1969

Water Resources Data for New Mexico

Part 1. Surface Water Records

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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

CALENDAR FOR WATER YEAR 1969

OCTOBER 1968

S	M	T	W	T	F	S
		1	2	3	4	5
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13	14	15	16	17	18	19
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NOVEMBER 1968

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DECEMBER 1968

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JANUARY 1969

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FEBRUARY 1969

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MARCH 1969

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APRIL 1969

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MAY 1969

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JUNE 1969

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JULY 1969

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AUGUST 1969

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17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

SEPTEMBER 1969

S	M	T	W	T	F	S
	1	2	3	4	5	6
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14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

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Prepared in cooperation with

Office of the State Engineer
Interstate Stream Commission
Pecos River Commission
State Highway Department
Costilla Creek Compact Commission
Albuquerque Metropolitan Arroyo Flood Control Authority
Bureau of Reclamation, U.S. Department of the Interior
Corps of Engineers, U.S. Army
White Sands Missile Range, Department of the Army
Bureau of Public Roads, U.S. Department of Transportation
Bureau of Indian Affairs, U.S. Department of the Interior
Fish and Wildlife Service, U.S. Department of the Interior
Soil Conservation Service, U.S. Department of Agriculture
National Park Service, U.S. Department of the Interior

Water resources records, 1969, for New Mexico are in the following reports of the U.S. Geological Survey:

1. Water Resources Data for New Mexico
   Part 1: Surface Water Records

2. Water Resources Data for New Mexico
   Part 2: Water Quality Records

Copies of this report may be obtained from
District Chief, Water Resources Division
U.S. Geological Survey
P.O. Box 4369
Albuquerque, New Mexico 87106

1970

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ILLUSTRATIONS

WATER RESOURCES DATA FOR NEW MEXICO, 1969

PART 1. SURFACE-WATER RECORDS

INTRODUCTION

Surface-water records for the 1969 water year for New Mexico, including records of streamflow or reservoir storage at gaging stations, partial-record stations, and miscellaneous sites, are given in this report and their locations shown in figures 1, 2. Records for a few pertinent gaging stations in bordering States also are included. The records were collected and computed by the Water Resources Division of the U.S. Geological Survey under the direction of W. E. Hale, district chief. These data represent that portion of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in New Mexico.

Through September 30, 1960, the records of discharge and stage of streams and canals and contents and stage of lakes or reservoirs were published in an annual series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States."

Beginning with the 1961 water year, surface-water records have been released by the Geological Survey in annual reports on a State-boundary basis. Distribution of these reports is limited; they are designed primarily for rapid release of data shortly after the end of the water year to meet local needs. The discharge and reservoir storage records for 1961-65 also will be published in a Geological Survey water-supply paper series entitled "Surface Water Supply of the United States 1961-65."

COOPERATION

The first gaging station established by the Geological Survey in the United States was on the Rio Grande at Embudo on Jan. 1, 1889. Cooperation with the Territory of New Mexico began about 1907, and Territory or State cooperation in varying amounts continued until 1915, the work being directed from the Denver office. From 1916 to 1930 the State conducted its own stream-gaging program. In 1931 a new State cooperative program was begun and a Geological Survey district office established in Santa Fe. Agreements have also existed with county, municipal, and private organizations, and with other Federal agencies. Organizations that supplied data are acknowledged in station descriptions.

Organizations that assisted in collecting data through cooperative agreements with the Survey in 1969 are:

Office of the State Engineer, S. E. Reynolds.

Interstate Stream Commission, S. E. Reynolds, Secretary.

Pecos River Commission, J. W. Odell, Federal Representative and Chairman, S. L. ReVeal, succeeded by R. E. Pritchett, Commissioner for New Mexico, R. B. McGowen, Commissioner for Texas.

State Highway Department, L. G. Boles, State Highway Engineer.

Costilla Creek Compact Commission, S. E. Reynolds, Commissioner for New Mexico, C. J. Kuiper, Commissioner for Colorado.

Albuquerque Metropolitan Arroyo Flood Control Authority, J. B. Robert, Executive Engineer.

Assistance in the form of funds or services was furnished by the following Federal Agencies:

Corps of Engineers, U. S. Army in the operation of 21 gaging stations.

White Sands Missile Range, Department of the Army in the operation of 2 gaging stations.

Bureau of Reclamation, U. S. Department of the Interior in the operation of 11 gaging stations.

Bureau of Public Roads, U. S. Department of Transportation for research study on small drainage areas.

Bureau of Indian Affairs, U. S. Department of the Interior in the operation of 4 gaging stations.

Fish and Wildlife Service, U. S. Department of the Interior in the operation of 4 gaging stations.

Soil Conservation Service, U. S. Department of Agriculture in the operation of 2 gaging stations.

National Park Service, U. S. Department of the Interior in the operation of 1 gaging station.

Assistance in the form of funds or services was also given by the following organizations:

Forest Service, U. S. Department of Agriculture; Weather Bureau, ESSA, U. S. Department of Commerce; the city of Ruidoso; Carlsbad Irrigation District; Public Service Company of New Mexico; State Department of Game and Fish.

DEFINITION OF TERMS

Definition of terms related to streamflow and other hydrologic data, as used in this report, are defined as follows:

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 325,851 gallons.

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, 1.9835 acre-feet, or 646,317 gallons, and represents a runoff of 0.0372 inche from 1 square mile.

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.

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 (cfs) 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.

Discharge is the volume of water (or more broadly, total fluids), that passes a given point within a given period of time.

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 noted.

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 gage height or discharge are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is obtained.

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

Stage-discharge relation is the relation between gage height and the amount of water flowing in a channel, expressed as volume per unit of time.

WRD is used as an abbreviation for "Water-Resources Data" in the summary REVISIONS paragraph to refer to previously published State annual basic-data reports.

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

SPECIAL NETWORKS AND PROGRAMS

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

DOWNSTREAM ORDER AND STATION NUMBERS

Records are listed in a downstream direction along the main stream, and stations on tributaries are listed between stations on the main stream in the order in which those tributaries enter the main stream. Stations on tributaries entering above all mainstream stations are listed before the first mainstream station. Stations on tributaries to tributaries are listed in a similar manner. In the list of gaging stations in the front of this report the rank of tributaries is indicated by indention, each indention representing one rank.

As an added means of identification, each gaging station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and continuous-record gaging stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Gaps are left in the numbers to allow for new stations that may be established; hence the numbers are not consecutive. The complete 8-digit number for each station such as 08314500, includes the part or basin number "08" and the 6-digit station number "314500." In this report, all eight digits are shown except on figure 1 and figure 2. In reports for water years prior to 1969 the nonessential zeros were not shown and the above number appeared as 8-3145. In this report, the records are listed in downstream order by parts. All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

EXPLANATION OF SURFACE-WATER DATA

Collection and Computation of Data

The base data collected at gaging stations consists of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from a water-stage recorder that gives a continuous graph of the fluctuations (for digital recorders, a tape punched at 15-, 30-, or 60-minute intervals) or from direct readings on a nonrecording gage. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in standard textbooks on the measurement of stream discharge. (See also SELECTED REFERENCES.) Surface areas of lakes or reservoirs are determined from instrument surveys using standard methods. The configuration of the reservoir bottom is determined by sounding at many points.

For a stream-gaging station rating tables giving the discharge for any stage are prepared from stage-discharge relation curves defined by discharge measurements. If extensions to the rating curves are necessary to define the extremes of discharge, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), velocity-area studies, and logarithmic plotting. The application of the daily mean gage heights to the rating table gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. 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 individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations the stage-discharge relation is affected by 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 determining discharge. Information required for determining 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 determining discharge.

At some stream-gaging stations the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. Discharge over spillways is computed from a stage-discharge relation curve defined by discharge measurements. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty 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 on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise daily contents may be estimated on the basis of operator's log, adjoining good record, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of basic data. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations and for some reservoir stations. Records are published for the water year, which begins on October 1 and ends on September 30. A calendar for the 1969 water year is shown on the reverse side of the front cover to facilitate finding the day of the week for any date.

The description of the gaging station gives the location, drainage area, period of record, type and history of gages, average discharge, extremes of discharge or contents, and general remarks. The location of the gaging station and the drainage area are obtained from the most accurate maps available. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD." The type of gage currently in use, the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey, unless otherwise qualified. The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. The maximum discharge (or contents) and the maximum gage height, the minimum discharge if there is little or no regulation (or the minimum contents), and the minimum gage height if it is significant are given under "EXTREMES." The minimum daily discharge is given if there is extensive regulation (also the minimum discharge and gage height if they are abnormally low). In the first paragraph headed "Current year:" the data given are for the complete current water year unless otherwise specified. In the second paragraph under "EXTREMES" headed "Period of record:" the data given are for the period of record given in the PERIOD OF RECORD paragraph. Reliable information concerning major floods that occurred outside the period of record is given in the third or last paragraph under "EXTREMES." Unless otherwise qualified, the maximum discharge (or contents) corresponds to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge or contents, it is given separately. Information pertaining to the accuracy of the discharge records, to conditions that affect the natural flow at the gaging station, and availability of Water Quality records, is given under "REMARKS"; for reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir, is also given under "REMARKS."

Previously published records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISIONS (WATER YEARS)" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1933 stands for the water year October 1, 1932 to September 30, 1933. If no daily, monthly, or annual figures of discharge were revised, that fact is brought out by notations 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 revised figure was first published is given.

It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

Skeleton capacity tables are published for all reservoirs for which records of contents are published on a daily basis, except those reservoirs for which a table of daily elevations (or gage heights) is published.

The daily tables for stream-gaging stations give the discharge corresponding to the daily mean gage height unless there are large or rapid changes in the discharge during a day. For days having large or rapid changes, discharge for the day is computed by averaging the mean discharge for several parts of a day. For digital recorders, the daily mean discharge is always the average of the discharges at each punched reading. For stations equipped with nonrecording gages, the daily discharge corresponds to once-daily readings of the gage or to the mean of twice-daily readings; but for periods of rapidly changing stage the discharge is determined from a gage-height graph based on gage readings.

The daily tables for reservoir stations give the contents corresponding to the water-surface elevation at a given time, usually at 2400 each day. For some reservoirs the elevation at a given time is given in the daily table.

The monthly summary is given below the daily table. For stream-gaging stations the line headed "TOTAL" gives the sum of the daily figures; it is the total cubic feet per second per day for the month. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month is expressed in acre-feet (line headed "AC-FT").

For reservoir stations the monthly summary gives the elevation (or gage height) at the end of the month and the change in contents during the month, except for those stations for which a table of daily elevations (or gage heights) is published.

In the yearly summary below the monthly summary, the figures of maximum are the maximum daily discharges for the calendar and water years; likewise, the minimums in this summary are the minimum daily discharges.

For reservoir stations the yearly summary gives the change in contents for the calendar year and for the water year.

Peak discharges and their times of occurrence and corresponding gage heights for many stations are listed below the yearly summary. All independent peaks above the selected base are given. The base discharge, which is given in parentheses, is selected so that an average of about three peaks a year can be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030 and 1:30 p.m. is 1330.

In a general footnote, introduced by the word "NOTE" certain periods are indicated for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, or indefinite stage-discharge relation, or of any other unusual condition at the gage are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs. Footnotes to reservoir tables may be used to explain the use of new capacity tables or for other special conditions.

Accuracy of Data

The accuracy of discharge data 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 observations of stage, measurements of discharge, and interpretation of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges is within 5 percent; "good" within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 cfs; to tenths between 1.0 and 10 cfs; to whole numbers between 10 and 1,000 cfs; and to 3 significant figures above 1,000 cfs. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumptive use, regulation, evaporation, or other factors. For such stations, discharge in cubic feet per second per square mile and runoff in inches are not published unless satisfactory adjustments can be made for such effects. 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 unadjusted losses (consumptive use, evaporation, seepage, etc.) are large in comparison with the observed discharge.

Publications

Each volume of the 1960 series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States" contains a listing of the numbers of all water-supply papers in which records of surface-water data were published for the area covered by the individual volumes. Each volume also contains a list of water-supply papers that give detailed information on major floods for the area. A new series of water-supply papers containing surface-water records for the 5-year period October 1, 1960 to September 30, 1965, also will include lists of annual and special reports published as water-supply papers.

Records through September 1950 for the area covered by this report have been compiled and published in Water-Supply Papers 1311, 1312, and 1313; records for October 1950 to September 1960 have been compiled and published in Water-Supply Papers 1731, 1732, and 1733. These reports contain summaries of monthly and annual discharge and monthend storage for all previously published records, as well as some records not contained in the annual series of water-supply papers. All records were reexamined and revised where warranted. Estimates of discharge were made to fill short gaps whenever practical. The yearly summary table for each gaging station lists the numbers of the water-supply papers in which daily records were published for that station.

Other Data Available

Data collected at partial-record stations and at miscellaneous sites are given in three tables at the end of the surface-water records in this report. The first is a table of discharge measurements at low-flow partial-record stations, the second is a table of annual maximum stage and discharge at crest-stage stations, and the third is a table of discharge measurements at miscellaneous sites.

Seepage investigations are presented following measurements at miscellaneous sites. These consist of text and tabulations summarizing data derived primarily from associated series of discharge measurements and observations made within a short time period along a given reach of channel, preferably during a period of relatively stable conditions. The objectives may vary, but usually include the study of seepage gains or losses, surface inflow, diversions (including pumps), areas of springs, water temperatures, low-flow characteristics of the area, and chemical quality (published in Part 2). These investigations may be repeated periodically or at random intervals for some reaches of certain channels. Indicated gains and/or losses as shown may be substantially affected by small inaccuracies of open channel measurements.

More detailed information than that published for most of the gaging stations, such as discharge measurements, gage-height records, and rating tables, is on file in the district office. Many gaging-station records in New Mexico through 1968 have been analyzed to give several statistical summaries: (1) the number of days in each year that the daily discharge was between selected limits (duration tables); (2) the lowest mean discharge for selected numbers of consecutive days in each year; and (3) the highest mean discharge for selected numbers of consecutive days in each year.

At or near some gaging stations, water-quality records also are collected. Data are obtained on the chemical quality of the stream water, on water temperature, on suspended-sediment concentration, and on the particle-size distribution of suspended sediment and bed material. These data are given in Part 2 of this report. Under the "REMARKS" paragraph of the gaging-station description, reference is made to water-quality records collected on a regular basis.

HYDROLOGIC CONDITIONS

As is common in New Mexico, streamflow varied greatly in the 1969 water year. This holds true with respect to both time and geographic location. The variations are related to differences in precipitation, temperature, topography and geology. The yearly mean discharge at four key gaging stations ranged from 74 to 198 percent of the medians for the base period, 1931-60.

During the first nine months streamflow was generally below the median in the southwestern part of the State and near median and above in remainder of the State. During the last quarter streamflow was generally excessive (in the upper 25 percentile of the reference period, 1931-60) except in the Gila River basin where it was deficient. A warm period in January caused excessive runoff in the upper Rio Grande. Storm runoff caused Ute Reservoir to spill in September. This was the first significant spill since Ute Dam was completed in 1963.

SELECTED REFERENCES

Carter, R. W., and Davidian, Jacob, 1968, General procedure for gaging streams: U.S. Geol. Survey Techniques Water-Resources Inv., book 3, chap. A6, 13 p.

Corbett, D. M., and others, 1943, Stream-gaging procecure, a manual describing methods and practices of the Geological Survey: U.S. Geol. Survey Water-Supply Paper 888, 245 p.

Langbein, W. B., and Iseri, K. T., 1960, General introduction and hydrologic definitions: U.S. Geol. Survey Water-Supply Paper 1541-A, 29 p.

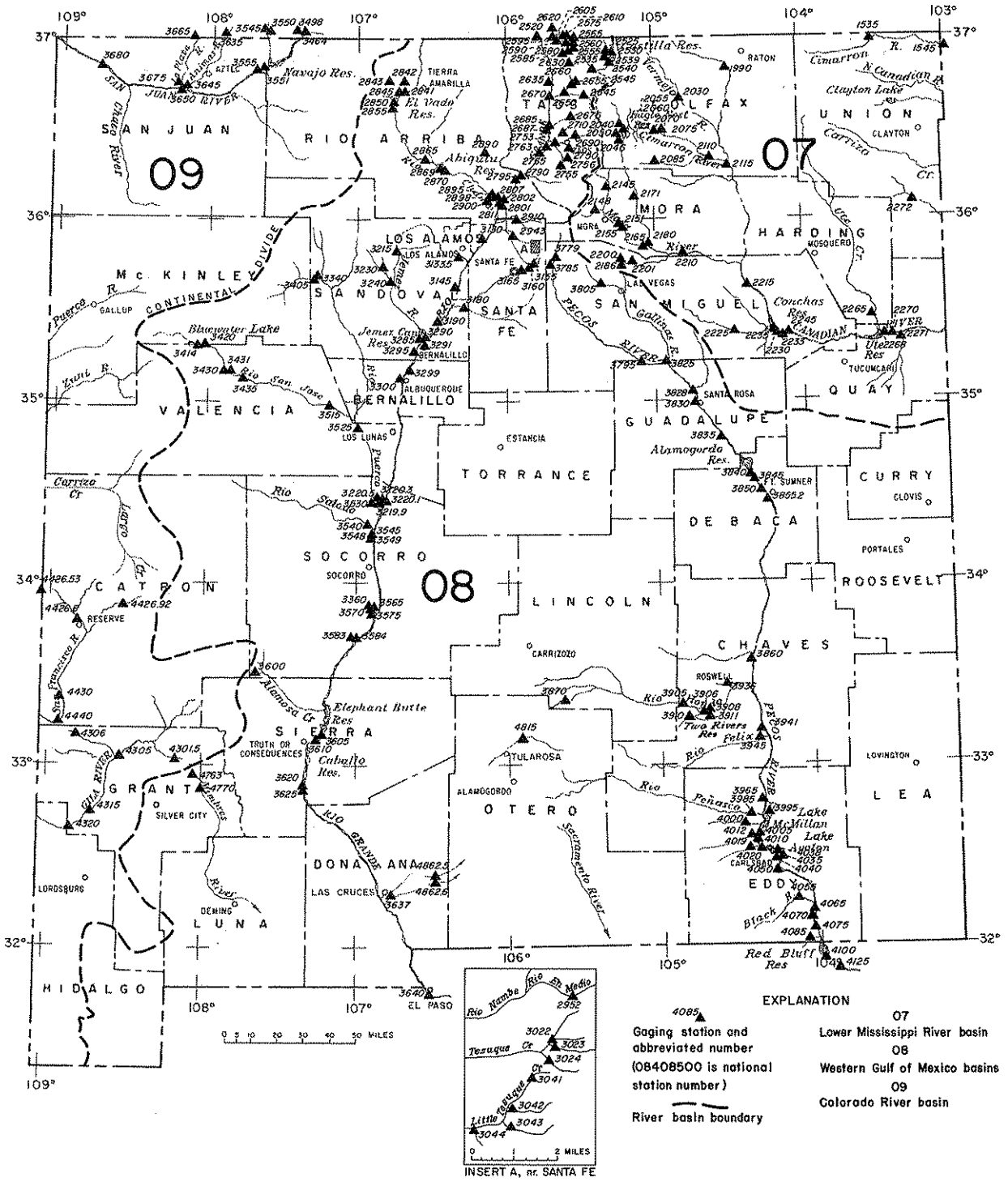


Figure 1.—Map of New Mexico showing location of active gaging stations.

LOWER MISSISSIPPI RIVER BASIN

ARKANSAS RIVER BASIN

07153500 Dry Cimarron River near Guy, N. Mex.
(Formerly published as Cimarron River near Guy)

LOCATION.--Lat 36°59'15", long 103°25'25", in SE¼ sec.21, T.32 N., R.33 E., Union County, on right bank 1.5 miles upstream from Baker damsite, 1.7 miles northwest of Valley, 3.0 miles upstream from Travesser Creek, 12 miles north of Guy, and 26 miles northwest of Kenton, Okla.

DRAINAGE AREA.--545 sq mi.

PERIOD OF RECORD.--April 1942 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,900 ft (from topographic map). Prior to Oct. 1, 1943, at datum 0.44 ft higher.

AVERAGE DISCHARGE.--27 years, 11.4 cfs (8,260 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 987 cfs Sept. 17 (gage height, 5.22 ft); minimum daily discharge, 1.1 cfs July 4-8.
Period of record: Maximum discharge, 46,100 cfs Aug. 21, 1965 (gage height, 22.00 ft), from rating curve extended above 3,000 cfs on basis of slope-area measurements at gage heights 15.7 and 22.00 ft; no flow at times.

REMARKS.--Records fair prior to July and poor thereafter. Diversions for irrigation of about 6,500 acres above station. Records of chemical analyses, water temperatures and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

REVISIONS.--WSP 1177: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	2.0	2.9	3.2	3.1	2.5	2.9	2.2	2.5	1.2	3.9	5.4
2	1.6	2.2	2.9	3.0	3.2	3.5	2.9	2.2	2.4	1.2	3.9	3.5
3	1.7	2.2	2.7	3.0	3.0	3.3	2.8	2.3	2.5	1.2	3.9	3.4
4	1.7	2.2	3.0	3.0	3.3	2.8	4.7	2.3	2.9	1.1	3.5	8.0
5	1.7	2.2	2.8	3.3	3.4	2.6	3.8	2.9	2.6	1.1	3.5	3.4
6	1.7	2.4	2.8	3.3	3.0	2.8	2.9	6.5	2.3	1.1	3.9	3.2
7	1.7	2.5	2.8	3.2	2.8	3.4	2.6	15	2.2	1.1	3.9	4.0
8	1.7	2.5	2.9	3.1	2.6	3.5	2.5	10	3.0	1.1	3.5	42
9	1.7	2.6	3.3	2.8	2.8	3.5	2.5	4.2	2.8	1.2	3.2	10
10	1.7	2.5	3.3	2.8	2.7	3.5	2.6	3.8	2.5	2.1	2.8	17
11	1.7	2.5	3.1	2.8	2.8	3.5	2.7	3.1	2.5	2.1	2.7	39
12	1.7	2.6	2.8	3.0	2.8	3.5	2.7	3.1	2.6	32	2.5	9.0
13	1.7	2.6	2.4	3.3	2.9	3.5	3.0	3.1	3.7	25	2.4	4.0
14	1.6	2.6	2.7	3.1	2.9	4.0	3.4	3.0	5.9	7.1	2.5	3.0
15	1.5	2.8	2.9	3.1	2.8	3.5	3.5	3.2	4.0	4.0	2.6	2.7
16	2.0	2.8	2.9	3.0	2.7	3.5	3.1	3.5	3.4	5.0	2.4	2.5
17	2.4	2.8	2.9	3.0	2.7	3.5	3.4	3.2	4.7	63	2.2	303
18	2.2	2.8	2.8	3.0	2.7	3.5	3.1	2.8	5.9	13	2.0	8.6
19	2.2	2.9	3.0	3.1	2.7	3.5	2.8	2.6	3.7	9.5	1.7	2.0
20	2.0	2.9	3.3	3.1	2.6	3.2	2.7	2.6	3.4	17	2.1	1.5
21	2.0	2.9	3.0	3.1	2.7	3.2	2.6	2.6	2.8	6.0	1.5	1.5
22	2.0	2.8	3.0	3.1	2.5	3.3	2.5	2.6	2.5	5.0	1.8	1.8
23	1.9	2.9	3.0	3.1	2.5	3.5	2.5	2.7	2.3	4.0	1.8	1.9
24	1.9	3.0	3.5	3.1	2.4	3.6	2.5	2.8	2.2	4.0	2.3	2.0
25	1.9	3.0	3.5	3.2	2.3	3.5	2.4	2.6	1.8	31	2.8	2.3
26	1.9	2.8	3.5	3.4	2.3	3.4	2.3	2.4	1.7	14	2.1	2.1
27	1.9	2.8	3.5	3.1	2.4	3.3	2.8	2.2	1.6	6.0	2.0	2.1
28	1.9	2.9	3.4	3.1	2.3	3.1	2.7	2.1	1.5	4.5	2.0	2.3
29	2.0	2.8	3.4	2.9	------	3.1	2.5	2.3	1.4	4.0	2.0	2.1
30	2.0	2.7	3.5	2.8	------	3.0	2.2	3.6	1.3	3.9	2.4	2.1
31	1.9	------	3.0	3.0	------	3.0	------	2.8	------	4.0	9.9	------
TOTAL	57.1	79.2	94.5	95.1	76.9	102.6	85.6	110.3	84.6	276.5	89.7	495.4
MEAN	1.84	2.64	3.05	3.07	2.75	3.31	2.85	3.56	2.82	8.92	2.89	16.5
MAX	2.4	3.0	3.5	3.4	3.4	4.0	4.7	15	5.9	63	9.9	303
MIN	1.5	2.0	2.4	2.8	2.3	2.5	2.2	2.1	1.3	1.1	1.5	1.5
AC-FT	113	157	187	189	153	204	170	219	168	548	178	983

CAL YR 1968 TOTAL 3,160.7 MEAN 8.64 MAX 456 MIN 1.3 AC-FT 6,270
WTR YR 1969 TOTAL 1,647.5 MEAN 4.51 MAX 303 MIN 1.1 AC-FT 3,270

PEAK DISCHARGE (BASE, 1,000 CFS).--No peak above base.

7-1545. Cimarron River near Kenton, Okla.

LOCATION.--Lat 36°56'48", long 102°57'28", in SE 1/4 sec.4, T.5 N., R.1 E., Cimarron County, near right bank on downstream side of pier of county road bridge, 1.5 miles upstream from Carrizo Creek, 1.7 miles northeast of Kenton, 2.2 miles downstream from Carrizozo Creek, and at mile 594.0.

DRAINAGE AREA.--1,106 sq mi, of which 68 sq mi is probably noncontributing.

PERIOD OF RECORD.--April 1904 to July 1905 (gage heights only), October 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,262.08 ft above mean sea level, (levels by State Highway Department). April 1904 to July 1905 nonrecording gage at site 0.9 mile upstream at different datum. Oct. 1, 1950, to Sept. 19, 1967, water-stage recorder at same site and at datum 5.00 ft higher.

AVERAGE DISCHARGE.--19 years (1950-69), 27.1 cfs (19,630 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,240 cfs Sept. 17 (gage height, 14.17 ft); no flow at times.
Period of record: Maximum discharge, 43,400 cfs Oct. 17, 1965 (gage height, 22.32 ft, present datum), from rating curve extended above 7,000 cfs on basis of contracted-opening measurement of peak flow; no flow at times in most years.

REMARKS.--Records fair. Extensive diversions for irrigation above station.

REVISIONS (WATER YEARS).--WSP 1711: 1956(M)

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.45	.15	7.3	4.0	1.4	2.0	1.7	.15	46	.55	.82	208
2	.35	1.7	6.1	4.0	1.8	3.2	1.4	.10	7.0	1.7	.11	27
3	.32	1.9	5.6	3.8	1.5	3.6	1.2	.15	19	.35	.03	7.8
4	.30	1.9	5.3	4.0	1.6	3.3	2.4	1.0	6.8	.10	0	21
5	.77	2.1	4.6	4.2	1.6	3.3	1.9	1.0	2.9	.10	0	7.7
6	1.1	3.4	4.8	4.4	1.5	3.5	1.7	7.1	1.7	.10	0	5.2
7	1.5	4.7	4.6	4.6	1.7	3.2	1.4	48	1.0	3.5	0	4.3
8	.94	3.8	4.5	4.4	1.8	3.0	1.4	13	1.0	.60	0	5.1
9	2.1	3.5	5.1	4.2	1.6	1.9	1.4	11	2.8	.12	0	4.8
10	2.0	3.6	4.6	4.0	1.6	2.0	1.7	5.2	1.7	.10	0	669
11	1.8	3.1	4.3	3.9	1.6	1.6	1.4	3.3	.53	.17	0	389
12	1.9	3.5	3.3	4.0	1.7	3.0	1.9	3.6	1.2	.10	0	85
13	1.8	3.8	4.2	4.2	2.6	3.2	2.2	2.6	2.7	.17	0	35
14	2.7	4.0	4.6	4.2	3.4	3.2	3.2	4.6	2.7	.07	0	15
15	.96	4.3	5.0	4.2	2.7	3.3	2.2	25	.99	.08	0	11
16	.29	4.4	5.3	3.9	2.4	3.5	4.5	15	.64	.10	0	40
17	.68	4.2	4.9	3.6	2.4	3.5	8.2	6.5	554	.11	0	2,430
18	.64	3.9	4.5	4.2	2.3	3.2	3.5	4.5	54	.08	0	475
19	1.1	4.2	2.5	3.9	2.3	2.7	2.7	4.1	9.0	.06	0	150
20	1.0	4.0	3.0	3.9	2.3	2.2	1.7	3.4	4.5	.05	0	35
21	.98	4.2	3.0	3.7	2.3	2.2	.85	3.8	3.2	.10	0	18
22	.87	4.4	2.0	4.0	2.4	2.2	1.0	3.4	1.9	.07	3.3	18
23	.33	4.3	2.0	3.8	2.3	3.2	1.2	2.6	1.5	.05	503	18
24	.08	4.1	2.0	2.5	2.3	2.2	.70	2.7	1.0	.03	101	17
25	.69	3.8	4.0	3.0	2.1	1.4	.45	2.4	.55	.06	11	17
26	1.0	3.3	5.2	4.0	1.7	1.4	.35	1.8	.45	.03	2.0	16
27	.14	3.5	5.0	4.2	1.6	1.7	1.2	2.0	.45	.02	.51	16
28	1.1	3.9	4.8	3.0	1.6	1.7	.70	1.1	.45	0	.10	15
29	.69	4.1	5.5	1.3	------	1.7	.35	1.2	.35	1.9	0	15
30	.56	6.4	6.0	1.3	------	1.9	.25	5.5	.25	83	27	15
31	.25	------	3.0	1.3	------	1.9	------	42	------	15	206	------
TOTAL	29.39	108.15	136.6	113.7	56.1	79.9	54.75	227.80	730.26	108.47	854.87	4,789.9
MEAN	.95	3.61	4.41	3.67	2.00	2.58	1.83	7.35	24.3	3.50	27.6	160
MAX	2.7	6.4	7.3	4.6	3.4	3.6	8.2	48	554	83	503	2,430
MIN	.08	.15	2.0	1.3	1.4	1.4	.25	.10	.25	0	0	4.3
AC-FT	58	215	271	226	111	158	109	452	1,450	215	1,700	9,500

CAL YR 1968 TOTAL 6,215.72 MEAN 17.0 MAX 1,290 MIN 0 AC-FT 12,330
WTR YR 1969 TOTAL 7,289.89 MEAN 20.0 MAX 2,430 MIN 0 AC-FT 14,460

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-17	0430	11.54	2,570	9-10	0530	11.18	2,230
8-23	0215	12.22	3,340	9-17	1930	14.17	6,240

07199000 Canadian River near Hebron, N. Mex.

LOCATION.--Lat 36°47'14", long 104°27'42", Colfax County, in Maxwell Grant, near right bank at downstream end of bridge pier on U. S. Highways 64 and 85, 3.1 miles north of Hebron, 5.0 miles upstream from Chicorica Creek, and 8.0 miles south of Raton.

DRAINAGE AREA.--229 sq mi.

PERIOD OF RECORD.--June 1946 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,248 ft (from topographic map). June 1, 1946 to Sept. 30, 1952, on bridge pier 150 ft upstream and Oct. 1, 1952 to July 13, 1955, on bridge pier 200 ft upstream, both at datum 2.00 ft higher. July 14, 1955 to Aug. 11, 1964, at present site at datum 0.90 ft higher. Aug. 12, 1964 to Aug. 17, 1965, at present site at datum 2.00 ft higher.

AVERAGE DISCHARGE.--23 years, 8.44 cfs (6,110 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,030 cfs July 17 (gage height, 6.35 ft), from rating curve extended above 1,300 cfs as explained below; no flow June 28, 29, 30.
Period of record: Maximum discharge, 62,400 cfs June 17, 1965 (gage height, 28.2 ft, from floodmarks, present datum), from rating curve extended above 1,300 cfs on basis of slope-area measurement of peak flow; no flow for many days most years.
Flood in 1942 reached a stage of about 28 ft (present datum) at site 150 ft upstream, from information by local residents.

