.

REMARKS.--Reservoir is formed by concrete dam. Storage began Jan. 6, 1915. Dam completed May 13, 1916. Capacity, 2,065,000 acre-ft, survey of 1988 at gage height 4,407.0 ft crest of spillway. Capacity by original survey was 2,638,900 acre-ft. No adjustment made for decrease in capacity due to sedimentation between effective dates of capacity tables. No dead storage. No storage allocated to flood control. Water is used for power development and irrigation on Rio Grande Project of Bureau of Reclamation. A 50,000 acre-ft permanent pool is authorized for recreational purposes.

COOPERATION.--Records provided by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 2,303,000 acre-ft, June 16-18, 1942, gage height, 4,409.19 ft; minimum daily contents after initial filling, 9,900 acre-ft, Aug. 6, 1954, gage height, 4,258.03 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,756,100 acre-ft, Feb. 14-17, gage height, 4,398.07 ft; minimum contents, 1,579,900 acre-ft, Aug. 4, gage height, 4,392.42 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1596100	1603000	1660100	1699000	1740500	1735400	1664100	1590100	1612100	1628300	1582600	1649200
2	1592500	1605500	1662200	1700200	1742500	1733500	1662200	1588000	1616400	1626400	1580500	1646100
3	1591300	1608800	1663200	1701500	1743500	1731800	1659100	1585600	1618500	1622800	1580500	1644300
4	1590100	1611800	1664100	1702500	1745700	1729300	1656000	1583800	1620300	1619100	1579900	1643000
5	1588600	1614300	1664400	1704000	1747300	1727300	1652900	1582000	1622500	1616700	1582900	1643600
6	1585000	1616700	1664700	1705600	1748300	1723800	1652000	1581100	1624600	1613700	1588900	1644900
7	1584700	1618500	1665000	1706900	1749600	1720300	1649800	1582000	1626800	1612400	1594300	1646100
8	1584100	1620300	1665700	1708500	1750900	1717100	1648000	1582900	1629200	1610600	1603400	1647300
9	1583800	1622200	1667200	1710400	1752500	1714500	1645500	1583800	1630700	1608200	1609400	1646100
10	1583500	1624600	1668800	1712000	1753800	1712300	1643000	1584400	1630700	1605800	1613000	1644600
11	1582900	1628600	1669400	1713600	1755100	1708800	1640600	1584100	1630100	1604000	1617900	1641800
12	1582900	1630100	1671000	1715500	1755500	1706600	1638400	1584400	1628600	1602700	1623400	1640600
13	1582300	1632000	1672500	1716500	1755800	1704000	1634700	1583500	1627100	1602100	1630700	1639300
14	1582300	1634100	1674100	1717400	1756100	1701500	1632600	1583800	1625800	1601500	1636600	1636300
15	1582000	1635900	1675700	1718700	1756100	1699000	1631000	1583800	1624000	1599700	1642100	1635600
16	1581100	1637800	1676600	1719300	1756100	1696800	1629500	1583500	1622800	1597900	1647700	1635900
17	1581100	1639000	1677900	1720600	1756100	1693900	1626800	1583500	1620300	1596700	1652300	1635300
18	1581100	1640600	1680000	1721900	1755800	1691400	1624000	1583800	1621300	1594900	1656300	1635300
19	1581100	1642700	1681300	1723200	1755100	1689800	1621000	1584100	1621600	1593100	1660100	1635300
20	1581100	1644000	1682600	1723800	1754500	1688200	1620300	1584100	1622200	1595500	1659700	1635600
21	1582900	1644600	1683800	1725100	1751900	1686600	1617300	1584700	1622800	1595500	1659400	1637200
22	1582300	1645100	1685100	1726700	1749300	1684800	1614600	1585900	1623100	1595500	1659100	1636300
23	1582600	1647700	1685700	1727300	1747700	1684100	1610900	1587100	1624000	1596700	1658500	1636300
24	1583800	1649800	1686600	1729300	1745400	1681900	1607900	1588000	1625500	1596100	1657900	1636900
25	1585000	1651100	1688200	1731200	1743800	1680400	1605200	1591300	1626400	1595800	1657900	1636900
26	1585900	1652600	1690100	1733100	1741200	1677900	1602400	1593100	1627700	1595200	1656000	1638100
27	1589800	1654200	1691700	1734700	1739300	1676000	1600600	1597000	1629200	1594900	1654800	1638700
28	1591600	1655700	1693300	1736000	1737300	1674100	1598200	1600900	1630700	1591900	1653500	1638700
29	1588900	1657300	1694500	1737600	---	1672500	1594300	1603700	1630100	1590100	1652300	1636900
30	1594600	1658800	1696100	1738300	---	1670000	1592200	1606400	1629800	587700	1651700	1635600
31	1599700	---	1698000	1739300	---	1667500	---	1609100	---	1585000	1650400	---
MAX	1599700	1658800	1698000	1739300	1756100	1735400	1664100	1609100	1630700	1696700	1660100	1649200
MIN	1581100	1603000	1660100	1699000	1737300	1667500	1592200	1581100	1612100	587700	1579900	1635300
(+)	4393.08	4395.01	4396.26	4397.55	4397.49	4395.29	4392.83	4393.39	4394.07	4392.59	4394.74	4394.26
(++)	+23400	+36600	+39200	+41300	-2000	+69800	-75300	+16900	+20700	-44800	+65400	-14800

CAL YR 1998 MAX 1985900 MIN 1581100 (++) -228,600

WTR YR 1999 MAX 1756100 MIN 587700 (++) +36,800

(+) GAGE HEIGHT, IN FEET, AT END OF MONTH

(++) CHANGE IN CONTENTS, IN ACRE-FEET

RIO GRANDE BASIN

08361000 RIO GRANDE BELOW ELEPHANT BUTTE DAM, NM

LOCATION.--Lat 33°08'54", long 107°12'22", Sierra County, Hydrologic Unit 13030101, in Pedro Armendaris Grant, on left bank 1.0 mi downstream from dam, 1.5 mi upstream from Cuchillo Negro River, and at mile 1,382.2.

DRAINAGE AREA.--29,450 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

PERIOD OF RECORD.--January 1915 to current year. Monthly or annual discharge only for some periods, published in WSP 1732. Figures of daily discharge, published in WSP 458 for October to December 1916, are unreliable.

REVISED RECORDS.--WSP 1562: 1920. WSP 1632: Drainage area. WSP 1732: 1917, 1920. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 4,241.09 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 24, 1980, at datum 1.0 ft higher. See WSP 1732 for history of changes prior to Apr. 24, 1942.

REMARKS.--Records good. Flow regulated by Elephant Butte Reservoir (station 08360500). Diversion for irrigation of about 800,000 acres upstream from station. No flow at times prior to 1929, Mar. 2-4, 1979.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1430	13	7.6	5.7	280	1720	1510	1400	2240	2160	1380	1510
2	1380	11	7.7	5.5	282	1690	1270	1400	2240	2170	1380	1520
3	1300	11	7.7	5.6	284	1640	1500	1400	2230	2170	1510	1200
4	1310	11	7.9	5.6	297	1540	1530	1440	2230	2160	1490	791
5	1110	12	7.7	5.7	301	1890	1540	1470	2220	2100	1220	796
6	947	14	7.5	6.1	297	2110	1540	1480	2220	1760	806	799
7	654	11	7.2	6.0	300	1950	1510	1350	2220	1920	572	803
8	599	12	7.5	11	132	1930	1510	1450	2210	2160	810	1020
9	593	12	7.4	15	35	1850	1480	1460	2210	1500	803	1350
10	593	12	6.9	15	40	1790	1490	1450	2200	1440	793	1340
11	592	13	5.5	171	395	1710	1480	1450	2190	1450	779	1340
12	600	13	3.6	260	677	1680	1490	1460	2190	1450	782	1330
13	382	12	3.7	262	681	1620	1490	941	2170	1440	777	1320
14	26	11	3.9	262	686	1580	1450	1460	2160	1450	772	1220
15	27	11	5.5	261	734	1550	1450	1460	2140	1420	765	1020
16	26	10	5.6	263	760	1530	1450	1460	2140	1920	759	859
17	26	9.7	6.0	264	914	1440	1430	1470	2130	2150	744	702
18	28	9.8	6.0	265	1120	1520	1430	1470	2130	2150	1190	707
19	30	9.7	6.0	266	1430	1510	916	1910	2120	2170	1440	713
20	29	9.6	5.7	267	1760	1510	1430	2150	2120	2170	1460	631
21	28	9.4	5.9	268	1740	1510	1420	2050	2120	2160	1460	575
22	19	9.1	5.7	185	1730	1520	1410	1910	2030	2180	1460	582
23	11	8.7	5.5	20	1720	1510	1410	1790	2110	1870	1450	471
24	11	8.5	5.5	20	1710	1510	1420	1770	2070	1420	1440	623
25	12	8.6	5.5	20	1800	1510	1420	1580	1640	1420	1440	624
26	12	8.4	5.8	21	1900	1510	1420	1540	1430	1400	1440	626
27	14	8.3	5.5	21	1840	1510	1420	1930	1440	1400	1450	629
28	11	7.9	5.5	182	1780	1510	1410	2200	1390	1380	1460	589
29	11	7.8	5.6	276	---	1510	1410	2210	1730	1390	1460	538
30	12	7.5	6.0	278	---	1510	1400	2220	2110	1400	1460	542
31	11	---	5.8	278	---	1510	---	2230	---	1390	1490	---
TOTAL	11834	312.0	188.9	4191.2	25625	50380	43036	50961	61780	54720	36242	26770
MEAN	382	10.4	6.09	135	915	1625	1435	1644	2059	1765	1169	892
MAX	1430	14	7.9	278	1900	2110	1540	2230	2240	2180	1510	1520
MIN	11	7.5	3.6	5.5	35	1440	916	941	1390	1380	572	471
AC-FT	23470	619	375	8310	50830	99930	85360	101100	122500	108500	71890	53100

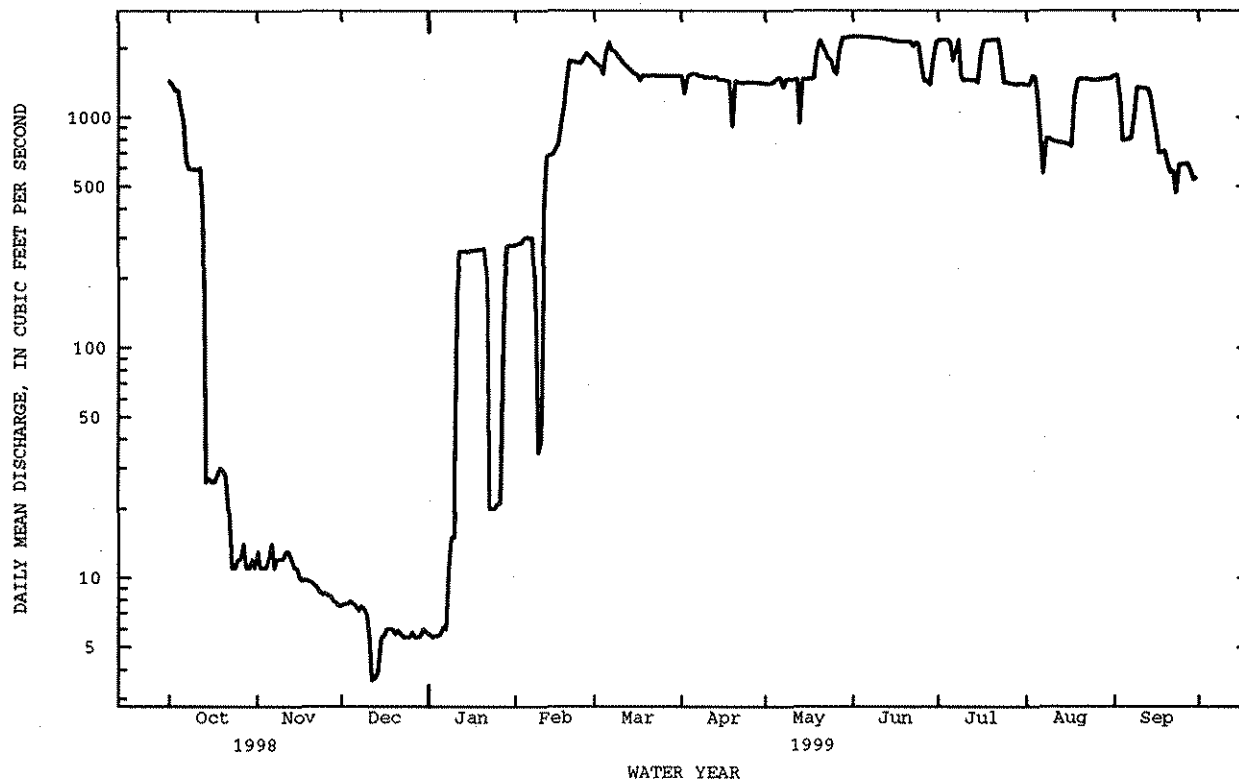
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 1999, BY WATER YEAR (WY)

	MEAN	333	261	309	332	728	1184	1527	1607	1831	1736	1403	795
MAX	2040	2662	2110	1944	3026	2297	2717	7601	6098	4032	2623	2169	
(WY)	1987	1942	1987	1987	1986	1989	1942	1942	1942	1995	1924	1939	
MIN	2.41	1.25	1.38	.000	3.38	16.6	188	8.32	284	673	155	2.73	
(WY)	1986	1972	1994	1918	1955	1983	1977	1957	1964	1964	1954	1954	

08361000 RIO GRANDE BELOW ELEPHANT BUTTE DAM, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1917 - 1999	
ANNUAL TOTAL	416086.9		366040.1		1005	
ANNUAL MEAN	1140		1003		2665	
HIGHEST ANNUAL MEAN					1942	
LOWEST ANNUAL MEAN					253	
HIGHEST DAILY MEAN	2810	Jun 30	^a 2240	Jun 1	8220	May 22 1942
LOWEST DAILY MEAN	3.6	Dec 12	3.6	Dec 12	.00	Nov 2 1916
ANNUAL SEVEN-DAY MINIMUM	4.8	Dec 11	4.8	Dec 11	.00	Nov 2 1916
ANNUAL RUNOFF (AC-FT)	825300		726000		728000	
10 PERCENT EXCEEDS	2300		2120		2100	
50 PERCENT EXCEEDS	1450		1340		1010	
90 PERCENT EXCEEDS	8.5		7.7		5.5	

a Also occurred June 2.



08362000 CABALLO RESERVOIR NEAR ARREY, NM

LOCATION.--Lat 32°53'47", long 107°17'30", in SE¹/₄SW¹/₄ sec.19, T.16 S., R.4 W., Sierra County, Hydrologic Unit 13030101, in control tower of Caballo Dam on Rio Grande, 0.5 mi downstream from mouth of Apache Canyon, 0.9 mi upstream from Bojarcquez Bridge, 2 mi upstream from Percha diversion dam, 3.5 mi northeast of Arrey, 5.2 mi south of Caballo, and at mile 1,356.6.

DRAINAGE AREA.--30,700 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

PERIOD OF RECORD.--February 1938 to September 1965 (monthend contents only), October 1965 to current year.

REVISED RECORDS.--WSP 978: 1942. WSP 1632: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 43.3 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earthfill dam, completed Sept. 19, 1938. Storage began Feb. 8, 1938. Capacity by 1983 survey, 331,500 acre-ft between gage heights 4,104 ft, bottom of tunnel entrance of gates and 4,182 ft, gage height above which spillway gates operate automatically. Capacity by original survey was 345,900 acre-ft. No dead storage. Storage held for flood control, 100,000 acre-ft. Water released from Elephant Butte Reservoir for power development is stored in Caballo Reservoir and released for irrigation on Rio Grande Project of Bureau of Reclamation.

COOPERATION.--Records provided by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 347,000 acre-ft, Mar. 4, 1942, gage height, 4,182.06 ft; minimum contents, 118 acre-ft, Oct. 14, 1938, gage height, 4,108.1 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 78,210 acre-ft, June 25, gage height, 4,151.28 ft; minimum contents, 31,190 acre-ft, Oct. 12, gage height, 4,139.06 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37580	37220	39540	41620	45400	67040	58770	58850	64100	71900	64460	52110
2	37950	37340	39670	41650	45330	68440	58770	59110	64100	70930	64010	51720
3	38320	37400	39700	41680	45330	69200	58340	59020	64100	70350	67130	50010
4	38820	37580	39830	41710	45400	69960	58260	59280	64330	69390	70830	48340
5	39200	37520	39960	41750	45470	71600	58090	59530	64560	70640	75260	46710
6	39130	37580	40120	41780	45680	72290	57920	59880	64740	70250	78110	45110
7	38690	37610	40280	41810	45820	72480	56760	59700	65010	69770	77490	43730
8	37890	37640	40340	41850	46100	72580	56670	60050	64920	69770	76780	42580
9	36850	37830	40470	41880	46310	72680	56510	60310	64510	69580	76880	42450
10	35430	37890	40470	41910	46600	72580	56670	60650	64010	68630	76880	42380
11	34000	37960	40470	42110	47680	72290	57000	60740	63650	67410	76880	42450
12	32940	38200	40510	42380	48630	71700	57420	60310	63470	66940	76170	42310
13	33220	38200	40540	42850	49750	70730	57670	59190	63380	65830	74510	42210
14	33660	38260	40540	43320	50800	69680	57500	58680	63030	64100	73220	43120
15	33770	38260	40670	43940	51650	68540	57340	58510	63030	62320	71950	43730
16	34000	38320	40730	44560	52420	66940	57960	58260	62940	61440	70150	44490
17	34170	38440	40800	45110	53360	65280	58380	58090	63830	62140	67920	44010
18	34220	38440	40860	45680	54880	64370	58810	57590	65190	64740	66110	44140
19	34340	38760	40930	46310	56100	63830	58550	57800	67130	66480	65190	44210
20	34910	38760	40990	46890	58010	63740	58850	58680	69290	68540	64100	44040
21	34910	38760	41060	47540	59790	63650	58850	59450	71700	70350	62940	43660
22	35030	38820	41060	47970	61170	63210	58600	59920	73960	72290	61960	43190
23	35140	38820	41120	48050	61790	62410	58600	60130	75970	73670	61000	42780
24	35320	38940	41250	48270	63560	61440	58600	60830	77490	73670	59620	42450
25	35490	39010	41250	48270	63880	60220	58600	60650	78210	73470	58600	42110
26	35610	39070	41250	48270	64370	59620	58680	60220	77080	73170	57340	41910
27	36140	39130	41390	47970	65280	59190	58810	60220	76680	71310	56510	41580
28	36490	39200	41450	47180	66110	58770	58470	61310	75460	69770	55930	41250
29	36610	39320	41520	46530	---	58510	58340	62180	73770	68160	55440	39700
30	36850	39510	41580	46030	---	58770	58600	63070	72780	66760	54800	38440
31	37160	---	41580	45540	---	58510	---	63650	---	65470	53600	---
MAX	39200	39510	41580	48270	66110	72680	58850	63650	78210	73670	78110	52110
MIN	32940	37220	39540	41620	45330	58510	56510	57590	62940	61440	53600	38440
(+)	4141.16	4141.92	4142.56	4143.72	4148.80	4147.08	4147.10	4148.26	4150.20	4148.66	4145.88	4141.58
(++)	-240	+2350	+2070	+3960	+20570	-7600	+90	+5050	+9130	-7310	-11870	-15160

CAL YR 1998 MAX 74810 MIN 32940 (++) -1980
WTR YR 1999 MAX 78210 MIN 32940 (++) +1020

(+) GAGE HEIGHT, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-FEET

08362500 RIO GRANDE BELOW CABALLO DAM, NM

LOCATION.--Lat 32°53'05", long 107°17'31", in NE¹/₄SW¹/₄ sec.30, T.16 S., R.4 W., Sierra County, Hydrologic Unit 13030102, on left bank 2,000 ft upstream from Interstate Highway 25, 4,200 ft downstream from Caballo Dam, 1.2 mi downstream from Apache Canyon, 1.3 mi upstream from Percha diversion dam, 3 mi northeast of Arrey, 5 mi south of Caballo, and at mile 1,355.6.

DRAINAGE AREA.--30,700 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

PERIOD OF RECORD.--January 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,140.9 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 7, 1938, at datum 7.0 ft higher, Oct. 7-12, 1938, at datum 6.0 ft higher, and Oct. 13, 1938, to Dec. 31, 1945, at datum 5.0 ft higher than present datum.

REMARKS.--Flow regulated by Caballo Reservoir (station 08362000), capacity, 331,500 acre-ft, 1981 survey and Elephant Butte Reservoir (station 08360500), capacity, 2,065,000 acre-ft, 1988 survey. Diversions for irrigation of about 800,000 acres upstream from station. Figures of daily discharge do not include Bonita ditch, which diverts from Caballo Dam and bypasses station for irrigation downstream. See monthly table below for record of ditch. Bureau of Reclamation satellite telemeter at station.

COOPERATION.--Records provided by Bureau of Reclamation.

AVERAGE DISCHARGE.--60 years, 932 ft³/s, 675,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 7,650 ft³/s, May 20, 1942; minimum daily, 0.1 ft³/s, Oct. 31 to Nov. 14, 1954, Nov. 7 to Dec. 31, 1955, Feb. 15-29, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,550 ft³/s, July 1; minimum daily 1.0 ft³/s, Nov. 17 to Jan 26.

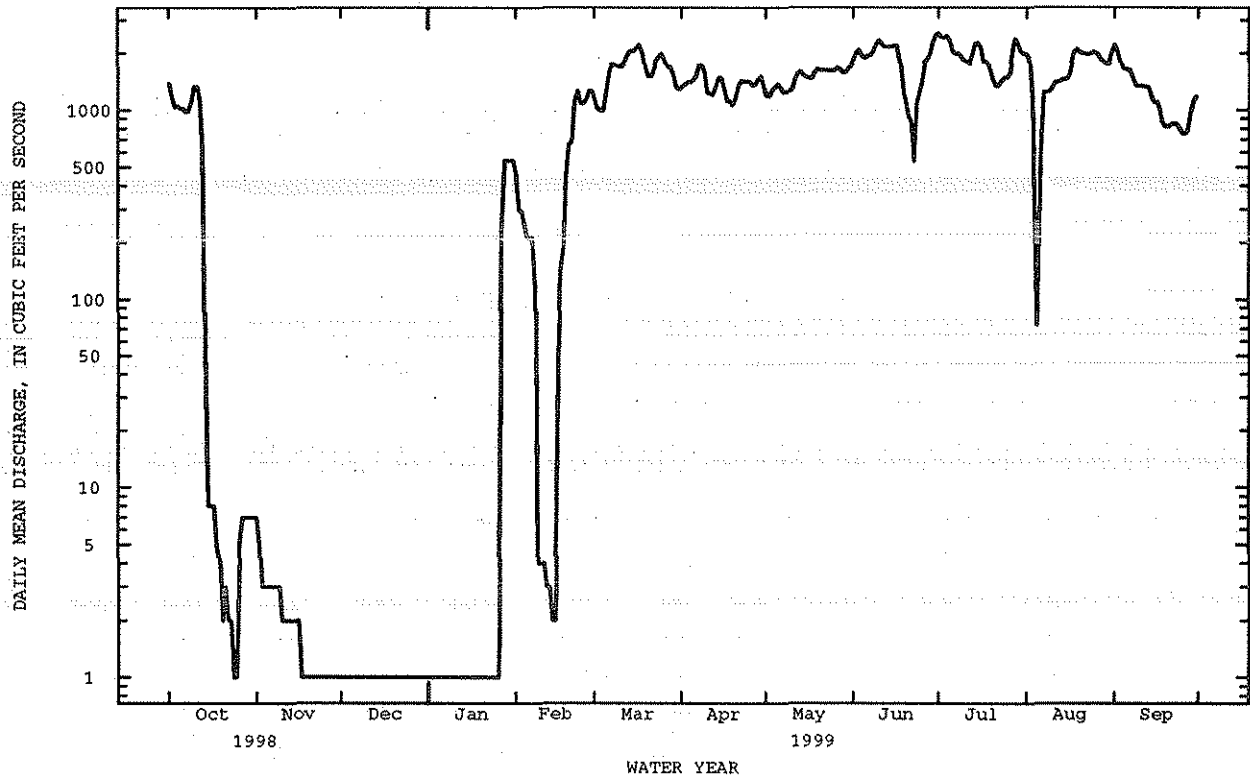
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1380	7.0	1.0	1.0	467	1130	1330	1190	1830	2550	1980	2220
2	1200	5.0	1.0	1.0	296	1010	1360	1180	2010	2450	1860	2080
3	1040	3.0	1.0	1.0	295	1000	1400	1280	2080	2410	1070	1810
4	1050	3.0	1.0	1.0	257	988	1400	1330	1930	2460	216	1660
5	1030	3.0	1.0	1.0	212	1240	1430	1370	1880	2340	73	1650
6	1020	3.0	1.0	1.0	211	1600	1510	1310	1940	2080	622	1640
7	985	3.0	1.0	1.0	212	1740	1710	1240	1940	1980	1240	1530
8	979	3.0	1.0	1.0	114	1740	1730	1250	2050	2000	1250	1380
9	1110	3.0	1.0	1.0	4.0	1710	1580	1260	2250	1930	1250	1340
10	1330	2.0	1.0	1.0	4.0	1690	1240	1280	2330	1840	1310	1340
11	1330	2.0	1.0	1.0	4.0	1730	1220	1430	2240	1810	1400	1340
12	1130	2.0	1.0	1.0	3.0	1820	1200	1570	2160	1750	1400	1330
13	594	2.0	1.0	1.0	3.0	2000	1350	1600	2160	1980	1430	1320
14	30	2.0	1.0	1.0	2.0	2060	1480	1540	2160	2240	1460	1190
15	8.0	2.0	1.0	1.0	2.0	2050	1480	1490	2190	2260	1450	1100
16	8.0	2.0	1.0	1.0	51	2130	1280	1480	2190	2150	1530	1100
17	8.0	1.0	1.0	1.0	143	2220	1110	1470	1760	1800	1770	1020
18	5.0	1.0	1.0	1.0	190	2030	1120	1590	1280	1800	2030	869
19	4.0	1.0	1.0	1.0	465	1690	1060	1650	1110	1640	2100	821
20	2.0	1.0	1.0	1.0	658	1500	1150	1620	918	1470	2040	819
21	3.0	1.0	1.0	1.0	679	1500	1350	1620	866	1340	1980	838
22	2.0	1.0	1.0	1.0	1110	1650	1420	1620	536	1340	1980	850
23	2.0	1.0	1.0	1.0	1260	1820	1410	1620	1080	1410	1970	850
24	1.0	1.0	1.0	1.0	1090	1920	1410	1610	1220	1480	2000	802
25	1.0	1.0	1.0	1.0	1080	1980	1410	1620	1420	1480	2040	756
26	5.0	1.0	1.0	1.0	1140	1830	1350	1680	1780	1560	1990	749
27	7.0	1.0	1.0	229	1260	1690	1360	1650	1840	2040	1900	779
28	7.0	1.0	1.0	543	1260	1690	1450	1570	1970	2370	1810	946
29	7.0	1.0	1.0	542	---	1530	1500	1590	2260	2250	1760	1110
30	7.0	1.0	1.0	542	---	1320	1340	1680	2510	2050	1760	1170
31	7.0	---	1.0	543	---	1290	---	1720	---	1980	2030	---
TOTAL	14292.0	61.0	31.0	2425.0	12472.0	51298	41140	46110	53890	60240	48701	36409
MEAN	461	2.03	1.00	78.2	445	1655	1371	1487	1796	1943	1571	1214
MAX	1380	7.0	1.0	543	1260	2220	1730	1720	2510	2550	2100	2220
MIN	1.0	1.0	1.0	1.0	2.0	988	1060	1180	536	1340	73	749
AC-FT	28350	121	61	4810	24740	101700	81600	91460	106900	119500	96600	72220
(+)	19	0	0	0	83	67	140	107	182	94	131	82

CAL YR 1998 TOTAL 407801.0 MEAN 1117 MAX 2890 MIN 1.0 AC-FT 808900

WTR YR 1999 TOTAL 367069.0 MEAN 1006 MAX 2550 MIN 1.0 AC-FT 728100

(+) DIVERSION, IN ACRE-FEET, BY BONITA DITCH; DIVERTS DIRECTLY FROM CABALLO DAM AND THIS DIVERSION IS NOT INCLUDED IN THE RIVER RECORDS



08364000 RIO GRANDE AT EL PASO, TX

(National stream-quality accounting network
and National Water-Quality Assessment Program Station)

WATER-QUALITY RECORDS

LOCATION.--Lat 31°48'10", long 106°32'25", El Paso County, Hydrologic Unit 13030102, on downstream side of first pier from left abutment of Courchesne Bridge at El Paso, 1.7 mi upstream from American Dam, 5.6 mi upstream from Santa Fe Street-Juarez Avenue Bridge between El Paso and Cd. Juarez, Chihuahua, and at mile 1,249.

DRAINAGE AREA.--32,207 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

PERIOD OF RECORD.--Water years 1930 to current year.

REMARKS.--Records of discharge are given in International Boundary and Water Commission Water Bulletins.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	
OCT 21...	0845	364	1500	8.2	11.0	13.5	46	672	10.8	118	340	130	
NOV 19...	0900	185	1800	8.4	11.5	13.5	7.1	665	9.4	104	370	130	
DEC 22...	1400	133	--	8.2	13.5	6.5	--	--	--	--	400	--	
JAN 13...	0915	92	1990	8.3	3.0	6.5	8.4	666	9.6	90	420	170	
MAR 24...	1030	858	882	8.2	16.5	15.5	65	664	8.4	97	190	31	
APR 27...	0900	800	1000	8.3	16.5	17.5	75	664	7.7	93	230	54	
MAY 27...	0840	855	976	8.2	24.5	20.0	340	665	7.4	94	210	43	
JUN 22...	0910	1130	783	8.1	23.5	24.0	1200	662	5.6	77	180	31	
JUL 27...	0840	915	977	8.3	31.5	25.5	180	664	7.2	102	220	46	
AUG 24...	0900	1200	874	8.3	29.0	24.5	90	665	6.4	89	190	28	
SEP 14...	0730	826	1010	8.4	21.5	21.5	87	665	6.6	86	230	50	
DATE		CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
OCT 21...	100	23	190	4	9.5	260	0	218	320	150	.6	20	
NOV 19...	100	26	250	6	11	290	0	238	400	220	.7	21	
DEC 22...	120	27	260	6	12	--	--	--	420	220	.7	24	
JAN 13...	120	29	280	6	11	305	0	250	430	240	.8	23	
MAR 24...	55	13	98	3	6.4	195	0	160	160	77	.7	12	
APR 27...	65	15	120	3	7.5	208	0	171	190	97	.7	13	
MAY 27...	60	14	110	3	6.8	205	0	168	190	85	.7	13	
JUN 22...	51	12	88	3	6.7	176	0	145	140	61	.7	14	
JUL 27...	65	13	110	3	7.4	209	0	171	190	84	.6	15	
AUG 24...	56	12	98	3	6.7	183	7	162	170	82	.6	16	
SEP 14...	68	15	110	3	7.6	222	1	182	200	95	.7	17	

RIO GRANDE BASIN

08364000 RIO GRANDE AT EL PASO, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L) AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L) AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L) AS N) (00623)	PHOS- PHORUS TOTAL (MG/L) AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L) AS P) (00666)
OCT 21...	978	949	1.21	.01	1.2	.04	.20	.9	.2	.33	.06
NOV 19...	1250	1180	.963	.02	.98	.05	.21	.4	.3	.10	.07
DEC 22...	--	--	--	--	--	--	--	--	--	--	--
JAN 13...	1330	1290	.999	.04	1.0	.09	.27	.5	.4	.14	.10
MAR 24...	547	521	--	<.01	.3	.05	.21	.7	.3	.15	E.03
APR 27...	--	615	--	<.01	.37	.05	.27	.7	.3	.2	E.03
MAY 27...	605	580	.406	.01	.42	.08	.22	.7	.3	.62	E.04
JUN 22...	470	462	.583	.01	.60	.05	.25	3.4	.3	3.1	E.03
JUL 27...	615	589	--	<.01	.32	<.02	--	.9	.2	.28	E.03
AUG 24...	547	540	--	<.01	.45	.03	.31	.8	.3	.37	.06
SEP 14...	654	630	--	<.01	.58	.02	.22	.8	.2	.33	.06
DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L) AS P) (00671)	CARBON, ORGANIC DIS- SOLVED (MG/L) AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L) AS C) (00689)	ALUM- INUM, DIS- SOLVED (UG/L) AS AL) (01106)	ANTI- MONY, DIS- SOLVED (UG/L) AS SB) (01095)	ARSENIC DIS- SOLVED (UG/L) AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L) AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L) AS BE) (01010)	BORON, DIS- SOLVED (UG/L) AS B) (01020)	CADMIUM DIS- SOLVED (UG/L) AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L) AS CR) (01030)
OCT 21...	.06	3.7	3.3	--	--	4	--	--	257	--	--
NOV 19...	.07	3.3	.8	1	<1	4	94	<1	331	<1	<1
DEC 22...	--	--	--	--	--	--	--	--	--	--	--
JAN 13...	.10	3.8	.7	2	<1	4	86	<1	357	<1	1
MAR 24...	.07	3.1	2.3	2	<1	3	62	<1	160	<1	<1.0
APR 27...	.04	3.3	1.4	2	<1	4	69	<1	180	<1	<1.0
MAY 27...	.04	3.0	7.5	3	<1	4	70	<1	172	<1	<1.0
JUN 22...	.04	5.3	>10	5	<1	4	65	<1	142	<1	<1.0
JUL 27...	.04	3.0	3.7	4	<1	4	81	<1	176	<1	<1.0
AUG 24...	.06	3.8	3.2	3	<1	4	76	<1	152	<1	<1.0
SEP 14...	.06	3.5	4.0	3	<1	4	92	<1	177	<1	<1.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

08364000 RIO GRANDE AT EL PASO, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

RIO GRANDE BASIN

08364000 RIO GRANDE AT EL PASO, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)
OCT 21...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 19...	<.003	<.017	<.001	<.004	<.003	<.002	E.0029	<.004	<.003	<.013	<.001	<.005
DEC 22...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 13...	<.003	<.017	<.001	<.004	<.003	<.002	.0064	<.004	<.003	<.013	<.001	<.005
MAR 24...	<.003	<.017	<.001	<.004	<.003	<.002	E.0024	<.004	<.003	<.013	<.001	<.005
APR 27...	<.003	<.017	<.001	<.004	<.003	<.002	E.0025	<.004	<.003	<.013	<.001	<.005
MAY 27...	<.003	<.017	<.001	<.004	<.003	<.002	E.0017	<.004	<.003	<.013	<.001	<.005
JUN 22...	<.003	<.017	<.001	<.004	<.003	<.002	E.0034	<.004	<.003	<.013	<.001	<.005
JUL 27...	<.003	<.017	<.001	<.004	<.003	<.002	<.002	<.004	<.003	<.013	<.001	<.005
AUG 24...	<.003	<.017	<.001	<.004	<.003	<.002	<.002	<.004	<.003	<.013	<.001	<.005
SEP 14...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	DEPTH AT SAMPLE LOC- ATION, TOTAL (FEET) (81903)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)
SEP 14...	0753	2.0	1.50	1040	8.3	21.6	6.6
14...	0755	10.0	2.88	1040	8.3	21.8	6.7
14...	0757	30.0	3.08	1040	8.3	21.8	6.6
14...	0759	50.0	2.70	1040	8.4	21.9	6.6
14...	0801	70.0	2.12	1040	8.4	22.0	6.5
14...	0803	90.0	1.70	1020	8.4	22.1	6.4
14...	0805	110	1.34	2020	8.4	22.0	6.4
14...	0807	130	1.76	1020	8.4	22.1	6.5
14...	0809	150	3.02	994	8.4	22.1	6.3
14...	0810	160	4.00	961	8.4	22.1	6.8
14...	0812	165	3.80	953	8.4	22.1	6.8

08377900 RIO MORA NEAR TERRERO, NM

LOCATION.--Lat 35°46'38", long 105°39'27", in SW¹/₄NE¹/₄ sec.22, T.18 N., R.12 E., San Miguel County, Hydrologic Unit 13060001, in Santa Fe National Forest, on left bank 450 ft upstream from bridge on State Highway 63, 600 ft upstream from mouth, and 2.6 mi north of Terrero.

DRAINAGE AREA.--53.2 mi².

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 7,890 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. About 90 percent of the drainage is in the Pecos Wilderness Area and not subject to development, watershed management, or the building of highways; there is limited cattle grazing by permit.

EXTREMES OUTSIDE PERIOD OF RECORD.--Greatest flood since 1886 probably occurred Sept. 29, 1904 (based on statement for Pecos River near Pecos and history of that flood period).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	64	24	e6.2	e6.6	e9.0	15	142	236	32	48	20
2	30	67	23	e5.7	e7.7	e9.2	15	106	216	30	42	21
3	22	57	23	e7.7	e10	e8.8	12	99	200	27	61	28
4	22	52	22	e7.5	e11	7.4	12	88	186	27	68	21
5	21	48	21	e7.9	e12	7.4	11	73	166	25	78	19
6	20	46	19	e7.6	e12	6.9	12	66	145	24	80	19
7	19	42	19	e7.3	e11	6.8	15	74	135	28	75	22
8	18	40	e15	e7.1	e10	6.8	18	98	126	25	80	18
9	17	37	e9.8	e7.3	e11	6.7	17	131	118	32	93	17
10	16	40	e7.3	e7.2	e12	7.2	17	150	109	33	80	16
11	15	44	e7.0	e7.0	e10	7.2	16	147	99	27	73	15
12	15	35	e7.5	e7.3	e12	6.7	16	125	98	25	62	16
13	14	31	e7.7	e7.1	e12	6.3	17	137	105	24	54	15
14	14	32	e7.3	e5.2	e10	7.5	18	177	103	22	54	15
15	14	33	e6.6	e4.8	e9.6	7.9	18	199	98	21	64	15
16	13	35	e6.2	e5.5	e9.6	8.1	15	200	99	23	53	16
17	13	36	e6.5	e6.2	e10	8.3	15	189	133	27	47	23
18	13	35	e6.3	e6.3	e12	7.3	15	191	114	29	54	22
19	13	33	e6.8	e6.8	e10	7.6	15	219	106	25	56	17
20	14	31	e6.3	e6.5	e11	9.0	18	255	97	27	44	16
21	14	36	e6.2	e6.2	e11	9.2	24	255	89	41	40	15
22	14	31	e6.3	e6.3	e10	11	28	276	80	44	36	15
23	14	27	e6.0	e7.2	e9.7	11	29	285	72	38	34	14
24	13	26	e5.7	e8.6	e9.6	12	34	330	65	34	30	14
25	12	25	e5.7	e10	e9.4	12	31	322	60	29	28	14
26	44	24	e5.5	e8.6	e9.1	13	29	279	54	30	28	13
27	83	24	e5.8	e7.4	e8.8	13	32	244	49	28	29	13
28	69	24	e6.0	e6.8	e8.2	13	36	265	45	25	28	13
29	52	26	e6.6	e6.5	---	13	37	257	40	24	25	12
30	48	24	e7.7	e7.0	---	14	145	255	35	22	23	12
31	59	---	e7.0	e6.2	---	15	---	251	---	32	21	---
TOTAL	778	1105	319.8	215.0	285.3	288.3	732	5885	3278	880	1588	506
MEAN	25.1	36.8	10.3	6.94	10.2	9.30	24.4	190	109	28.4	51.2	16.9
MAX	83	67	24	10	12	15	145	330	236	44	93	28
MIN	12	24	5.5	4.8	6.6	6.3	11	66	35	21	21	12
AC-FT	1540	2190	634	426	566	572	1450	11670	6500	1750	3150	1000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1999, BY WATER YEAR (WY)

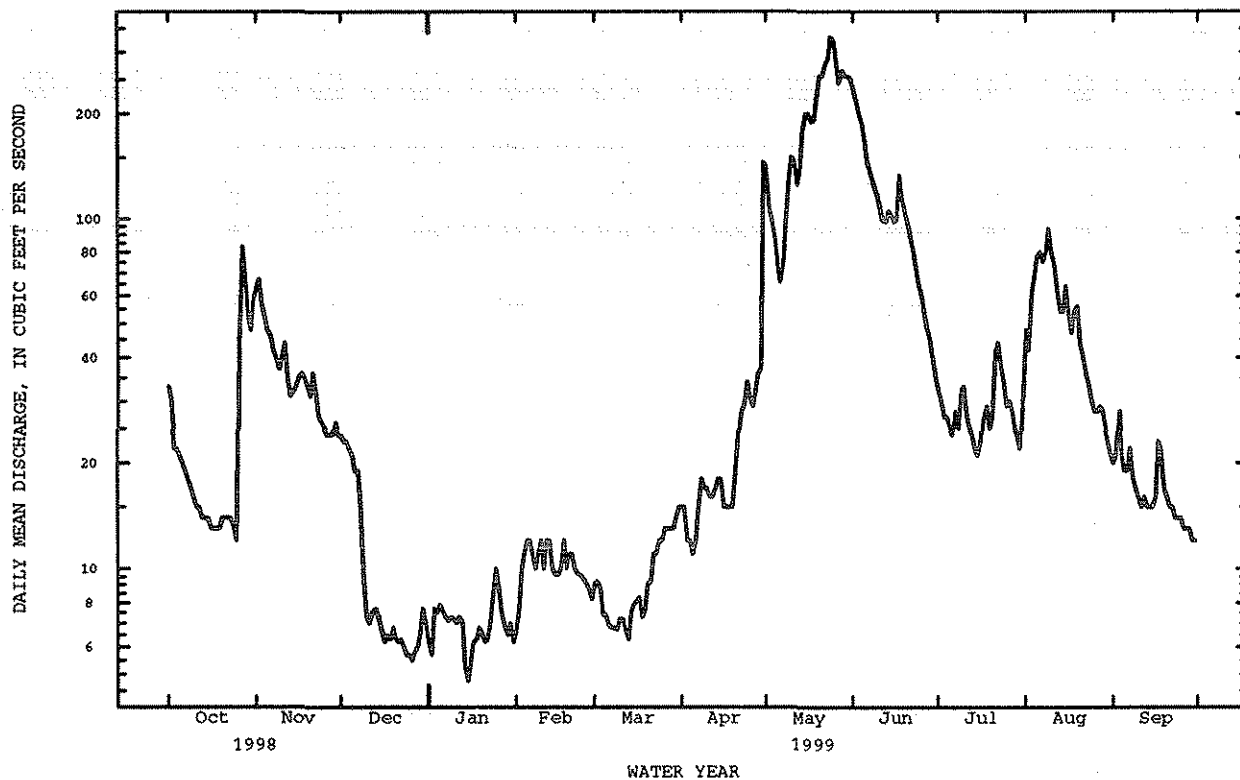
	MEAN	14.6	11.0	7.17	6.09	6.52	12.6	35.6	131	90.8	30.5	45.9	27.7
MAX	25.2	36.8	13.3	9.82	13.2	41.3	88.4	319	263	73.1	159	84.5	
(WY)	1986	1999	1985	1986	1995	1989	1985	1973	1997	1988	1991	1988	
MIN	5.73	3.72	2.90	1.72	2.43	3.40	11.2	14.2	8.25	8.43	9.23	6.93	
(WY)	1965	1990	1990	1964	1964	1964	1971	1967	1967	1989	1989	1978	

RIO GRANDE BASIN

08377900 RIO MORA NEAR TERRERO, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1964 - 1999
ANNUAL TOTAL	18017.6	15860.4	
ANNUAL MEAN	49.4	43.5	35.1
HIGHEST ANNUAL MEAN			65.3 1973
LOWEST ANNUAL MEAN			11.6 1974
HIGHEST DAILY MEAN	340 May 21	330 May 24	755 Jun 8 1997
LOWEST DAILY MEAN	3.3 Jan 24	4.8 Jan 15	.90 Jan 12 1964
ANNUAL SEVEN-DAY MINIMUM	3.9 Jan 21	5.9 Dec 22	.97 Jan 10 1964
INSTANTANEOUS PEAK FLOW		393 May 24	937 May 22 1991
INSTANTANEOUS PEAK STAGE		3.10 May 24	4.15 Jun 8 1979
INSTANTANEOUS LOW FLOW		1.0 Mar 30	.90 Jan 12 1964
ANNUAL RUNOFF (AC-FT)	35740	31460	25400
10 PERCENT EXCEEDS	120	111	85
50 PERCENT EXCEEDS	26	21	14
90 PERCENT EXCEEDS	5.6	7.0	5.0

e Estimated



08378500 PECOS RIVER NEAR PECOS, NM

LOCATION.--Lat 35°42'30", long 105°40'55", in NE¹/₄NE¹/₄ sec.17, T.17 N., R.12 E., San Miguel County, Hydrologic Unit 13060001, in Santa Fe National Forest, on left bank 30 ft downstream from bridge on private road, 270 ft upstream from Indian Creek, 2.4 mi downstream from Holy Ghost Creek, 9.0 mi north of Pecos, and at mile 896.6.

DRAINAGE AREA.--189 mi².

PERIOD OF RECORD.--August 1919 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as "near Cowles" 1919-25, "at Irvins Ranch" 1926-29, and as "at Irvins Ranch near Pecos" 1930-39.

REVISED RECORDS.--WSP 898: Drainage area. WSP 1312: 1932(M).

GAGE.--Water-stage recorder with satellite telemeter. Datum of gage is 7,502.94 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1977, at site 30 ft upstream at same datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 75 acres, 1959 determinations, upstream from station. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 29, 1904, was greatest since 1886, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	165	75	e26	47	31	48	253	563	124	156	80
2	104	162	e73	e24	55	30	48	199	529	120	137	84
3	73	139	e74	e22	46	32	43	205	501	114	170	100
4	76	128	74	e38	43	34	42	190	472	116	201	81
5	75	119	72	e50	33	33	42	167	431	110	245	74
6	70	113	66	26	33	32	42	154	384	106	256	78
7	68	107	62	25	37	32	50	170	357	114	227	90
8	65	e104	e45	27	33	33	58	225	338	109	275	73
9	62	e99	e34	22	33	33	56	302	325	125	342	69
10	60	90	e30	18	e30	34	54	337	290	125	275	67
11	58	97	e29	16	e28	32	55	328	269	104	246	64
12	57	96	e26	14	37	32	55	282	264	98	202	65
13	56	89	e24	21	43	35	58	310	279	95	176	63
14	55	89	e22	48	42	35	64	387	274	91	170	61
15	e54	93	e21	43	42	35	64	425	268	87	189	62
16	53	96	24	36	46	35	55	428	261	90	156	66
17	53	96	19	33	46	35	55	412	356	114	141	85
18	53	94	e24	38	36	33	54	416	317	113	158	80
19	54	90	e28	37	31	32	56	461	287	100	171	66
20	59	79	e29	35	32	34	69	510	265	97	139	61
21	e60	87	e28	e30	33	34	84	517	250	115	125	58
22	e63	86	e27	e28	29	38	92	568	228	118	121	55
23	e61	81	e26	56	32	39	96	608	209	107	112	54
24	56	78	e26	42	34	40	106	739	194	103	105	54
25	55	77	e26	35	32	40	100	778	183	94	103	52
26	128	76	e26	35	31	43	92	666	171	94	105	50
27	230	77	e27	e30	32	42	98	584	160	92	100	49
28	179	76	e28	e28	31	42	107	671	150	90	97	48
29	133	81	e29	e26	---	43	103	623	141	92	94	47
30	123	76	e29	49	---	46	233	606	132	83	95	47
31	162	---	e26	46	---	48	---	593	---	115	84	---
TOTAL	2566	2940	1149	1004	1027	1117	2179	13114	8848	3255	5173	1983
MEAN	82.8	98.0	37.1	32.4	36.7	36.0	72.6	423	295	105	167	66.1
MAX	230	165	75	56	55	48	233	778	563	125	342	100
MIN	53	76	19	14	28	30	42	154	132	83	84	47
AC-FT	5090	5830	2280	1990	2040	2220	4320	26010	17550	6460	10260	3930

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1999, BY WATER YEAR (WY)

	MEAN	52.2	38.9	29.9	26.7	27.0	41.7	132	344	259	99.6	111	76.0
MAX	217	138	61.9	49.7	45.6	100	366	1158	950	299	402	284	
(WY)	1942	1942	1942	1942	1995	1997	1942	1941	1979	1941	1957	1931	
MIN	11.9	11.6	9.52	11.2	14.8	18.1	40.1	43.7	28.6	20.5	20.0	10.8	
(WY)	1957	1957	1957	1957	1951	1951	1951	1950	1956	1956	1956	1956	

RIO GRANDE BASIN

08378500 PECOS RIVER NEAR PECOS, NM--Continued

SUMMARY STATISTICS

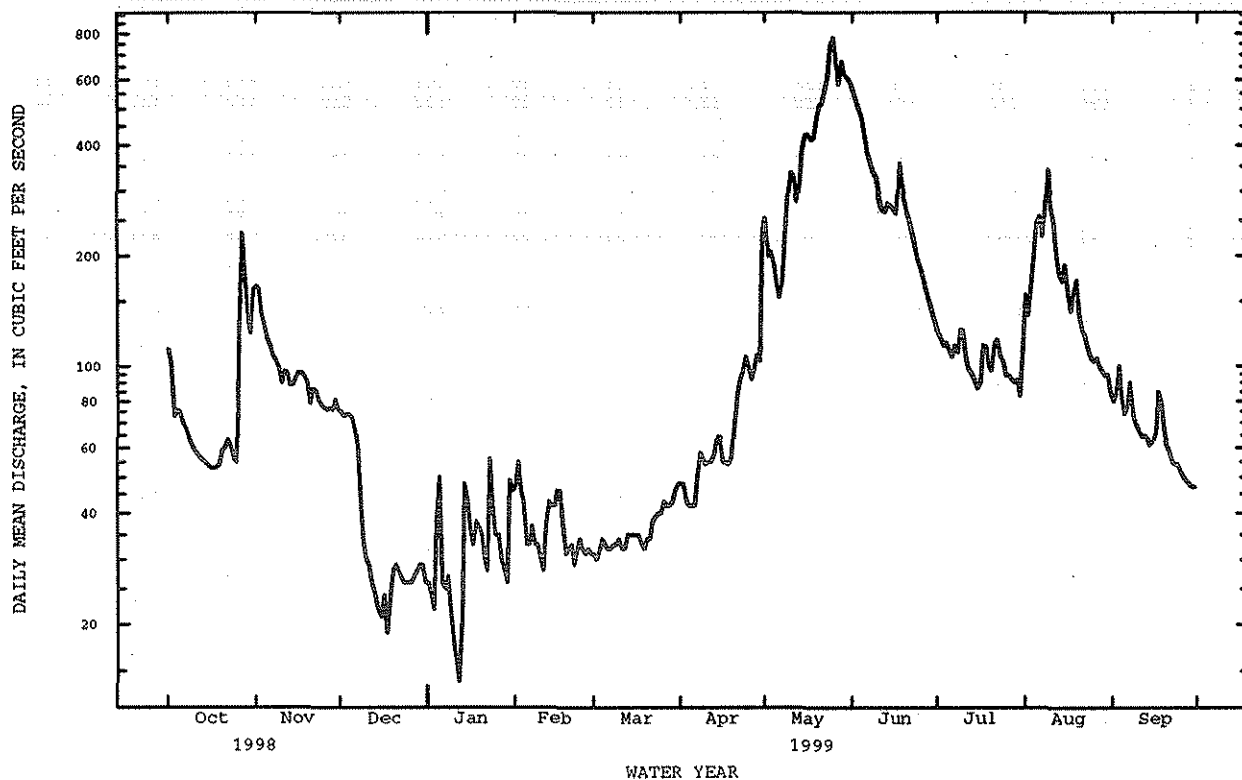
FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1920 - 1999

ANNUAL TOTAL	51772		44355			
ANNUAL MEAN	142		122		104	
HIGHEST ANNUAL MEAN					267	1941
LOWEST ANNUAL MEAN					30.7	1950
HIGHEST DAILY MEAN	820	Jul 14	778	May 25	1980	May 22 1991
LOWEST DAILY MEAN	19	Dec 17	14	Jan 12	6.0	Dec 22 1956
ANNUAL SEVEN-DAY MINIMUM	23	Dec 12	20	Jan 7	6.7	Dec 19 1956
INSTANTANEOUS PEAK FLOW			969	May 24	4500	Sep 21 1929
INSTANTANEOUS PEAK STAGE			3.75	May 24	6.20	Sep 21 1929
INSTANTANEOUS LOW FLOW					2.0	Mar 19 1971
ANNUAL RUNOFF (AC-FT)	102700		87980		75110	
10 PERCENT EXCEEDS	350		284		256	
50 PERCENT EXCEEDS	87		74		48	
90 PERCENT EXCEEDS	32		29		22	

e Estimated



08379500 PECOS RIVER NEAR ANTON CHICO, NM

LOCATION.--Lat 35°10'44", long 105°06'30", Guadalupe County, Hydrologic Unit 13060001, in Anton Chico Grant, on right bank 2.1 mi upstream from Canon Blanco, 2.3 mi southeast of Anton Chico, 9.7 mi downstream from Tecolote Creek, and at mile 808.0.

DRAINAGE AREA.--1,050 mi², approximately (contributing area).

PERIOD OF RECORD.--April 1910 to May 1916, October 1916 to September 1924, August to December 1925, January 1927 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1342: 1951(M), 1952-53. WSP 1512: 1912-14, 1931, 1933(M), 1935-36(M), 1938(P), 1939-40, 41-42(P), 1945(M), 1946(P). WSP 1712: 1942(P).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,130 ft above National Geodetic Vertical Datum of 1929, from river-profile map. See WSP 1732 for history of changes prior to June 21, 1951.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions upstream from station for irrigation of about 4,900 acres, 1959 determinations, upstream and downstream from station. Acequia del Bodo Juan Paiz (no measurements made during the water year) diverts water 8 mi upstream from gage and bypasses this station on left bank; ditch flow not included in record measurements made at point opposite regular gage. A portion of this flow may be returned to the river about 5.0 mi downstream. Several observations of water temperature were made during the year. No flow at times some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--The greatest flood since 1879 occurred Sept. 29, 1904, discharge about 73,000 ft³/s, from information by a local resident.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	982	87	68	41	34	11	514	608	41	61	87
2	383	566	83	63	40	33	7.7	512	551	36	253	85
3	113	460	84	61	38	35	6.7	357	508	35	988	89
4	93	350	81	61	36	36	11	437	460	31	718	116
5	71	294	78	54	41	30	22	393	420	37	806	106
6	62	282	74	64	40	28	12	278	363	250	1180	100
7	54	253	74	64	41	18	8.8	226	312	102	581	100
8	60	208	61	49	39	12	17	217	287	63	477	98
9	57	188	47	49	38	6.7	25	273	268	437	837	98
10	54	172	40	44	39	6.9	20	359	248	701	756	98
11	31	142	62	43	39	16	14	391	226	215	742	96
12	26	144	67	44	38	23	2.0	357	211	100	537	96
13	25	158	63	44	34	23	1.1	291	231	65	415	137
14	23	147	66	41	32	19	2.5	290	236	55	351	100
15	23	133	62	37	37	7.8	7.7	350	206	47	671	79
16	23	131	61	38	39	8.1	5.0	372	198	42	557	63
17	21	130	60	43	39	9.0	7.4	355	432	177	404	62
18	21	128	65	38	36	21	9.3	337	405	108	327	351
19	20	121	62	40	38	27	.27	341	307	121	274	105
20	20	115	66	35	38	27	.12	386	289	189	295	76
21	20	104	63	37	37	27	.15	412	257	101	236	72
22	24	91	e50	41	37	25	.74	465	223	274	240	72
23	29	108	e48	41	34	19	1.5	516	186	181	362	72
24	31	99	e52	38	37	16	14	634	151	127	155	72
25	29	88	e54	37	32	16	25	1040	129	98	144	72
26	21	86	e56	39	36	20	30	880	106	62	135	72
27	182	87	72	39	37	22	23	759	75	48	126	72
28	429	83	82	40	36	20	10	824	61	46	117	70
29	301	83	75	39	---	16	14	755	212	43	109	69
30	204	87	77	41	---	13	268	688	56	42	101	70
31	1070	---	69	41	---	13	---	647	---	41	92	---
TOTAL	3605	6020	2041	1413	1049	627.5	576.98	14656	8222	3915	13047	2855
MEAN	116	201	65.8	45.6	37.5	20.2	19.2	473	274	126	421	95.2
MAX	1070	982	87	68	41	36	268	1040	608	701	1180	351
MIN	20	83	40	35	32	6.7	.12	217	56	31	61	62
AC-FT	7150	11940	4050	2800	2080	1240	1140	29070	16310	7770	25880	5660

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1999, BY WATER YEAR (WY)

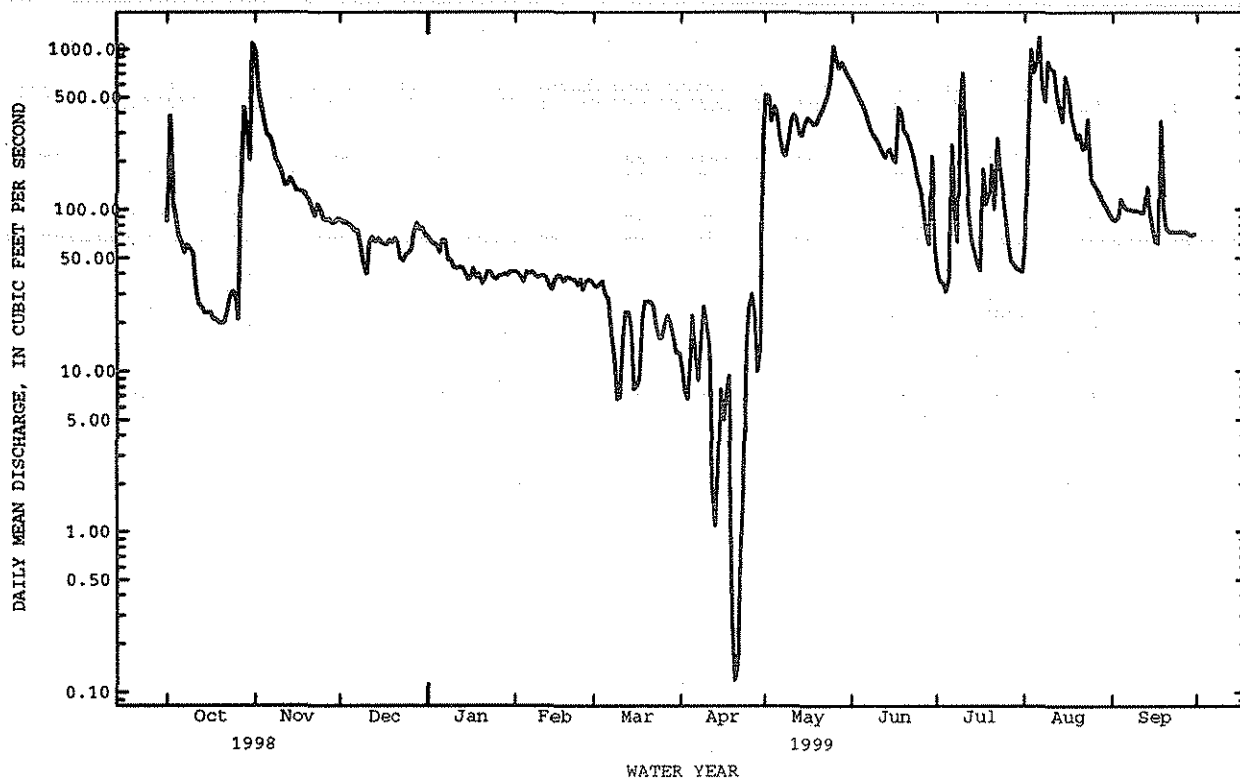
	MEAN	MAX	MIN	(WY)
MEAN	62.3	41.2	28.1	25.2
MAX	500	279	103	78.3
(WY)	1942	1942	1942	1987
MIN	.000	.000	.000	1.82
(WY)	1957	1957	1957	1957
	61.9	249	.29	1.54
	177	854	1.29	1.54
	375	2031	2.86	1.54
	269	1150	4.17	1.54
	133	507	3.81	1.54
	201	928	13.0	1.54
	121	679	.000	1.54
				1956

RIO GRANDE BASIN

08379500 PECOS RIVER NEAR ANTON CHICO, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1929 - 1999	
ANNUAL TOTAL	54468.0		58027.48		127	
ANNUAL MEAN	149		159		23.4	
HIGHEST ANNUAL MEAN					489	
LOWEST ANNUAL MEAN					1941	
HIGHEST DAILY MEAN	1070	Oct 31	1180	Aug 6	10000	Jun 2 1937
LOWEST DAILY MEAN	5.6	Jun 30	.12	Apr 20	.00	Jun 16 1934
ANNUAL SEVEN-DAY MINIMUM	9.7	Jun 25	2.8	Apr 17	.00	Jun 16 1934
INSTANTANEOUS PEAK FLOW			4240	Aug 6	40300	Jun 1 1937
INSTANTANEOUS PEAK STAGE			8.25	Aug 6	1997.00	Aug 4 1997
INSTANTANEOUS LOW FLOW			.00	Apr 19	.00	Apr 24 1996
ANNUAL RUNOFF (AC-FT)	108000		115100		92100	
10 PERCENT EXCEEDS	413		430		350	
50 PERCENT EXCEEDS	83		70		39	
90 PERCENT EXCEEDS	23		19		5.0	

e Estimated



08380500 GALLINAS CREEK NEAR MONTEZUMA, NM

LOCATION.--Lat 35°39'07", long 105°19'06", San Miguel County, Hydrologic Unit 13060001, in Las Vegas Grant, on left bank 2.4 mi west of Montezuma, 6.9 mi northwest of Las Vegas, and at mile 74.4.

DRAINAGE AREA.--84 mi², approximately.

PERIOD OF RECORD.--March to September 1915, June 1916 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to October 1964, published as Gallinas River near Montezuma.

REVISED RECORDS.--WSP 898: Drainage area. WSP 1562: 1951(P), 1952(M), 1955(P), 1957. WSP 1632: 1931-32, 1933(M), 1934, 1935(M), 1938, 1939-40(M), 1941-42, 1945, 1949-50(M).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,880 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 21, 1934, at different datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 80 acres, 1959 determination, upstream from station.

EXTREMES OUTSIDE PERIOD OF RECORD.--The greatest flood since about 1900 occurred the night of Sept. 29, 1904 (discharge not determined), from information by local residents and G. B. Monk's report on floods.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	111	18	9.3	7.6	6.0	7.2	205	49	15	53	14
2	19	76	17	9.0	e7.2	5.9	8.2	147	44	15	49	14
3	14	59	17	e8.8	e7.4	5.7	8.2	139	40	14	89	16
4	12	49	16	e8.6	7.1	5.7	8.3	205	36	14	91	11
5	11	42	16	e8.8	7.5	5.9	8.2	119	32	16	79	9.4
6	11	37	e16	9.6	7.2	6.2	7.9	91	30	18	67	8.8
7	10	34	e15	9.0	6.8	6.0	8.9	80	28	23	56	8.6
8	9.8	30	e15	8.5	7.1	6.6	8.7	85	27	22	52	8.0
9	9.2	28	e15	8.2	7.2	e6.3	8.4	100	26	27	60	7.9
10	8.9	e27	e15	8.7	6.8	6.0	7.9	103	24	35	49	7.6
11	8.6	e26	e15	8.8	e6.6	6.1	7.9	95	22	29	46	7.2
12	8.4	25	e15	8.5	e6.3	6.6	8.4	81	23	24	39	7.1
13	8.2	24	e14	8.2	6.4	e6.3	8.4	77	24	22	34	7.3
14	8.1	22	e14	e8.0	6.4	6.7	8.7	83	21	20	36	7.1
15	8.0	23	e14	e8.1	6.6	7.4	8.9	85	24	18	60	7.9
16	7.9	24	e13	e8.0	e6.2	7.5	8.1	78	27	17	47	7.7
17	7.9	26	e13	7.7	e6.1	7.1	8.5	70	67	32	41	12
18	8.0	25	e12	7.6	6.4	7.4	8.8	63	42	52	36	16
19	8.1	24	e10	7.6	6.3	6.8	8.0	61	36	39	33	11
20	8.8	e22	e10	e7.3	6.0	9.0	8.1	62	39	41	30	9.2
21	10	e21	e9.8	e7.4	6.1	9.8	8.8	60	35	49	27	8.5
22	10	21	e9.5	e7.3	7.0	11	10	61	31	56	25	8.0
23	10	19	e9.8	e7.2	5.4	11	11	63	27	52	24	7.5
24	9.2	19	e10	e7.1	6.5	10	12	64	24	50	22	7.2
25	8.7	18	e9.8	7.5	6.5	9.8	13	73	22	41	20	6.7
26	19	18	e10	7.4	6.4	9.8	12	64	20	36	20	6.2
27	54	18	e11	e7.0	e6.5	9.7	12	59	20	36	18	6.0
28	47	17	11	e6.8	6.0	9.2	12	72	19	31	17	5.9
29	31	19	10	e7.8	---	8.9	13	64	18	30	16	5.7
30	26	18	9.8	e7.6	---	8.8	218	58	16	31	15	5.7
31	214	---	9.6	7.6	---	8.5	---	53	---	35	15	---
TOTAL	645.8	922	400.3	249.0	185.6	237.7	487.5	2720	893	940	1266	265.2
MEAN	20.8	30.7	12.9	8.03	6.63	7.67	16.2	87.7	29.8	30.3	40.8	8.84
MAX	214	111	18	9.6	7.6	11	218	205	67	56	91	16
MIN	7.9	17	9.5	6.8	5.4	5.7	7.2	53	16	14	15	5.7
AC-FT	1280	1830	794	494	368	471	967	5400	1770	1860	2510	526

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 1999, BY WATER YEAR (WY)

	MEAN	12.7	10.1	6.79	5.64	5.94	12.8	35.5	56.3	23.3	16.6	33.1	21.3
MAX	108	57.5	21.3	13.7	20.5	64.7	184	380	118	105	225	185	
(WY)	1942	1942	1958	1989	1987	1987	1958	1941	1979	1991	1991	1991	
MIN	.38	.49	.80	1.83	1.49	2.36	3.11	1.96	.74	1.24	1.08	.40	
(WY)	1957	1957	1957	1957	1957	1955	1967	1967	1956	1956	1934	1956	

RIO GRANDE BASIN

08380500 GALLINAS CREEK NEAR MONTEZUMA, NM--Continued

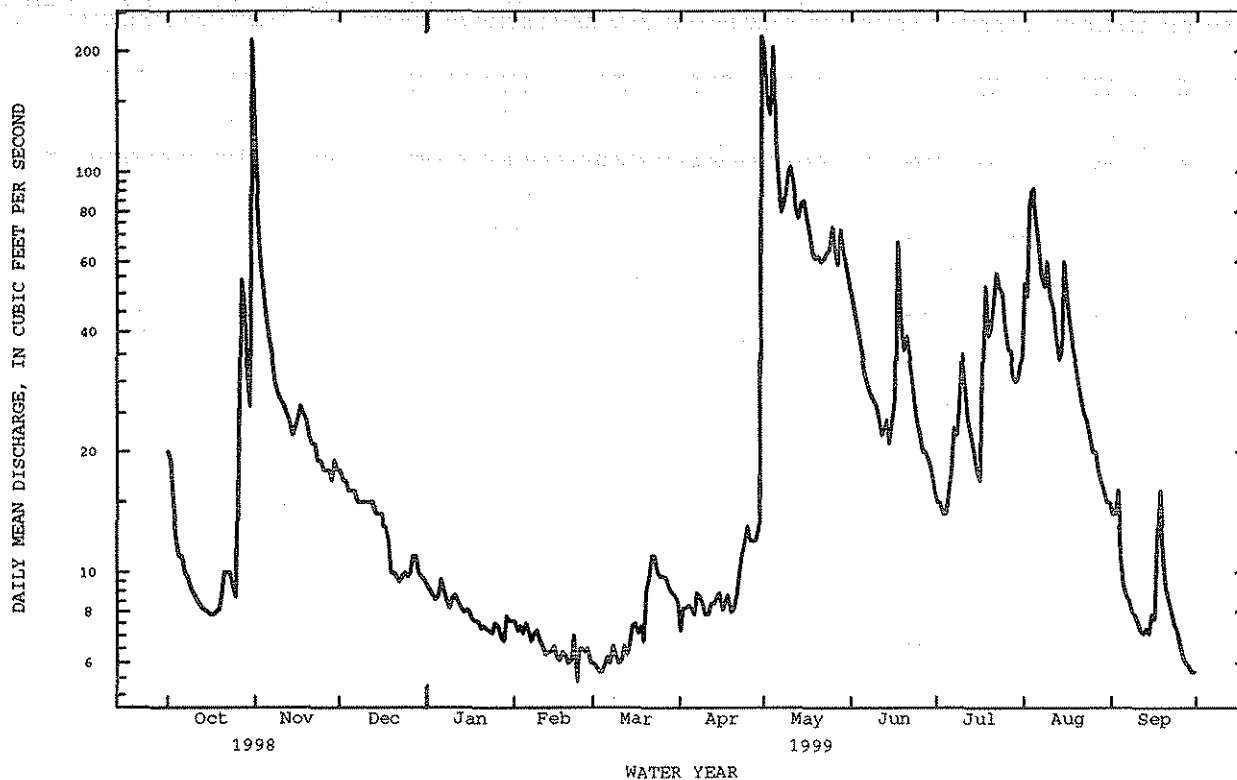
SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1926 - 1999	
ANNUAL TOTAL	11259.7		9212.1		20.1	
ANNUAL MEAN	30.8		25.2		2.53	1941
HIGHEST ANNUAL MEAN					80.7	1956
LOWEST ANNUAL MEAN					2.53	1956
HIGHEST DAILY MEAN	214	Oct 31	218	Apr 30	1580	Sep 10 1991
LOWEST DAILY MEAN	5.3	Feb 27	5.4	Feb 23	.20	Sep 21 1956
ANNUAL SEVEN-DAY MINIMUM	6.3	Feb 22	5.9	Feb 28	.21	Oct 8 1956
INSTANTANEOUS PEAK FLOW			501	Oct 31	^a 7120	Aug 2 1966
INSTANTANEOUS PEAK STAGE			3.55	Oct 31	^b 9.70	Aug 2 1966
INSTANTANEOUS LOW FLOW			2.6	Feb. 2	^c .20	Sep 21 1956
ANNUAL RUNOFF (AC-FT)	22330		18270		14560	
10 PERCENT EXCEEDS	79		60		46	
50 PERCENT EXCEEDS	17		13		7.9	
90 PERCENT EXCEEDS	7.5		6.7		2.8	

e Estimated

a From rating curve extended above 500 ft³/s, on basis of slope-area measurements at gage heights 5.25 ft, 8.25 ft and 9.7 ft.

b From floodmarks.

c Also occurred, Oct. 6-9, 1922, Sept. 21, Oct. 9-14, 1956, Dec. 13, 1964.



08382500 GALLINAS RIVER NEAR COLONIAS, NM

LOCATION.--Lat 35°10'55", long 104°53'59", Guadalupe County, Hydrologic Unit 13060001, in Anton Chico Grant, and Preston Beck Grants, on right bank 2.3 mi south of San Miguel-Guadalupe County line, 2.4 mi upstream from mouth, 5.8 mi northwest of Colonias, and 9.0 mi east of Dilia. Mouth at Pecos River mile 789.2.

DRAINAGE AREA.--610 mi², approximately.

PERIOD OF RECORD.--January 1951 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,940 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 7,000 acres, 1959 determination, upstream from station. Several observations of water temperature were made during the year. No flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of about June 1, 1937, reached a stage of about 27.2 ft; discharge determined as 26,700 ft³/s by slope-area measurement made in 1951. A flood of about the same magnitude occurred Sept. 29-30, 1904.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	450	19	9.2	10	3.8	e3.2	e220	17	e9.6	e26	13
2	33	84	18	9.4	10	3.7	e3.4	233	15	e4.6	e26	13
3	21	44	18	9.4	10	3.7	e3.4	70	13	e4.2	e94	14
4	14	33	18	8.3	10	3.5	e3.4	45	12	e4.6	e95	14
5	9.7	28	17	7.3	9.6	3.3	e3.2	42	10	e5.0	e92	15
6	7.6	27	16	8.1	9.5	3.2	e4.0	38	9.4	e6.0	e88	14
7	6.6	23	17	8.8	9.7	3.1	e4.0	33	8.4	e6.2	e78	13
8	6.0	20	17	8.1	9.5	3.8	e3.9	29	8.0	e14	e76	12
9	6.0	19	16	7.5	9.8	4.6	e3.9	27	7.8	e16	e82	11
10	6.1	18	16	7.7	9.4	4.1	e3.9	25	7.5	e28	e76	13
11	5.7	24	14	7.6	8.5	3.8	e4.2	24	7.4	e18	e74	11
12	5.4	24	14	8.2	8.6	4.1	e4.2	23	63	e16	e70	13
13	5.1	25	14	11	7.9	4.3	e4.4	21	27	e14	e48	12
14	4.9	26	15	11	8.0	4.3	e4.8	19	31	e12	e50	11
15	5.6	26	14	11	7.2	3.8	e6.0	18	22	e10	e64	11
16	e7.5	26	13	11	7.0	3.8	e6.0	13	e26	e10	e54	190
17	e7.6	26	13	10	6.1	3.4	e6.2	12	e24	e28	e45	323
18	e7.6	26	13	9.5	5.4	4.4	e6.0	13	e62	e44	e42	87
19	e7.7	26	13	10	5.2	5.4	e6.0	14	e34	e35	e34	84
20	e7.9	26	13	9.8	5.1	5.7	e6.0	12	e28	e36	e29	35
21	e8.0	26	13	9.2	5.0	6.0	e7.0	11	e26	e45	27	24
22	e8.1	26	11	9.3	4.7	7.9	e8.0	12	e24	e52	24	20
23	e7.9	25	8.7	9.2	4.6	10	e8.6	16	e20	e46	23	18
24	e7.4	26	9.1	9.1	4.5	8.3	e9.2	16	e16	e38	35	16
25	7.0	26	11	9.3	4.3	7.7	e10	26	e10	e30	31	14
26	7.1	25	12	8.6	4.2	7.5	e9.6	37	e9.8	e26	24	13
27	9.9	25	11	8.9	4.1	7.2	e9.4	32	e9.8	e24	21	12
28	40	24	10	9.0	3.9	6.2	e9.4	38	e9.7	e24	19	12
29	38	23	11	9.9	---	6.0	e9.4	40	e9.7	e25	18	12
30	23	21	11	9.7	---	5.1	e200	27	e9.6	e26	16	12
31	292	---	9.6	9.6	---	3.8	---	19	---	e27	15	---
TOTAL	714.4	1248	425.4	284.7	201.8	155.5	370.7	1205	577.1	684.2	1496	1062
MEAN	23.0	41.6	13.7	9.18	7.21	5.02	12.4	38.9	19.2	22.1	48.3	35.4
MAX	292	450	19	11	10	10	200	233	63	52	95	323
MIN	4.9	18	8.7	7.3	3.9	3.1	3.2	11	7.4	4.2	15	11
AC-FT	1420	2480	844	565	400	308	735	2390	1140	1360	2970	2110

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1999, BY WATER YEAR (WY)

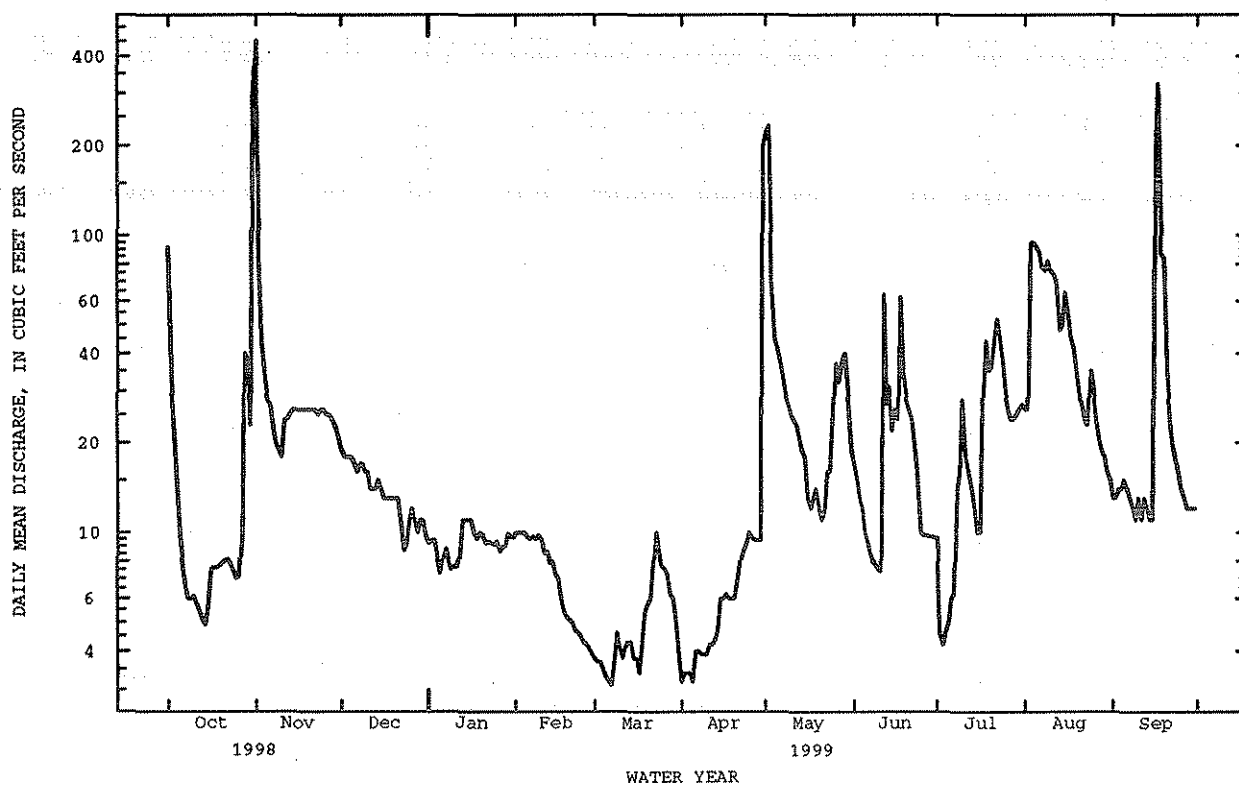
	MEAN	13.0	6.04	3.72	3.30	3.98	5.41	16.7	18.5	18.9	40.9	63.3	24.0
MAX	166	50.0	18.3	18.9	58.9	48.2	269	261	91.4	222	268	178	
(WY)	1958	1987	1987	1992	1987	1958	1958	1973	1986	1988	1991	1972	
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.09	.000	
(WY)	1953	1952	1952	1951	1951	1951	1951	1952	1951	1964	1983	1951	

RIO GRANDE BASIN

08382500 GALLINAS RIVER NEAR COLONIAS, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1951 - 1999	
ANNUAL TOTAL	7876.47		8424.8		18.4	
ANNUAL MEAN	21.6		23.1		66.6	1958
HIGHEST ANNUAL MEAN					.85	1978
LOWEST ANNUAL MEAN					2640	Aug 11 1981
HIGHEST DAILY MEAN	578	Mar 16	450	Nov 1	.00	Jan 1 1951
LOWEST DAILY MEAN	.00	Jun 28	3.1	Mar 7	.00	Jan 1 1951
ANNUAL SEVEN-DAY MINIMUM	.01	Jun 27	3.5	Mar 1	.00	Jul 11 1982
INSTANTANEOUS PEAK FLOW			2350	Sep 16	13700	Jul 11 1982
INSTANTANEOUS PEAK STAGE			8.63	Sep 16	19.67	Jul 11 1982
INSTANTANEOUS LOW FLOW			2.8	Mar 7	.00	Apr 7 1996
ANNUAL RUNOFF (AC-FT)	15620		16710		13370	
10 PERCENT EXCEEDS	37		42		28	
50 PERCENT EXCEEDS	12		12		1.2	
90 PERCENT EXCEEDS	4.7		4.5		.00	

e Estimated

a From rating curve extended above 1,900 ft³/s, by slope-area measurements at gage heights 8.64 ft, 12.74 ft, 16.65 ft and 27.20 ft.

LOCATION.--Lat 35°05'29", long 104°48'00", in T.10 N., R.20 E., Guadalupe County, Hydrologic Unit 13060001, in Anton Chico Grant, on right bank 0.4 mi upstream from Canon del Uta, 2.9 mi southeast of Colonias, and at mile 775.8.

PERIOD OF RECORD.--January 1976 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,800 ft above National Geodetic Vertical Datum of 1929, from U.S. Army Corps of Engineers plan and profile map.

REMARKS.--Records fair, except for estimated daily discharges, which are poor. Diversions and ground-water withdrawals for irrigation for about 11,800 acres, 1959 determination, upstream from station. Several observations of water temperature were made during the year. No flow many days most years.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	214	967	63	15	5.6	5.6	6.3	1120	385	44	84	e10
2	347	450	60	14	5.5	5.6	6.8	732	365	28	74	10
3	125	296	58	12	5.8	5.6	6.5	432	332	24	1670	10
4	73	224	57	11	6.0	5.4	6.6	308	303	24	1100	10
5	45	203	51	9.7	6.0	5.3	6.2	395	265	24	665	11
6	28	193	49	7.9	5.8	5.5	6.8	309	229	30	1160	11
7	19	166	49	7.8	5.8	5.7	7.0	268	200	119	598	11
8	12	143	49	8.0	5.8	5.7	6.1	251	181	49	420	11
9	11	121	42	8.0	5.5	5.9	6.4	255	162	33	636	12
10	10	111	37	7.6	5.4	5.9	6.7	277	158	701	584	12
11	10	108	32	7.1	7.1	6.1	7.0	311	152	275	689	12
12	10	104	34	7.2	7.3	6.6	7.2	320	168	120	457	13
13	9.8	109	35	7.1	7.3	6.3	7.4	286	179	72	311	13
14	9.7	129	32	7.1	7.2	6.2	7.4	236	170	38	297	14
15	9.6	132	32	7.0	7.0	6.1	7.4	246	146	32	411	14
16	10	126	30	7.1	6.8	6.4	7.3	280	151	35	476	15
17	11	130	28	6.9	6.6	6.6	7.1	269	168	34	338	276
18	11	e124	27	6.9	6.6	7.4	7.0	262	362	162	260	145
19	10	e103	26	6.7	6.1	6.6	7.0	255	259	107	177	225
20	10	100	26	6.4	6.1	6.6	7.0	265	294	96	168	82
21	9.9	97	24	6.3	6.2	6.6	6.9	290	185	307	197	28
22	9.8	84	20	6.4	5.9	6.1	7.0	286	157	127	125	16
23	9.8	79	19	6.2	6.0	6.1	7.0	341	130	170	211	10
24	9.8	82	18	6.3	6.0	6.0	7.3	389	105	116	90	5.2
25	10	80	17	6.2	6.0	6.0	7.0	606	96	84	70	4.2
26	10	76	17	6.1	5.9	6.2	6.8	592	89	58	e20	4.5
27	9.9	73	17	6.2	6.0	5.9	6.7	482	68	40	e20	5.0
28	183	69	20	6.2	5.8	5.9	6.9	505	56	38	e21	5.4
29	274	66	19	6.4	---	6.2	7.0	495	1350	38	e22	5.3
30	208	63	17	5.9	---	6.3	764	434	549	39	e20	5.6
31	570	---	16	5.8	---	6.4	---	393	---	41	e16	---
TOTAL	2289.3	4808	1021	238.5	173.1	188.8	963.8	11890	7414	3105	11387	1006.2
MEAN	73.8	160	32.9	7.69	6.18	6.09	32.1	384	247	100	367	33.5
MAX	570	967	63	15	7.3	7.4	764	1120	1350	701	1670	276
MIN	9.6	63	16	5.8	5.4	5.3	6.1	236	56	24	16	4.2
AC-FT	4540	9540	2030	473	343	374	1910	23580	14710	6160	22590	2000

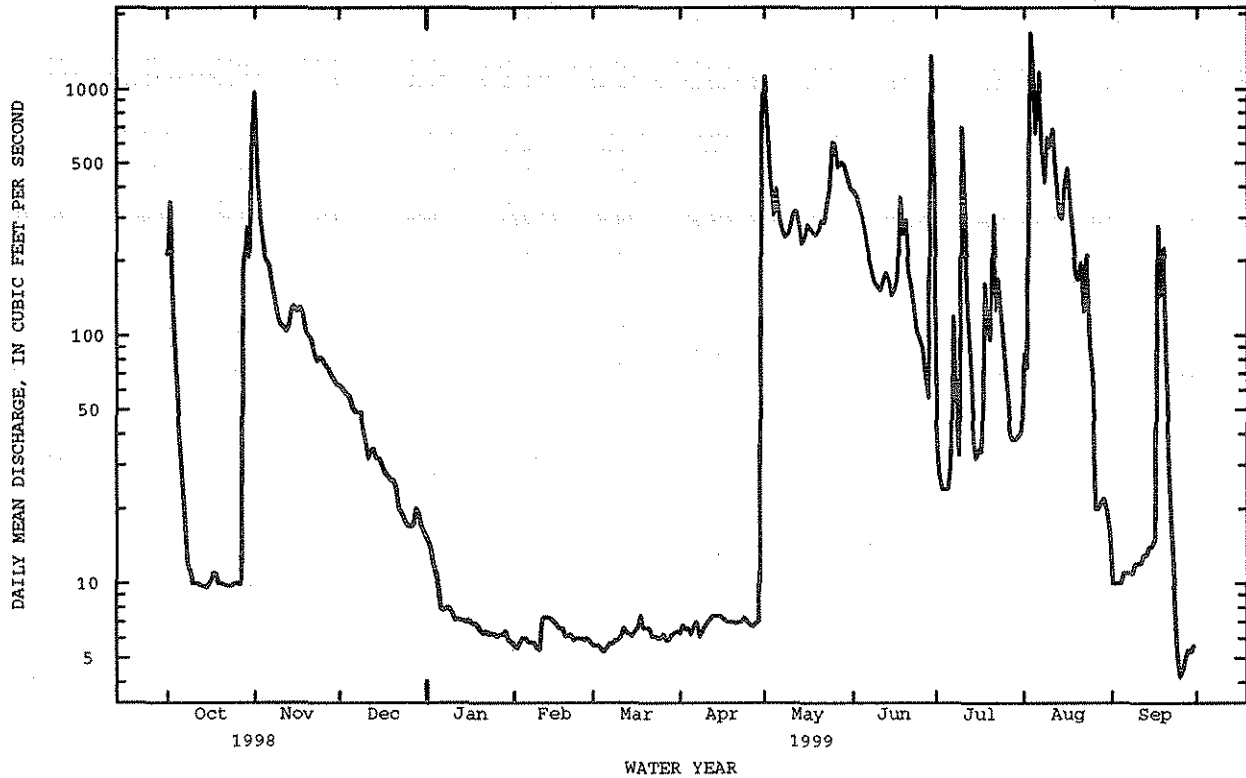
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1999, BY WATER YEAR (WY)

MEAN	24.1	27.4	8.60	4.50	6.02	37.0	105	336	291	110	185	89.0
MAX	139	160	42.0	19.0	73.4	192	382	736	1057	418	1062	660
{WY}	1986	1999	1987	1987	1987	1985	1987	1979	1995	1991	1991	1991
MIN	.000	.000	.000	.000	.000	.000	.000	.26	2.15	3.17	7.60	.000
{WY}	1978	1977	1977	1976	1976	1976	1976	1981	1977	1980	1978	1978

08382600 PECOS RIVER ABOVE CANON DEL UTA NEAR COLONIAS, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1976 - 1999	
ANNUAL TOTAL	38381.2		44484.7		106	
ANNUAL MEAN	105		122		245	
HIGHEST ANNUAL MEAN					13.3	
LOWEST ANNUAL MEAN					2960	
HIGHEST DAILY MEAN	967	Nov 1	1670	Aug 3		Aug 11 1981
LOWEST DAILY MEAN	1.8	Jul 23	4.2	Sep 25	.00	Jan 1 1976
ANNUAL SEVEN-DAY MINIMUM	2.2	Jul 20	5.0	Sep 24	.00	Jan 1 1976
INSTANTANEOUS PEAK FLOW			2710	Aug 3	*12400	Jun 20 1982
INSTANTANEOUS PEAK STAGE			8.75	Aug 3	11.53	Jul 11 1996
INSTANTANEOUS LOW FLOW			4.0	Sep 24	.00	Jan 1 1976
ANNUAL RUNOFF (AC-FT)	76130		88240		76470	
10 PERCENT EXCEEDS	295		339		332	
50 PERCENT EXCEEDS	45		24		8.0	
90 PERCENT EXCEEDS	5.6		6.0		.00	

e Estimated

a From rating curve extended above 1,200 ft³/s, on basis of step-backwater analysis of channel.

08382650 PECOS RIVER ABOVE SANTA ROSA LAKE, NM

LOCATION.--Lat 35°03'35", long 104°45'41", in NE¹/₄SE¹/₄ sec.25, T.10 N., R.20 E., Guadalupe County, Hydrologic Unit 13060001, at south boundary Preston Beck Grant, on left bank 1.6 mi upstream from River Ranch, 5.8 mi southeast of Colonias, 9.1 mi northwest of Santa Rosa, and at mile 770.8.

DRAINAGE AREA.--2,340 mi², approximately.

PERIOD OF RECORD.--February 1976 to current year. Prior to October 1979, published as "above Los Esteros Reservoir."

GAGE.--Water-stage recorder. Elevation of gage is 4,760 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Records fair except for estimated daily discharges, which are poor. Diversions and ground-water withdrawals for irrigation of about 11,800 acres, 1959 determination, upstream from station. Several observations of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e220	2070	73	48	e28	e29	e30	1440	521	44	87	e37
2	e380	866	75	45	e28	e29	e31	783	505	22	57	e37
3	e170	527	75	36	e28	e29	e30	491	442	17	e1800	e37
4	e125	373	70	35	e32	e29	e30	373	422	18	e1600	e37
5	e80	301	64	e34	e32	e29	e29	446	366	18	1300	e38
6	e60	269	61	e33	e32	e30	e31	382	328	20	1310	e38
7	e50	217	64	e32	e31	e30	e27	302	275	134	1160	e38
8	e44	182	67	e32	e31	e30	e26	255	225	69	955	e38
9	41	164	59	e32	e31	e30	e26	244	191	51	1060	e39
10	41	137	51	e31	e30	e30	26	287	178	456	1110	e39
11	37	130	42	e31	e30	e29	26	318	165	352	1110	e39
12	32	120	43	e31	e30	e29	25	354	172	169	983	e40
13	30	120	56	e31	e30	e29	25	334	203	94	775	e40
14	29	125	45	e31	e31	e29	24	272	213	54	679	e41
15	30	122	44	e30	e31	e29	25	295	181	37	798	e41
16	30	115	43	e30	e31	e28	26	355	172	40	864	e42
17	30	113	49	e30	e30	e28	28	315	151	41	662	e300
18	30	117	49	e29	e30	e28	28	321	418	177	552	e170
19	30	113	51	e29	e30	e28	26	324	304	112	475	e250
20	31	106	54	e29	e30	e28	26	348	249	109	432	e110
21	31	102	52	e28	e29	e28	29	396	208	180	447	e55
22	32	90	40	e28	e29	e28	31	397	173	132	316	e45
23	32	82	36	e29	e29	e29	32	452	147	237	433	e40
24	30	88	35	e29	e29	e30	34	462	112	141	261	e33
25	30	84	32	e28	e29	e29	35	558	84	96	190	e33
26	29	82	32	e28	e30	e28	34	532	65	70	127	e32
27	30	79	34	e27	e30	e27	32	652	41	46	89	e32
28	217	71	49	e27	e30	e27	33	637	24	40	72	e32
29	459	67	59	e27	---	e28	36	579	719	39	61	e32
30	268	65	49	e27	---	e29	790	529	220	37	49	e32
31	898	---	50	e28	---	e30	---	532	---	37	40	---
TOTAL	3576	7097	1603	965	841	893	1631	13965	7474	3089	19854	1817
MEAN	115	237	51.7	31.1	30.0	28.8	54.4	450	249	99.6	640	60.6
MAX	898	2070	75	48	32	30	790	1440	719	456	1800	300
MIN	29	65	32	27	28	27	24	244	24	17	40	32
AC-FT	7090	14080	3180	1910	1670	1770	3240	27700	14820	6130	39380	3600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1999, BY WATER YEAR (WY)

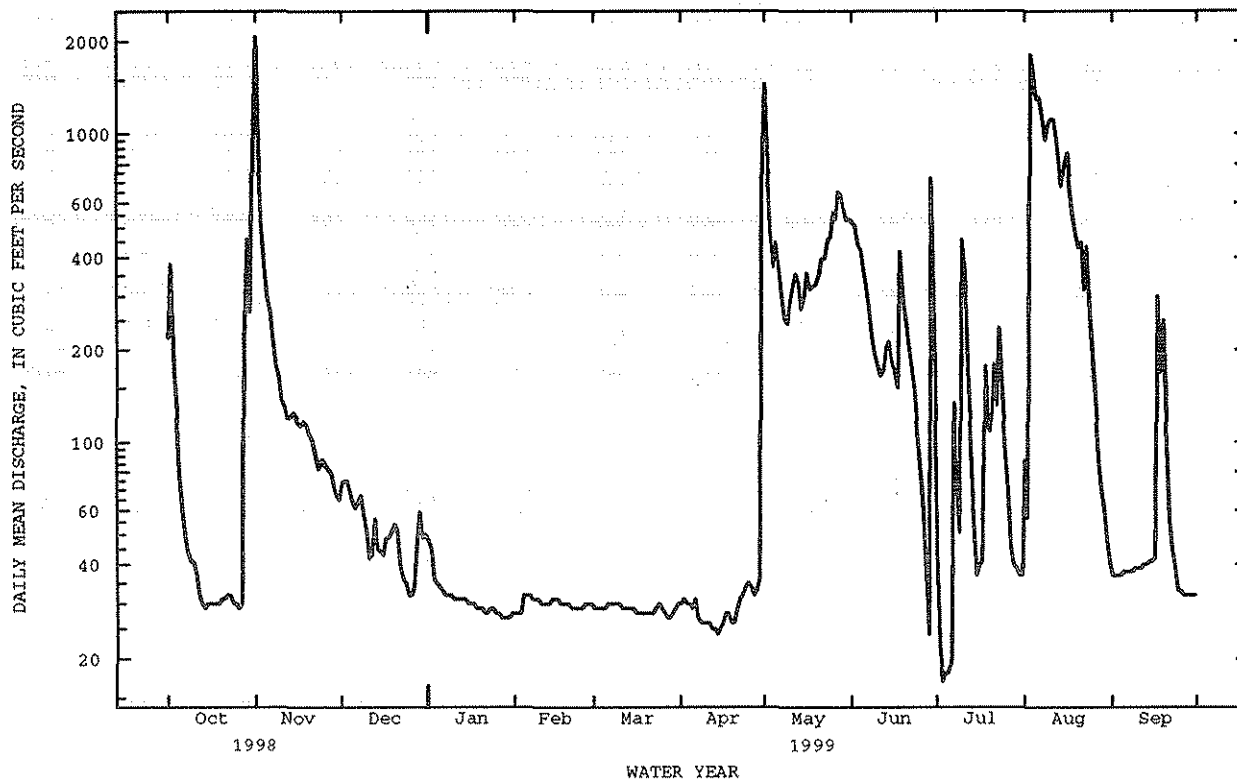
	MEAN	45.8	49.1	26.5	23.2	24.1	54.3	120	355	311	143	246	123
MAX	147	237	68.7	46.1	106	207	415	768	945	440	1077	683	
(WY)	1986	1999	1987	1987	1987	1985	1987	1985	1979	1991	1991	1991	
MIN	6.50	9.53	7.77	7.74	6.40	5.69	4.99	7.93	8.87	18.6	16.1	6.12	
(WY)	1979	1982	1978	1978	1978	1978	1978	1981	1977	1980	1978	1978	

RIO GRANDE BASIN

08382650 PECOS RIVER ABOVE SANTA ROSA LAKE, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1976 - 1999	
ANNUAL TOTAL	53570		62805		131	
ANNUAL MEAN	147		172		265	
HIGHEST ANNUAL MEAN					26.1	
LOWEST ANNUAL MEAN					4.5	
HIGHEST DAILY MEAN	2070	Nov 1	2070	Nov 1	4310	Jul 10 1996
LOWEST DAILY MEAN	28	Sep 15	17	Jul 3	4.7	Apr 27 1978
ANNUAL SEVEN-DAY MINIMUM	29	Sep 14	25	Apr 9	19.06	Apr 23 1978
INSTANTANEOUS PEAK FLOW			10400	Aug 3	^a 16000	Jul 11 1996
INSTANTANEOUS PEAK STAGE			12.84	Aug 3	19.06	Jul 11 1996
INSTANTANEOUS LOW FLOW			14	Jul 2	2.9	Aug 21 1984
ANNUAL RUNOFF (AC-FT)	106300		124600		94600	
10 PERCENT EXCEEDS	378		460		367	
50 PERCENT EXCEEDS	68		43		32	
90 PERCENT EXCEEDS	31		28		10	

e Estimated

a From rating curve extended above 1,500 ft³/s, on basis of slope-area measurement of peak flow.

08382810 SANTA ROSA LAKE NEAR SANTA ROSA, NM

LOCATION.--Lat 35°01'47", long 104°41'30", Guadalupe County, Hydrologic Unit 13060001, in Jose Perea Grant, near outlet gates of Santa Rosa Dam on Pecos River, approximately 7.0 mi north of Santa Rosa, and at mile 757.2.

DRAINAGE AREA.--2,430 mi², approximately.

PERIOD OF RECORDS.--April 1980 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Lake is formed by earth and rockfill dam on Pecos River. Storage began on Apr. 22, 1980. Capacity, 439,900 acre-ft, from capacity table effective October 1990, between elevations 4,630.0 ft, invert of outlet structure, and 4,797.0 ft, crest of spillway. Capacity by original survey was 447,100 acre-ft. No dead storage. Lake was created primarily for flood, irrigation, and sediment control. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 120,481 acre-ft, May 8, 1987, elevation, 4,749.71 ft; no storage for many days, July-Sept., 1980 and June-Aug., 1981.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 103,780 acre-ft, Aug. 4, elevation, 4,746.79 ft; minimum, 28,230 acre-ft, Oct. 1, elevation, 4,717.90 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28230	37790	46940	49420	50970	51850	52990	62450	87230	98030	97620	97180
2	29300	39070	47050	49490	51020	51880	52990	64100	88050	97620	97880	97220
3	29700	39880	47230	49520	51040	51950	53020	65010	88730	97360	103360	97220
4	29910	40560	47340	49560	51020	51950	53020	65790	89560	97330	103780	97220
5	30050	41080	47430	49660	51110	51970	53020	66560	90080	97360	102480	97220
6	30200	41570	47540	49700	51110	52000	53040	67100	90640	97440	102440	97250
7	30280	41920	47700	49700	51180	52000	53040	67640	91030	97660	100890	97290
8	30350	42350	47770	49750	51230	52070	53020	68070	91340	97770	99060	97250
9	30450	42620	47880	49770	51280	52090	52990	68480	91690	98280	97660	97250
10	30510	42870	47920	49820	51300	52140	52970	68920	91940	99360	97250	97220
11	30550	43160	48010	49860	51350	52120	52990	69510	92260	99320	97770	97180
12	30590	43390	48080	49930	51350	52190	53070	70070	92720	98690	97840	97140
13	30660	43670	48130	50050	51370	52210	53140	70630	93110	97920	97880	97110
14	30690	43920	48330	50050	51400	52240	53120	71080	93530	97620	97920	97180
15	30730	44200	48400	50120	51470	52290	53120	71470	93930	97590	98250	97250
16	30730	44430	48420	50140	51520	52310	53120	72050	94250	97950	98430	97250
17	30780	44630	48460	50170	51520	52340	53140	72560	94500	98060	98060	97920
18	30810	44870	48580	50190	51540	52530	53190	73110	95360	98210	97440	98210
19	30860	45040	48650	50240	51540	52550	53190	73600	95940	97950	97360	98770
20	30910	45250	48710	50260	51590	52600	53210	74150	97000	97700	97620	98840
21	30960	45430	48760	50380	51610	52720	53210	74710	97400	97950	97950	98730
22	31010	45580	48800	50430	51680	52700	53260	75400	97730	97700	98170	98620
23	31030	45750	48850	50450	51660	52680	53260	76120	97920	97810	98250	98470
24	31080	45880	48900	50520	51710	52750	53290	77190	98030	97990	98060	98320
25	31130	46060	48940	50570	51710	52770	53290	78690	98140	98100	97920	98060
26	31230	46260	48990	50590	51760	52850	53310	80280	98030	97880	97810	97840
27	31380	46370	49030	50660	51780	52870	53360	81580	97990	97440	97700	97550
28	31600	46480	49080	50710	51830	52940	53360	83190	98210	97290	97550	97440
29	32320	46680	49170	50850	---	52920	53530	84360	99770	97220	97360	97400
30	32880	46790	49240	50920	---	52970	58370	85470	99140	97140	97290	97360
31	34220	---	49360	50920	---	52970	---	86380	---	97250	97250	---
MAX	34220	46790	49360	50920	51830	52970	58370	86380	99770	99360	103780	98840
MIN	28230	37790	46940	49420	50970	51850	52970	62450	87230	97140	97250	97110
(+)	4721.48	4727.77	4728.91	4729.58	4729.96	4730.43	4732.59	4741.96	4745.56	4745.05	4745.05	4745.08
(++)	+7240	+12570	+2570	+1560	+910	+1140	+5400	+28010	+12760	-1890	0	+110
CAL YR 1998	MAX 96960	MIN 26670	(++) -46260									
WTR YR 1999	MAX 103780	MIN 28230	(++) +70380									

(+) ELEVATION, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-FEET

RIO GRANDE BASIN

08382830 PECOS RIVER BELOW SANTA ROSA DAM, NM

LOCATION.--Lat 35°01'27", long 104°41'20", Guadalupe County, Hydrologic Unit 13060001, in Jose Perea Grant, on right bank 0.2 mi downstream from Santa Rosa Dam, 5.7 mi north of Santa Rosa, and at mile 757.0.

DRAINAGE AREA.--2,430 mi², approximately.

PERIOD OF RECORD.--January 1980 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,640 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 31, 1980, at datum about 1.2 ft higher. Prior to Mar. 26, 1982, at site 195 ft upstream at datum 2.36 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow completely regulated by Santa Rosa Lake (08382810) 0.2 mi upstream since April 1980. Diversions and ground-water withdrawals for irrigation of about 12,000 acres, 1959 determination, upstream from station. Several observations of water temperatures were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	.00	.08	e.02	.00	.04	.03	e.08	.18	611	.78	.37
2	.12	.00	.08	e.02	.00	.04	.01	e.09	.18	215	117	.26
3	.11	.00	.12	e.02	.00	.03	.00	e.10	.24	98	341	.23
4	.12	.00	.12	e.02	.00	.04	.01	e.12	.24	38	1030	.24
5	.13	.00	.10	e.03	.00	.04	.03	.21	.23	.36	1420	.20
6	.15	.00	.09	.06	.00	.03	.07	.22	.24	.32	1420	.19
7	e.17	.00	.11	.09	.00	.03	.07	.27	.22	.27	1410	.18
8	e.08	.00	.08	.07	.01	.02	.04	.26	.24	.23	1400	.18
9	e.08	.00	.08	.04	.00	.03	.06	.25	.21	1.2	1400	.21
10	e.08	.04	.08	.05	.00	.02	.05	.20	.18	158	815	.21
11	e.08	.08	.10	.03	.00	.00	.06	.21	.16	387	386	.17
12	e.08	.08	.12	.03	.00	.01	.09	.19	.18	439	388	.12
13	e.08	.10	.13	.03	.00	.02	e.03	.17	.24	439	304	.15
14	e.08	.15	.11	.01	.00	.03	e.03	.16	.14	174	216	.18
15	e.08	.15	.12	.01	.00	.06	e.03	.14	.22	.33	216	.06
16	e.08	.15	.12	.02	.00	.08	e.03	.11	.17	.92	358	.05
17	e.08	.10	.10	.05	.02	.05	e.03	.11	.12	.51	458	.06
18	e.08	.05	.14	.05	.05	.15	e.03	.14	.10	122	456	.04
19	e.08	.03	.13	.02	.03	.24	e.03	.13	.13	209	188	.02
20	e.08	.01	.13	.01	.02	.08	e.03	.12	.14	209	.21	72
21	e.08	.06	e.10	.02	.02	.02	e.03	.14	.11	210	.23	116
22	e.08	.08	e.08	.03	.01	.01	e.03	.18	.06	210	.22	118
23	e.08	.08	e.06	.00	.03	.01	e.03	.21	.05	125	108	119
24	e.08	.10	e.04	.01	.03	.01	e.04	.30	.04	.25	190	119
25	e.08	.08	e.02	.00	.03	.02	e.04	.31	43	.23	133	120
26	e.08	.10	e.02	.00	.02	.01	e.04	.31	68	123	93	121
27	e.08	.11	e.02	.00	.03	.03	e.05	.24	42	209	95	121
28	.00	.13	e.02	.00	.03	.02	e.05	.39	28	77	97	45
29	.00	.13	e.02	.05	---	.03	e.07	.21	189	.55	97	.00
30	.04	.08	e.02	.01	---	.03	e.07	.22	540	.51	39	.00
31	.41	---	e.02	.00	---	.03	---	.19	---	.47	.29	---
TOTAL	3.15	1.89	2.56	0.80	0.33	1.26	1.21	5.98	914.02	4059.15	13176.73	954.12
MEAN	.10	.063	.083	.026	.012	.041	.040	.19	30.5	131	425	31.8
MAX	.41	.15	.14	.09	.05	.24	.09	.39	540	611	1420	121
MIN	.00	.00	.02	.00	.00	.00	.00	.08	.04	.23	.21	.00
AC-FT	6.2	3.7	5.1	1.6	.7	2.5	2.4	12	1810	8050	26140	1890

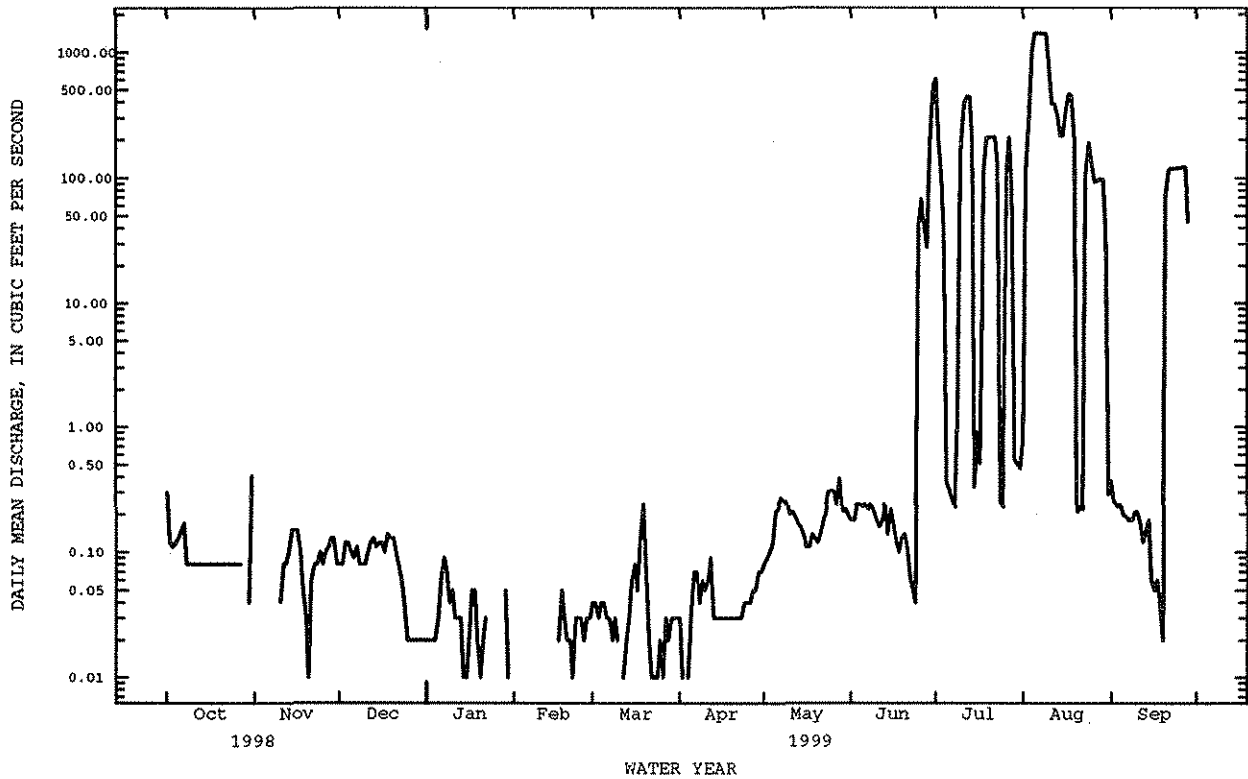
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1999, BY WATER YEAR (WY)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	13.4	10.9	7.55	17.6	38.6	55.1	86.3	267	297	187	221	149								
MAX	112	145	59.0	188	249	277	655	672	1026	561	619	649								
(WY)	1993	1987	1987	1996	1995	1998	1989	1989	1995	1983	1994	1988								
MIN	.018	.041	.081	.026	.012	.041	.040	.12	2.05	.047	.056	.040								
(WY)	1990	1990	1990	1999	1999	1999	1999	1997	1984	1989	1996	1989								

08382830 PECOS RIVER BELOW SANTA ROSA DAM, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1980 - 1999	
ANNUAL TOTAL	65422.05		19121.20		116	
ANNUAL MEAN	179		52.4		215	1995
HIGHEST ANNUAL MEAN					35.8	1981
LOWEST ANNUAL MEAN					2100	Jun 12 1997
HIGHEST DAILY MEAN	1260	Jul 21	1420	Aug 5	.00	Jul 31 1982
LOWEST DAILY MEAN	.00	Oct 28	.00	Oct 28	.00	Mar 5 1983
ANNUAL SEVEN-DAY MINIMUM	.00	Nov 1	.00	Nov 1		
ANNUAL RUNOFF (AC-FT)	129800		37930		84320	
10 PERCENT EXCEEDS	984		121		489	
50 PERCENT EXCEEDS	.11		.08		.81	
90 PERCENT EXCEEDS	.04		.01		.04	

e Estimated



08383500 PECOS RIVER NEAR PUERTO DE LUNA, NM

LOCATION.--Lat 34°43'48", long 104°31'28", in NE¹/₄SE¹/₄NW¹/₄ sec.20, T.6 N., R.23 E., Guadalupe County, Hydrologic Unit 13060001, on left bank 9.0 mi southeast of Puerto de Luna, 17.5 mi upstream from Sumner Dam, and at mile 719.5.

DRAINAGE AREA.--3,970 mi², approximately (contributing area).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1938 to current year.

REVISED RECORDS.--WSP 1512: 1939.

GAGE.--Water-stage recorder with satellite telemetry and concrete control. Elevation of gage is 4,311.34 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 15, 1954, at datum 1.0 ft higher.

REMARKS.--Water-discharge records good. Flow regulated by Santa Rosa Lake (station 08382810) 37.7 mi upstream since April 1980. Diversions for irrigation of about 10,280 acres, 1970 determination, upstream from station. Spring discharge from Blue Hole and Agua Negro upstream from station contribute a substantial inflow. Discharge represents inflow to Lake Sumner. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since at least 1886 occurred June 2, 1937, when peak at Santa Rosa was 55,200 ft³/s, and peak inflow to Lake Sumner was about 75,000 ft³/s. Flood of July 24, 1895, was reported as "highest in 10 years." Other major floods occurred on June 9, 1903, Sept. 30, 1904, and May 1, 1914.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	221	197	94	85	86	78	82	1540	79	654	94	82
2	531	109	94	85	84	77	81	358	79	490	126	78
3	202	99	108	85	83	75	81	138	76	210	307	82
4	114	95	98	85	83	76	80	111	70	174	996	87
5	106	97	93	83	84	74	80	98	67	126	1460	75
6	96	96	91	83	84	74	82	96	68	98	1550	75
7	94	94	95	84	83	79	80	92	70	89	1640	75
8	94	91	94	84	83	83	79	88	70	78	1750	73
9	93	91	93	85	82	82	80	84	71	90	1810	74
10	92	91	93	85	81	81	79	77	71	139	1690	75
11	86	92	92	84	79	81	76	73	69	255	707	73
12	87	93	92	83	81	83	74	77	71	465	654	74
13	88	92	91	84	82	83	103	78	157	479	638	74
14	85	94	89	83	81	83	74	73	85	478	448	75
15	83	91	89	82	81	84	72	70	74	169	388	122
16	79	91	89	82	81	83	71	69	78	97	375	99
17	76	93	89	83	82	83	72	71	76	145	672	96
18	80	95	89	83	81	111	74	73	73	103	700	136
19	84	94	88	83	82	99	74	73	73	190	684	88
20	86	93	89	82	82	97	67	70	84	388	228	84
21	86	93	87	85	82	91	69	71	71	271	116	112
22	85	91	99	93	82	87	67	71	72	266	99	171
23	85	94	104	88	82	85	65	76	68	260	90	176
24	84	95	95	85	83	86	70	87	69	184	200	179
25	82	95	87	85	84	85	73	124	71	92	296	168
26	85	94	87	84	83	85	71	86	80	80	202	167
27	141	93	86	84	81	85	75	84	132	173	170	169
28	113	92	86	84	78	83	72	258	115	254	169	172
29	97	98	86	88	---	84	75	90	109	135	164	133
30	123	100	86	90	---	83	2180	83	325	80	158	87
31	233	---	84	91	---	82	---	80	---	71	124	---
TOTAL	3691	2933	2837	2630	2300	2602	4378	4519	2673	6783	18705	3231
MEAN	119	97.8	91.5	84.8	82.1	83.9	146	146	89.1	219	603	108
MAX	531	197	108	93	86	111	2180	1540	325	654	1810	179
MIN	76	91	84	82	78	74	65	69	67	71	90	73
AC-FT	7320	5820	5630	5220	4560	5160	8680	8960	5300	13450	37100	6410

08383500 PECOS RIVER NEAR PUERTO DE LUNA, NM--Continued

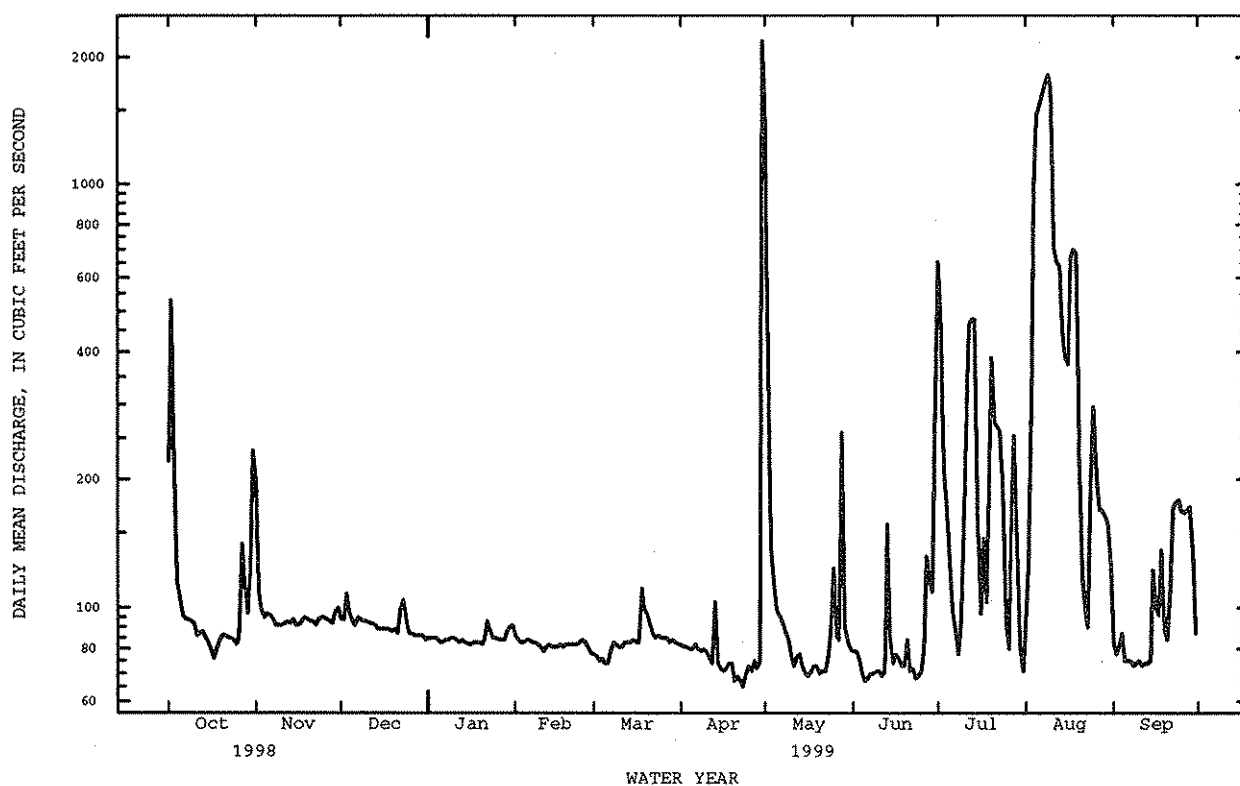
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	104	95.8	94.4	101	119	137	163	337	393	297	339	278
MAX	225	232	147	252	306	373	685	744	1211	725	706	948
(WY)	1986	1987	1987	1996	1994	1998	1989	1989	1995	1983	1994	1988
MIN	73.1	79.5	73.5	80.9	76.7	73.5	67.9	64.0	66.1	72.9	86.1	66.4
(WY)	1988	1983	1991	1993	1984	1989	1984	1982	1991	1989	1996	1990

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1980 - 1999
ANNUAL TOTAL	102268	57282	
ANNUAL MEAN	280	157	^a 205
HIGHEST ANNUAL MEAN			318
LOWEST ANNUAL MEAN			122
HIGHEST DAILY MEAN	1730	2180	3510
LOWEST DAILY MEAN	63	65	39
ANNUAL SEVEN-DAY MINIMUM	66	69	43
INSTANTANEOUS PEAK FLOW		6730	^b 48600
INSTANTANEOUS PEAK STAGE		7.25	17.00
INSTANTANEOUS LOW FLOW		61	11
ANNUAL RUNOFF (AC-FT)	202800	113600	148600
10 PERCENT EXCEEDS	1060	230	617
50 PERCENT EXCEEDS	95	86	86
90 PERCENT EXCEEDS	75	73	68

a Average discharge for 41 years (water years 1939-79), 209 ft³/s, 151,400 acre-ft/yr, prior to completion of Santa Rosa Dam.

b From rating curve extended above 7,400 ft³/s, on basis of flow "at Santa Rosa".



RIO GRANDE BASIN

08383500 PECOS RIVER NEAR PUERTO DE LUNA, NM--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1937-66, 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CaCO3 (MG/L) (00904)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)
		MAR 04...	1145	76	2970	8.1	21.5	11.5	646	9.7	106	1800
JUN 11...	1140	79	3020	8.0	--	25.5	655	7.4	107	1600	1500	530
JUL 01...	0855	687	955	8.0	33.0	19.0	650	7.3	93	440	330	150
AUG 26...	1220	182	1340	8.1	27.5	26.0	658	7.8	112	660	560	220
DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CaCO3) (39086)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)
	MAR 04...	71	97	1	2.0	142	0	116	110	1600	140	.7
JUN 11...	72	110	1	2.1	128	0	105	108	1600	140	.6	14
JUL 01...	18	23	.5	1.9	136	0	111	198	350	24	.4	7.9
AUG 26...	27	37	.6	1.8	125	0	102	105	570	49	.4	10
DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)
	MAR 04...	2570	<.010	<.02	<.010	<.20	<.20	<.02	<.02	<.01	8	<2
JUN 11...	2530	<.01	<.02	.03	<.20	<.20	.03	.03	<.01	<2	<2	<1
JUL 01...	636	<.01	.21	.02	2.2	<.20	1.8	.03	<.01	1	<1	<1
AUG 26...	978	<.01	<.02	.02	<.20	<.20	<.02	<.02	.02	2	<1	<1
DATE	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)
	MAR 04...	20	<2	111	<2	6	<2	5	<30	<2	8	<.1
JUN 11...	36	<2	104	<2	<2	<2	6	<30	<2	6	<.1	3
JUL 01...	45	<1	31.2	<1	<1.0	<1	1	<10	<1	3	<.01	2
AUG 26...	73	<1	49.3	<1	<1.0	<1	2	<10	<1	2	<.1	2

08383500 PECOS RIVER NEAR PUERTO DE LUNA, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	NITRO- GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N) (00633)	NITRO- GEN, NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	NITRO- GEN, NH4 + ORG. TOT IN BOT MAT (MG/KG AS N) (00626)	PHOS- PHORUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01029)
MAR 04...	14	3	5	<2	4	<2	3.8	300	310	1.2	<1	10
JUN 11...	<2	<1	<1	<2	4	--	--	--	--	--	--	--
JUL 01...	1	<1	<1	<1	<1	--	--	--	--	--	--	--
AUG 26...	4	<1	<1	<1	2	--	--	--	--	--	--	--

DATE	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	SEDI- MENT, CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
MAR 04...	9	7	8700	20	480	<.01	23	<2	43	8.8	88
JUN 11...	--	--	--	--	--	--	--	2	101	22	100
JUL 01...	--	--	--	--	--	--	--	1	4450	8260	68
AUG 26...	--	--	--	--	--	--	--	1	106	52	73

08384000 LAKE SUMNER NEAR FORT SUMNER, NM

LOCATION.--Lat 34°36'30", long 104°23'04", in SE¹/₄SW¹/₄ sec.34, T.5 N., R.24 E., DeBaca County, Hydrologic Unit 13060001, near center of dam on Pecos River, 5.0 mi northeast of Guadalupe, 12.2 mi northwest of Fort Sumner, and at mile 702.0.