REMARKS.--Records poor. Diversions above station for irrigation of a few hundred acres. Part or all of low flow can be diverted to left bank a few hundred yards above station for stock water, off-channel storage and irrigation. Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS(WATER YEARS).--WSP 1281: 1946, 1947-48(P), 1949. WSP 1921: 1960(M).

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.66	2.9	1.0	1.6	.20	1.8	1.8	.47	.40	.05	6.8	4.8
2	.66	2.6	1.0	1.8	.20	1.6	1.8	.56	.30	14	140	3.3
3	.77	2.6	1.5	1.4	.20	1.4	1.4	.56	.30	.09	34	3.8
4	.77	2.9	2.0	2.0	.20	1.0	.34	.47	.24	.05	118	4.2
5	.34	2.9	1.2	2.5	.20	1.2	.34	.77	.24	.05	193	5.4
6	.34	3.3	1.2	2.7	.20	1.6	.40	42	.24	2.7	112	2.9
7	.34	2.9	.60	2.9	.20	1.4	.40	100	.24	4.2	112	2.0
8	.34	4.2	1.0	3.3	.29	1.0	.34	90	19	.30	55	5.4
9	.34	2.9	2.0	3.0	.40	.80	.29	187	.34	.24	18	20
10	.40	3.8	2.0	2.5	2.0	.80	.29	47	.16	.20	7.6	7.6
11	.40	3.3	1.6	2.8	2.6	.60	.29	24	.11	.16	4.2	18
12	.40	3.3	1.5	3.3	2.6	.80	.76	20	.13	.13	3.3	13
13	.40	3.8	1.0	3.8	2.0	.80	6.0	9.4	43	.13	35	5.4
14	.56	3.3	1.5	3.3	1.6	.60	3.8	4.2	8.4	.11	8.3	6.0
15	.66	3.8	2.0	3.3	1.6	.60	2.6	4.8	9.4	13	.77	9.4
16	.34	2.6	2.0	2.6	1.6	.80	1.8	4.8	5.6	38	.29	18
17	.47	1.8	2.0	2.3	1.6	1.0	1.6	2.0	58	722	3.2	16
18	.56	2.3	1.5	2.6	1.6	1.0	2.0	1.4	112	136	6.5	13
19	.47	2.3	1.0	3.0	2.0	1.0	63	1.2	16	268	.20	6.8
20	.66	2.3	.80	2.7	2.0	1.0	85	1.2	8.4	51	.24	6.0
21	.66	2.3	1.0	2.6	1.6	.89	79	1.0	8.4	137	.20	26
22	1.8	2.0	1.5	3.3	1.4	.89	55	1.0	6.8	59	16	9.4
23	2.9	1.8	1.8	2.9	1.4	.89	37	6.3	2.9	238	2.4	9.4
24	2.9	2.3	2.0	3.3	1.6	.77	26	3.5	1.0	59	34	14
25	2.9	2.3	2.0	3.8	1.8	.66	18	2.5	.34	51	10	13
26	2.9	2.0	1.8	2.9	1.8	.66	10	1.5	.13	64	6.0	10
27	2.6	1.0	1.6	2.9	1.8	.66	5.4	1.0	.05	43	4.2	7.6
28	2.9	.50	2.0	2.5	1.8	1.4	3.5	.80	.04	10	16	6.8
29	2.9	.60	2.0	2.0	------	1.4	2.0	.70	.04	9.4	3.6	6.8
30	2.9	1.0	1.5	1.0	------	1.8	.60	.60	.03	7.6	6.0	7.6
31	2.9	------	1.4	.50	------	1.8	------	.50	------	5.4	13	------
TOTAL	38.14	75.60	47.00	81.10	36.49	32.62	410.75	561.23	302.23	1,933.81	969.80	281.6
MEAN	1.23	2.52	1.52	2.62	1.30	1.05	13.7	18.1	10.1	62.4	31.3	9.39
MAX	2.9	4.2	2.0	3.8	2.6	1.8	85	187	112	722	193	26
MIN	.34	.50	.60	.50	.20	.60	.29	.47	.03	.05	.20	2.0
AC-FT	76	150	93	161	72	65	815	1,110	599	3,840	1,920	559

CAL YR 1968 TOTAL 5,235.14 MEAN 14.3 MAX 675 MIN 0 ACFT 10,380
WAT YR 1969 TOTAL 4,770.37 MEAN 13.1 MAX 722 MIN .03 ACFT 9,460

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-17	1900	6.35	5,030	8- 2	1700	4.85	1,980
7-19	1900	4.77	1,870	8- 4	2130	4.32	1,280
7-23	1700	4.35	1,320				

07203000 Vermejo River near Dawson, N. Mex.

LOCATION.--Lat 36°40'50", long 104°47'08", Colfax County, in Maxwell Grant, on left bank, 1.3 miles north of Dawson, and 2.3 miles upstream from Rail Canyon.

DRAINAGE AREA.--301 sq mi.

PERIOD OF RECORD.--October 1915 to July 1918, April 1919 to May 1921, January 1927 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Altitude of gage is 6,365 ft (from topographic map). See WSP 1711 or 1731 for history of changes prior to Sept. 24, 1953.

AVERAGE DISCHARGE.--45 years (1915-17, 1919-20, 1927-69), 19.3 cfs (13,980 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,660 cfs June 8 (gage height, 6.57 ft), from rating curve extended above 84 cfs as explained below; minimum, 2.3 cfs June 29, but may have been less during period of ice effect.
1927-69: Maximum discharge, 12,600 cfs June 17, 1965 (gage height, 15.25 ft), from rating curve extended above 400 cfs on basis of slope-area measurement of peak flow; no flow at times.
A major flood occurred Aug. 2, 1921, when discharge probably exceeded 10,000 cfs.

REMARKS.--Records fair except those for winter period, which are poor. Diversions for irrigation of small acreage and mountain meadows above station. Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS(WATER YEARS): WSP 1117: 1947, drainage area. WSP 1281: 1932(M), 1934(M), 1936-38(M), 1941-42(P), 1944-46(M).

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	5.5	5.5	4.9	3.3	4.7	6.0	8.6	19	2.7	75	44
2	4.9	6.0	5.0	6.0	3.5	4.7	5.2	8.6	18	2.7	45	87
3	3.8	5.5	5.5	4.9	4.1	3.8	5.5	8.6	15	2.7	53	35
4	3.9	5.5	7.0	6.4	4.1	3.8	5.5	8.6	13	2.7	48	26
5	4.4	5.5	6.0	6.0	5.5	3.0	6.4	10	12	3.5	50	22
6	4.9	6.0	4.4	7.3	4.9	4.7	6.8	16	11	11	43	19
7	4.9	6.4	5.2	8.2	6.4	6.8	6.0	20	10	9.8	51	16
8	4.9	6.4	4.7	9.1	8.2	5.2	4.4	16	81	9.4	36	28
9	4.9	6.0	5.2	8.6	8.2	3.8	4.1	15	20	9.1	33	37
10	4.9	6.0	5.2	5.5	9.1	4.1	4.1	16	9.6	8.2	30	30
11	4.9	5.2	6.4	6.0	7.8	5.2	4.9	20	10	7.3	40	30
12	4.7	4.9	6.0	5.2	7.8	6.0	7.8	18	5.2	7.3	23	25
13	4.9	4.9	5.2	6.8	6.8	7.8	7.8	16	15	6.4	26	26
14	5.2	5.2	3.8	10	6.8	7.8	6.8	17	13	17	37	22
15	4.9	5.2	4.7	10	6.8	7.8	6.0	19	21	16	33	20
16	4.4	5.2	5.2	8.2	6.8	8.6	6.8	18	16	9.3	23	23
17	4.9	4.9	6.4	5.5	6.8	8.2	8.2	18	40	238	20	22
18	5.2	4.7	5.5	5.2	6.0	7.8	6.0	18	48	87	31	20
19	4.7	4.9	4.7	5.2	4.9	7.3	5.5	17	21	93	34	18
20	4.7	4.9	5.5	7.3	4.4	6.0	6.4	15	13	214	22	29
21	4.7	5.2	5.2	8.2	4.7	5.2	6.0	15	12	82	19	33
22	4.1	5.2	5.5	7.8	4.7	6.0	7.3	16	6.8	76	25	27
23	4.4	5.5	6.4	5.5	6.0	6.8	10	25	5.5	97	28	22
24	4.4	5.2	5.5	4.1	5.5	7.3	9.6	30	4.4	72	41	18
25	4.4	6.4	5.5	4.7	5.5	6.0	10	28	4.1	146	22	16
26	4.7	5.2	7.3	9.1	5.2	5.5	11	25	4.7	45	48	15
27	4.9	4.9	7.8	7.3	4.7	4.9	11	16	3.8	30	48	15
28	4.9	4.0	7.3	5.5	4.7	5.2	11	16	3.3	30	40	15
29	4.7	4.5	5.2	5.2	------	4.9	10	16	2.7	30	23	14
30	4.7	5.0	5.2	5.2	------	4.9	9.6	18	2.7	30	27	13
31	5.2	------	5.5	3.8	------	4.9	------	17	------	50	106	------
TOTAL	147.5	159.9	173.5	202.7	163.2	178.7	215.7	525.4	460.8	1,445.1	1,180	767
MEAN	4.76	5.33	5.60	6.54	5.83	5.76	7.19	16.9	15.4	46.6	38.1	25.6
MAX	6.4	6.4	7.8	10	9.1	8.6	11	30	81	238	106	87
MIN	3.8	4.0	3.8	3.8	3.3	3.0	4.1	8.6	2.7	2.7	19	13
AC-FT	293	317	344	402	324	354	428	1,040	914	2,870	2,340	1,520

CAL YR 1968 TOTAL 7,115.1 MEAN 19.4 MAX 198 MIN 3.3 ACFT 14,110
WAT YR 1969 TOTAL 5,619.5 MEAN 15.4 MAX 238 MIN 2.7 ACFT 11,150

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G.HT.	DISCHARGE
6- 8	1530	6.57	1,660
7-25	1800	5.69	1,070

07204000 Moreno Creek at Eagle Nest, N. Mex.

LOCATION.--Lat 36°33'12:, long 105°16'03", Colfax County, in Maxwell Grant, on left upstream wingwall of a multi-barrel culvert under U.S. Highway 64, 200 ft west of intersection of U.S. Highway 64 and State Highway 38, about 800 ft upstream from high-water line of Eagle Nest Reservoir and 1,000 ft west of Eagle Nest.

DRAINAGE AREA.--73.8 sq mi.

PERIOD OF RECORD.--April 1928 to October 1955, June 1964 to current year. No winter records except 1932. Monthly discharge only for some periods, published in WSP 1311. Records for December 1930 to March 1931 published in WSP 732, are unreliable and should not be used. Published as "near Therma" 1928-34.

GAGE.--Water-stage recorder. Concrete control since Oct. 3, 1952. Datum of gage is 8,195.98 ft above mean sea level. See WSP 1921 for history of changes prior to Oct. 26, 1955.

EXTREMES.--Current year: Maximum discharge, 128 cfs July 13 (gage height, 3.45 ft), from rating curve extended extended above 37 cfs; minimum determined, 0.74 cfs Oct. 13, 14, 15.
Period of record: Maximum discharge, 240 cfs Sept. 1, 1946; maximum gage height recorded, 3.16 ft Aug. 19, 1940, site and datum then in use; no flow at times.

REMARKS.--Records fair except those for March, which are poor. Diversions for irrigation of about 1,200 acres above station.

REVISIONS(WATER YEARS).--WSP 1281: 1931(M), 1932, 1935(M), 1939-41(M), 1946-47(M). WSP 1921: Drainage area. See also PERIOD OF RECORD.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.1				2.5	15	6.1	12	1.2	8.6	8.6
2	.98	1.5				2.5	18	5.7	9.6	1.3	7.0	8.0
3	.90	1.8				2.4	22	6.5	8.6	1.2	8.8	7.2
4	.90	1.7				2.3	20	9.7	8.3	.98	13	6.3
5	1.1	1.5				2.2	18	15	7.2	1.2	18	5.4
6	.98	1.5				2.2	21	42	8.3	.98	13	4.6
7	.90					2.2	19	41	6.3	2.2	11	4.1
8	.90					2.2	10	32	5.7	2.3	10	5.4
9	.90					2.2	9.6	30	5.2	2.5	9.4	6.1
10	.90					2.0	8.6	32	8.8	3.1	7.7	5.7
11	.82					2.0	9.4	33	5.2	2.6	6.8	6.1
12	.82					2.0	8.6	35	4.3	2.3	6.1	6.3
13	.74					2.0	7.7	34	5.2	23	6.7	4.4
14	.74					2.0	7.7	31	7.0	10	10	5.0
15	.90					2.0	6.5	30	5.2	4.6	8.0	4.1
16	1.2					2.2	7.5	28	5.0	4.3	6.1	5.0
17	1.5					2.5	8.8	26	12	20	5.7	4.4
18	1.4					3.0	10	22	7.7	17	5.2	4.3
19	1.3					3.5	12	19	6.1	10	5.4	4.1
20	1.2					4.0	9.4	16	3.7	17	4.6	3.7
21	1.2					5.5	9.9	16	3.1	14	5.4	5.9
22	1.2					6.0	12	16	2.0	10	6.1	6.3
23	1.1					5.0	13	19	1.8	7.5	7.5	5.0
24	1.1					4.5	12	21	1.7	9.0	6.3	4.3
25	1.1					4.0	10	20	2.5	14	6.1	3.7
26	1.1					4.0	9.6	17	2.1	13	5.9	3.6
27	1.2					4.5	7.2	17	1.4	12	6.1	3.2
28	1.2					5.0	6.8	16	1.2	8.8	4.8	3.2
29	1.2				------	6.0	6.1	13	1.1	6.8	4.3	3.1
30	1.2				------	9.0	5.9	11	.98	5.9	5.9	2.9
31	1.1	------			------	12	------	9.1	------	5.7	8.8	------
TOTAL	32.98					113.4	341.3	669.1	159.28	234.46	238.3	150.0
MEAN	1.06					3.66	11.4	21.6	5.31	7.56	7.69	5.00
MAX	1.5					12	22	42	12	23	18	8.6
MIN	.74					2.0	5.9	5.7	.98	.98	4.3	2.9
AC-FT	65					225	677	1,330	316	465	473	298

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G.HT.	DISCHARGE
5- 6	2130	2.79	65
7-13	1900	3.45	128

07204500 Cieneguilla Creek near Eagle Nest, N. Mex.

LOCATION.--Lat 36°29'07", long 105°15'54", Colfax County, in Maxwell Grant, on right bank 0.1 mile down downstream from Schoolhouse Draw, 0.5 mile east of U. S. Highway 64, about 2,000 ft upstream from high-water line of Eagle Nest Reservoir, and 4.7 miles south of Eagle Nest.

DRAINAGE AREA.--56 sq mi.

PERIOD OF RECORD.--April 1928 to September 1955, June 1964 to current year. No winter records except in water years 1932, 1948, 1951. Monthly discharge only for some periods, published in WSP 1311 and 1731. Records for December 1930 to March 1931 published in WSP 732, are unreliable and should not be used. Published as "near Therma" 1928-34.

GAGE.--Water-stage recorder. Concrete control since Sept. 25, 1947. Altitude of gage is 8, 195 ft (from topographic map). Prior to May 8, 1928, nonrecording gage, and May 8, 1928 to Sept. 1 , 1934, water-stage recorder at site 0.2 mile downstream at different datums.

EXTREMES.--Current year: Maximum discharge, 269 cfs July 27 (gage height, 4.95 ft), from rating curve extended above 97 cfs; maximum gage height, 5.02 ft Mar. 25, (backwater from ice); minimum discharge determined, 0.88 cfs June 30.
Period of record: Maximum discharge, 505 cfs June 16, 1965 (gage height, 5.61 ft), from rating curve extended above 97 cfs; no flow at times.

REMARKS.--Records good except those for March, which are poor. Diversions for irrigation of about 1,000 acres above station.

REVISIONS(WATER YEARS).--WSP 957: 1941. WSP 1281: Drainage area. WSP 1311: 1932(M), 1935(M), 1937(M). See also PERIOD OF RECORD.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.8					35	33	12	1.6	49	13
2	1.3	2.6					50	33	11	2.1	17	11
3	1.2	2.8					50	31	12	1.9	13	9.7
4	1.4	2.6					30	32	11	1.7	16	8.6
5	1.4	2.3					24	42	10	1.8	28	7.7
6	1.4	1.7					22	79	8.9	1.8	18	6.4
7	1.4						17	98	8.0	1.8	17	5.7
8	1.4						12	63	7.5	1.7	11	7.3
9	1.4						11	77	8.2	2.7	8.9	8.2
10	1.4						12	95	12	3.3	7.3	7.3
11	1.4						16	92	10	3.2	6.4	8.0
12	1.4						20	71	8.6	2.4	5.5	37
13	1.4						22	58	9.1	2.2	7.2	11
14	1.4						36	57	9.1	3.0	28	7.5
15	1.4						40	53	9.7	3.9	18	6.2
16	1.8						40	50	9.6	3.8	12	5.5
17	2.0						36	48	21	16	9.7	5.3
18	2.1						35	39	14	24	8.6	6.4
19	2.0						38	35	10	17	8.6	6.1
20	1.9						32	33	7.1	44	7.7	5.3
21	1.8						50	31	2.8	27	7.0	7.7
22	1.8						69	29	2.8	23	7.7	8.0
23	1.8						81	31	2.6	18	8.2	6.2
24	1.8					8.0	85	30	2.4	29	8.0	5.3
25	1.8					7.0	67	24	3.1	29	8.6	4.8
26	1.8					7.0	52	22	3.4	22	7.3	4.5
27	1.7					8.0	42	20	2.7	76	11	4.2
28	1.7					9.0	40	18	1.9	39	8.4	4.1
29	1.7				------	10	36	16	1.4	20	7.0	4.2
30	1.7				------	15	36	14	.99	15	10	3.9
31	1.8	------			------	20	------	10	------	15	14	------
TOTAL	49.8						1,136	1,364	232.89	452.9	394.1	236.1
MEAN	1.61						37.9	44.0	7.76	14.6	12.7	7.87
MAX	2.1						85	98	21	76	49	37
MIN	1.2						11	10	.99	1.6	5.5	3.9
AC-FT	99						2,250	2,710	462	898	782	468

PEAK DISCHARGE (BASE, 70 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-23	2100	4.21	117	7-27	1800	4.95	269
5- 9	2230	4.35	134	8- 1	0700	3.99	82
7-24	1900	3.94	76	8- 5	1700	4.32	128

07205000 Sixmile Creek near Eagle Nest, N. Mex.

LOCATION.--Lat 36°31'07", long 105°16'29", Colfax County, in Maxwell Grant, on left upstream wingwall of concrete control, 250 ft downstream from concrete box culvert on U. S. Highway 64, and 2.6 miles southwest of Eagle Nest.

DRAINAGE AREA.--10.5 sq mi.

PERIOD OF RECORD.--April 1928 to September 1955, July 1958 to current year. No winter records 1928-31, 1933-55. Prior to October 1930 monthly discharge only, published in WSP 1311. Records for December 1930 to March 1931, published in WSP 732, are unreliable and should not be used. Published as "near Therma" 1928-34.

GAGE.--Water-stage recorder. Concrete control Sept. 11, 1931 to May 1933, and since Sept. 13, 1934. Datum of gage is 8, 195.16 ft above mean sea level. Prior to May 18, 1928, nonrecording gage at site 88 ft upstream at datum 0.98 ft higher. May 18, 1928 to Sept. 11, 1938, water-stage recorder at site 88 ft upstream at datum 0.43 ft higher.

AVERAGE DISCHARGE.--12 years (1931-32, 1958-69), 2.48 cfs (1,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 128 cfs Aug. 5 (gage-height, 2.86 ft) from rating curve extended above 26 cfs; minimum, 0.24 cfs Nov. 24.
1930-55, 1958-69: Maximum discharge, 128 cfs Aug. 5, 1969 (gage-height, 2.86 ft), from rating curve extended above 26 cfs; maximum gage height recorded, 3.38 ft Apr. 2, 1937 (ice jam), site and datum then in use; no flow at times.

REMARKS.--Records good except those for December to February, which are fair. Diversions for irrigation of about 300 acres above station.

REVISIONS(WATER YEARS).--WSP 1311: 1932-33(M), 1935(M), 1943(M). WSP 1681: 1937(M). WSP 1921: Drainage area. See also PERIOD OF RECORD.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	1.0	1.4	1.2	1.6	2.3	9.6	14	5.4	1.8	5.8	5.4
2	1.8	1.2	1.5	1.2	1.7	2.2	10	14	4.6	1.3	5.1	5.8
3	1.8	1.2	1.4	1.2	1.5	2.0	10	12	4.3	2.6	4.4	4.9
4	1.9	1.2	1.8	1.2	1.4	2.0	9.5	13	4.0	2.6	4.4	5.6
5	1.9	1.2	1.8	1.2	1.4	1.8	9.5	13	3.9	2.6	21	6.1
6	1.8	1.2	1.8	1.3	1.4	1.8	9.2	21	3.9	2.5	7.8	4.9
7	1.4	1.1	1.8	1.4	1.5	1.8	9.5	17	3.3	3.0	6.1	4.6
8	1.4	1.2	1.7	1.6	1.4	1.7	8.5	13	3.2	2.5	8.7	5.2
9	1.4	1.1	1.7	1.5	1.4	1.8	8.0	13	3.2	2.5	7.6	4.9
10	1.4	1.1	1.7	1.4	1.3	1.6	8.3	15	4.4	2.6	6.7	4.4
11	1.4	.95	1.7	1.4	1.3	1.6	9.5	16	3.1	2.4	5.8	4.3
12	1.4	1.3	1.4	1.4	1.4	1.6	9.2	17	3.0	2.3	5.2	4.0
13	1.4	1.3	1.3	1.4	1.5	1.5	9.2	16	3.7	3.4	6.1	4.0
14	1.2	1.5	1.6	1.6	1.5	1.5	9.2	15	4.3	2.8	6.1	4.1
15	1.2	1.4	1.7	1.8	1.6	1.6	9.5	14	4.0	2.2	5.4	4.0
16	1.2	1.5	1.6	1.4	1.7	1.8	9.8	13	4.0	2.2	4.9	3.9
17	1.1	1.3	1.6	1.4	1.8	2.0	9.8	12	6.7	4.9	5.1	4.0
18	.97	.96	1.6	1.2	1.8	2.3	11	11	4.4	5.2	4.6	3.4
19	1.0	1.4	1.5	1.4	1.9	2.6	10	11	3.7	4.7	4.4	3.2
20	1.0	1.3	1.6	1.4	2.0	3.0	9.0	11	3.2	6.3	4.0	3.2
21	1.0	1.3	1.4	1.6	2.0	4.4	9.2	9.8	2.8	5.6	4.0	3.4
22	1.0	1.2	1.3	1.6	1.9	4.7	11	9.8	2.5	4.7	4.3	3.4
23	1.0	1.2	1.3	1.2	2.0	4.1	12	10	2.4	4.6	4.1	3.2
24	.97	1.2	1.4	1.6	2.0	2.8	17	9.2	2.2	5.4	5.5	3.1
25	1.0	1.4	1.4	1.8	2.1	2.5	19	8.3	2.8	5.2	5.2	3.0
26	1.0	1.1	1.3	3.3	2.2	2.3	17	6.7	2.6	5.6	5.1	3.0
27	1.1	1.1	1.1	2.4	2.2	2.4	14	6.0	2.4	10	4.9	3.0
28	1.0	1.3	1.1	2.1	2.2	3.6	12	5.6	1.9	6.1	4.6	3.0
29	1.0	1.1	1.2	2.2	------	4.8	11	5.1	1.9	6.0	4.3	2.9
30	.97	1.3	1.2	1.9	------	5.9	13	4.7	1.8	5.1	4.9	2.8
31	.97	------	1.2	1.8	------	6.9	------	4.4	------	5.1	5.6	------
TOTAL	39.58	36.61	46.1	49.1	47.7	82.9	323.5	360.6	103.6	123.8	181.7	120.7
MEAN	1.28	1.22	1.49	1.58	1.70	2.67	10.8	11.6	3.45	3.99	5.86	4.02
MAX	1.9	1.5	1.8	3.3	2.2	6.9	19	21	6.7	10	21	6.1
MIN	.97	.95	1.1	1.2	1.3	1.5	8.0	4.4	1.8	1.3	4.0	2.8
AC-FT	79	73	91	97	95	164	642	715	205	246	360	239

CAL YR 1968 TOTAL 994.72 MEAN 2.72 MAX 19 MIN .30 ACFT 1,970
WAT YR 1969 TOTAL 1,515.89 MEAN 4.15 MAX 21 MIN .95 ACFT 3,010

PEAK DISCHARGE (BASE, 15 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-24	2030	1.45	21	7-27	1500	2.20	65
5- 6	1600	1.61	29	8- 5	1600	2.86	128

07205500 Eagle Nest Reservoir near Eagle Nest, N. Mex.

LOCATION.--Lat 36°31'53", long 105°13'44", Colfax County, in Maxwell Grant, at upstream face of Eagle Nest Dam on Cimarron River, 2.5 miles southeast of Eagle Nest, and 6.7 miles west of Ute Park.

DRAINAGE AREA.--167 sq mi.

PERIOD OF RECORD.--December 1927 to December 1944 (monthend contents only, published in WSP 1311), May 1950 to September 1965 (monthend contents only), October 1965 to current year.

GAGE.--Nonrecording gage read one to six times a month at random intervals. Datum of gage is 8,056.8 ft above mean sea level. Prior to October 1964 gage heights were raised by addition of 8,000 ft and called elevations.

EXTREMES.--Current year: Maximum contents observed, 25,860 acre-ft Sept. 30 (gage height, 107.60 ft); minimum observed, 14,580 acre-ft Nov. 5, 19 (gage height, 96.10 ft).
Period of record: Maximum contents observed, 78,800 acre-ft May 31, 1942 (gage height, 136.9 ft); minimum observed, 635 acre-ft Dec. 14, 1954 (gage height, 61.33 ft).

REMARKS.--Reservoir is formed by concrete dam with spillway cut in natural rock, completed June 30, 1918; storage began in June 1917. Capacity, 79,120 acre-ft between gage heights 35.0 (sill of outlet gate) and 137.0 ft (crest of ungated spillway). Dead storage negligible. Records given herein represent usable contents. Water released is used for irrigation. Lake is recreational area. Diversions for irrigation of about 2,500 acres above reservoir.

COOPERATION.--Supplemental gage readings furnished by employee of Springer Land and Cattle Co. and by Cimarron River watermaster.

REVISIONS.--WSP 1281: Drainage area.

Capacity table (gage-height, in feet, and contents, in acre-feet)

96.0	14,500	104.0	21,770
98.0	16,110	106.0	23,970
100.0	17,850	108.0	26,350
102.0	19,740		

CONTENTS IN ACRE-FEET, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15,540	--	--	--	--	--	16,800	--	--	24,320	--	--
2	15,460	--	--	--	--	--	--	--	--	24,210	--	25,500
3	--	--	--	--	--	--	--	--	24,620	--	--	25,360
4	--	--	--	--	--	15,290	17,450	--	--	--	--	--
5	--	14,580	14,650	--	15,280	--	--	--	--	--	24,560	--
6	--	14,630	--	--	--	15,290	--	21,200	--	--	--	--
7	--	--	--	14,870	--	--	--	--	--	--	--	--
8	16,070	--	--	--	--	--	17,900	--	--	23,750	--	--
9	--	--	--	--	--	--	--	--	--	--	--	25,500
10	--	--	--	--	--	--	--	--	24,500	--	--	--
11	--	--	--	--	--	15,290	--	--	--	--	--	--
12	--	14,620	--	--	--	--	--	--	--	--	24,910	--
13	--	--	--	--	--	--	--	23,080	--	--	--	--
14	--	--	--	--	--	--	--	--	--	--	--	--
15	15,090	--	--	--	--	--	18,500	--	--	23,130	--	--
16	--	--	--	--	--	--	--	--	--	--	--	25,640
17	--	--	--	--	--	--	--	--	24,730	--	--	--
18	--	--	--	--	--	15,870	--	--	--	--	--	--
19	--	14,580	--	--	--	--	--	--	--	--	25,080	--
20	--	--	--	--	--	--	--	24,150	--	--	--	--
21	--	--	--	--	--	--	--	--	--	--	--	--
22	14,980	--	--	--	--	--	18,270	--	--	--	--	--
23	--	--	--	--	--	--	--	--	--	--	--	25,740
24	--	--	--	--	--	--	--	--	24,910	--	--	--
25	--	--	--	--	--	16,030	--	--	--	--	--	--
26	--	--	--	--	--	--	--	--	--	--	25,440	--
27	--	--	--	--	--	--	--	24,560	--	--	--	--
28	--	--	--	--	15,300	--	--	--	--	--	--	--
29	14,620	--	--	--	-------	--	20,340	--	--	24,440	--	--
30	--	14,600	--	--	-------	--	20,500	--	24,400	--	--	25,860
31	14,600	-------	14,800	15,100	-------	16,700	-------	24,600	-------	24,500	25,500	-------
(†)	--	--	--	--	--	--	--	--	--	--	--	107.60
(‡)	-1,000	0	+200	+300	+200	+1,400	+3,800	+4,100	-200	+100	+1,000	+360

CAL YR 1968..... ‡ -100
WTR YR 1969..... ‡ +10,260

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-ft.
NOTE.--Monthend contents interpolated except Sept. 30.

07206000 Cimarron River below Eagle Nest Dam, N. Mex.

LOCATION.--Lat 36°31'55", long 105°13'43", Colfax County, in Maxwell Grant, on left bank 300 ft downstream from Eagle Nest Dam, 2.5 miles southeast of Eagle Nest, and 6.7 miles west of Ute Park.

DRAINAGE AREA.--167 sq mi.

PERIOD OF RECORD.--May 1950 to current year. Published as Cimarron Creek below Eagle Nest Dam October 1952 to September 1966.

GAGE.--Water-stage recorder. Parshall flume since May 15, 1951. Altitude of gage is 8,080 ft (from topograsphic map). Prior to May 15, 1951, at datum 0.81 ft higher.

AVERAGE DISCHARGE.--19 years, 13.2 cfs (9,560 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 63 cfs July 8-10 (gage height, 1.41 ft); no flow at times. Period of record: Maximum discharge, 205 cfs June 14, 1955 (gage height, 2.79 ft); no flow at time most years.

REMARKS.--Records good except those for winter period and those below 2 cfs, which are poor. Flow regulated by Eagle Nest Reservoir (see sta 07205500). Diversions for irrigation of about 2,500 acres above station.