DRAINAGE AREA.--4,390 mi², approximately (contributing area).

PERIOD OF RECORD.--December 1938 to September 1965 (monthend elevations and contents), October 1965 to current year. Monthend elevations September 1937 to November 1938 published in reports of Pecos River Commission. Elevations and contents May 27 1937, to June 10, 1937, in WSP 842. Prior to October 1974, published as "Alamogordo Reservoir."

REVISED RECORDS.--WSP 1732: 1939-54 (contents). WSP 1923: 1939-53(M).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). April 1, 1946, to Sept. 30, 1957, water-stage recorder above elevation 4,234.25 ft, nonrecording gage below. Oct. 1, 1958 to current year, water-stage recorder above elevation 4,238.00 ft, nonrecording gage below.

REMARKS.--Lake is formed by earthfill dam; completed and storage began in August 1937. Capacity, 94,750 acre-ft, from capacity table dated August 1992, between elevation 4,200.0 ft, sill of outlet gate, and elevation 4,275.0 ft, normal operating level. Capacity by original survey was 132,200 acre-ft. Dead storage 2,500 acre-ft. Reservoir is used to store water for irrigation.

COOPERATION.--Records provided by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 138,300 acre-ft, May 23-30, June 1-10, July 21, Sept. 22, 23, 30, Oct. 12, Nov. 4, 5, 30, Dec. 23, 24, 1941, elevation, 4,275.00 ft; maximum elevation, 4,276.10 ft June 3, Sept. 8, 1958; no storage, July 28 to Aug. 2, 1951, elevation, 4,200.70 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 43,940 acre-ft, Aug. 14, elevation, 4,261.06 ft; minimum, 9,020 acre-ft, Oct. 1, elevation, 4,241.80 ft.

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9020	10550	15320	19580	23440	26290	26010	36160	42680	40310	42760	43490
2	9290	10950	15470	19700	23560	26370	25950	42090	42560	41330	42700	43340
3	9990	11180	15650	19810	23730	26330	25890	42200	42450	42090	42840	43200
4	10230	11370	15910	19920	23800	26230	25830	42340	42340	42260	43680	43290
5	10250	11540	16080	20040	23930	26110	25870	42450	42200	42340	43710	43200
6	10220	11700	16230	20140	24060	26030	25710	42590	41980	42340	43490	43060
7	10200	11910	16340	20210	24210	25910	25690	42730	41850	42320	43260	42950
8	10160	12100	16490	20360	24290	25990	25670	42870	41710	42260	43010	42840
9	10090	12250	16650	20490	24400	25870	25500	42980	41600	42120	42700	42650
10	10060	12430	16790	20590	24470	25830	25380	43010	41440	42360	42540	42510
11	10020	12570	16890	20710	24640	25750	25260	42840	41330	42950	43320	42400
12	9980	12710	17070	20830	24680	25690	25200	42760	41170	42560	43660	42260
13	9930	12910	17220	20970	24760	25630	25240	42650	41410	42650	43770	42070
14	9860	13080	17360	21120	24870	25590	25320	42590	41790	42790	43940	41900
15	9810	13240	17530	21210	24990	25530	25220	42510	41740	42980	43820	41900
16	9780	13430	17670	21310	25090	25480	25110	42320	41630	42980	43630	41850
17	9700	13570	17830	21430	25180	25440	25010	42230	41520	42950	43400	41760
18	9600	13740	17960	21500	25300	25630	24870	42090	41410	43540	43200	41870
19	9560	13910	18120	21620	25400	25870	24820	41960	41270	43600	42980	41930
20	9510	14000	18180	21750	25510	26070	24780	41820	41170	43430	43180	41900
21	9480	14090	18350	21880	25610	26200	24740	41770	41060	43660	43340	41760
22	9440	14210	18450	22060	25670	26290	24550	41680	40950	43660	43290	41740
23	9410	14290	18530	22200	25770	26290	24450	41570	40730	43630	43200	41790
24	9360	14430	18620	22320	25890	26190	24320	41440	40650	43570	43060	41930
25	9320	14530	18720	22430	25950	26190	24360	41490	40520	43430	43090	41980
26	9280	14650	18850	22590	26070	26130	24360	41600	40360	43040	43320	42090
27	9310	14740	19020	22700	26110	26150	24230	41350	40230	42840	43460	42180
28	9510	14860	19120	22820	26230	26150	24230	41790	40170	42840	43490	42230
29	9540	15000	19220	22950	---	26110	24140	42400	40120	43070	43510	42320
30	9540	15160	19350	23070	---	26070	25200	42540	40070	43070	43540	42340
31	10060	---	19460	23150	---	26050	---	42650	---	42870	43510	---
MAX	10250	15160	19460	23150	26230	26370	26010	43010	42680	43660	43940	43490
MIN	9020	10550	15320	19580	23440	25440	24140	36160	40070	40310	42540	41740
(+)	4242.90	4247.17	4250.01	4252.15	4253.77	4253.68	4253.25	4260.60	4259.65	4260.68	4260.91	4260.49
(++)	+1170	+5100	+4300	+3690	+3080	-180	-850	+17450	-2580	+2800	+640	-1170

CAL YR 1998 MAX 42230 MIN 8890 (++) -4400
WTR YR 1999 MAX 43940 MIN 9020 (++) +33450

(+) ELEVATION, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-Feet

08384500 PECOS RIVER BELOW SUMNER DAM, NM

LOCATION.--Lat 34°36'15", long 104°23'14", sec.2, T.4 N., R.24 E., DeBaca County, Hydrologic Unit 13060003, on left bank 1,200 ft downstream from Sumner Dam, 2.9 mi upstream from Salado Creek, 4.6 mi northeast of Guadalupe, 12.2 mi northwest of Fort Sumner, and at mile 701.7.

DRAINAGE AREA.--4,390 mi², approximately (contributing area).

PERIOD OF RECORD.--October 1912 to April 1926, August 1926 to current year. Monthly discharge only for some periods, published in WSP 1312. October 1944 to September 1974, published as "below Alamogordo Dam." Prior to October 1944, published as "near Guadalupe."

REVISED RECORDS.--WSP 1512: 1932. WSP 1632: 1942. WSP 1712: 1944.

GAGE.--Water-stage recorder with satellite telemetry and Parshall flume, with concrete control above top of flume. Elevation of gage is 4,142.99 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). Prior to Sept. 10, 1936 at site 1.5 mi upstream at different datum. Sept. 14, 1936, to Mar. 8, 1941, and June 11 to Sept. 21, 1941, at site 0.2 mi downstream at different datums.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by Lake Sumner (station 08384000) 0.3 mi upstream, since August 1937 and Santa Rosa Lake (station 08382810) 55.5 mi upstream, since April 1980. Diversions for irrigation of about 12,500 acres, 1959 determination, upstream from station. Several observations of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	1.1	.15	e23	e21	31	82	135	99	104	e93	109
2	99	1.3	.14	e23	e12	55	81	488	99	104	e93	109
3	99	1.3	.09	e23	e15	107	81	95	100	102	e93	109
4	98	1.3	2.2	e23	e14	106	82	36	99	102	783	109
5	97	1.2	15	e23	e18	106	82	13	99	103	1400	109
6	97	1.4	17	e24	e18	e101	82	13	98	103	1520	109
7	96	1.1	17	24	e19	e99	94	13	99	101	1510	106
8	96	.89	18	24	e19	e99	100	23	100	103	1510	104
9	96	.91	18	21	e19	e99	100	50	100	104	1510	105
10	97	.81	19	19	e20	e99	100	101	100	211	1140	106
11	96	.88	16	19	e19	e99	100	103	104	381	382	106
12	96	.72	9.8	19	e19	e99	100	102	107	386	382	106
13	96	.45	9.9	19	e20	e99	101	103	109	393	381	112
14	97	.46	9.7	19	e20	e99	101	103	108	390	384	114
15	97	.43	9.7	20	e19	e99	101	103	104	202	384	113
16	97	.53	9.1	19	e20	e99	100	102	102	103	384	113
17	96	.41	8.2	19	e20	e99	100	102	103	102	534	113
18	96	6.0	7.9	20	e20	e100	101	102	105	100	606	105
19	97	27	17	19	e21	e2.7	101	102	109	226	435	97
20	97	28	22	20	21	32	101	102	111	e255	182	95
21	96	28	22	20	22	45	102	101	124	e255	102	95
22	96	28	22	19	17	64	102	101	126	e255	102	96
23	96	27	e22	19	25	e100	103	101	127	e255	102	96
24	96	27	e22	20	26	89	74	101	128	e255	102	96
25	96	26	22	21	30	83	103	101	127	e150	102	96
26	95	26	e22	21	30	84	101	100	125	e94	103	96
27	94	26	e22	e21	31	83	101	99	128	e94	103	96
28	94	25	e22	e20	31	83	102	56	139	e94	103	96
29	95	25	e22	e23	---	83	102	10	138	e94	103	96
30	33	16	e22	e29	---	84	47	9.7	109	e94	105	96
31	1.1	---	e22	e29	---	83	---	37	---	e93	109	---
TOTAL	2831.1	330.19	467.88	662	586	2610.7	2827	2807.7	3326	5408	14842	3108
MEAN	91.3	11.0	15.1	21.4	20.9	84.2	94.2	90.6	111	174	479	104
MAX	99	28	22	29	31	107	103	488	139	393	1520	114
MIN	1.1	.41	.09	19	12	2.7	47	9.7	98	93	93	95
AC-FT	5620	655	928	1310	1160	5180	5610	5570	6600	10730	29440	6160

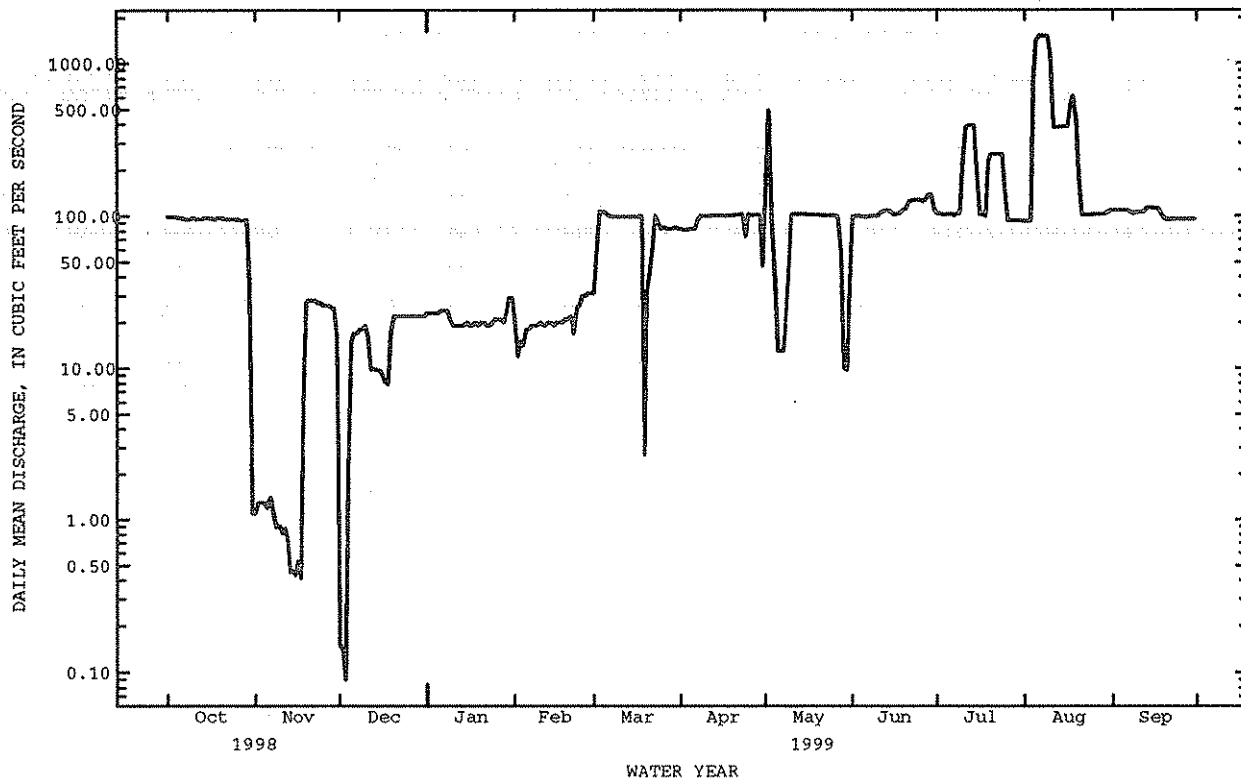
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1999, BY WATER YEAR (WY)

	127	36.6	14.0	20.5	27.6	234	270	337	451	315	296	273
MEAN	127	36.6	14.0	20.5	27.6	234	270	337	451	315	296	273
MAX	1184	910	170	143	274	605	1317	1404	2905	970	967	2789
(WY)	1942	1943	1942	1942	1995	1944	1942	1973	1937	1983	1994	1941
MIN	29.7	.21	.086	.18	.22	2.05	45.6	61.5	61.5	47.4	50.9	36.7
(WY)	1975	1989	1989	1994	1954	1948	1957	1956	1963	1991	1991	1972

08384500 PECOS RIVER BELOW SUMNER DAM, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1937 - 1999	
ANNUAL TOTAL	96337.69		39806.57		^a 201	
ANNUAL MEAN	264		109		710	
HIGHEST ANNUAL MEAN					1941	
LOWEST ANNUAL MEAN					91.9	
HIGHEST DAILY MEAN	1400	Sep 25	1520	Aug 6	^b 26400	Sep 1 1942
LOWEST DAILY MEAN	.09	Dec 3	.09	Dec 3	.00	Sep 1 1937
ANNUAL SEVEN-DAY MINIMUM	.23	Jan 7	.55	Nov 11	.00	Feb 18 1952
ANNUAL RUNOFF (AC-FT)	191100		78960		145400	
10 PERCENT EXCEEDS	1190		127		790	
50 PERCENT EXCEEDS	97		96		84	
90 PERCENT EXCEEDS	.94		13		.50	

e Estimated

a Average discharge for 23 years (water years 19-13-25, 1927-36), 236 ft³/s, 171,000 acre-ft/yr, prior to completion of Sumner Dam.b Maximum discharge for period of record, 42,800 ft³/s, Sept. 1, 1942, by computation of flow over spillway and through outlet gates of Sumner Dam by U.S. Bureau of Reclamation; maximum gage height, 13.58 ft, Sept. 22, 1941.

08385000 FORT SUMNER MAIN CANAL NEAR FORT SUMNER, NM

LOCATION.--Lat 34°30'30", long 104°16'40", in SE¹/₄SW¹/₄SW¹/₄ sec.1, T.3 N., R.25 E., DeBaca County, Hydrologic Unit 13060003, on right bank of concrete canal, 200 ft downstream from diversion dam on Pecos River, 3.25 mi northwest of Fort Sumner, and at Pecos River mile 685.8.

PERIOD OF RECORD.--March 1939 to February 1943 (published in WSP 1732), April 1954 to current year (monthly discharge only prior to October 1965).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,034.7 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). Prior to March 1954, at site 2.4 mi downstream at different datum. April 1954 to March 1965, at site 1.1 mi downstream at datum 1.7 ft lower.

REMARKS.--Records good, except for estimated daily discharges, which are poor. Canal diverts water from Pecos River for irrigation of about 6,600 acres, 1961 determination, by the Fort Sumner Irrigation District. Several observations of water temperature were made during the year. No flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	.00	.00	.00	.00	.00	72	37	51	89	89	91
2	86	.00	.00	.00	.00	.00	69	2.1	94	89	90	91
3	85	.00	.00	.00	.00	65	85	e.00	96	e89	94	92
4	83	.00	.00	.00	.00	96	84	e.00	96	e89	39	92
5	84	.00	.00	.00	.00	96	65	e.00	96	e89	.00	91
6	84	.00	.00	.00	.00	96	61	e.00	96	e89	.00	91
7	84	.00	.00	.00	.00	95	70	e.00	94	e89	.00	91
8	84	.00	.00	.00	.00	99	95	e.00	94	e89	.21	90
9	82	.00	.00	.00	.00	95	95	e.00	94	e90	84	91
10	81	.00	.00	.00	.00	92	94	67	94	e99	129	91
11	79	.00	.00	.00	.00	93	95	97	94	e99	100	91
12	79	.00	.00	.00	.00	93	95	97	95	e99	99	91
13	77	.00	.00	.00	.00	92	97	97	101	100	99	91
14	82	.00	.00	.00	.00	93	95	97	95	100	99	92
15	82	.00	.00	.00	.00	92	95	96	94	96	99	93
16	82	.00	.00	.00	.00	92	94	96	93	90	96	92
17	82	.00	.00	.00	.00	92	94	96	93	90	97	92
18	82	.00	.00	.00	.00	41	94	96	93	90	99	92
19	82	.00	.00	.00	.00	.00	94	96	92	92	96	91
20	82	.00	.00	.00	.00	.00	94	96	91	96	90	90
21	82	.00	.00	.00	.00	.00	88	96	91	96	85	90
22	82	.00	.00	.00	.00	.00	93	95	93	96	84	90
23	83	.00	e.00	.00	.00	64	94	95	90	96	84	89
24	85	.00	e.00	.00	.00	88	91	96	90	96	88	88
25	84	.00	.00	.00	.00	78	72	97	90	96	90	89
26	81	.00	.00	.00	.00	75	93	95	90	94	91	88
27	85	.00	.00	.00	.00	75	93	94	90	88	91	89
28	84	.00	.00	.00	.00	80	93	51	90	88	91	89
29	59	.00	.00	.00	---	94	94	.02	90	88	91	89
30	.00	.00	.00	.00	---	91	31	.00	89	89	90	88
31	.00	---	.00	.00	---	76	---	.01	---	89	91	---
TOTAL	2371.00	0.00	0.00	0.00	0.00	2143.00	2579	1789.13	2749	2869	2475.21	2715
MEAN	76.5	.0000	.0000	.0000	.0000	69.1	86.0	57.7	91.6	92.5	79.8	90.5
MAX	86	.00	.00	.00	.00	99	97	97	101	100	129	93
MIN	.00	.00	.00	.00	.00	.00	31	.00	51	88	.00	88
AC-FT	4700	.00	.00	.00	.00	4250	5120	3550	5450	5690	4910	5390

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1999, BY WATER YEAR (WY)

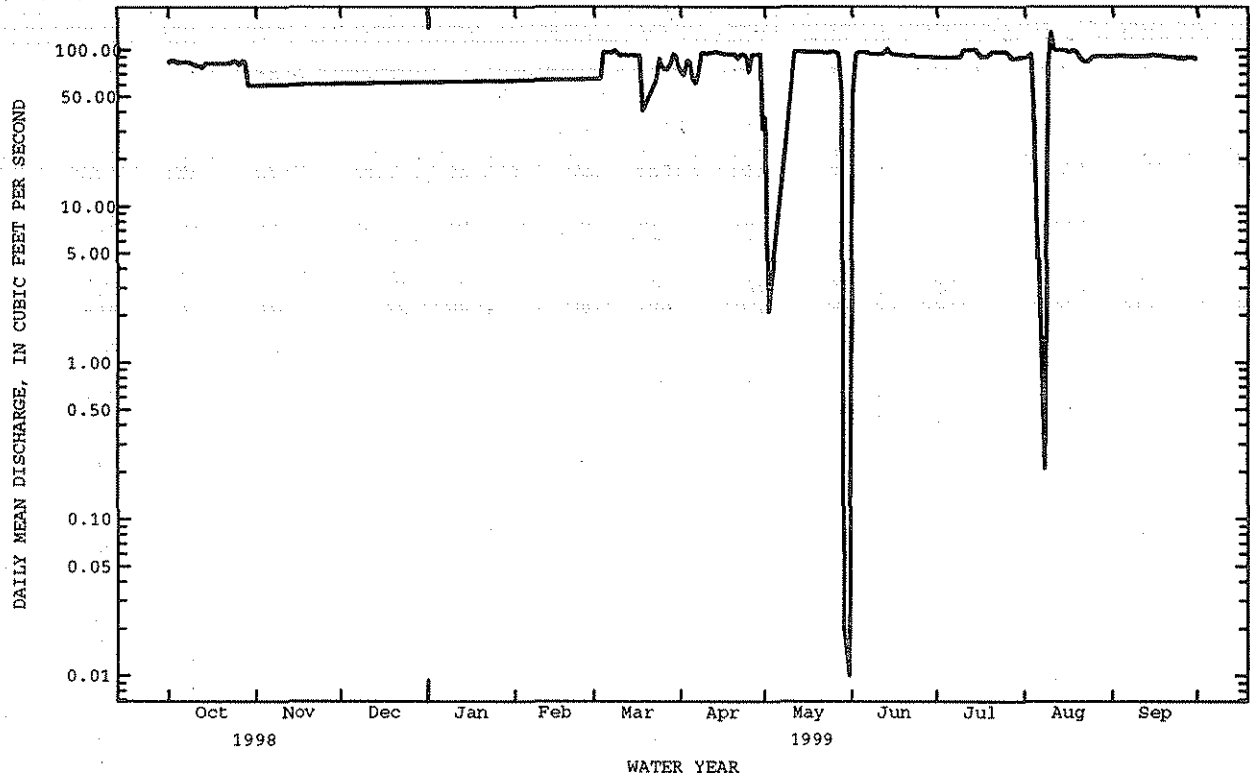
	MEAN	68.7	.83	.40	7.29	5.81	56.3	75.3	78.0	85.0	81.5	78.6	74.3
MAX	98.0	3.57	19.6	43.5	46.2	95.8	98.6	105	108	108	99.9	101	
(WY)	1974	1983	1940	1967	1988	1988	1987	1989	1973	1942	1955	1955	
MIN	.0000	.0000	.0000	.0000	.0000	.0000	35.4	.0000	46.8	29.6	31.3	1.33	
(WY)	1942	1942	1941	1940	1940	1942	1942	1942	1941	1972	1990	1942	

RIO GRANDE BASIN

08385000 FORT SUMNER MAIN CANAL NEAR FORT SUMNER, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1939 - 1999	
ANNUAL TOTAL	21364.00		19690.34			
ANNUAL MEAN	58.5		53.9		51.6	
HIGHEST ANNUAL MEAN					61.8 1996	
LOWEST ANNUAL MEAN					25.3 1942	
HIGHEST DAILY MEAN	110	Sep 29	129	Aug 10	174	Jul 22 1941
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 30	.00	Apr 5 1939
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 30	.00	Nov 5 1939
ANNUAL RUNOFF (AC-FT)	42380		39060		37370	
10 PERCENT EXCEEDS	101		96		97	
50 PERCENT EXCEEDS	86		84		72	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated



08385500 PECOS RIVER NEAR FORT SUMNER, NM

LOCATION.--Lat 34°28'42", long 104°16'18", in SE¹/₄SW¹/₄ sec.13 T. 3 N., R.25 E., DeBaca County, Hydrologic Unit 13060003 on right bank 100 ft upstream from Atchison, Topeka and Santa Fe Railway Bridge, 0.8 mi upstream from U.S. Highway 60 and 2.5 mi downstream from Fort Sumner Diversion dam.

DRAINAGE AREA.--5,300 mi², approximately.

PERIOD OF RECORD.--June to July 1904, July 1904 to June 1905 (gage heights and discharge measurements only). Daily discharges July 18 to August 11, 1904 are unreliable and should not be used, July 1905 to February 1910, September 1912 to December 1913, July 1994 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,020 above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 5, 1905, staff gage at site 2.5 mi upstream at different datum. July 5, 1905 to Dec. 31, 1913, staff gage at site 1.5 mi upstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversion above gage for about 6,100 acres (1961 determination) part of which are below gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, probably exceeded 53,000 ft³/s, Sept. 30, 1904, gage height, 17.95 ft, from floodmarks, site and datum then in use; minimum daily 0.3 ft³/s, Aug. 17, 1922.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e96	30	20	24	14	25	1.4	e5050	2.7	12	25	24
2	e114	20	9.9	24	14	15	1.4	e700	4.1	13	35	24
3	e28	15	8.0	24	14	11	1.3	e110	7.8	14	92	26
4	e19	12	6.3	24	15	7.7	1.9	e60	8.5	12	501	31
5	e9.0	10	5.3	23	19	7.8	6.0	e40	8.2	12	1130	25
6	e13	9.1	11	24	19	9.2	5.2	33	8.6	13	1380	23
7	e29	7.8	18	24	19	5.8	1.6	18	6.4	13	1390	22
8	29	7.0	19	23	19	16	5.6	12	6.0	16	1420	18
9	23	6.2	19	24	19	10	5.6	24	7.0	147	1370	19
10	22	5.5	20	21	19	4.9	5.5	20	6.8	638	1260	19
11	17	5.2	20	19	18	4.8	6.1	12	7.2	293	376	19
12	17	4.8	17	19	19	5.6	6.5	12	11	278	338	19
13	20	4.5	12	19	19	5.3	21	11	87	273	329	21
14	15	4.3	11	19	19	5.3	8.6	11	14	274	328	26
15	15	4.0	11	19	19	5.5	6.9	9.6	13	199	325	42
16	15	3.8	11	18	19	5.7	7.2	9.1	12	42	318	29
17	15	3.5	11	18	19	6.1	7.3	9.5	13	41	397	27
18	15	3.3	11	18	19	80	7.0	9.3	13	32	511	27
19	15	3.1	11	18	19	28	6.5	9.1	12	57	412	19
20	16	18	19	18	19	16	6.0	8.5	12	144	198	14
21	15	24	23	18	19	35	11	8.5	13	148	46	13
22	14	25	23	19	18	30	4.3	8.1	16	148	33	13
23	16	26	e26	18	16	18	6.0	7.4	12	147	27	11
24	22	26	e28	18	20	5.9	6.0	8.5	11	147	24	10
25	20	26	27	18	22	2.7	2.0	19	11	147	22	10
26	13	27	24	18	24	2.1	3.4	11	11	111	21	10
27	e50	27	24	18	25	1.8	3.5	7.6	12	26	21	10
28	24	27	24	17	25	1.7	3.6	61	12	22	21	11
29	51	29	24	22	---	4.6	4.1	26	13	21	21	11
30	138	28	24	19	---	5.6	1380	15	12	24	19	11
31	239	---	24	16	---	1.9	---	10	---	25	24	---
TOTAL	1144.0	442.1	541.5	621	529	384.0	1542.5	6350.2	383.3	3489	12414	584
MEAN	36.9	14.7	17.5	20.0	18.9	12.4	51.4	205	12.8	113	400	19.5
MAX	239	30	28	24	25	80	1380	5050	87	638	1420	42
MIN	9.0	3.1	5.3	16	14	1.7	1.3	7.4	2.7	12	19	10
AC-FT	2270	877	1070	1230	1050	762	3060	12600	760	6920	24620	1160

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1999, BY WATER YEAR (WY)

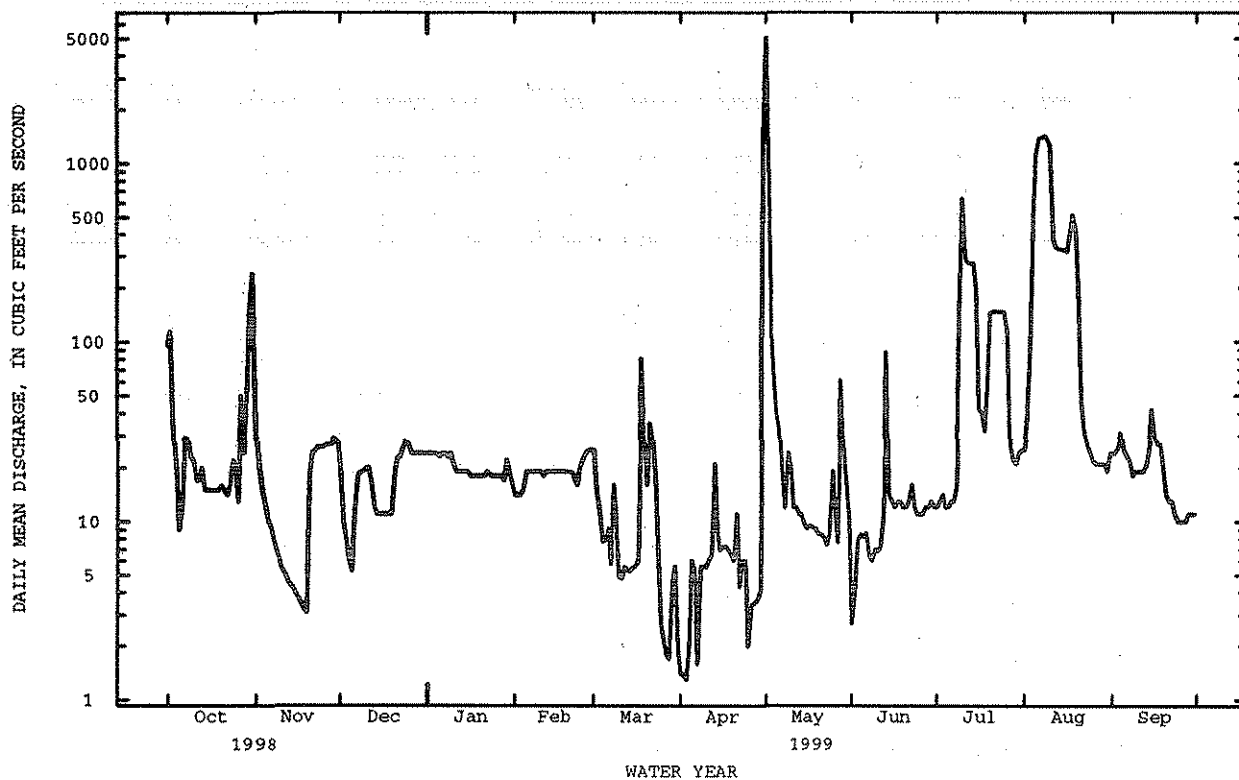
MEAN	54.1	70.1	14.3	24.6	61.6	182	17.5	175	559	162	302	174
MAX	201	321	48.5	53.6	232	411	51.4	576	888	537	572	530
(WY)	1995	1998	1996	1996	1995	1998	1999	1996	1995	1998	1997	1998
MIN	5.36	3.83	.85	1.57	2.79	8.53	1.98	2.73	12.8	17.7	27.4	6.54
(WY)	1997	1997	1997	1997	1997	1996	1995	1998	1999	1997	1998	1996

RIO GRANDE BASIN

08385500 PECOS RIVER NEAR FORT SUMNER, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1994 - 1999
ANNUAL TOTAL	70995.68	28424.6	
ANNUAL MEAN	195	77.9	150
HIGHEST ANNUAL MEAN			216
LOWEST ANNUAL MEAN			77.9
HIGHEST DAILY MEAN	1180 Jul 27	5050 May 1	5050 May 1 1999
LOWEST DAILY MEAN	.66 May 30	1.3 Apr 3	.21 Sep 29 1997
ANNUAL SEVEN-DAY MINIMUM	.88 May 24	2.6 Mar 28	.57 Apr 17 1997
INSTANTANEOUS PEAK FLOW		5300 Apr 30	5300 Apr 30 1999
INSTANTANEOUS PEAK STAGE		10.85 Apr 30	10.85 Apr 30 1999
INSTANTANEOUS LOW FLOW		.86 Apr 5	.21 Sep 28 1997
ANNUAL RUNOFF (AC-FT)	140800	56380	108500
10 PERCENT EXCEEDS	1010	112	895
50 PERCENT EXCEEDS	18	18	13
90 PERCENT EXCEEDS	3.3	5.5	1.6

e Estimated



08385522 PECOS RIVER BELOW TAIBAN CREEK NEAR FORT SUMNER, NM

LOCATION.--Lat 34°19'56", long 104°10'48", NW¹/₄NE¹/₄ sec.11, T.1 N., R.26 E., De Baca County, Hydrologic Unit 13060003, on left bank 0.6 mi downstream from Taiban Creek, 11.0 mi southeast of Fort Sumner, and at mile 665.7.

PERIOD OF RECORD.--August 1992 to current year (operated as a low flow station only).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 3,910 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for those estimated daily discharges, which are poor. Flow partly regulated by Sumner Dam (station 08384000) 23 mi upstream. Diversion for irrigation of about 19,100 acres (1959 determination) above station. Discharge represents in general, return flow from irrigated areas in Fort Sumner Irrigation Project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	195	131	53	44	36	37	62	2130	46	39	56	60
2	213	85	44	e43	35	38	51	552	61	39	80	60
3	127	79	40	e43	34	31	32	301	64	38	144	61
4	118	78	36	e42	33	55	32	156	56	39	353	69
5	107	75	34	43	35	38	66	103	48	119	1190	67
6	111	74	32	43	37	32	82	80	42	71	1480	63
7	112	70	40	43	36	34	76	74	43	58	1500	62
8	96	69	43	43	35	51	54	59	48	49	1500	63
9	94	68	44	42	35	55	54	66	44	55	1570	58
10	100	68	44	41	35	39	40	74	44	1090	1490	55
11	99	67	45	39	35	33	40	63	41	275	600	60
12	91	66	43	37	36	33	45	71	49	295	364	60
13	93	65	41	37	36	38	83	66	383	292	352	60
14	75	64	38	37	36	33	82	58	105	293	350	60
15	79	63	37	37	36	35	59	61	83	290	334	80
16	85	62	36	36	36	39	52	58	87	107	311	82
17	98	49	36	37	35	57	64	60	74	131	301	88
18	107	35	36	36	35	103	54	57	55	105	491	83
19	94	34	35	36	34	74	46	64	55	65	458	108
20	82	33	35	35	34	45	46	61	50	153	268	105
21	93	45	43	37	34	43	51	64	55	179	118	92
22	108	49	43	40	35	56	55	52	75	179	75	89
23	103	50	e43	37	35	47	48	53	75	178	70	84
24	111	51	e38	36	34	56	47	52	66	181	67	71
25	101	51	29	37	37	45	45	106	58	175	65	77
26	90	49	45	37	38	42	47	89	61	175	63	69
27	160	51	46	36	38	46	60	82	52	88	62	65
28	138	53	46	37	38	45	54	132	46	69	61	61
29	122	56	45	46	---	45	49	104	45	59	59	56
30	188	55	45	49	---	57	1600	60	43	58	58	70
31	1140	---	44	37	---	57	---	52	---	65	57	---
TOTAL	4530	1845	1259	1223	993	1439	3176	5060	2054	5009	13947	2138
MEAN	146	61.5	40.6	39.5	35.5	46.4	106	163	68.5	162	450	71.3
MAX	1140	131	53	49	38	103	1600	2130	383	1090	1570	108
MIN	75	33	29	35	33	31	32	52	41	38	56	55
AC-FT	8990	3660	2500	2430	1970	2850	6300	10040	4070	9940	27660	4240

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1999, BY WATER YEAR (WY)

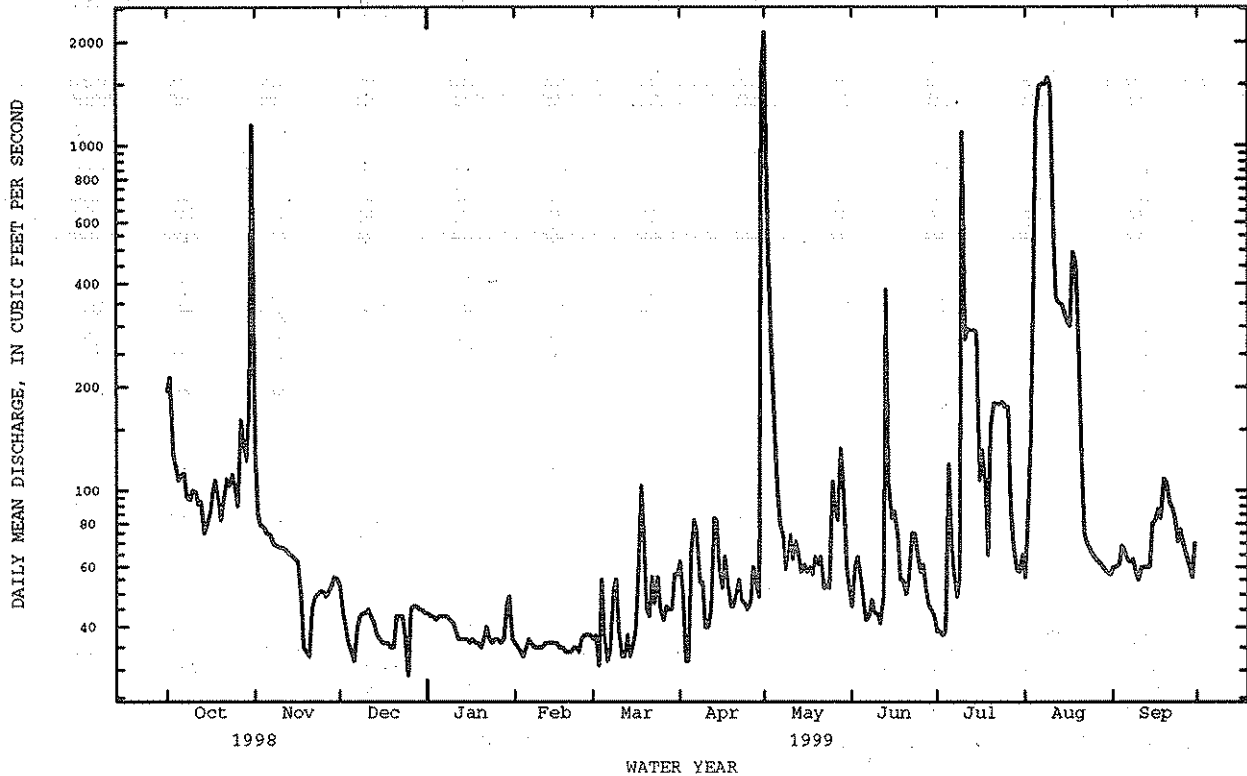
MEAN	186	81.3	30.2	32.1	81.9	201	124	197	536	263	412	214
MAX	370	353	58.9	62.6	253	457	497	640	971	680	884	582
(WY)	1994	1998	1996	1996	1995	1998	1993	1996	1995	1993	1994	1998
MIN	66.3	24.5	18.7	14.7	15.1	38.3	40.6	40.5	68.5	70.2	88.6	61.6
(WY)	1996	1997	1997	1997	1993	1993	1995	1998	1999	1997	1996	1996

RIO GRANDE BASIN

08385522 PECOS RIVER BELOW TAIBAN CREEK NEAR FORT SUMNER, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1992 - 1999	
ANNUAL TOTAL	85642		42673		196	
ANNUAL MEAN	235		117		253	
HIGHEST ANNUAL MEAN					117	
LOWEST ANNUAL MEAN					117	
HIGHEST DAILY MEAN	1230	Sep 21	2130	May 1	2130	May 1 1999
LOWEST DAILY MEAN	21	Jan 27	29	Dec 25	11	Feb 11 1994
ANNUAL SEVEN-DAY MINIMUM	22	Jan 23	34	Feb 18	12	Feb 7 1994
INSTANTANEOUS PEAK FLOW			4580	May 1	4580	May 1 1999
INSTANTANEOUS PEAK STAGE			8.35	May 1	8.35	May 1 1999
INSTANTANEOUS LOW FLOW			22	Mar 3	6.9	Jan 4 1997
ANNUAL RUNOFF (AC-FT)	169900		84640		142200	
10 PERCENT EXCEEDS	1040		176		960	
50 PERCENT EXCEEDS	60		57		58	
90 PERCENT EXCEEDS	32		36		20	

e Estimated



08385630 PECOS RIVER NEAR DUNLAP, NM

LOCATION.--Lat 34°03'52", long 104°18'22", in SE¹/₄NW¹/₄, sec. 10, T.3 S., R.25 E., DeBaca County, Hydrologic Unit 13060003, on left bank 1.2 mi south of Van Eaton Ranch, 2.5 mi upstream from Arroyo de la Mora, 2.7 mi downstream from Blanco Canyon, 15 mi east of Dunlap, NM, and at mile 638.1

PERIOD OF RECORD.--August 1993 to current year (operated as a low flow station only).

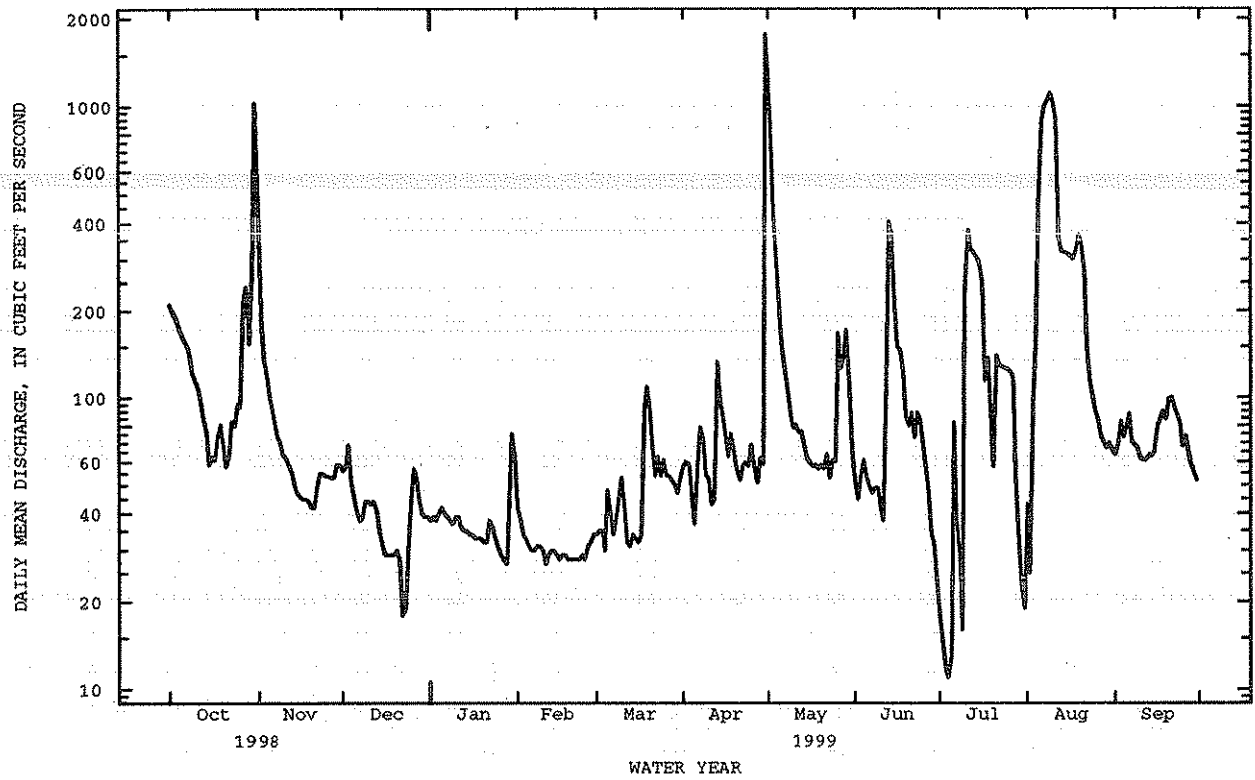
GAGE.--Water-stage recorder. Elevation of gage is 3,760 ft above National Geodetic Vertical Datum of 1929, from river profile map.

REMARKS.--Record good, except for those above 600 ft³/s, and estimated daily discharges, which are poor. Flow partly regulated by Lake Summer (station 08384000). Diversion for irrigation of about 19,100 acres (1959 determination) above station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e210	442	56	38	42	34	58	1290	52	18	43	64
2	e200	189	58	39	38	35	60	741	45	15	25	69
3	e190	137	69	38	34	35	59	424	54	12	98	83
4	e180	117	52	40	33	30	45	290	61	11	154	73
5	e170	101	45	42	31	48	37	209	54	13	462	78
6	e160	90	41	40	30	40	59	154	50	82	888	88
7	154	81	38	39	30	34	79	125	47	38	1000	71
8	145	74	39	38	31	39	72	108	49	29	1050	69
9	122	70	44	37	31	46	54	87	49	16	1110	67
10	116	64	44	39	30	53	53	79	42	231	1050	62
11	108	62	43	39	27	41	43	81	38	378	894	61
12	98	59	44	36	29	32	45	76	119	326	360	61
13	86	56	41	35	30	31	133	77	404	316	318	64
14	77	50	35	35	30	34	99	70	363	305	318	63
15	59	47	31	34	29	33	88	62	205	293	316	65
16	63	46	29	34	28	32	73	60	151	247	310	80
17	61	45	29	33	29	34	63	58	145	115	301	84
18	73	45	29	33	29	91	75	59	122	138	321	90
19	81	44	29	33	28	109	65	57	86	88	364	84
20	69	42	30	32	28	94	57	59	80	58	344	99
21	58	42	28	32	28	67	52	57	89	140	274	100
22	63	50	18	38	28	54	58	64	73	131	151	93
23	83	55	19	36	28	63	60	53	89	129	117	88
24	80	55	30	33	29	54	58	61	85	127	100	82
25	95	54	46	31	28	61	69	60	70	126	90	68
26	93	54	57	29	31	54	57	167	58	123	83	74
27	213	53	54	28	32	54	51	126	49	119	74	65
28	242	53	44	27	34	52	62	139	34	53	71	59
29	154	59	40	47	---	50	59	171	32	32	67	55
30	280	59	39	75	---	47	1770	106	23	23	70	52
31	1030	---	39	62	---	54	---	66	---	19	66	---
TOTAL	4813	2395	1240	1172	855	1535	3613	5236	2818	3751	10889	2211
MEAN	155	79.8	40.0	37.8	30.5	49.5	120	169	93.9	121	351	73.7
MAX	1030	442	69	75	42	109	1770	1290	404	378	1110	100
MIN	58	42	18	27	27	30	37	53	23	11	25	52
AC-FT	9550	4750	2460	2320	1700	3040	7170	10390	5590	7440	21600	4390
CAL YR 1998	TOTAL 77717	MEAN 213	MAX 1150	MIN 18	AC-FT 154200							
WTR YR 1999	TOTAL 40528	MEAN 111	MAX 1770	MIN 11	AC-FT 80390							

e Estimated



08385648 PECOS RIVER ABOVE ACME, NM

LOCATION.--Lat 33°41'09", long 104°18'59", in SW¹/₄NE¹/₄ sec. 31, T.7 S., R.26 E., Chaves County, Hydrologic Unit 13060007, on left bank 0.5 mi upstream from Eightmile Draw, 2.5 mi upstream from boundary for Bitter Lake National Wildlife Refuge, 4.6 miles downstream from Sand Creek and at mile 596.3.

PERIOD OF RECORD.--August 1992 to current year (operated as a low flow station only).

GAGE.--Water-stage recorder. Elevation of gage is 3,550 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair, except for estimated daily discharges, which are poor. Flow partly regulated by Lake Sumner (station 08384000). Diversion for irrigation of about 19,100 acres (1959 determination) above station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

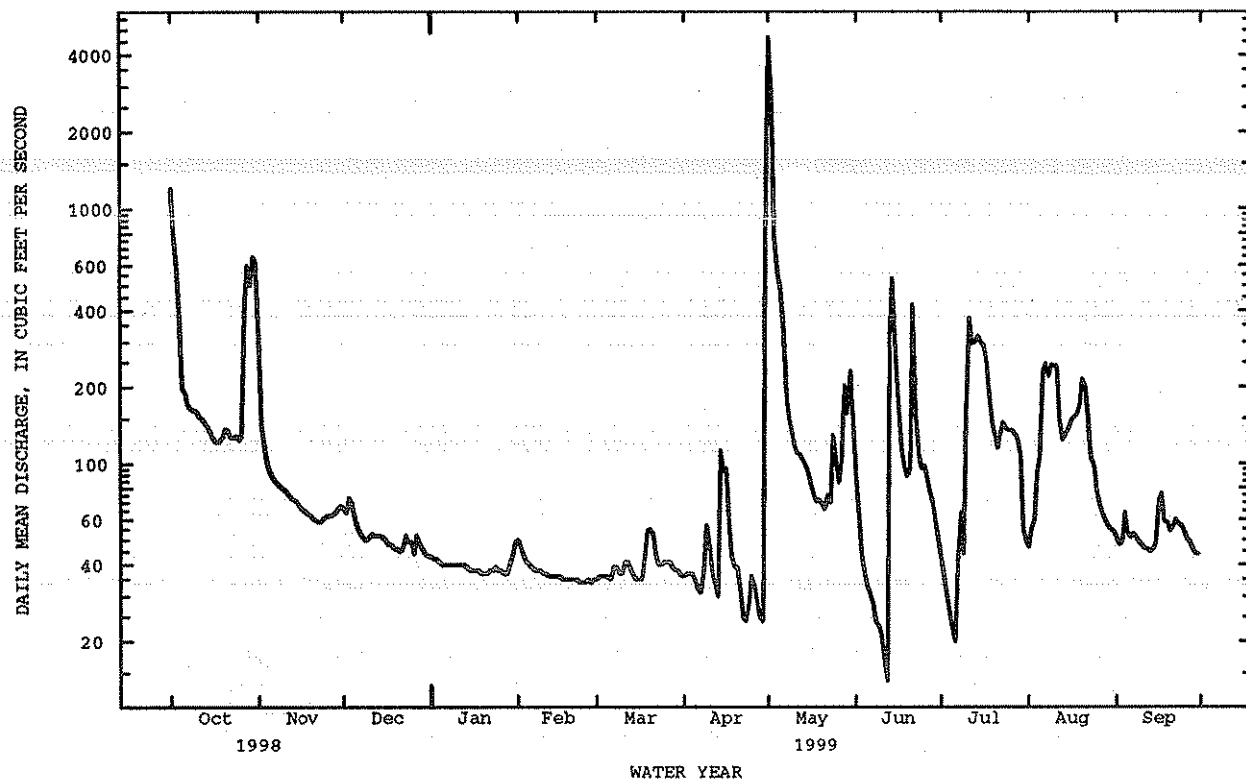
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1200	303	67	43	50	35	36	e4670	e92	e43	47	51
2	e800	141	64	42	46	36	37	e2750	e62	e37	55	48
3	e600	120	73	42	43	36	37	e772	e44	e30	60	49
4	e400	99	70	41	41	36	37	e556	e37	e26	93	64
5	e200	92	61	40	40	36	35	e485	e33	e22	107	54
6	e190	87	56	40	39	35	32	e352	e31	e20	229	51
7	e170	84	53	40	38	39	e31	e180	e28	e41	247	53
8	165	82	51	40	38	39	e38	e150	e24	e64	220	51
9	163	80	50	40	38	37	e57	e132	e23	e44	244	49
10	162	78	51	40	37	37	e50	e119	e21	e163	243	48
11	153	75	53	40	37	41	e37	e110	e17	e372	243	46
12	151	73	52	40	36	41	e34	e109	e14	e296	150	46
13	145	72	52	40	36	38	e30	e104	e320	e301	124	45
14	139	71	52	39	36	36	e113	e100	e533	e317	131	46
15	132	68	51	38	36	35	e94	e92	e266	e301	136	48
16	125	66	50	38	36	35	e96	e83	e175	e293	148	71
17	122	65	48	38	35	35	e59	e76	e114	e256	153	76
18	122	64	48	38	35	44	e43	e71	e98	e182	154	59
19	127	63	46	37	35	54	e39	e72	e89	e147	169	59
20	137	61	46	37	35	55	e39	e70	e95	e131	214	54
21	137	60	45	37	35	53	e31	e66	e420	e115	201	57
22	127	59	46	38	35	44	e25	e75	e153	e132	151	60
23	127	59	52	38	34	40	e24	e70	e112	e145	105	58
24	129	61	49	39	34	40	e28	e129	e96	e137	99	57
25	124	62	49	38	34	41	e36	e102	e98	e135	78	54
26	128	62	44	38	35	41	e33	e84	e87	e135	69	50
27	e400	63	52	37	34	41	e28	e101	e78	e131	64	49
28	e600	64	48	37	35	39	e25	e202	e70	e127	60	46
29	e500	66	46	40	---	38	e24	e157	e60	e108	57	44
30	e650	68	44	43	---	38	e772	e230	e50	55	55	44
31	629	---	43	49	---	36	---	e146	---	50	54	---
TOTAL	8954	2468	1612	1227	1043	1231	2000	12415	3340	4356	4160	1587
MEAN	289	82.3	52.0	39.6	37.2	39.7	66.7	400	111	141	134	52.9
MAX	1200	303	73	49	50	55	772	4670	533	372	247	76
MIN	122	59	43	37	34	35	24	66	14	20	47	44
AC-FT	17760	4900	3200	2430	2070	2440	3970	24630	6620	8640	8250	3150

CAL YR 1998 TOTAL 89241.1 MEAN 244 MAX 1320 MIN 8.0 AC-FT 177000
WTR YR 1999 TOTAL 44393 MEAN 122 MAX 4670 MIN 14 AC-FT 88050

e Estimated

RIO GRANDE BASIN

08385648 PECOS RIVER ABOVE ACME, NM--Continued



08386000 PECOS RIVER NEAR ACME, NM

LOCATION.--Lat 33°32'10", long 104°22'34", in SW¹/₄NW¹/₄ sec.14, T.9 S., R.25 E., Chaves County, Hydrologic Unit 13060007, on right bank 3.0 mi downstream from U.S. Highway 70, 3.7 mi downstream from Salt Creek, 4.7 mi southwest of Acme, 14 mi northeast of Roswell, and at mile 585.3.

DRAINAGE AREA.--11,380 mi², approximately (contributing area).

PERIOD OF RECORD.--September 1921 to June 1923, July 1937 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 3,510 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 1, 1938, at site on highway bridge 3 mi upstream at various datums. Since Oct. 25, 1963, supplemental water-stage recorder at site opposite base gage at same datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by Lake Sumner (station 08384000) 117 mi upstream since August 1937 and Santa Rosa Lake (station 08382810) 172 mi upstream since April 1980. Diversions for irrigation of about 20,000 acres, 1959 determination, upstream from station. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of May 28, 1937, reached a discharge of 53,000 ft³/s, gage height, 14.82 ft, from floodmarks, site and datum then in use, from slope-area measurement, but may have been exceeded by the flood of Oct. 1, 1904.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1580	1710	65	50	91	24	36	4890	102	50	e110	55
2	683	453	59	47	79	27	37	3200	85	42	e105	48
3	624	296	115	43	60	27	42	881	67	35	e100	48
4	455	212	117	41	52	27	44	e705	54	29	e112	57
5	240	156	e83	43	47	27	43	e545	49	24	196	69
6	191	125	e58	48	46	26	32	e365	53	21	681	49
7	155	101	e49	47	41	31	23	206	e50	26	1150	45
8	133	85	45	48	38	47	27	182	e47	69	1150	49
9	119	e75	41	44	38	39	53	e165	e45	47	1170	40
10	105	71	38	44	37	35	49	e150	e42	203	1220	38
11	91	70	35	44	33	38	33	e140	e39	411	1250	36
12	89	72	39	44	33	55	31	e125	37	253	734	32
13	82	72	41	44	31	46	24	113	380	276	541	31
14	79	71	43	41	32	36	99	107	528	299	527	32
15	73	69	44	37	33	29	89	99	238	287	508	41
16	65	63	e43	34	33	27	82	90	194	281	492	39
17	56	57	40	32	33	32	52	82	150	300	438	173
18	56	52	e32	31	31	76	35	76	136	194	437	88
19	58	46	e25	31	31	106	26	76	132	143	401	78
20	86	45	e21	30	30	125	29	74	143	138	718	68
21	98	42	e19	30	29	139	21	69	477	127	684	63
22	78	42	e17	34	25	83	15	81	167	123	422	79
23	70	e41	e18	35	24	56	12	71	128	142	260	78
24	76	57	39	36	24	44	17	125	104	133	e230	75
25	80	54	64	37	23	52	27	102	104	131	e190	67
26	83	52	39	35	24	51	20	87	95	131	e185	58
27	338	51	79	32	23	66	17	78	87	127	e120	49
28	509	48	93	32	23	59	15	166	77	125	85	52
29	381	54	77	36	---	53	11	132	66	125	74	45
30	262	61	60	64	---	47	829	182	55	120	66	41
31	1890	---	54	74	---	42	---	131	---	116	59	---
TOTAL	8885	4403	1592	1268	1044	1572	1870	13495	3931	4528	14415	1723
MEAN	287	147	51.4	40.9	37.3	50.7	62.3	435	131	146	465	57.4
MAX	1890	1710	117	74	91	139	829	4890	528	411	1250	173
MIN	56	41	17	30	23	24	11	69	37	21	59	31
AC-FT	17620	8730	3160	2520	2070	3120	3710	26770	7800	8980	28590	3420

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1999, BY WATER YEAR (WY)

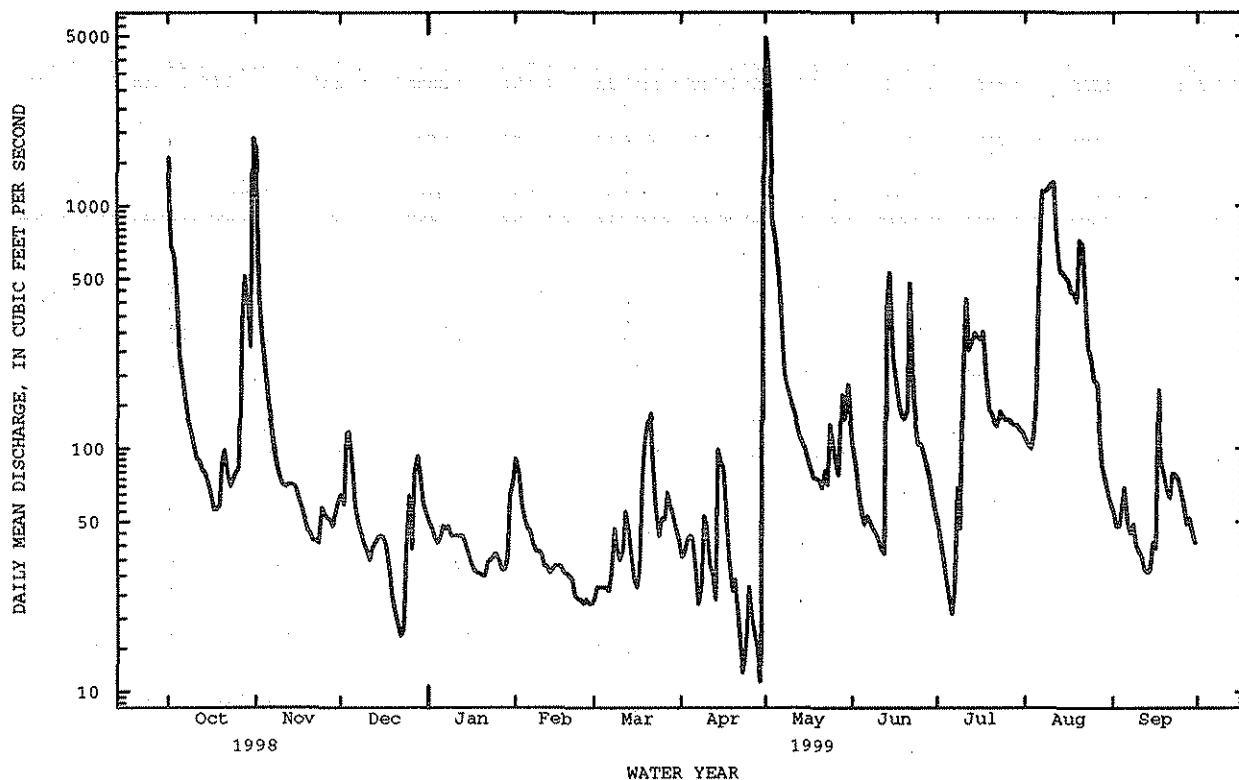
	MEAN	149	61.0	26.9	26.3	29.3	170	205	281	322	317	270	298
MAX	2200	858	236	190	234	595	1217	2680	2186	1611	813	3527	
(WY)	1942	1943	1942	1942	1987	1941	1942	1941	1941	1960	1997	1941	
MIN	.000	.000	.000	.000	.000	.16	3.58	1.81	.000	.19	.90	.000	
(WY)	1948	1948	1948	1948	1953	1954	1967	1946	1947	1954	1947	1947	

RIO GRANDE BASIN

08386000 PECOS RIVER NEAR ACME, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1938 - 1999	
ANNUAL TOTAL	87897.2		58726		180	
ANNUAL MEAN	241		161		964	1941
HIGHEST ANNUAL MEAN					56.8	1964
LOWEST ANNUAL MEAN					29500	Sep 23 1941
HIGHEST DAILY MEAN	1890	Oct 31	4890	May 1	.00	May 23 1938
LOWEST DAILY MEAN	1.9	Jun 3	11	Apr 29	.00	May 23 1938
ANNUAL SEVEN-DAY MINIMUM	6.2	May 28	17	Apr 23	.00	May 23 1938
INSTANTANEOUS PEAK FLOW			5920	May 1	45000	Sep 23 1941
INSTANTANEOUS PEAK STAGE			8.84	May 1	13.71	Sep 23 1941
INSTANTANEOUS LOW FLOW			5.9	Apr 29	1.3	Jun 3 1998
ANNUAL RUNOFF (AC-FT)	174300		116500		130600	
10 PERCENT EXCEEDS	1020		371		685	
50 PERCENT EXCEEDS	52		60		24	
90 PERCENT EXCEEDS	20		29		1.0	

e Estimated.

a From rating curve extended above 27,000 ft³/s.