REVISIONS.--WSP 1281: Drainage area.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	30	.10	.03	.03	.03	12	.84	22	43	16	18
2	18	24	.10	.03	.03	.03	12	.66	23	43	20	18
3	18	7.3	.10	.03	.03	.03	12	.66	26	40	24	17
4	18	5.4	.08	.03	.03	.03	12	12	26	44	26	17
5	18	.10	.05	.03	.03	.03	12	17	26	47	26	17
6	19	.10	.05	.03	.03	.03	12	6.6	26	60	26	17
7	19	.10	.05	.03	.03	.03	12	.17	26	60	23	17
8	18	.05	.05	.03	.03	.03	4.3	.17	26	62	9.2	8.3
9	18	6.3	.04	.03	.03	.03	.37	.10	23	63	9.2	.05
10	18	8.8	.04	.03	.03	.03	.50	.05	13	61	9.2	.05
11	13	8.8	.04	.03	.03	.03	.50	.05	13	58	9.2	.05
12	12	8.8	.03	.03	.03	.03	.17	.05	13	58	9.2	.05
13	12	8.8	.03	.03	.03	.03	.05	.10	5.1	55	9.2	.05
14	12	8.8	.03	.03	.03	.03	.10	.10	.66	51	9.2	0
15	16	8.8	.03	.03	.03	.03	1.3	.10	1.3	51	9.2	0
16	17	8.8	.03	.03	.03	.03	4.1	.10	1.3	51	8.8	.05
17	17	8.8	.03	.03	.03	.03	4.1	.10	.37	42	8.8	.05
18	17	9.2	.03	.03	.03	.03	3.8	2.6	.10	28	8.8	.05
19	17	6.9	.03	.03	.03	.03	2.9	13	.10	28	9.2	.05
20	17	.10	.03	.03	.03	.03	.10	14	.10	28	8.8	.05
21	16	.10	.03	.03	.03	.03	.05	14	.05	23	8.8	.05
22	14	.10	.03	.03	.03	.03	.10	14	2.1	9.2	9.2	.05
23	14	.05	.03	.03	.03	.03	.05	14	3.2	8.8	9.2	.05
24	14	.05	.03	.03	.03	.03	.10	13	13	8.8	9.2	.05
25	14	.05	.03	.03	.03	.03	.10	16	19	7.7	9.2	.05
26	14	.05	.03	.03	.03	.03	.05	22	25	.17	9.6	.05
27	14	0	.03	.03	.03	.03	.05	22	28	3.1	12	.05
28	17	.10	.03	.03	.03	.03	.05	22	29	7.0	12	.05
29	24	.10	.03	.03	------	5.4	.05	22	38	7.0	12	.05
30	24	.10	.03	.03	------	12	.17	22	39	7.0	12	.05
31	26	------	.03	.03	------	12	------	22	------	7.0	16	------
TOTAL	524	160.65	1.30	.93	.84	30.24	107.06	271.45	468.38	1,061.77	398.2	130.30
MEAN	16.9	5.36	.042	.030	.030	.98	3.57	8.76	15.6	34.3	12.8	4.34
MAX	26	30	.10	.03	.03	12	12	22	39	63	26	18
MIN	12	0	.03	.03	.03	.03	.05	.05	.05	.17	8.8	0
AC-FT	1,040	319	2.6	1.8	1.7	60	212	538	929	2,110	790	258

CAL YR 1968 TOTAL 4,724.21 MEAN 12.9 MAX 124 MIN 0 ACFT 9,370
WAT YR 1969 TOTAL 3,155.12 MEAN 8.64 MAX 63 MIN 0 ACFT 6,260

NOTE.--No gage-height record Dec. 6 to March 28.

07207000 Cimarron River near Cimarron, N. Mex.

LOCATION.--Lat 36°31'11", long 104°58'42", Colfax County, in Maxwell Grant, on right bank, 1,200 ft downstream from Turkey Creek Canyon, and 3.6 miles west of Cimarron.

DRAINAGE AREA.--294 sq mi.

PERIOD OF RECORD.--May 1950 to current year. Published as Cimarron Creek near Cimarron October 1952 to September 1966.

GAGE.--Water-stage recorder. Concrete control since Nov. 6, 1963. Datum of gage is 6,599.58 ft above mean sea level.

AVERAGE DISCHARGE.--19 years, 20.4 cfs (14,780 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 270 cfs Aug. 3 (gage height, 2.87 ft); minimum, 0.06 cfs Feb. 1, result of freezeup.
Period of record: Maximum discharge, 15,500 cfs June 17, 1965 (gage height, 12.42 ft, from floodmark), from rating curve extended above 800 cfs on basis of slope-area measurements at gage heights 4.88 and 12.42 ft; no flow Sept. 14 to Oct. 10, 1956, Feb. 18, 1960, Feb. 16, 1966, Feb. 8, 9, 1967.

REMARKS.--Records good except those for winter period, which are poor. Flow regulated by Eagle Nest Reservoir (see sta 07205500). Diversions above station for irrigation of about 3,500 acres, part of which is below station. Philmont ditch (formerly known as Cimarroncito ditch) diverts from left bank 1.5 miles above station, flumes under creek 0.9 mile above and bypasses station for off-channel storage and irrigation below; see tabulation below for monthly diversion.

REVISIONS.--WSP 1281: Drainage area.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	27	3.0	2.5	2.5	3.5	15	21	58	40	43	34
2	27	33	3.0	2.7	2.5	3.4	18	21	55	39	49	36
3	25	20	3.0	3.0	2.5	3.5	20	20	54	37	65	34
4	25	14	3.0	3.0	2.5	3.4	21	22	52	41	68	34
5	25	11	3.0	3.0	2.5	3.5	21	36	50	41	59	33
6	25	6.9	3.0	3.0	3.0	3.5	22	53	49	49	65	31
7	24	6.2	3.0	3.2	3.5	3.5	23	53	49	57	64	31
8	23	5.8	3.0	3.0	3.0	3.5	22	46	50	60	49	40
9	24	5.4	3.0	3.0	2.5	3.5	17	51	50	60	42	26
10	23	8.6	3.0	3.0	3.0	3.5	14	59	43	58	38	23
11	23	10	3.0	3.0	3.5	3.5	15	59	35	56	35	17
12	18	11	2.8	3.0	3.5	3.5	15	60	34	54	33	16
13	17	11	2.5	3.4	3.8	3.0	14	60	34	58	42	15
14	15	11	2.5	3.2	3.7	3.5	15	60	25	53	41	14
15	15	12	2.8	2.8	3.6	3.5	16	57	24	50	36	13
16	21	11	3.0	2.8	3.8	4.0	19	57	22	50	33	13
17	21	11	2.8	2.8	3.7	4.5	19	54	25	60	31	13
18	20	10	2.5	2.0	3.8	5.2	19	50	21	51	29	13
19	20	9.0	2.5	2.4	4.0	5.0	20	56	19	52	28	12
20	19	7.0	2.5	3.4	3.5	4.7	18	59	16	114	26	12
21	19	5.4	2.5	3.0	3.5	4.6	19	60	15	122	27	12
22	18	4.9	2.5	2.6	3.5	4.6	22	64	13	87	32	11
23	17	4.7	2.5	2.2	3.5	4.6	26	65	13	72	30	11
24	17	4.5	2.5	2.0	3.5	4.6	27	62	12	77	41	10
25	17	4.3	2.7	2.5	3.6	4.4	29	60	20	74	31	9.1
26	17	4.3	2.5	3.4	3.5	4.0	29	64	24	69	29	8.7
27	17	4.0	2.3	3.6	3.6	4.7	26	60	31	58	28	8.4
28	17	3.8	2.5	3.5	3.5	4.8	24	59	31	54	29	8.2
29	22	3.0	2.5	3.5	------	4.7	21	59	35	47	27	7.8
30	26	3.0	2.5	3.0	------	8.2	21	58	33	41	27	7.4
31	27	------	2.5	3.0	------	14	------	58	------	40	31	------
TOTAL	655	282.8	84.4	90.5	92.6	138.4	607	1,623	992	1,821	1,208	553.6
MEAN	21.1	9.43	2.72	2.92	3.31	4.46	20.2	52.4	33.1	58.7	39.0	18.5
MAX	31	33	3.0	3.6	4.0	14	29	65	58	122	68	40
MIN	15	3.0	2.3	2.0	2.5	3.0	14	20	12	37	26	7.4
AC-FT	1,300	561	167	180	184	275	1,200	3,220	1,970	3,610	2,400	1,100
(†)	0	0	0	0	0	0	0	0	24	366	0	0

CAL YR 1968 TOTAL 6,980.9 MEAN 19.1 MAX 118 MIN 1.2 ACFT 13,850 † 358
WAT YR 1969 TOTAL 8,148.3 MEAN 22.3 MAX 122 MIN 2.0 ACFT 16,160 † 390

† Diversion, in acre-ft, of Philmont ditch which bypasses station; data furnished by Cimarron River Watermaster.

07207500 Ponil Creek near Cimarron, N. Mex.

LOCATION.--Lat 36°34'25", long 104°56'46", Colfax County, in Maxwell Grant, on left bank 1.6 miles downstream from confluence of North and South Ponil Creeks and 4.7 miles northwest of Cimarron.

DRAINAGE AREA.--171 sq mi.

PERIOD OF RECORD.--November 1915 to June 1919, August 1919 to July 1925, September 1925, September 1927 to July 1929, May 1950 to current year. Prior to May 1950 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Altitude of gage is 6,630 ft above mean sea level (from topographic map). Prior to May 8, 1922, at site 0.1 mile downstream at different datum. May 8, 1922 to Aug. 8, 1929, at site 0.4 mile upstream at different datum.

AVERAGE DISCHARGE.--30 years (1915-25, 1927-28, 1950-69), 12.1 cfs (8,770 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 95 cfs Sept. 1 (gage height, 2.20 ft); minimum, 0.17 cfs Jan. 16, result of freezeup.
Period of record: Maximum discharge, 5,630 cfs June 17, 1965 (gage height, 11.13 ft), from rating curve extended above 59 cfs on basis of slope-area measurements at gage heights 4.55, 5.80, 7.15, and 11.13 ft; no flow many days most years.
Discharge for flood of Aug. 8, 1929, which destroyed gage, was estimated as 5,200 cfs by State Engineer.

REMARKS.--Records good except those forwinter period, which are poor. Diversions for irrigation of 200 to 300 acres above station. Diversions 1,000 ft below station for irrigation of about 300 acres.

REVISIONS.--WSP 1281: Drainage area. WSP 1731: 1920.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.1	1.2	1.0	.90	1.2	5.8	17	20	4.0	19	23
2	1.6	2.3	1.2	1.0	.80	1.5	7.3	17	19	3.8	16	21
3	1.5	2.3	1.2	1.0	.70	1.3	8.9	17	17	3.2	21	11
4	1.8	2.1	1.2	1.0	1.2	1.3	9.8	20	16	2.6	23	10
5	1.8	2.1	1.2	1.0	1.2	1.3	9.8	22	14	3.2	22	7.0
6	1.8	2.3	1.2	1.2	1.2	1.3	11	34	12	4.6	25	5.8
7	1.8	2.6	1.2	1.2	1.2	1.3	11	38	11	3.5	19	5.2
8	1.6	2.2	1.2	1.2	1.0	1.2	10	34	12	3.8	18	12
9	1.6	2.3	1.2	1.2	1.0	1.4	11	51	12	3.8	14	13
10	1.8	2.3	1.2	1.2	1.0	1.4	10	76	15	4.0	11	14
11	1.6	1.8	1.2	1.2	1.0	1.4	12	88	11	3.0	8.9	9.8
12	1.6	1.8	1.0	1.2	1.0	1.4	12	91	10	2.0	7.7	9.8
13	1.6	2.0	1.0	1.2	1.0	1.4	11	89	11	7.5	12	8.9
14	1.5	2.1	1.0	1.2	1.0	1.4	11	84	11	7.0	21	8.5
15	1.5	2.1	1.2	1.1	1.2	1.5	11	77	13	4.3	15	7.3
16	1.8	2.0	1.2	.69	1.2	1.6	13	73	12	4.2	11	8.1
17	2.6	1.8	1.2	.69	1.2	1.8	11	67	19	12	8.9	7.3
18	2.3	1.8	1.2	.63	1.3	2.0	11	58	16	14	8.1	7.7
19	2.3	2.0	1.2	.86	1.5	2.3	15	53	14	8.9	11	7.0
20	2.3	2.1	1.2	1.2	1.5	2.1	13	50	11	47	8.1	7.3
21	2.3	2.1	1.2	1.2	1.3	2.1	22	48	8.5	42	7.0	8.9
22	2.1	2.0	1.0	1.2	1.3	2.3	29	47	6.7	35	7.7	12
23	2.1	2.1	1.0	.96	1.3	2.8	29	47	6.7	29	11	8.9
24	2.1	1.5	1.0	.77	1.2	2.8	30	43	6.1	22	9.4	7.3
25	2.1	1.4	1.0	1.3	1.2	3.0	29	38	6.4	25	9.8	6.4
26	2.1	1.3	1.0	1.6	1.1	2.5	26	33	6.4	24	12	5.5
27	2.0	1.2	1.0	1.5	1.1	2.5	22	31	5.8	17	8.9	4.6
28	2.0	1.0	1.0	1.3	1.1	2.6	21	29	4.3	14	7.3	4.6
29	2.0	1.0	1.0	1.2	------	2.6	19	25	4.0	19	5.5	4.6
30	1.8	1.0	1.0	.77	------	3.2	18	23	3.5	14	5.8	4.0
31	1.8	------	1.0	.96	------	4.3	------	20	------	12	11	------
TOTAL	58.6	56.7	34.6	33.73	31.70	60.8	459.6	1,440	334.4	399.4	395.1	270.5
MEAN	1.89	1.89	1.12	1.09	1.13	1.96	15.3	46.5	11.1	12.9	12.7	9.02
MAX	2.6	2.6	1.2	1.6	1.5	4.3	30	91	20	47	25	23
MIN	1.5	1.0	1.0	.63	.70	1.2	5.8	17	3.5	2.0	5.5	4.0
AC-FT	116	112	69	67	63	121	912	2,860	663	792	784	537

CAL YR 1968 TOTAL 3,751.20 MEAN 10.2 MAX 71 MIN .70 ACFT 7,440
WAT YR 1969 TOTAL 3,575.13 MEAN 9.79 MAX 91 MIN .63 ACFT 7,090

PEAK DISCHARGE (BASE, 200 CFS).--No peak above base.

07208500 Rayado Creek at Sauble Ranch, near Cimarron, N. Mex.

LOCATION.--Lat 36°22'20", long 104°58'10", Colfax County, in Maxwell Grant, on right bank at Sauble Ranch (Carson-Maxwell Base Camp of Philmont Scout Ranch), 2.5 miles upstream from State Highway 21, 4.0 miles downstream from Bonito Creek, and 9.8 miles southwest of Cimarron.

DRAINAGE AREA.--65 sq mi.

PERIOD OF RECORD.--January 1909 to February 1910, June to August 1910, May 1911 to May 1913, July 1913 to February 1915, October 1915 to September 1918, March 1919 to September 1920, June 1923 to September 1924, March to May 1927, August 1927 to current year. Monthly discharge only for some periods, published in WSP 1311. Records for April and May 1910, published in WSP 287, are unreliable and should not be used. Published as Rayado River "at," "near," or "above" Abreu's Ranch near Cimarron prior to October 1925 and as Rayado River at Sauble Ranch, near Cimarron, October 1925 to September 1952.

GAGE.--Water-stage recorder. Altitude of gage is 6,720 ft (from topographic map). See WSP 1921 for history of changes prior to Oct. 1, 1954. Oct. 1, 1954 to June 16, 1965, at site 270 ft downstream at datum 2.79 ft lower.

AVERAGE DISCHARGE.--50 years (1911-12, 1913-14, 1915-20, 1923-24, 1927-69), 14.5 cfs (10,510 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 411 cfs July 20 (gage height, 3.80 ft) from rating curve extended as explained below; minimum, 0.98 cfs Jan. 18, result of freezeup.
1909-12, 1913-69: Maximum discharge, 9,000 cfs June 17, 1965 (gage height, 11.5 ft), from rating curve extended above 70 cfs on basis of slope-area measurement of peak flow; minimum, 0.03 cfs Dec. 3, 1950, but may have been less during period of ice effect.
The major flood of June 10, 1913, destroyed the gage (stage and discharge not determined). Another major flood probably occurred Sept. 29 or 30, 1904.

REMARKS.--Records good except those for winter period, which are fair. No diversion above station.

REVISIONS(WATER YEARS).--WSP 1281: 1914, 1934-35(M), 1937(M), 1941(P), 1942(M), 1944(M), drainage area. See also PERIOD OF RECORD.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	3.9	2.5	3.0	3.0	3.5	16	41	39	10	55	32
2	3.7	5.0	2.5	2.8	3.0	3.7	27	42	34	9.7	48	22
3	3.7	4.7	2.5	2.6	2.8	3.5	29	40	32	9.7	46	19
4	3.9	4.7	3.0	2.5	2.8	3.7	26	42	30	8.9	48	18
5	3.9	5.0	3.2	2.6	3.0	3.2	27	49	28	9.7	44	16
6	3.9	4.7	3.0	2.8	3.0	3.5	36	59	26	9.7	44	15
7	3.9	4.2	2.8	3.0	3.2	3.7	32	62	23	8.5	42	14
8	3.9	4.4	3.5	2.8	3.0	3.5	25	65	23	8.9	38	18
9	3.9	3.7	3.2	2.8	3.0	3.5	27	116	23	12	36	16
10	4.2	4.2	3.2	2.9	3.2	3.5	28	139	29	11	33	15
11	3.7	2.8	3.2	3.0	3.3	3.5	33	140	23	11	30	14
12	3.7	4.2	3.2	3.0	3.4	3.5	30	134	22	9.7	28	14
13	3.7	4.2	3.0	3.0	3.5	3.5	36	121	27	15	43	14
14	3.7	4.4	3.0	3.0	3.2	3.5	41	112	23	16	46	12
15	3.7	4.2	3.2	3.2	3.0	3.5	38	101	23	13	30	11
16	4.7	3.0	3.0	3.0	3.2	4.0	36	96	21	15	25	12
17	5.0	3.2	3.2	3.0	3.2	4.4	30	88	28	38	21	12
18	4.2	3.0	3.0	2.3	3.0	5.0	29	79	23	56	20	12
19	4.4	4.2	3.0	2.8	3.2	5.6	33	75	19	83	19	11
20	4.4	3.5	3.0	3.5	3.0	5.6	38	74	16	268	17	11
21	4.4	3.9	3.0	3.0	3.0	6.2	64	72	15	161	16	15
22	4.4	3.9	3.0	3.5	3.0	7.2	65	74	13	144	20	12
23	4.2	4.2	3.0	3.2	3.0	7.2	58	75	13	128	19	11
24	4.2	2.6	3.0	3.0	3.2	5.9	67	67	12	113	17	9.3
25	3.9	4.0	3.2	3.5	3.2	5.2	59	62	13	103	16	8.9
26	3.9	3.7	2.8	3.7	3.2	5.5	50	55	13	93	14	8.5
27	3.9	2.6	2.8	3.7	3.2	5.9	45	52	11	85	15	8.0
28	3.9	2.5	2.8	3.2	3.2	6.5	42	46	10	71	13	8.0
29	3.9	2.4	2.8	3.2	------	7.6	41	44	9.7	63	12	8.5
30	3.9	2.4	2.8	3.0	------	11	41	39	9.3	56	15	7.6
31	3.9	------	3.0	3.0	------	13	------	36	------	55	30	------
TOTAL	124.6	113.4	92.4	93.6	87.0	158.6	1,149	2,297	631.0	1,694.8	900	404.8
MEAN	4.02	3.78	2.98	3.02	3.11	5.12	38.3	74.1	21.0	54.7	29.0	13.5
MAX	5.0	5.0	3.5	3.7	3.5	13	67	140	39	268	55	32
MIN	3.7	2.4	2.5	2.3	2.8	3.2	16	36	9.3	8.5	12	7.6
AC-FT	247	225	183	186	173	315	2,280	4,560	1,250	3,360	1,790	803

CAL YR 1968 TOTAL 4,311.2 MEAN 11.8 MAX 59 MIN 2.4 ACFT 8,550
WAT YR 1969 TOTAL 7,746.2 MEAN 21.2 MAX 268 MIN 2.3 ACFT 15,360

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-21	2230	2.30	100	7-20	0300	3.80	411
5- 9	2200	3.08	250				

07211000 Cimarron River at Springer, N. Mex.

LOCATION.--Lat 36°21'37", long 104°35'53", Colfax County, Maxwell Grant, on left bank at Springer, 400 ft downstream from bridge on State Highway 199, 0.3 mile upstream from Salado Creek, and 8.2 miles upstream from mouth.

DRAINAGE AREA.--1,032 sq mi.

PERIOD OF RECORD.--August 1907 to December 1909, January 1921 to February 1922, October 1924 to January 1926, September 1926 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as Cimarron Creek at Springer October 1952 to September 1966.

GAGE.--Water-stage recorder. Concrete control since Nov. 5, 1954. Altitude of gage is 5,770 ft (from topographic map). See WSP 1311 of 1731 for history of changes prior to July 17, 1942.

AVERAGE DISCHARGE.--45 years (1920-21, 1924-25, 1926-69), 18.2 cfs (13,190 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 364 cfs July 16 (gage height, 4.75 ft); minimum, 0.56 cfs, July 3.
1930-69: Maximum discharge, 29,500 cfs June 18, 1965 (gage height, 19.96 ft, from floodmarks), from rating curve extended above 1,800 cfs on basis of contracted-opening measurement of peak flow; no flow at times in 1954, 1956-57.
Maximim stage known, about 22 ft Sept. 29, 1904 (backwater from debris on railroad bridge). Another major flood occurred June 11, 1913. Maximum discharges of these floods probably exceeded 10,000 cfs, but probably were less than 1965 flood.

REMARKS.--Records good except those for winter period, which are poor. Flow partly regulated by Eagle Nest Reservoir (see sta 07205500). Diversions for irrigation of about 23,000 acres above station and a few hundred acres between station and mouth.

REVISIONS(WATER YEARS).--WSP 827: 1934-36(M). WSP 1281: 1942, 1945-46(M).

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	3.0	5.0	4.0	3.5	2.5	3.0	3.7	4.5	1.1	30	8.5
2	1.5	3.7	5.0	4.0	3.5	2.8	2.8	3.7	4.9	.99	25	9.7
3	1.2	3.4	5.0	4.0	3.5	2.5	3.4	4.1	6.8	.99	25	6.8
4	1.5	3.4	5.0	4.0	3.5	2.8	3.0	4.1	5.3	.80	27	6.3
5	1.7	3.0	4.5	4.5	3.5	2.8	2.8	7.5	2.8	1.2	16	4.9
6	1.7	3.4	4.5	4.5	4.0	2.8	2.8	20	3.4	1.5	11	4.5
7	1.7	4.1	4.0	4.5	4.1	2.8	2.8	62	4.5	1.2	8.5	3.7
8	1.7	4.9	4.0	4.5	3.7	3.0	2.5	62	15	3.5	7.3	4.5
9	1.5	4.5	4.5	4.0	3.7	3.0	2.8	72	7.9	4.1	4.9	4.9
10	1.7	4.1	4.5	4.0	4.1	3.0	2.8	91	14	2.8	4.5	6.8
11	1.8	4.1	4.0	4.0	3.4	3.0	3.4	103	13	2.8	3.4	43
12	1.8	3.7	4.0	4.5	3.4	3.0	4.9	97	10	3.4	3.0	20
13	1.8	4.1	3.5	5.0	4.0	3.0	8.5	43	15	5.3	4.2	13
14	1.7	4.5	4.0	4.9	4.5	3.0	5.8	74	16	4.1	20	10
15	2.0	4.1	4.0	4.1	5.3	4.0	6.3	88	10	4.1	9.1	9.7
16	2.5	4.5	3.5	3.7	5.3	5.0	9.1	80	7.3	42	4.5	8.5
17	3.0	6.8	3.5	3.7	4.9	5.8	16	40	8.2	73	3.0	17
18	3.0	7.3	3.0	3.7	4.5	6.3	20	28	7.3	28	2.8	18
19	3.0	6.3	3.0	4.0	4.5	4.9	16	40	7.9	49	2.5	17
20	3.4	6.3	3.0	4.0	4.5	4.1	10	50	5.3	120	2.5	13
21	3.4	6.3	3.0	3.7	4.1	3.0	8.5	46	3.7	324	2.5	13
22	3.4	4.9	3.5	3.7	4.1	3.0	29	41	3.0	312	8.3	14
23	3.4	4.5	4.0	3.5	4.1	3.0	41	13	2.5	250	16	8.5
24	3.7	4.5	4.5	3.5	4.1	2.8	27	15	2.5	194	5.3	6.8
25	3.4	4.5	4.5	3.5	3.0	3.0	28	12	2.0	158	4.1	6.3
26	3.0	4.5	4.0	3.7	2.5	3.0	26	35	1.7	143	3.7	6.3
27	2.8	4.5	4.0	3.4	2.3	3.0	6.8	43	1.5	122	3.7	5.8
28	2.8	4.9	4.0	3.4	2.5	2.8	4.5	40	1.4	90	3.4	6.3
29	2.8	4.5	4.0	3.5	------	2.8	3.7	19	1.3	70	4.6	6.3
30	2.8	4.5	3.5	3.5	------	2.8	3.7	6.8	1.2	60	4.9	6.3
31	2.8	------	3.5	3.5	------	3.0	------	4.9	------	45	8.5	------
TOTAL	74.3	136.8	124.0	122.5	108.1	102.3	306.9	1,248.8	189.9	2,117.88	279.2	309.4
MEAN	2.40	4.56	4.00	3.95	3.86	3.30	10.2	40.3	6.33	68.3	9.01	10.3
MAX	3.7	7.3	5.0	5.0	5.3	6.3	41	103	16	324	30	43
MIN	1.2	3.0	3.0	3.4	2.3	2.5	2.5	3.7	1.2	.80	2.5	3.7
AC-FT	147	271	246	243	214	203	609	2,480	377	4,200	554	614

CAL YR 1968 TOTAL 2,092.69 MEAN 5.72 MAX 51 MIN .99 ACFT 4,150
WAT YR 1969 TOTAL 5,120.08 MEAN 14.0 MAX 324 MIN .80 ACFT 10,160

PEAK DISCHARGE (BASE, 500 CFS).--No peak above base.

07211500 Canadian River near Taylor Springs, N. Mex.

LOCATION.--Lat 36°17'49", long 104°29'36", in NW¼SE¼ sec.21, T.24 N., R.23 E., Colfax County, on left bank at head of gorge, 2.0 miles south of Taylor Springs, 2.2 miles downstream from Cimarron River, and 2.4 miles upstream from Chico Creek, and 7.1 miles southeast of Springer.

DRAINAGE AREA.--2,850 sq mi.

PERIOD OF RECORD.--January 1940 to September 1958, annual maximum, water years 1959-64, June 1964 to current year. Water-year estimate for 1940, published in WSP 1311.

GAGE.--Water-stage recorder. Altitude of gage is 5,635 ft (from topographic map). Prior to June 10, 1964, water-stage recorder at site 1.7 miles downstream at different datum; operated as crest-stage gage at that site and datum during water years 1959-64.

AVERAGE DISCHARGE.--24 years (1939-58, 1964-69), 104 cfs (75,350 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 8,320 cfs July 17 (gage height, 7.76 ft); minimum, 4.4 cfs Jan. 24, result of freezeup.
Period of record: Maximum discharge, 162,000 cfs June 18, 1965 (gage height, 47.4 ft, from floodmarks), from rating curve extended above 7,000 cfs on basis of slope-area measurement of peak flow; no flow at times. Maximum flood known prior to 1965 occurred Sept. 29, 1904 (discharge published as 91,100 cfs in WSP 842, 847).

REMARKS.--Records good except those for July and August and those for winter period, which are poor. Diversions for irrigation of about 30,000 acres above station. Records of chemical analyses, water temperatures, suspended sediment loads, and biochemical analyses for the water year 1969 are published in Part 2 of this report.

REVISIONS(WATER YEARS).--WSP 1177: Drainage area. WSP 1281: 1941-42(P), 1945-47(M), 1948-50(P).

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	9.1	15	17	14	11	10	7.6	11	27	100	303
2	6.0	12	16	18	17	12	10	7.3	10	36	100	238
3	5.6	14	17	17	12	11	10	7.6	10	36	80	77
4	5.0	13	18	18	13	10	9.6	9.1	9.1	29	70	51
5	5.6	11	15	20	14	10	8.3	11	7.3	100	60	36
6	6.3	11	15	20	15	12	7.9	62	6.6	263	50	27
7	6.3	19	14	20	15	10	7.6	119	6.3	191	60	23
8	6.3	21	16	18	16	9.0	6.6	151	666	20	46	16
9	5.3	21	18	16	18	10	6.3	136	952	49	38	38
10	5.3	20	19	15	18	10	6.3	165	129	30	27	98
11	5.3	16	18	16	17	10	8.6	142	33	29	21	79
12	5.3	17	17	17	15	14	11	132	37	29	18	73
13	5.0	16	15	18	14	16	18	88	68	27	15	49
14	5.0	17	16	20	13	15	27	88	151	424	14	55
15	5.3	22	18	18	12	15	20	106	86	34	14	34
16	5.3	20	20	16	12	22	23	117	50	263	14	32
17	6.6	20	20	15	12	32	45	77	44	1,970	15	297
18	7.6	20	18	15	12	32	45	48	128	681	15	308
19	7.6	21	15	15	13	26	36	44	104	617	14	79
20	7.9	21	15	17	14	18	48	56	58	896	14	51
21	8.3	21	15	18	15	14	58	50	37	971	13	45
22	9.6	20	16	17	17	13	56	56	34	515	12	62
23	11	20	17	16	19	13	75	26	43	338	36	55
24	11	19	18	12	18	12	45	20	45	332	45	46
25	11	19	20	15	15	12	37	20	43	300	45	35
26	12	16	20	17	12	14	37	44	34	260	46	32
27	12	15	18	16	12	15	20	54	29	220	35	28
28	11	14	18	15	11	13	12	44	29	180	39	26
29	12	14	18	14	------	12	9.6	33	26	150	52	27
30	12	15	18	13	------	10	8.6	13	23	130	59	26
31	11	------	16	13	------	10	------	10	------	110	99	------
TOTAL	239.1	514.1	529	512	405	443.0	722.4	1,943.6	2,909.3	9,257	1,266	2,346
MEAN	7.71	17.1	17.1	16.5	14.5	14.3	24.1	62.7	97.0	299	40.8	78.2
MAX	12	22	20	20	19	32	75	165	952	1,970	100	308
MIN	5.0	9.1	14	12	11	9.0	6.3	7.3	6.3	20	12	16
AC-FT	474	1,020	1,050	1,020	803	879	1,430	3,860	5,770	18,360	2,510	4,650

CAL YR 1968 TOTAL 15,863.9 MEAN 43.3 MAX 1,180 MIN 5.0 ACFT 31,470
WAT YR 1969 TOTAL 21,086.5 MEAN 57.8 MAX 1,970 MIN 5.0 ACFT 41,830

PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6- 8	2300	5.56	3,740	7-19	2300	5.56	3,740
7-14	1600	5.92	4,390	7-21	1930	5.96	4,460
7-17	0100	7.76	8,320				

07214500 Mora River near Holman, N. Mex.

LOCATION.--Lat 36°06'41", long 105°22'31", Mora County, on right bank 150 ft upstream from bridge, 2.3 miles south of Chacon, 4.4 miles downstream from confluence of Luna and Lujan Creeks, 5.1 miles north of Holman, and 8.0 miles southwest of Guadalupita.

DRAINAGE AREA.--57 sq mi.

PERIOD OF RECORD.--January 1953 to current year. Published as Rio Agua Negra near Holman prior to October 1966.

GAGE.--Water-stage recorder. Altitude of gage is 7,855 ft (from topographic map).

AVERAGE DISCHARGE.--16 years, 13.9 cfs (10,070 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 590 cfs Aug. 4 (gage height, 3.41 ft); minimum, 1.1 cfs Dec. 17, result of freezeup.
Period of record: Maximum discharge, 4,700 cfs July 22, 1954 (gage height, 6.10 ft), from rating curve extended above 300 cfs on basis of slope-area measurement of peak flow; minimum, about 0.06 cfs Jan. 18, 1967, result of freezeup.
A major flood probably occurred Sept. 29, 1904 when the entire Mora River basin was in heavy flood.

REMARKS.--Records fair except those for winter period, which are poor. Diversions for irrigation of about 1,600 acres above station.

REVISIONS.--WSP 1511: Drainage area.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	4.7	3.0	3.5	5.0	4.4	15	49	34	7.2	55	25
2	4.7	7.5	3.5	4.5	5.0	4.4	18	49	33	7.2	54	25
3	4.7	6.3	4.7	4.0	5.5	4.4	17	49	31	7.7	51	21
4	5.2	6.3	6.3	4.2	5.5	4.8	16	52	28	8.3	100	20
5	5.2	6.3	6.0	4.5	5.0	4.4	17	59	25	9.0	70	20
6	5.2	6.3	4.0	5.0	5.0	4.8	20	74	22	8.3	64	18
7	5.2	5.2	4.0	5.2	4.5	4.8	18	67	19	7.2	57	18
8	3.9	6.3	4.1	3.9	5.0	4.5	18	62	21	7.2	51	19
9	3.5	5.2	4.2	4.3	5.5	4.0	18	67	22	7.7	43	19
10	3.5	6.3	4.3	4.5	5.5	3.5	19	84	25	9.0	37	17
11	3.5	4.7	3.9	4.7	5.3	3.5	22	99	20	9.0	32	16
12	3.5	5.2	3.5	4.7	5.0	4.0	22	108	20	9.8	29	18
13	3.5	5.2	4.7	4.7	4.7	4.0	23	108	22	9.0	44	16
14	3.9	5.7	5.2	5.2	4.3	3.5	24	103	21	9.8	40	15
15	3.9	5.7	5.7	5.2	4.7	4.0	27	103	25	9.8	33	14
16	3.9	4.3	4.3	5.2	4.7	4.5	29	105	23	27	27	14
17	3.9	4.3	3.9	4.7	4.7	4.5	28	90	26	32	25	15
18	3.9	5.2	3.0	5.2	4.7	4.8	28	82	22	24	25	16
19	3.9	5.7	2.5	5.2	3.9	4.4	28	82	18	26	25	14
20	3.9	5.7	3.0	5.2	3.9	4.0	29	82	18	67	22	15
21	4.3	5.2	2.5	5.2	4.3	4.4	34	80	16	52	22	18
22	4.3	4.7	3.0	5.2	4.7	4.8	40	80	15	40	22	15
23	4.7	4.7	3.5	4.7	4.7	4.4	45	74	14	55	21	15
24	4.7	4.7	4.0	5.2	4.7	4.0	52	69	13	50	19	14
25	4.7	5.2	4.3	6.0	4.7	4.0	55	64	13	66	18	13
26	4.7	4.7	3.2	9.0	4.7	4.0	52	57	13	94	22	12
27	4.7	4.3	2.9	7.5	4.7	4.8	46	52	11	112	21	13
28	4.7	3.5	2.8	6.3	4.3	5.6	43	48	9.0	92	21	12
29	4.7	3.0	2.7	5.7	------	6.6	45	45	9.0	76	19	11
30	4.7	3.2	2.6	5.0	------	7.7	48	42	7.7	67	32	11
31	4.7	------	2.7	4.5	------	11	------	37	------	65	37	------
TOTAL	135.5	155.3	118.0	157.9	134.2	146.5	896	2,222	595.7	1,071.2	1,138	489
MEAN	4.37	5.18	3.81	5.09	4.79	4.73	29.9	71.7	19.9	34.6	36.7	16.3
MAX	5.7	7.5	6.3	9.0	5.5	11	55	108	34	112	100	25
MIN	3.5	3.0	2.5	3.5	3.9	3.5	15	37	7.7	7.2	18	11
AC-FT	269	308	234	313	266	291	1,780	4,410	1,180	2,120	2,260	970

CAL YR 1968 TOTAL 4,888.7 MEAN 13.4 MAX 66 MIN 2.5 ACFT 9,700
WAT YR 1969 TOTAL 7,259.3 MEAN 19.9 MAX 112 MIN 2.5 ACFT 14,400

PEAK DISCHARGE (BASE, 150 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-16	1530	2.55	233	7-26	1730	2.86	341
7-17	1500	2.49	208	8- 4	1500	3.41	590
7-23	1800	2.75	304				

07214800 Rio la Casa near Cleveland, N. Mex.

LOCATION.--Lat 35°58'27", long 105°23'19", Mora County, in Mora Grant, on left bank 1.6 miles southwest of Cleveland, and 2.3 miles upstream from mouth.

DRAINAGE AREA.--23.0 sq mi.

PERIOD OF RECORD.--May 1956 to current year. Prior to October 1964, published as Rio de la Casa near Cleveland.

GAGE.--Water-stage recorder. Altitude of gage is 7,635 ft (from topographic map).

AVERAGE DISCHARGE.--13 years, 14.4 cfs (10,430 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 173 cfs Aug. 4 (gage height, 3.20 ft); minimum, 0.93 cfs Jan. 18, result of freezeup.
Period of record: Maximum discharge, 2,260 cfs Aug. 6, 1959 (gage height, 6.00 ft), from rating curve extended above 170 cfs on basis of slope-area measurement of peak flow; minimum, 0.08 cfs Oct. 30, 1958.

REMARKS.--Records good except those for winter period, which are poor. Diversions for irrigation of about 100 acres above station.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	2.7	2.1	2.5	2.5	2.5	7.6	15	98	24	38	31
2	3.8	3.8	2.5	2.8	2.7	2.5	8.7	18	83	25	32	36
3	3.6	3.2	3.0	2.4	2.9	2.5	8.4	15	78	20	30	26
4	3.9	3.4	3.2	2.5	3.0	2.6	8.0	17	66	18	61	22
5	3.8	3.0	3.0	2.5	2.7	2.4	8.0	18	60	18	80	19
6	3.8	2.8	2.5	2.6	2.5	2.5	9.4	30	61	20	64	17
7	3.6	3.0	2.5	2.7	2.2	2.6	8.7	30	61	18	50	17
8	3.6	3.4	2.6	2.2	2.5	2.5	7.0	26	64	15	43	17
9	3.6	3.0	2.7	2.2	2.7	2.3	6.8	41	80	14	38	17
10	3.6	3.0	2.8	2.4	2.7	2.2	7.0	48	115	15	32	15
11	3.6	2.5	2.5	2.6	2.5	2.2	9.4	67	96	14	28	14
12	3.4	2.8	2.2	2.8	2.4	2.5	10	66	76	11	25	18
13	3.2	2.7	2.5	2.4	2.4	2.5	13	58	72	11	32	14
14	3.2	2.8	2.8	2.4	2.0	2.3	13	46	62	11	32	12
15	3.4	2.8	3.0	2.2	2.1	2.7	12	46	60	13	24	10
16	3.6	2.4	2.5	2.2	2.1	3.0	11	44	67	14	21	10
17	3.4	2.7	2.3	2.1	2.1	3.0	10	38	69	15	18	12
18	3.2	2.7	2.0	2.3	2.1	3.2	11	38	60	18	20	12
19	3.8	2.7	1.6	2.2	1.8	3.2	14	54	55	17	19	10
20	3.4	2.7	2.0	2.2	1.8	3.3	13	62	54	23	16	10
21	3.4	2.7	1.6	2.1	2.0	3.6	16	74	50	20	17	14
22	3.0	2.7	2.0	2.1	2.1	3.6	18	87	46	17	19	13
23	3.0	2.7	2.3	2.0	2.3	3.6	18	94	43	15	27	11
24	3.0	3.0	2.5	2.5	2.3	3.2	20	87	38	22	22	10
25	3.0	2.7	2.5	3.0	2.3	3.2	20	85	38	23	19	9.8
26	3.0	2.8	2.4	3.6	2.3	3.5	15	92	34	20	19	9.4
27	2.7	2.7	2.4	2.8	2.3	3.8	14	100	29	22	19	8.7
28	2.7	2.5	2.3	2.5	2.2	3.9	13	96	26	22	18	8.7
29	2.5	2.0	2.2	2.4	------	4.5	14	96	22	21	19	8.7
30	2.7	2.2	2.0	2.2	------	5.7	14	103	18	17	22	8.0
31	2.7	------	2.2	2.0	------	6.5	------	100	------	25	21	------
TOTAL	103.3	84.1	74.7	75.4	65.5	97.6	358.0	1,791	1,781	558	925	440.3
MEAN	3.33	2.80	2.41	2.43	2.34	3.15	11.9	57.8	59.4	18.0	29.8	14.7
MAX	4.1	3.8	3.2	3.6	3.0	6.5	20	103	115	25	80	36
MIN	2.5	2.0	1.6	2.0	1.8	2.2	6.8	15	18	11	16	8.0
AC-FT	205	167	148	150	130	194	710	3,550	3,530	1,110	1,830	873

CAL YR 1968 TOTAL 5,816.6 MEAN 15.9 MAX 100 MIN 1.6 ACFT 11,540
WAT YR 1969 TOTAL 6,353.9 MEAN 17.4 MAX 115 MIN 1.6 ACFT 12,600

PEAK DISCHARGE (BASE, 60 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-11	2200	2.82	81	7-31	2300	2.74	64
5-30	1930	3.12	133	8- 4	2030	3.20	173
6-10	0130	3.11	142	8-13	1800	2.70	60

07215500 Mora River at La Cueva, N. Mex.

LOCATION.--Lat 35°56'19", long 105°14'56", Mora County, in Mora Grant, on right bank 600 ft downstream from bridge on State Highway 3, 0.2 mile south of La Cueva, and 0.5 mile downstream from La Cueva damsite.

DRAINAGE AREA.--173 sq mi.

PERIOD OF RECORD.--August 1903 to April 1905 (gage heights and discharge measurements only), May 1905 to July 1911, April 1931 to current year. Monthly discharge only for some periods, published in WSP 1311. Figures of daily discharge for February to April 1905 are unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 6,998.7 ft above mean sea level. Aug. 25, 1903 to Sept. 29, 1904 (destroyed by flood of Sept. 29, 1904), and Feb. 22, 1905 to July 31, 1911, nonrecording gages at sites about 600 ft upstream at different datums. Apr. 15, 1931 to Apr. 18, 1962, water-stage recorder at site 600 ft upstream at datum about 2 ft higher.

AVERAGE DISCHARGE.--42 years (1906-10, 1931-69), 28.4 cfs (20,580 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 520 cfs Sept. 1 (gage height, 5.52 ft); minimum, 0.36 cfs Jan. 23, result of freezeup.
1931-69: Maximum discharge, 1,530 cfs Sept. 23, 1941, from rating curve extended above 400 cfs; maximum gage height, 9.00 ft Aug. 5, 1966; no flow at times.
Flood of Sept. 29, 1904, may have exceeded 20,000 cfs; another major flood occurred June 11, 1913, but is believed less than that of 1904.

REMARKS.--Records good except those for winter period, which are fair. Diversions above station for irrigation of about 7,000 acres, part of which is below station. Off-channel lakes make it possible to divert and store water during non-irrigation season. This record plus La Cueva Canal below La Cueva (see tabulation below) equals total flow in valley cross section.

REVISIONS(WATER YEARS).--WSP 857: 1937. WSP 1281: 1931(M), 1932. WSP 1511: Drainage area. See also PERIOD OF RECORD.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	11	1.2	1.3	2.5	2.2	3.7	42	88	61	134	120
2	18	10	1.2	1.4	2.5	2.1	6.2	41	88	62	115	91
3	17	11	1.2	1.4	2.2	2.2	9.5	38	77	36	112	77
4	20	11	1.1	1.3	2.3	2.4	9.2	36	69	34	145	71
5	23	11	1.1	1.4	2.4	2.2	16	57	53	34	232	65
6	20	11	1.1	1.4	2.4	2.2	14	109	38	35	184	63
7	12	7.2	1.1	1.4	2.4	2.1	16	113	34	31	153	64
8	11	1.6	1.1	1.2	2.4	1.7	12	84	36	32	139	62
9	12	1.4	1.1	1.2	2.4	1.7	12	90	42	32	124	63
10	11	1.2	1.1	1.2	2.4	1.8	12	106	104	33	109	56
11	11	1.2	1.2	1.2	2.4	2.0	14	133	82	29	95	54
12	9.8	1.2	1.2	1.2	2.2	3.2	23	159	76	29	73	57
13	9.5	1.2	1.1	1.2	2.2	5.5	22	154	178	29	57	51
14	6.8	1.2	1.1	1.4	2.2	5.1	21	133	150	34	78	48
15	6.5	1.2	1.2	1.6	2.2	7.0	21	133	145	33	63	44
16	15	1.1	1.4	1.4	2.2	10	24	130	148	47	55	41
17	22	1.1	1.4	1.2	2.1	13	39	128	173	71	49	50
18	22	1.1	1.3	1.2	2.1	16	50	109	145	79	63	48
19	21	1.1	1.2	1.2	2.2	13	50	106	125	67	50	44
20	21	1.1	1.2	1.2	2.2	13	45	97	104	102	45	42
21	20	1.1	1.0	1.2	2.3	13	50	100	83	100	48	46
22	18	.98	1.0	1.1	2.4	10	57	106	76	91	50	43
23	18	1.1	1.0	1.1	2.6	8.4	64	112	60	75	67	41
24	17	1.1	1.1	1.5	2.5	8.1	69	115	50	104	51	41
25	18	1.1	1.2	2.0	2.4	8.7	68	103	45	134	49	40
26	18	.98	1.1	3.3	2.5	9.0	63	96	38	118	47	36
27	19	.98	1.3	3.0	2.4	8.7	56	105	33	204	64	29
28	18	1.0	1.4	2.6	2.4	8.1	49	104	28	166	57	28
29	14	1.0	1.4	2.6	------	7.8	47	108	26	142	56	28
30	12	1.1	1.4	2.4	------	5.8	47	107	23	112	76	28
31	7.3	------	1.2	2.4	------	3.9	------	102	------	112	84	------
TOTAL	491.9	98.34	36.7	49.2	65.4	199.9	989.6	3,156	2,417	2,268	2,724	1,571
MEAN	15.9	3.28	1.18	1.59	2.34	6.45	33.0	102	80.6	73.2	87.9	52.4
MAX	24	11	1.4	3.3	2.6	16	69	159	178	204	232	120
MIN	6.5	.98	1.0	1.1	2.1	1.7	3.7	36	23	29	45	28
AC-FT	976	195	73	98	130	397	1,960	6,260	4,790	4,500	5,400	3,120
(+)	97	475	602	611	566	326	306	156	360	309	409	122

CAL YR 1968 TOTAL 10,200.84 MEAN 27.9 MAX 246 MIN .98 ACFT 20,230 + 4,660
WAT YR 1969 TOTAL 14,067.04 MEAN 38.5 MAX 232 MIN .98 ACFT 27,900 + 4,340

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-13	1900	4.90	415	8-4	2400	4.93	415
7-27	0200	4.34	319	9- 1	1830	5.52	520

+ Diversion, in acre-feet, by La Cueva Canal.

07216500 Mora River near Golondrinas, N. Mex.

LOCATION.--Lat 35°53'45", long 105°09'12", Mora County, in Mora Grant, at downstream end of left abutment of highway bridge on State Highway 160, 1.2 miles upstream from Coyote Creek, 1.9 miles east of Golondrinas, and 5.4 miles downstream from Cebolla River.

DRAINAGE AREA.--267 sq mi.

PERIOD OF RECORD.--March 1915 to May 1921, October 1921 to March 1922, May, August to September 1922, July 1923 to July 1924, December 1924 to current year. Monthly discharge only 1915-30, published in WSP 1311.

GAGE.--Water-stage recorder. Altitude of gage is 6,735 ft (from topographic map). Mar. 10, 1915 to June 4, 1921, water-stage recorder at site 3.5 miles upstream at different datum. July 6, 1921 to Jan. 5, 1929, nonrecording gage or water-stage recorder at present site at datum 1.0 ft higher.

AVERAGE DISCHARGE.--52 years (1915-20, 1921-22, 1923-69), 35.1 cfs (25,430 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,180 cfs July 1 (gage height, 9.30 ft), from rating curve extended above 125 cfs on basis of field estimate of peak flow; minimum, 1.8 cfs Dec. 31, result of freezeup.
Period of record: Maximum discharge, 14,000 cfs Aug. 22, 1952 (gage height, 14.4 ft), from rating curve extended above 660 cfs on basis of slope-area measurement of peak flow; no flow at times.
Floods of Sept. 29, 1904, and June 11, 1913, probably exceeded 25,000 cfs.

REMARKS.--Records fair except those for winter period, which are poor. Diversions for irrigation of about 12,000 acres above station. Off-channel lakes make it possible to divert and store water during non-irrigation season.

REVISIONS(WATER YEARS).--WSP 1281: 1951(M). WSP 1311: 1935(M), 1937-38(M), 1940-42(M), 1949(M). WSP 1511: Drainage area. WSP 1731: 1958(M).

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	9.1	2.9	3.5	3.5	3.7	5.3	39	91	344	142	118
2	22	9.9	3.0	4.0	3.7	3.7	5.3	39	88	184	123	135
3	18	9.4	3.2	4.0	4.0	3.7	6.6	34	77	65	123	86
4	19	9.6	3.5	4.0	4.0	3.7	7.7	29	69	52	114	75
5	19	9.4	3.4	4.1	3.8	4.0	8.2	41	57	48	250	68
6	19	9.4	3.2	4.3	3.6	4.0	14	127	42	46	212	63
7	13	8.8	3.1	4.6	3.5	4.0	13	189	33	41	158	62
8	11	6.4	3.4	4.8	3.6	3.8	11	118	29	40	128	66
9	11	5.0	3.2	4.8	3.8	3.7	11	103	45	44	114	70
10	11	4.2	3.2	4.6	4.0	3.5	9.9	116	103	37	98	62
11	12	3.8	3.1	4.6	4.0	3.5	16	142	89	36	84	60
12	11	3.7	3.0	4.6	4.0	3.6	34	169	79	33	70	64
13	11	3.6	3.0	4.6	3.9	3.6	32	172	148	29	51	61
14	11	3.6	3.5	4.6	3.9	3.5	26	151	234	35	74	57
15	6.8	3.4	4.0	4.4	3.8	3.8	24	145	162	36	64	52
16	8.2	3.4	4.0	4.0	3.7	5.0	27	139	155	44	54	53
17	20	3.2	3.5	4.0	3.4	8.2	43	148	178	89	49	59
18	22	3.2	3.0	4.0	3.4	14	61	125	150	77	53	68
19	20	3.4	3.0	3.8	3.8	17	60	115	125	84	55	62
20	20	3.6	3.5	3.7	3.8	14	53	103	107	130	45	57
21	20	3.6	3.0	3.7	3.8	15	53	104	90	120	44	72
22	18	3.2	3.0	3.7	3.9	14	58	107	78	109	51	55
23	14	3.2	3.2	3.6	4.0	12	68	111	68	87	301	49
24	14	3.2	3.5	3.1	3.8	11	72	120	54	107	88	49
25	14	3.2	3.5	4.2	3.8	12	71	108	49	129	62	46
26	16	3.1	3.0	4.6	3.8	12	67	96	44	139	59	45
27	16	3.1	3.0	4.4	3.6	12	57	102	36	196	59	37
28	16	3.0	3.0	4.0	3.7	11	48	103	29	208	69	35
29	14	2.9	3.0	3.8	------	11	44	105	24	154	52	35
30	13	3.1	3.0	3.6	------	7.3	46	104	23	123	109	34
31	9.1	------	3.2	3.3	------	5.9	------	101	------	108	95	------
TOTAL	473.1	147.7	100.1	127.0	105.6	237.2	1,052.0	3,405	2,556	2,974	3,050	1,855
MEAN	15.3	4.92	3.23	4.10	3.77	7.65	35.1	110	85.2	95.9	98.4	61.8
MAX	24	9.9	4.0	4.8	4.0	17	72	189	234	344	301	135
MIN	6.8	2.9	2.9	3.1	3.4	3.5	5.3	29	23	29	44	34
AC-FT	938	293	199	252	209	470	2,090	6,750	5,070	5,900	6,050	3,680

CAL YR 1968 TOTAL 11,032.1 MEAN 30.1 MAX 483 MIN 2.9 ACFT 21,880
WAT YR 1969 TOTAL 16,082.7 MEAN 44.1 MAX 344 MIN 2.9 ACFT 31,900

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-13	2330	5.88	524	8- 5	0430	5.18	402
7- 1	1730	9.30	3,180	8-23	1730	8.50	2,600

07217100 Coyote Creek above Guadalupita, N. Mex.

LOCATION.--Lat 36°09'51", long 105°13'49", Mora County, in Mora Grant, on right bank 1.8 miles north of Guadalupita.

DRAINAGE AREA.--71 sq mi.

PERIOD OF RECORD.--May 1956 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7,605 ft (from topographic map).

AVERAGE DISCHARGE.--13 years, 9.91 cfs (7,180 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 152 cfs July 24 (gage height, 3.08 ft); minimum, 0.92 cfs Dec. 17, result of freezeup.
Period of record: Maximum discharge, 1,820 cfs June 17, 1965 (gage height, 6.70 ft), from rating curve extended above 150 cfs on basis of slope-area measurement of peak flow; minimum, 0.04 cfs June 16, 1963.

REMARKS.--Records good except those for winter period, which are poor. Diversions for irrigation of about 2,000 acres above station.

REVISIONS(WATER YEARS).--WSP 1711: 1959.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	3.0	2.4	2.2	2.4	4.0	19	11	14	4.0	23	44
2	2.8	3.6	2.4	2.3	2.3	3.8	23	11	13	3.9	26	36
3	2.8	3.5	2.3	2.0	2.2	3.6	23	12	13	3.6	32	30
4	2.8	3.6	2.4	2.0	2.2	3.4	21	13	12	3.5	26	26
5	2.8	3.6	2.4	2.2	2.2	3.2	18	20	11	3.5	25	21
6	2.8	3.6	2.4	2.2	2.2	3.5	16	50	11	3.4	38	18
7	2.7	3.6	2.3	2.0	2.2	3.0	14	112	11	3.2	37	16
8	2.6	3.8	2.3	2.2	2.2	2.8	13	86	10	3.0	33	16
9	2.6	3.5	2.2	2.2	2.2	2.6	11	66	10	3.1	26	14
10	2.6	3.6	2.2	2.0	2.2	2.4	9.7	60	12	3.5	21	14
11	2.6	3.2	2.4	2.0	2.2	2.4	12	50	11	3.5	16	14
12	2.6	3.2	2.6	2.0	2.2	2.6	14	45	12	3.6	14	13
13	2.6	2.8	2.4	2.0	2.6	2.8	14	45	14	4.3	17	12
14	2.6	2.8	2.4	2.0	2.4	2.9	14	44	12	7.0	29	12
15	2.6	2.8	2.2	2.4	2.4	3.0	14	48	13	9.4	34	11
16	3.0	2.8	2.2	2.2	2.6	3.5	14	53	13	13	36	11
17	3.2	2.8	2.2	2.2	2.5	4.0	13	50	16	22	27	10
18	3.4	2.6	2.1	2.2	2.4	4.5	13	47	17	20	22	11
19	3.2	2.4	2.0	2.2	2.3	4.2	16	39	19	26	18	11
20	3.2	2.5	2.0	2.2	2.4	4.3	16	34	15	54	15	12
21	3.0	2.6	2.0	2.2	2.6	5.3	17	30	12	39	14	25
22	3.0	2.7	2.0	2.0	2.8	9.2	15	28	10	29	13	34
23	3.0	2.8	2.2	2.0	3.0	12	14	26	8.3	24	12	31
24	3.0	2.6	2.2	2.0	3.2	12	13	26	7.4	39	11	23
25	3.0	2.8	2.2	2.2	3.2	9.0	13	25	6.7	58	11	18
26	3.0	2.8	2.2	2.4	3.2	9.0	12	25	6.3	42	11	14
27	2.8	2.7	2.0	2.4	3.4	8.6	11	23	5.7	65	11	12
28	2.8	2.2	2.0	2.4	3.8	7.6	11	21	4.7	48	13	11
29	2.8	2.3	2.2	2.4	------	8.6	11	19	3.9	33	23	11
30	2.8	2.3	2.2	2.4	------	11	11	18	3.6	24	47	9.7
31	2.8	------	2.1	2.2	------	16	------	15	------	24	56	------
TOTAL	88.3	89.1	69.1	67.3	71.5	174.8	435.7	1,152	327.6	622.5	737	540.7
MEAN	2.85	2.97	2.23	2.17	2.55	5.64	14.5	37.2	10.9	20.1	23.8	18.0
MAX	3.4	3.8	2.6	2.4	3.8	16	23	112	19	65	56	44
MIN	2.6	2.2	2.0	2.0	2.2	2.4	9.7	11	3.6	3.0	11	9.7
AC-FT	175	177	137	133	142	347	864	2,280	650	1,230	1,460	1,070

CAL YR 1968 TOTAL 2,030.5 MEAN 5.55 MAX 31 MIN 1.0 ACFT 4,030
WAT YR 1969 TOTAL 4,375.6 MEAN 12.0 MAX 112 MIN 2.0 ACFT 8,680

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5- 7	0600	2.97	132	8-30	1900	3.03	145
7-24	1500	3.08	152				

07218000 Coyote Creek near Golondrinas, N. Mex.

LOCATION.--Lat 35°55'00", long 105°09'49", Mora County, in Mora Grant, on left bank 0.5 mile downstream from Coyote Creek damsite, 2.7 miles upstream from mouth, and 2.3 miles northeast of Golondrinas.

DRAINAGE AREA.--215 sq mi.

PERIOD OF RECORD.--April 1928 to September 1930 (monthly discharge only, published in WSP 1311), October 1930 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,785 ft (from topographic map). Prior to Apr. 26, 1938, at site 0.4 mile downstream at different datum (nonrecording gage prior to Apr. 20, 1929). Apr. 26, 1938 to Sept. 25, 1946, at site 139 ft downstream at same datum.

AVERAGE DISCHARGE.--41 years, 11.8 cfs (8,550 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 488 cfs July 1 (gage height, 4.48 ft); minimum, 1.1 cfs Oct. 14, but may have been less during period of ice effect.
Period of record: Maximum discharge, 4,050 cfs Aug. 17, 1961 (gage height, 9.60 ft), from rating curve extended above 250 cfs on basis of slope-area measurements at gage heights 5.54, 7.74, and 9.60 ft; maximum gage height, 10.1 ft Aug. 30, 1936 (site and datum then in use); no flow Aug. 4, 1945, Apr. 10, May 9, 10, 1956.

REMARKS.--Records fair except those for winter period, which are poor. Diversions (including off-channel storage) for irrigation of about 4,000 acres above station.

REVISIONS(WATER YEARS).--WSP 1281: 1939-40(M), 1941-42, 1945-47. WSP 1511: Drainage area.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	2.0	2.1	3.5	3.4	2.8	12	5.5	9.7	39	38	50
2	2.5	2.3	2.2	3.5	3.2	2.8	13	4.3	9.0	20	32	39
3	2.3	2.2	2.2	3.5	3.0	3.0	15	4.5	8.4	10	42	33
4	2.3	2.3	2.2	3.5	3.2	3.1	12	4.5	8.4	9.0	37	30
5	2.3	2.5	2.2	3.5	3.4	3.3	12	7.5	7.9	7.9	38	28
6	2.3	2.6	2.2	4.0	3.5	3.5	13	28	7.9	7.9	53	26
7	2.2	3.2	2.2	4.0	3.6	3.8	12	78	7.6	7.9	41	22
8	1.8	4.5	2.2	4.0	3.4	3.5	7.9	79	7.1	7.1	35	22
9	1.8	4.0	2.2	4.0	3.2	3.2	8.2	62	14	6.2	30	22
10	2.0	3.6	2.2	3.5	3.0	3.0	6.5	54	25	6.5	24	19
11	2.2	3.6	2.2	3.5	2.8	3.0	11	50	12	5.5	18	24
12	2.2	3.2	2.1	3.5	2.5	3.0	15	41	10	5.0	13	23
13	2.0	3.2	2.0	3.5	2.2	3.2	9.7	38	27	4.3	12	18
14	1.6	2.2	2.2	3.7	1.8	3.5	10	36	20	5.5	19	18
15	1.6	2.0	2.6	4.0	1.8	4.0	11	39	16	16	22	19
16	1.6	2.2	3.0	4.0	2.2	5.0	14	46	20	13	26	17
17	1.7	2.5	3.3	4.0	2.5	5.5	18	46	26	26	24	29
18	1.6	2.6	3.5	4.0	2.8	6.0	18	43	19	24	38	25
19	1.6	2.6	3.5	4.2	2.5	5.2	14	32	18	25	24	20
20	1.6	2.2	4.0	4.3	2.5	5.5	14	24	16	109	16	18
21	1.6	2.2	3.5	4.3	2.6	4.7	15	20	15	83	14	19
22	1.6	2.2	3.5	4.0	2.8	4.7	15	18	12	60	13	29
23	1.7	2.0	3.6	3.6	3.0	7.3	13	20	9.0	44	22	30
24	1.6	1.8	4.0	3.3	3.5	9.7	13	19	8.7	40	15	25
25	1.6	2.0	3.8	4.0	4.0	10	13	19	3.6	77	13	20
26	1.4	1.8	3.8	4.0	3.8	8.7	12	18	2.8	55	14	17
27	1.6	2.2	3.5	3.6	3.8	7.9	11	17	1.8	72	19	16
28	1.6	2.1	3.5	3.6	3.5	6.2	11	18	1.7	71	13	15
29	2.5	2.0	3.5	3.4	------	6.0	10	18	1.6	54	14	15
30	2.3	2.0	3.5	3.2	------	6.8	7.9	14	1.7	39	47	13
31	1.8	------	3.5	3.2	------	9.7	------	11	------	34	75	------
TOTAL	59.3	75.8	90.0	115.9	83.5	157.6	367.2	914.3	346.9	983.8	841	701
MEAN	1.91	2.53	2.90	3.74	2.98	5.08	12.2	29.5	11.6	31.7	27.1	23.4
MAX	2.8	4.5	4.0	4.3	4.0	10	18	79	27	109	75	50
MIN	1.4	1.8	2.0	3.2	1.8	2.8	6.5	4.3	1.6	4.3	12	13
AC-FT	118	150	179	230	166	313	728	1,810	688	1,950	1,670	1,390

CAL YR 1968 TOTAL 2,382.46 MEAN 6.51 MAX 49 MIN .27 ACFT 4,730
WAT YR 1969 TOTAL 4,736.3 MEAN 13.0 MAX 109 MIN 1.4 ACFT 9,390

PEAK DISCHARGE (BASE, 180 CFS)

DATE	TIME	G.HT.	DISCHARGE
7- 1	2200	4.48	488
7-20	0100	3.32	187

07220000 Sapello River at Sapello, N. Mex.

LOCATION.--Lat 35°46'11", long 105°15'05", San Miguel County, in Mora Grant, on downstream end of bridge pier nearest left bank, on State Highway 3, in Sapello, and 0.5 mile downstream from Manuelitas Creek.

DRAINAGE AREA.--132 sq mi.

PERIOD OF RECORD.--May to October 1915, January 1916 to November 1918, February 1919 to May 1921, July to September 1921, July 1956 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage heights and discharge measurements published under same name for August 1903 to March 1904 are for a site above Manuelitas Creek, and are not equivalent.

GAGE.--Water-stage recorder. Altitude of gage is 6,910 ft (from topographic map). May 1915 to September 1921, nonrecording gage at site 300 ft upstream at different datum.

AVERAGE DISCHARGE.--18 years (1915-20, 1956-69), 22.8 cfs (16,520 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,800 cfs Sept. 18 (gage height, 6.45 ft), from rating curve extended above 350 cfs as explained below; minimum, 2.0 cfs. Feb. 6, 7, but may have been less during period of ice effect.
Period of record: Maximum discharge determined, 6,420 cfs Aug. 5, 1966 (gage height, 7.50 ft), from rating curve extended above 350 cfs on basis of computation of flow over dam at gage height 7.40 ft; no flow at times.

REMARKS.--Records good except those for winter period, which are poor. Diversions above station for irrigation of about 4,200 acres. Sapello Canal diverts from right bank 500 ft above station (see tabulation below).

REVISIONS(WATER YEARS).--WSP 1511: Drainage area. WSP 1731: 1956(M).