08386505 RIO RUIDOSO AT RUIDOSO, NM

LOCATION.--Lat 33°20'12", long 105°43'34", in SW¹/₄SW¹/₄NW¹/₄, sec. 19, T.115., R.13E., Lincoln County, Hydrologic Unit 13060008, on right bank at Village of Ruidoso, 2.6 mi to N.M. State 48 and 6.2 mi west of U.S. Highway 70.

PERIOD OF RECORD.--October 1998 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 7,160 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 78 ft³/s, July 20, 1999 gage height, 2.33 ft, minimum .14 ft³/s, Oct. 29, 1998.

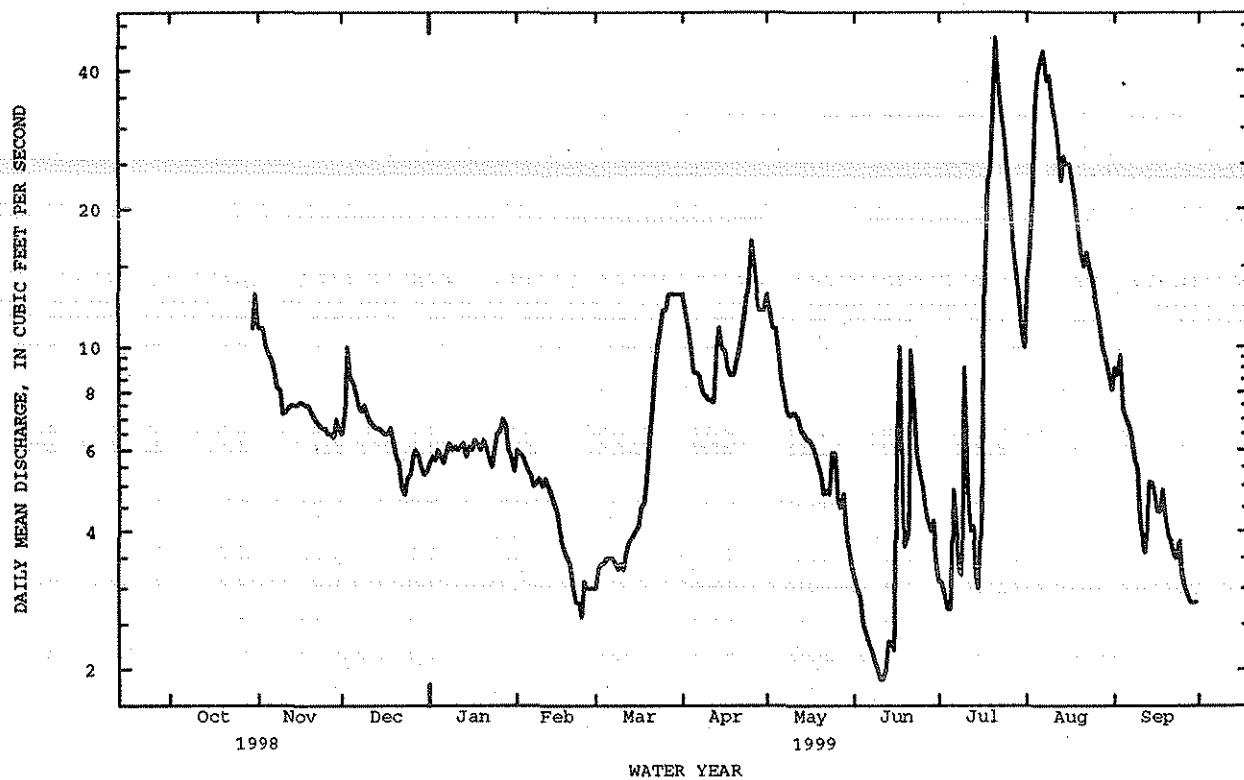
EXTREMES FOR CURRENT YEAR.--Maximum discharge 78 ft³/s, July 20 gage height, 2.33 ft, minimum .14 ft³/s, Oct. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	11	6.5	e5.6	e6.0	3.0	13	13	3.2	3.1	14	9.0
2	---	11	7.3	e5.8	e5.9	3.3	12	12	3.0	3.1	16	8.7
3	---	11	10	e5.7	e5.8	3.4	11	11	2.9	2.9	22	9.6
4	---	10	8.6	e6.0	e5.6	3.4	10	11	2.5	2.7	33	7.4
5	---	9.7	8.4	e5.8	e5.4	3.5	8.8	9.8	2.4	2.7	39	7.1
6	---	9.4	8.0	e5.6	e5.3	3.5	8.8	8.6	2.3	4.9	42	6.8
7	---	8.9	7.4	e6.0	e5.0	e3.5	8.7	7.9	2.2	4.2	44	6.5
8	---	8.2	7.3	e6.2	e5.1	e3.4	8.0	7.3	2.1	3.3	38	5.7
9	---	8.1	7.5	e6.0	e5.2	e3.3	7.9	7.1	2.0	3.2	39	5.5
10	---	e7.2	7.1	e6.1	e5.0	e3.4	7.7	7.2	1.9	9.0	34	4.2
11	---	e7.3	6.9	e6.0	e5.2	e3.3	7.7	7.2	1.9	4.9	31	3.8
12	---	e7.4	6.8	e6.1	e5.0	3.6	7.6	7.0	2.0	4.0	28	3.6
13	---	7.5	6.7	e6.2	e4.8	3.8	10	6.6	2.3	4.1	23	5.1
14	---	7.5	6.7	e5.8	e4.6	3.9	11	6.5	2.3	3.2	26	5.1
15	---	7.5	6.6	e6.1	e4.4	4.0	10	6.3	2.2	3.0	25	4.9
16	---	7.6	6.5	e6.0	e4.0	4.1	9.8	6.3	5.9	4.5	25	4.4
17	---	7.6	6.5	e6.3	e3.8	4.5	9.0	6.1	10	13	23	4.4
18	---	7.5	e6.7	e6.2	e3.6	4.6	8.7	5.9	4.2	23	21	4.9
19	---	7.5	e6.3	e6.0	e3.5	5.2	8.7	5.6	3.7	24	18	4.2
20	---	7.3	e5.8	e6.3	e3.4	6.2	9.3	e5.3	4.0	32	16	3.9
21	---	7.1	e5.6	e6.1	e3.0	7.4	10	e4.8	9.8	47	15	3.8
22	---	6.9	e5.0	e5.8	e2.8	8.8	11	e4.9	7.5	38	16	3.6
23	---	6.8	e4.8	e5.5	e2.8	10	12	e4.8	5.9	33	15	3.5
24	---	6.7	e5.2	e6.0	e2.6	11	14	e5.9	5.4	29	14	3.8
25	---	6.7	e5.3	e6.5	3.1	12	17	5.9	5.0	25	13	3.2
26	---	6.5	e5.8	e6.6	3.0	12	15	4.7	4.5	21	12	3.0
27	---	6.5	e6.0	e7.0	3.0	13	13	4.5	4.2	17	11	2.9
28	---	6.4	e5.8	e6.8	3.0	13	12	4.8	4.0	15	10	2.8
29	---	7.0	e5.5	e6.0	---	13	12	4.0	4.2	13	9.4	2.8
30	11	6.6	e5.3	e5.8	---	13	12	3.7	3.4	11	8.8	2.8
31	e13	---	e5.4	e5.4	---	13	---	3.4	---	10	8.1	---
TOTAL	24	236.4	203.3	187.3	119.9	203.1	315.7	209.1	116.9	413.8	689.3	147.0
MEAN	12.0	7.88	6.56	6.04	4.28	6.55	10.5	6.75	3.90	13.3	22.2	4.90
MAX	13	11	10	7.0	6.0	13	17	13	10	47	44	9.6
MIN	11	6.4	4.8	5.4	2.6	3.0	7.6	3.4	1.9	2.7	8.1	2.8
AC-FT	48	469	403	372	238	403	626	415	232	821	1370	292

WTR YR 1999 TOTAL 2865.8 MEAN 8.53 MAX 47 MIN 1.9 AC-FT 5680

e Estimated



08387000 RIO RUIDOSO AT HOLLYWOOD, NM

LOCATION.--Lat 33°19'36", long 105°37'38", in SE¹/₄SE¹/₄NE¹/₄ sec.25, T.11 S., R.13 E., Lincoln County, Hydrologic Unit 13060008, on center pier on downstream side of bridge on Frieden Bloom Street in Hollywood, NM, 0.1 mi north of U.S. Highway 70, 0.7 mi downstream from Gavilan Canyon, 1.7 mi downstream from Carrizo Creek, and at mile 24.4.

DRAINAGE AREA.--120 mi², approximately.

PERIOD OF RECORD.--March 1953 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,420 ft above National Geodetic Vertical Datum of 1929, from topographic map. Mar. 14, 1953 to Mar. 28, 1985, at site 0.95 mi downstream at different datum.

REMARKS.--Records good, except for estimated daily discharges which are poor. Village of Ruidoso diverts from right bank 7.0 mi upstream for municipal use and returns a portion of this water as effluent from sewage disposal plant downstream from the gage.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of Sept. 29, 1941, is probably the highest since at least 1904 (discharge not determined).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	32	17	10	9.0	7.9	14	12	8.4	8.7	e20	14
2	18	30	23	11	8.6	8.2	13	13	8.2	9.2	e19	15
3	e16	30	40	9.6	9.1	8.2	12	11	8.1	9.1	e20	17
4	e15	28	30	10	8.5	8.2	11	11	7.8	8.9	e30	14
5	e14	26	27	10	8.6	8.9	10	10	7.7	8.7	e43	13
6	e12	24	28	8.6	8.2	8.9	9.5	9.3	7.6	9.5	e41	13
7	11	23	24	7.8	7.9	10	8.7	9.5	7.6	11	38	13
8	11	21	20	7.6	8.0	11	8.2	11	7.3	11	46	12
9	11	23	24	7.6	7.9	9.5	8.1	10	7.3	10	42	20
10	11	19	21	7.9	7.9	9.1	8.4	9.1	7.2	29	55	14
11	11	18	20	8.1	7.8	9.1	8.9	7.9	7.1	12	36	12
12	11	16	19	8.2	7.8	8.8	8.5	8.1	7.2	10	29	12
13	11	16	19	7.5	9.1	9.1	9.0	10	7.7	10	25	19
14	11	17	18	7.4	9.4	9.1	9.8	9.8	7.7	9.8	32	16
15	11	17	13	8.3	8.8	9.3	9.7	9.7	8.3	9.4	27	14
16	11	17	12	8.1	8.1	9.3	9.2	9.7	10	9.9	24	15
17	11	16	13	7.9	8.2	11	8.7	9.6	18	21	24	15
18	11	16	14	7.9	8.1	12	8.3	9.4	9.7	24	22	14
19	11	15	16	7.9	8.2	10	8.7	9.3	8.1	24	20	12
20	15	16	16	7.9	7.9	9.0	9.7	9.4	12	27	19	12
21	18	15	15	9.1	8.0	9.1	10	9.3	15	45	17	12
22	14	15	14	8.0	8.4	9.8	11	9.4	11	e40	16	11
23	12	13	11	8.4	8.5	10	11	9.6	9.8	e40	16	12
24	12	12	12	8.2	8.4	11	14	9.8	9.3	e35	16	12
25	12	11	13	8.1	8.4	11	17	10	9.3	e30	15	11
26	13	11	15	8.0	8.4	12	16	9.2	9.7	e30	14	11
27	43	11	14	8.7	8.4	14	15	9.1	9.4	e25	14	9.8
28	50	11	13	8.0	8.1	15	13	9.3	9.2	e25	13	9.6
29	40	26	12	8.4	---	15	12	9.2	9.5	e24	13	9.6
30	33	18	12	8.3	---	14	12	8.8	8.8	e23	13	9.7
31	35	---	11	8.5	---	14	---	8.7	---	e22	13	---
TOTAL	544	563	556	261.0	233.7	321.5	324.4	301.2	274.0	611.2	772	393.7
MEAN	17.5	18.8	17.9	8.42	8.35	10.4	10.8	9.72	9.13	19.7	24.9	13.1
MAX	50	32	40	11	9.4	15	17	13	18	45	55	20
MIN	11	11	11	7.4	7.8	7.9	8.1	7.9	7.1	8.7	13	9.6
AC-FT	1080	1120	1100	518	464	638	643	597	543	1210	1530	781

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1999, BY WATER YEAR (WY)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	21.2	17.3	22.2	17.3	21.4	33.7	43.1	37.8	19.8	19.0	39.3	26.5						
MAX	80.8	69.0	130	61.5	58.6	91.2	104	101	52.3	49.9	162	63.4						
(WY)	1987	1987	1985	1985	1985	1985	1992	1992	1986	1986	1984	1988						
MIN	7.69	7.43	6.59	7.74	8.35	10.4	8.26	6.08	5.96	7.94	8.25	11.8						
(WY)	1995	1982	1982	1982	1999	1999	1996	1996	1982	1982	1983	1998						

RIO GRANDE BASIN

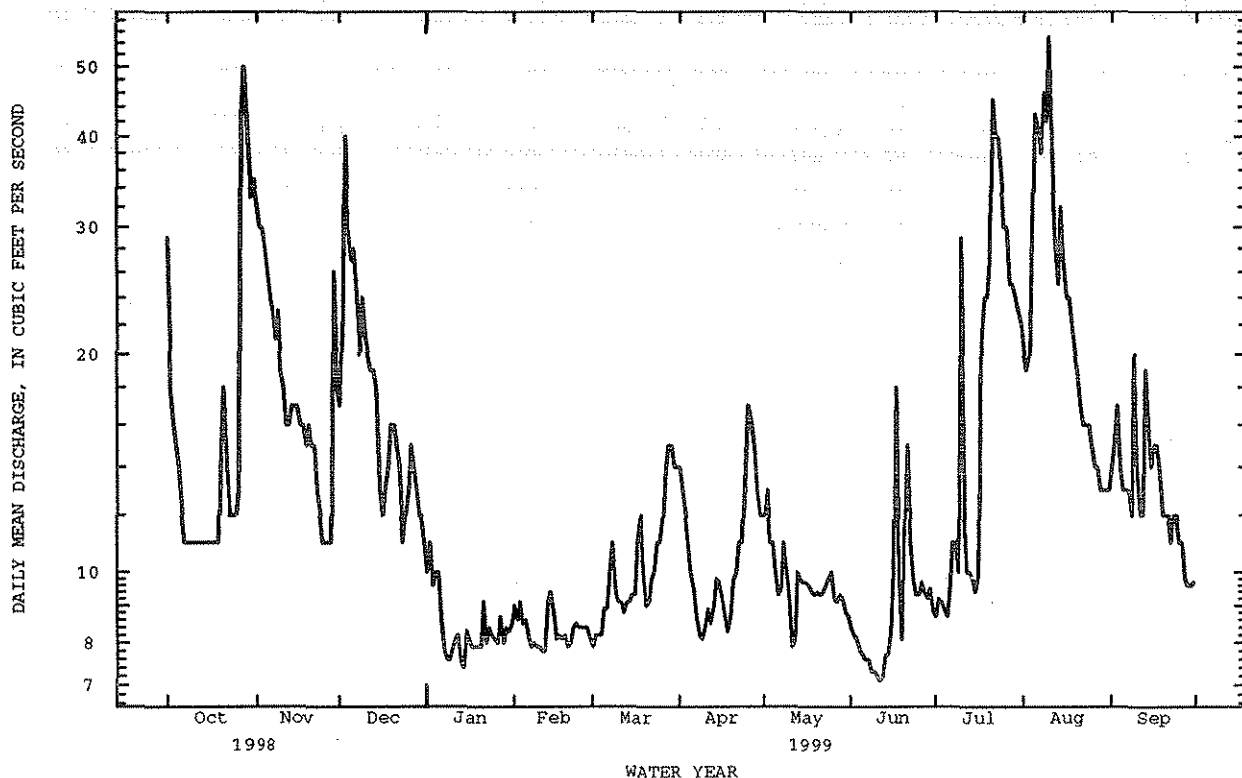
08387000 RIO RUIDOSO AT HOLLYWOOD, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1982 - 1999	
ANNUAL TOTAL	9633.2		5155.7		^a 26.6	
ANNUAL MEAN	26.4		14.1		49.7	
HIGHEST ANNUAL MEAN					11.9	
LOWEST ANNUAL MEAN					1130	
HIGHEST DAILY MEAN	105	Apr 24	55	Aug 10	1130	Dec 20 1984
LOWEST DAILY MEAN	9.4	Sep 14	7.1	Jun 11	1.9	Aug 27 1994
ANNUAL SEVEN-DAY MINIMUM	10	Sep 23	7.3	Jun 6	2.4	Aug 24 1994
INSTANTANEOUS PEAK FLOW			153	Aug 10	^b 2120	Aug 11 1984
INSTANTANEOUS PEAK STAGE			2.66	Aug 10	^c 10.05	Jun 17 1965
INSTANTANEOUS LOW FLOW			6.3	Feb 12	.30	Jan 1 1962
ANNUAL RUNOFF (AC-FT)	19110		10230		19250	
10 PERCENT EXCEEDS	60		25		54	
50 PERCENT EXCEEDS	17		11		16	
90 PERCENT EXCEEDS	11		8.1		8.4	

e Estimated

a Average discharge for 28 years (1954-81), 14.9 ft³/s, 10,800 acre-ft/yr, for period when sewage disposal plant effluent was discharged upstream from gage.b From rating curve extended above 510 ft³/s, on basis of slope-area measurement of peak flow.

c Site and datum then in use.



08387600 EAGLE CREEK BELOW SOUTH FORK, NEAR ALTO, NM

LOCATION.--Lat 33°23'57", long 105°43'11", in SW¹/₄SW¹/₄ sec.31, T.10 S., R.13 E., Lincoln County, Hydrologic Unit 13060008, in Lincoln National Forest on right bank 300 ft upstream from culvert under State Road 532, 400 ft downstream from South Fork, and 2.5 mi west of Alto. Mouth at Rio Ruidoso mile 11.3.

DRAINAGE AREA.--8.14 mi².

PERIOD OF RECORD.--August 1969 to December 1980, April 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 7,600 ft above National Geodetic Vertical Datum of 1929, from topographic map. August 26, 1969 to December 31, 1980, at site 360 ft downstream at datum 6.0 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. No diversions for irrigation upstream from station. Some water is stored in small unregulated recreational ponds on the Mescalero Apache Indian Reservation upstream. Several observations of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.6	.77	.73	.60	.30	1.0	.62	.06	e.28	.96	.27
2	.68	1.9	1.1	.70	.54	.28	1.0	.65	.06	e.28	1.0	.36
3	.54	1.6	2.5	.59	.52	.27	1.0	.61	.05	e.29	3.2	.45
4	.50	1.4	1.4	.54	.51	.25	.99	.52	e.04	e.30	5.1	.30
5	.48	1.3	1.2	.45	.56	.23	.92	.48	2.4	e.31	6.3	.26
6	.46	1.2	1.1	.41	.55	.25	.91	.42	.35	e.32	5.3	.29
7	.44	1.0	1.1	.41	.53	.29	.83	.36	.03	e.32	3.7	.35
8	.40	.93	1.3	.40	.55	.46	.75	.32	.08	.29	3.7	.25
9	.37	1.1	1.4	.38	.54	.41	.67	.28	.14	.24	3.5	.35
10	.33	1.2	1.5	.35	.53	.35	.58	.19	.56	1.4	2.8	.27
11	.33	1.1	1.4	.32	.55	.31	.54	.17	11	.54	2.2	.22
12	.36	1.1	1.4	.40	.66	.30	.48	.16	9.5	.36	1.7	.21
13	.37	.94	1.4	.35	.74	.33	.49	.12	3.0	.24	1.4	.28
14	.36	.85	1.2	.35	.45	.32	.48	.10	.77	.19	1.6	.43
15	.33	.73	1.2	.35	.38	.30	.43	.08	.69	.17	3.4	.48
16	.33	.72	1.1	.33	.36	.30	.42	.07	.72	.26	3.3	.48
17	.26	.70	.99	.33	.37	.33	.42	.06	.60	.38	2.4	.61
18	.26	.62	1.1	.33	.36	.59	.41	.06	.49	.34	1.8	.60
19	.26	.60	1.1	.33	.34	.69	.39	.06	.44	.23	1.4	.44
20	.35	.56	.98	.33	.33	1.2	.38	.06	.37	.27	1.3	.36
21	.92	.60	.89	.34	.34	1.0	.37	.06	.29	.35	1.1	.33
22	.68	.56	.79	.33	.36	.88	.38	.06	.24	1.5	.99	.32
23	.42	.54	.73	.51	.34	.78	.41	.06	.23	2.3	.85	.32
24	.32	.50	.64	.52	.37	.71	.49	.11	e.23	1.5	.71	.35
25	.29	.49	.66	.51	.36	.71	.68	.16	e.24	1.1	.59	.29
26	.28	.45	.68	.50	.31	.67	.49	.09	e.25	.88	.49	.23
27	.85	.50	.65	.42	.30	.68	.43	.08	e.25	.76	.39	.19
28	4.4	.50	.66	.41	.30	.59	.41	.13	e.26	.70	.33	.17
29	1.4	1.5	.66	.55	---	.55	.44	.09	e.26	.63	.28	.17
30	2.8	.99	.71	.61	---	.73	.53	.08	e.27	.54	.27	.17
31	2.5	---	.68	1.2	---	.97	---	.07	---	.57	.24	---
TOTAL	24.17	28.78	32.99	14.28	12.65	16.03	17.72	6.38	33.87	17.84	62.30	9.80
MEAN	.78	.96	1.06	.46	.45	.52	.59	.21	1.13	.58	2.01	.33
MAX	4.4	2.6	2.5	1.2	.74	1.2	1.0	.65	11	2.3	6.3	.61
MIN	.26	.45	.64	.32	.30	.23	.37	.06	.03	.17	.24	.17
AC-FT	48	57	65	28	25	32	35	13	67	35	124	19

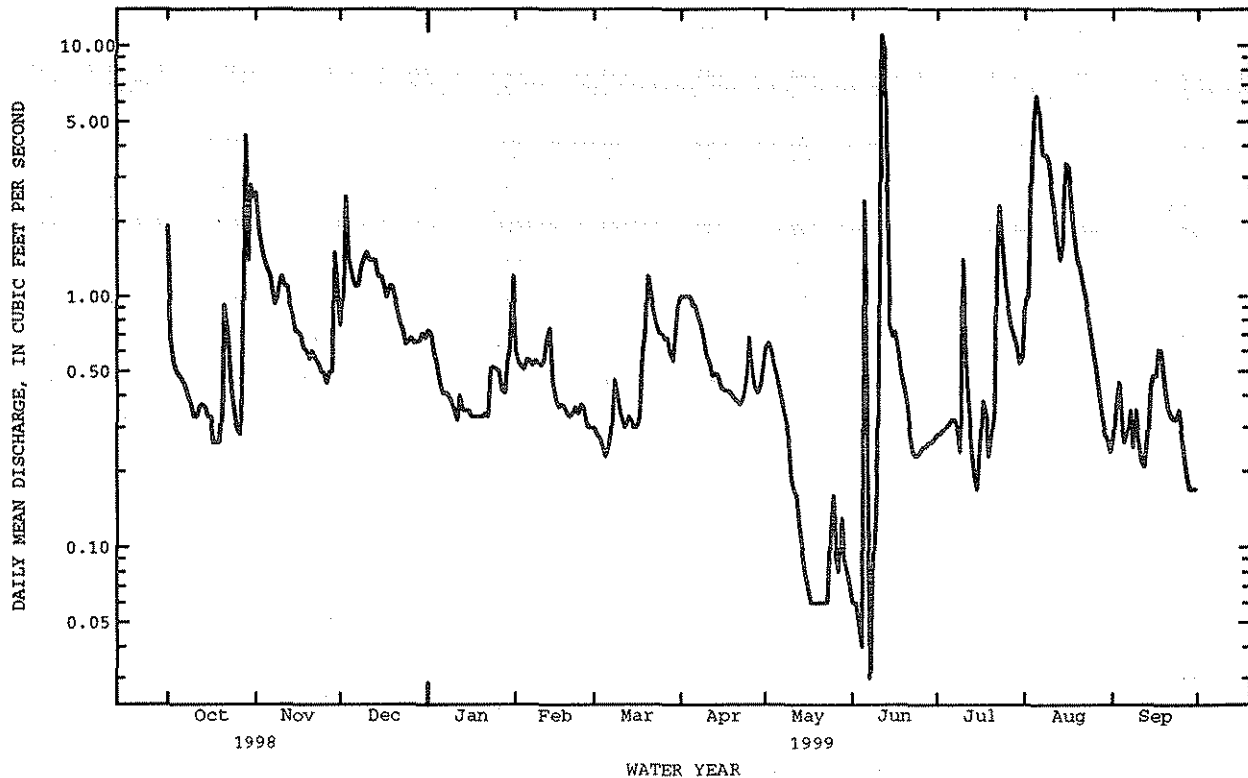
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1999, BY WATER YEAR (WY)

	MEAN	2.36	1.88	1.97	1.55	2.12	3.81	4.96	4.02	1.37	1.86	3.96	3.57
MAX	14.4	17.3	19.5	7.89	8.19	10.6	14.0	15.8	5.94	5.50	16.3	9.26	
(WY)	1975	1979	1979	1979	1979	1979	1973	1973	1979	1990	1988	1974	
MIN	.29	.17	.17	.22	.25	.14	.088	.000	.014	.10	.31	.33	
(WY)	1990	1996	1997	1990	1996	1996	1996	1996	1996	1971	1994	1999	

08387600 EAGLE CREEK BELOW SOUTH FORK, NEAR ALTO, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1970 - 1999
ANNUAL TOTAL	1188.50	276.81	
ANNUAL MEAN	3.26	.76	2.74
HIGHEST ANNUAL MEAN			8.48
LOWEST ANNUAL MEAN			.39
HIGHEST DAILY MEAN	45 Aug 5	11 Jun 11	170 Dec 19 1978
LOWEST DAILY MEAN	.12 Jun 30	.03 Jun 7	.00 Jul 9 1989
ANNUAL SEVEN-DAY MINIMUM	.15 Jun 26	.06 May 17	.00 Jun 17 1990
INSTANTANEOUS PEAK FLOW		14 Jun 11	^a 206 Dec 19 1978
INSTANTANEOUS PEAK STAGE		6.05 Jun 11	6.87 Jul 30 1997
INSTANTANEOUS LOW FLOW		.00 Jun 4	.00 Jul 9 1989
ANNUAL RUNOFF (AC-FT)	2360	549	1990
10 PERCENT EXCEEDS	9.0	1.4	7.1
50 PERCENT EXCEEDS	1.1	.48	1.2
90 PERCENT EXCEEDS	.36	.22	.23

e Estimated

a From rating curve extended above 40 ft³/s.

08389055 RIO BONITO NEAR LINCOLN, NM

LOCATION.--Lat 33°31'28", long 105°28'52", in SW¹/₄NE¹/₄NE¹/₄, sec. 15, T.95., R.15E., Lincoln County, Hydrologic Unit 13060008, on right bank 1.2 mi downstream from culvert under US 380, 5.0 mi north of Lincoln, and 5.6 mi east of Capitan.

PERIOD OF RECORD.--April 1999 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,977 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 662 ft³/s, Aug. 10, 1999 gage height, 4.16 ft, minimum .10 ft³/s, July 1, 4, 1999.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 662 ft³/s, Aug. 10 gage height, 4.16 ft, minimum .10 ft³/s, July 1, 4.

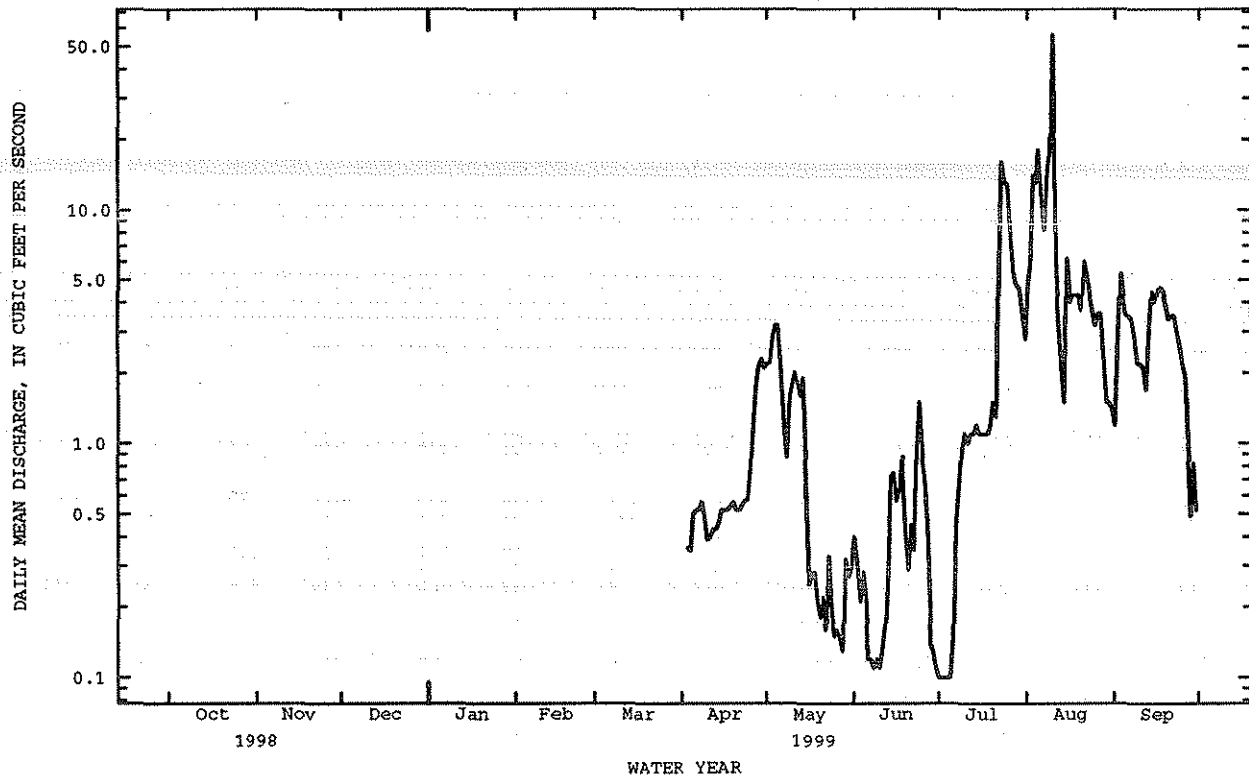
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	2.2	.40	.10	4.8	1.2
2	---	---	---	---	---	---	---	2.2	.30	.10	5.8	2.6
3	---	---	---	---	---	---	.36	2.8	.21	.10	14	5.3
4	---	---	---	---	---	---	.35	3.2	.28	.10	13	4.1
5	---	---	---	---	---	---	.50	3.2	.22	.10	18	3.5
6	---	---	---	---	---	---	.52	2.2	.12	.15	11	3.5
7	---	---	---	---	---	---	.52	1.2	.12	.45	8.2	3.4
8	---	---	---	---	---	---	.56	.87	.11	.67	15	2.8
9	---	---	---	---	---	---	.49	1.6	.12	.95	18	2.2
10	---	---	---	---	---	---	.39	1.8	.11	1.1	56	2.2
11	---	---	---	---	---	---	.40	2.0	.13	1.0	6.2	2.1
12	---	---	---	---	---	---	.43	1.8	.17	1.1	3.4	1.7
13	---	---	---	---	---	---	.43	1.6	.29	1.1	2.1	3.2
14	---	---	---	---	---	---	.46	1.9	.72	1.2	1.5	4.4
15	---	---	---	---	---	---	.52	.65	.75	1.1	6.2	4.0
16	---	---	---	---	---	---	.52	.25	.57	1.1	4.0	4.5
17	---	---	---	---	---	---	.52	.28	.64	1.1	4.3	4.6
18	---	---	---	---	---	---	.54	.28	.88	1.1	4.3	4.5
19	---	---	---	---	---	---	.56	.21	.43	1.2	4.3	3.9
20	---	---	---	---	---	---	.52	.18	.29	1.5	3.7	3.4
21	---	---	---	---	---	---	.52	.22	.45	1.3	6.0	3.5
22	---	---	---	---	---	---	.55	.16	.35	6.1	5.2	3.5
23	---	---	---	---	---	---	.57	.33	.97	16	4.4	3.0
24	---	---	---	---	---	---	.57	.19	1.5	13	3.7	2.6
25	---	---	---	---	---	---	.73	.15	.85	13	3.2	2.2
26	---	---	---	---	---	---	1.2	.16	.70	7.5	3.6	1.9
27	---	---	---	---	---	---	1.7	.15	.45	5.4	3.6	1.0
28	---	---	---	---	---	---	2.1	.13	.14	4.8	2.4	.49
29	---	---	---	---	---	---	2.3	.32	.13	4.6	1.5	.82
30	---	---	---	---	---	---	2.1	.27	.11	3.7	1.5	.52
31	---	---	---	---	---	---	---	.30	---	2.8	1.4	---
TOTAL	---	---	---	---	---	---	20.93	32.80	12.51	93.52	240.3	86.63
MEAN	---	---	---	---	---	---	.75	1.06	.42	3.02	7.75	2.89
MAX	---	---	---	---	---	---	2.3	3.2	1.5	16	56	5.3
MIN	---	---	---	---	---	---	.35	.13	.11	.10	1.4	.49
AC-FT	---	---	---	---	---	---	42	65	25	185	477	172

WTR YR 1999 TOTAL 486.69 MEAN 2.69 MAX 56 MIN .10 AC-FT 965

RIO GRANDE BASIN

08389055 RIO BONITO NEAR LINCOLN, NM--Continued



08390500 RIO HONDO AT DIAMOND A RANCH, NEAR ROSWELL, NM

LOCATION.--33°20'57", long 104°51'05", in NE¹/₄NE¹/₄ sec.20, T.11 S, R.21 E., Chaves County, Hydrologic Unit 13060008, on right bank 40 ft downstream from bridge on Mossman Road at Diamond A Ranch farm, 1.3 mi south of U.S. Highway 70-380, 13 mi upstream from Two Rivers Reservoir, 21 mi upstream from mouth of Rocky Arroyo, 18 mi west of Roswell, and at mile 44.7.

DRAINAGE AREA.--947 mi², contributing area.

PERIOD OF RECORD.--May 1908 to August 1909, May 1939 to current year. Monthly discharge only for 1908-9, published in Technical Report 7, State of New Mexico, State Engineer Office, "Streamflow and Reservoir Content, 1888-1954."

REVISED RECORDS.--WSP 1392: Drainage area. WSP 1512: 1939-40(P), 1941, 1942-43(P), 1946(P).

GAGE.--Water-stage recorder with satellite telemetry and concrete control. Elevation of gage is 4,190 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 11, 1965, at site on left bank at same datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Diversions and ground-water withdrawals upstream from station for irrigation above and below station of about 6,500 acres, 1959 determination. Several observations of water temperature were made during the year. No flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--A flood on June 1, 1937, reached a discharge of 24,900 ft³/s at Riverside, about 13 mi upstream. Other major floods occurred Oct. 31, 1901, Sept. 29, 30, 1904, and July 25, 1905.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.40	.00	.00	.00	e.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.56	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.6	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	30	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	20	.00
13	.00	.00	.00	.00	.75	.00	.00	.00	.00	.00	.65	.00
14	.00	.00	.00	.00	1.0	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.66	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	41	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	1.6	18	.00	.00
22	.00	.00	.00	.00	.00	.00	2.1	.00	.12	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	1.3	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	2.2	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	e.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	e.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	e.00	---
TOTAL	0.00	0.00	0.00	0.00	2.41	0.00	2.10	3.90	1.72	59.00	56.81	0.00
MEAN	.0000	.0000	.0000	.0000	.086	.0000	.070	.13	.057	1.90	1.83	.0000
MAX	.00	.00	.00	.00	1.0	.00	2.1	2.2	1.6	41	30	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	4.8	.00	4.2	7.7	3.4	117	113	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1999, BY WATER YEAR (WY)

	MEAN	25.2	16.7	19.6	16.8	12.7	13.3	26.0	28.9	24.7	26.0	38.4	50.7
MAX	458	199	222	160	97.5	153	199	519	334	163	241	1090	
(WY)	1942	1942	1979	1985	1987	1987	1987	1941	1986	1955	1984	1941	
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1941	1949	1940	1952	1940	1950	1946	1951	1951	1975	1960	1943	

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1940 - 1999

ANNUAL TOTAL	1714.35	125.94	
ANNUAL MEAN	4.70	.35	25.0
HIGHEST ANNUAL MEAN			181
LOWEST ANNUAL MEAN			.35
HIGHEST DAILY MEAN	103	41	8380
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		510	^a 54800
INSTANTANEOUS PEAK STAGE		10.31	^b 28.78
INSTANTANEOUS LOW FLOW			.00
ANNUAL RUNOFF (AC-FT)	3400	250	18080
10 PERCENT EXCEEDS	19	.00	62
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated

a From rating curve extended above 3,100 ft³/s, on basis of slope-area measurement of peak flow.

b Maximum gage height, 28.78 ft, Sept. 22, 1941.

08390600 TWO RIVERS RESERVOIR NEAR ROSWELL, NM

LOCATION.--08390610 Rio Hondo Reservoir: Lat 33°17'55", long 104°43'20", in SW¹/₄SE¹/₄NE¹/₄ sec.4, T.12 S., R.22 E., Chaves County, Hydrologic Unit 13060008, near center of Diamond A Dam on Rio Hondo, 13 mi southwest of Roswell at mile 33.4.
08390620 Rocky Arroyo Reservoir: Lat 33°16'20", long 104°43'20", in NW¹/₄SE¹/₄NE¹/₄ 4sec.16, T.12 S., R.22 E., at left end of Rocky Dam on Rocky Arroyo, and 14 mi southwest of Roswell.

DRAINAGE AREA.--1,027 mi²; Rio Hondo, 963 mi²; Rocky Arroyo, 64 mi².

PERIOD OF RECORD.--July 1963 to current year (prior to October 1965 monthend contents only). Prior to October 1966, contents at 0800 hours.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Two Rivers Reservoir, completed July 16, 1963, is formed by earthfill dams on Rio Hondo, which forms Rio Hondo Reservoir, and on Rocky Arroyo, which forms Rocky Arroyo Reservoir. Above elevation 3,980.0 ft, the pools of the two reservoirs combine to form Two Rivers Reservoir with a total capacity of 163,800 acre-ft, at elevation 4,032.0 ft, crest of ungated spillway. Capacity by original survey was 167,900 acre-ft. Capacity of Rio Hondo Reservoir, 142 acre-ft, from capacity table dated January 1990, between elevations 3,957.0 ft, sill of outlet gate, and 3,980.0. Capacity of Rocky Arroyo Reservoir, 12,860 acre-ft, from capacity table dated January 1990, between elevations 3,945.0, sill of outlet gate, and 3,980.0 ft. No dead storage in Rio Hondo Reservoir or Rocky Arroyo Reservoir. Primary objective of project is flood control. Outlet conduits in Rocky Dam have fixed openings. Figures given herein represent total contents at 2400 hours.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Rio Hondo Reservoir: Maximum contents, 1,260 acre-ft, July 29, 1965, elevation, 3,985.7 ft; no storage most of time. Rocky Arroyo Reservoir: Maximum contents, 6,090 acre-ft, June 18, 1965, elevation, 3,970.7 ft; no storage most of time.

EXTREMES FOR CURRENT YEAR.--Maximum contents, Rio Hondo Reservoir, no storage during year; Rocky Arroyo Reservoir, no storage during year; no contents both reservoirs most of time.

08390800 RIO HONDO BELOW DIAMOND A DAM, NEAR ROSWELL, NM

LOCATION.--Lat 33°18'05", long 104°43'12", in NE¹/₄SE¹/₄NE¹/₄ sec.4, T.12 S., R.22 E., Chaves County, Hydrologic Unit 13060008, on left bank 500 ft downstream from outlet conduit of Diamond A Dam (Two Rivers Reservoir), 13 mi southwest of Roswell, and at mile 33.3.

DRAINAGE AREA.--963 mi², contributing area.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder with satellite telemetry and concrete control. Elevation of gage is 3,949.68 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Records good, except for estimated daily discharges which are fair. Diversions and ground-water withdrawals for irrigation of about 6,500 acres, 1959 determination, upstream from station. This record represents the outflow from Two Rivers Reservoir through Diamond A Dam 0.1 mi upstream; flow from reservoir can also be discharged into Rocky Arroyo through Rocky Dam (see REMARKS for station 08390600). Several observations of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.3	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.01	20	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.11	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	20.11	3.30	0.00
MEAN	.009	.000	.000	.000	.000	.000	.000	.000	.000	.65	.11	.000
MAX	.20	.00	.00	.00	.00	.00	.00	.00	.01	20	3.3	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.6	.00	.00	.00	.00	.00	.00	.00	.02	40	6.5	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1999, BY WATER YEAR (WY)

MEAN	13.2	11.4	14.9	15.7	13.4	14.0	20.1	16.0	8.77	7.41	24.7	24.5
MAX	151	122	118	128	82.9	122	176	127	74.7	52.3	137	116
(WY)	1986	1987	1985	1985	1987	1987	1987	1987	1992	1986	1984	1988
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1964	1964	1964	1964	1964	1964	1964	1967	1971	1974	1975	1973

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1964 - 1999
ANNUAL TOTAL	482.45	23.70	
ANNUAL MEAN	1.32	.065	15.3
HIGHEST ANNUAL MEAN			85.6
LOWEST ANNUAL MEAN			.065
HIGHEST DAILY MEAN	55 Apr 27	20 Jul 21	459 Sep 8 1965
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 2	.00 Oct 1 1963
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 2	.00 Oct 1 1963
INSTANTANEOUS PEAK FLOW		106 Jul 21	659 Jul 29 1965
INSTANTANEOUS PEAK STAGE		2.66 Jul 21	4.91 Jul 29 1965
INSTANTANEOUS LOW FLOW			.00 Oct 1 1963
ANNUAL RUNOFF (AC-FT)	957	47	11110
10 PERCENT EXCEEDS	.00	.00	53
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated

08393610 RIO HONDO NEAR ROSWELL, NM

LOCATION.--Lat 33°24'26", long 104°28'27", in SW¹/₄SW¹/₄ sec. 25, T.10 S., R.24 E., Chaves County, Hydrologic Unit 13060008, on right bank at bridge 0.70 mi downstream from Berrendo Creek, 1.1 mi north on State Road 265 (intersection of Red Bridge Road and U.S. 380) and 3.0 mi west to Main Street. Mouth at Pecos River mile 588.

DRAINAGE.--2,900 mi², approximately (contributing area).

PERIOD OF RECORD.--June 1997 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 3,500 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by Two Rivers Reservoir (083906000) 25.2 mi upstream. Diversions and ground-water withdrawals for irrigation upstream from station. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,350 ft³/s, May 1, 1999, gage height, 15.96 ft, on basis of slope-area measurement of peak flow, minimum 1.6 ft³/s, Feb. 12, 1998.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,350 ft³/s, May 1, gage height, 15.96 ft; minimum, 1.6 ft³/s, Aug. 28.

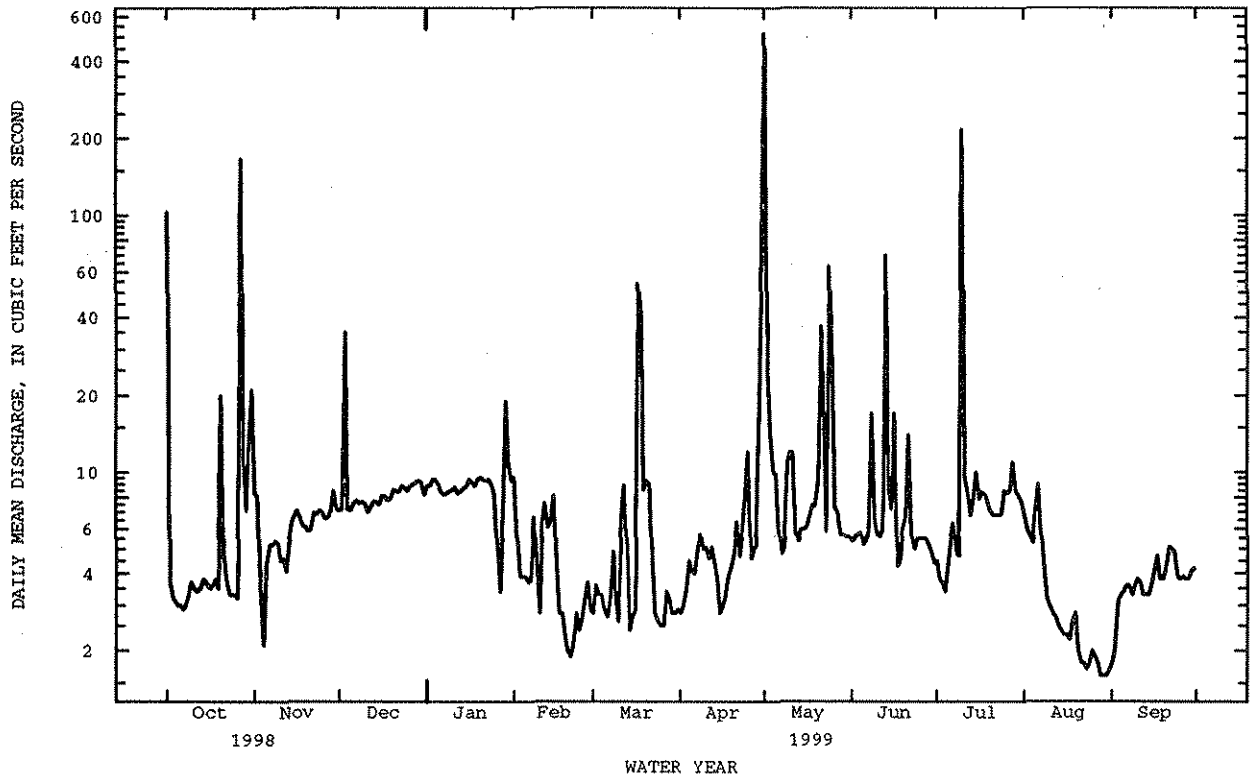
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	103	8.3	7.1	8.9	9.6	2.8	2.8	e516	e5.4	4.5	e7.0	e1.8
2	3.7	8.1	7.2	8.9	5.4	3.6	3.0	24	5.6	3.8	e6.2	2.0
3	3.2	3.5	35	9.4	3.9	3.3	3.5	14	5.7	3.7	e5.6	3.1
4	3.1	2.1	7.2	9.4	3.9	3.3	4.5	10	5.8	3.4	e5.3	e3.3
5	3.0	4.4	7.1	9.0	3.9	2.9	4.1	9.9	5.2	4.5	e7.0	e3.4
6	3.0	5.2	7.6	8.4	3.7	2.7	4.0	6.0	5.5	5.6	e9.0	e3.6
7	2.9	5.2	7.8	8.2	3.8	3.1	5.0	4.8	5.8	6.3	e6.0	3.6
8	3.0	5.4	7.6	8.3	6.7	4.9	5.7	5.2	17	4.8	e4.1	3.3
9	3.3	5.3	7.7	8.5	4.4	3.1	5.0	11	6.6	4.7	3.2	3.6
10	3.7	4.5	7.6	8.6	2.8	2.6	5.1	12	5.7	216	e3.0	3.8
11	3.5	4.6	7.0	8.8	6.4	6.7	4.6	12	5.6	9.5	e2.8	3.7
12	3.4	4.1	7.3	8.3	7.6	8.9	5.1	5.8	6.0	8.5	e2.7	3.3
13	3.5	5.2	7.7	8.5	6.1	4.9	4.4	5.4	70	6.8	e2.5	3.3
14	3.8	6.4	7.7	8.7	6.4	2.4	3.8	6.0	8.7	8.0	e2.4	3.3
15	3.7	6.8	7.5	8.9	8.1	2.7	2.8	6.0	7.2	10	e2.3	3.6
16	3.5	7.1	8.1	9.4	4.3	2.9	3.0	6.1	17	7.9	e2.3	4.2
17	3.6	6.7	8.1	9.2	2.8	54	3.3	6.8	4.3	8.4	e2.2	4.7
18	3.8	6.2	7.8	8.9	2.8	41	3.9	7.5	4.6	8.2	e2.6	3.8
19	3.5	6.1	7.9	9.4	2.3	8.6	4.3	7.4	6.0	7.7	e2.8	3.8
20	20	5.9	8.6	9.6	2.0	9.3	4.8	9.4	6.7	7.1	e2.0	4.2
21	4.7	6.0	8.5	9.4	1.9	9.0	6.4	37	14	6.8	e1.8	5.1
22	3.7	7.0	8.4	9.3	2.1	4.5	4.7	15	5.6	6.8	e1.8	5.0
23	3.3	6.9	8.9	9.4	2.8	2.8	5.7	5.9	5.0	6.8	e1.7	4.9
24	3.3	7.1	8.8	9.0	2.4	2.6	8.3	63	5.5	6.9	e1.8	3.9
25	3.3	7.0	8.5	8.4	2.6	2.5	12	25	5.5	8.5	e2.0	3.8
26	3.2	6.6	8.9	5.0	3.2	2.5	4.6	7.3	5.5	8.3	e1.9	3.9
27	167	6.7	9.0	3.4	3.7	3.4	5.0	7.0	5.5	8.6	e1.8	3.8
28	11	7.1	9.2	7.0	2.9	3.2	5.2	e5.7	5.2	11	e1.6	3.8
29	7.1	8.5	9.3	19	---	2.8	19	e5.7	4.9	8.5	e1.6	4.1
30	14	7.2	9.2	11	---	2.8	78	e5.6	4.4	e8.2	e1.6	4.2
31	21	---	8.2	9.3	---	2.9	---	e5.6	---	e7.7	e1.7	---
TOTAL	425.8	181.2	276.5	277.5	118.5	212.7	231.6	868.1	265.5	427.5	100.3	111.9
MEAN	13.7	6.04	8.92	8.95	4.23	6.86	7.72	28.0	8.85	13.8	3.24	3.73
MAX	167	8.5	35	19	9.6	54	78	516	70	216	9.0	5.1
MIN	2.9	2.1	7.0	3.4	1.9	2.4	2.8	4.8	4.3	3.4	1.6	1.8
AC-FT	845	359	548	550	235	422	459	1720	527	848	199	222

CAL YR 1998 TOTAL 2375.6 MEAN 6.51 MAX 167 MIN 1.6 AC-FT 4710
WTR YR 1999 TOTAL 3497.1 MEAN 9.58 MAX 516 MIN 1.6 AC-FT 6940

e Estimated

08393610 RIO HONDO NEAR ROSWELL, NM--Continued



RIO GRANDE BASIN

08395500 PECOS RIVER NEAR LAKE ARTHUR, NM

LOCATION.--Lat 32°59'21", long 104°19'17", in SW¹/₄NE¹/₄ sec.27, T.15 S., R.26 E., Chaves County, Hydrologic Unit 13060007, on right bank 750 ft upstream from bridge on Yuma Road, 3.5 mi east of Lake Arthur, 7 mi upstream from Cottonwood Creek, 15 mi northeast of Artesia, and at mile 522.0.

DRAINAGE AREA.--14,760 mi², approximately (contributing area).

PERIOD OF RECORD.--August 1938 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,327.07 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by Lake Sumner (station 08384000) 180 mi upstream, since August 1937, and by Two Rivers Reservoir (station 08390600) 77 mi upstream, since July 1963. Diversions and ground-water withdrawals for irrigation of about 124,000 acres, 1959 determination, upstream from station. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 30, 1937, reached a stage of 21.77 ft, discharge, 51,500 ft³/s on basis of slope-area measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	947	e1100	132	104	149	70	78	e1300	198	101	e103	65
2	e1560	e1500	134	97	151	68	71	e2000	165	94	e105	60
3	e773	e400	147	96	159	67	68	2490	137	87	e104	56
4	e508	e320	175	94	146	68	69	3140	123	82	e118	64
5	e392	290	180	93	131	68	76	1170	115	79	e187	62
6	e277	227	167	93	122	68	66	455	109	68	e670	62
7	e234	196	148	93	115	66	67	271	108	63	e1120	76
8	e212	180	133	94	110	68	62	183	109	59	e1120	62
9	180	165	123	95	109	68	59	137	108	59	e1150	57
10	164	145	117	95	109	79	59	121	121	175	e1300	63
11	155	130	114	93	103	80	80	113	111	847	e1700	69
12	141	126	113	92	99	76	93	104	107	810	2070	71
13	130	120	114	94	99	74	77	94	120	318	1280	74
14	127	115	118	94	99	82	77	98	485	236	744	75
15	120	117	117	98	98	83	90	101	605	248	531	78
16	116	115	117	96	98	75	134	100	339	244	442	84
17	106	112	115	94	99	77	151	99	366	256	418	91
18	99	113	114	93	95	82	162	93	277	290	396	115
19	94	109	110	91	95	183	153	92	216	287	382	222
20	103	108	106	90	94	199	134	86	201	150	344	176
21	114	105	104	91	92	215	126	83	240	135	443	172
22	144	104	101	89	92	225	137	215	2420	125	681	164
23	137	103	98	89	90	212	141	247	1190	e138	544	166
24	120	105	93	91	83	156	e141	188	267	e125	349	201
25	113	104	90	92	76	124	e140	209	184	e124	238	210
26	115	107	87	92	74	111	e150	224	152	e124	192	218
27	e250	111	86	92	71	107	e145	168	138	e120	130	223
28	e350	113	91	90	70	106	e145	145	124	e118	108	212
29	e300	116	98	96	---	111	e150	179	117	e117	104	208
30	e300	122	113	104	---	98	e300	214	108	e113	94	219
31	e700	---	107	132	---	88	---	197	---	e105	76	---
TOTAL	9081	6778	3662	2947	2928	3254	3401	14316	9060	5897	17243	3675
MEAN	293	226	118	95.1	105	105	113	462	302	190	556	122
MAX	1560	1500	180	132	159	225	300	3140	2420	847	2070	223
MIN	94	103	86	89	70	66	59	83	107	59	76	56
AC-FT	18010	13440	7260	5850	5810	6450	6750	28400	17970	11700	34200	7290

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1999, BY WATER YEAR (WY)

	MEAN	244	127	96.0	94.8	86.2	184	222	313	338	336	280	367
MAX	3701	983	546	451	446	682	1308	3673	2436	1521	913	5407	
(WY)	1942	1942	1942	1942	1942	1941	1942	1941	1941	1960	1941	1941	
MIN	3.89	32.0	29.9	34.5	26.6	16.6	7.35	11.9	4.78	1.02	.42	1.30	
(WY)	1965	1968	1967	1965	1965	1967	1967	1975	1977	1954	1964	1964	

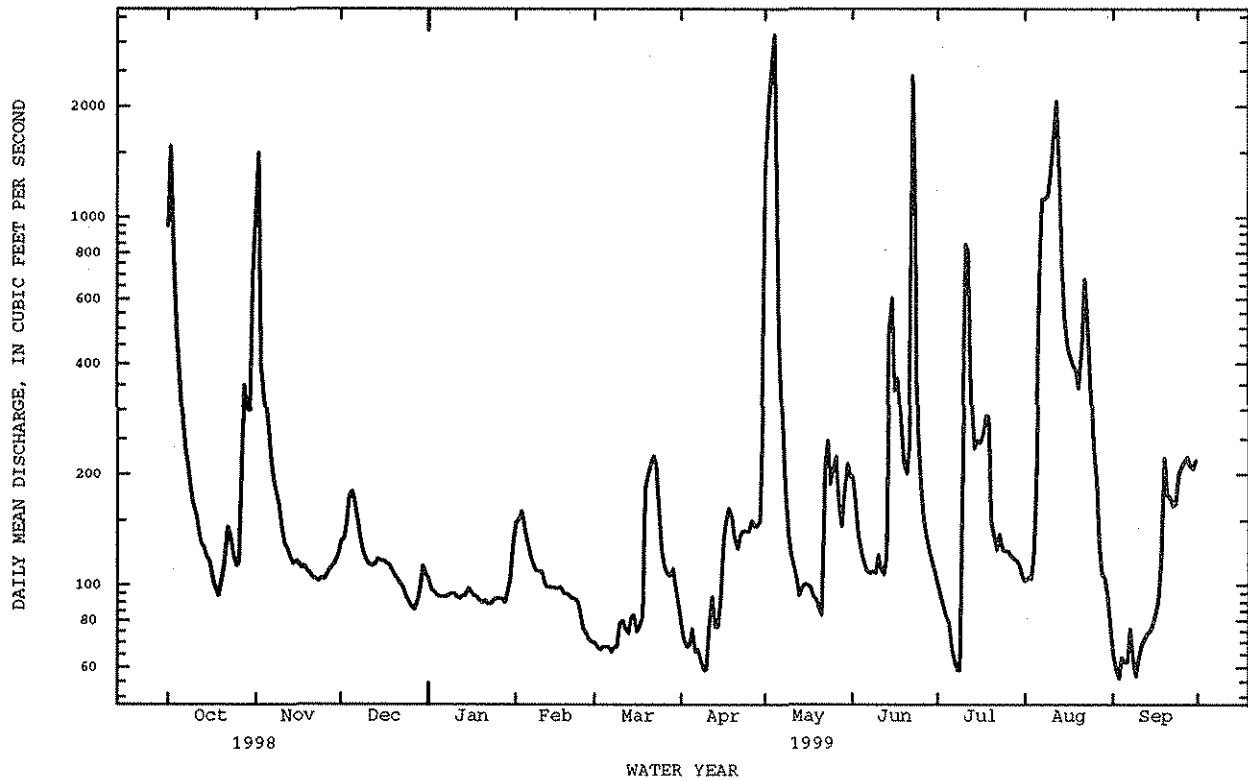
08395500 PECOS RIVER NEAR LAKE ARTHUR, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1938 - 1999	
ANNUAL TOTAL	96327		82242		225	
ANNUAL MEAN	264		225		1314	
HIGHEST ANNUAL MEAN					62.2	
LOWEST ANNUAL MEAN					1941	
HIGHEST DAILY MEAN	1560	Oct 2	3140	May 4	39800	Sep 24 1941
LOWEST DAILY MEAN	11	Jun 4	56	Sep 3	.00	Aug 21 1947
ANNUAL SEVEN-DAY MINIMUM	15	May 29	63	Sep 3	.10	Jul 26 1954
INSTANTANEOUS PEAK FLOW			3360	May 4	^a 49600	Sep 24 1941
INSTANTANEOUS PEAK STAGE			12.94	May 4	21.90	Sep 24 1941
INSTANTANEOUS LOW FLOW			47	Apr 9	^b .00	Oct 1 1946
ANNUAL RUNOFF (AC-FT)	191100		163100		162600	
10 PERCENT EXCEEDS	996		394		670	
50 PERCENT EXCEEDS	107		115		73	
90 PERCENT EXCEEDS	37		74		15	

e Estimated

a From rating curve extended above 16,000 ft³/s, on basis of slope-area measurement at gage height 21.77 ft.

b Also occurred in 1947, 1953, 1954, 1962 and 1964.