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	5.5	6.0	5.8	3.5	3.9	6.3	17	24	54	36	33
2	6.3	6.6	6.3	5.8	3.5	4.1	6.0	14	26	9.7	22	84
3	6.3	6.0	6.0	6.3	3.5	3.8	6.8	14	24	3.9	20	31
4	6.6	5.2	6.6	5.8	3.5	4.4	7.8	13	22	2.8	40	25
5	6.3	4.9	6.3	5.5	3.5	4.4	9.5	19	20	3.0	40	21
6	6.0	5.2	7.1	6.0	3.6	3.9	7.8	120	18	2.7	41	18
7	5.8	6.0	6.5	6.6	3.4	4.7	7.1	161	17	2.7	28	17
8	6.0	6.3	7.0	5.8	3.5	3.9	7.8	100	15	2.7	24	17
9	6.3	6.3	7.0	4.1	3.8	3.9	7.8	62	16	2.8	20	19
10	6.0	5.8	6.5	4.4	3.9	3.9	7.1	64	24	4.3	15	16
11	5.8	5.8	6.0	4.4	4.0	4.4	14	69	17	4.1	12	15
12	5.5	5.8	5.5	4.9	4.4	4.4	28	71	16	3.4	9.5	17
13	5.5	5.8	5.5	4.7	4.1	4.4	23	70	14	3.4	9.8	15
14	5.2	5.8	5.5	4.9	3.4	4.7	22	66	14	3.2	12	14
15	5.5	5.5	5.8	4.9	3.9	5.0	20	60	14	2.8	9.8	14
16	5.5	5.5	6.6	4.1	3.9	5.2	22	56	31	2.7	9.5	14
17	5.8	4.9	6.0	3.9	3.6	5.8	28	56	23	4.4	10	14
18	6.6	4.9	6.0	3.6	3.9	9.5	34	46	15	8.8	10	148
19	7.1	5.2	5.5	3.4	3.9	9.8	45	44	14	23	9.1	30
20	6.8	4.9	6.0	3.9	3.6	7.4	31	43	12	26	9.5	17
21	6.6	5.5	5.5	3.9	3.6	6.6	31	40	12	36	9.5	110
22	6.3	5.2	5.2	3.9	4.0	6.6	33	38	9.1	60	9.5	29
23	6.3	4.9	5.0	3.6	4.7	6.3	38	38	8.5	49	23	25
24	5.8	4.9	5.5	3.5	4.4	5.2	37	40	8.1	29	16	21
25	5.8	6.0	6.0	3.2	4.4	6.6	34	37	6.0	48	12	19
26	5.2	6.6	6.0	4.7	4.4	6.8	29	32	4.9	36	37	17
27	5.2	6.3	6.0	5.2	3.9	9.1	22	31	4.7	28	22	17
28	5.2	5.8	5.8	5.2	3.6	8.1	18	35	3.4	29	25	16
29	4.9	5.5	6.0	4.7	------	6.8	18	30	3.6	22	15	16
30	4.9	5.0	5.5	4.0	------	6.6	17	28	48	19	25	14
31	5.8	------	5.5	3.5	------	6.6	------	24	------	17	20	------
TOTAL	184.0	167.6	185.7	144.2	107.4	176.8	618.0	1,538	484.3	543.4	601.2	863
MEAN	5.94	5.59	5.99	4.65	3.84	5.70	20.6	49.6	16.1	17.5	19.4	28.8
MAX	7.1	6.6	7.1	6.6	4.7	9.8	45	161	48	60	41	148
MIN	4.9	4.9	5.0	3.2	3.4	3.8	6.0	13	3.4	2.7	9.1	14
AC-FT	365	332	368	286	213	351	1,230	3,050	961	1,080	1,190	1,710
(+)	.3	.4	0	0	0	0	.1	5.4	21	5.4	10	6.3

CAL YR 1968 TOTAL 6,981.9 MEAN 19.1 MAX 284 MIN 1.2 ACFT 13,850 + 153
WAT YR 1969 TOTAL 5,613.6 MEAN 15.4 MAX 161 MIN 2.7 ACFT 11,130 + 49

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G.HT.	DISCHARGE
7- 1	1630	4.88	1,430
9-18	2230	6.45	3,800

+ Diversion, in acre-feet, by Sapello Canal.

07220100 Lake Isabel feeder canal near Sapello, N. Mex.

LOCATION.--Lat 35°44'42", long 105°09'25", San Miguel County, in Mora Grant, on right bank 20 feet upstream from concrete crossing, 1.0 mile northwest of Los Alamos, 2.0 miles downstream from canal heading, and 5.7 miles southeast of Sapello.

PERIOD OF RECORD.--September 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,790 ft (from topographic map). Prior to Aug. 10, 1967, at site 650 ft upstream at datum 2.93 ft higher.

EXTREMES.--1956-69: Maximum daily discharge, 322 cfs Aug. 2, 1965; no flow at times.

REMARKS.--Records good. Canal diverts water from left bank of Sapello River to fill Lake Isabel which stores water for irrigation.

MONTHLY DIVERSION, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

Month	Maximum	Minimum	Mean	Diversion in acre-feet
October	0	0	0	0
November	3.3	0	.42	25
December	0	0	0	0
CAL YR 1968	143	0	5.19	3,770
January	0	0	0	0
February	0	0	0	0
March	0	0	0	0
April	26	0	5.83	347
May	99	1.5	32.9	2,020
June	7.8	0	.75	45
July	11	0	.84	52
August	2.1	0	.26	16
September	19	0	1.19	71
WTR YR 1969	99	0	3.56	2,580

07221000 Mora River near Shoemaker, N. Mex.

LOCATION.--Lat 35°48'01", long 104°46'58", Mora County, in Mora Grant, on left bank 5.5 miles east of Shoemaker, and 12.3 miles upstream from Pedroso Creek.

DRAINAGE AREA.--1,104 sq mi, of which 71 sq mi is probably noncontributing.

PERIOD OF RECORD.--October 1914 to July 1915, October 1915 to August 1918, May 1919 to July 1924, September to November 1924, March to July 1925, June 1927 to current year. Prior to October 1930, monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Altitude of gage is 6,145 ft (from topographic map). Prior to Oct. 10, 1934, at site 2,000 ft upstream at different datum.

AVERAGE DISCHARGE.--51 years (1914-18, 1919-24, 1927-69), 59.4 cfs (43,040 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,860 cfs Aug. 30 (gage height, 5.36 ft); minimum, 0.98 cfs Mar. 7 result of freezeup.
Period of record: Maximum discharge, 15,200 cfs June 3, 1948 (gage height, 12.79 ft), from rating curve extended above 2,800 cfs on basis of slope-area measurements at gage heights 10.09 and 12.79 ft; no flow at times.
Floods of Sept. 29, 1904, and June 11, 1913, probably exceeded 30,000 cfs.

REMARKS.--Records good except those for December and January, which are poor. Diversions for irrigation of about 26,000 acres above station. Off-channel lakes make it possible to divert and store water during non-irrigation season. Records of chemical analysis and water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS(WATER YEARS).--WSP 1117: Drainage area. WSP 1281: 1931(M), 1933-34(M), 1937(M), 1938(P), 1939-40(M), 1941-42(P). WSP 1731: 1921, 1928, 1951(M).

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	8.4	17	11	13	5.7	10	33	69	15	149	282
2	12	9.6	18	13	14	6.8	8.0	28	59	329	156	243
3	11	9.6	19	15	13	8.4	7.2	21	55	78	167	219
4	8.4	9.6	20	17	12	8.4	6.0	15	50	38	147	165
5	8.0	6.0	11	20	11	8.4	7.2	14	40	32	221	145
6	9.2	7.6	11	25	10	8.8	9.6	68	30	51	279	132
7	11	6.4	9.2	22	8.4	6.4	11	227	22	27	252	121
8	10	6.0	9.6	21	8.4	5.2	11	255	20	19	194	123
9	10	6.0	13	18	8.0	6.0	12	189	21	14	153	130
10	10	6.0	11	15	8.0	7.0	11	172	59	16	123	154
11	9.6	6.0	10	15	7.6	8.0	9.6	170	102	14	106	180
12	9.6	5.7	9.0	16	6.4	10	14	194	113	13	88	119
13	9.6	5.5	8.0	17	6.8	12	39	210	164	14	74	115
14	9.6	5.7	11	20	6.4	13	45	189	283	15	68	104
15	6.8	5.5	12	17	5.2	12	45	160	202	15	90	98
16	6.8	5.2	14	16	4.9	12	45	177	197	29	80	95
17	7.6	5.5	12	15	6.8	13	72	200	321	30	72	106
18	7.6	6.0	11	15	5.7	13	88	172	243	72	63	122
19	7.6	6.0	10	15	6.0	11	92	149	200	74	73	174
20	8.4	6.0	10	14	8.0	6.4	94	132	167	106	51	121
21	9.6	5.7	10	17	8.0	7.6	87	106	142	187	41	392
22	11	6.0	11	17	5.7	8.0	87	93	119	160	39	216
23	7.2	6.4	12	20	5.5	8.0	83	102	102	149	65	142
24	7.6	6.0	13	18	6.0	8.0	78	121	84	160	123	121
25	7.6	7.2	15	17	5.7	9.2	74	111	59	145	76	108
26	7.6	13	15	17	5.7	10	76	100	40	210	53	98
27	9.2	15	13	19	5.7	10	72	83	28	200	93	90
28	10	15	12	19	5.7	15	60	88	23	276	113	80
29	9.2	15	11	19	------	14	52	90	17	210	108	80
30	8.8	17	10	16	------	11	34	88	15	167	379	76
31	8.8	------	10	14	------	12	------	75	------	138	258	------
TOTAL	281.4	238.6	377.8	530	217.6	294.3	1,339.6	3,832	3,046	3,003	3,954	4,351
MEAN	9.08	7.95	12.2	17.1	7.77	9.49	44.7	124	102	96.9	128	145
MAX	12	17	20	25	14	15	94	255	321	329	379	392
MIN	6.8	5.2	8.0	11	4.9	5.2	6.0	14	15	13	39	76
AC-FT	558	473	749	1,050	432	584	2,660	7,600	6,040	5,960	7,840	8,630

CAL YR 1968 TOTAL 18,824.6 MEAN 51.4 MAX 2,830 MIN 3.8 ACFT 37,340
WAT YR 1969 TOTAL 21,465.3 MEAN 58.8 MAX 392 MIN 4.9 ACFT 42,580

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G.HT.	DISCHARGE
7- 2	0300	3.89	855
8-30	1700	5.36	1,860

07221500 Canadian River near Sanchez, N. Mex.

LOCATION.--Lat 35°39'08", long 104°22'39", in SW¼ sec.34, T.17 N., R.24 E., on right bank 1,000 ft downstream from bridge on State Highway 65, 0.9 mile upstream from Lagartija Creek, 3.2 miles northeast of Sanchez, 10 miles downstream from Mora River and 25 miles southwest of Mosquero.

DRAINAGE AREA.--6,015 sq mi, of which 303 sq mi is probably noncontributing.

PERIOD OF RECORD.--May 1912 to December 1914, October 1935 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Altitude of gage is 4,495 ft (from topographic map). May 15, 1912 to Dec. 31, 1914, at two sites within 100 ft about 3 miles upstream at different datums. October 1935 to June 1965 at site 1,000 ft upstream at datum 7.32 ft higher prior to October 1963 and 5.32 ft higher thereafter. June 1965 to October 1966 at site 0.6 mile upstream at datum about 20 ft higher. Supplemental water-stage recorder at site 0.6 mile upstream used at various times since 1966.

AVERAGE DISCHARGE.--36 years (1912-14, 1935-69), 220 cfs (159,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 8,290 cfs Sept. 9 (gage height, 11.10 ft); minimum, 0.68 cfs Mar. 8, result of freezeup.
Period of record: Maximum discharge, 145,000 cfs June 18, 1965 (gage height, about 38.1 ft, from floodmarks, present site and datum), from rating curve extended above 91,000 cfs on basis of slope-area measurement of peak flow; no flow at times.
The flood of Sept. 29 or 30, 1904 probably exceeded 100,000 cfs, but is believed to have been less than the peak of June 18, 1965.

REMARKS.--Records fair except those for winter period, which are poor. Diversions for irrigation of about 56,000 acres above station. Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS(WATER YEARS).--WSP 1177: Drainage area. WSP 1281: 1939, 1940(P), 1942, 1946. WSP 1731: 1956-57(M). The revised figures of discharge for September 1942, as published in WSP 1281, supersed those published in WSP 1311.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	19	28	26	28	24	26	73	107	67	251	1,870
2	24	23	25	30	28	26	25	61	91	71	231	1,010
3	23	24	25	35	27	24	24	46	82	160	404	542
4	22	25	27	35	23	23	22	48	72	147	331	390
5	22	25	31	38	20	26	19	49	66	86	319	278
6	18	24	31	39	20	25	17	89	58	62	385	232
7	18	26	36	48	19	26	16	61	53	93	368	220
8	13	27	30	46	19	27	13	176	191	313	321	190
9	12	29	30	35	19	30	11	264	646	179	256	484
10	12	27	28	30	21	25	10	306	1,260	126	210	1,440
11	13	29	28	41	24	25	13	264	453	83	175	530
12	14	32	28	43	26	24	25	285	254	98	150	418
13	16	33	24	41	32	24	27	292	528	68	152	316
14	15	33	26	40	37	24	26	299	536	58	147	260
15	12	33	26	41	39	27	20	274	446	169	126	254
16	14	30	26	40	39	28	41	254	351	226	111	199
17	14	27	28	46	39	31	61	274	872	856	179	199
18	14	28	28	49	39	30	67	282	572	876	145	1,410
19	14	28	22	49	40	30	100	250	463	644	124	1,130
20	12	29	20	49	44	31	118	208	341	1,190	105	458
21	11	29	20	41	41	33	125	178	286	956	100	1,430
22	11	28	21	37	39	32	118	152	231	1,140	89	743
23	9.8	28	22	33	32	33	121	170	192	714	91	406
24	9.8	29	23	33	31	30	121	156	161	503	94	278
25	10	29	24	34	29	28	121	161	137	520	183	244
26	14	29	25	36	27	26	118	145	112	516	173	250
27	18	28	25	37	24	25	109	130	89	454	135	190
28	17	27	25	33	24	24	102	116	70	397	103	167
29	16	24	24	31	------	23	98	109	57	404	159	148
30	16	24	23	29	------	23	87	118	47	337	245	130
31	17	------	22	29	------	24	------	120	------	283	1,450	------
TOTAL	479.6	826	801	1,174	830	831	1,801	5,410	8,824	11,796	7,312	15,816
MEAN	15.5	27.5	25.8	37.9	29.6	26.8	60.0	175	294	381	236	527
MAX	28	33	36	49	44	33	125	306	1,260	1,190	1,450	1,870
MIN	9.8	19	20	26	19	23	10	46	47	58	89	130
AC-FT	951	1,640	1,590	2,330	1,650	1,650	3,570	10,730	17,500	23,400	14,500	31,370

CAL YR 1968 TOTAL 37,689.3 MEAN 103 MAX 3,140 MIN 4.8 ACFT 74,760
WAT YR 1969 TOTAL 55,900.6 MEAN 153 MAX 1,870 MIN 9.8 ACFT 110,900

PEAK DISCHARGE (BASE, 4,500 CFS)

DATE	TIME	G.HT.	DISCHARGE
9- 9	2330	11.10	8,290

07222500 Conchas River at Variadero, N. Mex.

LOCATION.--Lat 35°24'10", long 104°26'35", in NE¼NE¼ sec.36, T.14 N., R.23 E., San Miguel County, on left bank 1.5 miles northeast of Variadero and 14 miles west of Conchas Dam.

DRAINAGE AREA.--523 sq mi, of which 130 sq mi is probably noncontributing.

PERIOD OF RECORD.--October 1936 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,430 ft (from topographic map). Prior to Mar. 30, 1942, at site 1.5 miles upstream at different datum. Mar. 30, 1942 to May 18, 1950, at present site at datum 0.5 ft higher.

AVERAGE DISCHARGE.--33 years, 17.4 cfs (12,610 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,900 cfs Sept. 10 (gage height, 5.90 ft), from rating curve extended above 760 cfs as explained below; no flow many days.
Period of record: Maximum discharge, 44,000 cfs Sept. 1, 1942 (gage height, 19.96 ft, present datum), from rating curve extended above 760 cfs on basis of slope-area measurements at gage heights 10.5 and 19.96 ft (present datum); no flow many days.

REMARKS.--Records good. Diversions for irrigation of about 300 acres above station.

REVISIONS(WATER YEARS).--WSP 1281: 1937-39, 1941-47.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.03	.07	.06	.04	.08	.03	0	.27	.19	.06	53
2	.02	.08	.08	.07	.04	.12	.03	0	1.0	.07	.76	36
3	.02	.08	.06	.07	.04	.12	.03	0	9.8	.03	.14	15
4	.11	.06	.07	.08	.04	.16	.02	0	1.7	0	.04	170
5	.04	.05	.07	.08	.06	.30	.03	1.5	.73	0	.14	23
6	.11	.05	.07	.08	.05	.30	.03	107	.30	0	.03	8.8
7	.06	.07	.07	.08	.04	.24	.01	17	.14	1.1	4.4	5.0
8	.03	.14	.07	.06	.04	.18	0	8.2	.08	.79	3.0	4.3
9	.02	.09	.08	.04	.05	.18	0	3.0	462	2.7	.60	210
10	.03	.07	.07	.04	.06	.18	0	1.6	37	8.5	.16	415
11	.04	.07	.08	.05	.06	.24	.09	1.0	11	8.6	.04	24
12	.03	.06	.06	.06	.07	.24	.24	.73	23	5.2	0	9.4
13	.03	.05	.05	.06	.46	.18	.18	.46	68	2.1	.06	5.6
14	.01	.08	.06	.05	.42	.21	.16	.34	69	1.1	.74	4.3
15	0	.11	.08	.04	.18	.24	.08	.24	12	.74	.60	3.2
16	0	.09	.08	.03	.16	.18	.30	.99	28	2.4	.16	2.6
17	.06	.07	.07	.04	.12	.16	.42	.56	628	1.9	.03	2.0
18	.11	.07	.08	.04	.12	.12	.42	.42	107	5.1	45	122
19	.08	.08	.11	.06	.21	.09	.79	.07	26	2.1	1.2	98
20	.07	.08	.12	.05	.38	.07	.42	.03	11	.60	.99	19
21	.05	.08	.08	.05	.24	.06	.27	.02	5.6	.28	.37	20
22	.04	.08	.08	.05	.18	.07	.16	0	3.4	85	3.2	12
23	.03	.08	.09	.03	.14	.09	.09	.02	2.1	52	152	7.8
24	.03	.07	.09	.03	.11	.07	.07	41	1.4	44	76	5.4
25	.05	.07	.11	.04	.09	.07	.03	11	.74	3.7	18	4.3
26	.04	.06	.09	.05	.08	.06	0	2.6	.42	2.6	23	3.2
27	.04	.06	.09	.03	.06	.06	0	1.5	.28	1.3	8.5	2.6
28	.04	.06	.08	.02	.08	.05	0	3.2	.16	.74	4.3	1.9
29	.04	.08	.07	.02	------	.04	0	2.2	.12	.42	60	1.5
30	.03	.08	.06	.03	------	.05	0	1.3	.10	.22	59	1.3
31	.03	------	.06	.03	------	.05	------	.51	------	.12	324	------
TOTAL	1.32	2.20	2.40	1.52	3.62	4.26	3.90	206.49	1,510.34	233.60	786.52	1,290.2
MEAN	.043	.073	.077	.049	.13	.14	.13	6.66	50.3	7.54	25.4	43.0
MAX	.11	.14	.12	.08	.46	.30	.79	107	628	85	324	415
MIN	0	.03	.05	.02	.04	.04	0	0	.08	0	0	1.3
AC-FT	2.6	4.4	4.8	3.0	7.2	8.5	7.7	410	3,000	463	1,560	2,560

CAL YR 1968 TOTAL 4,056.80 MEAN 11.1 MAX 1,270 MIN 0 ACFT 8,050
WAT YR 1969 TOTAL 4,046.37 MEAN 11.1 MAX 628 MIN 0 ACFT 8,030

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6- 9	0400	5.80	2,800	8-31	0400	4.45	1,500
6-17	0700	5.25	2,250	9-10	2300	5.90	2,900

07223000 Bell Ranch Canal below Conchas Dam, N. Mex.

LOCATION.--Lat 35°24'10", long 104°11'07", San Miguel County, in Pablo Montoya Grant, on left bank 1,270 ft downstream from Conchas Dam and 23.5 miles north of Newkirk.
PERIOD OF RECORD.--October 1942 to current year. Prior to October 1965, published as "near Conchas Dam."
GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 4,150 ft (from headgate elevations).
EXTREMES.--1942-69: Maximum daily discharge, 21 cfs July 10-13, Sept. 7-10, 1948, June 27, Aug. 7, 1961; no flow many days each year.
REMARKS.--Records good. Canal diverts from Conchas Reservoir (see sta 07223500) for irrigation of about 700 acres on Bell Ranch.

MONTHLY DIVERSION, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

Month	Maximum	Minimum	Mean	Diversion in acre-feet
October	6.5	0	2.75	169
November	0	0	0	0
December	0	0	0	0
CAL YR 1968	10	0	2.77	2,010
January	0	0	0	0
February	0	0	0	0
March	0	0	0	0
April	11	0	7.59	451
May	7.1	0	3.76	231
June	0	0	0	0
July	9.8	0	4.42	272
August	12	0	7.78	479
September	0	0	0	0
WTR YR 1969	12	0	2.21	1,600

07223300 Conchas Canal below Conchas Dam, N. Mex.

LOCATION.--Lat 35°22'35", long 104°10'03", San Miguel County, in Pablo Montoya Grant, on left bank at upstream end of tunnel transition section, 1.0 mile downstream from headgates in Conchas Dam and 21.5 miles north of Newkirk.
PERIOD OF RECORD.--Septemb er 1945 to June 1949, April 1954 to June 1955, September 1961 to current year.
GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,157.1 ft above mean sea level (from Bureau of Reclamation elevation of concrete structure). Prior to Nov. 19, 1948, at site three-quarters of a mile upstream at different datum.
EXTREMES.--1945-49, 1954-55, 1961-69: Maximum daily discharge, 751 cfs Aug. 31, 1961; no flow during most of each winter period.
REMARKS.--Records excellent. No diversion or wasteway between canal headworks and gage. Water is diverted from Conchas Reservoir for irrigation of about 35,000 acres on Tucumcari Project (1966 conditions). Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

MONTHLY DIVERSION, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

Month	Maximum	Minimum	Mean	Diversion in acre-feet
October	215	.27	89.2	5,490
November	.37	0	.31	18
December	302	0	78.0	4,800
CAL YR 1968	477	0	151	110,000
January	.20	0	.070	4.3
February	.19	0	.015	.9
March	.19	0	.016	1.0
April	424	0	255	15,170
May	414	.37	115	7,060
June	282	.79	163	9,680
July	433	88	256	15,740
August	506	25	361	22,210
September	110	.06	36.5	3,170
WTR YR 1969	506	0	114	83,320

07223500 Conchas Reservoir at Conchas Dam, N. Mex.

LOCATION.--Lat 35°24'10", long 104°11'25", San Miguel County, in Pablo Montoya Grant, stilling well within concrete portion of Conchas Dam on Canadian River, and about 24 miles north of Newkirk.

DRAINAGE AREA.--7,409 sq mi, of which 433 sq mi is probably nonco-tributing.

PERIOD OF RECORD.--December 1938 to September 1965, (monthly contents only), October 1965 to current year. Prior to October 1965, published as "near Conchas Dam."

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

EXTREMES.--Current year: Maximum contents, 286,000 acre-ft Sept. 26 (elevation, 4,193.65 ft); minimum, 192,600 acre-ft May 6 (elevation, 4,180.59 ft).
Period of record: Maximum contents, 479,600 acre-ft Apr. 24, 1942 (elevation, 4,208.41 ft); minimum after initial filling, 82,840 acre-ft Sept. 12, 13, 1964 (elevation, 4,156.05 ft); minimum elevation, 4,155.80 ft Sept. 24, 1954.

REMARKS.--Reservoir is formed by dam consisting of concrete main section and earthfill wings, completed Sept. 15, 1939; storage began Dec. 29, 1938. Capacity, 352,600 acre-ft between elevations 4,060.0 and 4,201.0 ft (crest of 300-ft ungated service spillway); inactive storage, 79,600 acre-ft at elevation 4,155 ft. Reservoir usually not drawn below elevation, 4,157.35 ft (sill of irrigation outlet), capacity 86,990 acre-ft, except for minor sluicing and operation of small powerplant; during 1954-55, 1964 there was some pumping into Conchas Canal. Capacity of 198,200 acre-ft between elevations 4,201.0 (crest of 300-foot ungated service spillway) and 4,218.0 ft (crest of 3,000-foot ungated emergency spillway) acts as detention storage in the control of floods. Figures given herein represent total contents. Reservoir is used for irrigation, flood control, and recreation. Diversion above station for irrigation of about 57,000 acres. Direct diversions through Conchas Dam to Conchas Canal and Bell Ranch Canal (see sta 07223000, 07223300) irrigate about 36,000 acres near Tucumcari, and on Bell Ranch.

COOPERATION.--Records furnished by Corps of Engineers.

Capacity table (elevation, in feet, and contents, in acre-feet)

4,180	189,000	4,188	241,900
4,182	201,300	4,190	256,900
4,184	214,200	4,192	272,500
4,186	227,700	4,194	288,900

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	223,700	215,300	214,400	209,100	209,900	210,900	211,400	195,700	201,000	240,500	247,600	251,500
2	223,200	215,300	214,400	209,100	209,900	210,900	211,400	194,900	201,000	239,700	247,100	254,100
3	222,700	215,300	214,300	209,200	209,900	210,800	211,400	194,100	200,800	238,900	246,600	255,200
4	222,300	215,100	214,200	209,200	209,900	210,900	211,300	193,400	200,600	238,200	246,200	256,100
5	221,900	215,100	214,200	209,200	209,900	210,900	211,300	192,800	200,300	237,500	245,800	257,000
6	221,500	215,000	213,800	209,300	209,900	211,000	211,300	192,900	199,800	236,900	245,200	257,500
7	221,100	215,000	213,200	209,300	209,800	211,100	210,700	193,000	199,200	236,300	244,900	258,000
8	220,700	215,000	212,700	209,300	209,800	211,100	210,000	193,200	199,600	236,600	244,600	259,300
9	220,400	215,000	212,300	209,300	209,700	211,100	209,300	193,500	203,900	236,700	244,000	261,700
10	220,000	215,000	211,900	209,400	209,700	211,100	208,800	194,000	213,100	237,500	243,300	269,300
11	219,700	214,900	211,500	209,400	209,700	211,200	208,500	194,400	214,100	237,600	242,500	271,200
12	219,300	214,900	210,900	209,600	209,800	211,100	208,000	195,000	215,300	237,500	241,600	272,100
13	218,800	214,800	210,100	209,600	210,100	211,100	207,500	195,600	220,000	237,300	240,900	272,900
14	218,400	214,800	209,600	209,600	210,300	211,200	207,000	196,000	222,100	237,100	240,500	273,300
15	217,800	214,800	209,300	209,600	210,400	211,300	206,300	196,700	223,000	236,700	239,800	273,500
16	217,300	214,800	208,900	209,600	210,400	211,300	206,000	197,800	225,300	236,900	239,000	273,900
17	216,900	214,800	208,900	209,600	210,500	211,300	205,400	198,500	238,400	237,100	238,200	274,200
18	216,600	214,700	208,900	209,700	210,500	211,400	204,700	199,000	240,600	239,500	237,800	276,400
19	216,500	214,700	208,900	209,800	210,700	211,300	204,100	199,000	241,700	240,200	237,200	280,100
20	216,400	214,700	208,900	209,800	210,800	211,300	203,500	199,100	242,400	241,500	236,700	280,900
21	216,300	214,700	208,900	209,900	210,800	211,300	203,000	199,100	243,000	243,600	236,200	283,300
22	216,200	214,700	208,900	210,000	210,900	211,400	202,400	199,300	243,300	245,100	235,600	284,500
23	216,100	214,600	208,900	209,900	210,900	211,400	201,800	199,700	243,300	246,300	235,400	285,300
24	216,000	214,600	208,900	209,900	210,900	211,500	201,100	201,000	243,200	247,500	235,800	285,600
25	215,900	214,600	208,900	209,900	210,900	211,500	200,200	201,100	242,800	248,000	236,800	285,800
26	215,800	214,600	208,900	209,900	210,900	211,500	199,600	201,300	242,200	248,300	237,200	286,000
27	215,700	214,500	209,100	209,900	210,900	211,500	198,800	201,300	241,900	248,500	237,000	285,900
28	215,700	214,400	209,100	210,000	210,900	211,500	198,100	201,200	241,300	248,500	236,000	285,800
29	215,700	214,400	209,100	210,000	------	211,500	197,300	201,300	240,700	248,900	236,900	285,800
30	215,500	214,400	209,100	210,000	------	211,500	196,400	201,300	240,700	248,400	241,100	285,700
31	215,400	------	209,100	210,000	------	211,500	------	201,100	------	248,100	247,100	------
MAX	223,700	215,300	214,400	210,000	210,900	211,500	211,400	201,300	243,300	248,900	247,600	286,000
MIN	215,400	214,400	208,900	209,100	209,700	210,800	196,400	192,800	199,200	236,300	235,400	251,500
(†)	4,184.19	4,184.04	4,183.22	4,183.36	4,183.50	4,183.59	4,181.22	4,181.98	4,187.83	4,188.84	4,188.70	4,193.61
(‡)	-8,900	-1,000	-5,300	+900	+900	+600	-15,100	+4,700	+39,600	+7,400	-1,000	+38,600

CAL YR 1968 MAX 272,100 MIN 208,900 ‡ -58,100
WTR YR 1969 MAX 286,000 MIN 192,800 ‡ +61,400

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

07224500 Canadian River below Conchas Dam, N. Mex.

LOCATION.--Lat 35°24'32", long 104°10'10", San Miguel County, in Pablo Montoya Grant, on right bank 2.8 miles downstream from Conchas Dam, and 24 miles north of Newkirk.

DRAINAGE AREA.--7,417 sq mi, of which 433 sq mi is probably noncontributing.

PERIOD OF RECORD.--May 1936 to December 1938, January 1942 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,021.90 ft above mean sea level. Prior to Dec. 13, 1941, at site 0.7 mile downstream at datum 6.2 ft higher.

AVERAGE DISCHARGE.--28 years (1941-69), 79.9 cfs (57,890 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 58 cfs Sept. 9 (gage height, 5.88 ft); minimum daily, 0.50 cfs June 24.
Period of record: Maximum discharge, 73,000 cfs June 3, 1937 (may have been affected by construction work on Conchas Dam); maximum gage height, 20.34 ft May 30, 1938, present datum (backwater from temporary construction dam); no flow at times.
Flood of Sept. 30, 1904 was estimated as 279,000 cfs by Corps of Engineers.

REMARKS.--Records poor. Flow regualted by Conchas Reservoir (see preceding page). Diversions above station for irrigation of about 90,000 acres, 36,000 of which are below station. Bell Ranch Canal (see sta 07223000) diverts directly from Conchas Dam and flumes from right to left bank just above River gage for irrigation of about 700 acres on Bell Ranch. Conchas Canal (see sta 07223300) diverts directly from Conchas Dam and bypasses gage for irrigation of about 35,000 acres around Tucumcari.

REVISIONS.--WSP 1177: Drainage area.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	3.5	3.9	4.6	3.3	3.5	3.2	3.0	3.2	1.6	1.0	1.4
2	3.5	3.6	3.8	3.6	3.3	3.5	3.2	3.0	3.2	1.7	.96	1.2
3	3.8	3.8	3.8	3.5	3.3	3.5	3.2	3.0	3.2	1.6	1.0	1.2
4	4.1	3.8	3.6	3.5	3.3	3.5	3.0	3.0	3.0	1.5	1.0	1.2
5	3.8	3.8	3.5	3.3	3.5	3.6	3.0	3.3	2.8	1.4	1.1	1.0
6	3.6	3.6	3.5	3.5	3.5	3.8	3.0	4.3	2.6	1.4	1.1	.96
7	3.6	3.6	3.5	3.5	3.5	3.9	3.0	3.8	2.5	1.8	1.1	.96
8	3.6	3.9	3.5	3.5	3.5	3.9	3.0	3.2	2.5	1.8	1.0	1.2
9	3.6	3.9	3.5	3.3	3.6	3.8	2.8	3.0	3.0	2.6	1.0	12
10	3.6	3.9	3.5	3.3	3.6	3.8	3.0	2.8	3.6	3.3	.96	9.0
11	3.8	3.8	3.6	3.3	3.5	3.8	3.3	3.0	2.6	2.6	.96	1.2
12	3.8	3.8	3.6	3.3	3.2	3.8	3.6	3.2	3.0	2.0	.89	.96
13	3.8	3.8	3.5	3.3	3.6	3.8	3.5	3.2	11	1.6	.89	.89
14	3.9	3.8	3.5	3.2	3.6	3.6	3.5	3.0	5.6	1.6	1.2	1.0
15	4.1	3.9	3.5	3.2	3.3	3.8	3.3	3.2	2.3	1.5	1.2	1.1
16	4.1	3.9	3.5	3.2	3.3	3.6	3.3	4.8	3.3	1.4	.96	1.2
17	4.1	3.9	3.6	3.2	3.3	3.6	3.5	4.8	6.7	1.5	.96	1.2
18	3.9	3.9	3.6	3.0	3.3	3.6	3.3	3.2	6.7	1.7	1.9	1.5
19	3.8	3.9	3.6	3.0	3.3	3.5	3.0	3.2	2.5	1.7	2.4	1.8
20	3.8	3.9	3.6	3.0	3.5	3.3	3.2	3.2	1.3	1.5	.96	1.7
21	3.8	3.8	3.6	3.0	3.3	3.5	3.2	3.2	1.0	1.2	1.0	1.6
22	3.9	3.8	3.3	3.2	3.2	3.3	3.2	3.2	.77	1.5	1.2	1.6
23	4.3	3.8	3.3	3.2	3.2	3.5	3.2	3.5	.55	1.4	1.3	1.7
24	3.6	3.8	3.3	3.0	3.5	3.3	3.3	3.9	.50	1.3	1.4	1.6
25	3.5	4.1	3.5	3.0	3.3	3.3	3.2	4.1	.60	1.3	1.7	1.6
26	3.2	3.9	3.5	3.2	3.3	3.3	2.8	3.8	.71	1.2	1.8	1.4
27	3.5	3.9	3.5	3.2	3.3	3.3	2.6	3.8	.83	1.0	1.6	1.3
28	3.5	5.0	3.5	3.0	3.5	3.0	2.8	3.3	1.2	1.0	1.4	1.4
29	3.5	3.9	3.5	3.2	------	3.0	2.8	3.3	1.2	1.1	1.3	1.5
30	3.5	4.1	3.3	3.2	------	3.2	2.8	3.5	1.3	.96	1.2	1.5
31	3.5	------	3.5	3.2	------	3.3	------	3.3	------	.96	1.6	------
TOTAL	115.7	116.1	109.5	101.7	94.9	109.2	93.8	106.1	83.26	48.72	38.04	57.87
MEAN	3.73	3.87	3.53	3.28	3.39	3.52	3.13	3.42	2.78	1.57	1.23	1.93
MAX	4.3	5.0	3.9	4.6	3.6	3.9	3.6	4.8	11	3.3	2.4	12
MIN	3.2	3.5	3.3	3.0	3.2	3.0	2.6	2.8	.50	.96	.89	.89
AC-FT	229	230	217	202	188	217	186	210	165	97	75	115

CAL YR 1968 TOTAL 1,510.90 MEAN 4.13 MAX 84 MIN 2.8 ACFT 3,000
WAT YR 1969 TOTAL 1,074.89 MEAN 2.94 MAX 12 MIN .50 ACFT 2,130

07226500 Ute Creek near Logan, N. Mex.

LOCATION(REVISED).--Lat 35°26'18", long 103°31'31", in NW¼SE¼ sec.15, T.14 N., R.32 E., Harding County, on right bank 1.9 miles downstream from Alamosa Creek, 4.5 miles upstream from State Road 155, 4.7 miles upstream from high-water line of Ute Reservoir, 8.2 miles northwest of Logan and 10.2 miles upstream from mouth.

DRAINAGE AREA.--2,060 sq mi, of which 617 is probably noncontributing.

PERIOD OF RECORD.--January 1912 to May 1914 (gage heights and discharge measurements only), January 1942 to current year. Records of discharge for August 1904 to June 1906, April 1909 to December 1911, published in WSP 307, are unreliable and should not be used.

GAGE.--Water-stage recorder. Altitude of gage is 3,815 ft (from topographic map). Prior to May 24, 1914 at site 4.2 miles downstream at different datum. Jan. 13, 1942 to Dec. 15, 1955 at site 4.8 miles downstream at datum of 3,758.50. Dec. 16, 1955 to Sept. 30, 1964 at site 4.8 miles downstream at datum of 3,757.50 ft above mean sea level.

AVERAGE DISCHARGE.--27 years, 28.2 cfs (20,430 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 15,000 cfs Sept. 7 (gage height, 7.50 ft), from rating curve extended above 2,800 cfs; no flow most of time.
1942-69: Maximum discharge, 24,500 cfs May 28, 1946, July 12, 1951 (gage height, 8.4 ft, site and datum then in use), from rating curve extended above 7,700 cfs on basis of slope-area measurements at gage heights 5.2 and 7.2 ft; no flow most of time.
Flood of May 1, 1914, reached a stage of 22.95 ft, site and datum then in use. Another major flood reached a stage of 16.0 ft (1942 datum) sometime in 1941, from information furnished by Bureau of Reclamation (discharge, about 70,000 cfs).

REMARKS.--Records poor. Diversions for irrigation of a few hundred acres above station.

REVISIONS(WATER YEARS).--WSP 1281: 1942-48, 1950, 1951(P). See also PERIOD OF RECORD.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0							0	0	0	25	1,000
2	0							0	0	0	10	229
3	0							0	0	0	5.0	47
4	1.6							0	0	10	0	20
5	0							0	0	5.0	0	2.6
6	0							154	0	100	0	16
7	0							514	0	50	10	1,180
8	0							189	0	20	40	290
9	0							55	163	10	15	465
10	0							20	295	300	5.0	1,570
11	0							7.0	286	100	2.0	491
12	0							1.0	46	50	1.0	145
13	0							.06	170	10	100	56
14	0							1.2	346	5.0	50	32
15	0							.14	125	1.0	18	19
16	0							709	87	0	14	20
17	0							299	2,140	0	7.2	127
18	0							11	358	0	6.3	398
19	0							.65	165	200	19	182
20	0							0	59	50	1.0	69
21	0							0	24	15	.15	782
22	0							0	11	5.0	0	558
23	0							.43	6.2	2.0	3.3	69
24	0							.24	2.0	0	18	25
25	0							.16	0	300	10	15
26	0							0	0	100	20	10
27	0							1.1	0	50	10	8.3
28	0							.70	0	10	5.0	5.0
29	0				------			61	0	5.0	10	2.0
30	0				------			1.7	0	2.0	5.0	0
31	0	------			------		------	0	------	0	50	------
TOTAL	1.6	0	0	0	0	0	0	2,026.38	4,283.2	1,400.0	459.95	7,832.9
MEAN	.052	0	0	0	0	0	0	65.4	143	45.2	14.8	261
MAX	1.6	0	0	0	0	0	0	709	2,140	300	100	1,570
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	3.2	0	0	0	0	0	0	4,020	8,500	2,780	912	15,540

CAL YR 1968 TOTAL 1,716.46 MEAN 4.69 MAX 638 MIN 0 ACFT 3,400
WAT YR 1969 TOTAL 16,004.03 MEAN 43.8 MAX 2,140 MIN 0 ACFT 31,740

PEAK DISCHARGE (BASE, 4,500 CFS)

DATE	TIME	G.HT.	DISCHARGE
6-17	0600	5.35	6,500
9- 7	1900	7.50	15,000

NOTE.--No gage height record June 28 to Aug. 14.

07226800 Ute Reservoir near Logan, N. Mex.

LOCATION.--Lat 35°20'35", long 103°26'37", in NW¼ sec.21, T.13 N., R.33 E., Quay County, on face of Ute Dam on Canadian River 2.5 miles southwest of Logan and 3.5 miles downstream from Ute Creek.

DRAINAGE AREA.--11,140 sq mi, of which 1,110 sq mi is probably noncontributing.

PERIOD OF RECORD.--May 1963 to current year.

GAGE.--Nonrecording gage. Datum of gage is at mean sea level (levels by Interstate Stream Commission).

EXTREMES.--Current year: Maximum contents observed, 119,900 acre-ft June 17 (elevation, 3,762.4 ft); minimum, 92,350 acre-ft Apr. 28-May 5 (elevation, 3.755.6 ft).
Period of record: Maximum contents observed, 119,900 acre-ft June 17, 1969 (elevation, 3,762.4 ft); minimum, 22,230 acre-ft Aug. 7, 1964 (elevation, 3,726.2 ft).

REMARKS.--Reservoir is formed by earthfill dam 121 ft high above streambed, 2,050 ft long; an earth-dike section on north (left) bank of Canadian River is 2,860 ft long and has a maximum height of 27 ft; a concrete spillway section 840 ft long is constructed between main embankment and the dike. Construction completed in May 1963; storage began Dec. 13, 1962. Capacity, 109,600 acre-ft at elevation 3,760.0 ft (crest of 840-ft ungated service spillway). Top of dam is at elevation 3,801.0 ft. Maximum design capacity of 307,000 acre-ft at elevation 3,791.0 ft (31 ft above crest of 840-ft spillway) allows 197,400 acre-ft of capacity for protec-protection of the structure. Dead storage, 20,710 acre-ft at elevation 3,725.0 ft (crest of outlet tower); inactive pool of 49,870 acre-ft below elevation 3,741.6 ft is maintained for fish and wildlife. Figures given herein represent total contents. Reservoir is planned to furnish water for municipal and industrial uses and for recreational purposes; some incidental flood control. Diversions above station for irrigation of about 90,000 acres. Records of chemical analyses and water temperatures for water year 1969 are published in Part 2 of this report.

COOPERATION.--Records furnished by New Mexico Interstate Stream Commission.

Capacity table (elevation, in feet, and contents, in acre-feet)

3,755	90,140	3,760	109,600
3,756	93,840	3,762	118,100
3,758	101,500	3,764	127,200

CONTENTS, IN ACRE-FEET, AT 0800 HOURS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98,020	97,250	95,720	94,970	94,210	94,210	93,090	92,350	102,700	109,200	109,600	115,500
2	98,020	97,250	95,720	94,970	94,210	94,210	93,090	92,350	102,300	109,200	109,600	112,900
3	98,020	97,250	95,720	94,970	94,210	93,840	93,090	92,350	102,300	109,200	109,600	110,800
4	98,020	96,860	95,720	94,970	94,210	93,840	93,090	92,350	102,300	109,200	109,600	110,000
5	98,020	96,860	95,720	94,970	93,840	93,840	93,090	92,350	102,300	109,200	109,600	109,600
6	98,020	96,860	95,720	94,970	93,840	93,840	93,090	93,470	102,300	109,200	109,600	109,200
7	98,020	96,860	95,720	94,970	93,840	93,840	93,090	98,400	102,300	110,000	109,600	108,800
8	98,020	96,860	95,340	94,970	93,840	93,840	93,090	99,560	102,300	110,200	109,600	111,300
9	98,020	96,860	95,340	94,970	93,840	93,840	93,090	-	104,300	110,400	109,600	110,400
10	98,020	96,860	95,340	94,970	93,840	93,840	93,090	100,300	105,100	110,800	109,600	110,400
11	98,020	96,860	95,340	94,970	93,840	93,840	93,090	100,300	107,900	112,100	109,600	113,400
12	97,630	96,860	95,340	94,970	93,840	93,840	93,090	100,300	107,900	111,300	109,600	111,300
13	97,630	96,860	95,340	94,970	93,840	93,840	93,090	100,300	107,500	110,400	109,200	110,200
14	97,630	96,480	95,340	94,970	94,210	93,840	93,090	100,300	110,400	110,000	109,200	109,600
15	97,630	96,480	95,340	94,970	94,210	93,840	93,090	100,300	113,400	110,000	109,200	109,200
16	97,630	96,480	95,340	94,970	94,210	93,840	93,090	100,300	110,400	109,600	109,200	108,800
17	97,630	96,480	95,340	-	94,210	93,840	93,090	102,300	113,800	109,600	109,200	108,100
18	97,630	96,480	95,340	-	94,210	93,840	93,090	102,700	118,100	109,600	109,200	109,800
19	97,630	96,480	95,340	94,590	94,210	93,840	92,720	102,700	112,500	110,000	109,200	110,400
20	97,630	96,480	95,340	94,590	94,210	93,470	92,720	102,700	110,800	110,400	108,800	-
21	97,630	96,100	94,970	94,590	94,210	93,470	92,720	102,700	110,400	110,000	108,800	-
22	97,630	96,100	94,970	94,590	94,210	93,470	92,720	102,700	110,000	109,600	108,800	110,200
23	97,630	96,100	94,970	94,590	94,210	93,470	92,720	102,700	109,600	109,600	108,400	109,800
24	97,630	96,100	94,970	94,590	94,210	93,470	92,720	102,700	109,600	109,600	109,200	109,400
25	97,250	96,100	94,970	94,590	94,210	93,470	92,720	102,700	109,600	109,600	109,400	108,600
26	97,250	96,100	94,970	94,590	94,210	93,470	92,720	102,700	109,600	110,800	109,800	108,100
27	97,250	95,720	94,970	94,590	94,210	93,090	92,720	102,700	109,600	110,400	109,800	107,500
28	97,250	95,720	94,970	94,210	94,210	93,090	92,350	102,700	109,200	110,000	109,400	107,100
29	97,250	95,720	94,970	94,210	------	93,090	92,350	102,700	109,200	110,000	109,000	106,700
30	97,250	95,720	94,970	94,210	------	93,090	92,350	102,700	109,200	110,000	108,400	106,300
31	97,250	------	94,970	94,210	------	93,090	------	102,700	------	109,600	110,000	------
MAX	98,020	97,250	95,720	94,970	94,210	94,210	93,090	102,700	118,100	112,100	110,000	115,500
MIN	97,250	95,720	94,970	94,210	93,840	93,090	92,350	92,350	102,300	109,200	108,400	106,300
(+)	3,756.9	3,756.5	3,756.3	3,756.1	3,756.1	3,755.8	3,755.6	3,758.3	3,759.9	3,760.0	3,760.10	3,759.20
(‡)	-770	-1,530	-750	-760	0	-1,120	-740	+10,350	+6,500	+400	+400	-3,700

CAL YR 1968 MAX 99,950 MIN 90,880 ‡ -750
WTR YR 1969 MAX 118,100 MIN 92,350 ‡ +8,280

+ Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

07227000 Canadian River at Logan, N. Mex.

LOCATION.--Lat 35°21'25", long 103°25'03", in NE¼NE¼ sec.15, T.13 N., R.33 E., on left bank 1,100 ft upstream from bridge on U. S. Highway 54, 0.7 mile south of Logan, 1.4 miles upstream from Chicago, Rock Island & Pacific Railroad Co. bridge, 2.0 miles downstream from Ute Dam, 4.3 miles upstream from Revuelto Creek, and 5.7 miles downstream from Ute Creek.

DRAINAGE AREA.--11,141 sq mi, of which 1,110 sq mi is probably noncontributing.

PERIOD OF RECORD.--June 1904 to November 1905 (gage heights and discharge measurements only), December 1908 to September 1909, February 1910, April to July 1910. August 1910 to September 1911 (gage heights and discharge measurements only), October 1911 to May 1914, January to May 1924, September 1924 to July 1925, January 1927 to April 1934, August 1934 to current year. Monthly discharge only for some periods, published in WSP 1311. Records for December 1909, January 1910, and May to July 1934, published in WSP 267, 287, and 762 are unreliable and should not be used. Published as South Canadian River, June to September 1904.

GAGE.--Water-stage recorder. Datum of gage is 3,668.1 ft above mean sea level. SEE WSP 1311 or 1731 for history of changes prior to Oct. 1, 1934.

AVERAGE DISCHARGE.--15 years (1908-9, 1911-13, 1926-38), 392 cfs (283,800 acre-ft per year), prior to completion of Conchas Dam; 24 years (1938-62), 257 cfs (186,100 acre-ft per year), prior to completion of Ute Dam; 7 year 7 years (1962-69), 40.9 cfs (29,630 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 11,400 cfs June 17 (gage height, 12.04 ft); minimum, 1.7 cfs Aug. 20.
1930-69: Maximum discharge, 219,000 cfs Sept. 22, 1941 (gage height, 29.3 ft, from floodmarks), from rating curve extended above 75,000 cfs, no flow at times prior to completion of Ute Dam.
Maximum discharge known, 278,000 cfs Sept. 30, 1904 (gage height, about 36.5 ft, site and datum used in 1909), from rating curve extended above 14,000 cfs, from Ninth Biennial Report of State Engineer.

REMARKS.--Records good except those for June to September, which are poor. Flow regulated by Conchas Reservoir, 45 miles upstream (see sta 07223500) and Ute Reservoir, 2 miles upstream (see sta 07226800). Diversions for irrigation of about 90,000 acres above station.

REVISIONS(WATER YEARS).--WSP 1087: 1935-36. WSP 1177: Drainage area. WSP 1281: 1912, 1932(M), 1934, 1945-47, 1949-50. WSP 1311: 1931(M). See also PERIOD OF RECORD.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	2.6	2.5	2.6	2.7	2.6	2.4	2.2	2.3	4.3	8.3	4,940
2	2.1	2.9	2.5	2.6	2.7	2.6	2.4	2.2	2.3	4.1	7.6	1,970
3	2.1	2.9	2.5	2.6	2.8	2.6	2.4	2.2	2.4	4.1	9.3	962
4	2.3	2.6	2.5	2.8	2.8	2.6	2.3	2.5	2.3	3.8	12	680
5	2.3	2.5	2.5	2.7	2.9	2.7	2.3	2.5	2.3	5.5	9.8	475
6	2.3	2.6	2.5	2.7	2.8	2.6	2.2	3.9	2.3	8.6	15	465
7	2.3	2.6	2.5	2.7	2.8	2.5	2.2	2.8	2.3	164	8.0	603
8	2.4	2.7	2.5	2.5	2.9	2.5	2.2	2.7	2.4	327	4.3	1,530
9	2.4	2.7	2.5	2.7	2.8	2.5	2.2	2.5	2.5	345	3.6	1,080
10	2.4	2.6	2.5	2.7	2.9	2.5	2.2	2.5	2.9	746	2.9	2,470
11	2.4	2.6	2.5	2.8	2.9	2.5	2.4	2.5	2.5	845	2.9	2,220
12	2.3	2.6	2.5	2.7	3.1	2.5	2.4	2.4	2.5	560	2.9	1,110
13	2.4	2.6	2.5	2.7	3.3	2.5	2.4	2.3	6.0	258	2.9	510
14	2.5	2.8	2.5	2.7	3.1	2.5	2.5	2.4	864	126	2.9	318
15	2.5	2.8	2.6	2.7	2.9	2.6	2.3	2.3	817	57	2.4	289
16	2.5	2.7	2.6	2.7	2.8	2.5	2.5	2.4	505	30	2.3	289
17	2.7	2.6	2.6	2.7	2.8	2.5	2.5	2.3	5,590	26	2.1	289
18	2.6	2.6	2.6	2.7	2.8	2.5	2.4	2.2	6,860	108	2.3	382
19	2.5	2.7	2.6	2.8	2.9	2.4	2.4	2.2	1,280	281	2.4	415
20	2.6	2.7	2.6	2.8	3.0	2.5	2.4	2.2	608	235	2.0	336
21	2.6	2.6	2.6	2.8	2.9	2.5	2.3	2.1	273	148	2.0	310
22	2.6	2.6	2.6	2.7	2.9	2.5	2.3	2.2	134	97	151	680
23	2.6	2.6	2.6	2.7	2.8	2.5	2.3	2.2	80	121	358	532
24	2.6	2.6	2.6	2.8	2.7	2.5	2.3	2.2	62	92	358	358
25	2.6	2.6	2.6	2.8	2.6	2.5	2.2	2.2	47	84	336	323
26	2.6	2.5	2.6	2.8	2.6	2.5	2.2	2.2	67	615	363	323
27	2.6	2.5	2.6	2.7	2.6	2.5	2.3	2.3	6.2	416	372	327
28	2.7	2.5	2.6	2.7	2.6	2.5	2.3	2.4	13	181	354	332
29	2.7	2.5	2.6	2.7	------	2.5	2.3	2.3	6.9	97	349	323
30	2.6	2.5	2.6	2.7	------	2.5	2.2	2.3	4.8	48	358	306
31	2.6	------	2.6	2.7	------	2.4	------	2.2	------	15	610	------
TOTAL	76.6	78.9	79.2	84.0	79.4	78.1	69.7	73.8	17,252.9	6,052.4	3,716.9	25,147
MEAN	2.47	2.63	2.55	2.71	2.84	2.52	2.32	2.38	575	195	120	838
MAX	2.7	2.9	2.6	2.8	3.3	2.7	2.5	3.9	6,860	845	610	4,940
MIN	2.1	2.5	2.5	2.5	2.6	2.4	2.2	2.1	2.3	3.8	2.0	289
AC-FT	152	157	157	167	157	155	138	146	34,220	12,000	7,370	49,880

CAL YR 1968 TOTAL 922.4 MEAN 2.52 MAX 7.3 MIN 2.0 ACFT 1,830
WAT YR 1969 TOTAL 52,788.9 MEAN 145 MAX 6,860 MIN 2.0 ACFT 104,700

07227100 Revuelto Creek near Logan, N. Mex.

LOCATION.--Lat 35°20'28", long 103°23'40", in SW¼NW¼ sec.24, T.13 N., R.33 E., Quay County, on right bank 0.3 mile upstream from bridge on State Highway 39, 1.9 miles southeast of Logan, 2.3 miles upstream from mouth.

DRAINAGE AREA.--786 sq mi.

PERIOD OF RECORD.--August 1959 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,665 ft (from topographic map).

AVERAGE DISCHARGE.--10 years, 56.1 cfs (40,640 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 17,400 cfs Sept. 1 (gage height, 11.34 ft); no flow Apr. 1, 4, 7-9.
Period of record: Maximum discharge, 26,700 cfs July 9, 1960 (gage height, 14.3 ft); no flow at times.
1941-47: Maximum discharge determined, about 13,400 cfs Sept. 18, 1946 (gage height, 9.04 ft, site and datum then in use), from unpublished records collected by Bureau of Reclamation.
A peak of 26,100 cfs (time and date unknown; gage height, 12.9 ft) was measured by slope-area method in May 1957.

REMARKS.--Records poor. Low flows supplemented by surface and ground water return from irrigation in vicinity of Tucumcari. Records of chemical analyses and water temperatures for water year 1969 are published in Part 2 of this report.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	.90	.76	2.0	.31	.76	.05	7.4	18	.40	6.7	9,400
2	6.3	1.8	.83	2.1	.35	.83	.08	8.2	11	1.2	22	960
3	9.6	3.0	.83	3.0	.30	.83	.11	10	6.7	2.6	22	167
4	88	2.8	.76	2.6	.40	.83	.05	147	19	2.4	39	80
5	87	1.4	.83	2.3	.31	1.6	.11	353	20	4.4	34	54
6	30	.90	.98	3.2	.27	3.8	.08	3,180	10	16	28	38
7	17	.90	.83	3.2	.35	4.8	.02	820	3.4	16	29	42
8	12	2.6	.83	2.6	.35	3.0	0	99	5.7	24	27	258
9	8.2	3.4	1.2	.98	.45	2.3	.08	39	61	53	23	453
10	6.3	3.2	4.6	.98	.50	1.6	7.6	29	40	193	29	2,270
11	4.8	2.0	27	.98	.56	2.8	2.4	18	30	256	29	603
12	4.6	1.4	13	1.4	.56	3.6	17	21	25	61	28	284
13	4.4	.98	10	2.4	.98	3.2	17	14	25	27	25	112
14	3.8	1.1	8.0	2.0	30	2.8	39	15	30	19	28	66
15	2.1	1.6	7.0	1.4	16	3.8	20	293	30	11	31	51
16	47	2.0	6.0	1.2	9.6	4.2	15	22	30	9.2	32	45
17	30	1.4	5.0	1.2	3.2	4.8	37	15	700	129	31	51
18	28	1.1	5.0	1.2	2.6	4.8	28	33	500	193	22	252
19	19	.98	4.0	1.4	2.8	1.8	22	13	99	36	65	61
20	14	.98	4.0	1.5	4.2	.98	20	6.0	43	72	40	30
21	12	1.1	4.0	1.2	6.0	.50	20	3.6	26	64	30	27
22	9.2	1.1	4.0	.90	4.0	.31	20	2.4	16	35	20	17
23	8.7	1.1	4.0	.56	3.4	.23	15	2.6	10	21	20	16
24	11	.98	5.0	.45	3.0	.35	58	12	6.3	22	50	16
25	7.4	.98	6.0	.31	2.0	.27	14	19	3.2	16	660	16
26	7.0	.90	6.0	.31	1.1	.50	8.7	17	1.2	13	670	17
27	3.8	.83	5.7	.23	.76	.31	9.2	9.6	.90	11	30	18
28	2.3	.83	4.0	.27	.76	.14	9.2	5.4	1.2	10	20	18
29	2.0	1.0	3.2	.23	------	.11	9.2	3.8	.62	8.2	20	18
30	1.4	.62	2.6	.23	------	.11	6.7	218	.76	5.4	20	17
31	1.1	------	2.0	.31	------	.08	------	39	------	6.3	50	------
TOTAL	499.0	43.88	147.95	42.64	95.11	56.04	395.58	5,475.0	1,772.98	1,338.10	2,180.7	15,457
MEAN	16.1	1.46	4.77	1.38	3.40	1.81	13.2	177	59.1	43.2	70.3	515
MAX	88	3.4	27	3.2	30	4.8	58	3,180	700	256	670	9,400
MIN	1.1	.62	.76	.23	.27	.08	0	2.4	.62	.40	6.7	16
AC-FT	990	87	293	85	189	111	785	10,860	3,520	2,650	4,330	30,660

CAL YR 1968 TOTAL 5,545.66 MEAN 15.2 MAX 309 MIN .05 ACFT 11,000
WAT YR 1969 TOTAL 27,503.98 MEAN 75.4 MAX 9,400 MIN 0 ACFT 54,550

PEAK DISCHARGE (BASE, CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5- 6	1000	7.63	6,790	9- 1	1100	11.34	17,400
6-17	a1800	5.92	3,500				

a Estimated.

07227200 Tramperos Creek near Stead, N. Mex.

LOCATION.--Lat 36°04'15", long 103°12'10", in NW¼NW¼ sec.10, T.21 N., R.35 E., Union County, at downstream end of bridge pier on State Highway 18, 2.1 miles south of Stead, and 26 miles south of Clayton. Prior to Feb. 6, 1969, at site 90 ft upstream on left bank.

DRAINAGE AREA.--556 sq mi, approximately.

PERIOD OF RECORD.--October 1964 to May 1966 (annual maximum only), June 1966 to current year. Prior to October 1966, published as Major Longs Creek near Stead (sta 07227445).

GAGE.--Water-stage recorder. Datum of gage is 4,481.19 ft above mean sea level. Prior to Feb. 6, 1969, at site 90 ft upstream at datum 1.61 ft lower.

EXTREMES.--Current year: Maximum discharge, 5,610 cfs Sept. 10 (gage height, 12.15 ft), from rating curve extended above 14 cfs on basis of slope-area measurements at gage heights 12.4 and 14.9 ft; no flow for most of time.

Period of record: Maximum discharge, 12,300 cfs Oct. 17, 1965 (gage height, 14.9 ft, from floodmark, present datum), by slope-area measurement; no flow for most of time.

A flood in 1904 reached a stage of about 27.4 ft (discharge, about 45,500 cfs) with only a single span bridge and a flood in 1937 reached a stage of about 20.4 ft (discharge, about 31,600 cfs), from information by State Highway Department.

REMARKS.--Records poor. Minor regulation by detention reservoirs and stock ponds.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	0	5.0	293	0	347
2	0	0	0	0	0	0	0	0	1.5	11	0	32
3	0	0	0	0	0	0	0	0	.09	.11	0	9.0
4	0	0	0	0	0	0	0	0	0	0	0	2.9
5	0	0	0	0	0	0	0	0	0	0	0	1.2
6	0	0	0	0	0	0	0	0	0	3.1	131	.13
7	0	0	0	0	0	0	0	0	0	.75	139	0
8	0	0	0	0	0	0	0	0	0	.13	2.7	0
9	0	0	0	0	0	0	0	0	0	0	.02	.01
10	0	0	0	0	0	0	0	0	0	24	0	1,010
11	0	0	0	0	0	0	0	0	0	9.6	0	158
12	0	0	0	0	0	0	0	0	0	4.7	0	102
13	0	0	0	0	0	0	0	0	0	2.3	0	50
14	0	0	0	0	0	0	0	0	0	.89	0	27
15	0	0	0	0	0	0	0	0	0	44	0	18
16	0	0	0	0	0	0	0	0	0	15	0	28
17	0	0	0	0	0	0	0	0	0	2.1	0	89
18	0	0	0	0	0	0	0	0	0	1.1	0	198
19	0	0	0	0	0	0	0	0	0	.34	0	132
20	0	0	0	0	0	0	0	0	0	.23	0	55
21	0	0	0	0	0	0	0	0	0	82	0	213
22	0	0	0	0	0	0	0	0	0	22	0	232
23	0	0	0	0	0	0	0	0	0	1.4	124	104
24	0	0	0	0	0	0	0	0	0	25	1.0	68
25	0	0	0	0	0	0	0	0	0	9.3	67	50
26	0	0	0	0	0	0	0	0	0	.24	81	40
27	0	0	0	0	0	0	0	0	0	0	17	35
28	0	0	0	0	0	0	0	0	0	0	2.7	20
29	0	0	0	0	------	0	0	0	0	0	.47	14
30	0	0	0	0	------	0	0	29	0	0	6.5	9.0
31	0	------	0	0	------	0	------	8.4	------	0	195	------
TOTAL	0	0	0	0	0	0	0	37.4	6.59	552.29	767.39	3,044.24
MEAN	0	0	0	0	0	0	0	1.21	.22	17.8	24.8	101
MAX	0	0	0	0	0	0	0	29	5.0	293	195	1,010
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	74	13	1,100	1,520	6,040

CAL YR 1968 TOTAL 33.38 MEAN .091 MAX 5.9 MIN 0 AC-FT 66
WTR YR 1969 TOTAL 4,407.91 MEAN 12.1 MAX 1,010 MIN 0 AC-FT 8,740

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G.HT.	DISCHARGE
8- 6	2000	9.48	1,720
8-23	0030	9.10	1,430
9-10	0100	12.15	5,610

RIO GRANDE BASIN

08251500 Rio Grande near Lobatos, Colo.

LOCATION.--Lat 37°04'42", long 105°45'22", in sec.22, T.33 N., R.11 E., Conejos County, on right bank at highway bridge, 6 miles north of Colorado-New Mexico State line, 7 miles downstream from Culebra Creek, 10 miles east of Lobatos, and 14 miles east of Antonito.

DRAINAGE AREA.--7,700 sq mi, approximately (includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.).

PERIOD OF RECORD.--June 1889 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.

GAGE.--Water-stage recorder. Datum of gage is 7,427.63 ft above mean sea level. Prior to Nov. 8, 1910, staff or chain gage at same site and datum.

AVERAGE DISCHARGE.--70 years, 603 cfs (436,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,730 cfs June 19 (gage height, 4.29 ft); minimum daily, 55 cfs Oct. 1.
Period of record: Maximum discharge observed, 13,200 cfs June 8, 1905 (gage height, 9.1 ft), from rating curve extended above 8,000 cfs; no flow at times in 1950-51, 1956.
Maximum stage, probably since at least 1828, that of June 8, 1905.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals, diversions for irrigation, and return flow from irrigated areas. Records of chemical analyses for the water year 1969 are published in Part 2 of this report as "above Culebra Creek, near Lobatos."

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	118	240	290	330	430	430	864	1,200	445	278	157
2	56	133	225	290	315	440	445	925	1,240	425	278	181
3	58	157	240	295	320	445	445	988	1,200	420	266	198
4	56	390	235	285	325	425	395	1,070	1,080	445	258	184
5	60	478	240	290	330	435	380	1,010	768	460	266	164
6	69	514	240	300	330	440	375	860	608	508	278	154
7	85	671	250	305	325	425	385	800	706	502	330	145
8	92	713	250	310	335	320	420	700	898	450	294	139
9	90	728	255	315	335	405	440	610	1,120	455	242	151
10	88	736	255	325	335	430	410	480	1,170	514	202	157
11	88	720	260	330	335	430	365	466	1,240	466	188	181
12	92	736	240	330	340	496	395	514	1,250	370	202	181
13	88	490	245	330	365	478	400	615	950	298	202	170
14	92	360	255	330	370	405	380	657	900	274	238	195
15	95	330	265	345	385	415	370	615	950	278	450	198
16	98	325	270	355	385	385	385	615	1,250	266	587	192
17	100	302	270	365	385	390	395	601	1,700	242	532	192
18	102	270	240	365	390	400	385	587	2,300	310	490	195
19	115	266	220	365	390	425	360	692	2,670	450	435	202
20	122	306	240	360	385	430	310	889	2,540	550	380	206
21	120	262	245	355	385	420	294	889	2,130	508	345	192
22	112	266	220	370	385	425	298	880	1,820	460	395	238
23	133	274	230	365	375	440	520	1,040	1,680	466	390	375
24	145	270	240	345	380	445	728	1,180	1,490	514	345	450
25	142	266	255	350	390	420	872	1,220	1,100	472	315	532
26	136	262	265	380	400	400	864	1,130	988	466	302	455
27	128	212	270	370	410	390	768	1,140	889	526	320	370
28	115	151	280	360	420	405	685	1,240	816	466	270	330
29	112	110	290	330	------	405	664	1,100	699	420	195	274
30	112	220	290	305	------	400	752	1,100	508	360	178	238
31	108	------	290	340	------	410	------	1,130	------	306	164	------
TOTAL	3,064	11,036	7,810	10,350	10,155	13,009	14,315	26,607	37,860	13,092	9,615	6,996
MEAN	98.8	368	252	334	363	420	477	858	1,262	422	310	233
MAX	145	736	290	380	420	496	872	1,240	2,670	550	587	532
MIN	55	110	220	285	315	320	294	466	508	242	164	139
AC-FT	6,080	21,890	15,490	20,530	20,140	25,800	28,390	52,770	75,090	25,970	19,070	13,880

CAL YR 1968 TOTAL 166,765 MEAN 456 MAX 2,400 MIN 48 AC-FT 330,800
WTR YR 1969 TOTAL 163,909 MEAN 449 MAX 2,670 MIN 55 AC-FT 325,100

NOTE.--No gage-height record June 11-19.