08396500 PECOS RIVER NEAR ARTESIA, NM

LOCATION.--Lat 32°50'27", long 104°19'23", in NW¹/₄NW¹/₄ sec.18, T.17 S., R.27 E., Eddy County, 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).

WATER-DISCHARGE 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 Aug. 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 National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). See WSP 1923 or 1923 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 good except for estimated daily discharges, which are fair. Considerable flow regulation by Lake Sumner (station 08384000) since August 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. No flow at times.

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 August 1893 and October 1904 damaged McMillan Dam and washed out Avalon Dam.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1170	664	137	103	140	74	74	242	212	111	92	77
2	1400	1310	142	98	146	73	69	646	176	103	85	68
3	1070	1040	158	94	152	71	65	1620	142	97	76	64
4	513	360	156	93	150	73	64	2190	121	92	70	68
5	404	269	169	93	136	72	66	2250	106	89	77	69
6	289	243	169	93	125	73	66	896	95	83	108	69
7	241	225	154	92	119	71	60	454	90	72	364	78
8	219	208	141	93	113	72	65	339	90	69	888	76
9	200	196	134	94	110	71	54	279	88	65	1100	66
10	183	183	128	95	109	73	52	242	89	84	1230	66
11	173	166	125	94	105	81	53	229	97	392	1340	74
12	165	152	123	93	101	81	71	227	81	441	1430	69
13	153	142	123	93	100	76	69	204	115	317	1080	67
14	146	129	126	95	102	77	54	188	201	284	526	62
15	141	125	128	96	102	85	59	182	537	252	396	61
16	134	125	129	100	99	81	59	170	296	249	352	59
17	125	123	130	97	e98	76	106	161	251	246	330	63
18	118	123	130	94	e98	78	98	150	210	244	319	65
19	114	121	127	94	96	101	98	146	165	270	304	106
20	114	119	123	92	95	166	84	146	154	210	290	109
21	123	118	119	90	93	155	72	146	148	153	267	94
22	145	116	116	87	91	164	69	168	1110	149	392	92
23	153	115	114	88	91	162	70	388	1520	128	405	82
24	143	116	e98	91	91	138	68	233	340	106	296	86
25	130	116	e93	91	83	112	65	219	212	136	219	90
26	128	116	e92	93	78	100	64	248	170	140	190	88
27	134	120	104	92	75	97	72	197	153	128	140	90
28	299	123	106	92	73	91	76	162	136	126	118	80
29	316	127	112	93	---	93	75	197	129	128	107	74
30	306	130	128	98	---	91	204	226	121	124	105	69
31	292	---	131	114	---	82	---	198	---	115	88	---
TOTAL	9241	7220	3965	2925	2971	2910	2221	13343	7355	5203	12784	2281
MEAN	298	241	128	94.4	106	93.9	74.0	430	245	168	412	76.0
MAX	1400	1310	169	114	152	166	204	2250	1520	441	1430	109
MIN	114	115	92	87	73	71	52	146	81	65	70	59
AC-FT	18330	14320	7860	5800	5890	5770	4410	26470	14590	10320	25360	4520

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1999, BY WATER YEAR (WY)

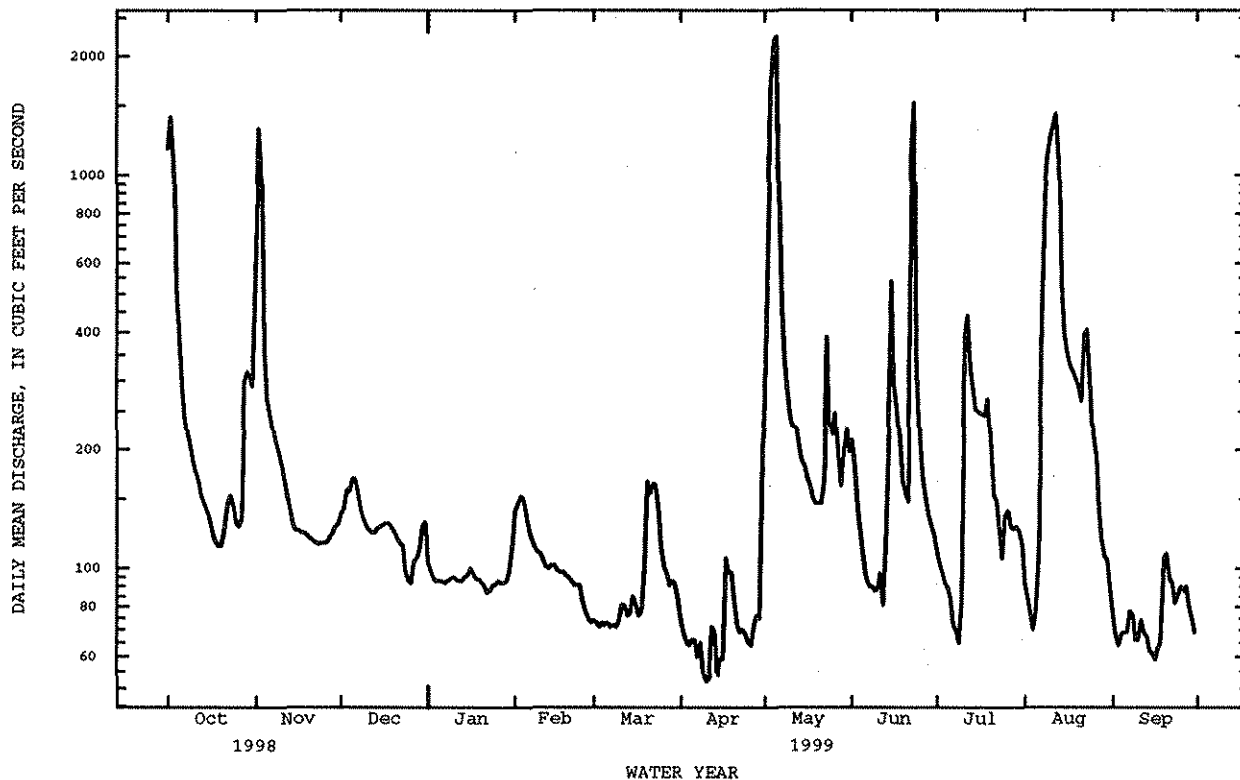
MEAN	249	136	107	105	96.0	189	222	354	385	333	269	365
MAX	4203	1240	614	499	504	768	1292	3834	3495	1453	880	5704
(WY)	1942	1942	1942	1942	1942	1941	1942	1941	1937	1960	1941	1941
MIN	2.26	31.5	33.6	34.6	28.5	21.7	10.7	15.8	5.42	.77	.065	.27
(WY)	1965	1968	1967	1965	1972	1981	1967	1975	1977	1954	1964	1964

08396500 PECOS RIVER NEAR ARTESIA, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1937 - 1999	
ANNUAL TOTAL	88200.4		72419		235	
ANNUAL MEAN	242		198		1378	
HIGHEST ANNUAL MEAN					64.8	
LOWEST ANNUAL MEAN					1941	
HIGHEST DAILY MEAN	1400	Oct 2	2250	May 5	44300	Sep 25 1941
LOWEST DAILY MEAN	8.8	Jun 1	52	Apr 10	.00	Aug 14 1946
ANNUAL SEVEN-DAY MINIMUM	12	May 29	59	Apr 9	.00	Aug 14 1946
INSTANTANEOUS PEAK FLOW			3070	May 4	^a 51500	May 30 1937
INSTANTANEOUS PEAK STAGE			12.71	May 4	14.70	May 30 1937
INSTANTANEOUS LOW FLOW			43	Apr 9	.00	Oct 1 1934
ANNUAL RUNOFF (AC-FT)	174900		143600		170000	
10 PERCENT EXCEEDS	841		323		663	
50 PERCENT EXCEEDS	114		118		79	
90 PERCENT EXCEEDS	33		70		16	

e Estimated

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



RIO GRANDE BASIN

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 1998 TO SEPTEMBER 1999

		DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	
MAR 03...	1415	72	9140	8.2	16.0	15.5	675	10.4	122	K5	34	
JUN 10...	1243	84	9210	8.1	34.5	27.5	678	8.2	121	--	--	
30...	1110	119	7410	8.0	34.0	29.0	674	7.9	120	100	43	
AUG 10...	1305	1260	2420	7.9	37.5	27.0	680	6.3	90	--	--	
DATE		HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3 CO3) (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
MAR 03...	2400	2300	600	210	1200	11	8.1	173	0	139	145	
JUN 10...	2800	2600	710	240	1300	11	1.8	151	0	124	132	
30...	2100	2000	550	180	950	9	8.0	129	--	106	118	
AUG 10...	1100	1000	340	57	130	2	4.0	97	0	80	286	
DATE		SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
MAR 03...	1900	2200	.9	19	6330	--	E.012	.37	<.010	--	.74	
JUN 10...	2100	2000	.8	13	6450	.080	.02	.10	.04	--	.60	
30...	1700	1600	.7	14	5110	--	<.01	<.02	.03	--	.59	
AUG 10...	1000	190	.6	11	1820	--	<.01	.20	.06	.23	2.5	
DATE		NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (UG/L AS SB) (01095)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)
MAR 03...	<.20	<.02	<.02	E.02	<4	<4	2	40	<4	426	<4	
JUN 10...	<.20	.05	.03	<.01	<4	<4	2	242	<4	526	<4	
30...	<.20	.07	<.02	.01	13	<3	3	120	<3	415	<3	
AUG 10...	.29	1.4	<.02	<.01	2	<1	2	51	<1	113	<1	
DATE		CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL, RECOV- ERABLE (UG/L AS HG) (71900)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)
MAR 03...	8	<4	6	<50	<4	18	<.1	<4	18	4	6	
JUN 10...	<1.0	5	26	<100	<4	91	<.1	15	5	1	<1	
30...	<10	<3	8	<50	<3	17	<.01	4	12	3	3	
AUG 10...	--	<1	5	<30	<1	<1	<.1	3	4	3	1	

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

		SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	NITRO- GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N) (00633)	NITRO- GEN,NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	NITRO- GEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N) (00626)	PHOS- PHORUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01029)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)		
MAR	03...	<4	15	<2	10	300	370	<1	<1	10	8		
JUN	10...	<4	20	--	--	--	--	--	--	--	--		
	30...	<3	23	--	--	--	--	--	--	--	--		
AUG	10...	<1	6	--	--	--	--	--	--	--	--		
DATE		COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. * FINER THAN .062 MM (70331)		
MAR	03...	6	9000	10	250	<.01	22	7	99	19	73		
JUN	10...	--	--	--	--	--	--	26	243	55	89		
	30...	--	--	--	--	--	--	6	348	112	83		
AUG	10...	--	--	--	--	--	--	4	3260	11100	84		
DATE		PRO- CHLOR, WATER, DISS, REC (UG/L) (04024)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	PONOFOS WATER DISS REC (UG/L) (04095)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	P,P' DDE DISSOLV (UG/L) (34653)	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)	LINDANE DIS- SOLVED (UG/L) (39341)	
MAR	03...	1415	--	--	--	--	--	--	--	--	--	--	
JUN	10...	1243	<.007	<.002	<.005	E.0078	<.002	<.004	<.003	<.002	<.006	<.004	
	30...	1110	--	--	--	--	--	--	--	--	--	--	
AUG	10...	1305	--	--	--	--	--	--	--	--	--	--	
DATE		DI- ELDRIN DIS- SOLVED (UG/L) (39381)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	MALA- THION, DIS- SOLVED (UG/L) (39532)	PARA- THION, DIS- SOLVED (UG/L) (39542)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	ALA- CHLOR, WATER, DISS, REC (UG/L) (46342)	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)
MAR	03...	--	--	--	--	--	--	--	--	--	--	--	--
JUN	10...	<.001	<.004	<.005	<.004	<.002	<.005	<.002	<.002	<.004	<.003	<.002	<.004
	30...	--	--	--	--	--	--	--	--	--	--	--	--
AUG	10...	--	--	--	--	--	--	--	--	--	--	--	--
DATE		PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	PEB- ULATE WATER FLTRD 0.7 U GF, REC (UG/L) (82669)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	BEN- FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	TER- BIFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)
MAR	03...	--	--	--	--	--	--	--	--	--	--	--	--
JUN	10...	<.002	<.007	<.002	<.006	<.002	<.004	<.010	<.004	<.003	<.002	<.003	<.013
	30...	--	--	--	--	--	--	--	--	--	--	--	--
AUG	10...	--	--	--	--	--	--	--	--	--	--	--	--

08396500 PECOS RIVER NEAR ARTESIA, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

[illegible]

08398500 RIO PENASCO AT DAYTON, NM

LOCATION.--Lat 32°44'36", long 104°24'49", in NE¹/₄SE¹/₄ sec.18, T.18 S., R.26 E., Eddy County, Hydrologic Unit 13060010, on left bank 1.2 mi upstream from U.S. Highway 285, 1.9 mi northwest of old Dayton railway station, 5.6 mi upstream from mouth, and 7.0 mi south of Artesia. Mouth at Pecos River mile 496.4.

DRAINAGE AREA.--1,060 mi², approximately.

PERIOD OF RECORD.--April 1951 to September 1999 (discontinued). Prior to October 1953, published as "near Dayton."

REVISED RECORDS.--WSP 1242: 1951(M). WSP 1512: 1956. WSP 1923: 1955.

GAGE.--Water-stage recorder with rock and concrete control. Elevation of gage is 3,385.19 ft above National Geodetic Vertical Datum of 1929. Prior to May 9, 1968, at site 2.4 mi downstream, at datum 44.30 ft lower. May 9, 1968 to June 12, 1975, at present site at datum 1.98 ft higher.

REMARKS.--Records good. Diversions and ground-water withdrawals for irrigation of about 3,000 acres, 1959 determination, upstream from station. Several observations of water temperature were made during the year. No flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of about Sept. 22, 1941, reached a stage of about 9 ft, from floodmark, previous site and datum, discharge not determined. Peak discharge at discontinued station "near Dunken" (station 08397600), about 60 mi upstream, was 70,000 ft³/s, determined in 1956, from rating curve extended above a slope-area measurement of 36,000 ft³/s, for peak of Oct. 6 or 7, 1954.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.04	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.34	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.23	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.23	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	23.00	57.04	0.02	0.00	0.00	0.00
MEAN	.000	.000	.000	.000	.000	.000	.77	1.84	.001	.000	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.23	.34	.01	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	46	113	.04	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1999, BY WATER YEAR (WY)

	MEAN	5.08	1.52	.000	.000	.000	.000	.033	1.24	12.3	8.81	15.8	10.7
MAX	201	72.8	.016	.000	.000	.000	.000	.77	41.0	528	221	328	372
(WY)	1955	1984	1975	1952	1952	1952	1999	1965	1986	1968	1966	1974	
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1952	1952	1952	1952	1952	1952	1951	1952	1951	1954	1951	1951	

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1951 - 1999

ANNUAL TOTAL		80.06		
ANNUAL MEAN		.22	4.72	
HIGHEST ANNUAL MEAN			43.4	1986
LOWEST ANNUAL MEAN			.000	1959
HIGHEST DAILY MEAN			9490	Aug 23 1966
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00	Apr 1 1951
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 1	.00	Apr 1 1951
INSTANTANEOUS PEAK FLOW		416 May 28	^a 29800	Aug 23 1966
INSTANTANEOUS PEAK STAGE		3.53 May 28	^b 16.40	Aug 23 1966
INSTANTANEOUS LOW FLOW		.00 Oct 1	.00	Oct 1 1993
ANNUAL RUNOFF (AC-FT)		159	3420	
10 PERCENT EXCEEDS	.00	.00	.00	
50 PERCENT EXCEEDS	.00	.00	.00	
90 PERCENT EXCEEDS	.00	.00	.00	

a From rating cuve extended above 7,800 ft³/s, on basis of slope-area measurements at gage heights 6.82 ft and 7.90 ft, at previous site and datum.

b From floodmarks, present site and datum.

LOCATION.--Lat 32°41'22", long 104°17'53", in NW¹/₄SE¹/₄ sec.5, T.19 S., R.27 E., Eddy County, Hydrologic Unit 13060011, on left bank 3.0 mi upstream from high-water line of former Lake McMillan, 6.0 mi northeast of Lakewood, 12 mi southeast of Artesia, and at mile 492.1.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 3,268.53 ft above National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). Prior to Mar. 23, 1955, at site 3.0 mi downstream at datum 7.83 ft lower. Mar. 23, 1955 to Sept. 30, 1963, at present site at datum 2.00 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. Considerable flow regulation by Lake Sumner (station 08384000) since August 1937, and by Two Rivers Reservoir (station 08390600) since July 1963. Diversions and ground-water withdrawals for irrigation of about 170,000 acres, 1959 determination, upstream from station. Above about 1,500 ft³/s, flow will begin bypassing station and depending on the magnitude and duration of flow, may reach Brantley Lake (station 08401450). Several observations of water temperature were made during the year. Instantaneous peaks are not published because flood channel is separate from Kaiser Channel and is not gaged.

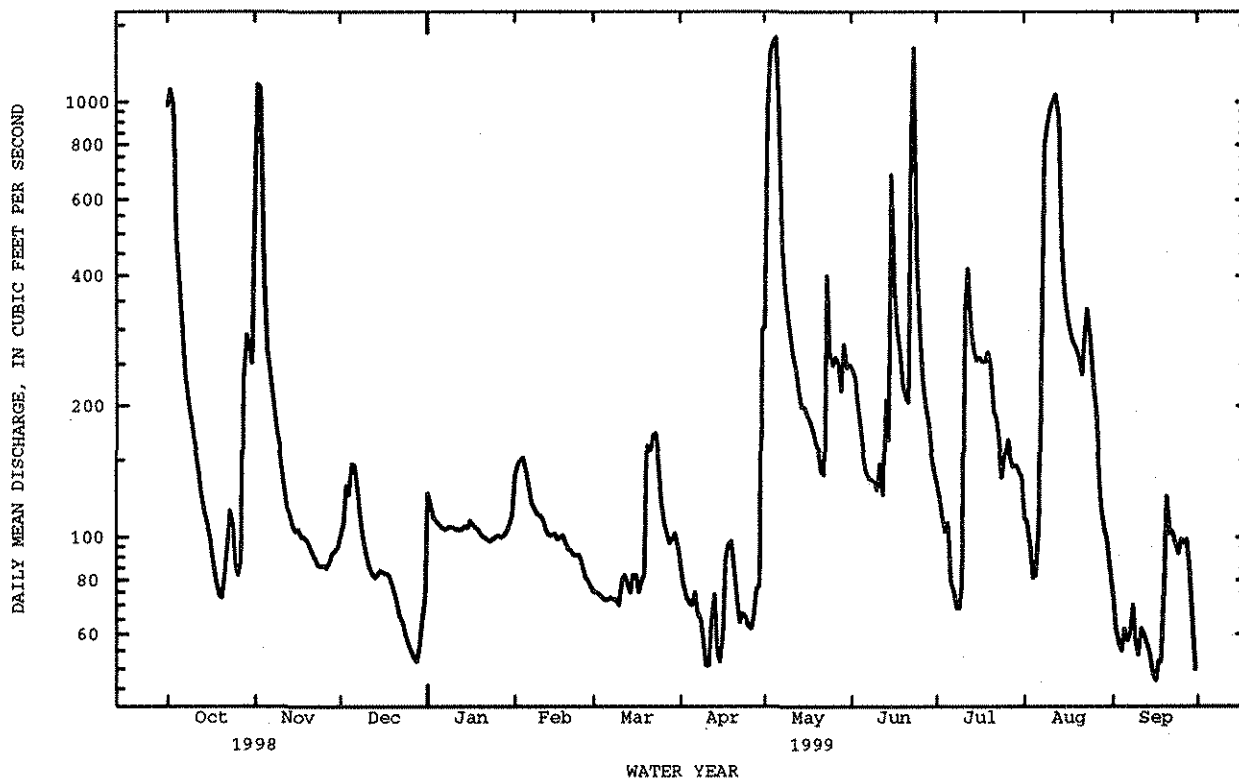
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	985	630	101	126	138	75	86	305	244	134	111	74
2	1070	1100	108	119	147	75	78	970	232	125	108	62
3	977	1080	131	111	150	74	73	1300	201	111	95	57
4	484	388	125	109	152	73	71	1370	175	103	81	55
5	394	268	147	107	141	72	70	1410	154	108	82	62
6	298	231	146	105	130	72	75	1020	142	79	105	58
7	236	206	127	104	120	73	67	486	136	76	276	60
8	209	182	110	105	116	72	65	382	135	69	801	70
9	187	164	99	106	113	72	58	323	134	e69	888	57
10	169	146	91	105	112	70	51	288	128	e78	961	54
11	153	129	86	104	109	80	51	261	147	e340	1010	62
12	140	117	83	104	104	82	65	241	125	e415	1040	60
13	124	113	81	104	101	78	74	215	206	e300	921	57
14	113	106	82	106	101	75	55	199	167	e270	470	54
15	107	103	84	105	102	82	52	198	682	255	367	49
16	97	104	83	109	99	82	60	190	390	259	319	47
17	87	100	83	107	100	75	89	183	296	253	296	52
18	80	100	82	105	101	80	96	174	265	253	282	52
19	74	98	79	104	97	82	98	164	223	266	271	78
20	73	95	75	101	94	162	86	157	209	249	260	124
21	81	92	71	100	93	158	72	142	204	195	237	102
22	97	89	66	99	91	171	64	139	848	188	292	103
23	115	86	64	98	91	173	67	401	1330	167	335	97
24	107	86	60	99	91	152	66	266	454	137	285	92
25	87	86	57	100	87	123	63	248	292	152	231	99
26	82	85	55	101	81	108	62	259	228	167	193	97
27	88	88	53	100	80	102	66	252	202	152	147	99
28	231	92	52	101	77	97	76	217	183	145	117	86
29	292	93	56	103	---	99	78	277	159	146	104	63
30	275	95	64	107	---	102	300	245	142	142	98	50
31	251	---	73	113	---	95	---	249	---	137	83	---
TOTAL	7763	6352	2674	3267	3018	2986	2334	12531	8433	5540	10866	2132
MEAN	250	212	86.3	105	108	96.3	77.8	404	281	179	351	71.1
MAX	1070	1100	147	126	152	173	300	1410	1330	415	1040	124
MIN	73	185	52	98	77	70	51	139	125	69	81	47
AC-FT	15400	12600	5300	6480	5990	5920	4630	24860	16730	10990	21550	4233

MEAN	137	90.8	78.6	80.0	74.9	158	152	245	255	272	250	200
MAX	695	339	272	307	291	417	489	1220	748	886	698	800
(WY)	1955	1998	1987	1987	1987	1987	1987	1973	1995	1960	1994	1988
MIN	.000	26.1	29.2	31.4	25.3	19.2	8.12	15.3	1.86	.041	.000	.000
(WY)	1965	1968	1965	1965	1972	1971	1967	1964	1977	1990	1964	1964

08399500 PECOS RIVER (KAISER CHANNEL) NEAR LAKEWOOD, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1950 - 1999	
ANNUAL TOTAL	84895		67896		166	
ANNUAL MEAN	233		186		353	1987
HIGHEST ANNUAL MEAN					64.1	1964
LOWEST ANNUAL MEAN					2920	Jul 12 1960
HIGHEST DAILY MEAN	1100	Nov 2	1410	May 5	.00	Aug 21 1951
LOWEST DAILY MEAN	11	Sep 16	47	Sep 16	.00	Jun 29 1953
ANNUAL SEVEN-DAY MINIMUM	14	Sep 12	53	Sep 12	1460	May 5 1999
INSTANTANEOUS PEAK FLOW			1460	May 5	11.08	May 5 1999
INSTANTANEOUS PEAK STAGE			11.08	May 5	.50	Aug 14 1995
INSTANTANEOUS LOW FLOW			37	Apr 10		
ANNUAL RUNOFF (AC-FT)	168400		134700		120500	
10 PERCENT EXCEEDS	895		302		584	
50 PERCENT EXCEEDS	94		106		62	
90 PERCENT EXCEEDS	31		65		11	

e Estimated



08400000 FOURMILE DRAW NEAR LAKEWOOD, NM

LOCATION.--Lat 32°40'20", long 104°22'07", in SW¹/₄NW¹/₄SE¹/₄ sec.10, T.19 S., R.26 E., Eddy County, Hydrologic Unit 13060011, in left side of channel 360 ft downstream from ford on Lake Road, 1.9 mi downstream from U.S. Highway 285, 2.8 mi north of Lakewood, 3.8 mi upstream from mouth, and 11.5 mi south of Artesia. Mouth at Pecos River mile 490.6.

DRAINAGE AREA.--265 mi², approximately.

PERIOD OF RECORD.--October 1951 to current year.

REVISED RECORDS.--WDR NM-68-1: 1967.

GAGE.--Water-stage recorder. Elevation of gage is 3,299.14 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1951 to June 19, 1962, at site 1.8 mi upstream at datum 30.61 ft higher. June 19, 1962 to Oct. 12, 1966, at site 410 ft upstream at datum 6.08 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. No surface diversions upstream from station. No flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.25	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.9	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.44	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.12	.17	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.11	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	349	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	8.1	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	8.10	369.00	44.12	55.90	0.00	0.00
MEAN	.000	.000	.000	.000	.000	.000	.27	11.9	1.47	1.80	.000	.000
MAX	.00	.00	.00	.00	.00	.00	8.1	349	44	25	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	16	732	88	111	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1999, BY WATER YEAR (WY)

MEAN	1.70	.000	.000	.000	.000	.000	.007	1.14	9.08	2.84	15.9	9.61
MAX	73.0	.003	.000	.000	.000	.000	.27	35.2	403	78.0	488	424
(WY)	1955	1959	1952	1952	1952	1952	1999	1979	1986	1968	1966	1974
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1952	1952	1952	1952	1952	1952	1952	1952	1953	1954	1952	1952

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1952 - 1999

ANNUAL TOTAL	477.12		
ANNUAL MEAN	1.31		
HIGHEST ANNUAL MEAN		3.43	
LOWEST ANNUAL MEAN		41.6	1966
HIGHEST DAILY MEAN	349	May 29	13000 Aug 23 1966
LOWEST DAILY MEAN	.00	Oct 1	.00 Oct 1 1951
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1	.00 Oct 1 1951
INSTANTANEOUS PEAK FLOW	2120	May 29	^a 29300 Aug 23 1966
INSTANTANEOUS PEAK STAGE	7.75	May 29	^b 19.90 Aug 23 1966
INSTANTANEOUS LOW FLOW	.00	Oct 1	.00 Oct 1 1951
ANNUAL RUNOFF (AC-FT)	946		2490
10 PERCENT EXCEEDS	.00	.00	.00
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated

a From rating curve extended above 5,000 ft³/s, on basis of slope-area measurement of peak flow.

b From floodmarks, present datum.

08401200 SOUTH SEVEN RIVERS NEAR LAKEWOOD, NM

LOCATION.--Lat 32°35'19", long 104°25'17", in SE¹/₄SE¹/₄NW¹/₄ sec.7, T.20 S., R.26 E., Eddy County, Hydrologic Unit 13060011, on downstream side of center pier of bridge on U.S. Highway 285, 0.4 mi south of Seven Rivers, 2.6 mi upstream from mouth, and 4.0 mi southwest of Lakewood. Mouth at Pecos River mile 480.9.

DRAINAGE AREA.--220 mi², approximately.

PERIOD OF RECORD.--October 1963 to April 1997, May 1999 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,280 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 8, 1965, at site 400 ft upstream at datum 0.52 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. No surface diversions upstream from station, ground-water withdrawals for 240 acres, upstream from station. No flow all year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1941, about 30,000 ft³/s, gage height, 22.8 ft, from old debris on left bank, former site and datum, from rating curve extended above 5,700 ft³/s on basis of slope-area measurement at gage height 21.8 ft. Probable date of flood, Oct. 7, 1954.

EXTREMES FOR PERIOD OF RECORD.-- Maximum discharge, 25,500 ft³/s, May 30, 1965, gage height, 20.00 ft, from rating curve extended above 5,700 ft³/s, on basis of slope-area measurements of gage heights 18.5 ft and 20.0 ft.

EXTREMES FOR CURRENT YEAR.--No flow recorded during the period May to Sept.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
2	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
3	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
4	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
5	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
6	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
7	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
8	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
9	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
10	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
11	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
12	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
13	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
14	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
15	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
16	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
17	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
18	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
19	---	---	---	---	---	---	---	---	.00	e.00	e.00	.00
20	---	---	---	---	---	---	---	.00	.00	e.00	e.00	.00
21	---	---	---	---	---	---	---	.00	.00	e.00	e.00	.00
22	---	---	---	---	---	---	---	.00	.00	e.00	e.00	.00
23	---	---	---	---	---	---	---	.00	.00	e.00	e.00	.00
24	---	---	---	---	---	---	---	.00	.00	e.00	e.00	.00
25	---	---	---	---	---	---	---	.00	.00	e.00	.00	.00
26	---	---	---	---	---	---	---	.00	.00	e.00	.00	.00
27	---	---	---	---	---	---	---	.00	.00	e.00	.00	.00
28	---	---	---	---	---	---	---	.00	.00	e.00	.00	.00
29	---	---	---	---	---	---	---	.00	.00	e.00	.00	.00
30	---	---	---	---	---	---	---	.00	.00	e.00	.00	.00
31	---	---	---	---	---	---	---	.00	---	e.00	.00	---
TOTAL	---	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00
MEAN	---	---	---	---	---	---	---	---	.000	.000	.000	.000
MAX	---	---	---	---	---	---	---	---	.00	.00	.00	.00
MIN	---	---	---	---	---	---	---	---	.00	.00	.00	.00
AC-FT	---	---	---	---	---	---	---	---	.00	.00	.00	.00

e Estimated

RIO GRANDE BASIN

08401450 BRANTLEY LAKE NEAR CARLSBAD, NM

LOCATION.--Lat 32°32'48", long 104°22'43", in NE¹/₄SE¹/₄NE¹/₄ sec.28, T.20 S., R.26 E., Eddy County, Hydrologic Unit 13060011, in control tower at Brantley Dam, 2.4 mi downstream from South Seven Rivers, 4.2 mi southeast of Seven Rivers, 6.0 mi south of Lakewood, 11.5 mi northwest of Carlsbad, and at mile 478.6.

DRAINAGE AREA.--17,650 mi², approximately (contributing area).

PERIOD OF RECORD.--August 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,202.5 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Lake is formed by a concrete and earthfill dam on Pecos River. Storage began August 31, 1988. Capacity, 1,008,000 acre-ft, from capacity table dated June 1992, between elevations 3,202.5 ft and 3,303.5 ft. Dead storage 2,010 acre-ft. Lake was created primarily for irrigation storage and flood control.

COOPERATION.--Records provided by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 49,270 acre-ft, Sept. 22-24, 1991, elevation, 3,257.60 ft; minimum contents, 2,040 acre-ft, May 26, 1990, elevation, 3,224.60 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 41,300 acre-ft, Mar. 27, 30 elevation, 3,253.51 ft; minimum, 22,870 acre-ft, Sept. 30, elevation, 3,245.82 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 0700 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29900	29670	31000	34870	37610	39900	40330	28960	38350	40080	27130	31860
2	31620	30350	31120	34950	37800	39880	40080	29760	38620	39620	26650	31030
3	33080	31890	31410	35030	37940	39880	39740	31740	38870	39090	26330	30700
4	33850	32740	31410	35150	38160	39880	39430	34280	39010	38870	25910	30200
5	34180	32490	31740	35210	38320	39900	39070	36510	39120	38460	25300	30070
6	34310	32080	31910	35340	38460	39900	38730	38840	39180	37860	24820	29970
7	34330	31570	32130	35410	38620	39850	38290	40100	38840	37020	24370	29930
8	34160	31100	32250	35600	38760	39900	37720	40560	38650	36140	24550	29740
9	33980	30580	32400	35600	38820	39850	37210	40930	38210	35390	25840	29170
10	33880	29930	32570	35670	38900	39880	36790	41160	37800	34640	26980	28490
11	33780	29460	32640	35750	39070	39960	36140	41040	37160	34740	28350	27970
12	33730	28910	32790	35880	38930	39930	35650	40810	36490	35620	29810	27400
13	33800	28240	32910	35990	39010	39900	35150	40640	36040	36620	31120	26900
14	33960	28530	32980	36040	39070	39930	34540	40440	35670	37130	32100	26420
15	33960	28760	33130	36120	39180	39930	33930	40080	35410	36650	32390	26100
16	33750	28990	33210	36220	39260	39990	33200	39460	36010	36170	32490	25760
17	33400	29140	33380	36300	39340	40020	32640	38900	35860	35490	32490	25610
18	33080	29280	33550	36410	39400	40080	32150	38650	35800	34720	32420	25420
19	32740	29490	33600	36460	39430	40080	31720	38380	35460	33900	32340	25260
20	32810	29610	33730	36540	39620	40130	31240	37780	35410	33160	32340	25050
21	32840	29830	33830	36670	39570	40270	30810	37240	35620	32640	32420	25220
22	32810	29900	33910	36700	39710	40500	30300	36810	35720	31960	32490	25050
23	32840	29970	33980	36700	39710	40760	29700	36380	37560	31290	32780	24760
24	32840	30110	34060	36730	39770	40870	29010	36510	39540	30630	33050	24470
25	32340	30300	34160	36810	39820	40990	28940	36620	40020	29810	33330	24250
26	31570	30370	34280	36890	39850	41130	28800	36780	40220	29170	33200	24040
27	30790	30510	34390	36990	39910	41160	28640	37100	40320	29030	33120	24010
28	30420	30670	34440	37100	39880	41300	28510	36990	40440	28640	32910	23660
29	30270	30860	34540	37290	---	41270	28330	37160	40530	28350	32610	23260
30	30040	30930	34640	37370	---	41300	28460	37640	40360	28110	32440	22870
31	29930	---	34770	37450	---	40900	---	38050	---	27600	32250	---
MAX	34330	32740	34770	37450	39910	41300	40330	41160	40530	40080	33330	31860
MIN	29900	28240	31000	34870	37610	39850	28330	28960	35410	27600	24370	22870
(+)	3249.12	3249.55	3251.11	3252.12	3253.01	3253.27	3248.48	3252.35	3253.18	3248.09	3250.10	3245.82
(++)	+1510	+1000	+3840	+2680	+2430	+1020	-12440	+9590	+2310	-12760	+4650	-9380

CAL YR 1998 MAX 47990 MIN 16900 (++) +13930

WTR YR 1999 MAX 41300 MIN 22870 (++) -5550

(+) ELEVATION, IN FEET, AT END OF MONTH

(++) CHANGE IN CONTENTS, IN ACRE-FEET

LOCATION.--Lat 32°32'38", long 104°22'00", in NE¹/₄NW¹/₄SE¹/₄ sec.27, T.20 S., R.26 E., Eddy County, Hydrologic Unit 13060011, on left bank 0.8 mi downstream from Brantley Dam, 3.2 mi downstream from South Seven Rivers, 4.7 mi southeast of Seven Rivers, 6.4 mi south of Lakewood, 11.0 mi northwest of Carlsbad, and at mile 477.8.

PERIOD OF RECORD.--January 1947 to September 1950, October 1971 to current year. Prior to October 1989 published as "below Major Johnson Springs." Prior to October 1988, operated as a low-flow station only. Records prior to October 1971 not equivalent due to spring inflow between sites.

REMARKS.--Records good except for daily discharges, which are poor. Flow completely regulated by Brantley Lake (station 08401450) 0.8 mi upstream since August 1988. Diversions and ground-water withdrawals for irrigation of about 173,000 acres, 1959 determination, upstream from station. Several observations of water temperature were made during the year.

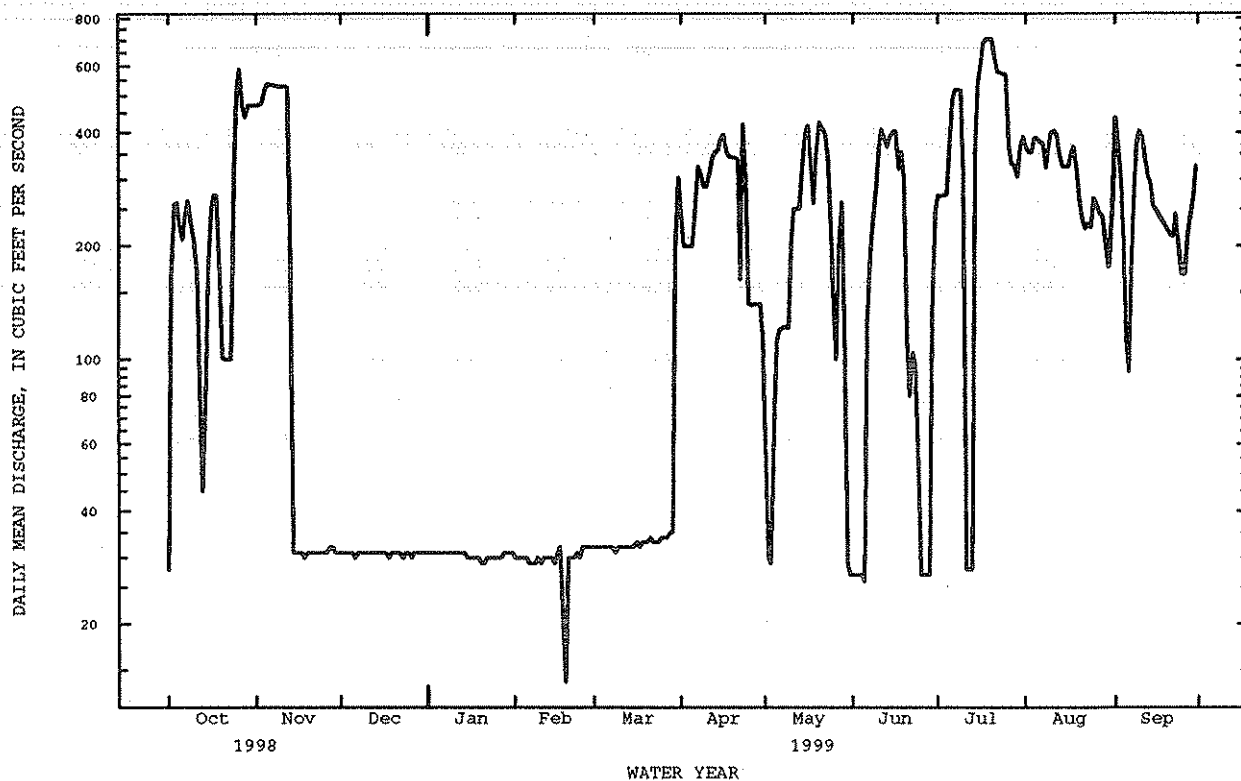
MEAN	168	69.0	50.4	43.4	53.9	74.0	235	216	223	242	206	174
MAX	412	431	460	297	300	149	313	1058	641	527	311	500
(WY)	1995	1998	1992	1987	1987	1994	1998	1973	1992	1995	1999	1991
MIN	22.6	5.92	1.22	3.49	20.6	19.1	136	79.9	66.5	11.3	18.4	50.9
(WY)	1979	1989	1995	1995	1978	1990	1981	1976	1977	1976	1981	1976

RIO GRANDE BASIN

08401500 PECOS RIVER BELOW BRANTLEY DAM NEAR CARLSBAD, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1972 - 1999	
ANNUAL TOTAL	70087		69514		154	
ANNUAL MEAN	192		190		282	1992
HIGHEST ANNUAL MEAN					69.5	1977
LOWEST ANNUAL MEAN					2050	Sep 3 1972
HIGHEST DAILY MEAN	771	Jul 22	706	Jul 18	.30	Nov 20 1994
LOWEST DAILY MEAN	28	Oct 1	14	Feb 19	.33	Nov 22 1988
ANNUAL SEVEN-DAY MINIMUM	31	Dec 17	26	Feb 18		
ANNUAL RUNOFF (AC-FT)	139000		137900		111600	
10 PERCENT EXCEEDS	427		421		340	
50 PERCENT EXCEEDS	163		140		84	
90 PERCENT EXCEEDS	31		30		22	

e Estimated



08401900 ROCKY ARROYO AT HIGHWAY BRIDGE, NEAR CARLSBAD, NM

LOCATION.--Lat 32°30'23", long 104°22'28", in SE¹/₄SE¹/₄ sec.3, T.21 S., R.25 E., Eddy County, Hydrologic Unit 13060011, at downstream end of bridge pier nearest left bank on U.S. Highway 285, 2.1 mi upstream from mouth and 10 mi northwest of Carlsbad. Mouth at Pecos River mile 475.2.

DRAINAGE AREA.--285 mi², approximately.

PERIOD OF RECORD.--November 1963 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,250 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to February 1985, at site 60 ft downstream at same datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions for irrigation of 220 acres, upstream from station. No flow during water year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Since about 1941 the maximum discharge probably occurred Oct. 7, 1954, discharge, 63,600 ft³/s, gage height, 19.2 ft, from floodmarks, on downstream end of bridge pier, by slope-area measurement at site 5 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	3.8	.00
25	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	e.00	e.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	e.00	e.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	e.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.40	0.00	0.00	3.80	0.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.56	.000	.000	.12	.000
MAX	.00	.00	.00	.00	.00	.00	.00	17	.00	.00	3.8	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	35	.00	.00	7.5	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1999, BY WATER YEAR (WY)

	MEAN	8.56	.24	.016	.000	.000	.000	.057	2.18	16.5	2.49	23.5	18.9
MAX	185	7.67	.56	.002	.000	.000	.000	1.50	37.6	468	19.3	616	335
(WY)	1975	1975	1975	1975	1964	1964	1965	1979	1986	1964	1966	1974	
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1964	1964	1964	1964	1964	1964	1964	1964	1964	1964	1965	1964	1964

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1964 - 1999
ANNUAL TOTAL		21.20	
ANNUAL MEAN		.058	6.05
HIGHEST ANNUAL MEAN			53.9
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN		17	13900
LOWEST DAILY MEAN	.00 Jan 1	May 23	Aug 23 1966
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	Oct 1	Oct 1 1963
INSTANTANEOUS PEAK FLOW		86	31600
INSTANTANEOUS PEAK STAGE		5.40 Aug 24	Aug 23 1966
INSTANTANEOUS LOW FLOW		.00 Oct 1	Aug 23 1966
ANNUAL RUNOFF (AC-FT)		42	4380
10 PERCENT EXCEEDS	.00	.00	.00
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated

a From rating curve extended above 8,500 ft³/s, on basis of slope-area measurement of peak flow.

08402000 PECOS RIVER AT DAMSITE 3, NEAR CARLSBAD, NM

LOCATION.--Lat 32°30'40", long 104°19'58", sec.6, T.21 S., R.26 E., Eddy County, Hydrologic Unit 13060011, on right bank at damsite 3 of Carlsbad Project of Bureau of Reclamation, about 1 mi upstream from flow line of Lake Avalon, 1.3 mi downstream from Rocky Arroyo, 8.0 mi northwest of Carlsbad, and at mile 473.8.

DRAINAGE AREA.--17,980 mi², approximately (contributing area).

PERIOD OF RECORD.--August 1939 to December 1940, August 1944 to current year.

REVISED RECORDS.--WSP 1512: 1946-47(M), 1948(P), 1949, 1950(P). WSP 1712: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,171.31 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to Aug. 10, 1944, at site 1,000 ft downstream at datum 1.00 ft higher. Aug. 10, 1944 to Dec. 31, 1966, at present datum 1.00 ft higher.

REMARKS.--Records poor except for estimated daily discharges, which are poor. Flow regulated by Brantley Lake (station 08401450) 4.8 mi upstream and other reservoirs and diversion dams. Diversions and ground-water withdrawals for irrigation of about 17,300 acres, 1959 determination, upstream from station. Discharge represents inflow to Lake Avalon. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Peaks that probably exceeded 40,000 ft³/s occurred in Aug. 1893, Oct. 2, 1904, July 25, 1905, Apr. 17, 1915, Aug. 7, 1916, and May 30, 1937, based primarily on records for station "at Carlsbad." Peak of May 22, 1941, was estimated at 60,000 ft³/s. Floods of 1893 and 1904 originated upstream from McMillan Dam and contributed to the two failures of Avalon Dam.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	421	27	e29	31	37	e230	e55	e24	e250	302	358
2	116	421	27	e29	31	38	e190	e30	e24	e250	292	339
3	227	421	28	e29	31	38	e190	e28	e24	e250	291	248
4	229	436	27	e29	31	36	e190	e62	e24	e250	316	180
5	209	472	26	e29	31	37	e190	e100	e22	e340	325	102
6	186	472	26	e29	30	37	e240	e110	e100	e450	314	85
7	208	475	28	e28	30	38	e300	e115	e180	e490	313	137
8	230	476	29	e28	31	37	e290	e115	e200	e490	280	241
9	211	479	29	e28	32	35	e270	e115	e270	e490	296	e315
10	188	480	29	e28	32	35	e270	e190	e340	e280	335	e350
11	162	480	29	17	32	36	e300	e240	e390	e27	339	e340
12	94	480	29	29	32	35	e325	e240	e370	e26	333	e310
13	42	e205	29	29	32	34	e340	e240	e350	e26	295	e280
14	62	96	29	29	32	35	e350	e300	e375	e310	269	e265
15	159	28	29	28	32	35	e360	e370	e380	e470	267	e245
16	236	28	29	28	33	35	e380	e400	e380	e550	268	e230
17	238	e28	29	28	34	36	e350	e290	e300	e640	289	e220
18	e238	27	26	29	32	39	e330	e250	e350	e650	307	e220
19	e141	26	26	28	13	37	e330	e330	e300	e650	270	e220
20	91	26	26	29	32	35	e330	e400	e100	e650	222	e210
21	91	26	27	28	33	35	e320	e390	e70	e580	192	e205
22	e91	26	27	29	33	36	e150	e370	e90	e560	180	e200
23	e91	26	27	30	34	36	e390	e320	e88	e570	180	e220
24	e297	26	27	30	34	e36	e300	e220	e55	e570	187	e170
25	e433	26	27	31	35	e36	e130	e130	e25	e570	213	e160
26	e540	27	27	30	36	e36	e125	e90	e24	e350	218	e160
27	e430	28	27	31	37	e36	e125	e170	e24	e300	196	e180
28	375	28	27	31	37	e36	e125	e250	e24	264	195	e210
29	e402	26	27	34	---	e36	e120	e100	e125	236	168	e250
30	e421	26	28	31	---	e100	e120	e28	e220	288	141	e280
31	421	---	29	30	---	e275	---	e27	---	324	198	---
TOTAL	6886	6242	857	895	893	1423	7660	6075	5248	12151	7991	6930
MEAN	222	208	27.6	28.9	31.9	45.9	255	196	175	392	258	231
MAX	540	480	29	34	37	275	390	400	390	650	339	358
MIN	27	26	26	17	13	34	120	27	22	26	141	85
AC-FT	13660	12380	1700	1780	1770	2820	15190	12050	10410	24100	15850	13750

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1999, BY WATER YEAR (WY)

	MEAN	200	83.6	71.5	61.2	66.4	85.0	252	195	227	255	265	211
MAX	2609	464	421	284	293	382	345	1055	1892	794	2267	1156	
(WY)	1955	1987	1992	1987	1987	1987	1945	1973	1986	1960	1966	1974	
MIN	9.91	5.71	1.04	1.98	19.5	17.7	133	46.4	18.6	10.8	21.5	12.3	
(WY)	1965	1989	1995	1995	1993	1965	1981	1946	1946	1976	1947	1964	

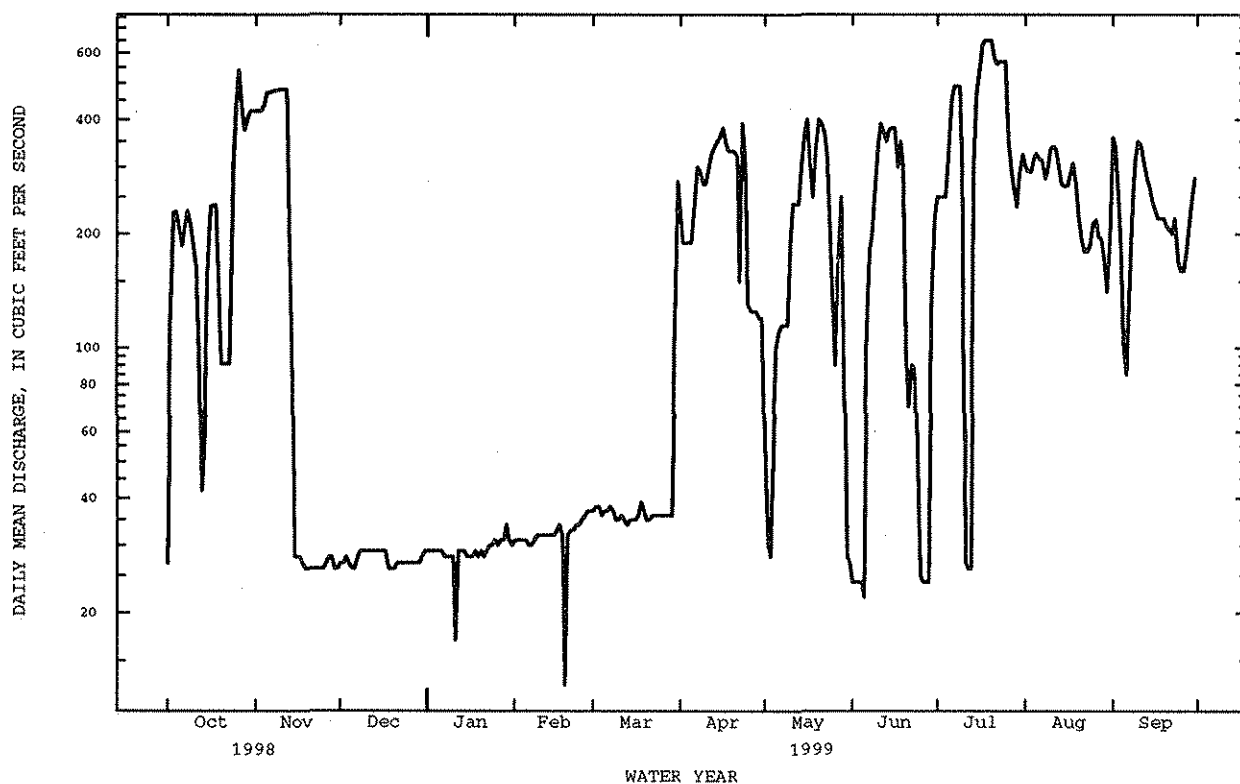
08402000 PECOS RIVER AT DAMSITE 3, NEAR CARLSBAD, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1939 - 1999	
ANNUAL TOTAL	67907		63251		165	
ANNUAL MEAN	186		173		395	
HIGHEST ANNUAL MEAN					66.8	
LOWEST ANNUAL MEAN					39000	
HIGHEST DAILY MEAN	856	Jul 22	650	Jul 18	.00	Aug 23 1966
LOWEST DAILY MEAN	25	Jul 8	13	Feb 19	.46	Dec 21 1988
ANNUAL SEVEN-DAY MINIMUM	26	Nov 19	25	May 30	.00	Dec 15 1988
INSTANTANEOUS PEAK FLOW					a69000	
INSTANTANEOUS PEAK STAGE					b21.32	
INSTANTANEOUS LOW FLOW					.00	
ANNUAL RUNOFF (AC-FT)	134700		125500		119400	
10 PERCENT EXCEEDS	410		390		346	
50 PERCENT EXCEEDS	149		125		94	
90 PERCENT EXCEEDS	28		27		22	

e Estimated

a From rating curve extended above 25,000 ft³/s, on basis of slope-area measurement at gage height 19.53 ft.

b From floodmarks at present datum.



RIO GRANDE BASIN

08403500 CARLSBAD MAIN CANAL AT HEAD, NEAR CARLSBAD, NM

LOCATION.--Lat 32°29'25", long 104°15'08", in NW¹/₄SW¹/₄SW¹/₄ sec.12, T.21 S., R.26 E., Eddy County, Hydrologic Unit 13060011, on right bank 220 ft downstream from headgates in Avalon Dam, and 3.3 mi north of Carlsbad. Pecos River mile 467.2.

PERIOD OF RECORD.--July 1939 to current year (monthly discharge only, July 1939 to September 1965). January 1941 to March 1951 published in WSP 1732.

GAGE.--Water-stage recorder with satellite telemetry and concrete control. Elevation of gage is 3,156.50 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to March 1951, at site 20 ft upstream at datum 0.9 ft higher.

REMARKS.--Records good. Carlsbad Main Canal diverts water from Lake Avalon (station 08403800) for irrigation of about 25,000 acres in the Carlsbad Irrigation District. About 1,600 acres are irrigated on the left bank, most of it upstream from gaging station 08405200. The remaining acreage (most of which is downstream from station 08405200) is on the right bank. Several observations of water temperature were made during the year. No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	186	.00	.00	.00	.00	.00	241	109	.00	226	293	292
2	177	.00	.00	.00	.00	.00	225	96	.00	226	320	262
3	168	.00	.00	.00	.00	.00	187	82	.00	219	324	295
4	139	.00	.00	.00	.00	.00	123	72	69	229	335	179
5	164	.00	.00	.00	.00	.00	198	96	120	400	303	134
6	188	.00	.00	.00	.00	.00	292	105	155	417	336	157
7	174	.00	.00	.00	.00	.00	311	114	193	396	286	174
8	200	.00	.00	.00	.00	.00	255	97	242	402	296	264
9	171	.00	.00	.00	.00	.00	267	101	308	422	368	329
10	161	.00	.00	.00	.00	.00	311	206	364	241	367	308
11	124	.00	.00	.00	.00	.00	304	213	381	62	381	300
12	162	.00	.00	.00	.00	.00	349	205	369	3.2	315	262
13	194	.00	.00	.00	.00	.00	338	264	373	.55	273	249
14	185	.00	.00	.00	.00	.00	307	355	371	67	274	223
15	165	.00	.00	.00	.00	.00	377	377	369	156	282	202
16	143	.00	.00	.00	.00	.00	343	320	359	248	303	179
17	136	.00	.00	.00	.00	.00	328	240	320	248	281	169
18	95	.00	.00	.00	.00	.00	303	314	305	216	278	158
19	80	.00	.00	.00	.00	.00	328	369	207	276	254	123
20	80	.00	.00	.00	.00	.00	336	392	140	261	251	99
21	28	.00	.00	.00	.00	.00	314	385	118	177	208	154
22	.89	.00	.00	.00	.00	64	262	358	75	153	181	167
23	.59	.00	.00	.00	.00	124	204	291	56	147	233	137
24	.45	.00	.00	.00	.00	165	141	213	48	114	242	159
25	75	.00	.00	.00	.00	192	110	165	38	114	243	159
26	131	.00	.00	.00	.00	173	144	163	14	163	201	159
27	80	.00	.00	.00	.00	126	173	225	.59	249	198	198
28	.00	.00	.00	.00	.00	151	198	175	.45	263	199	215
29	.00	.00	.00	.00	---	267	167	44	66	343	179	257
30	.00	.00	.00	.00	---	300	114	.30	191	324	184	286
31	.00	---	.00	.00	---	290	---	.00	---	300	241	---
TOTAL	3407.93	0.00	0.00	0.00	0.00	1852.00	7550	6146.30	5252.04	7062.75	8429	6249
MEAN	110	.000	.000	.000	.000	59.7	252	198	175	228	272	208
MAX	200	.00	.00	.00	.00	300	377	392	381	422	381	329
MIN	.00	.00	.00	.00	.00	.00	110	.00	.00	.55	179	99
AC-FT	6760	.00	.00	.00	.00	3670	14980	12190	10420	14010	16720	12390

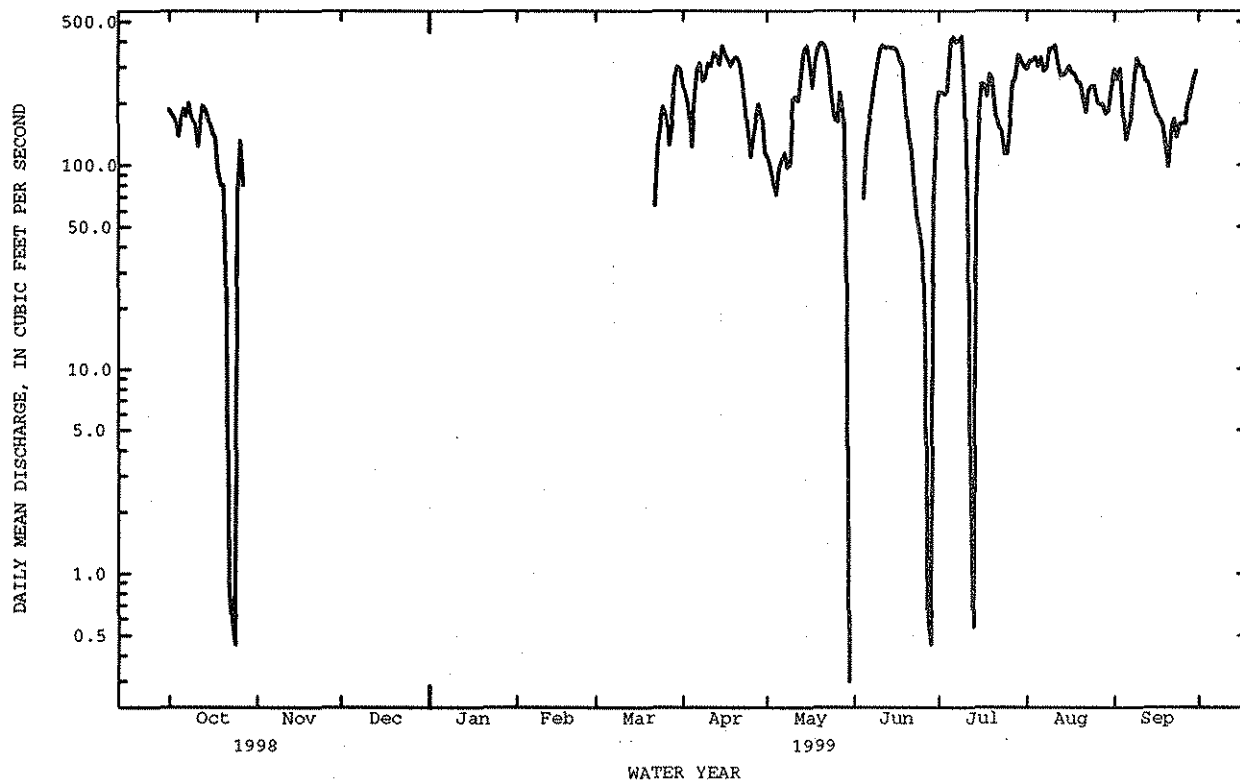
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1999, BY WATER YEAR (WY)

	MEAN	83.4	4.20	7.45	11.2	22.0	74.7	247	134	163	202	205	142
MAX	212	112	172	120	208	227	386	228	297	391	463	298	
(WY)	1980	1955	1947	1956	1950	1940	1943	1996	1942	1940	1943	1939	
MIN	.000	.000	.000	.000	.000	.000	167	6.58	.000	.000	2.81	.000	
(WY)	1953	1942	1941	1942	1941	1948	1967	1953	1953	1976	1981	1964	

08403500 CARLSBAD MAIN CANAL AT HEAD, NEAR CARLSBAD, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1939 - 1999	
ANNUAL TOTAL	48468.93		45949.02		107	
ANNUAL MEAN	133		126		174	
HIGHEST ANNUAL MEAN					51.8	
LOWEST ANNUAL MEAN					1940	
HIGHEST DAILY MEAN	385	Jun 19	422	Jul 9	*526	Sep 15 1946
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 28	.00	Jul 1 1939
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 28	.00	Oct 16 1939
INSTANTANEOUS PEAK FLOW			451	Jul 5	451	Jul 5 1999
INSTANTANEOUS PEAK STAGE			3.65	Jul 5	3.65	Jul 5 1999
INSTANTANEOUS LOW FLOW			.00	Oct 28	.00	Oct 13 1997
ANNUAL RUNOFF (AC-FT)	96140		91140		77600	
10 PERCENT EXCEEDS	326		320		296	
50 PERCENT EXCEEDS	135		109		69	
90 PERCENT EXCEEDS	.00		.00		.00	

a Also occurred Sept. 16, 1946.