08252000 Rio Grande at Colorado-New Mexico State line

LOCATION (revised).--Lat 37°00'03", long 105°43'19", Costilla County, in Sangre de Cristo Grant, on left bank 0.6 mile upstream from Colorado-New Mexico State line, 1.7 miles upstream from Costilla Creek, and 5.5 miles west of Jarosa.

PERIOD OF RECORD.--October 1953 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7,390 ft (from topographic map).

AVERAGE DISCHARGE.--16 years, 296 cfs (214,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,470 cfs June 19 (gage height, 5.68 ft); minimum daily, 55 cfs Oct. 1, 2.
Period of record: Maximum discharge, 4,150 cfs May 29, 1958 (gage height, 7.07 ft); no flow at times in 1956.
Flood of June 8, 1905 (daily discharge, 13,100 cfs at station near Lobatos 5.8 miles upstream) was probably the greatest since at least 1828.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

REVISIONS (WATER YEARS).--WSP 1732: 1954(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

AY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	130	243	290	335	430	431	875	1,160	459	283	157
2	55	149	222	290	325	435	442	915	1,200	445	280	169
3	57	169	245	295	320	440	445	956	1,160	435	274	195
4	55	359	240	290	325	435	401	1,020	1,050	448	246	186
5	57	501	240	290	330	430	381	986	1,070	462	286	169
6	64	535	245	295	330	430	372	880	623	504	264	157
7	70	653	250	305	330	430	368	805	676	501	320	149
8	84	720	255	310	330	305	414	716	825	459	308	143
9	82	738	260	315	335	400	445	619	1,000	452	255	157
10	78	752	255	320	335	420	391	494	1,070	523	219	172
11	80	743	260	330	335	411	381	484	1,120	494	195	186
12	84	748	240	330	340	480	404	519	1,160	418	204	195
13	80	571	245	330	355	466	421	623	938	356	213	183
14	80	394	255	330	370	411	398	680	920	333	240	198
15	84	349	265	340	380	398	378	653	944	327	362	210
16	88	305	270	350	385	408	391	648	1,170	336	551	210
17	90	292	270	360	385	391	408	644	1,640	320	598	210
18	90	252	210	365	390	394	401	631	2,170	349	456	210
19	101	261	230	365	390	425	375	712	2,400	459	435	216
20	110	280	250	365	390	435	340	910	2,280	547	372	222
21	110	264	240	360	385	425	320	938	1,890	523	340	237
22	108	264	230	365	385	431	314	910	1,600	484	368	243
23	118	274	230	370	380	435	484	1,040	1,480	476	385	378
24	146	261	245	355	380	452	666	1,200	1,330	519	340	438
25	141	258	255	350	385	431	810	1,260	992	490	320	519
26	141	216	265	365	395	418	825	1,170	870	462	298	484
27	138	146	275	375	405	394	761	1,140	805	508	314	401
28	125	132	280	370	415	411	698	1,240	748	476	280	362
29	122	92	290	345	------	414	684	1,110	676	425	207	308
30	122	213	290	320	------	408	756	1,080	523	365	180	258
31	122	------	290	325	------	414	------	1,090	------	317	163	------
TOTAL	2,937	11,021	7,840	10,365	10,145	13,007	14,305	26,948	35,490	13,672	9,556	7,322
MEAN	94.7	367	253	334	362	420	477	869	1,183	441	308	244
MAX	146	752	290	375	415	480	825	1,260	2,400	547	598	519
MIN	55	92	210	290	320	305	314	484	523	317	163	143
AC-FT	5,830	21,860	15,550	20,560	20,120	25,800	28,370	53,450	70,390	27,120	18,950	14,520

CAL YR 1968 TOTAL 164,718 MEAN 450 MAX 2,270 MIN 54 AC-FT 326,700
WTR YR 1969 TOTAL 162,608 MEAN 446 MAX 2,400 MIN 55 AC-FT 322,500

NOTE.--No gage-height record Dec. 18 to Feb. 21.

08252500 Costilla Creek above Costilla Dam, N. Mex.

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

DRAINAGE AREA.--25.1 sq mi.

PERIOD OF RECORD.--April 1937 to current year (no winter records). Monthly discharge only for some periods, published in WSP 1312 and 1732. Prior to October 1951, published as "above reservoir, near Costilla."

GAGE.--Water-stage recorder. Concrete control since Sept. 17, 1965. Altitude of gage is 9,429 ft (from topographic map). See WSP 1923 for history of changes prior to Sept. 17, 1965.

EXTREMES.--Current year: Maximum discharge, 57 cfs July 17 (gage height, 2.98 ft); minimum not determined. Period of record: Maximum discharge, 3,870 cfs July 22, 1954 (gage height, 6.3 ft, from floodmarks, present site and datum), on basis of slope-area measurement of peak flow; minimum not determined. The flood in 1954 destroyed the gaging station and is highest known since about 1909, from information by local range rider. A portion of this flow may have originated in Casias Creek basin (see REMARKS).

REMARKS.--Records fair. Natural flow may be augmented by transbasin diversions or irrigation returns from about 1,300 acres irrigated from Casias Creek. (See sta 08253000.)

REVISIONS (WATER YEARS).--WSP 878: 1937. WRD N.Mex. 1964: Drainage area. WSP 1923: 1937-50.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	3.2					-	13	20	6.3	26	10
2	3.5	4.1					-	13	17	6.5	23	9.2
3	3.5	3.7					-	12	15	6.7	19	7.2
4	3.8	3.5					-	12	14	9.3	25	6.7
5	3.8	3.5					-	11	14	9.8	21	6.5
6	3.5	-					-	12	13	7.6	16	5.6
7	3.4	-					-	11	12	7.4	15	5.8
8	3.2	-					-	12	14	7.4	13	11
9	3.2	-					-	20	13	7.6	8.7	11
10	3.2	-					-	20	14	8.4	8.1	7.4
11	3.2	-					-	18	12	7.0	8.1	6.0
12	3.2	-					-	16	12	5.1	8.4	5.2
13	3.2	-					-	15	14	7.2	12	5.1
14	3.2	-					-	16	13	7.2	20	4.9
15	4.0	-					-	17	17	8.1	12	5.6
16	4.7	-					-	17	14	30	9.8	6.5
17	4.5	-					-	16	19	27	9.8	7.4
18	4.0	-					-	18	16	16	9.5	6.3
19	4.3	-					-	19	14	20	9.0	5.1
20	4.3	-					-	21	12	29	8.5	6.0
21	4.3	-					-	25	9.8	23	8.0	12
22	3.8	-					-	26	9.2	26	7.9	8.1
23	3.7	-					-	26	9.2	19	7.9	6.0
24	3.7	-					15	24	8.9	21	8.7	5.2
25	3.7	-					14	21	15	22	7.4	4.7
26	3.5	-					11	20	15	21	7.9	4.5
27	3.5	-					11	21	11	22	7.4	4.5
28	3.2	-					10	20	8.1	19	6.5	4.7
29	3.2	-			-------		11	21	6.7	19	6.3	4.5
30	3.1	-			-------		12	21	6.2	19	8.4	4.1
31	3.1	-------			-------		-------	20	-------	27	12	-------
TOTAL	112.6	-					-	554	388.1	471.6	370.3	196.8
MEAN	3.63	-					-	17.9	12.9	15.2	11.9	6.56
MAX	4.7	-					-	26	20	30	26	12
MIN	3.1	-					-	11	6.2	5.1	6.3	4.1
AC-FT	223	-					-	1,100	770	935	734	390

CAL YR 1968: TOTAL MEAN MAX MIN AC-FT
WTR YR 1969: TOTAL MEAN MAX MIN AC-FT

PEAK DISCHARGE (BASE, 40 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-17	0230	2.98	57	7-31	2230	2.88	53
7-21	2230	2.78	44				

08253000 Casias Creek near Costilla, N. Mex.

LOCATION.--Lat 36°53'48", long 105°15'35", Taos County, 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 miles northeast of Costilla Dam, and 16 miles southeast of Costilla.

DRAINAGE AREA.--16.6 sq mi.

PERIOD OF RECORD.--April 1937 to current year (no winter records). Monthly discharge only for some periods, published in WSP 1312 and 1732. Figures of daily discharge for Nov. 1-7, 1947 and Nov. 1-16, 1948, published in WSP 1118 and 1148, respectively, have been found to be unreliable and should not be used.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 9,404 ft (from topographic map). Prior to July 18, 1940, water-stage recorder and wooden control 100 ft downstream at datum 1.56 ft lower.

EXTREMES.--Current year: Maximum discharge, 52 cfs July 31 (gage height, 1.24 ft); minimum not determined. Period of record: Maximum discharge, 122 cfs June 11, 1957 (gage height, 1.72 ft); minimum not determined.

REMARKS.--Records good. Transbasin diversion 3.5 miles upstream for irrigation of about 1,300 acres, part of which is in Costilla Creek basin.

REVISIONS (WATER YEARS).--WSP 1282: 1948-51. WRD N.Mex. 1964: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	5.2					-	9.3	39	11	24	18
2	5.9	5.9					-	9.3	35	10	18	16
3	5.6	5.0					-	9.8	32	10	18	15
4	5.9	4.5					-	10	30	11	22	15
5	5.9	4.9					-	11	30	12	20	13
6	5.6	4.5					-	11	30	10	18	12
7	5.6	-					-	11	30	9.8	17	12
8	5.2	-					-	15	32	10	23	14
9	5.2	-					-	21	32	10	28	15
10	5.2	-					-	13	34	11	26	12
11	5.3	-					-	12	26	9.8	24	11
12	5.6	-					-	11	24	9.3	23	11
13	5.2	-					-	12	25	11	27	11
14	5.2	-					-	14	22	11	37	11
15	6.7	-					-	15	24	11	30	12
16	7.0	-					-	16	21	15	26	11
17	6.3	-					-	16	26	25	25	12
18	6.5	-					-	16	24	17	23	11
19	6.0	-					-	19	20	19	23	10
20	6.7	-					-	23	18	21	21	10
21	6.7	-					-	28	16	18	20	15
22	6.3	-					-	32	16	18	19	12
23	5.9	-					-	35	15	15	18	11
24	6.3	-					11	33	15	13	18	11
25	6.3	-					10	32	18	13	17	10
26	5.9	-					9.3	32	17	13	16	9.8
27	5.9	-					8.8	33	15	11	15	9.8
28	6.3	-					8.4	34	13	13	15	9.8
29	6.3	-			------		8.4	34	11	15	15	9.8
30	4.9	-			------		8.8	36	11	13	16	8.8
31	4.9	------			------		------	38	------	23	18	------
TOTAL	182.6	-					-	641.4	701	418.9	660	359.0
MEAN	5.89	-					-	20.7	23.4	13.5	21.3	12.0
MAX	7.0	-					-	38	39	25	37	18
MIN	4.9	-					-	9.3	11	9.3	15	8.8
AC-FT	362	-					-	1,270	1,390	831	1,310	712

CAL YR 1968: TOTAL	MEAN	MAX	MIN	AC-FT
WTR YR 1969: TOTAL	MEAN	MAX	MIN	AC-FT

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G.HT.	DISCHARGE
7-31	1900	1.24	52

08253500 Santistevan Creek near Costilla, N. Mex.

LOCATION.--Lat 36°53'03", long 105°16'50", Taos County, 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 mile north of Costilla Dam, and 16 miles southeast of Costilla.

DRAINAGE AREA.--2.15 sq mi.

PERIOD OF RECORD.--April 1937 to current year (no winter records). Monthly discharge only for some periods, published in WSP 1312 and 1732.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 9,487 ft (from topographic map). Prior to June 27, 1940, water-stage recorder and wooden control at datum 0.99 ft lower.

EXTREMES.--Current year: Maximum discharge, 7.1 cfs July 31 (gage height, 0.81 ft); minimum not determined.
Period of record: Maximum discharge, 18 cfs Aug. 11, 1941, July 12, 1957; maximum gage height 1.73 ft Aug. 11, 1941; minimum not determined.

REMARKS.--Records good except those below 1.0 cfs, which are poor. No diversion above or below station.

REVISIONS.--WRD N.Mex. 1964: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.1					-	1.1	5.0	3.4	3.4	2.0
2	1.1	1.1					-	1.1	4.9	3.3	3.1	1.9
3	1.1	.93					-	1.1	4.9	3.1	3.0	1.9
4	1.1	1.2					-	1.1	5.0	3.0	3.5	1.9
5	1.1	1.1					-	1.1	5.0	3.1	3.4	1.8
6	1.0	.73					-	1.1	5.0	3.1	3.2	1.7
7	1.0	-					-	1.1	4.9	3.0	3.0	1.7
8	1.0	-					-	1.1	4.9	2.9	3.0	2.0
9	1.1	-					-	1.4	4.7	3.0	2.9	1.9
10	1.1	-					-	1.5	4.7	3.6	2.9	1.8
11	1.1	-					-	1.6	4.7	3.0	2.8	1.9
12	1.1	-					-	1.6	4.7	2.9	2.8	1.9
13	1.0	-					-	1.7	5.1	3.0	3.2	1.7
14	1.0	-					-	1.9	5.2	2.9	3.3	1.6
15	1.1	-					-	2.0	5.0	2.9	2.8	1.7
16	1.1	-					-	2.0	4.7	3.1	2.6	1.6
17	.67	-					-	2.1	5.2	3.4	2.5	1.9
18	.99	-					-	2.2	4.7	3.0	2.6	1.6
19	1.1	-					-	2.3	4.5	3.1	2.4	1.5
20	1.1	-					-	2.5	4.2	3.3	2.4	1.8
21	1.1	-					-	2.7	4.1	3.1	2.4	2.4
22	1.1	-					-	3.3	4.0	2.9	2.4	1.9
23	1.1	-					-	3.7	4.0	2.9	2.4	1.7
24	1.1	-					1.1	3.8	4.0	2.9	2.4	1.7
25	1.1	-					.93	3.8	4.2	2.9	2.2	1.6
26	1.1	-					.93	4.0	4.2	2.9	2.4	1.6
27	1.0	-					1.0	4.1	3.8	3.0	2.2	1.6
28	1.0	-					1.0	4.3	3.5	3.0	2.0	1.5
29	1.0	-			------		1.0	4.5	3.4	2.8	2.0	1.5
30	1.1	-			------		1.1	4.6	3.3	3.1	2.0	1.5
31	1.1	------			------		------	4.6	------	3.9	2.3	------
TOTAL	32.76	-					-	75.0	135.5	95.5	83.5	52.8
MEAN	1.06	-					-	2.42	4.52	3.08	2.69	1.76
MAX	1.1	-					-	4.6	5.2	3.9	3.5	2.4
MIN	.67	-					-	1.1	3.3	2.8	2.0	1.5
AC-FT	65	-					-	149	269	189	166	105

CAL YR 1968:	TOTAL	MEAN	MAX	MIN	AC-FT
WTR YR 1969:	TOTAL	MEAN	MAX	MIN	AC-FT

PEAK DISCHARGE (BASE, 6.0 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-14	2300	0.78	6.9	7-31	1800	.81	7.1
7-10	1530	.73	6.1	8- 4	2000	.77	6.6

08253900 Costilla Reservoir near Costilla, N. Mex.

LOCATION.--Lat 36°52'32", long 105°16'45", Taos County, in Sangre de Cristo Grant, on face of Costilla Dam on Costilla Creek, 16 miles southeast of Costilla.

DRAINAGE AREA.--54.6 sq mi.

PERIOD OF RECORD.--May 1922 to September 1965 (monthend contents only), October 1965 to current year. Records prior to 1961 published in WSP 1732. Prior to October 1966, published as Costilla Lake near Costilla.

GAGE.--Inclined staff gage painted on base of railroad rail on left side of control tower of Dam. Altitude of gage is -107 ft (corrected) (from topographic map).

EXTREMES.--Current year: Maximum contents observed, 11,160 acre-ft June 2 (gage height, 9,500.8 ft); minimum observed, 5,030 acre-ft Oct. 8 (gage height, 9,478.9 ft).
Period of record: Maximum contents observed, 15,130 acre-ft (corrected) June 13, 1938, June 20-23, 1941 (gage height, 9,511.5 ft); no contents October 1925 to February 1926, September 1956.

REMARKS.--Lake is formed by earth-fill dam faced with broken stone. Storage began in 1920. Capacity 15,740 acre-ft (corrected) between gage heights 9,405.0 ft (bottom of lower intake) and 9,513.0 ft (crest of ungated spillway cut in natural rock). By order of New Mexico State Engineer (first issued in 1942) storage was limited to 14,540 acre-ft maximum, and 10,880 acre-ft for not to exceed 45 days (revised to 60 days in 1949). Diversions for irrigation of about 1,300 acres above Reservoir.

COOPERATION.--Gage readings collected in cooperation with N. Mex. Interstate Stream Commission.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on original survey, furnished by N. Mex. Interstate Stream Commission)

9,475	4,210	9,495	9,260
9,480	5,270	9,500	10,880
9,485	6,640	9,505	12,640
9,490	7,790		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-	-	-	-	-	-	-	-	-	9,640	7,270	5,550
2	-	-	-	-	-	-	-	-	11,160	9,390	-	5,480
3	-	-	-	-	-	-	-	-	11,090	9,300	-	5,360
4	-	-	-	-	-	-	-	-	11,050	9,110	7,380	5,320
5	-	-	-	-	-	-	-	-	10,980	-	7,330	-
6	-	5,500	-	-	-	-	-	-	10,980	-	6,980	-
7	-	-	-	-	-	-	-	8,990	-	9,080	6,720	-
8	5,030	-	-	-	-	-	-	-	-	8,870	6,510	5,340
9	-	-	-	-	-	-	-	-	10,850	8,780	-	5,390
10	-	-	-	-	-	-	-	-	10,680	8,570	-	5,390
11	-	-	-	-	-	-	-	-	10,550	8,480	6,540	5,410
12	-	-	-	-	-	-	-	9,360	10,380	-	6,390	5,410
13	-	-	-	-	-	-	-	9,390	10,280	-	6,260	-
14	-	-	-	-	-	-	-	9,450	-	8,360	6,020	-
15	-	-	-	-	-	-	-	9,510	-	8,160	-	5,390
16	-	-	-	-	-	-	-	9,580	10,280	8,080	-	5,410
17	-	-	-	-	-	-	-	-	10,250	7,930	-	5,410
18	-	-	-	-	-	-	-	-	10,250	7,790	6,240	5,390
19	-	-	6,020	-	-	-	-	9,800	10,180	-	6,140	-
20	-	-	-	-	-	-	-	9,890	10,150	-	6,070	-
21	-	-	-	-	-	-	-	9,990	-	-	6,020	-
22	-	-	-	-	-	-	-	10,090	-	7,880	5,970	5,450
23	-	-	-	-	-	-	8,390	-	10,060	7,820	-	-
24	-	-	-	-	-	-	-	-	9,990	7,790	-	5,570
25	-	-	-	-	-	-	-	-	9,960	7,740	5,970	-
26	-	-	-	-	-	-	-	10,510	9,890	-	5,850	-
27	5,270	-	-	-	-	-	-	10,680	9,830	-	5,710	-
28	-	-	-	-	7,200	-	-	10,710	-	7,740	5,500	-
29	-	-	-	-	------	-	-	10,780	-	7,600	-	-
30	-	5,800	-	-	------	-	8,700	10,850	9,800	7,540	-	5,800
31	5,350	------	6,200	6,700	------	7,800	------	10,950	------	7,270	5,540	------
(+)	-	-	-	-	-	-	-	-	9,496.7	9,488.1	-	-
(‡)	+300	+450	+400	+500	+500	+600	+900	+2,250	-1,150	-2,530	-1,730	+260

CAL YR 1968 ..... ‡ +1,900
WTR YR 1969 ..... ‡ +750

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Contents interpolated Oct. 31, Nov. 30, Dec. 31, Jan. 31, Feb. 28, Mar. 31, Apr. 30, May 31, Aug. 31, Sept. 30.

08254000 Costilla Creek below Costilla Dam, N. Mex.

LOCATION.--Lat 36°52'26", long 105°16'47", Taos County, in Sangre de Cristo Grant, on left bank 125 ft downstream from Costilla Dam and 16 miles southeast of Costilla.

DRAINAGE AREA.--54.6 sq mi.

PERIOD OF RECORD.--April 1937 to current year (no winter records 1937-44, 1948-49). Monthly discharge only for some periods, published in WSP 1312. Prior to October 1951, published as "below reservoir, near Costilla."

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 9,290 ft (from topographic map).

AVERAGE DISCHARGE.--23 years (1944-47, 1949-69), 16.4 cfs (11,880 acre-ft per year).

EXTREMES.--Current year: 148 cfs Aug. 10 (gage height, 2.00 ft); minimum, 0.02 cfs many days.
Period of record: Maximum discharge, 286 cfs May 9, 10, 1942 (gage height, 2.65 ft); no flow at times.

REMARKS.--Records good except those for November to April, which are poor. Flow regulated by Costilla Reservoir. (See sta 08253900.) Diversions for irrigation of about 1,300 acres above Reservoir.

REVISIONS.--WRD N.Mex. 1964: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	.04	.02	.02	.02	.04	.04	.05	22	98	51	56
2	28	.05	.02	.02	.02	.04	.04	.05	65	98	21	56
3	28	.03	.02	.02	.02	.04	.04	.04	74	98	52	56
4	17	.03	.02	.02	.02	.04	.03	.04	85	52	117	33
5	10	.02	.02	.02	.03	.04	.03	.04	49	19	141	18
6	10	.02	.02	.02	.03	.03	.02	.04	37	41	143	18
7	10	.02	.02	.02	.03	.03	.02	.03	94	88	143	18
8	4.7	.02	.03	.02	.02	.03	.03	.03	100	88	65	18
9	.07	.02	.03	.02	.02	.03	.03	.03	113	88	14	18
10	.07	.02	.03	.02	.02	.03	.04	.03	113	88	51	18
11	.07	.02	.03	.03	.02	.03	.04	.03	111	48	126	18
12	.07	.02	.03	.03	.02	.03	.04	.03	110	19	126	18
13	.07	.02	.03	.03	.03	.03	.04	.03	65	53	126	18
14	.05	.02	.03	.03	.03	.03	.04	.04	34	104	81	18
15	.05	.02	.03	.03	.03	.03	.05	.04	48	104	18	18
16	.05	.02	.03	.03	.03	.04	.05	.05	69	104	18	18
17	.05	.02	.03	.03	.03	.04	.05	.05	69	104	32	18
18	.05	.02	.03	.03	.03	.04	.05	.05	61	52	60	18
19	.05	.02	.03	.03	.03	.04	.05	.05	66	19	60	18
20	.05	.02	.02	.03	.03	.03	.05	.05	49	34	60	18
21	.05	.02	.02	.03	.03	.03	.05	.07	39	60	60	18
22	.05	.02	.02	.03	.03	.03	.05	.07	46	60	36	10
23	.07	.02	.02	.02	.03	.03	.05	.07	56	60	19	.02
24	.07	.02	.02	.02	.03	.03	.04	.07	56	60	30	.03
25	.07	.02	.02	.02	.03	.03	.04	.07	56	35	75	.03
26	.04	.02	.02	.02	.04	.04	.04	.09	56	18	75	.03
27	.04	.02	.02	.02	.04	.04	.04	13	35	49	75	.03
28	.04	.02	.02	.02	.04	.04	.04	30	20	108	75	.03
29	.04	.02	.02	.02	------	.04	.04	30	35	108	44	.03
30	.04	.02	.02	.02	------	.04	.05	11	85	107	18	.03
31	.04	------	.02	.02	------	.04	------	.03	------	107	30	------
TOTAL	136.95	0.67	0.74	0.74	0.78	1.08	1.22	85.27	1,918	2,171	2,042	517.23
MEAN	4.42	.022	.024	.024	.028	.035	.041	2.75	63.9	70.0	65.9	17.2
MAX	28	.05	.03	.03	.04	.04	.05	30	113	108	143	56
MIN	.04	.02	.02	.02	.02	.03	.02	.03	20	18	14	.02
AC-FT	272	1.3	1.5	1.5	1.5	2.1	2.4	169	3,800	4,310	4,050	1,030

CAL YR 1968 TOTAL 6,528.32 MEAN 17.8 MAX 164 MIN .01 AC-FT 12,950
WTR YR 1969 TOTAL 6,875.68 MEAN 18.8 MAX 143 MIN .02 AC-FT 13,640

NOTE.--No gage-height record Nov. 7 to Apr. 1.

08254500 Costilla Creek near Amalia, N. Mex.

LOCATION.--Lat 36°52'33", long 105°23'22", Taos County, in Sangre de Cristo Grant, on right bank 40 ft downstream from third bridge upstream from Amalia, 2.4 miles downstream from Latir Creek, 5.8 miles southeast of Amalia, and 10.5 miles southeast of Costilla.

DRAINAGE AREA.--152 sq mi.

PERIOD OF RECORD.--May 1949 to September 1959 and April 1961 to current year (no winter records). Monthly discharge only for some periods, published in WSP 1732.

GAGE.--Water-stage recorder. Concrete control since Sept. 27, 1965. Altitude of gage is 8,521 ft (from topographic map). May 1949 to May 2, 1956, at site 40 ft upstream at datum 0.81 ft lower. May 3, 1956 to Sept. 27, 1965, at site 10 ft downstream at datum 1.81 ft lower.

EXTREMES.--Current year: Maximum discharge, 282 cfs Aug. 4 (gage height, 2.86 ft); minimum not determined. Period of record: Maximum discharge, 689 cfs Apr. 25, 1958 (gage height, 3.70 ft, site and datum then in use); maximum gage height, 3.11 ft July 27, 1966; minimum discharge not determined.

REMARKS.--Records fair. Flow regulated by Costilla Reservoir (see sta 08253900) about 10 miles upstream (capacity, 15,700 acre-ft, original survey). Diversions for irrigation of about 1,300 acres above Costilla Reservoir.

REVISIONS (WATER YEARS).--WSP 1732: 1956(M). WRD N.Mex. 1964: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34						-	37	67	115	99	73
2	33						-	38	111	117	40	71
3	33						-	40	118	117	59	70
4	28						-	41	123	90	139	53
5	19						-	43	105	42	167	31
6	18						-	54	60	50	164	29
7	17						-	48	131	115	156	29
8	16						-	47	134	107	99	32
9	8.1						-	60	141	105	31	35
10	-						-	79	146	105	48	31
11	-						-	87	134	73	131	30
12	-						-	75	131	34	134	30
13	-						-	70	105	51	136	28
14	-						-	69	63	117	118	29
15	-						-	69	75	117	37	28
16	-						-	69	96	117	31	28
17	-						-	67	112	129	34	31
18	-						-	66	94	86	69	29
19	-						-	69	94	43	71	28
20	-						-	73	75	54	71	29
21	-						-	77	60	94	70	41
22	-						43	81	62	86	57	33
23	-						43	83	74	80	36	17
24	-						46	80	74	81	35	13
25	-						42	73	84	63	86	12
26	-						37	67	83	36	88	11
27	-						33	70	65	51	88	11
28	-						33	88	42	121	86	10
29	-				------		34	86	48	123	67	11
30	-				------		35	74	103	123	33	11
31	-	------			------		------	57	------	136	46	------
TOTAL	-						-	2,037	2,810	2,778	2,526	914
MEAN	-						-	65.7	93.7	89.6	81.5	30.5
MAX	-						-	88	146	136	167	73
MIN	-						-	37	42	34	31	10
AC-FT	-						-	4,040	5,570	5,510	5,010	1,810

CAL YR 1968:	TOTAL	MEAN	MAX	MIN	AC-FT
WTR YR 1969:	TOTAL	MEAN	MAX	MIN	AC-FT

08255500 Costilla Creek near Costilla, N. Mex.

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

DRAINAGE AREA.-- 195 sq mi.

PERIOD OF RECORD.--March 1936 to current year (no winter records 1936-41). Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Concrete control since Oct. 13, 1952. Altitude of gage is 7,900 ft (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 mile upstream at different datum.

AVERAGE DISCHARGE.--28 years (1941-69), 42.6 cfs (30,860 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 353 cfs Aug. 13 (gage height, 3.90 ft), from rating curve extended above 180 cfs; minimum, 0.34 cfs Mar. 15, result of freezeup.
Period of record: Maximum discharge, 1,150 cfs May 11, 1942 (gage height, 5.37 ft, site and datum then in use); minimum, 0.34 cfs Mar. 15, 1969, result of freezeup.
The greatest flood known occurred in 1886, from information by local residents.

REMARKS.--Records fair except those for November to February and May to August, which are poor. Regulation by Costilla Reservoir (see sta 08253900) about 20 miles upstream (capacity, 15,700 acre-ft, original survey). Diversions for irrigation of about 2,000 acres above station. Records of chemical analyses and water temperatures for water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1312: 1937-39(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	12	3.5	6.3	6.0	8.7	27	40	72	119	129	79
2	38	15	3.5	6.0	5.5	8.2	40	42	99	121	60	81
3	39	12	3.5	6.0	5.5	8.2	47	40	117	122	59	79
4	38	14	4.0	5.5	6.5	6.7	50	43	135	108	124	71
5	23	13	5.0	5.8	8.0	7.2	44	46	121	59	153	40
6	21	13	6.0	6.3	9.0	8.9	54	56	65	50	155	36
7	22	12	5.5	6.6	10	7.4	46	54	126	102	149	34
8	22	10	5.5	7.2	7.7	7.1	36	49	135	104	131	36
9	18	9.2	6.0	6.6	7.4	8.3	40	56	142	105	56	46
10	14	9.0	6.5	6.6	7.4	8.1	42	83	151	106	50	40
11	12	7.0	6.5	5.8	7.4	7.7	42	94	144	92	122	38
12	12	10	6.0	7.2	7.4	7.8	36	86	140	56	126	38
13	11	9.0	5.0	7.2	9.4	7.1	36	76	144	51	157	35
14	10	8.5	5.5	8.7	7.4	6.5	37	80	102	116	172	35
15	12	9.0	6.5	9.4	7.2	7.3	37	78	91	117	79	35
16	15	8.5	5.2	7.0	9.0	8.6	35	75	121	121	58	35
17	15	7.5	5.2	6.5	9.0	9.0	30	73	145	135	49	38
18	12	6.0	4.6	5.8	6.3	9.8	28	76	129	116	89	38
19	15	7.0	4.0	6.5	7.7	9.8	37	89	117	65	98	35
20	14	8.0	4.0	9.0	7.2	9.3	32	94	108	67	94	35
21	14	8.5	3.5	7.5	6.5	11	42	105	81	96	91	49
22	13	9.0	3.5	8.5	6.6	12	53	110	72	92	83	47
23	13	7.5	3.5	6.0	10	10	50	105	95	90	51	30
24	13	6.0	5.0	5.5	9.4	8.7	56	100	95	91	47	24
25	12	5.0	6.5	11	9.2	9.7	55	95	105	89	87	21
26	12	4.0	7.2	11	8.7	9.4	48	90	105	54	98	20
27	12	4.0	6.9	9.0	8.8	10	42	90	90	49	98	19
28	12	3.5	6.3	8.0	8.3	12	40	105	65	108	98	19
29	12	3.5	6.9	7.4	------	14	36	105	55	116	89	18
30	12	3.5	6.3	5.2	------	17	38	100	100	111	42	17
31	12	------	6.3	6.0	------	21	------	75	------	129	49	------
TOTAL	539	254.2	163.4	221.1	218.5	296.5	1,236	2,410	3,267	2,957	2,943	1,168
MEAN	17.4	8.47	5.27	7.13	7.80	9.56	41.2	77.7	109	95.4	94.9	38.9
MAX	39	15	7.2	11	10	21	56	110	151	135	172	81
MIN	10	3.5	3.5	5.2	5.5	6.5	27	40	55	49	42	17
AC-FT	1,070	504	324	439	433	588	2,450	4,780	6,480	5,870	5,840	2,320

CAL YR 1968 TOTAL 14,658.3 MEAN 40.1 MAX 166 MIN 3.5 AC-FT 29,070
WTR YR 1969 TOTAL 15,673.7 MEAN 42.9 MAX 172 MIN 3.5 AC-FT 31,090

PEAK DISCHARGE (BASE, 250 CFS)

DATE	TIME	G.HT.	DISCHARGE
8-13	1845	3.90	353

08260500 Costilla Creek below diversion dam, at Costilla, N. Mex.

LOCATION.--Lat 36°58'03", long 105°31'00", Taos County, in Sangre de Cristo Grant, on right bank 650 ft downstream from diversion dam and 1.1 miles southeast of Costilla.