08403800 LAKE AVALON NEAR CARLSBAD, NM

LOCATION.--Lat 32°29'27", long 104°15'05", in NW¹/₄SW¹/₄ sec.12, T.21 S., R.26 E., Eddy County, Hydrologic Unit 13060011, on headwall at outlet gate of dam on Pecos River, 3.3 mi north of Carlsbad, and at mile 467.2.

DRAINAGE AREA.--18,070 mi², approximately (contributing area).

PERIOD OF RECORD.--January 1939 to September 1965 (monthend gage heights and contents), October 1965 to current year. Monthend gage heights January 1919 to December 1938 in files of Pecos River Commission.

REVISED RECORDS.--WSP 898: 1939.

GAGE.--Water-stage recorder. Elevation of gage is 3,157.0 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Lake is formed by Avalon Dam, an earthfill structure. The original Eddy (Avalon) Dam was completed and storage began in 1891. The dam was destroyed by the flood of Aug. 3, 1893; repaired immediately. The dam was destroyed again Oct. 2, 1904; construction of present dam commenced on June 1, 1906, and was 88 percent complete June 30, 1907. Capacity (based on February 1996 survey) 4,470 acre-ft between gage heights 0.0 (sill of outlet gates) and 20.4 ft crest of spillway 2. No dead storage. No storage allocated to flood control. New capacity table put into use January 1, 1997. Figures given herein represent usable contents. Water is used by Carlsbad Irrigation District.

COOPERATION.--Records provided by Carlsbad Irrigation District.

EXTREMES PERIOD OF RECORD (SINCE 1938).--Maximum contents, 11,000 acre-ft, May 22, 1941, gage height, 25.0 ft; no storage at times when natural flow is passing through reservoir.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,200 acre-ft, Mar. 3, gage height, 20.10 ft; minimum, 675 acre-ft, Apr. 13, May 15, gage height, 15.20 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1460	1660	1790	2420	3270	4110	877	1210	1560	1030	1090	1030
2	1150	1150	1860	2420	3270	4110	877	1270	1590	1030	1120	1270
3	1210	1150	1860	2420	3350	4200	790	1090	1590	1030	1090	1330
4	1270	1150	1860	2490	3350	3290	848	966	1590	1090	1060	1270
5	1270	1150	1930	2490	3350	3290	907	907	1400	966	1090	1270
6	1270	1150	1930	2490	3230	3310	848	907	1150	848	1150	1210
7	1330	1210	1930	2570	3230	3310	732	907	1030	907	1090	1030
8	1330	1210	1990	2570	3510	3330	790	907	966	1030	1210	966
9	1400	1210	1990	2570	3510	3340	848	936	907	1120	1150	907
10	1330	1210	1990	2640	3590	3350	848	877	790	1150	1030	907
11	1270	1210	1990	2640	3590	3370	790	848	790	1400	966	1090
12	1150	1210	2060	2640	3680	3360	732	907	848	1330	966	1150
13	1150	1210	2060	2720	3680	3370	675	907	790	1330	1030	1210
14	1150	1270	2130	2720	3680	3370	732	907	732	1330	1090	1210
15	1030	1270	2130	2790	3930	3380	704	675	732	1720	1090	1300
16	1090	1330	2200	2790	3930	3380	704	732	790	1270	1090	1330
17	1210	1400	2200	2790	3930	3380	790	966	848	1150	1030	1270
18	1270	1460	2200	2870	3930	3400	819	1030	790	1150	1090	1210
19	1400	1460	2200	2870	3930	3410	848	848	966	1210	1210	1150
20	1460	1590	2200	2950	3930	3420	877	790	1150	1150	1210	1330
21	1660	1660	2280	2950	4020	3430	819	848	1090	1400	1210	1210
22	1720	1660	2280	2950	4020	3430	848	848	966	1330	1210	1090
23	1880	1660	2280	3030	4020	3270	1030	907	966	1330	1210	1090
24	1990	1790	2280	3030	4020	2990	1370	1120	1030	1270	1150	1270
25	2130	1790	2280	3110	4020	2640	1590	1150	1030	1270	1090	1270
26	2200	1790	2280	3110	4020	2310	1590	1090	966	1270	1090	1270
27	2130	1790	2350	3110	4020	2090	1530	907	966	1090	1150	1150
28	2060	1790	2350	3190	4110	1860	1400	790	1030	1150	1150	1210
29	1990	1790	2350	3190	---	1530	1270	1330	1090	1150	1210	1150
30	1930	1790	2350	3190	---	966	1150	1530	1030	1030	1150	1150
31	1790	---	2420	3190	---	819	---	1530	---	1030	1090	---
MAX	2200	1790	2420	3190	4110	4200	1590	1530	1590	1720	1210	1330
MIN	1030	1150	1790	2420	3230	819	675	675	732	848	966	907
(+)	17.00	17.00	17.90	18.90	20.00	15.45	16.00	16.60	15.80	15.80	15.90	16.00
(++)	0	0	+630	+770	+920	-3291	+331	+380	-500	0	+60	+60

CAL YR 1998 MAX 3430 MIN 730 (++) 0

WTR YR 1999 MAX 4200 MIN 675 (++) -640

(+) GAGE HEIGHT, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-FEET

b From floodmarks.

08405150 DARK CANYON DRAW AT CARLSBAD, NM

LOCATION.--Lat 32°24'24", long 104°13'34", in NE¹/₄NW¹/₄SE¹/₄ sec.7, T.22 S., R.27 E., Eddy County, Hydrologic Unit 13060011, on downstream side of bridge on south Canal Street in Carlsbad, and 0.6 mi upstream from mouth. Mouth at Pecos River mile 459.2.

DRAINAGE AREA.--450 mi², approximately.

PERIOD OF RECORD.--January 1973 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,088.21 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. A Soil Conservation Service flood-control project on Hackberry Draw, an upstream tributary, has some effect on flood peaks and flow duration. Ground-water withdrawals upstream from station for irrigation of approximately 2,100 acres, 1973 determination, and for municipal supply for Carlsbad. Several observations of water temperature were made during the year. No flow during water year.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of Aug. 23, 1966, reached a discharge of 66,000 ft³/s, as determined by slope-area measurement at site 1.2 mi upstream. Another flood of approximately the same magnitude occurred Sept. 20, 1941. Other major peaks occurred July 17, 1906, July 24, 1908, July 24, 1911, Apr. 18, 1915, Aug. 8, 1916, Sept. 15, 1919, Aug. 4, 1925, and May 23, 1941.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1999, BY WATER YEAR (WY)

	7.59	.76	.000	.000	.000	.000	.000	.41	14.6	.46	6.24	24.8
MEAN	7.59	.76	.000	.000	.000	.000	.000	.41	14.6	.46	6.24	24.8
MAX	196	19.7	.000	.000	.000	.000	.000	8.81	386	12.4	162	331
(WY)	1975	1979	1974	1973	1973	1973	1973	1979	1986	1981	1984	1980
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1974	1974	1974	1973	1973	1973	1973	1973	1973	1973	1973	1973

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1973 - 1999
ANNUAL MEAN			4.70
HIGHEST ANNUAL MEAN			31.7
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN			8750
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Sep 26 1980
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 1	.00 Jan 1 1973
INSTANTANEOUS PEAK FLOW			27000
INSTANTANEOUS PEAK STAGE			12.53
INSTANTANEOUS LOW FLOW			.00
ANNUAL RUNOFF (AC-FT)			3400
10 PERCENT EXCEEDS	.00	.00	.00
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

08405200 PECOS RIVER BELOW DARK CANYON DRAW, AT CARLSBAD, NM

LOCATION.--Lat 32°24'37", long 104°12'58", in NE¹/₄SW¹/₄NM¹/₄ sec.8, T.22 S., R.27 E., Eddy County, Hydrologic Unit 13060011, on left bank 700 ft downstream from mouth of Dark Canyon Draw, 0.3 mi downstream from Lower Tansill Dam and Bataan recreational area, 0.8 mi downstream from bridge on U.S. Highway 62-180 in Carlsbad, and at mile 459.1.

DRAINAGE AREA.--18,550 mi², approximately, contributing area.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1970 to current year.

GAGE.--Water-stage recorder with satellite telemetry and concrete control. Elevation of gage is 3,075.19 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Flow regulated by Lake Avalon (station 08403800) 8.1 mi upstream and by several other reservoirs and up to Nov. 1982 at low stages by power plant. Power plant discontinued operation Nov. 1982. Gage is bypassed on left bank by Carlsbad Main Canal East, which irrigates several hundred acres adjacent to and downstream from gage and on right bank by Carlsbad Main Canal South, which with supplemental ground-water withdrawals irrigates about 23,000 acres downstream. Diversions and ground-water withdrawals upstream from station for irrigation of about 198,000 acres, 1959 determination. No flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of Aug. 23, 1966, reached a stage of about 22 ft, discharge not determined. (For dates of other historical floods see station 08404000.)

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	407	19	22	19	15	23	19	18	15	12	e8.3
2	e14	404	22	15	19	14	23	16	18	13	12	e9.3
3	e14	402	29	16	19	14	23	14	18	14	e14	e17
4	e14	404	21	17	18	15	26	15	18	15	e13	e14
5	e12	410	21	19	19	15	25	15	17	15	e15	e12
6	11	422	21	18	18	14	34	14	17	21	e17	e11
7	10	427	20	18	17	14	35	12	17	25	e15	e16
8	13	429	18	16	18	14	27	12	16	26	e14	e14
9	13	427	20	12	17	12	30	12	18	26	e13	13
10	13	430	19	18	20	12	29	12	21	57	e11	15
11	13	430	18	17	16	13	31	14	20	27	e13	20
12	12	431	19	20	15	13	25	13	17	28	e19	18
13	13	256	19	19	16	11	28	14	22	27	e17	14
14	13	32	18	18	18	12	21	14	17	e26	e15	16
15	13	25	18	18	18	14	18	13	18	e190	e14	17
16	16	24	19	17	16	15	18	13	18	430	e13	17
17	18	23	18	17	17	20	17	13	18	359	e13	16
18	13	22	22	17	16	16	17	15	19	358	e12	15
19	13	22	18	18	16	15	18	22	19	364	e13	16
20	22	20	21	17	15	18	19	23	21	370	e13	14
21	16	21	21	23	16	17	22	21	20	388	e13	13
22	14	22	18	14	18	19	21	17	18	372	e13	14
23	15	21	19	17	15	20	16	34	19	364	e13	13
24	156	20	e18	18	16	22	14	41	18	356	e12	14
25	471	19	20	18	16	18	16	19	21	357	e13	14
26	449	21	20	18	15	20	15	18	26	356	e14	19
27	455	21	21	18	15	24	14	17	19	47	e17	19
28	420	22	21	21	16	22	14	51	18	14	e19	18
29	409	24	24	31	---	21	13	102	16	13	e17	16
30	419	19	24	20	---	21	13	21	15	12	e15	21
31	417	---	21	19	---	24	---	20	---	12	e9.0	---
TOTAL	3516	5657	627	566	474	514	645	656	557	4697	433.0	453.6
MEAN	113	189	20.2	18.3	16.9	16.6	21.5	21.2	18.6	152	14.0	15.1
MAX	471	431	29	31	20	24	35	102	26	430	19	21
MIN	10	19	18	12	15	11	13	12	15	12	9.0	8.3
AC-FT	6970	11220	1240	1120	940	1020	1280	1300	1100	9320	859	900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1999, BY WATER YEAR (WY)

	MEAN	75.2	47.4	38.0	39.4	30.3	20.8	58.7	112	56.7	37.8	112
MAX	727	527	367	319	305	249	103	702	2041	345	674	1250
(WY)	1975	1987	1992	1987	1987	1987	1987	1973	1986	1986	1984	1974
MIN	9.11	8.07	6.27	9.80	10.5	6.02	.087	1.11	.34	.080	.18	3.22
(WY)	1978	1978	1991	1978	1978	1978	1972	1972	1974	1977	1976	1977

RIO GRANDE BASIN

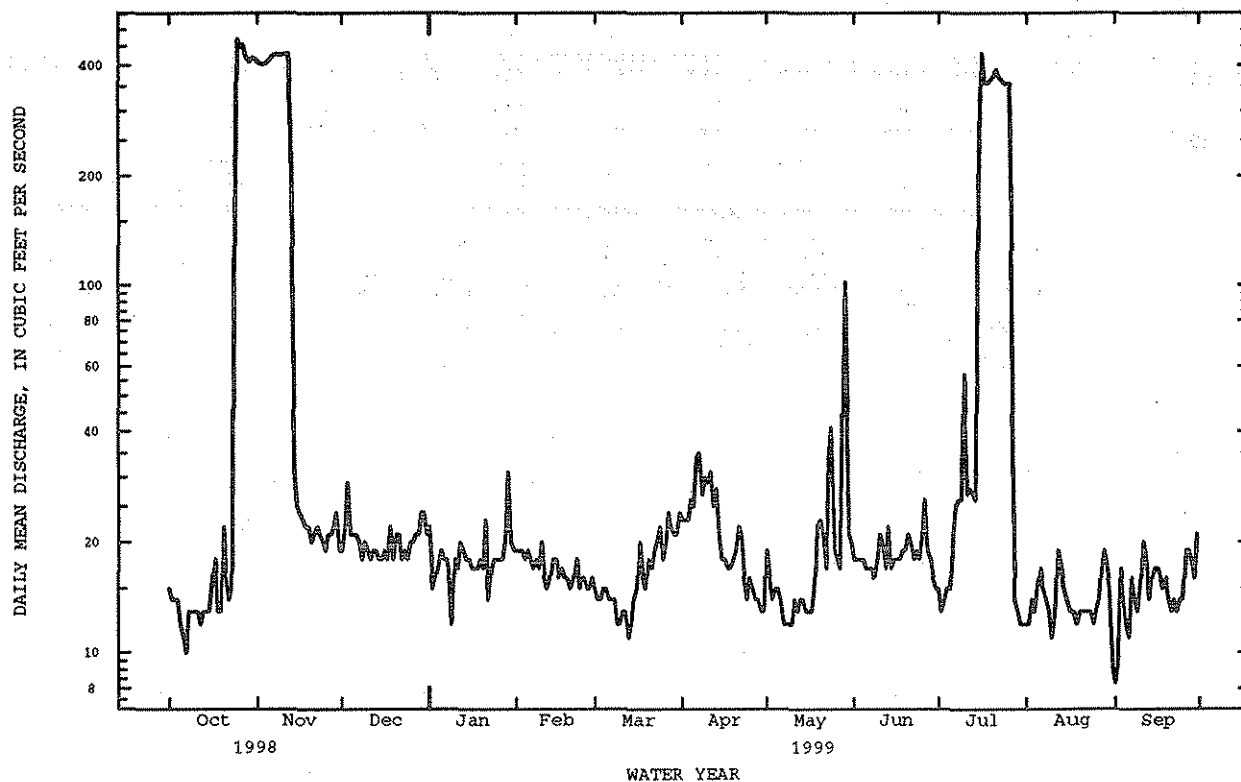
08405200 PECOS RIVER BELOW DARK CANYON DRAW, AT CARLSBAD, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1970 - 1999	
ANNUAL TOTAL	18243.8		18795.6		60.2	
ANNUAL MEAN	50.0		51.5		242	
HIGHEST ANNUAL MEAN					10.9	
LOWEST ANNUAL MEAN					1987	
HIGHEST DAILY MEAN	471	Oct 25	471	Oct 25	22800	Jun 24 1986
LOWEST DAILY MEAN	1.5	May 3	8.3	Sep 1	.00	Jun 16 1971
ANNUAL SEVEN-DAY MINIMUM	1.7	May 3	12	Aug 31	.00	Apr 16 1972
INSTANTANEOUS PEAK FLOW			691	May 28	^a 26300	Aug 10 1984
INSTANTANEOUS PEAK STAGE			4.43	May 28	15.22	Aug 10 1984
INSTANTANEOUS LOW FLOW			3.3	May 5	1.0	Mar 25 1995
ANNUAL RUNOFF (AC-FT)	36190		37280		43600	
10 PERCENT EXCEEDS	53		49		49	
50 PERCENT EXCEEDS	20		18		18	
90 PERCENT EXCEEDS	3.3		13		4.7	

e Estimated

a From rating curve extended above 12,000 ft³/s, on basis of slope-area measurement of peak flow.

b From floodmarks.



08405200 PECOS RIVER BELOW DARK CANYON DRAW, AT CARLSBAD, NM--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972 to current year.

REMARKS.--Replaces station 08405000 Pecos River at Carlsbad, New Mexico at which sample collection was discontinued after September, 1987.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
DEC 04...	1100	5.6	2930	--	22.0	14.5	684	12.6	139	1100	290	89
APR 15...	1600	20	3460	8.0	18.0	19.0	693	13.3	160	1300	320	110
MAY 11...	1245	16	4020	7.9	24.0	21.0	688	10.2	129	1400	350	120
JUL 01...	0830	16	3850	7.6	28.0	26.0	648	5.2	77	1400	340	120
21...	0830	3.1	5200	7.9	24.0	23.0	688	5.2	69	1600	430	120
AUG 03...	0900	21	5070	7.5	27.0	24.0	690	5.8	78	1600	430	130

DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
DEC 04...	280	4	4.3	141	900	450	.7	17	2130	203	<30
APR 15...	350	4	4.7	120	1000	560	.7	14	2430	231	<30
MAY 11...	380	4	5.0	150	1200	680	.7	14	2800	591	<30
JUL 01...	380	4	5.5	150	1100	680	.7	19	2750	261	<30
21...	580	6	6.9	97	1200	980	.5	18	3410	286	<50
AUG 03...	600	7	7.1	109	1300	990	.6	15	3500	309	<50

08405500 BLACK RIVER ABOVE MALAGA, NM

LOCATION.--Lat 32°13'44", long 104°09'02", in SW¹/₄NW¹/₄SW¹/₄ sec.12, T.24 S., R.27 E., Eddy County, Hydrologic Unit 13060011, on right bank 0.6 mi upstream from Black River diversion dam, 4.8 mi west of Malaga, and 7.1 mi upstream from mouth. Mouth at Pecos River mile 436.3.

DRAINAGE AREA.--343 mi².

PERIOD OF RECORD.--March to December 1940, December 1946 to current year.

REVISED RECORDS.--WSP 1632: 1948, 1949-50(P).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 3,070 ft above National Geodetic Vertical Datum of 1929, from topographic map. March to December 1940, water-stage recorder and Cippoletti weir at site 0.3 mi downstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Diversions and ground-water withdrawals for irrigation of about 1,000 acres, 1959 determination, upstream from station. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 20 or 21, 1941, reached a stage of 19.0 ft, present site and datum, determined in 1947 from well-defined floodmarks, discharge, 33,000 ft³/s, from rating curve extended above 1,400 ft³/s on basis of slope-area measurements at gage heights 8.41 ft and 12.60 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	8.3	5.8	8.8	6.7	10	8.3	27	7.3	8.6	3.7	6.1
2	3.1	7.8	6.1	8.5	6.4	10	8.3	11	7.5	8.7	5.4	6.2
3	3.3	7.1	6.4	8.4	6.4	10	8.6	9.1	7.5	8.3	6.0	6.5
4	4.1	7.2	6.1	9.0	6.1	11	9.1	8.5	7.2	7.9	6.0	6.6
5	4.2	7.7	6.1	9.2	6.1	11	8.9	8.0	7.1	7.5	6.0	6.9
6	4.3	7.9	5.9	9.3	5.9	11	9.0	8.2	6.9	7.5	6.1	7.4
7	4.7	7.9	6.0	8.1	6.6	11	9.6	9.0	7.2	7.2	6.1	7.2
8	4.8	7.9	6.0	6.7	7.7	11	9.3	9.1	7.5	7.4	5.9	6.9
9	5.0	7.6	6.1	6.1	8.2	11	9.0	8.8	7.7	7.2	6.0	6.6
10	5.1	7.0	6.6	6.1	8.6	11	8.8	8.5	7.7	162	5.8	6.8
11	5.4	6.8	7.4	6.1	8.6	11	9.0	8.1	7.6	34	6.1	7.1
12	5.5	7.4	7.5	6.1	8.6	11	9.5	8.2	7.5	6.8	6.1	7.2
13	6.0	7.7	7.2	6.1	9.2	11	10	8.5	13	7.4	5.9	6.5
14	5.2	7.9	7.1	6.1	9.5	11	9.0	8.2	9.9	8.2	5.7	6.6
15	5.2	7.9	7.1	6.1	9.7	11	8.6	7.8	8.6	8.0	5.6	7.0
16	6.4	7.9	7.2	6.1	9.6	11	9.0	9.0	8.2	8.2	5.6	7.1
17	6.4	6.6	7.5	6.0	9.8	9.1	9.2	8.8	7.6	6.9	5.7	7.1
18	6.7	5.4	7.6	5.8	10	8.1	9.1	7.5	7.5	6.7	5.8	7.3
19	7.1	5.5	7.5	5.9	10	7.8	9.3	7.7	112	6.9	6.0	7.3
20	7.9	5.6	7.5	6.1	10	7.9	9.4	7.7	351	12	5.8	6.9
21	9.3	5.4	7.6	6.2	9.9	7.9	9.0	7.7	723	8.0	5.7	6.9
22	10	5.4	7.3	5.7	10	7.7	8.6	8.2	45	6.7	5.7	7.1
23	9.7	5.4	7.4	5.7	10	7.7	8.5	8.4	23	6.6	10	7.1
24	9.8	5.4	7.5	6.0	10	7.7	8.7	14	15	6.4	16	7.0
25	9.9	5.4	7.8	6.1	10	7.9	10	11	12	6.2	8.0	6.6
26	10	5.4	8.3	6.1	11	8.4	11	7.6	12	5.9	9.9	6.4
27	168	5.4	8.3	6.0	10	18	9.6	6.7	10	5.8	7.5	5.5
28	122	5.7	8.6	6.3	11	12	9.4	9.8	9.9	5.9	6.7	4.6
29	30	6.1	8.6	7.9	---	10	9.3	10	9.1	16	6.5	4.4
30	10	6.0	8.7	8.2	---	9.1	113	8.8	9.1	7.7	6.4	4.6
31	9.5	---	8.7	7.4	---	8.7	---	8.1	---	4.3	6.3	---
TOTAL	501.6	200.7	223.5	212.2	245.6	311.0	378.1	289.0	1474.6	416.9	204.0	197.5
MEAN	16.2	6.69	7.21	6.85	8.77	10.0	12.6	9.32	49.2	13.4	6.58	6.58
MAX	168	8.3	8.7	9.3	11	18	113	27	723	162	16	7.4
MIN	3.0	5.4	5.8	5.7	5.9	7.7	8.3	6.7	6.9	4.3	3.7	4.4
AC-FT	995	398	443	421	487	617	750	573	2920	827	405	392

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1999, BY WATER YEAR (WY)

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
MEAN	13.2	9.58	9.83	10.7	10.5	7.11	10.6	12.7	15.4	14.6	24.2	20.0
MAX	80.4	33.0	17.5	18.7	19.7	15.0	55.5	106	87.8	111	553	121
(WY)	1955	1966	1989	1987	1987	1993	1954	1965	1986	1960	1966	1955
MIN	2.54	1.15	3.79	2.82	4.11	2.01	4.67	4.27	2.82	3.06	3.26	3.42
(WY)	1980	1978	1964	1964	1960	1978	1978	1974	1974	1974	1965	1977

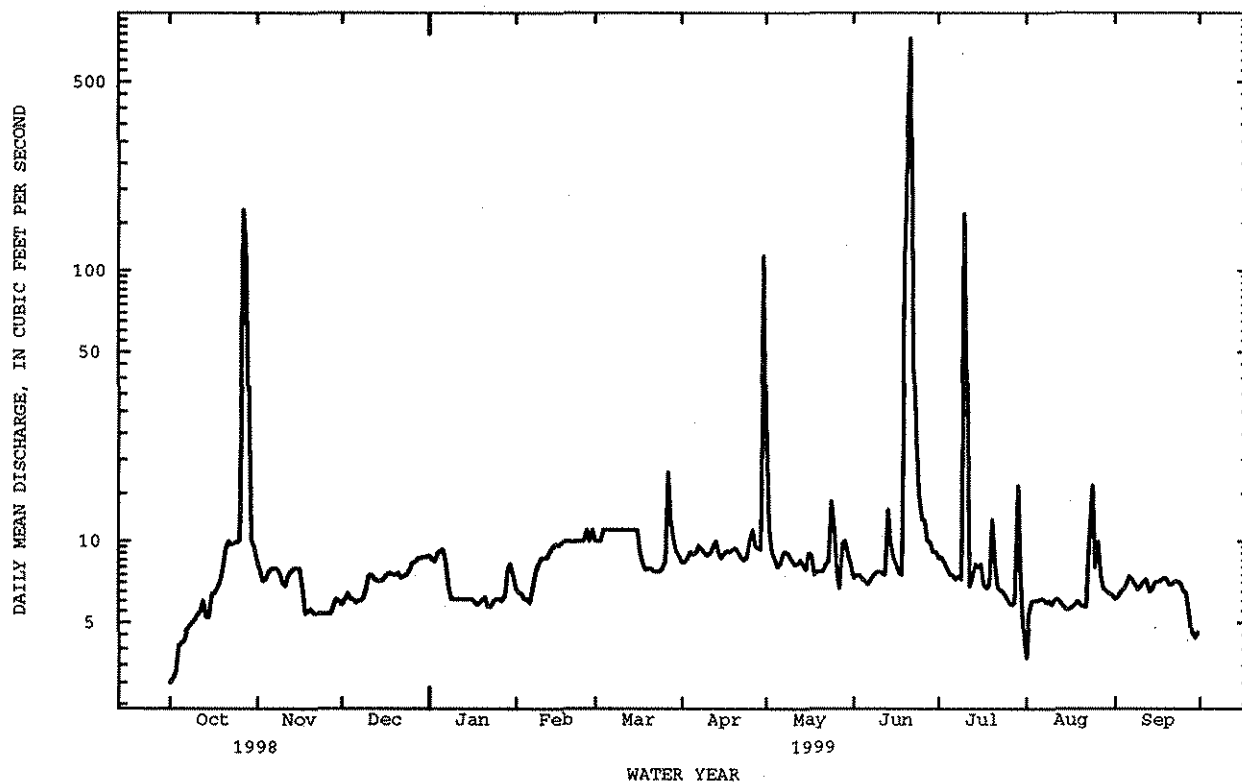
08405500 BLACK RIVER ABOVE MALAGA, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1948 - 1999
ANNUAL TOTAL	3387.59	4654.7	
ANNUAL MEAN	9.28	12.8	13.2
HIGHEST ANNUAL MEAN			58.3
LOWEST ANNUAL MEAN			6.82
HIGHEST DAILY MEAN	168 Oct 27	723 Jun 21	12000 Aug 23 1966
LOWEST DAILY MEAN	.01 Sep 30	3.0 Oct 1	.01 Sep 30 1998
ANNUAL SEVEN-DAY MINIMUM	2.2 Sep 27	3.8 Oct 1	1.0 Nov 9 1977
INSTANTANEOUS PEAK FLOW		18000 Jun 21	^a 74600 Aug 23 1966
INSTANTANEOUS PEAK STAGE		12.34 Jun 21	^b 21.70 Aug 23 1966
INSTANTANEOUS LOW FLOW		.00 Oct 1	.00 Sep 30 1998
ANNUAL RUNOFF (AC-FT)	6720	9230	9570
10 PERCENT EXCEEDS	13	11	14
50 PERCENT EXCEEDS	7.2	7.7	8.4
90 PERCENT EXCEEDS	5.2	5.7	4.2

e Estimated

a From rating curve extended above 5,900 ft³/s, on basis of slope-area measurements at gage heights 12.60 ft and 21.7 ft.

b From floodmarks.



08406500 PECOS RIVER NEAR MALAGA, NM

LOCATION.--Lat 32°12'30", long 104°01'20", in SW¹/₄NW¹/₄NE¹/₄ sec.19, T.24 S., R.29 E., Eddy County, Hydrologic Unit 13060011, on right bank 3.1 mi southeast of Malaga, 4.3 mi downstream from Black River, and at mile 432.2.

DRAINAGE AREA.--19,190 mi², approximately (contributing area).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1920 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1632, 1925, 1932-37.

GAGE.--Water-stage recorder. Elevation of gage is 2,895.64 ft above National Geodetic Vertical Datum of 1929. May 1, 1920 to Mar. 24, 1949, at datum 3 ft higher.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are fair. Flow regulated by many reservoirs and diversion dams. Diversions and ground-water withdrawals upstream from station for irrigation of about 202,000 acres, 1959 determination. Harroun canal bypasses gage on left bank and irrigates approximately 1,000 acres adjacent to and downstream from gage. This bypass is not gaged.

EXTREMES OUTSIDE PERIOD OF RECORD.--A major flood occurred in 1904, discharge not determined. Flood of Aug. 7, 1916, reached a discharge of 70,000 ft³/s, at Carlsbad, 27 mi upstream. Flood in September 1919 reached a stage of 29.4 ft, present datum, discharge, 40,400 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	456	70	65	61	49	47	85	64	e56	71	60
2	49	439	68	65	57	49	47	61	57	e58	63	59
3	50	436	70	63	57	49	e46	52	54	e58	62	63
4	44	434	74	61	56	48	e43	52	49	e54	67	60
5	60	439	74	60	54	48	e42	48	46	e47	62	60
6	55	453	69	59	54	49	e43	45	49	e46	e62	63
7	51	471	68	59	54	49	e41	40	47	e56	e60	60
8	51	480	65	58	53	50	53	42	59	e56	e58	60
9	52	484	65	57	53	54	55	49	48	e118	e58	61
10	54	481	66	58	54	51	46	48	44	e423	e60	71
11	55	488	73	54	53	48	43	43	42	e250	e60	68
12	54	493	73	55	50	48	46	43	48	e100	e60	61
13	54	495	69	55	48	48	46	42	58	81	e59	63
14	54	291	69	55	48	48	51	43	76	62	e58	65
15	54	118	68	54	50	52	48	43	70	57	e56	60
16	54	98	68	54	53	51	43	45	57	103	e56	61
17	57	87	68	54	52	48	46	44	51	406	e58	65
18	49	83	68	54	51	50	43	45	53	353	e59	66
19	53	80	69	54	51	50	41	41	57	358	e58	66
20	56	76	68	54	50	47	50	39	126	384	e57	73
21	61	75	66	52	50	47	49	42	1310	392	e56	63
22	66	73	65	55	49	47	44	45	e480	410	e56	61
23	58	73	65	54	53	47	42	44	e220	383	e57	64
24	58	73	63	49	58	47	48	60	e100	380	e59	63
25	150	72	64	50	57	47	51	74	e74	379	e58	65
26	479	71	64	51	54	48	52	68	e65	376	e56	69
27	494	70	65	52	51	60	51	51	e60	368	e54	62
28	589	71	65	53	50	63	49	48	e60	315	e52	65
29	437	72	65	64	---	53	47	80	e62	138	e54	67
30	426	73	65	71	---	52	47	184	e58	83	e58	63
31	498	---	64	71	---	52	---	92	---	82	59	---
TOTAL	4373	7605	2093	1770	1481	1549	1400	1738	3644	6432	1823	1907
MEAN	141	254	67.5	57.1	52.9	50.0	46.7	56.1	121	207	58.8	63.6
MAX	589	495	74	71	61	63	55	184	1310	423	71	73
MIN	44	70	63	49	48	47	41	39	42	46	52	59
AC-FT	8670	15080	4150	3510	2940	3070	2780	3450	7230	12760	3620	3780

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1999, BY WATER YEAR (WY)

	266	153	120	109	93.3	65.2	56.4	211	169	108	148	270
MEAN	266	153	120	109	93.3	65.2	56.4	211	169	108	148	270
MAX	5302	1338	822	738	557	290	697	6887	2984	1171	4200	6975
(WY)	1942	1942	1942	1942	1942	1987	1942	1941	1941	1941	1966	1941
MIN	8.49	7.82	7.87	10.5	11.9	9.41	8.80	7.85	8.93	6.70	6.20	8.27
(WY)	1978	1978	1978	1978	1965	1978	1965	1978	1977	1977	1977	1977

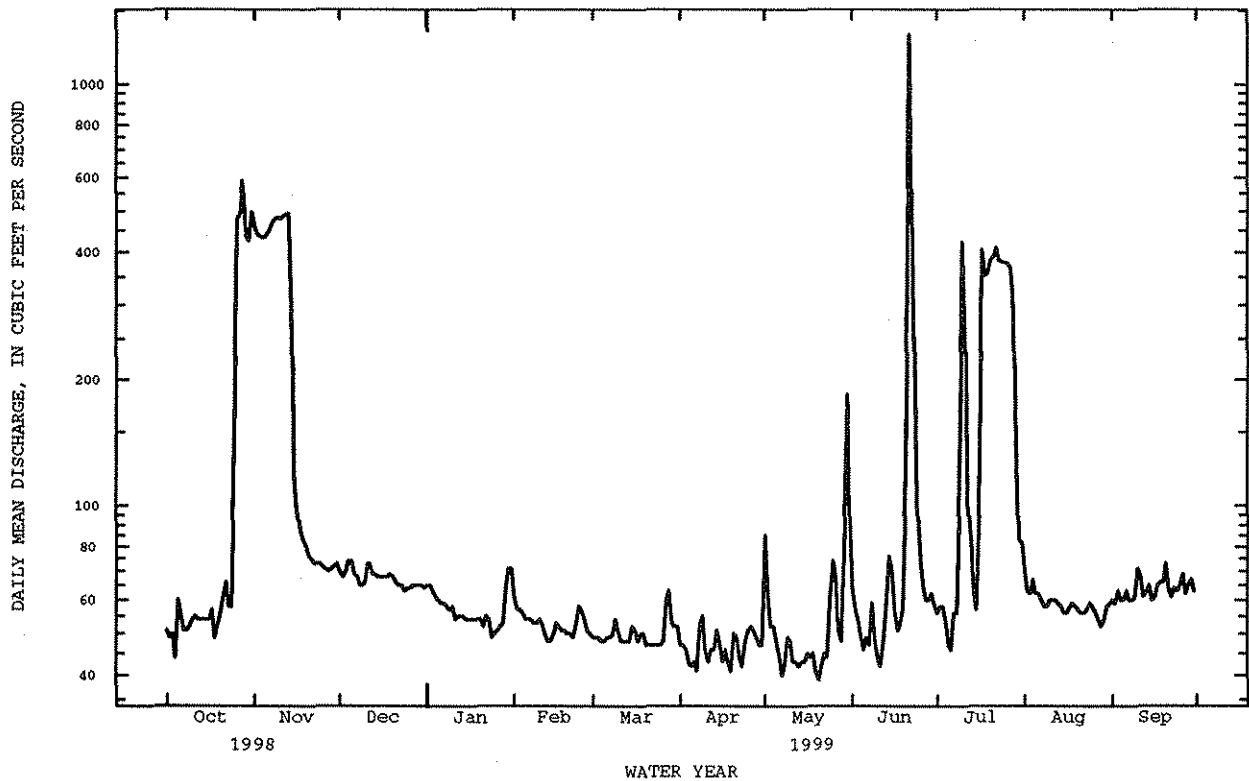
08406500 PECOS RIVER NEAR MALAGA, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1938 - 1999	
ANNUAL TOTAL	33470		35815		^a 148	
ANNUAL MEAN	91.7		98.1		1652	
HIGHEST ANNUAL MEAN					16.8	
LOWEST ANNUAL MEAN					68000	
HIGHEST DAILY MEAN	589	Oct 28	1310	Jun 21	3.7	Aug 23 1966
LOWEST DAILY MEAN	32	Jun 17	39	May 20	4.5	May 20 1991
ANNUAL SEVEN-DAY MINIMUM	34	Jun 23	43	May 15	120000	May 18 1991
INSTANTANEOUS PEAK FLOW			4440	Jun 21	^b 42.10	Aug 23 1966
INSTANTANEOUS PEAK STAGE			12.96	Jun 21	^c 3.7	Aug 23 1966
INSTANTANEOUS LOW FLOW			38	Apr 7	107000	
ANNUAL RUNOFF (AC-FT)	66390		71040		198	
10 PERCENT EXCEEDS	117		232		54	
50 PERCENT EXCEEDS	66		58		15	
90 PERCENT EXCEEDS	37		47			

e Estimated

a Average discharge 16 years (water years 1921-36), 274 ft³/s, 198,500 acre-ft/yr, prior to completion of Lake Sumner.b From rating curve extended above 36,000 ft³/s, on basis of slope-area measurement of peak flow.

c From floodmarks.



RIO GRANDE BASIN

08406500 PECOS RIVER NEAR MALAGA, NM--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED CENT SATUR- ATION (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
DEC 04...	0930	73	5290	--	18.0	12.0	685	--	--	1800	460	160
APR 15...	1315	49	6560	8.0	20.0	18.0	695	15.4	183	2300	570	230
MAY 11...	1130	43	6600	7.8	25.0	22.0	674	10.2	135	2300	550	210
JUL 01...	1130	E56	6180	7.8	36.0	37.0	648	5.4	97	2000	500	190
JUL 21...	1130	44	5650	7.9	30.0	28.0	694	7.0	100	1700	450	140
AUG 03...	1130	61	6160	7.8	30.0	29.0	694	5.2	76	1900	500	150

DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB AS (MG/L CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
DEC 04...	600	6	8.4	172	1500	1000	.8	23	3840	320	<30
APR 15...	820	7	9.9	132	1700	1300	.8	8.9	4690	428	<50
MAY 11...	740	7	9.7	164	1700	1300	.8	13	4650	1000	E33
JUL 01...	730	7	11	139	1500	1200	.8	12	4320	483	<100
JUL 21...	620	7	6.2	113	1300	1100	.5	21	3710	298	<50
AUG 03...	760	8	12	139	1400	1200	.7	17	4200	395	<50

08407000 PECOS RIVER AT PIERCE CANYON CROSSING, NEAR MALAGA, NM

LOCATION.--Lat 32°11'19", long 103°58'43", in SW¹/₄SW¹/₄NW¹/₄ sec.27, T.24 S., R.29 E., Eddy County, Hydrologic Unit 13060011, on right bank 550 ft upstream from Pierce Canyon Crossing, 6.0 mi southeast of Malaga, and at mile 425.7.

DRAINAGE AREA.--19,260 mi², approximately (contributing area).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1938 to September 1941, August 1951 to current year.

REVISED RECORDS.--WSP 898: 1938(M). WSP 1712: 1959.

GAGE.--Water-stage recorder. Elevation of gage is 2,889.18 ft above National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). July 1938 to Sept. 1941, at datum 1.19 ft higher.

REMARKS.--Water-discharge records good except those above 300 ft³/s, which are poor. Flow regulated by many reservoirs and diversion dams. Diversions and ground-water withdrawals upstream from station for irrigation of about 202,000 acres, 1959 determination.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	536	64	61	59	49	46	64	61	52	63	52
2	51	503	62	61	55	50	45	71	52	53	56	54
3	50	497	62	60	54	49	41	51	48	53	54	55
4	48	494	64	59	54	49	41	49	45	48	57	55
5	50	496	64	58	54	49	39	49	41	41	59	53
6	57	512	62	57	54	50	40	45	42	39	62	56
7	52	533	61	58	53	51	37	39	43	51	59	56
8	51	546	60	57	53	50	40	40	48	52	55	55
9	51	552	60	56	52	52	48	43	48	49	55	57
10	52	552	61	56	53	51	44	48	41	82	56	58
11	53	557	64	55	53	49	39	43	38	240	56	65
12	53	563	64	55	52	49	50	42	38	132	56	57
13	53	566	62	55	50	49	132	41	58	77	55	56
14	53	427	62	55	50	48	58	41	56	66	53	61
15	53	146	61	54	51	49	50	41	65	58	52	58
16	53	87	61	54	52	51	42	41	54	78	51	58
17	55	76	61	54	53	50	40	42	50	452	54	62
18	52	72	61	54	52	49	41	43	49	414	55	62
19	50	70	62	54	51	49	36	39	52	420	55	63
20	55	68	61	54	50	48	40	34	88	459	54	67
21	58	66	60	54	50	45	47	35	1410	489	53	64
22	59	65	61	54	49	46	43	42	377	487	53	62
23	58	65	61	54	50	46	38	41	119	459	55	65
24	55	64	61	50	54	47	41	51	84	457	55	65
25	64	64	61	50	54	45	46	58	66	452	55	66
26	459	63	61	52	53	45	47	67	59	441	54	68
27	515	63	62	52	51	50	48	52	54	433	52	68
28	629	63	62	53	50	57	46	47	54	229	49	64
29	502	64	62	57	---	52	45	56	56	94	48	71
30	474	64	61	61	---	48	46	165	54	71	49	68
31	587	---	61	63	---	51	---	126	---	70	51	---
TOTAL	4504	8494	1912	1727	1466	1523	1396	1646	3350	6598	1691	1821
MEAN	145	283	61.7	55.7	52.4	49.1	46.5	53.1	112	213	54.5	60.7
MAX	629	566	64	63	59	57	132	165	1410	489	63	71
MIN	48	63	60	50	49	45	36	34	38	39	48	52
AC-FT	8930	16850	3790	3430	2910	3020	2770	3260	6640	13090	3350	3610

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1999, BY WATER YEAR (WY)

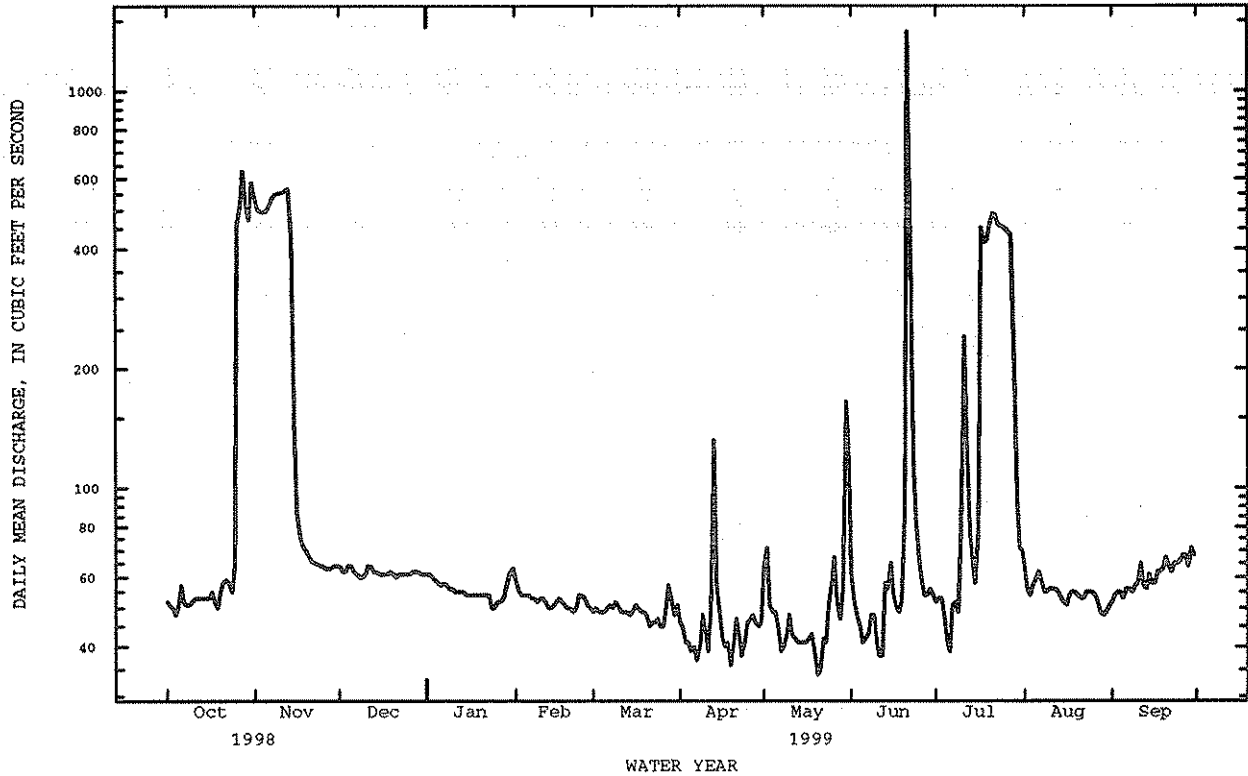
MEAN	175	107	90.6	78.7	70.8	52.0	39.3	217	168	104	158	259
MAX	2718	596	519	359	358	299	149	7108	3040	1184	4182	7129
(WY)	1955	1998	1992	1987	1987	1987	1987	1941	1941	1941	1966	1941
MIN	8.70	6.77	9.39	10.6	12.6	10.1	7.46	6.35	7.78	4.43	6.18	5.73
(WY)	1978	1978	1978	1965	1965	1978	1978	1978	1971	1966	1964	1977

RIO GRANDE BASIN

08407000 PECOS RIVER AT PIERCE CANYON CROSSING, NEAR MALAGA, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1938 - 1999	
ANNUAL TOTAL	34277		36128		127	
ANNUAL MEAN	93.9		99.0		1694	
HIGHEST ANNUAL MEAN					18.7	
LOWEST ANNUAL MEAN					1941	
HIGHEST DAILY MEAN	629	Oct 28	1410	Jun 21	65000	Aug 23 1966
LOWEST DAILY MEAN	30	Jun 9	34	May 20	2.1	Jun 22 1978
ANNUAL SEVEN-DAY MINIMUM	34	Jun 24	39	May 15	2.6	Jul 21 1966
INSTANTANEOUS PEAK FLOW			2840	Jun 21	^a 65000	Aug 23 1966
INSTANTANEOUS PEAK STAGE			8.65	Jun 21	31.60	Aug 23 1966
INSTANTANEOUS LOW FLOW			31	May 19	.54	May 30 1965
ANNUAL RUNOFF (AC-FT)	67990		71660		92220	
10 PERCENT EXCEEDS	111		154		138	
50 PERCENT EXCEEDS	62		54		47	
90 PERCENT EXCEEDS	36		43		13	

a From floodmarks.



08407000 PECOS RIVER AT PIERCE CANYON CROSSING, NEAR MALAGA, NM--Continued

WATER-QUALITY RECORDS

LOCATION.--Samples collected 0.2 mi downstream from streamflow gaging station.

PERIOD OF RECORD.--Water years 1938-41, 1952 to current year.

REMARKS.--No significant inflow between streamflow gaging station and sampling cross-section.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
DEC 04...	0815	64	7870	--	9.5	12.0	685	12.2	130	1800	460	170
APR 15...	1400	51	9890	8.2	20.0	17.5	695	--	--	2500	580	250
MAY 11...	1030	46	9870	7.9	23.0	22.0	672	10.0	135	2500	590	250
JUL 01...	1015	53	9250	7.8	34.0	29.0	646	7.9	126	2200	530	220
21...	1015	491	5630	7.7	30.0	28.0	693	5.0	72	1700	440	140
AUG 03...	1030	46	9010	7.8	30.0	27.5	694	4.9	70	2100	540	190

DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
DEC 04...	1100	11	32	165	1500	1900	.8	22	5240	407	<40
APR 15...	1600	14	43	158	1800	2500	.8	7.5	6830	619	<100
MAY 11...	1500	13	39	161	1900	2400	.8	11	6760	1640	<100
JUL 01...	1500	13	39	132	1700	2300	.7	11	6300	588	<100
21...	630	7	8.1	125	1300	1100	.5	16	3700	308	<50
AUG 03...	1500	14	39	154	1500	2200	.7	17	6090	532	<100

08407500 PECOS RIVER AT RED BLUFF, NM

LOCATION---Lat 32°04'30", long 104°02'21", in SW¹/₄NW¹/₄NE¹/₄ sec.1, T.26 S., R.28 E., Eddy County, Hydrologic Unit 13060011, on right bank at Red Bluff, 0.2 mi downstream from Red Bluff Draw, 1.6 mi northwest of the El Paso Natural Gas (Pecos River) compressor station, 5.2 mi north of the New Mexico-Texas State line, 5.5 mi upstream from Delaware River, and at mile 411.2.

DRAINAGE AREA---19,540 mi², approximately (contributing area).

PERIOD OF RECORD---October 1937 to current year.

GAGE---Water-stage recorder with satellite telemetry. Elevation of gage is 2,850.05 ft above National Geodetic Vertical Datum of 1929.

REMARKS---Records good except for estimated daily discharges, which are fair to poor. Flow regulated by many reservoirs and diversion dams. Diversions and ground-water withdrawals upstream from station for irrigation of about 202,000 acres, 1959 determination. Several observations of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD---Flood in October 1904 reached a stage of 28.0 ft, from information by Panhandle and Santa Fe Railway Co. (For dates of other historical floods see stations 08404000, 08406500.)

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	505	71	63	68	53	56	48	91	58	104	47
2	46	456	69	62	61	53	49	79	62	54	94	51
3	44	448	68	62	57	53	47	62	55	53	86	53
4	44	447	69	60	56	53	44	51	50	52	78	58
5	40	446	73	58	56	52	44	49	46	48	74	55
6	53	451	70	57	56	52	45	47	43	43	71	52
7	50	463	67	56	55	53	44	44	46	39	70	58
8	46	475	66	56	56	54	40	38	46	41	68	56
9	46	481	65	54	54	54	51	40	56	42	65	54
10	47	483	64	54	55	58	54	45	45	119	62	58
11	49	482	68	54	56	55	46	45	40	220	61	59
12	50	488	71	52	53	52	102	41	36	221	59	61
13	49	492	70	52	51	52	265	40	58	114	58	59
14	49	475	67	52	50	51	63	38	59	90	56	58
15	50	244	67	52	50	51	51	39	73	e83	55	58
16	49	125	67	51	52	56	47	38	67	62	53	59
17	50	97	66	52	55	55	43	40	54	271	50	e60
18	52	88	e67	52	54	53	44	40	49	440	53	e61
19	45	83	e67	52	53	53	42	41	51	416	55	e64
20	50	80	e66	52	53	54	39	35	61	423	52	e64
21	61	77	66	52	52	50	46	31	3400	438	51	e64
22	59	76	64	51	52	49	47	36	3070	454	49	e63
23	63	74	63	53	51	50	43	41	232	463	52	e64
24	56	73	63	52	56	50	40	63	140	460	52	e65
25	55	73	62	47	61	49	46	60	104	459	54	e65
26	270	71	63	48	61	47	48	77	83	457	53	e65
27	469	71	64	50	57	55	50	66	70	453	51	e66
28	523	71	63	52	54	67	49	53	61	411	46	e68
29	520	72	63	58	---	67	47	105	61	210	43	e64
30	467	71	64	65	---	57	45	97	61	126	43	e67
31	642	---	64	69	---	57	---	151	---	107	46	---
TOTAL	4144	8038	2057	1700	1545	1665	1677	1680	8370	6927	1864	1796
MEAN	134	268	66.4	54.8	55.2	53.7	55.9	54.2	279	223	60.1	59.9
MAX	642	505	73	69	68	67	265	151	3400	463	104	68
MIN	40	71	62	47	50	47	39	31	36	39	43	47
AC-FT	8220	15940	4080	3370	3060	3300	3330	3330	16600	13740	3700	3560

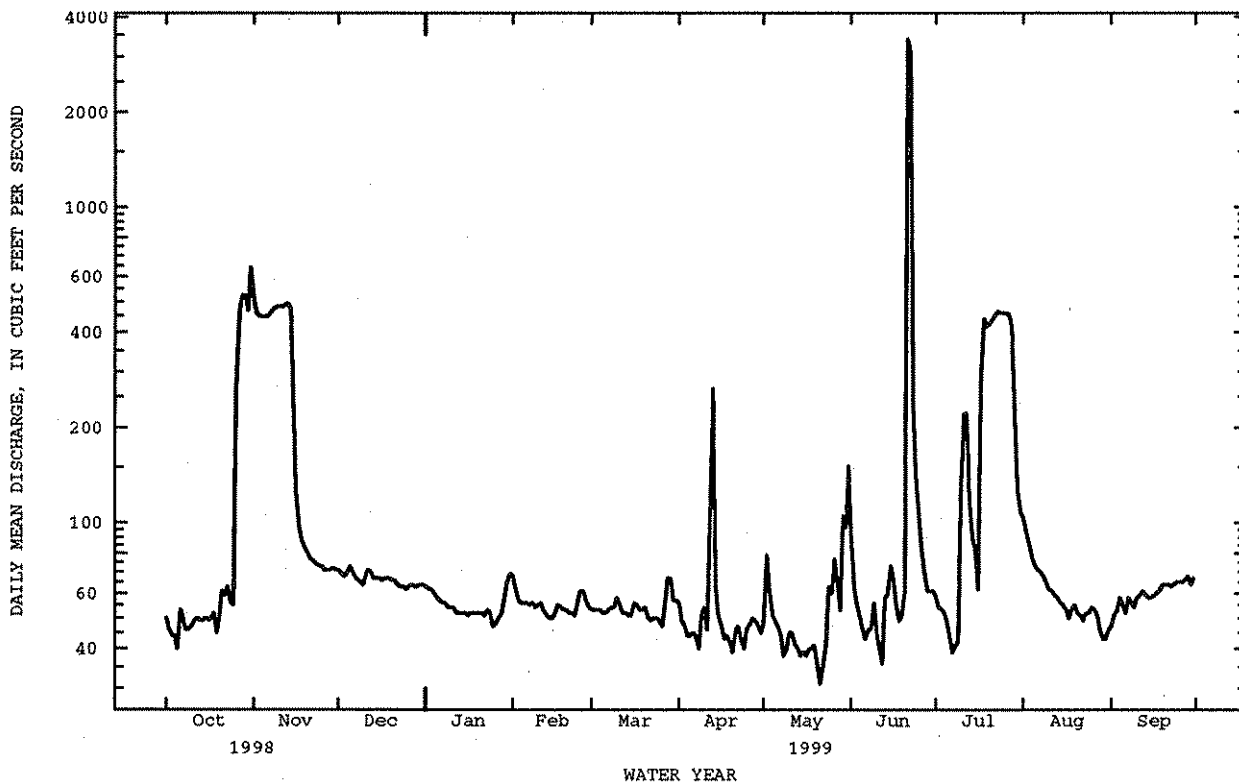
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1999, BY WATER YEAR (WY)

	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
MEAN	271	159	124	112	96.9	70.1	58.6	215	181	116	154	278
MAX	5255	1382	813	703	534	295	681	6954	3181	1273	4210	6521
(WY)	1942	1942	1942	1942	1942	1942	1942	1941	1941	1941	1966	1941
MIN	10.0	6.71	8.57	10.7	13.7	7.76	6.38	7.90	4.30	2.55	5.08	5.77
(WY)	1965	1978	1978	1965	1965	1978	1978	1971	1990	1966	1964	1977

08407500 PECOS RIVER AT RED BLUFF, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1938 - 1999	
ANNUAL TOTAL	33617		41463		153	
ANNUAL MEAN	92.1		114		1655	
HIGHEST ANNUAL MEAN					19.2	
LOWEST ANNUAL MEAN					50700	
HIGHEST DAILY MEAN	642	Oct 31	3400	Jun 21		Aug 24 1966
LOWEST DAILY MEAN	32	Jun 5	31	May 21	.22	Aug 1 1966
ANNUAL SEVEN-DAY MINIMUM	33	Jun 25	37	May 16	.33	Jul 26 1966
INSTANTANEOUS PEAK FLOW			11900	Jun 21	^a 111000	Aug 23 1966
INSTANTANEOUS PEAK STAGE			16.33	Jun 21	33.32	Aug 23 1966
INSTANTANEOUS LOW FLOW			31	May 21	.19	Aug 1 1966
ANNUAL RUNOFF (AC-FT)	66680		82240		111000	
10 PERCENT EXCEEDS	120		237		208	
50 PERCENT EXCEEDS	63		56		57	
90 PERCENT EXCEEDS	35		44		14	

e Estimated

a From rating curve extended above 32,000 ft³/s, on basis of slope-area measurement of peak flow.

RIO GRANDE BASIN

08408500 DELAWARE RIVER NEAR RED BLUFF, NM

LOCATION.--Lat 32°01'23", long 104°03'15", in NE¹/₄SW¹/₄SE¹/₄ sec.23, T.26 S., R.28 E., Eddy County, Hydrologic Unit 13070002, near center of channel on downstream side of pier of bridge on U.S. Highway 285, 2.1 mi north of the New Mexico-Texas State line, 3.6 mi southwest of Red Bluff, 3.7 mi upstream from mouth and 14 mi south of Malaga. Mouth at Pecos River mile 405.6.

DRAINAGE AREA.--689 mi².

PERIOD OF RECORD.--April 1912 to September 1913, May 1914 to June 1915, October 1937 to current year. Published as "near Malaga" 1912-13, and as "near Angeles, Tex." 1914-15.

GAGE.--Water-stage recorder. Elevation of gage is 2,900.66 ft above National Geodetic Vertical Datum of 1929 (U.S. Boundary Commission post). Prior to May 1914, at site 3.0 mi upstream at different datum. May 1914 to June 1915, at site 2.5 mi downstream at different datum.

REMARKS.--Records good. One small upstream diversion. Several observations of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	12	.48	3.4	1.0	1.2	1.0	1.6	.13	5.2	.94	.51
2	.00	7.1	.59	3.2	1.2	1.1	.99	.23	.10	3.9	.84	.46
3	.00	1.6	.87	3.2	1.2	1.1	.93	.15	.09	3.5	.76	.46
4	.00	.83	.90	3.3	1.2	1.2	.91	.11	.09	3.2	.74	1.2
5	.00	.63	.90	3.6	1.2	1.1	.89	.06	.08	3.1	2.5	1.6
6	.00	.61	.84	3.7	1.2	1.1	.86	.06	.08	3.0	1.3	1.7
7	.00	.58	.81	1.1	1.3	1.2	.82	.05	.07	2.8	.91	3.0
8	.00	.51	.77	1.0	1.3	1.2	.75	.00	.07	2.7	.81	3.1
9	.00	.47	.83	1.0	1.3	1.1	.68	.00	.07	2.6	.97	3.3
10	.00	.43	.89	.96	1.3	1.1	.62	.00	.07	3.6	.81	3.7
11	.00	.38	1.2	.97	1.2	1.1	.58	.00	.06	4.0	.89	3.9
12	.00	.36	1.3	1.0	1.2	1.1	.56	.00	.06	3.6	.81	4.2
13	.00	.38	1.3	.95	1.2	1.1	4.9	.00	.11	2.9	.77	4.5
14	.00	.43	1.2	.89	1.2	1.1	3.8	.00	.06	2.6	.71	5.4
15	.00	.44	1.1	.90	1.3	1.2	.81	.01	.05	2.6	.66	7.6
16	.00	.41	1.1	.95	1.3	1.2	.41	.00	.05	2.2	.63	8.0
17	.00	.38	1.1	.96	1.3	1.2	.33	.01	.04	2.0	.61	32
18	.00	.39	1.2	.91	1.3	1.2	.31	.01	.04	1.9	.62	24
19	.00	.44	1.0	.91	1.3	1.2	.30	.01	.04	1.8	.61	11
20	.00	.44	1.1	.89	1.3	1.2	.26	.01	.04	1.7	.59	8.1
21	.00	.44	1.0	.89	1.3	1.2	.23	.01	2160	1.6	.60	6.6
22	.00	.43	.98	.84	1.3	1.2	.22	.03	544	1.9	.60	5.6
23	.00	.45	.99	.81	1.3	1.1	.20	13	54	2.1	.60	4.7
24	.00	.46	.98	.80	1.3	1.1	.20	2.4	13	2.0	.81	4.0
25	.00	.48	.99	.82	1.3	1.0	.20	.99	12	1.6	.61	3.2
26	.00	.51	1.1	.84	1.3	1.1	.19	.17	11	1.4	.60	2.7
27	.00	.51	1.1	.83	1.2	1.1	.19	.13	9.8	1.2	.55	2.2
28	.40	.56	1.2	.81	1.2	1.1	.18	.19	8.8	1.1	.59	1.8
29	21	.54	1.1	1.1	---	1.1	.17	.20	7.3	1.0	.67	1.4
30	3.9	.50	1.1	1.0	---	1.1	.20	.53	6.2	.97	.65	1.1
31	11	---	1.1	.94	---	1.1	---	.19	---	1.0	.58	---
TOTAL	36.30	33.69	31.12	43.47	35.0	35.2	22.69	20.15	2827.50	74.77	24.34	161.03
MEAN	1.17	1.12	1.00	1.40	1.25	1.14	.76	.65	94.2	2.41	.79	5.37
MAX	21	12	1.3	3.7	1.3	1.2	4.9	13	2160	5.2	2.5	32
MIN	.00	.36	.48	.80	1.0	1.0	.17	.00	.04	.97	.55	.46
AC-FT	72	67	62	86	69	70	45	40	5610	148	48	319

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1999, BY WATER YEAR (WY)

	MEAN	28.1	3.41	3.19	3.26	3.05	2.72	5.56	9.21	19.3	13.7	21.6	21.4
MAX	748	18.9	7.99	8.57	8.77	9.44	135	233	281	166	326	303	
(WY)	1956	1979	1987	1987	1987	1987	1954	1941	1938	1952	1966	1978	
MIN	.000	.030	.17	.41	.12	.42	.23	.003	.000	.000	.000	.000	
(WY)	1952	1965	1966	1965	1966	1993	1968	1950	1950	1947	1983	1953	

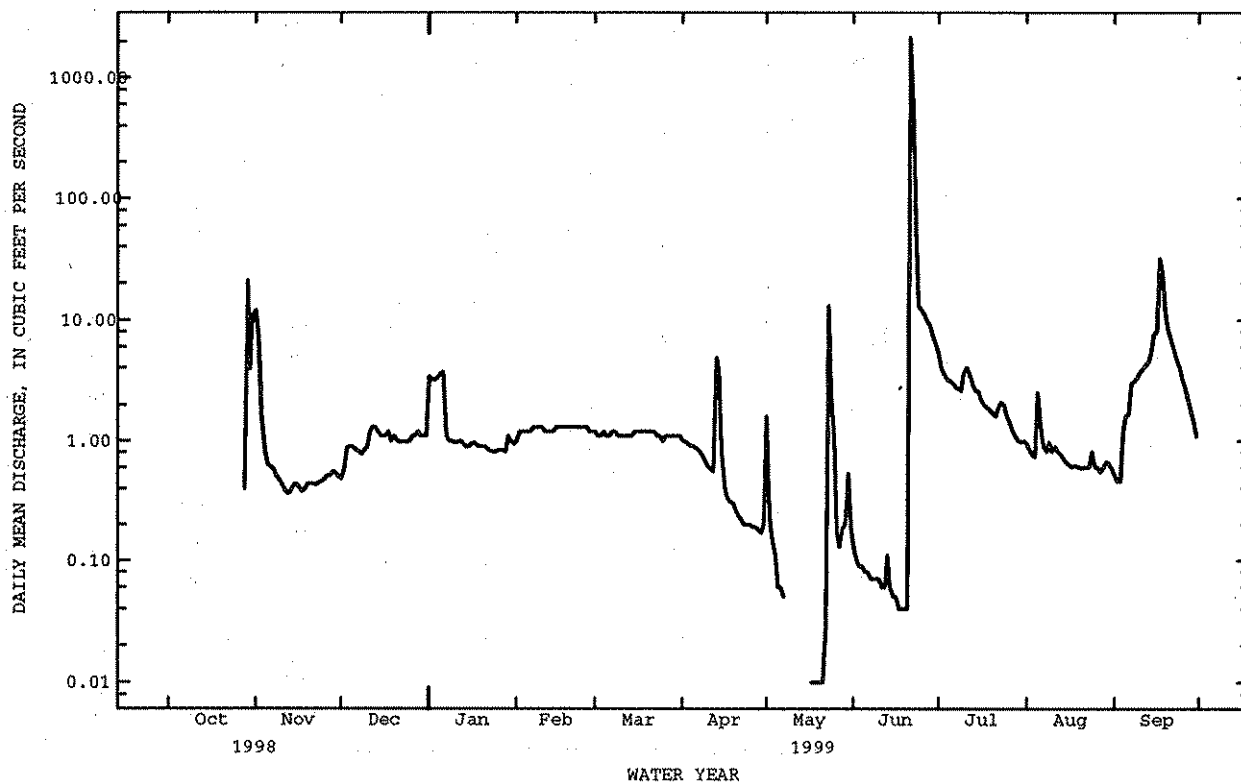
08408500 DELAWARE RIVER NEAR RED BLUFF, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1938 - 1999
ANNUAL TOTAL	441.21	3345.26	
ANNUAL MEAN	1.21	9.17	11.3
HIGHEST ANNUAL MEAN			66.1 1956
LOWEST ANNUAL MEAN			1.58 1998
HIGHEST DAILY MEAN	93 Aug 30	2160 Jun 21	22000 Oct 2 1955
LOWEST DAILY MEAN	.00 May 17	.00 Oct 1	^c .00 Jun 12 1938
ANNUAL SEVEN-DAY MINIMUM	.00 May 17	.00 Oct 1	.00 Jul 29 1946
INSTANTANEOUS PEAK FLOW		24200 Jun 21	^a 81400 Oct 2 1955
INSTANTANEOUS PEAK STAGE		14.34 Jun 21	^b 27.00 Oct 2 1955
INSTANTANEOUS LOW FLOW		.00 Oct 1	.00 Jun 11 1938
ANNUAL RUNOFF (AC-FT)	875	6640	8160
10 PERCENT EXCEEDS	1.6	3.7	7.0
50 PERCENT EXCEEDS	.44	.94	2.2
90 PERCENT EXCEEDS	.00	.01	.00

a From rating curve extended above 6,500 ft³/s, on basis of slope-area measurements at gage heights, 12.84 ft, 17.55 ft, and 27.0 ft.

b From floodmarks.

c No flow most days.



08410000 RED BLUFF RESERVOIR NEAR ORLA, TX

LOCATION.--Lat 31°54'04", long 103°54'35", Reeves County, Hydrologic Unit 13070001, at right end of Red Bluff Dam on the Pecos River, 2.8 mi upstream from Salt Creek, and 5.2 mi north of Orla.

DRAINAGE AREA.--20,720 mi², approximately (contributing area).

PERIOD OF RECORD.--February 1937 to current year. Monthly contents only for some periods, published in WSP 1312.

GAGE.--Nonrecording gage. Datum of gage is 0.43 ft below National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by a rock-faced earthfill dam 9,200 ft long. The dam was completed and storage began in September 1936. The dam and reservoir are owned and operated by the Red Bluff Water Power Control District. The water is used for power development and for irrigation from Mentone to Grandfalls. The uncontrolled emergency spillway, 790 ft wide, is a cut through natural ground located to the right of right end of dam. The controlled service spillway is equipped with 12 tainter gates that are 25 by 15 ft high. Inflow is regulated by many reservoirs and diversion dams. The capacity curve is based on Geological Survey topographic map and aerial photography, survey of 1986. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam	2,856.0	
Crest of emergency spillway.....	2,845.0	324,000
Top of gates (top of conservation pool)	2,842.0	289,700
Crest of service spillway and bottom of tainter gates.....	2,827.0	155,700
Lowest gated outlet (invert)	2,764.0	2,800

COOPERATION.--Gage-height records and capacity curve were furnished by Red Bluff Water Power and Control District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 352,000 acre-ft, Sept. 27, 28, 1941, gage height, 2,846.2 ft, observed on nonrecording gage at service spillway (affected by variable drawdown due to flow through tainter gates); minimum observed, 11,080 acre-ft, May 13, 1948, gage height, 2,781.4 ft.

EXTREMES (AT 0800) FOR CURRENT YEAR.--Maximum contents observed, 88,320 acre-ft, July 29, gage height, 2,815.25 ft; minimum observed, 47,370 acre-ft, Oct. 12, gage height, 2,804.28 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48630	53710	66110	68570	70270	71320	72080	69690	63380	81630	87660	80630
2	48520	54700	66220	68880	70350	71360	72040	69760	63340	81320	87380	80240
3	48400	52460	66330	68680	70430	71400	72240	69720	63190	80970	87050	80150
4	48290	56360	66450	68760	70510	71440	72000	69840	62970	80710	86780	79760
5	48150	57060	66560	68840	70590	71480	71880	69610	62640	80500	86420	79450
6	48000	57830	66680	68920	70670	71520	71880	69490	62350	80240	86110	79320
7	47860	58600	66790	68990	70710	71560	71920	69300	61960	79980	85790	78970
8	47720	59390	66910	69070	70750	71600	72040	69150	61790	79710	85560	78760
9	47580	60130	66990	69150	70790	71600	71400	69070	61680	79500	85250	78620
10	47490	60910	67060	69220	70790	71640	71120	68840	61440	79370	84890	78580
11	47430	61680	67140	69300	70840	71680	70880	68680	61400	78970	84620	78620
12	47370	62600	67220	69380	70840	71680	70630	68450	61400	78620	84260	78710
13	47430	63490	67300	69450	70880	71720	70590	68300	61510	78710	84030	78580
14	47520	64300	67370	69530	70880	71640	70750	68140	61540	78620	83850	78580
15	47600	65040	67450	69570	70920	71640	70390	67640	61510	78390	83580	78580
16	47630	65290	67530	69610	70920	71680	70190	67140	61540	78320	83260	78620
17	47660	65330	67600	69650	70960	71720	73970	66600	61400	78080	83080	79020
18	47690	65370	67680	69690	70960	71880	69690	66110	61370	78320	82860	79060
19	47770	65400	67760	69720	71000	71720	69490	65550	61260	78620	82630	79150
20	47950	65480	67830	69760	71000	71880	69340	65040	61230	78410	82280	79230
21	48120	65550	67910	69800	71040	71760	69110	64700	61160	78490	81980	79100
22	48290	65630	67990	69840	71040	71840	69070	64110	61160	78280	81580	79150
23	48400	65700	68070	69880	71080	71920	68640	63750	61890	78150	81280	79150
24	48490	65770	68140	69920	71120	71800	68570	63340	62190	78780	81190	79190
25	48580	65770	68180	69950	71160	71800	68610	63970	62190	78720	81060	79190
26	48660	65770	68220	69990	71200	71840	68610	63780	62190	78760	80970	79190
27	49090	65770	68260	70030	71240	72000	68610	63600	62150	78990	80970	79190
28	49980	65770	68300	70070	71280	71960	68640	63340	62070	78220	80930	79280
29	50890	65880	68370	70110	---	72000	68680	63560	62020	78320	80890	79150
30	51790	65990	68450	70150	---	72040	68760	63490	61850	78130	80840	79060
31	52710	---	68530	70190	---	72080	---	63380	---	78760	80800	---
MAX	52710	65990	68530	70190	71280	72080	73970	69840	62190	78320	87660	80630
MIN	47370	52460	66110	68570	70270	71320	68570	63340	61160	78970	80800	78580
(+)	2806.08	2809.94	2810.60	2811.03	2811.30	2811.50	2810.66	2809.23	2813.82	2815.13	2813.58	2813.18
(++)	+3960	+13280	+2540	+1660	+1090	+800	-3320	-5380	+18470	+5910	-6960	-1740

CAL YR 1998 MAX 99480 MIN 47370 (++) -23830

WTR YR 1999 MAX 88320 MIN 47370 (++) +30310

(+) ELEVATION IN FEET, AT END OF MONTH

(++) CHANGE IN CONTENTS, IN ACRE-FEET

LOCATION.--Lat 31°52'21", long 103°49'52", Reeves County, Hydrologic Unit 1300001, on right bank at bridge on Farm Road 652, 5.5 mi downstream from Salt Creek (Screw Bean Arroyo), 5.9 mi northeast of Orla, and 8.5 mi downstream from Red Bluff Reservoir.

WATER-DISCHARGE RECORDS

GAGE.--Water-stage recorder. Datum of gage is 2,730.86 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 16, 1969, at site 6.9 mi downstream at datum 12.81 ft lower.

REMARKS.--Water-discharge records poor. Most of flow is releases from storage in Red Bluff Reservoir (station 08410000) 8.5 mi upstream. Occasional runoff occurs from draws between dam and station. There are many diversions above Red Bluff Reservoir for irrigation.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	87	13	11	11	11	11	377	118	128	185	109
2	83	57	13	10	11	12	11	22	116	128	187	172
3	82	20	13	10	11	13	11	15	114	128	186	175
4	84	17	13	10	11	13	11	14	128	128	187	175
5	84	16	13	11	11	12	11	24	185	125	192	175
6	85	15	13	15	11	12	11	77	204	125	178	175
7	86	15	12	14	11	12	11	83	195	124	174	175
8	87	14	12	11	11	12	36	84	123	122	174	152
9	79	13	12	11	11	12	100	84	82	126	174	50
10	63	12	12	12	12	12	105	86	71	475	174	16
11	60	12	13	12	11	12	107	85	71	1090	177	15
12	48	12	12	12	11	12	106	87	70	187	162	14
13	12	12	12	11	11	12	107	89	73	140	135	14
14	11	13	12	11	11	12	108	131	91	133	131	14
15	10	13	12	11	11	12	107	280	75	131	130	14
16	10	12	12	11	11	11	108	288	74	125	128	18
17	10	12	12	11	11	11	110	289	75	122	130	54
18	10	11	13	11	11	12	111	291	74	123	130	44
19	10	12	13	11	11	12	114	289	74	114	141	22
20	11	11	13	11	11	12	109	289	75	42	211	18
21	32	10	12	11	11	12	92	305	92	29	216	16
22	25	10	12	11	11	12	91	306	1640	30	214	17
23	16	10	12	11	11	12	59	342	1800	30	152	16
24	13	17	12	11	11	12	18	354	263	23	68	16
25	12	60	12	11	11	12	18	873	44	25	61	16
26	11	51	12	11	11	12	18	231	38	63	28	17
27	17	45	11	11	11	11	17	182	43	233	23	17
28	229	15	11	11	11	11	18	166	105	184	22	17
29	60	14	11	11	---	11	47	142	237	182	22	16
30	75	13	11	11	---	11	545	163	145	184	22	16
31	289	---	11	11	---	12	---	131	---	183	25	---
TOTAL	1787	631	377	348	309	367	2328	6179	6495	4982	4139	1765
MEAN	57.6	21.0	12.2	11.2	11.0	11.8	77.6	199	216	161	134	58.8
MAX	289	87	13	15	12	13	545	873	1800	1090	216	175
MIN	10	10	11	10	11	11	11	14	38	23	22	14
AC-FT	3540	1250	748	690	613	728	4620	12260	12880	9880	8210	3500

MEAN	153	68.7	41.3	38.3	43.9	84.7	198	199	225	238	193	228
MAX	5717	1474	838	712	617	288	601	2717	3481	1425	686	6515
(WY)	1942	1942	1942	1942	1942	1955	1942	1941	1941	1941	1941	1941
MIN	1.78	1.38	1.77	.76	.46	.84	1.05	5.86	17.1	8.11	.74	8.70
(WY)	1948	1960	1962	1965	1965	1965	1965	1978	1953	1984	1965	1953

RIO GRANDE BASIN

08412500 PECOS RIVER NEAR ORLA, TX--Continued

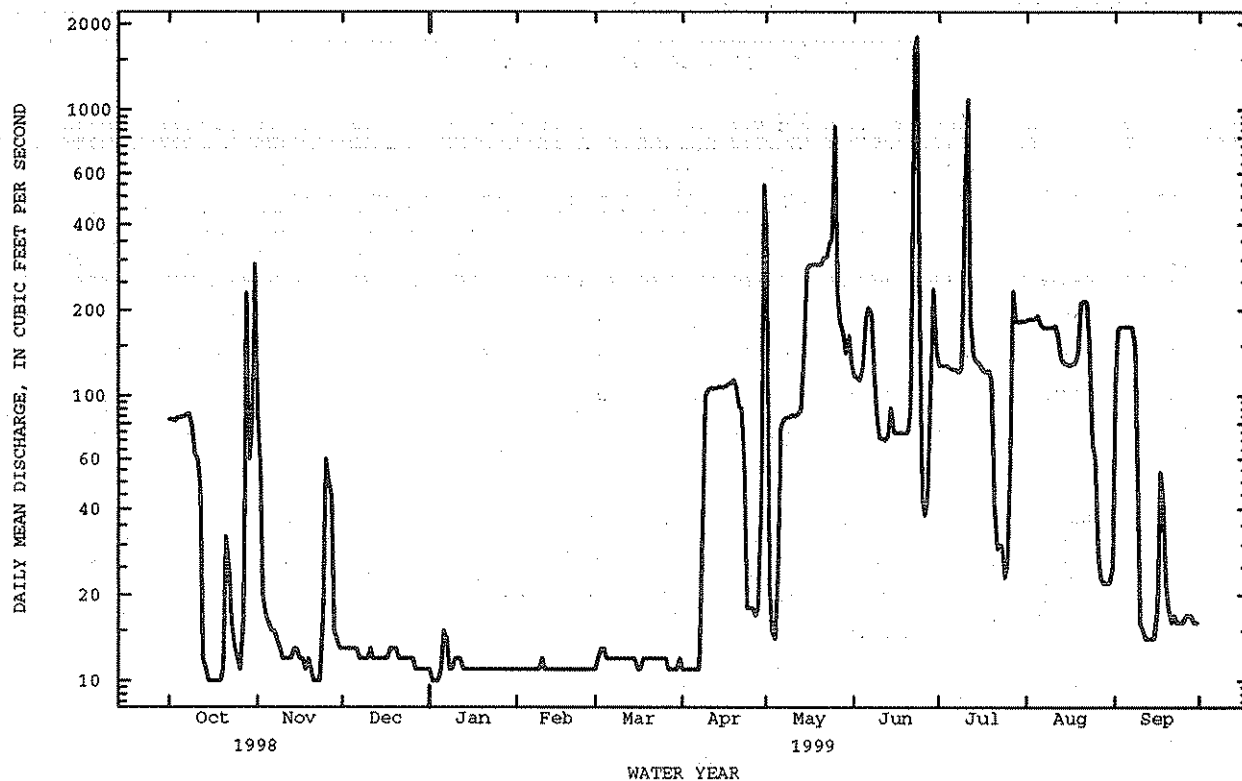
SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1938 - 1999

ANNUAL TOTAL	34287.6		29707			
ANNUAL MEAN	93.9		81.4			143
HIGHEST ANNUAL MEAN						1284
LOWEST ANNUAL MEAN						13.1
HIGHEST DAILY MEAN	353	Apr 11	1800	Jun 23	23700	Sep 28 1941
LOWEST DAILY MEAN	3.1	Mar 2	10	Oct 15	.00	Sep 9 1946
ANNUAL SEVEN-DAY MINIMUM	3.8	Feb 27	10	Oct 14	.00	Jul 7 1965
INSTANTANEOUS PEAK FLOW			2480	Jun 22	23700	Sep 29 1941
INSTANTANEOUS PEAK STAGE			13.00	Jun 22	20.74	Sep 29 1941
INSTANTANEOUS LOW FLOW			10	Jan 22	.00	Sep 9 1946
ANNUAL RUNOFF (AC-FT)	68010		58920		103500	
10 PERCENT EXCEEDS	277		184		359	
50 PERCENT EXCEEDS	56		17		34	
90 PERCENT EXCEEDS	6.1		11		5.3	



08412500 PECOS RIVER NEAR ORLA, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: July 1937 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1937 to current year.

WATER TEMPERATURE: March 1953 to current year.

REMARKS.--October 1937 to September 1969, this station was published as 08410100 Pecos River below Red Bluff Dam, near Orla, TX. Water-quality station operation transferred from the Texas District to the New Mexico District beginning with the 1993 water year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 29,400 microsiemens, May 16, 1978; minimum daily, 1,590 microsiemens, June 22, 1999.

WATER TEMPERATURE: Maximum daily, 32.5 °C, July 20, 1998; minimum daily, 0.0 °C, many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 24,400 microsiemens, Oct. 22; minimum daily, 1,590 microsiemens, June 22.

WATER TEMPERATURE: Maximum daily, 27.5 °C, Aug. 29; minimum daily, 2.0 °C, Dec. 25.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
DEC 03...	1045	8.9	9440	--	15.0	13.5	690	10.2	112	2400	2300	590
APR 15...	1100	152	8560	8.1	14.0	14.0	697	--	--	2400	2300	600
MAY 11...	0830	89	8900	7.9	16.0	18.0	688	--	--	2400	2300	590
JUL 01...	1300	211	9100	7.7	47.0	38.0	682	7.2	126	2500	2400	620
21...	1300	1.6	14100	7.7	31.0	29.0	696	--	--	3000	2900	770
AUG 03...	1315	183	6120	7.3	32.0	25.0	696	--	--	2100	2000	530

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOP IT FIELD (MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)
DEC 03...	230	1300	12	28	121	1	101	2100	2200	.8	18	6530
APR 15...	230	1300	11	30	100	0	82	1900	2000	.9	4.5	6080
MAY 11...	230	1300	11	30	112	0	92	2000	2100	.8	5.0	6200
JUL 01...	240	1400	12	32	98	0	80	1900	2100	.8	7.3	6380
21...	260	2300	19	31	159	0	130	2300	3500	.7	18	9340
AUG 03...	190	1100	10	30	100	0	84	1700	1800	.7	8.7	5480

RIO GRANDE BASIN

08412500 PECOS RIVER NEAR ORLA, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	10.0	6.0	7.0	12.0	---	17.5	21.5	25.0	25.0	24.0
2	---	---	11.0	6.5	13.0	7.0	---	18.0	22.0	25.0	24.0	25.0
3	---	---	10.0	---	6.0	13.0	15.0	19.0	---	24.0	24.0	24.0
4	---	---	11.0	---	7.0	12.0	16.0	18.0	22.5	24.0	23.5	25.0
5	---	---	11.0	---	9.0	12.5	17.0	18.0	22.0	24.0	24.0	25.0
6	---	12.0	11.0	---	12.0	13.0	13.0	16.0	21.5	25.0	24.0	25.0
7	---	12.5	9.0	---	10.0	12.0	14.0	17.0	23.0	24.0	24.0	25.0
8	---	13.0	6.0	---	11.0	12.0	13.0	18.0	23.0	25.0	24.0	24.0
9	---	14.0	5.0	---	11.0	13.0	15.0	19.0	23.0	25.0	24.0	25.0
10	---	13.0	6.0	---	11.0	13.0	14.0	18.0	24.0	24.5	24.0	25.0
11	---	11.0	5.0	---	10.0	13.0	13.0	17.0	24.0	21.0	25.0	25.0
12	---	12.0	12.0	6.0	6.0	14.0	14.0	18.0	24.0	22.0	25.0	25.0
13	---	13.0	5.5	6.0	5.0	11.0	16.0	19.0	22.0	25.0	24.5	24.0
14	---	12.5	5.0	6.0	6.0	11.0	12.0	19.0	22.0	25.0	25.0	23.0
15	---	12.0	5.0	4.0	9.0	11.0	13.0	17.0	22.0	24.0	25.0	24.0
16	---	13.0	5.0	4.0	8.0	13.5	12.0	17.0	23.0	24.5	25.0	24.0
17	---	11.0	6.0	6.0	9.0	14.0	12.0	18.0	23.5	24.0	24.0	22.0
18	---	12.5	6.0	6.0	---	14.0	12.0	19.0	23.0	24.0	24.0	22.0
19	---	12.0	7.0	8.0	11.0	12.0	12.0	19.0	24.0	24.0	25.0	22.5
20	---	12.0	8.0	9.0	10.0	13.5	14.0	18.5	23.0	25.0	25.0	23.0
21	---	11.0	9.0	10.0	10.0	14.5	14.0	19.0	25.0	25.0	25.0	22.0
22	---	10.0	4.0	8.0	9.0	15.0	16.5	20.0	21.0	26.5	25.0	19.0
23	---	9.5	2.0	6.0	8.0	16.0	17.0	20.0	23.0	27.0	25.0	20.5
24	---	9.0	7.0	8.0	8.5	---	16.5	21.0	25.0	27.0	25.0	22.0
25	---	14.0	2.0	7.0	10.0	---	16.0	20.0	25.0	26.0	25.0	21.0
26	---	12.0	3.5	8.0	12.0	16.5	20.0	20.0	27.0	25.5	25.0	22.0
27	---	13.0	5.0	8.0	12.0	15.0	18.0	21.5	---	24.0	---	22.0
28	---	13.0	8.0	10.0	12.0	14.0	20.0	21.5	27.0	25.0	27.0	22.0
29	---	15.0	5.0	7.0	---	17.0	20.0	23.5	26.0	24.0	27.5	18.0
30	---	11.0	5.0	6.0	---	16.0	18.0	22.0	25.0	27.0	22.5	17.5
31	---	---	6.0	7.0	---	18.0	---	---	---	24.5	25.0	---
MEAN	---	12.1	6.8	6.9	9.4	13.4	15.1	19.0	23.5	24.7	24.7	22.9
MAX	---	15.0	12.0	10.0	13.0	18.0	20.0	23.5	27.0	27.0	27.5	25.0
MIN	---	9.0	2.0	4.0	5.0	7.0	12.0	16.0	21.0	21.0	22.5	17.5

WTR YR 1999 MEAN 16.6 MAX 27.5 MIN 2.0

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9500	6990	9450	9260	8760	8980	---	8940	9090	9190	8450	7760
2	9390	9110	9440	9280	8990	8770	---	9410	9140	9240	8320	7160
3	9390	9320	9270	9300	8800	8940	9250	10200	---	9200	8360	7080
4	9420	9230	9600	9260	8800	8870	9240	10600	9100	9160	8290	7020
5	9450	9660	9500	9300	8830	9050	9210	10800	8960	9050	8320	7070
6	9470	9910	9400	9150	8760	8970	9300	9080	9010	9080	8160	7060
7	9470	10200	9060	9040	8880	8950	9280	8930	9050	9040	8190	7070
8	9470	10400	8920	8900	9080	8920	9230	8910	9080	8980	8040	7050
9	9450	10400	8880	9030	9260	8990	8600	8950	9130	8970	8000	7290
10	9520	10400	8820	8920	9430	9000	8650	8910	9250	8600	7910	7300
11	9510	10400	8620	8860	9540	9050	8630	8920	9180	2080	7840	7750
12	9520	10300	8510	8870	9590	9080	8600	8940	9210	6500	7900	8340
13	9550	10200	8930	8800	9550	9080	8620	8880	9180	8820	7810	8500
14	9790	10000	8730	8800	9360	9070	8680	8870	8710	9290	7870	8520
15	---	9980	---	8780	9030	9050	8720	8820	9140	9570	7910	8580
16	10000	10000	8710	8840	8990	9050	8700	8820	9220	9230	7760	8580
17	10100	9960	8750	8840	8960	9110	8720	8870	9260	9090	7690	6090
18	10100	9830	8790	8830	8930	9110	8720	8830	9300	9100	7650	16600
19	10200	9770	9420	8780	8930	9070	8710	8850	9270	9370	7610	13800
20	10100	9810	9950	8850	8930	9070	8730	8860	9020	9380	7340	10200
21	9590	9770	9770	8890	8940	9050	8750	8920	9250	12600	7320	9460
22	24400	9790	9590	8820	8940	9130	8760	8890	1590	12900	7280	9150
23	18000	9840	9380	8790	8960	9200	8810	8820	3560	15400	7250	9130
24	13800	9860	9340	8880	8990	9170	8810	8940	9180	13000	7360	9060
25	12100	8770	9260	8840	8920	---	9010	4080	10900	9820	7630	9000
26	11200	8670	9170	8820	8970	9120	9400	8770	11900	9510	7740	8830
27	10600	8720	9260	8850	9000	9060	9460	8940	11700	8660	8370	8790
28	2080	8700	9260	8830	8960	9040	9450	8970	10300	8570	8990	8700
29	8940	9080	9280	8740	---	9080	9440	8760	10200	8600	9110	8730
30	9610	9400	9220	8690	---	9050	12900	7650	8940	8480	9170	8690
31	3730	---	9280	8790	---	9110	---	---	---	8390	9220	---
MEAN	10200	9620	9190	8920	9040	9040	9080	8870	8990	9320	8030	8610
MAX	24400	10400	9950	9300	9590	9200	12900	10800	11900	15400	9220	16600
MIN	2080	6990	8510	8690	8760	8770	8600	4080	1590	2080	7250	6090

WTR YR 1999 MEAN 9080 MAX 24400 MIN 1590

LOCATION.--Lat 32°51'17", long 107°58'23", in NW¼, SW¼, sec.3, T.17 S., R.11 W., Grant County, Hydrologic Unit 13030202, on left bank 100 ft downstream from Willow Springs Canyon, 0.3 mi east of Mimbres, 1.1 mi downstream from Shepard Canyon, 2.5 mi downstream from Bear Canyon, and at mile 73.1.

PERIOD OF RECORD.--March 1978 to current year.

REMARKS.--Records good.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	7.4	7.0	11	11	2.8	5.2	3.5	2.4	3.0	163	14
2	6.8	7.7	10	11	10	3.5	6.4	3.5	2.8	2.7	135	17
3	6.0	7.5	32	11	10	4.0	5.9	3.8	2.3	3.0	354	21
4	5.8	7.4	22	11	10	4.4	5.5	4.0	2.3	2.7	406	18
5	6.4	7.4	16	11	9.8	4.2	5.0	4.0	2.4	23	528	17
6	7.8	7.2	14	11	9.7	4.0	4.5	3.9	2.5	8.5	320	23
7	7.7	7.1	12	11	9.5	3.7	4.1	4.0	2.4	6.3	196	19
8	6.8	7.0	11	11	9.4	4.6	4.1	3.7	2.2	5.1	137	18
9	8.4	7.3	11	11	9.4	4.3	4.6	3.5	2.2	5.3	121	18
10	8.4	7.2	10	11	9.6	4.1	4.9	3.4	2.1	5.0	267	19
11	8.2	7.2	10	11	9.8	4.2	4.3	3.2	2.1	4.8	178	18
12	7.3	7.4	9.7	11	8.2	4.6	4.4	3.1	2.1	4.6	126	18
13	7.0	7.6	9.3	11	6.4	4.4	4.9	3.0	3.3	4.7	90	19
14	7.0	7.2	9.6	11	6.1	4.3	4.8	3.2	4.6	4.9	69	21
15	7.0	7.1	10	11	6.6	4.5	4.1	3.1	6.1	4.8	68	21
16	7.1	7.0	10	11	7.5	4.9	4.1	2.8	6.7	4.6	60	19
17	6.1	7.0	9.6	11	7.9	5.5	3.9	2.7	7.5	3.7	40	64
18	5.4	7.0	10	11	7.5	6.1	3.6	2.8	7.1	5.6	32	74
19	5.6	6.9	9.7	9.8	7.0	5.3	3.5	2.4	4.3	11	28	50
20	6.7	6.9	9.3	5.8	6.8	6.1	3.9	2.3	3.9	18	28	32
21	8.2	6.9	9.2	6.1	6.6	7.5	4.1	2.4	4.2	119	24	22
22	8.2	6.4	9.4	5.7	8.3	5.9	3.7	2.4	4.2	80	23	18
23	7.8	5.7	9.5	5.9	8.3	6.4	3.7	2.6	4.1	36	21	16
24	6.6	6.1	9.5	5.6	8.2	6.0	3.9	2.7	3.4	30	20	16
25	6.4	6.2	9.6	7.5	5.5	5.8	3.9	2.5	3.4	45	19	16
26	6.6	6.4	9.6	9.1	3.1	5.6	3.6	2.4	3.3	47	18	16
27	125	6.3	9.6	9.6	2.5	5.0	3.1	2.6	3.2	41	21	16
28	17	6.2	9.7	11	2.2	4.5	3.1	3.0	3.2	41	18	16
29	8.1	7.3	9.6	11	---	4.8	3.2	2.7	3.5	44	16	16
30	7.2	7.0	10	11	---	5.3	3.6	2.7	3.4	49	15	16
31	7.3	---	10	11	---	5.2	---	2.5	---	140	14	---
TOTAL	347.1	209.0	347.9	307.1	216.9	151.5	127.6	94.4	107.2	803.3	3555	688
MEAN	11.2	6.97	11.2	9.91	7.75	4.89	4.25	3.05	3.57	25.9	115	22.9
MAX	125	7.7	32	11	11	7.5	6.4	4.0	7.5	140	528	74
MIN	5.4	5.7	7.0	5.6	2.2	2.8	3.1	2.3	2.1	2.7	14	14
AC-FT	688	415	690	609	430	301	253	187	213	1590	7050	1360

MEAN	13.4	13.3	33.2	28.3	27.9	33.1	24.5	15.8	8.31	12.0	33.7	13.9
MAX	67.9	43.9	186	163	99.1	93.2	89.5	64.9	23.0	52.1	234	48.6
(WY)	1986	1979	1985	1993	1995	1992	1992	1992	1992	1986	1988	1988
MIN	2.56	2.47	3.65	4.24	3.11	2.16	2.34	1.84	2.82	1.64	3.30	2.64
(WY)	1995	1981	1981	1981	1981	1990	1990	1990	1996	1994	1994	1978

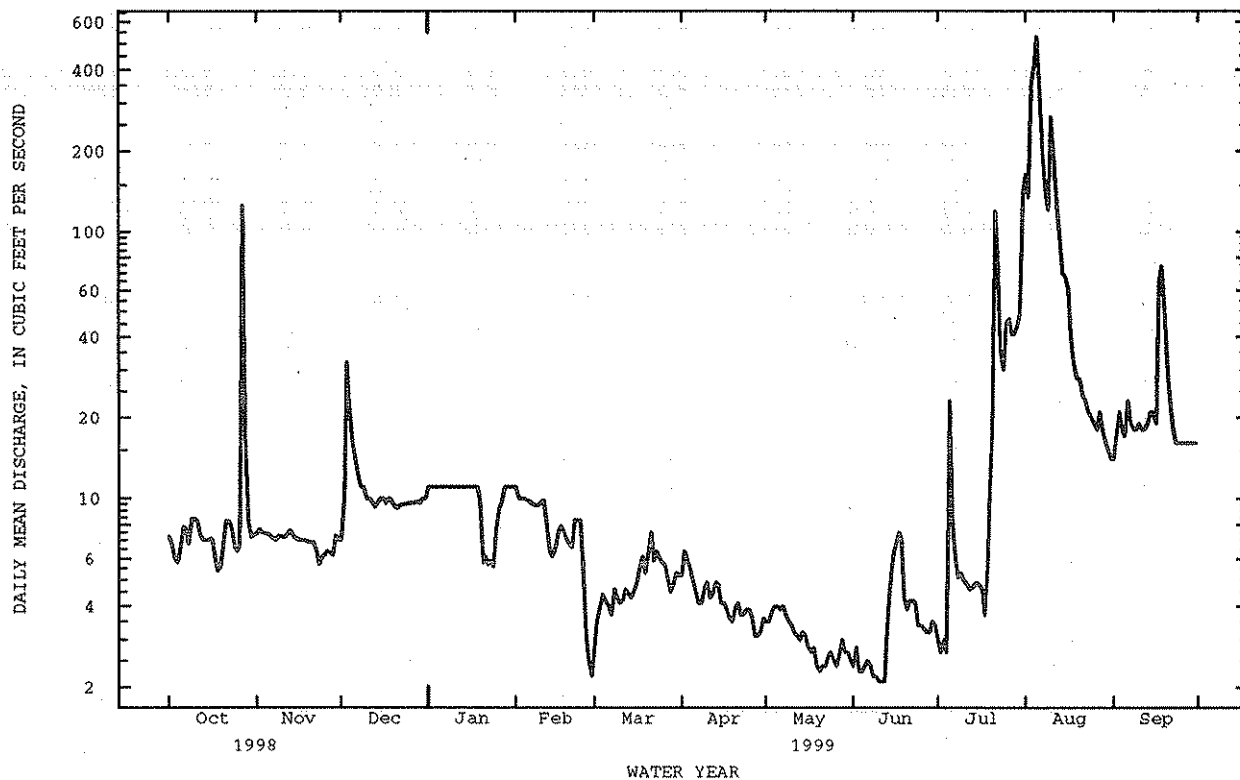
MIMBRES RIVER BASIN

08477110 MIMBRES RIVER AT MIMBRES, NM--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1978 - 1999	
ANNUAL TOTAL	6360.0		6955.0		21.5	
ANNUAL MEAN	17.4		19.1		45.1	
HIGHEST ANNUAL MEAN					5.08	
LOWEST ANNUAL MEAN					2500	
HIGHEST DAILY MEAN	148	Mar 27	528	Aug 5	.07	Dec 28 1984
LOWEST DAILY MEAN	1.2	Jul 18	2.1	Jun 10	.34	Jul 11 1994
ANNUAL SEVEN-DAY MINIMUM	3.0	Jul 17	2.2	Jun 6	.22	Jul 8 1994
INSTANTANEOUS PEAK FLOW			893	Aug 5	^a 6360	Dec 28 1984
INSTANTANEOUS PEAK STAGE			4.06	Aug 5	8.05	Dec 28 1984
INSTANTANEOUS LOW FLOW			1.9	Jun 10	.22	Aug 22 1980
ANNUAL RUNOFF (AC-FT)	12620		13800		15600	
10 PERCENT EXCEEDS	46		28		50	
50 PERCENT EXCEEDS	8.2		7.1		8.6	
90 PERCENT EXCEEDS	5.4		3.1		3.0	

a From rating curve extended above 450 ft³/s, on basis of slope-area measurement at gage heights 6.70 ft and 8.05 ft.

b From floodmarks.



TULAROSA VALLEY BASIN

361

08480595 SALT CREEK NEAR TULAROSA, NM

LOCATION.--Lat 33°16'32", long 106°23'50", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.16, T.12 S., R.6 E., Sierra County Hydrologic Unit 10301103, on right bank, 360 ft upstream from Range Road 316, .5 mi east of Range Road 7, and about 65 miles north of small missile range on U.S. Highway 70.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1995 to current year. Published as Salt Creek at Range Road 316 on White Sands Missile Range, August 1995 to September 1996.

GAGE.--Water-stage recorder. Elevation of gage is 4,020 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 88 ft³/s, July 3, 1996, gage height, 6.10 ft; minimum no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 70 ft³/s, July 18, gage height, 3.28 ft; minimum discharge, .16 ft³/s, Oct. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	e.38	1.6	.66	.57	.66	.59	e.72	e.60	e.47	17	.97
2	.21	e.37	.90	.64	.56	.66	.61	e.70	e.57	e.48	.95	.99
3	.17	e.38	.90	.65	.56	.66	.60	e.68	e.55	e.49	.99	13
4	.16	e.38	.76	.65	.55	.69	.59	e.69	e.57	e.51	.92	8.4
5	.17	e.38	.67	.65	.54	.69	.59	e.66	e.56	e.52	1.1	1.2
6	.17	e.37	.66	.63	.54	.68	.59	e.65	e.55	e.50	1.0	1.3
7	.17	e.38	.65	.61	.53	.70	.55	e.64	e.50	e.45	.91	1.0
8	.18	e.39	.65	.62	.53	.71	.59	e.64	e.54	e.47	11	1.0
9	.18	e.40	.66	.61	.53	.73	.53	e.62	e.53	e.48	33	1.0
10	.19	e.41	.65	.62	.53	.73	.55	e.60	e.52	e.49	1.3	1.0
11	.17	e.40	.67	.61	.52	.70	.55	e.60	e.50	e.50	.96	1.0
12	.18	.40	.66	.61	.51	.69	.55	e.61	e.51	e.48	.92	1.1
13	.18	.45	.67	.59	.53	.69	.59	e.60	e.51	.48	.89	1.1
14	.18	.45	.69	.59	.55	.70	.61	e.59	e.50	.49	.90	1.2
15	.17	.44	.68	.58	.55	.71	.57	e.60	e.49	.58	.90	3.1
16	.17	.47	.70	.59	.56	.71	.57	e.58	e.47	.54	.90	1.5
17	e.17	.49	.67	.57	.58	1.9	.57	e.57	e.48	19	.92	1.2
18	e.20	.52	.77	.57	.58	2.2	.57	e.56	e.48	70	.92	1.1
19	e.20	.53	.76	.57	.59	.94	.56	e.55	e.49	24	1.4	1.1
20	e.21	.54	.72	.57	.59	.78	.54	e.57	e.50	.73	1.1	1.1
21	e.22	.56	.80	.68	.58	.74	.53	e.59	e.51	.67	.95	1.1
22	e.24	.60	.76	.57	.60	.72	.51	e.61	e.51	48	.98	1.1
23	e.26	.61	.77	.56	.60	.68	e.55	e.60	e.50	22	1.4	1.1
24	e.28	.63	.76	.56	.61	.67	e.60	e.58	e.50	.90	1.0	3.4
25	e.28	.67	.68	.56	.62	.66	e5.0	e.58	e.49	.76	1.4	1.1
26	e.30	.69	.66	.56	.64	1.0	e1.0	e.57	e.48	.73	1.3	1.0
27	e.30	.70	.67	.55	.64	2.9	e.80	e.56	e.48	2.7	1.4	1.0
28	e.30	.74	.67	.56	.65	.77	e.76	e.55	e.51	1.4	1.1	.99
29	e.32	33	.67	.61	---	.67	e.74	e.57	e.50	1.3	1.0	.96
30	e.34	7.4	.65	.60	---	.65	e.72	e.58	e.49	.80	1.0	.99
31	e.36	---	.66	.59	---	.63	---	e.55	---	9.9	1.0	---
TOTAL	6.80	54.13	22.84	18.59	15.94	27.02	22.68	18.77	15.39	210.82	90.51	56.10
MEAN	.22	1.80	.74	.60	.57	.87	.76	.61	.51	6.80	2.92	1.87
MAX	.36	.33	1.6	.68	.65	2.9	5.0	.72	.60	.70	.33	.13
MIN	.16	.37	.65	.55	.51	.63	.51	.55	.47	.45	.89	.96
AC-FT	13	107	45	37	32	54	45	37	31	418	180	111

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1999, BY WATER YEAR (WY)

	1995	1996	1997	1998	1999
MEAN	.56	.79	.74	.70	.56
MAX	1.63	1.80	1.17	1.02	.67
(WY)	1997	1999	1998	1996	1999
MIN	.13	.34	.50	.55	.43
(WY)	1996	1996	1996	1998	1996

TULAROSA VALLEY BASIN

08480595 SALT CREEK NEAR TULAROSA, NM--Continued

SUMMARY STATISTICS

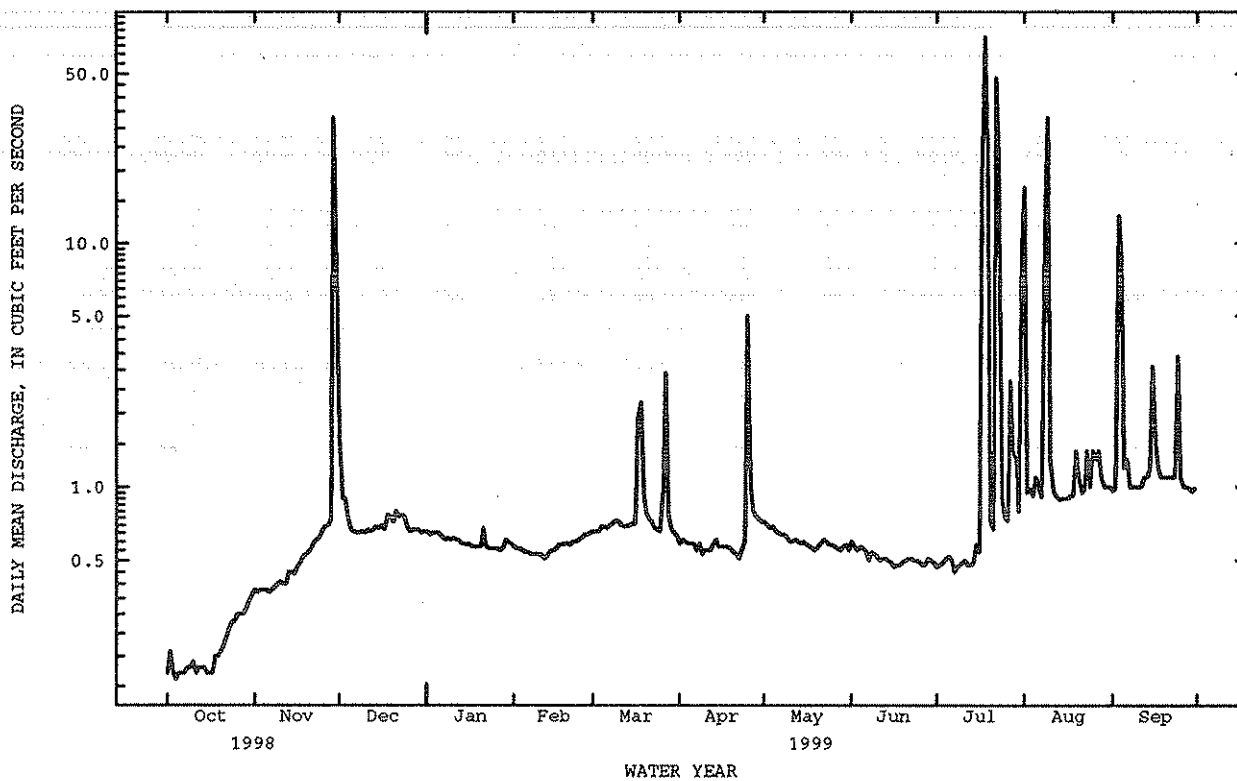
FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1995 - 1999

ANNUAL TOTAL	291.55	559.59	1.10	
ANNUAL MEAN	.80	1.53	1.53	1999
HIGHEST ANNUAL MEAN			.73	1998
LOWEST ANNUAL MEAN			.06	1995
HIGHEST DAILY MEAN	36 Aug 5	70 Jul 18	.08	Oct 3 1995
LOWEST DAILY MEAN	.15 Jun 24	.16 Oct 4		
ANNUAL SEVEN-DAY MINIMUM	.16 Jun 24	.17 Oct 3		
ANNUAL RUNOFF (AC-FT)	578	1110	799	
10 PERCENT EXCEEDS	.76	1.1	1.1	
50 PERCENT EXCEEDS	.44	.61	.49	
90 PERCENT EXCEEDS	.20	.38	.22	

e Estimated



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years August 1995 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
MAR 08...	1315	.71	--	--	--	11.0	--	--	--	--	--	--
APR 27...	1030	.79	31300	8.0	24.0	11.5	655	9.8	118	4300	4200	1000
JUN 02...	1243	.57	--	--	--	18.0	--	--	--	--	--	--
JUL 13...	1151	.48	--	--	--	23.5	--	--	--	--	--	--
21...	1430	.66	23200	8.4	34.0	31.0	658	8.5	144	2900	2900	680
AUG 26...	1300	1.6	--	--	--	24.0	--	--	--	--	--	--
SEP 28...	1045	1.1	--	--	--	22.5	--	--	--	--	--	--

[illegible][illegible]

TULAROSA VALLEY BASIN

08480595 SALT CREEK AT TULAROSA, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)
MAR 08...	--	--	--	--	--	--	--	--	--	--	--	--
APR 27...	<280	<500	3	<2	84.4	71	1070	821	<1	<10	<2.0	<2.0
JUN 02...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 13...	--	--	--	--	--	--	--	--	--	--	--	--
21...	1250	--	4	<5	212	190	924	781	<5	<5	24	<10
AUG 26...	--	--	--	--	--	--	--	--	--	--	--	--
SEP 28...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (UG/L AS LI) (01132)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)
MAR 08...	--	--	--	--	--	--	--	--	--	--	--	--
APR 27...	2	<10	<240	<250	2	<10	1820	1800	154	170	<.1	<.1
JUN 02...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 13...	--	--	--	--	--	--	--	--	--	--	--	--
21...	<5	<5	1140	<200	<5	7	1410	--	110	E43	<.1	<.1
AUG 26...	--	--	--	--	--	--	--	--	--	--	--	--
SEP 28...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, TOTAL RECOV- ERABLE (UG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, DIS- SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
MAR 08...	--	--	--	--	--	--	--	--	171	.33	96
APR 27...	6	<2	<10	<10	24800	22000	<800	<500	834	1.8	98
JUN 02...	--	--	--	--	--	--	--	--	211	.32	88
JUL 13...	--	--	--	--	--	--	--	--	1570	2.0	99
21...	3	<5	<5	<5	16000	--	<400	<400	1160	2.1	99
AUG 26...	--	--	--	--	--	--	--	--	14	.06	95
SEP 28...	--	--	--	--	--	--	--	--	1430	4.4	99

DATE	TIME	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	2,4-DP TOTAL (UG/L) (82183)
MAR 08...	1315	--	--	--	--
APR 27...	1030	<.01	<.01	<.01	<.01
JUN 02...	1243	--	--	--	--
JUL 13...	1151	--	--	--	--
21...	1430	--	--	--	--
AUG 26...	1300	--	--	--	--
SEP 28...	1045	--	--	--	--

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in floodflow analyses. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in the second table.

Crest-stage partial-record stations

The following table contains annual maximum discharge for crest-stage stations. A crest-stage gage is a device that will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each year is given. Information on some lower floods may have been obtained, and discharge measurements made for purposes of establishing the stage-discharge relation, but these are not published herein. The year given in the period of record column represents the first year of a period extending through the current year unless otherwise noted. For some stations, publication of discharge is delayed pending definition of stage-discharge relationship. Published maximums are for water years.

Annual maximum discharge at crest-stage partial-record stations

Station name and number	Location and drainage area	Period of record	Water year 1999 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
BRAZOS RIVER BASIN								
Blackwater Draw tributary near Floyd. (08079300)	Lat 34°14'52", long 103°44'51", Roosevelt County, Hydrologic Unit 12050001, 0.5 mi down- stream from section road, and 10 mi west of Floyd. Drainage area is ^a 10 mi ² .	1963-	05-01-99	0.51	5.0	- -69	5.96	3,400
Running Water Draw near Clovis. (08080600)	Lat 34°31'55", long 103°12'05", Curry County, Hydrologic Unit 12050005, 0.25 mi upstream from State Highway 209; and 8 mi north of Clovis. Drainage area is 109 mi ² .	1953-56 1957-64* 1965-	10-30-98	7.00	3,590	07-24-72	---	8,000
RIO GRANDE BASIN								
Canjilon Creek above Abiquiu Reservoir. (08286650)	Lat 36°18'55", long 106°29'05", Rio Arriba County, Hydrologic Unit 13020102, in Piedra Lumbre Grant, 300 ft upstream from bridge on U.S. Highway 84, 0.2 mi northwest of entrance to Ghost Ranch and about 12 mi northwest of Abiquiu. Drainage area is 144 mi ² .	1965-	09-01-99	4.70	506	07-07-98	^a 11.56	4,620
Arroyo Seco tributary near Pojoaque. (08293700)	Lat 35°56'33", long 103°01'12", Santa Fe County, Hydrologic Unit 13020101, upstream from culvert on U.S. Highway 84-285 3.5 mi north of Pojoaque. Drainage area is 0.72 mi ² .	1971-96g 1999-	07-09-99	8.24	270	07-28-74	10.62	508
Rito De Los Frijoles in Bandelier Nation Monument (08313350)	Lat 35°46'35", long 106°16'06", Sandoval County, Hydrologic Unit 13020201, in Bandelier National Monument, on right bank 800 ft downstream from Monument Headquarters, 6.5 mi south of Los Alamos, 18.5 mi northwest of Santa Fe. Drainage area is 17.5 mi ² .	1963-69 1977-	08-10-99	2.77	35	07-21-78	6.34	3,030

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITE

Annual maximum discharge at crest-stage partial-record stations

Station name and number	Location and drainage area	Period of record	Water year 1999 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
RIO GRANDE BASIN -- Continued								
Bland Canyon near Cochiti Pueblo. (08313400)	Lat 35°42'11", long 106°24'56", Sandoval County, Hydrologic Unit 13020201, 200 ft south of Forest Service Road, 0.3 mi inside Santa Fe National Forest, and 7.5 mi north of Cochiti Pueblo. Drainage area is 7.57 mi ² .	1962-	05-25-99	2.19	43	08-10-85	3.54	243
Galisteo Creek at Canoncito. (08317500)	Lat 35°33'02", long 105°49'20", Santa Fe County, Hydrologic Unit 13020201, upstream from railroad bridge, 0.2 mi up- stream from Apache Canyon at Canoncito. Drainage area is 11.3 mi ² .	1955-56 1959-95g 1999-	- - 99	<2.66	<615	08-23-66	5.35	2,000
San Cristobal Arroyo near Galisteo. (08317600)	Lat 35°22'55", long 105°51'05", Santa Fe County, Hydrologic Unit 13020201, at bridge on U.S. Highway 285, 5.5 mi east of Galisteo. Drainage area is 116 mi ² .	1955-	08-09-99	17.75	13,200	08-09-99	17.75	13,200
San Pedro Creek near Golden. (08318900)	Lat 35°13'45", long 106°18'00", Sandoval County, Hydrologic Unit 13020201, 1 mi downstream from bridge on State Highway 14 and 5.5 mi southwest of Golden. Drainage area is 45.2 mi ² .	1953-	08-04-99	0.30	250	09-24-55	12.95	10,800
Juan Toro Canyon near Miera. (08330400)	Lat 35°00'57", long 106°20'14", Bernalillo County, Hydrologic Unit 13020203, 150 ft east of State Highway 337, 1 mi south- east of Cedro, and 4.5 mi north- west of Miera. Drainage area is 1.57 mi ² .	1959-96g 1999-	08-04-99	1.03	20	07-20-71	1.33	44
Tijeras Arroyo at Albuquerque. (08330500)	Lat 35°03'40", long 106°28'40", Bernalillo County, Hydrologic Unit 13020203, 300 ft south of old U.S. Highway 66, and 0.4 mi southeast of city limits of Albuquerque. Drainage area is 75.3 mi ² .	1943-48* 1958-	08-030-99	2.86	1,250	06-24-67	6.85	6,500
Canada Montoso near Scholle. (08331650)	Lat 34°23'11", long 106°28'37", Socorro County, Hydrologic Unit 13020203, 130 ft upstream from dip on abandoned highway, 500 ft upstream from bridge on U.S. Highway 60, and 3.6 mi southwest of Scholle. Drainage area is 35 mi ² .	1961-	07-18-99	1.77	205	07-31-97	7.47	5,600
Rio Puerco at Cuba (08332525)	Lat 36°00'38", long 106°58'48", Sandoval County, Hydrologic Unit 1302024, on downstream side of bridge of State Road 197, 0.50 mi to southwest of State Highway 44, and 1.0 mi southwest of Cuba.	1997-	08-10-99	<8.54	<500	06-06-97	11.04	2,730

Annual maximum discharge at crest-stage partial-record stations

Station name and number	Location and drainage area	Period of record	Water year 1999 maximum		Period of record maximum		Date	Gage height (ft)	Dis- charge (ft ³ /s)
			Date		Date				
RIO GRANDE BASIN -- Continued									
Pine Canyon near Thoreau. (08341370)	Lat 35°18'34", long 108°10'14", McKinley County, Hydrologic Unit 13020207, about 1 mi southwest of the north end of Bluewater Lake, and about 7 mi southeast of Thoreau. Drainage area is 6.09 mi ² .	1969-96g 1999-	- - 99	<1.37	<1.6	08-27-93	3.56	195	
La Jencia Creek near Magdalena. (08353500)	Lat 34°09'45", long 107°12'35", Socorro County, Hydrologic Unit 13020209, 3.5 mi north- east of Magdalena. Drainage area is 195 mi ² .	1957- 1961-96g 1999-	08-11-99	1.79	600	07-08-98	11.36	4,950	
Chupadera Wash tributary at Bingham. (08358600)	Lat 33°51'39", long 106°22'06", Socorro County, Hydrologic Unit 13020210, 75 ft upstream from culvert on U.S. Highway 380, and 0.1 mi west of Bingham. Drainage area is 1.29 mi ² .	1961-96g 1999-	- -99	---	(m)	09-10-80	4.75	620	
San Jose Arroyo near Monticello. (08359300)	Lat 33°28'05", long 107°14'30", Sierra County, Hydrologic Unit 13020211, at head of box canyon just downstream from major tributary, 800 ft down- stream from culvert on old U.S. Highway 85, and 13 mi northeast of Monticello. Drainage area is 26.9 mi ² .	1959-96g 1999-	08-08-99	1.87	1,100	06-10-88	6.09	5,070	
Alamosa Creek near Monticello. (08360000)	Lat 33°34'09", long 107°35'33", Socorro County, Hydrologic Unit 13020211, on left bank at Alamosa damsite and downstream from Old Fort Ojo Caliente, just downstream from Wildhorse Creek, 15 mi northwest of Monticello. Drainage area is 403 mi ² .	1931-42* 1956-58 1958-71* 1973-95g 1997-	08-08-99	8.15	1,380	08-13-64	14.04	10,800	
Percha Creek near Hillsboro. (08361700)	Lat 32°54'55", long 107°36'05", Sierra County, 150 ft south of State Highway 180, and 2 mi west of Hillsboro. Drainage area is 35.4 mi ² .	1957-78g 1980-	08-06-99	^d 14.0	19,900	08-06-99	^d 14.0	19,900	
Aleman Draw at Aleman. (08363200)	Lat 33°00'00", long 107°00'20", Sierra County, Hydrologic Unit 13030103, on Santa Fe railroad bridge, 140 ft up- stream from dip on Engle- Rincon Road, and 0.26 mi west of Aleman. Drainage area is 25.5 mi ² .	1959-96g 1999-	08-03-99	6.31	1,550	08-07-67	19.10	16,400	
Tecolote Creek at Tecolote. (08379300)	Lat 35°27'20", long 105°16'55", San Miguel County, Hydrologic Unit 13060001, on bridge on old U.S. Highway 85 at Tecolote. Drainage area is 122 mi ² .	1954-	08-02-99	5.90	836	ⁿ 06-01-37	---	^{nc} 20,000	

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations

Station name and number	Location and drainage area	Period of record	Water year 1999 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
RIO GRANDE BASIN -- Continued								
Sandoval Canyon at Gallinas. (08380300)	Lat 35°41'19", long 105°21'17", San Miguel County, Hydrologic Unit 13060001, about 500 ft upstream from culvert on State Highway 65, at north edge of Gallinas. Drainage area is 7.60 mi ² .	1957-96g 1999-	08-02-99	1.67	105	08-01-66	5.26	2,530
Pintada Arroyo near Santa Rosa. (08383300)	Lat 34°53'20", long 104°43'50", Guadalupe County, at bridge on U.S. Highway 54, and 4.5 miles southwest of Santa Rosa Drainage area is 896 mi ² .	1959-86g 1996-	05-01-99	9.15	1,380	06-26-96	12.97	5,000
Pecos River tributary near Puerto de Luna. (08383370)	Lat 34°52'35", long 104°38'15", Guadalupe County, Hydrologic Unit 13060001, 25 ft upstream from culvert on State Highway 91, and 3.1 mi north of Puerto de Luna. Drainage area is 0.37 mi ² .	1961-96g 1999-	- - 99 ---		(m)	08-23-87	15.89	2,000
Alamosa Creek tributary near Jordan. (08385530)	Lat 34°47'44", long 103°58'07", Quay County, Hydrologic Unit 13060004, 500 ft upstream from dip on State Highway 156, and 6.9 mi west of Jordan. Drainage area is 9.71 mi ² .	1962-96g 1999-	- - 99 ---		(k)	07-11-72	6.86	2,850
Yeso Creek near Fort Sumner. (08385600)	Lat 34°16'32", long 104°17'28", De Baca County, Hydrologic Unit 13060003, at abandoned bridge 1 mi downstream from State Highway 20, and 14.5 mi south of Fort Sumner. Drainage area is 242 mi ² .	1937-95g 1997-	04-30-99	14.24	22,900	04-30-99	14.24	22,900
Aragon Creek tributary near Encinosa. (08385670)	Lat 33°43'35", long 105°31'43", Lincoln County, Hydrologic Unit 13060005, 0.3 mi upstream from wooden bridge on dirt road, 1.2 mi north of State Highway 246, and 4.3 mi west of Encinosa. Drainage area 6.07 mi ² .	1961-96g 1999-	09-02-99	3.98	570	09-06-61	5.10	1,610
Rio Bonito near Fort Stanton. (08389000)	Lat 33°31'05", long 105°29'10", Lincoln County, Hydrologic Unit 13060008, on left bank 130 ft upstream from culvert on U.S. Highway 380, 2.5 mi northeast of Fort Stanton. Drainage area is 85 mi ² .	1955-95 1997-	- - 99 ---		(k)	05-17-79	7.20	4,100
Rio Hondo tributary at Tinnie. (08390050)	Lat 33°22'36", long 105°13'01", Lincoln County, Hydrologic Unit 13060008, upstream from culvert on U.S. Highway 70-380, 0.5 mi east of junction of U.S. Highway 70-380 and State Highway 368, and at Tinnie. Drainage area is 0.23 mi ² .	1971-96g 1999-	09-02-99	3.09	9	09-07-72	10.80	420
Gallo Canyon near Picacho. (08390150)	Lat 33°17'23", long 105°10'49", Lincoln County, Hydrologic Unit 13060009, 500 ft east of road, 5 mi south of Picacho. Drainage area is 1.32 mi ² .	1962-96g 1999-	09-02-99	3.84	64	09-13-96	10.38	3,600

Annual maximum discharge at crest-stage partial-record stations

Station name and number	Location and drainage area	Period of record	Water year 1999 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
RIO GRANDE BASIN -- Continued								
Pancho Canyon near Arabela. (08393700)	Lat 33°30'36", long 105°11'38", Lincoln County, Hydrologic Unit 13060008, 200 ft down- stream from dip on State Highway 368, and 5.6 mi south of Arabela. Drainage area is 16.7 mi ² .	1962-96g 1999-	07-10-99	2.43	627	08-10-65	5.49	1,700
Eight Mile Draw near Roswell. (08393900)	Lat 33°24'05", long 104°37'54", Chavez County, Hydrologic Unit 13060008, 6.5 mi west of Roswell. Drainage area is 397 mi ² .	1941 1952-	- - 99 ---		(k)	07-13-91	17.80	10,300
Twin Butte Canyon tributary near Roswell. (08394300)	Lat 33°10'34", long 104°51'30", Chavez County, Hydrologic Unit 13060009, about 0.1 mi upstream from mouth, and about 22 mi southwest of Roswell. Drainage area is 5.01 mi ² .	1968-96g 1999-	- - 99 ---		(k)	09-08-95	9.60	5,900
Rio Penasco near Dunken. (08397600)	Lat 32°52'55", long 105°10'40", Chavez County, Hydrologic Unit 13060010, on bridge on State Highway 24, 5 mi north of Dunken. Drainage area is 583 mi ² .	1952-56 1956-62* 1963-95 1997-	09-02-99	8.26	1,000	07-06-58	13.36	10,200
Mosley Canyon near Whites City. (08405100)	Lat 32°15'27", long 104°22'43", Eddy County, Hydrologic Unit 13060011, 600 ft downstream from dip on Dark Canyon Road, and 5.5 mi north of Whites City. Drainage area is 14.6 mi ² .	1959-	07-10-99	4.18	1,030	05-30-65	13.70	16,400
Antelope Draw near Jal. (08436000)	Lat 32°09'18", long 103°21'51", Lea County, Hydrologic Unit 13070007, 0.4 mi south of State Highway 128, and 10.7 mi west of Jal. Drainage area is 20 mi ² .	1963-96g 1999-	- - 99 ---		(k)	07-30-94	4.85	530
MIMBRES BASIN								
Pinos Altos Creek at Silver City (08477590)	Lat 32°46'52", long 108°16'04", Grant County, Hydrologic Unit 13030202, downstream from U.S. Highway 180, in Silver City. Drainage area is 4.63 mi ² .	1958-96g 1999-	09-13-99 09-11-96	5.55 2.76 ^h	6,500 1,350	09-13-99	5.55	6,500
Cameron Creek at Central. (08478000)	Lat 32°47'38", long 108°08'58", Grant County, 0.5 mi above culvert on U.S. Highway 260, at north edge of Central. Drainage area is 18.8 mi ² .	1954-95g 1999-	- - 99 ---		(k)	08-29-59	7.30	2,200
Mimbres River at Deming. (08478500)	Lat 32°17'00", long 107°45'35", Luna County, Hydrologic Unit 13030202, culvert on U.S. Highway 180, at north end of Deming. Drainage area is 1,370 mi ² .	1954-79 1983-	08-05-99	8.80	1,430	^a 12-19-78	^a 5.91	^a 2,350

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations

Station name and number	Location and drainage area	Period of record	Water year 1999 maximum		Period of record maximum			
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
MIMBRES BASIN -- Continued								
Seventy-six Draw tributary near Waterloo. (08478800)	Lat 31°56'34", long 107°44'38", Luna County, Hydrologic Unit 13030202, upstream from culvert on State Road 11, 3.9 mi south- east of Waterloo, and 7.9 mi north of Columbus. Drainage area is 0.2 mi ² .	1967-96g 1999-	08-05-99	2.47	37	08-04-67	7.30	222
TULAROSA BASIN								
White Oaks Canyon near Carrizozo. (08480150)	Lat 33°43'51", long 105°50'11", Lincoln County, Hydrologic Unit 13050003, 100 ft upstream from culvert on U.S. Highway 54, 6 mi north of Carrizozo. Drainage area is 31 mi ² .	1959- 1961-	07-06-99	3.06	1,200	07-26-59	14.30	7,690
Nogal Creek tributary near Nogal. (08480170)	Lat 33°34'54", long 105°41'10", Lincoln County, Hydrologic Unit 13050003, upstream from culvert on U.S. Highway 380, about 2.0 mi west of Indian Divide, 7 mi northwest of Capitan, and 2 mi north of Nogal. Drainage area is 1.94 mi ² .	1968-96g 1999-	09-02-99	4.13	175	08-10-77	8.45	655
Taylor Canyon tributary near Bingham. (08480200)	Lat 33°48'11", long 106°12'00", Socorro County, Hydrologic Unit 13050003, 200 ft north of U.S. Highway 380, and 12 mi southeast of Bingham. Drainage area is 2.66 mi ² .	1961-96g 1999-	09-02-99	1.69	130	08-12-61	2.39	551
Indian Creek near Three Rivers. (08480700)	Lat 33°22'10", long 105°53'25", Otero County, Hydrologic Unit 13050003, 150 ft up- stream from diversion dam, and 12 mi east of Three Rivers. Drainage area is 6.8 mi ² .	1956-58* 1959-96g 1999-	09-02-99	5.45	135	07-14-91	12.08	3,000
ESTANCIA BASIN								
Juan Tomas Canyon near Edgewood. (08488100)	Lat 35°04'35", long 106°13'46", Santa Fe County, Hydrologic Unit 13050001, 140 ft upstream from culvert on Interstate Highway 40, 2.5 mi northwest of Edgewood. Drainage area is 20 mi ² .	1962-96g 1999-	07-05-99	1.60	14	08-01-89	2.48	150
Canon de Torreon at Torreon. (08488500)	Lat 34°43'20", long 106°17'50", Torrance County, Hydrologic Unit 13050001, at culvert on State Highway 55, in Torreon. Drainage area is 18.2 mi ² .	1954-96g 1999-	08-04-99	2.12	820	08-09-67	4.23	4,310
Big Draw near Mountainair. (08489000)	Lat 34°18'45", long 106°11'35", Torrance County, Hydrologic Unit 13050001, 0.25 mi upstream from culvert on State Highway 55, and 8.4 mi south- east of Mountainair. Drainage area is 3.90 mi ² .	1953-96g 1999-	08-04-99	4.18	55	09-25-54	8.68	1,710

Annual maximum discharge at crest-stage partial-record stations

Station name and number	Location and drainage area	Period of record	Water year 1999 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)

SALT BASIN

Fleming Draw near Pinon. (08492500)	Lat 32°31'01", long 105°20'42", Otero County, Hydrologic Unit 1999- 13050004, 0.2 mi upstream from dip in ranch road, and 7.5 mi south of Pinon. Drainage area is 16.6 mi ² .	1959-96g	08-23-99	4.25	680	- - -69	8.75	5,800
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SAN AGUSTIN PLAINS BASIN

Swingle Canyon near Datil. (08500000)	Lat 34°11'17", long 107°53'55", Catron County, Hydrologic Unit 13020208, 0.3 mi upstream from U.S.Highway 60, and 4.3 mi northwest of Datil Drainage area is 6.35 mi ² .	1970-72 1976-96g 1999-	07-18-99	4.26	9.0	07-16-66	5.73	900
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- < Less than.
- + Discharge not yet determined.
- * Operated as continuous-record gaging station.
- a Approximately.
- b Peak too low to register on gage.
- c Estimated.
- d From floodmark.
- e Gage height not determined.

- f Contributing area.
- g Discontinued at end of year.
- h Revised.
- j May not have been peak for year.
- k No evidence of any flow during water year.
- m No record.
- n Correction.

Measurements of streamflow at points other than gaging stations are given in the following table.

Discharge Measurements Made at Miscellaneous Sites during Water Year 1999

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
RIO GRANDE BASIN						
Lea Lake Drain 08394018	Pecos River	Lat 33°18'56", long 104°19'56", in	---	1976-	10-05-98	4.75
		SW ¹ /4SE ¹ /4SW ¹ /4 sec. 34, T. 11 S., R. 26			01-05-99	6.36
		Chaves County, Hydrologic Unit			04-05-99	6.80
		13060007, on downstream side of road crossing at Bottomless Lakes State Park near Roswell.			07-06-99	4.93
Blue Springs 08405450	Black River	Lat 32°11'07", long 104°16'50", in	---	1907 1919-20 1923 1935 1952-70 1974-	10-08-98	13.0
		SW ¹ /4NE ¹ /4SW ¹ /4 sec. 27, T. 24 S., R. 26 E.,			01-21-99	12.6
		Eddy County, Hydrologic Unit 13060011,			06-08-99	10.9
		upstream from all diversions, 5.5 mi			07-16-99	12.7
		east of Whites City.				
Castle Springs 08405490	Black River	Lat 32°11'59", long 104°15'13", in	---	1975-	10-08-98	0.33
		SW ¹ /4SW ¹ /4SW ¹ /4 sec. 24, T. 24 S., R. 26 E.,			01-21-99	1.08
		Eddy County, Hydrologic Unit 13060011,			04-09-99	1.18
		upstream from mouth at Black River Village, 7.2 mi east of Whites City.			07-16-99	0.93

REACH.-- The East Drain seepage investigation was conducted along the 11.5 mile reach from the head of the drain near Vado, New Mexico, to the mouth of the drain at the Rio Grande levee road near Anthony, Texas (315807106361910). Drain miles are referenced upstream from the mouth of the drain, which is designated as drain mile 0.0.

PREVIOUS INVESTIGATIONS.-- None.

DATE.-- February 16-17, 1999 and August 24-25, 1999.

WEATHER.-- Weather was favorable with no precipitation during the seepage investigation on February 16-17, 1999. The average daily temperature at La Union, New Mexico was 8 degrees Celsius on February 16 and 17, 1999, with a low of -3 degrees Celsius on February 16 and a high of 21 degrees Celsius on February 17. Weather was favorable with no precipitation during the seepage investigation on August 24-25, 1999. The average daily temperature at La Union, New Mexico was 27 degrees Celsius on August 24 and 25, 1999, with a low of 18 degrees Celsius on August 24 and a high of 40 degrees Celsius on August 25.

STREAMFLOW.-- The seepage investigation on February 16-17, 1999 was conducted during the non-irrigation season. Discharge measurements indicate a net seepage gain of 2.09 ft³/s from drain mile 11.5 to drain mile 0.0. The seepage investigation on August 24-25, 1999 was conducted during the irrigation season. Discharge measurements indicate a net seepage gain of 9.7 ft³/s from drain mile 11.5 to drain mile 0.9. Indicated gains (+) and losses (-) throughout the reach are shown below. Tributary flow recorded as inflow is considered a contribution and not a gain; no outflow (diversions) occurred during the investigation. Channel gain or loss includes seepage to or from the unlined channel, evaporation from the water surface, and transpiration by vegetation along the channel banks.

REMARKS.-- The seepage investigation conducted on February 16-17, 1999 is rated good from drain mile 11.5 to drain mile 3.8. The seepage investigation is rated poor from drain mile 3.8 to drain mile 0.0 based upon unsteady wastewater inflows (drain mile 3.8 and 1.6). Individual discharge measurements were rated good (within 5 percent) to fair (within 8 percent) throughout most of the stream reach. The discharge measurement at the Mesquite Drain inlet (drain mile 8.8) was rated poor (over 8 percent) based on poor channel conditions.

The seepage investigation conducted on August 24-25, 1999 is rated good from drain mile 11.5 to drain mile 3.8. The seepage investigation is rated poor from drain mile 3.8 to drain mile 0.9 based upon unsteady wastewater inflows (drain mile 3.8 and 1.6). Channel gain or loss was not computed at drain mile 0.0 due to intermittent inflow at Spillway 23A (drain mile 0.0). Individual discharge measurements were rated good (within 5 percent) to fair (within 8 percent) throughout most of the stream reach. Discharge measurements were rated poor (over 8 percent) at Spillway 20B (drain mile 5.7), Spillway 22 (drain mile 3.0), and miscellaneous inflow (drain mile 0.9) based on poor channel conditions. The discharge measurement at Spillway 23A (drain mile 0.0) was rated poor based on unsteady flow with falling stage. Accuracy of discharge measurements needs to be considered when evaluating indicated gains and losses. Discharge measurements at the spillway inlets were conducted by the Elephant Butte Irrigation District and the El Paso County Water Improvement District No. 1. The special cooperation and assistance by the local irrigation districts is gratefully acknowledged.

Drain mile	Stream	Location	Date	Time	Water temperature (°C)	Specific conductance (mS/cm)	Discharge, in ft ³ /s		
							Main stream	Inflow	Gain or loss
11.5	East Drain	At head near Vado, NM	02-16-99	0825	--	--	1/0	--	--
		Lat 32°07'13", long 106°39'57"	08-24-99	0815	--	--	1/0	--	--
11.2	East Drain	At County Road B20, Vado, NM	02-16-99	0835	--	--	2/0	--	--
		Lat 32°06'57", long 106°39'47"	08-24-99	0830	20.0	2,400	2/0.04	--	+0.04
8.8	Mesquite Drain Inlet	Near Berino, NM	02-16-99	0910	6.5	3,060	--	1.2	--
		Lat 32°05'03", long 106°38'43"	08-24-99	0930	22.0	1,120	--	19.6	--
8.0	East Drain	Above NM226 near Berino, NM	02-16-99	1005	11.5	2,880	2.59	--	+1.35
		Lat 32°04'32", long 106°38'22"	08-24-99	1030	22.5	1,380	22.8	--	+3.2
6.5	Spillway 20A Inlet	At Kilgore Lateral near Berino, NM	02-16-99	--	--	--	--	1/0	--
		Lat 32°03'25", long 106°37'44"	08-24-99	1305	26.0	646	--	0.09	--
5.7	Spillway 20B Inlet	At Bullock Lateral near Berino, NM	02-16-99	--	--	--	--	1/0	--
		Lat 32°02'47", long 106°37'33"	08-24-99	1335	25.0	669	--	0.28	--
5.2	East Drain	At County Road A62 near Berino, NM	02-16-99	1330	14.5	3,150	3.17	--	+0.58
		Lat 32°02'24", long 106°37'20"	08-24-99	1335	24.0	1,860	26.4	--	+3.2
			08-25-99	0815	22.5	1,780	25.0	--	--
3.8	Wastewater Inflow	Anthony Plant, Water and Sanitation District, Anthony, NM	02-17-99	0900	19.0	2,580	--	4/0.66	--
		Lat 32°01'16", long 106°36'52"	08-25-99	0845	28.5	2,410	--	4/0.81	--
3.0	Spillway 22 Inlet	At Anthony Lateral near Anthony, TX	02-17-99	--	--	--	--	1/0	--
		Lat 32°00'36", long 106°36'45"	08-25-99	1210	26.0	670	--	2.35	--
2.5	East Drain	Near State Line at Anthony, NM	02-17-99	0945	7.5	3,160	3.68	--	-0.15
		Lat 32°00'07", long 106°36'32"	08-25-99	0955	22.0	1,780	29.5	--	+1.3
1.6	Wastewater Inflow	Anthony Plant, Town of Anthony, TX	02-17-99	1330	14.5	1,450	--	4/0.39	--
		Lat 31°59'24", long 106°36'42"	08-25-99	1155	26.0	1,350	--	2/0.34	--
1.1	Spillway 23B Inlet	At Detention Farm Lateral near Anthony, TX	02-17-99	--	--	--	--	1/0	--
		Lat 31°59'00", long 106°36'33"	08-25-99	1130	--	--	--	1/0	--

Drain mile	Stream	Location	Date	Time	Water temper- ature (°C)	Specific conduc- tance (mS/cm)	Discharge, in ft ³ /s		
							Main stream	Inflow	Gain or loss
0.9	Anthony Drain Inlet	Near Anthony, TX	02-17-99	1305	12.5	2,730	--	0.94	--
		Lat 31°58'50", long 106°36'28"	08-25-99	1125	22.5	2,580	--	4.71	--
0.9	East Drain	At EPCWID Gage near Anthony, TX	02-17-99	1345	11.5	2,880	5.38	--	+0.37
		Lat 31°58'50", long 106°36'27"	08-25-99	1215	23.0	1,800	36.6	--	+2.0
0.9	Miscellaneous Inflow	At Singh farm ditch near Anthony, TX	02-17-99	--	--	--	--	1/0	--
		Lat 31°58'50", long 106°36'27"	08-25-99	1210	26.5	635	--	2/1.5	--
0.0	Spillway 23A Inlet	At Texas Lateral near Anthony, TX	02-17-99	--	--	--	--	1/0	--
		Lat 31°58'09", long 106°36'17"	08-25-99	1435	27.5	662	--	19.6	--
0.0	East Drain	At levee road near Anthony, TX	02-17-99	1445	13.5	3,000	5.32	--	-0.06
		Lat 31°58'07", long 106°36'19"	08-25-99	1500	25.5	1,380	42.5	--	--

- 1/ Dry
 2/ No flow, ponded
 3/ Estimated discharge
 4/ Reported mean daily discharge
 5/ Estimated mean daily discharge
 6/ Estimated leakage

Water-quality partial-record stations and water-quality miscellaneous sites are surface-water locations where chemical-quality, biological, and/or sediment data are collected on a limited frequency over a short period of years or once only for use in hydrologic investigations. Continuous streamflow recording gages are not located at these stations or sites.

RIO GRANDE BASIN

083299375 MARAPOSA DIV OF SAN ANTONIO ARR AT ALBQ, NM

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	ENDING TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 20...	1031	--	--	9.6	106	8.5	18.0	15.5	--	--	--
OCT 20-20	1036	1330	15	--	85	8.3	18.0	15.5	--	--	--
AUG 02...	2051	--	--	3.3	78	8.5	--	--	--	--	--
AUG 02-02	2101	2336	154	--	65	8.4	--	--	30	25	8.7

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE SUM OF TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 20...	--	--	--	--	--	--	--	--	--	--
OCT 20-20	--	--	--	--	--	--	--	--	--	--
AUG 02...	--	--	--	--	--	--	--	--	--	--
AUG 02-02	.73	1.9	.2	3.0	74	2.5	.7	43	65	124

DATE	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)
OCT 20...	--	--	--	--	--	--	--	--	<.01	<1
OCT 20-20	.399	.04	.44	.36	1.5	.38	.34	19	--	--
AUG 02...	--	--	--	--	--	--	--	--	<.01	<4
AUG 02-02	.570	.01	.58	.13	1.7	.51	.13	11	--	--

DATE	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)
OCT 20...	2	--	--	--	--	--	--	--	--	--
OCT 20-20	--	--	--	--	--	--	--	--	--	--
AUG 02...	<1	--	--	--	--	--	--	--	--	--
AUG 02-02	--	22	<1	3	<1	23	<4	<1	<1	<1

RIO GRANDE BASIN

083299375 MARAPOSA DIV OF SAN ANTONIO ARR AT ALBQ, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

		CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01025)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGANESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY, TOTAL RECOVERABLE (UG/L AS HG) (71900)	MOLYBDENUM, DIS-SOLVED (UG/L AS MO) (01060)	
OCT 20...		--	--	--	--	--	--	--	--	--	--	
OCT 20-20		--	--	--	--	--	--	--	--	--	--	
AUG 02...		--	--	--	--	--	--	--	--	--	--	
AUG 02-02		3.9	<1.0	<1	10	3	11	<1	4	<.1	<1	
DATE		NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELENIUM, TOTAL RECOVERABLE (UG/L AS SE) (01147)	SELENIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	THALLIUM, TOTAL RECOVERABLE (UG/L AS TL) (01059)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	URANIUM, NATURAL DIS-SOLVED (UG/L AS U) (22703)	
OCT 20...		--	--	--	--	--	--	--	--	--	--	
OCT 20-20		--	--	--	--	--	--	--	--	--	--	
AUG 02...		--	--	--	--	--	--	--	--	--	--	
AUG 02-02		6	<1	<1	<1	<1	<1	<10	50.8	1	<1	
DATE	TIME	ENDING TIME	DI-BROMO-METHANE WATER WHOLE RECOVER (UG/L) (30217)	BROMO-DI-CHLORO-METHANE TOTAL (UG/L) (32101)	CARBON TETRA-CHLORIDE TOTAL (UG/L) (32102)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L) (32103)	BROMO-FORM TOTAL (UG/L) (32104)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L) (32105)	CHLORO-FORM TOTAL (UG/L) (32106)	PHENOLS TOTAL (UG/L) (32730)	TOLUENE TOTAL (UG/L) (34010)	BENZENE TOTAL (UG/L) (34030)
OCT 20...	1031	--	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<1	<.8	<.8
OCT 20-20	1036	1330	--	--	--	--	--	--	--	--	--	--
AUG 02...	2051	--	<.4	<.4	<.4	<.4	<.4	<.4	<.4	<.4	<.4	<.4
AUG 02-02	2101	2336	--	--	--	--	--	--	--	--	--	--
DATE	ACE-NAPHTHYLENE TOTAL (UG/L) (34200)	ACE-NAPHTHYLENE TOTAL (UG/L) (34205)	ACRYLO-NITRILE TOTAL (UG/L) (34215)	ANTHRA-CENE TOTAL (UG/L) (34220)	BENZO B FLUOR-AN-THENE TOTAL (UG/L) (34230)	BENZO K FLUOR-AN-THENE TOTAL (UG/L) (34242)	BENZO-A-PYRENE TOTAL (UG/L) (34247)	DELTA-BENZENE HEXA-CHLORIDE TOTAL (UG/L) (34259)	BIS(2-CHLORO-ETHYL) ETHER UNFLTRD RECOVER TOTAL (UG/L) (34273)	BIS(2-CHLORO-ETHOXY) METHANE TOTAL (UG/L) (34278)	BIS(2-CHLORO-ISO-PROPYL) ETHER TOTAL (UG/L) (34283)	N-BUTYL BENZYL PHTHALATE TOTAL (UG/L) (34292)
OCT 20...	--	--	<10	--	--	--	--	--	--	--	--	--
OCT 20-20	<5	<5	--	<5	<10	<10	<10	<.090	<5	<5	<5	<5
AUG 02...	--	--	<5	--	--	--	--	--	--	--	--	--
AUG 02-02	<5	<5	--	<5	<10	<10	<10	<.090	<5	<5	<5	<5
DATE	CHLORO-BENZENE TOTAL (UG/L) (34301)	CHLORO-ETHANE TOTAL (UG/L) (34311)	CHRY-SENE TOTAL (UG/L) (34320)	DIETHYL PHTHALATE TOTAL (UG/L) (34336)	DI-METHYL PHTHALATE TOTAL (UG/L) (34341)	ENDO-SULFAN SULFATE TOTAL (UG/L) (34351)	ENDO-SULFAN II TOTAL (UG/L) (34356)	ENDO-SULFAN-I WATER WHOLE REC TOTAL (UG/L) (34361)	ENDRIN ALDE-HYDE TOTAL (UG/L) (34366)	ETHYL-BENZENE TOTAL (UG/L) (34371)	FLUOR-ANTHENE TOTAL (UG/L) (34376)	FLUOR-ENE TOTAL (UG/L) (34381)
OCT 20...	<.8	<.8	--	--	--	--	--	--	--	<.8	--	--
OCT 20-20	--	--	<10	<5	<5	<.6	<.040	<.1	<.2	--	<5	<5
AUG 02...	<.4	<.4	--	--	--	--	--	--	--	<.4	--	--
AUG 02-02	--	--	<10	<5	<5	<.6	<.040	<.1	<.2	--	<5	E.008

RIO GRANDE BASIN

083299375 MARAPOSA DIV OF SAN ANTONIO ARR AT ALBQ, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	CYCLOPE NTADIEN HEXA- CHLORO- UNFLTRD RECOVER (UG/L) (34386)	ETHANE HEXA- CHLORO- WATER UNFLTRD RECOVER (UG/L) (34396)	INDENO (1,2,3- CD) PYRENE TOTAL (UG/L) (34403)	ISO- PHORONE TOTAL (UG/L) (34408)	METHYL- BROMIDE TOTAL (UG/L) (34413)	METHYL- CHLO- RIDE TOTAL (UG/L) (34418)	METHYL ENE CHLO- RIDE TOTAL (UG/L) (34423)	N- NITRO- SODI-N- PROPYL- AMINE TOTAL (UG/L) (34428)	N-NITRO -SODI- PHENYL- AMINE TOTAL (UG/L) (34433)	N-NITRO -SODI- METHYL- AMINE TOTAL (UG/L) (34438)	BENZENE NITRO- WATER UNFLTRD RECOVER (UG/L) (34447)	PARA- CHLORO- META CRESOL TOTAL (UG/L) (34452)
OCT 20...	--	--	--	--	<.8	<.8	<.8	--	--	--	--	--
OCT 20-20	<20	<5	<10	<5	--	--	--	<5	<5	<5	<5	<30
AUG 02...	--	--	--	--	<.4	<.4	<.4	--	--	--	--	--
AUG 02-02	<20	<5	<10	<5	--	--	--	<5	<5	<5	<5	<30
DATE	PHENAN- THRENE TOTAL (UG/L) (34461)	PYRENE TOTAL (UG/L) (34469)	TETRA- CHLORO- ETHYL- ENE TOTAL (UG/L) (34475)	TRI- CHLORO- FLUORO- METHANE TOTAL (UG/L) (34488)	1,1-DI- CHLORO- ETHANE TOTAL (UG/L) (34496)	1,1-DI- CHLORO- ETHYL- ENE TOTAL (UG/L) (34501)	1,1,1- TRI- CHLORO- ETHANE TOTAL (UG/L) (34506)	1,1,2- TRI- CHLORO- ETHANE TOTAL (UG/L) (34511)	ETHANE, 1,1,2,2 TETRA- CHLORO- WAT UNF REC (UG/L) (34516)	BENZO- [GHI]- PERY- LENE TOTAL (UG/L) (34521)	BENZ (A) ANTHRA- CENE WATER UNFLTRD REC (UG/L) (34526)	BENZENE O-DI- CHLORO- WATER UNFLTRD REC (UG/L) (34536)
OCT 20...	--	--	<.8	<.8	<.8	<.8	<.8	<.8	<.8	--	--	<.8
OCT 20-20	<5	<5	--	--	--	--	--	--	--	<10	<10	<5
AUG 02...	--	--	<.4	<.4	<.4	<.4	<.4	<.4	<.4	--	--	<.4
AUG 02-02	<5	<5	--	--	--	--	--	--	--	<10	<10	<5
DATE	1,2-DI- CHLORO- PROPANE TOTAL (UG/L) (34541)	TRANS- 1,2-DI- CHLORO- ETHENE TOTAL (UG/L) (34546)	BENZENE 1,2,4- TRI- CHLORO- WAT UNF REC (UG/L) (34551)	1,2,5,6 -DIBENZ -ANTHRA- CENE TOTAL (UG/L) (34556)	BENZENE 1,3-DI- CHLORO- WATER UNFLTRD REC (UG/L) (34566)	BENZENE 1,4-DI- CHLORO- WATER UNFLTRD REC (UG/L) (34571)	2- CHLORO- NAPH- THALENE TOTAL (UG/L) (34581)	2- CHLORO- PHENOL TOTAL (UG/L) (34586)	2- CHLORO- PHENOL TOTAL (UG/L) (34591)	DI-N- OCTYL PHTHAL- ATE TOTAL (UG/L) (34596)	2,4-DI- CHLORO- PHENOL TOTAL (UG/L) (34601)	2,4-DI- METHYL- PHENOL TOTAL (UG/L) (34606)
OCT 20...	<.8	<.8	<.8	--	<.8	<.8	--	--	--	--	--	--
OCT 20-20	--	--	<5	<10	<5	<5	<5	<5	<5	<10	<5	<5
AUG 02...	<.4	<.4	<.4	--	<.4	<.4	--	--	--	--	--	--
AUG 02-02	--	--	<5	<10	<5	E.05	<5	<5	<5	<10	<5	<5
DATE	2,4-DI- NITRO- TOLUENE TOTAL (UG/L) (34611)	2,4-DI- NITRO- PHENOL TOTAL (UG/L) (34616)	2,4,6- TRI- CHLORO- PHENOL TOTAL (UG/L) (34621)	2,6-DI- NITRO- TOLUENE TOTAL (UG/L) (34626)	3,3'- DI- CHLORO- BENZI- DINE TOTAL (UG/L) (34631)	4- BROMO- PHENYL ETHER TOTAL (UG/L) (34636)	4- CHLORO- PHENYL ETHER TOTAL (UG/L) (34641)	4- NITRO- PHENOL TOTAL (UG/L) (34646)	4,6- DINITRO -ORTHO- CRESOL TOTAL (UG/L) (34657)	DI- CHLORO- DI- FLUORO- METHANE TOTAL (UG/L) (34668)	AROCLOR 1016 PCB TOTAL (UG/L) (34671)	PHENOL (C6H- 5OH) TOTAL (UG/L) (34694)
OCT 20...	--	--	--	--	--	--	--	--	--	<.8	--	--
OCT 20-20	<5	<20	<20	<5	<20	<5	<5	<30	<30	--	<.1	E3
AUG 02...	--	--	--	--	--	--	--	--	--	<.4	--	--
AUG 02-02	<5	<20	<20	<5	<20	<5	<5	E1	<30	--	<.1	<5

083299375 MARAPOSA DIV OF SAN ANTONIO ARR AT ALBO, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	NAPHTH- ALENE TOTAL (UG/L) (34696)	TRANS- CHLORO- PROPENE TOTAL (UG/L) (34699)	CIS 1,3-DI- CHLORO- PROPENE TOTAL (UG/L) (34704)	PENTA- PHENOL TOTAL (UG/L) (39032)	CHLOR- DANE CIS WATER WHOLE TOTAL (UG/L) (39062)	CHLOR- DANE TRANS WATER WHOLE TOTAL (UG/L) (39065)	CHLOR- DANE, TECH- NICAL TOTAL (UG/L) (39350)	BIS(2- ETHYL HEXYL) PHTHAL- ATE TOTAL (UG/L) (39100)	DI-N- BUTYL PHTHAL- ATE TOTAL (UG/L) (39110)	BENZI- DINE TOTAL (UG/L) (39120)	VINYL CHLO- RIDE TOTAL (UG/L) (39175)	TRI- CHLORO- ETHYL- ENE TOTAL (UG/L) (39180)
OCT 20...	<.8	<.8	<.8	--	--	--	--	--	--	--	<.8	<.8
OCT 20-20	<5	--	--	<30	<.1	<.1	<.1	<5	<5	<40	--	--
AUG 02...	<.4	<.4	<.4	--	--	--	--	--	--	--	<.4	<.4
AUG 02-02	<5	--	--	E.2	<.1	<.1	<.1	<5	<5	<40	--	--

DATE	P,P'	P,P'	P,P'	ALDRIN, TOTAL	ALPHA BHC TOTAL	BETA BENZENE HEXA- CHLOR- IDE TOTAL	LINDANE TOTAL	DI-	ENDRIN	TOX- APHENE, TOTAL	HEPTA- CHLOR, TOTAL	HEPTA- CHLOR EPOXIDE TOTAL
	DDT, TOTAL (UG/L) (39300)	DDD, TOTAL (UG/L) (39310)	DDE, TOTAL (UG/L) (39320)			ELDRIN TOTAL (UG/L) (39380)		WATER UNFLTRD REC (UG/L) (39390)				
OCT 20...	--	--	--	--	--	--	--	--	--	--	--	--
OCT 20-20	<.1	<.1	<.040	<.040	<.030	<.030	<.030	<.020	<.060	<2	<.030	<.8
AUG 02...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 02-02	<.1	<.1	<.040	<.040	<.030	<.030	<.030	<.020	<.060	<2	<.030	<.8

DATE	AROCLOR	AROCLOR	AROCLOR	AROCLOR	AROCLOR	AROCLOR	HEXA-	HEXA-	CIS-1,2	1,1-DI	2,2-DI
	1221	1232	1242	1248	1254	1260	CHLORO-	CHLORO-	-DI-	CHLORO-	CHLORO-
	PCB	PCB	PCB	PCB	PCB	PCB	BUT-	BUT-	ETHENE	ETHENE	ETHENE
	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	BENZENE	ADIENE	WATER	STYRENE	PENE, WH
(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
(39488)	(39492)	(39496)	(39500)	(39504)	(39508)	(39700)	(39702)	(77093)	(77128)	(77168)	(77170)
OCT 20...	--	--	--	--	--	--	<.8	<.8	<.8	<.8	<.8
OCT 20-20	<1	<.1	<.1	<.1	<.1	<.1	<5	<5	--	--	--
AUG 02...	--	--	--	--	--	--	<.4	<.4	<.4	<.4	<.4
AUG 02-02	<1	<.1	<.1	<.1	<.1	<.1	E.01	<5	--	--	--

[illegible]

RIO GRANDE BASIN

083299375 MARAPOSA DIV OF SAN ANTONIO ARR AT ALBQ, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	P-ISO- PROPYL- TOLUENE WATER WHOLE REC (UG/L) (77356)	123-TRI CHLORO- PROPANE WATER WHOLE TOTAL (UG/L) (77443)	ETHANE, 1112- TETRA- CHLORO- WAT UNF REC (UG/L) (77562)	1,2,3- TRI- CHLORO BENZENE WAT, WH REC (UG/L) (77613)	1,2- DIBROMO ETHANE WATER WHOLE TOTAL (UG/L) (77651)	FREON- 113 WATER UNFLTRD REC (UG/L) (77652)	METHYL TERT- BUTYL ETHER WAT UNF REC (UG/L) (78032)	XYLENE WATER UNFLTRD REC (UG/L) (81551)	BROMO- BENZENE WATER, TOTAL (UG/L) (81555)	DIBROMO CHLORO- PROPANE WATER WHOLE TOT.REC (UG/L) (82625)	1,2-DI- PHENYL- HYDRA- ZINE WATER TOT.REC (UG/L) (82626)
OCT 20...	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<4	--
OCT 20-20	--	--	--	--	--	--	--	--	--	--	<5
AUG 02...	<.4	<.4	<.4	<.4	<.4	<.4	<.4	<.4	<.4	<2	--
AUG 02-02	--	--	--	--	--	--	--	--	--	--	<5

08330200 SAN JOSE DRAIN AT WOODWARD RD AT ALBQ, NM

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	ENDING TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE PER SECOND (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
AUG 02...	2140	--	--	4.7	187	8.0
AUG 02-03	2145	0030	7.3	--	205	7.7

RIO GRANDE BASIN

08330200 SAN JOSE DRAIN AT WOODWARD RD AT ALBQ, NM

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	ENDING TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
AUG 02...	2140	--	--	4.7	187	8.0
AUG 02-03	2145	0030	7.3	--	205	7.7

RIO GRANDE BASIN

The following water-quality tables for miscellaneous sites in the Rio Grande basin are identified by 15-digit latitude-longitude site numbers and are in order by ascending site number (shown before the site name). Inorganic analyses tables are followed by organic-compound analyses tables. This departure from the normal downstream order for surface-water sites was taken to facilitate locating these sites in this report and for comparing results for the same group of analyses.

315807106361910 EAST SIDE DRAIN AT LEVEE ROAD NEAR ANTHONY, TX

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	BARO-METRIC PRES-SURE (MM HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (MG/L) (00301)
FEB 17...	1515	5.3	3000	8.4	22.0	13.5	6.9	660	12.3	138
AUG 25...	1430	42	1380	8.2	--	25.5	190	661	6.7	95

DATE	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS (MG/L AS CaCO3) (00904)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg) (00925)	SODIUM, DIS-SOLVED (MG/L AS Na) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)
FEB 17...	390	15	95	37	490	11	42	432	11
AUG 25...	240	11	68	18	190	5	14	283	0

DATE	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CaCO3) (39086)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
FEB 17...	372	378	520	410	1.1	.41	23	1940	1860
AUG 25...	232	234	240	150	.8	.12	24	852	848

DATE	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BORON, DIS-SOLVED (UG/L AS B) (01020)
FEB 17...	.934	.09	1.0	.24	1.1	.20	.13	.12	597
AUG 25...	.944	.04	.98	.05	1.4	.78	.22	.21	264

RIO GRANDE BASIN

320007106363210 EAST DRAIN NR STATE LINE AT ANTHONY, NM

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

		DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, (PER-CENT SATUR-ATION) (00301)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	
FEB 17...	1000	3.7	3160	8.3	17.5	7.5	9.1	663	11.8	115	360	90	
AUG 25...	0935	30	1780	8.0	--	22.0	120	662	6.7	89	270	74	
DATE		MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
FEB 17...	33	530	12	47	505	0	414	418	550	430	1.6	.35	
AUG 25...	21	260	7	22	360	0	295	309	300	200	1.0	.16	
DATE		SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BORON, DIS-SOLVED (UG/L AS B) (01020)
FEB 17...	23	2050	1960	.728	.07	.80	.26	1.1	.09	E.04	.04	659	
AUG 25...	27	1100	1090	1.50	.07	1.6	.09	1	.55	.26	.27	357	

RIO GRANDE BASIN

320224106372010 EAST DRAIN AT COUNTY RD A62 NR BERINO, NM

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	
FEB 16...	1330	3.2	3150	8.5	19.0	14.5	7.8	663	9.8	112	360	91	
AUG 24...	1320	26	1860	8.0	34.0	24.0	150	663	6.5	90	280	76	
DATE		MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3 (39086)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
FEB 16...	32	560	13	44	466	17	410	401	570	420	1.4	.34	
AUG 24...	21	270	7	26	383	0	314	333	320	200	1.1	.16	
DATE		SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)
FEB 16...	25	2030	1990	.877	.05	.93	.08	.7	E.04	<.05	.02	644	
AUG 24...	28	1150	1140	2.07	.04	2.1	.05	.9	.36	E.04	.05	381	

RIO GRANDE BASIN

320432106382210 EAST DRAIN ABV NM226 NR BERINO, NM

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

		DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	BARO-METRIC PRES-SURE (MM HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (MG/L) (00301)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	
FEB 16... AUG 24...	1015 1030	2.6 23	2880 1380	8.1 7.7	23.0 --	11.5 22.5	19 200	663 662	8.8 5.3	94 71	340 230	87 64	
DATE	TIME	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
FEB 16... AUG 24...	29 17	520 190	12 6	43 17	491 312	0 0	402 256	407 296	520 230	360 140	2.0 .9	.29 .10	
DATE		SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BORON, DIS-SOLVED (UG/L AS B) (01020)
FEB 16... AUG 24...	24 24	1870 844	1830 846	1.29 1.37	.08 .03	1.4 1.4	.09 .05	.8 1.0	.08 .46	<.05 E.04	.02 .05	637 291	

RIO GRANDE BASIN

350208106204601 09N.06E.06.132

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	
DEC 21...	1130	E.50	1050	7.9	-2.0	3.5	510	65	120	50	33	
DATE	TIME	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINIT WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
DEC 21...	.6	<.1	444	398	67	49	.5	20	.081	.01	.09	
DATE	TIME	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	
DEC 21...	.04	.13	.2	<.05	.01	3.2	1	81.2	14	130		

TULAROSA VALLEY BASIN

The following water-quality tables for miscellaneous sites in the Tularosa Valley Basin are identified by 15-digit latitude-longitude site numbers are in order by ascending site numbers as shown before the site names. The inorganic analyses tables are followed by the organic-compound analyses table for these sites. This departure from the normal downstream order for surface-water sites was taken to facilitate locating these sites in this report and for comparing results for the same group of analyses.

324147106265710 LAKE LUCERO ON WHITE SANDS NATIONAL MONUMENT, NM

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)		
		(US/CM) (00095)	(00400)	(00020)	(00010)	(00900)	(00904)	(00915)	(00925)	(00930)	(00931)	(00935)		
MAR 18...	1445	105	8.73	11.0	10.5	5500	5300	650	930	33000	190	120		
DATE	TIME	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTIT- UENTS, DIS- SOLVED (MG/L) (70301)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	
MAR 18...	136	3.00	117	65000	7800	1	.79	2.3	106000	108000	110	20000		

TULAROSA VALLEY BASIN

325251106095310 LOST RIVER ON HOLLMAN AFB, NM

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (00400)	TEMPER-A-TURE AIR (DEG C) (00020)	TEMPER-A-TURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)
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MAR 17...	1230	<.01	142	8.5	8.5	12.5	33000	33000	880	7400	40000	95
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DATE	TIME	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	BARIUM, DIS-SOLVED (MG/L AS BA) (01005)	STRON-TIUM, DIS-SOLVED (MG/L AS SR) (01080)
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MAR 17...	140	101	0	83	19000	60000	6.5	.7	121000	127000	E48	20000
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DATE	TIME	DI-BROMO-METHANE WATER WHOLE RECOVER (UG/L) (30217)	BROMO-DI-CHLORO-METHANE TOTAL (UG/L) (32101)	CARBON TETRA-CHLO-RIDE TOTAL (UG/L) (32102)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L) (32103)	BROMO-ETHANE FORM TOTAL (UG/L) (32104)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L) (32105)	CHLORO-ETHANE FORM TOTAL (UG/L) (32106)	TOLUENE TOTAL (UG/L) (34010)	BENZENE TOTAL (UG/L) (34030)	ACRYLO-NITRILE TOTAL (UG/L) (34215)
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MAR 17...	1230	<.25	<.24	<.44	<.65	<.5	<.9	<.281	<.25	<.5	<.6
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DATE	TIME	CHLORO-BENZENE TOTAL (UG/L) (34301)	CHLORO-ETHANE TOTAL (UG/L) (34311)	ETHYL-BENZENE TOTAL (UG/L) (34371)	ETHANE CHLORO-WATER UNFLTRD RECOVER (UG/L) (34396)	METHYL-BROMIDE TOTAL (UG/L) (34413)	METHYL-CHLO-RIDE TOTAL (UG/L) (34418)	METHYL-ENE GHLO-RIDE TOTAL (UG/L) (34423)	TETRA-CHLORO-ETHYL-ENE TOTAL (UG/L) (34475)	TRI-CHLORO-FLUORO-METHANE TOTAL (UG/L) (34488)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L) (34496)	1,1-DI-CHLORO-ETHYL-ENE TOTAL (UG/L) (34501)
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MAR 17...		<.14	<.6	<.15	<1.8	<.75	<1.25	<1.9	<.5	<.45	<.33	<.22
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DATE	TIME	1,1,1-TRI-CHLORO-ETHANE TOTAL (UG/L) (34506)	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L) (34511)	ETHANE, 1,1,2,2-TETRA-CHLORO-WATER UNF REC (UG/L) (34516)	BENZENE O-DI-CHLO-RIDE UNFLTRD REC (UG/L) (34536)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L) (34541)	TRANS-1,2-DI-CHLORO-ETHENE TOTAL (UG/L) (34546)	BENZENE 1,2,4-TRI-CHLORO-WAT UNF REC (UG/L) (34551)	BENZENE 1,3-DI-CHLORO-WATER UNFLTRD REC (UG/L) (34566)	BENZENE 1,4-DI-CHLORO-WATER UNFLTRD REC (UG/L) (34571)	DI-CHLORO-FLUORO-METHANE TOTAL (UG/L) (34668)
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MAR 17...		<.16	<.32	<.65	<.24	<.34	<.16	<.95	<.27	<.25	<.7
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DATE	TIME	NAPHTH-ALENE TOTAL (UG/L) (34696)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L) (34699)	CIS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L) (34704)	VINYL CHLO-RIDE TOTAL (UG/L) (39175)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L) (39180)	HEXA-CHLORO-BUT-ADIENE TOTAL (UG/L) (39702)	CIS-1,2-DI-CHLORO-ETHENE WATER TOTAL (UG/L) (77093)	1,1-DI-CHLORO-PRO-PENE, WAT, WH TOTAL (UG/L) (77128)	2,2-DI-CHLORO-PRO-PANE, WAT, WH TOTAL (UG/L) (77168)	DI-CHLORO-ETHYL-ENE TOTAL (UG/L) (77170)
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MAR 17...		<1.25	<.65	<.45	<.55	<.19	<.7	<.19	<.21	<.13	<.39
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DATE	TIME	1,3-DI-CHLORO-PROPANE WAT. WH TOTAL (UG/L) (77173)	BENZENE 124-TRI-METHYL UNFILT RECOVER (UG/L) (77222)	ISO-PROPYL-BENZENE WATER WHOLE REC (UG/L) (77223)	BENZENE N-PROPY WATER UNFLTRD REC (UG/L) (77224)	BENZENE 135-TRI-METHYL WATER UNFLTRD REC (UG/L) (77226)	O-CHLORO-TOLUENE WATER TOTAL (UG/L) (77275)	METHANE BROMO-CHLORO-WAT UNFLTRD REC (UG/L) (77297)	BENZENE N-BUTYL WATER UNFLTRD REC (UG/L) (77342)	BENZENE SEC BUTYL-WATER UNFLTRD REC (UG/L) (77350)
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MAR 17...		<.6	<.28	<.16	<.21	<.22	<.21	<.28	<.22	<.95	<.24
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325251106095310 LOST RIVER ON HOLLMAN AFB, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	BENZENE TERT- BUTYL- WATER UNFLTRD REC (UG/L) (77353)	P-ISO- PROPYL- TOLUENE WATER WHOLE REC (UG/L) (77356)	123-TRI CHLORO- PROPANE WATER WHOLE TOTAL (UG/L) (77443)	ETHANE, 1112- TETRA- CHLORO- WAT UNF REC (UG/L) (77562)	1,2,3- TRI- CHLORO BENZENE WAT, WH REC (UG/L) (77613)	1,2- DIBROMO ETHANE WATER WHOLE TOTAL (UG/L) (77651)	FREON- 113 WATER UNFLTRD REC (UG/L) (77652)	METHYL TERT- BUTYL ETHER WAT UNF REC (UG/L) (78032)	BROMO- BENZENE WATER, WHOLE TOTAL (UG/L) (81555)	DIBROMO CHLORO- PROPANE WATER WHOLE TOT.REC (UG/L) (82625)
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MAR

17...	<.5	<.55	<.8	<.22	<1.35	<.18	<.16	<.85	<.18	<1.05
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TULAROSA VALLEY BASIN

330444106220310 BIG SALT LAKE NEAR TULAROSA, NM

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, (PER-CENT SATURATION) (00301)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	
OCT 23...	1300	33400	8.2	18.0	20.0	667	5.5	78	4300	930	480	
DATE		SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ANCBICARBONATE IT FIELD (MG/L AS HCO3) (00450)	ANCCARBONATE IT FIELD (MG/L AS CO3) (00447)	ANCWATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
OCT 23...	6500	44	220	77	0	63	67	4100	11000	1.8	2.1	
DATE		SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITROGEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITROGEN, AMMONIA + ORGANIC DIS-SOLVED (MG/L AS N) (00623)	PHOSPHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)
OCT 23...	5.4	24500	22900	.429	.5	.93	2.7	1.5	4.2	<.05	.02	
DATE		ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM, WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM, DIS-SOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)
OCT 23...	150	<200	4	3	<100	66	2200	2070	<10	<5	<1.0	
DATE		CHROMIUM, DIS-SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM, TOTAL RECOVERABLE (UG/L AS LI) (01132)	LITHIUM, DIS-SOLVED (UG/L AS LI) (01130)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DIS-SOLVED (UG/L AS MN) (01056)
OCT 23...	<1.0	21	15	180	<200	<10	<10	660	1200	80	<60	
DATE		MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SELENIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01082)	STRONTIUM, DIS-SOLVED (UG/L AS SR) (01080)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	
OCT 23...	<.1	.3	8	3	<1	<5	18000	17000	<10	<400		

TULAROSA VALLEY BASIN

330716106234510 SALT CREEK 3 AT RANGE ROAD 6 ON WSMR, NM

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

		DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER FIELD (STAND-ARD UNITS) (00400)	TEMPER-AIRE (DEG C) (00020)	TEMPER-AURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, SATUR-ATION (MG/L) (00301)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	
APR 26...	1030	2.3	51700	8.4	18.5	11.0	655	10.6	139	8300	8200	1200	
JUL 20...	1330	7.9	12100	9.2	32.0	31.0	659	12.1	197	2000	1900	550	
DATE	TIME	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
APR 26...	1300	14000	67	200	125	0	103	106	7400	19000	3.9	3.5	
JUL 20...	150	2300	22	65	11	24	49	37	1800	3100	1.0	.42	
DATE	TIME	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)
APR 26...	5.3	42700	43200	.156	.01	.17	.17	.99	1.3	1.2	.076	.021	
JUL 20...	13	7950	7990	.066	.02	.09	.02	.78	.8	.8	.042	.01	
DATE	TIME	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
APR 26...	.02	<280	<500	3	<5	115	120	1450	1510	<10	<10	<2.0	
JUL 20...	.01	426	--	2	3	112	120	521	577	<4	<4	17	
DATE	TIME	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM TOTAL RECOV-ERABLE (UG/L AS LI) (01132)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
APR 26...	<4.0	44	<10	<240	<500	<10	<10	2720	2900	898	910	<.1	
JUL 20...	<5.0	<4	4	294	<100	<4	6	569	--	E11.0	<30	<.1	
DATE	TIME	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	SEDI-MENT, DIS-SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
APR 26...	<.1	2	<5	<10	<10	30800	300	170	<1000	834	5.2	100	
JUL 20...	<.1	2	<2	<4	<4	9240	--	<200	<200	688	15	100	

330716106234510 SALT CREEK 3 AT RANGE ROAD 6 ON WSMR, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	2,4-DP TOTAL (UG/L) (82183)
APR 26...	1030	<.01	<.01	<.01	<.01
JUL 20...	1330	--	--	--	--

TULAROSA VALLEY BASIN

331158106265710 SALT CREEK NR NW-50 ON WSMR,NM

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

		DIS-CHARGE, INST. CUBIC FEET PER SECOND (000061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (000095)	PH WATER WHOLE FIELD (STAND-ARD) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, SATUR-ATION (00301)	HARD-NESS TOTAL (MG/L) (00900)	NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS-SOLVED (MG/L) (00915)	
APR 26...	1215	1.8	34700	8.0	24.0	20.5	655	9.6	142	4600	4400	920	
JUL 21...	1130	2.5	20000	8.7	28.5	28.5	660	13.3	213	2800	2700	630	
DATE	TIME	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
APR 26...	550	7300	47	130	183	0	150	153	4400	10000	3.8	1.9	
JUL 21...	290	3600	30	91	54	14	68	61	2700	5900	1.4	.99	
DATE		SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL DIS-SOLVED (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL DIS-SOLVED (MG/L AS N) (00623)	PHOS-PHORUS TOTAL DIS-SOLVED (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
APR 26...	15	24300	23800	<.01	.10	.07	.76	1	.8	.044	.013	.02	
JUL 21...	8.4	13600	13300	<.01	<.05	<.02	--	.9	.8	.032	.013	.01	
DATE		ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM WATER UNFLTRD TOTAL DIS-SOLVED (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
APR 26...	360	<500	4	<2	70.9	61	1050	821	<1	<10	<2.0	<2.0	
JUL 21...	116	<200	4	<5	178	170	809	686	<4	<4	20	<10	
DATE		COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM TOTAL RECOV-ERABLE (UG/L AS LI) (01132)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)
APR 26...	11	<10	E232	<250	<1	<10	1730	1800	211	180	<.1	<.1	
JUL 21...	<4	<4	170	<200	<4	<4	575	950	15.1	<44	<.1	<.1	
DATE		SELE-NIUM, TOTAL DIS-SOLVED (UG/L AS SE) (01147)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	
APR 26...	12	5	<10	<10	22500	21000	106	<1000	312	1.5	98		
JUL 21...	4	<5	<4	<4	14700	14000	<400	<400	1420	9.4	99		

331158106265710 SALT CREEK NR NW-50 ON WSMR,NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	2,4-DP TOTAL (UG/L) (82183)
APR 26...	1215	<.01	<.01	<.01	<.01
JUL 21...	1130	--	--	--	--

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

TULAROSA VALLEY BASIN

331657106185010 MALPAIS MARSH NR OSCURA, NM

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L) (00904)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SODIUM, DIS-SOLVED (MG/L) (00930)	
JUL 22...	0830	.69	6900	7.1	20.5	5.7	2600	2500	740	170	720	
DATE	TIME	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L) (39086)	SULFATE DIS-SOLVED (MG/L) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L) (00950)	BROMIDE DIS-SOLVED (MG/L) (71870)	SILICA, DIS-SOLVED (MG/L) (00955)	SOLIDS, RESIDUE AT 180 DEG. C (00930)
JUL 22...	6	7.3	89	0	73	2100	1400	1.4	.41	25	5430	
DATE	TIME	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L) (00607)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS DIS-SOLVED (MG/L) (00671)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L) (01105)	ALUM-INUM, DIS-SOLVED (UG/L) (01106)	
JUL 22...	5220	<.01	.63	.06	.17	.2	<.004	<.01	<84.0	E35.4		
DATE	TIME	ARSENIC TOTAL (UG/L) (01002)	ARSENIC DIS-SOLVED (UG/L) (01000)	BARIUM, TOTAL RECOV-ERABLE (UG/L) (01007)	BARIUM, DIS-SOLVED (UG/L) (01005)	BORON, TOTAL RECOV-ERABLE (UG/L) (01022)	BORON, DIS-SOLVED (UG/L) (01020)	CADMIUM WATER UNFLTDR (UG/L) (01027)	CADMIUM DIS-SOLVED (UG/L) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L) (01030)	
JUL 22...	<1	1	19.5	14	374	229	<2	<2	14	<1.0		
DATE	TIME	COPPER, TOTAL RECOV-ERABLE (UG/L) (01042)	COPPER, DIS-SOLVED (UG/L) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L) (01045)	IRON, DIS-SOLVED (UG/L) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L) (01051)	LEAD, DIS-SOLVED (UG/L) (01049)	LITHIUM TOTAL RECOV-ERABLE (UG/L) (01132)	LITHIUM DIS-SOLVED (UG/L) (01130)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L) (01055)	MANGA-NESE, DIS-SOLVED (UG/L) (01056)	
JUL 22...	<2	<2	<42.0	<40	<2	<2	E55.1	62	15.0	18		
DATE	TIME	MERCURY TOTAL RECOV-ERABLE (UG/L) (71900)	MERCURY DIS-SOLVED (UG/L) (71890)	SELE-NIUM, TOTAL (UG/L) (01147)	SELE-NIUM, DIS-SOLVED (UG/L) (01145)	SILVER, TOTAL RECOV-ERABLE (UG/L) (01077)	SILVER, DIS-SOLVED (UG/L) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L) (01082)	STRON-TIUM, DIS-SOLVED (UG/L) (01080)	ZINC, TOTAL RECOV-ERABLE (UG/L) (01092)	ZINC, DIS-SOLVED (UG/L) (01090)	
JUL 22...	<.1	<.1	3	2	<2	<2	19200	13000	<120	<80		
DATE	TIME	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	2,4-DP TOTAL (UG/L) (82183)							
JUL 22...	0830	<.01	<.01	<.01	<.01							

TULAROSA VALLEY BASIN

332057106211310 SALT CREEK 4 AT RANGE ROAD 7 ON WSMR, NM

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER FIELD (STAND-ARD) (UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED SATUR-ATION (00301)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L AS CA) (00904)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	
APR 27...	1230	.30	35600	7.7	29.0	17.5	655	9.5	133	4400	4200	1100	
JUL 21...	1330	.25	31600	7.7	31.5	26.5	656	8.1	132	4000	3800	1000	
DATE		MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	ANC UNFLTRD LAB (MG/L AS CACO3) (90410)	SULFATE (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
APR 27...	410	8400	55	130	244	0	200	200	3200	13000	4.1	2.2	
JUL 21...	350	6400	44	130	217	0	178	178	3200	10000	3.6	2.4	
DATE		SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
APR 27...	24	26100	26000	<.01	.11	.08	.25	.6	.3	.026	.009	.02	
JUL 21...	22	22600	21500	<.01	<.05	.04	.26	.5	.3	.018	.007	.01	
DATE		ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
APR 27...	<560	<500	2	<2	74.1	73	E647	E730	<1	<10	<2.0	<2.0	
JUL 21...	<560	<200	4	<5	82.9	76	862	591	<10	<10	32	<10	
DATE		COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM TOTAL RECOV-ERABLE (UG/L AS LI) (01132)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)
APR 27...	3	<10	278	<250	2	<10	1860	1900	685	660	<.1	<.1	
JUL 21...	<10	<10	<280	<200	<10	11	1030	1600	96.2	140	<.1	<.1	
DATE		SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. * FINER THAN .062 MM (70331)	
APR 27...	4	<2	<10	<10	<10	25800	24000	257	<500	608	.49	99	
JUL 21...	4	<5	<10	<10	<10	24800	20000	<800	<400	3430	2.3	100	

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

332057106211310 SALT CREEK 4 AT RANGE ROAD 7 ON WSMR, NM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	2,4-DP TOTAL (UG/L) (82183)
APR 27...	1230	<.01	<.01	<.01	<.01
JUL 21...	1330	--	--	--	--

TULAROSA VALLEY BASIN

332528106170710 LOWER MOUND SPRING POND NEAR OSCURA, NM

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L) AS CACO3 (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG (00925)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	SODIUM AD- SORP- TION RATIO (00931)
JUL 21...	1400	6000	7.94	26.5	11.5	2900	2800	830	190	470	4
DATE		POTAS- SIUM, DIS- SOLVED (MG/L) AS K (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS (39086)	SULFATE DIS- SOLVED (MG/L) AS SO4 (00945)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	FLUO- RIDE, DIS- SOLVED (MG/L) AS F (00950)	BROMIDE DIS- SOLVED (MG/L) AS BR (71870)	SILICA, DIS- SOLVED (MG/L) AS STO2 (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
JUL 21...		4.8	20	12.0	36	2600	930	1.4	.42	20	5230
DATE		SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N (00608)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L) AS N (00607)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L) AS N (00623)	PHOS- PHORUS DIS- SOLVED (MG/L) AS P (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L) AS P (00671)	ALUM- INUM, TOTAL RECOV- ERABLE (MG/L) AS AL (01105)	ALUM- INUM, DIS- SOLVED (MG/L) AS AL (01106)
JUL 21...		5120	<.01	<.05	.06	.38	.4	<.004	<.01	<84.0	<40.0
DATE		ARSENIC TOTAL (UG/L) AS AS (01002)	ARSENIC DIS- SOLVED (UG/L) AS AS (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L) AS BA (01007)	BARIUM, DIS- SOLVED (UG/L) AS BA (01005)	BORON, TOTAL RECOV- ERABLE (UG/L) AS B (01022)	BORON, DIS- SOLVED (UG/L) AS B (01020)	CADMIUM WATER UNFLTRD TOTAL (UG/L) AS CD (01027)	CADMIUM DIS- SOLVED (UG/L) AS CD (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L) AS CR (01034)	CHRO- MIUM, DIS- SOLVED (UG/L) AS CR (01030)
JUL 21...		<1	<1	12.4	14	273	282	<2	<2	17	<1.0
DATE		COPPER, TOTAL RECOV- ERABLE (UG/L) AS CU (01042)	COPPER, DIS- SOLVED (UG/L) AS CU (01040)	IRON, TOTAL RECOV- ERABLE (UG/L) AS FE (01045)	IRON, DIS- SOLVED (UG/L) AS FE (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L) AS PB (01051)	LEAD, DIS- SOLVED (UG/L) AS PB (01049)	LITHIUM TOTAL RECOV- ERABLE (UG/L) AS LI (01132)	LITHIUM DIS- SOLVED (UG/L) AS LI (01130)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L) AS MN (01055)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN (01056)
JUL 21...		<2	2	<42.0	<40	<2	<2	57.5	69	<9.0	E7
DATE		MERCURY TOTAL RECOV- ERABLE (UG/L) AS HG (71900)	MERCURY DIS- SOLVED (UG/L) AS HG (71890)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L) AS SE (01147)	SELE- NIUM, DIS- SOLVED (UG/L) AS SE (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L) AS AG (01077)	SILVER, DIS- SOLVED (UG/L) AS AG (01075)	STRON- TIUM, TOTAL RECOV- ERABLE (UG/L) AS SR (01082)	STRON- TIUM, DIS- SOLVED (UG/L) AS SR (01080)	ZINC, TOTAL RECOV- ERABLE (UG/L) AS ZN (01092)	ZINC, DIS- SOLVED (UG/L) AS ZN (01090)
JUL 21...		<.1	<.1	<1	<1	<2	<2	11800	12000	<120	<80
DATE	TIME	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	2,4-DP TOTAL (UG/L) (82183)						
JUL 21...	1400	<.01	<.01	<.01	<.01						

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