DRAINAGE AREA.--197 sq mi.

PERIOD OF RECORD.--April 1952 to current year (no winter records).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,861 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 276 cfs Aug. 13 (gage height, 3.35 ft); minimum not determined.
Period of record: Maximum discharge, 525 cfs July 22, 1954 (gage height, 4.03 ft); maximum gage height, 5.05 ft July 24, 1957 (backwater from debris); no flow Oct. 14, 1963.
The greatest flood known occurred in 1886, from information by local residents. Flood of May 11, 1942, probably exceeded 1,000 cfs, based on records for upstream station (see sta 08255500).

REMARKS.--Records good except those above 90 cfs, which are fair. Flow partly regulated by Costilla Reservoir (see sta 08253900) about 21 miles upstream (capacity, 15,700 acre-ft, original survey), and by canal headgates or sluice gates at diversion dam. Diversions above station for irrigation of about 5,000 acres, 3,000 of which are below station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8						-	5.2	11	4.3	35	13
2	1.7						-	8.9	18	4.3	17	9.0
3	1.8						-	5.9	21	4.1	3.4	4.6
4	2.1						-	6.9	22	4.0	4.1	4.1
5	1.9						-	6.9	50	3.1	8.3	3.0
6	1.8						-	8.3	29	3.0	12	1.8
7	1.7						-	7.8	23	3.5	13	1.5
8	1.7						-	5.9	23	3.2	13	1.6
9	1.7						-	7.8	33	3.1	.82	2.2
10	-						-	20	36	3.1	.68	1.5
11	-						-	27	25	12	10	1.3
12	-						-	21	24	26	13	1.2
13	-						-	10	33	6.1	57	1.2
14	-						-	5.7	31	14	79	1.1
15	-						-	7.4	47	4.6	2.2	1.1
16	-						-	9.8	30	4.0	1.6	1.1
17	-						-	9.8	33	6.7	1.6	1.3
18	-						-	14	25	7.0	3.0	1.3
19	-						-	23	21	7.2	2.4	1.3
20	-						-	13	15	7.7	4.6	1.3
21	-						-	18	5.3	8.7	3.6	6.4
22	-						11	23	9.4	2.7	14	16
23	-						11	22	20	2.0	16	5.2
24	-						15	19	17	1.8	4.6	1.1
25	-						15	12	28	3.9	3.9	.82
26	-						11	9.0	27	3.1	7.3	.76
27	-						9.6	5.7	27	2.6	18	.75
28	-						9.3	18	44	5.3	17	.71
29	-				------		5.8	17	4.3	2.7	21	.62
30	-				------		5.3	17	4.5	2.2	14	.62
31	-	------			------		------	2.4	------	9.0	4.8	------
TOTAL	-						-	387.4	736.5	175.0	405.90	87.48
MEAN	-						-	12.5	24.6	5.65	13.1	2.92
MAX	-						-	27	50	26	79	16
MIN	-						-	2.4	4.3	1.8	.68	.62
AC-FT	-						-	768	1,460	347	805	174

CAL YR 1968:	TOTAL	MEAN	MAX	MIN	AC-FT
WTR YR 1969:	TOTAL	MEAN	MAX	MIN	AC-FT

08261000 Costilla Creek at Garcia, Colo.

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

DRAINAGE AREA.--200 sq mi, approximately.

PERIOD OF RECORD.--June 1944 to current year (no winter records).

GAGE.--Water-stage recorder. Concrete control since Oct. 9, 1956. Altitude of gage is 7,758 ft (from topographic map). Prior to Apr. 20, 1950, at site 0.4 mile downstream at different datum.

EXTREMES.--Current year: Maximum discharge, 126 cfs Aug. 13 (gage height, 3.82 ft); no flow for many days.
Period of record: Maximum discharge, 460 cfs July 24, 1957 (gage height, 4.76 ft); no flow for many days most years.
The greatest flood known occurred in 1886, from information by local residents. Flood of May 11, 1942, probably reached a discharge of 1,000 cfs.

REMARKS.--Records poor. Flow partly regulated by Costilla Reservoir (see sta 08253900) about 23 miles upstream (capacity, 15,700 acre-ft, original survey). Diversions above station for irrigation of about 5,500 acres, 2,000 of which are below station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.14	0					-	1.7	6.6	.94	20	8.8
2	.14	0					-	3.8	13	.94	15	5.6
3	.14	0					-	2.9	14	.76	1.9	1.9
4	.36	0					-	2.9	11	.76	2.0	1.6
5	0	0					-	2.8	38	.09	5.2	1.0
6	0	0					-	3.4	29	0	7.1	.54
7	0	-					-	5.3	19	.35	9.7	.28
8	0	-					-	2.9	17	.54	9.8	.19
9	0	-					-	4.1	24	.31	.66	.35
10	0	-					-	15	25	.10	.27	.22
11	0	-					-	19	17	3.8	5.3	.14
12	0	-					-	15	16	17	5.5	.10
13	0	-					-	5.6	22	2.5	25	.03
14	0	-					-	2.1	21	9.2	52	0
15	0	-					-	2.7	30	1.9	1.3	0
16	0	-					-	5.0	19	2.0	.73	0
17	0	-					-	4.5	26	3.2	.38	.19
18	0	-					-	7.0	17	3.7	1.0	.31
19	0	-					-	17	14	4.9	.66	.28
20	0	-					-	8.7	9.4	4.1	1.9	.34
21	0	-					-	13	1.7	5.6	1.2	3.0
22	0	-					7.1	19	3.4	.59	7.7	7.7
23	0	-					7.3	18	11	.14	12	3.0
24	0	-					11	16	8.4	.21	2.1	.58
25	0	-					12	9.4	16	1.6	1.8	.06
26	0	-					8.1	6.2	17	.53	3.3	.03
27	0	-					6.3	2.9	15	0	14	.04
28	0	-					5.1	9.0	24	1.2	13	.54
29	0	-			------		3.1	9.4	1.6	.46	14	1.9
30	0	-			------		1.9	11	1.2	0	11	2.7
31	0	------			------		------	1.3	------	2.6	2.2	------
TOTAL	0.78	-					-	246.6	487.3	70.02	247.70	41.42
MEAN	.025	-					-	7.95	16.2	2.26	7.99	1.38
MAX	.36	-					-	19	38	17	52	8.8
MIN	0	-					-	1.3	1.2	0	.27	0
AC-FT	1.5	-					-	489	967	139	491	82

PEAK DISCHARGE (BASE, 200 CFS).--No peak above base.

Principal diversions from Costilla Creek, New Mexico-Colorado

Records of discharge are collected at 8 gaging stations on 3 diversions from Costilla Creek. Each of these stations is equipped with a water-stage recorder and a Parshall flume. Water diverted is used for irrigation in the Sangre de Cristo Grant in New Mexico and Colorado below the gaging station on Costilla Creek near Costilla, N. Mex. Records collected during irrigation season only except for sta 08262000.

08256000 ACEQUIA MADRE AT COSTILLA, N. MEX.--Lat 36°58'03", long 105°30'57", Taos County, 275 ft downstream from diversion dam. Period of record, May 1944 to current year. Acequia diverts from right bank of Costilla Creek.

08256500 MESA DITCH NEAR GARCIA, COLO.--Lat 36°59'50", long 105°30'49", Costilla County, 429 ft north of milepost No. 136 + 54 on New Mexico-Colorado State line. Period of record, June 1944 to September 1965, May 1969 to current year. Ditch diverts from right bank of Acequia Madre for irrigation in Colorado.

08257500 CORDILLERA DITCH AT GARCIA, COLO.--Lat 36°59'41", long 105°31'39", Taos County, 570 ft south of New Mexico-Colorado State line. Period of record, June 1944 to current year. Ditch diverts from left bank of Acequia Madre for irrigation in Colorado.

08258000 CERRO CANAL AT COSTILLA, N. MEX.--Lat 36°57'56", long 105°31'07", Taos County, 1,400 ft downstream from diversion dam. Period of record, April 1944 to current year. Canal diverts from left bank of Costilla Creek.

08258500 ASSOCIATION DITCH AT COSTILLA, N. MEX.--Lat 36°57'38", long 105°32'03", Taos County, 100 ft downstream from headgate. Period of record, May 1955 to current year. Ditch diverts from left bank of Cerro Canal.

08259000 CERRO CANAL NEAR JAROSO, COLO.--Lat 36°59'41", long 105°34'36", Taos County, 800 ft upstream from head of N. Mex. branch Cerro Canal. Period of record, June 1944 to current year. Flow measured is delivered to Colorado and to New Mexico branch Cerro Canal.

08259500 NEW MEXICO BRANCH CERRO CANAL NEAR JAROSO, COLO.--Lat 36°59'43", long 105°34'47", Taos County, 225 ft downstream from headgate. Period of record, June 1944 to current year. Canal diverts from left bank of Cerro Canal for irrigation in New Mexico.

08262000 EASTDALE NO. 1 INTAKE CANAL NEAR JAROSO, COLO.--Lat 37°02'25", long 105°36'15", Costilla County, 750 ft downstream from headgate. Period of record, June 1944 to current year. Canal diverts from right bank of Costilla Creek to Eastdale Reservoir No. 1 for irrigation in Colorado.

MONTHLY DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	Acequia Madre	Mesa ditch	Cor-dillera ditch	Cerro Canal at Costilla	Associa-tion ditch	Cerro Canal near Jaroso	New Mexico branch Cerro Canal	Eastdale No. 1 intake canal
October	-	-	-	-	-	-	-	6.8
November	-	-	-	-	-	-	-	0
December	-	-	-	-	-	-	-	0
CAL YR 1968	-	-	-	-	-	-	-	2,440
January	-	-	-	-	-	-	-	0
February	-	-	-	-	-	-	-	0
March	-	-	-	-	-	-	-	66
April	-	-	-	-	-	-	-	1,060
May	634	2.8	19	3,410	1,120	1,520	340	136
June	835	9.0	55	4,210	1,730	1,540	196	173
July	781	0	24	4,680	1,720	1,870	324	107
August	651	2.3	92	4,320	1,760	1,730	280	509
September	489	.1	67	1,670	419	913	198	297
WTR YR 1969	-	-	-	-	-	-	-	2,350

08263000 Latir Creek near Cerro, N. Mex.

LOCATION.--Lat 36°49'45", long 105°32'50", in SW¼SW¼ sec.15, T.30 N., R.13 E., Taos County, in Carson National Forest, on right bank at mouth of canyon, 100 ft upstream from heading of Cerro community ditch and 6.3 miles northeast of Cerro.

DRAINAGE AREA.--10.5 sq mi.

PERIOD OF RECORD.--June 1937 to current year. Monthly discharge only for some periods, published in WSP 1312. Records for April and May 1937, published in WSP 828, have been found to be unreliable (unknown portion of flow bypassing gage) and should not be used.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 8,280 ft (from topographic map).

AVERAGE DISCHARGE.--32 years, 6.04 cfs (4,380 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 42 cfs July 16 (gage height, 1.56 ft); minimum, 1.3 cfs Nov. 11, but may have been less during period of ice effect.
Period of record: Maximum discharge determined, 126 cfs June 18, 1965, from rating curve extended above 57 cfs; maximum gage height, 4.2 ft from floodmark, July 19, 1945 (log jam; discharge not determined, but may have exceeded 126 cfs); minimum discharge, 0.1 cfs Jan. 24, 25, 29, 1961.

REMARKS.--Records fair. No diversion above station.

REVISIONS (WATER YEARS).--WSP 1312: 1938(M). WRD N.Mex. 1968: Drainage area. See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	2.5	2.0	1.6	1.5	1.8	2.6	6.7	17	8.2	7.8	4.7
2	3.0	2.7	2.0	1.6	1.5	1.8	2.7	6.1	15	8.2	5.5	4.3
3	2.8	2.5	2.0	1.6	1.5	1.8	2.8	6.1	14	8.0	5.3	4.0
4	3.0	2.4	2.0	1.6	1.5	1.8	2.6	5.3	14	8.0	7.2	4.0
5	3.1	2.3	2.1	1.6	1.5	1.8	2.6	4.3	14	8.0	7.7	4.0
6	3.0	2.2	2.1	1.6	1.5	1.8	3.4	4.1	15	7.7	6.6	3.6
7	2.8	2.1	2.1	1.6	1.6	2.0	3.3	3.6	15	8.2	5.9	3.6
8	2.6	2.2	2.1	1.6	1.6	2.0	2.6	3.3	15	7.3	5.9	4.0
9	2.5	2.0	2.1	1.6	1.6	2.0	3.0	4.6	16	7.3	5.7	6.8
10	2.5	2.0	2.1	1.6	1.6	2.0	3.0	6.4	18	7.5	5.3	5.7
11	2.6	1.8	2.1	1.6	1.6	2.0	2.2	6.6	20	6.4	5.5	5.3
12	2.5	2.2	2.0	1.6	1.6	2.0	2.2	6.4	19	6.1	5.3	5.3
13	2.5	2.2	1.6	1.6	1.6	2.0	2.4	6.1	17	5.9	7.3	4.3
14	2.5	2.1	1.8	1.6	1.6	2.0	2.6	6.4	16	5.9	15	4.1
15	3.1	2.1	2.0	1.6	1.6	2.0	2.5	6.6	15	6.6	9.5	4.1
16	3.1	2.1	2.0	1.6	1.6	2.1	2.4	5.9	14	7.7	7.3	4.3
17	2.6	2.4	2.0	1.6	1.6	2.1	1.8	6.4	16	17	6.8	6.7
18	3.3	2.0	2.0	1.6	1.6	2.1	1.8	8.8	18	10	6.8	5.1
19	3.1	2.4	1.8	1.6	1.6	2.1	2.1	11	16	9.5	7.5	4.3
20	3.0	2.5	1.8	1.6	1.6	2.1	3.0	13	14	9.0	7.7	4.7
21	3.1	2.4	1.7	1.6	1.6	2.1	5.7	15	13	9.7	6.1	13
22	3.1	2.4	1.6	1.6	1.6	2.1	8.0	17	12	8.2	5.9	11
23	2.8	2.2	1.7	1.6	1.7	2.0	10	16	11	7.3	7.3	8.7
24	2.5	2.2	1.7	1.6	1.7	2.0	10	14	11	9.6	6.6	7.7
25	2.5	2.2	1.7	1.6	1.7	2.0	7.0	13	13	8.7	5.7	6.8
26	2.5	2.2	1.7	1.6	1.7	2.0	4.3	15	12	7.0	5.9	6.4
27	2.5	2.4	1.7	1.6	1.7	2.1	4.3	16	11	6.6	5.1	5.9
28	2.5	2.4	1.7	1.6	1.7	2.1	5.3	19	9.5	6.1	4.9	5.5
29	2.5	2.4	1.7	1.6	------	2.1	5.9	20	8.7	5.5	4.7	5.3
30	2.5	2.2	1.6	1.6	------	2.2	6.1	20	8.2	5.5	4.7	4.9
31	2.5	------	1.6	1.5	------	2.5	------	18	------	6.1	4.9	------
TOTAL	85.7	67.7	58.1	49.5	44.8	62.5	118.2	310.7	427.4	242.8	203.4	168.1
MEAN	2.76	2.26	1.87	1.60	1.60	2.02	3.94	10.0	14.2	7.83	6.56	5.60
MAX	3.3	2.7	2.1	1.6	1.7	2.5	10	20	20	17	15	13
MIN	2.5	1.8	1.6	1.5	1.5	1.8	1.8	3.3	8.2	5.5	4.7	3.6
AC-FT	170	134	115	98	89	124	234	616	848	482	403	333

CAL YR 1968 TOTAL 1,525.5 MEAN 4.17 MAX 19 MIN 1.3 AC-FT 3,030
WTR YR 1969 TOTAL 1,838.9 MEAN 5.04 MAX 20 MIN 1.5 AC-FT 3,650

PEAK DISCHARGE (BASE, 40 CFS)

DATE	TIME	G.HT.	DISCHARGE
7-16	2330	1.56	42

08263500 Rio Grande near Cerro, N. Mex.

LOCATION.--Lat 36°44'24", long 105°40'59", in NW¼NE¼ sec.20, T.29 N., R.12 E., Taos County, on left bank 4 miles southwest of Cerro, 5.5 miles northwest of Questa, and 7.4 miles upstream from Red River.

DRAINAGE AREA.--8,440 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

PERIOD OF RECORD.--May 1948 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7,110 ft (from topographic map).

AVERAGE DISCHARGE.--21 years, 358 cfs (259,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,420 cfs June 20 (gage height, 9.10 ft); minimum, 97 cfs Oct. 1.
Period of record: Maximum discharge, 9,740 cfs June 22, 1949 (gage height, 15.78 ft); minimum, 43 cfs Sept. 22, 1956.

REMARKS.--Records good. Diversions above station for irrigation of about 620,000 acres in Colorado and 7,000 acres in New Mexico.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	157	241	300	348	467	445	884	1,130	501	311	186
2	98	170	251	300	339	479	460	941	1,190	466	294	184
3	98	182	232	299	323	471	473	978	1,180	445	292	202
4	98	215	245	302	337	491	452	1,030	1,120	445	277	215
5	100	450	246	295	337	416	405	1,070	929	469	278	200
6	101	519	246	299	342	420	397	968	682	483	273	186
7	101	575	261	309	342	477	376	884	638	515	282	177
8	107	700	253	312	337	371	403	785	765	495	335	169
9	118	720	261	321	342	273	456	708	947	443	297	166
10	116	732	262	324	342	439	467	571	1,080	503	259	190
11	113	740	270	335	344	439	420	487	1,090	517	230	187
12	115	725	265	339	357	416	399	513	1,160	471	220	204
13	116	712	238	340	364	483	454	571	1,060	388	233	204
14	115	452	261	340	373	462	437	682	914	335	248	197
15	117	380	278	351	378	416	405	695	944	330	294	221
16	122	339	287	355	395	456	401	670	1,040	319	513	227
17	127	312	289	364	395	452	422	665	1,400	311	535	224
18	128	294	297	375	393	439	437	660	1,990	316	515	227
19	128	265	232	375	399	437	410	662	2,290	384	479	224
20	141	262	238	375	397	464	380	854	2,350	513	407	235
21	148	292	261	371	393	460	351	985	2,020	539	369	243
22	147	294	210	366	397	456	337	926	1,800	517	353	248
23	147	295	240	380	382	458	375	992	1,500	491	401	302
24	164	294	260	378	397	475	638	1,140	1,410	511	371	412
25	180	285	270	353	410	467	800	1,260	1,140	529	342	503
26	173	277	280	358	435	439	884	1,200	926	475	319	535
27	172	210	290	391	452	431	839	1,140	860	503	319	462
28	169	186	290	380	475	422	773	1,210	809	523	323	393
29	160	161	310	366	------	437	725	1,170	720	464	267	355
30	157	135	310	340	------	435	730	1,090	615	412	220	300
31	157	------	300	316	------	435	------	1,100	------	348	202	------
TOTAL	4,031	11,330	8,174	10,609	10,525	13,683	14,951	27,491	35,699	13,961	10,058	7,778
MEAN	130	378	264	342	376	441	498	887	1,190	450	324	259
MAX	180	740	310	391	475	491	884	1,260	2,350	539	535	535
MIN	98	135	210	295	323	273	337	487	615	311	202	166
AC-FT	8,000	22,470	16,210	21,040	20,880	27,140	29,650	54,530	70,810	27,690	19,950	15,430

CAL YR 1968 TOTAL 172,184 MEAN 470 MAX 2,330 MIN 98 AC-FT 341,500
WTR YR 1969 TOTAL 168,290 MEAN 461 MAX 2,350 MIN 98 AC-FT 333,800

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.HT.	DISCHARGE
5- 4	2300	6.54	1,100
5-25	1800	7.05	1,300
6-20	0100	9.10	2,420

08264500 Red River below Zwergle damsite, near Red River, N. Mex.

LOCATION.--Lat 36°40'25", long 105°22'45", in NE¼SW¼ sec.7, T.28 N., R.15 E. (projected), Taos County, in Carson National Forest, on right bank 2,000 ft upstream from Goose Creek, 1.9 miles downstream from Bear Canyon, 2.6 miles southeast of Red River, and at mile 24.1.

DRAINAGE AREA.--25.7 sq mi.

PERIOD OF RECORD.--April 1963 to current year.

GAGE.--Water-stage recorder. Concrete control since July 23, 1963. Datum of gage is 8,871.88 ft above mean sea level (levels by Bureau of Reclamation).

AVERAGE DISCHARGE.--6 years, 18.8 cfs (13,620 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 121 cfs May 30 (gage height, 2.93 ft); minimum recorded, 1.9 cfs Nov. 24, but may have been less during period of ice effect.
Period of record: Maximum discharge, 216 cfs June 19, 1965 (gage height, 3.38 ft); minimum recorded, 0.7 cfs Feb. 8, 1965, but may have been less during period of ice effect.

REMARKS.--Records good except those for winter period, which are poor. No diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	8.8	4.4	6.2	4.0	6.0	8.4	26	106	47	27	20
2	10	9.2	5.0	6.5	4.5	6.0	9.2	26	97	48	26	21
3	9.6	8.8	4.6	6.2	4.5	5.5	10	27	82	46	23	21
4	10	8.8	5.0	4.8	5.5	5.5	10	29	74	44	27	22
5	10	8.4	5.5	5.4	6.0	5.5	11	25	72	43	27	22
6	10	8.4	5.5	5.6	6.0	5.0	12	25	78	42	31	20
7	10	7.7	5.5	6.5	5.8	5.2	12	22	83	44	26	19
8	9.6	8.0	5.5	6.5	5.6	5.0	12	21	87	40	26	20
9	9.2	8.0	5.2	6.5	5.8	5.5	12	22	92	36	24	20
10	9.2	7.7	5.2	6.5	6.0	5.1	12	23	108	36	22	20
11	8.8	7.4	5.0	6.5	6.0	5.0	13	24	97	32	22	20
12	8.8	8.0	4.5	6.5	6.0	5.0	12	26	80	30	22	18
13	8.4	8.4	4.0	6.5	6.0	5.0	12	28	77	36	25	20
14	8.8	8.4	4.5	6.5	6.0	4.9	13	29	83	33	26	22
15	10	7.7	5.0	6.2	6.0	5.2	13	32	82	34	23	18
16	10	7.7	5.2	5.3	6.0	5.5	12	33	88	37	22	17
17	9.6	7.7	5.2	5.3	6.0	5.5	12	32	87	69	20	17
18	8.0	6.5	5.2	5.0	6.0	5.5	12	38	78	64	20	17
19	9.6	7.4	4.5	5.6	6.0	5.5	11	44	72	64	19	16
20	9.6	6.8	4.8	6.5	6.0	5.4	11	57	70	70	18	16
21	9.6	7.4	4.5	5.6	6.0	5.5	15	66	69	61	18	20
22	9.2	7.1	4.5	5.6	6.0	5.5	18	80	66	52	19	19
23	9.2	6.8	5.0	5.3	6.0	5.5	21	88	63	44	19	17
24	9.2	5.6	5.5	4.5	6.0	5.4	24	88	61	42	19	17
25	9.2	7.1	5.8	6.8	6.0	5.2	24	82	63	42	17	16
26	9.6	6.5	5.9	6.2	6.0	5.0	22	82	55	37	17	16
27	9.2	5.6	5.6	5.6	6.0	5.4	20	90	46	36	17	16
28	9.2	5.6	5.6	5.5	6.0	6.0	20	97	43	33	16	15
29	8.8	5.3	5.9	5.2	------	6.5	21	108	42	30	17	15
30	8.8	4.5	5.9	4.0	------	6.5	23	115	43	26	21	15
31	8.8	------	5.9	4.5	------	7.4	------	111	------	28	22	------
TOTAL	290.0	221.3	159.4	179.4	161.7	170.7	437.6	1,596	2,244	1,326	678	552
MEAN	9.35	7.38	5.14	5.79	5.78	5.51	14.6	51.5	74.8	42.8	21.9	18.4
MAX	10	9.2	5.9	6.8	6.0	7.4	24	115	108	70	31	22
MIN	8.0	4.5	4.0	4.0	4.0	4.9	8.4	21	42	26	16	15
AC-FT	575	439	316	356	321	339	868	3,170	4,450	2,630	1,340	1,090

CAL YR 1968 TOTAL 6,124.2 MEAN 16.7 MAX 86 MIN 3.0 AC-FT 12,150
WTR YR 1969 TOTAL 8,016.1 MEAN 22.0 MAX 115 MIN 4.0 AC-FT 15,900

PEAK DISCHARGE (BASE, 65 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-30	2000	2.93	121
6-10	0300	2.90	115
6-16	2330	2.81	99
7-17	0100	2.77	92

08265000 Red River near Questa, N. Mex.

LOCATION.--Lat 36°42'12", long 105°34'04", in NE¼SE¼ sec.32, T.29 N., R.13 E. (projected), Taos County, in Carson National Forest, on left bank 1.3 miles upstream from Cabresto Creek, 1.5 miles east of Questa, and at mile 9.0.
DRAINAGE AREA.--113 sq mi.
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. Wood or concrete control since Mar. 20, 1936. Datum of gage is 7,451.92 ft above mean sea level. See WSP 1312 for history of changes prior to Oct. 4, 1938.
AVERAGE DISCHARGE.--56 years (1912-25, 1926-69), 54.3 cfs (39,340 acre-ft per year).
EXTREMES.--Current year: Maximum discharge, 213 cfs May 23 (gage height, 3.46 ft); maximum gage height, 3.47 ft May 31; minimum discharge, 5.0 cfs Jan. 19, but may have been less during period of ice effect.
1930 to current year: Maximum discharge, 886 cfs May 25, 1942, from rating curve extended above 450 cfs; maximum gage height, 4.10 ft June 19, 1965; minimum discharge, 1.5 cfs Nov. 23, 1957.
The peak of June 15, 1921, may have equaled or exceeded the peak of May 25, 1942.
REMARKS.--Records fair except those for winter period, which are poor. Diversions for irrigation of a few hundred acres above station. Figures of discharge do not include flow in South ditch which diverts from left bank 1,500 ft upstream and bypasses gage for irrigation and stock water below. See tabulation below for monthly diversion of South ditch (records of daily discharge available in district files).
Tailings pipelines from Molybdenum Corp. of America (Molycorp) refinery 5.5 miles upstream also bypass gage on left bank. This water is pumped from wells located adjacent to Red River 3 miles upstream from gage. Tailings lines discharge into settling pond 3 miles downstream. Effluent from this pond enters Red River as surface water and is included in discharge at Red River at mouth, near Questa (See sta 08267000). See tabulation below for monthly discharge through tailings pipelines (records furnished by Molycorp.).
REVISIONS(WATER YEARS).--WSP 808: 1935. WSP 1392: 1913, 1932, 1941, 1947-48. WSP 1712: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	14	10	12	7.0	12	15	57	176	73	63	49
2	15	15	11	13	7.0	12	16	62	162	77	53	55
3	15	14	12	11	8.0	11	16	63	143	73	52	43
4	17	15	12	9.0	10	11	17	66	130	74	62	38
5	20	14	12	10	12	11	18	62	124	74	64	34
6	17	14	12	10	13	11	20	70	130	73	64	32
7	15	12	12	10	13	12	22	66	140	75	54	33
8	17	13	13	11	12	10	21	61	145	66	51	34
9	16	13	13	12	11	12	22	64	145	64	48	36
10	16	15	13	12	12	11	23	70	165	65	43	37
11	16	14	12	12	12	12	24	74	156	59	41	38
12	15	16	11	12	12	12	21	75	130	54	39	37
13	15	15	10	12	13	12	22	81	128	63	40	34
14	14	14	10	11	12	11	24	82	111	57	49	38
15	17	16	11	11	12	12	25	84	106	58	43	34
16	18	15	11	11	12	12	25	91	111	69	39	32
17	17	15	10	11	12	12	22	88	156	113	36	32
18	14	13	10	9.2	11	12	20	96	136	109	35	32
19	15	13	9.0	9.6	12	12	22	108	119	101	34	28
20	16	14	10	12	12	11	23	122	111	109	32	31
21	16	15	11	11	11	11	32	143	108	97	30	50
22	16	15	10	11	12	11	37	165	108	85	30	42
23	16	15	11	9.6	12	11	41	184	104	73	35	34
24	15	14	12	6.9	12	10	53	167	101	70	41	30
25	14	16	13	12	12	10	62	138	106	73	38	28
26	14	14	14	13	12	11	55	134	96	72	34	27
27	14	13	13	11	12	11	48	136	84	74	32	27
28	14	12	11	9.9	12	11	46	149	77	72	31	25
29	14	11	10	9.2	------	12	49	165	74	66	30	24
30	14	10	10	6.7	------	13	52	182	73	59	39	23,
31	14	------	11	6.9	------	14	------	184	------	56	52	------
TOTAL	482	419	350.0	328.0	320.0	356	893	3,289	3,655	2,303	1,334	1,037
MEAN	15.5	14.0	11.3	10.6	11.4	11.5	29.8	106	122	74.3	43.0	34.6
MAX	20	16	14	13	13	14	62	184	176	113	64	55
MIN	14	10	9.0	6.7	7.0	10	15	57	73	54	30	23
AC-FT	956	831	694	651	635	706	1,770	6,520	7,250	4,570	2,650	2,060
(+)	31	37	0	.3	0	.2	76	99	156	84	64	30
(‡)	378	355	371	353	337	328	308	311	242	340	333	320

CAL YR 1968: TOTAL 11,669.3 MEAN 31.9 MAX 149 MIN 5.0 AC-FT 23,150 + 641 ‡ 4,330
WTR YR 1969: TOTAL 14,766.0 MEAN 40.5 MAX 184 MIN 6.7 AC-FT 29,290 + 576 ‡ 3,980

PEAK DISCHARGE (BASE, 160 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-23	2400	3.46	213
5-31	0330	3.47	210
6-10	0930	3.37	179
6-17	0330	3.33	169
9- 2	1700	3.27	174

\+ Diversion, in acre-feet, by South ditch.
‡ Discharge, in acre-feet, through Molycorp tailings pipelines.

08266000 Cabresto Creek near Questa, N. Mex.

LOCATION.--Lat 36°43'50", long 105°33'12", in SE¼SE¼ sec.21, T.29 N., R.13 E., Taos County, in Carson National Forest, on right bank 900 feet downstream from Llano ditch heading, 2.6 miles downstream from Lake Fork, 3 miles northeast of Questa, and 3.4 miles upstream from mouth.

DRAINAGE AREA.--36.7 sq mi.

PERIOD OF RECORD.--September 1943 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 7,845 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--26 years, 9.61 cfs (6,960 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 42 cfs May 19 (gage height, 2.22 ft); maximum gage height, 2.51 ft Dec. 22 (backwater from ice); minimum discharge, 1.1 cfs Jan. 30.
Period of record: Maximum discharge, 176 cfs June 8, 1957 (gage height, 4.44 ft); minimum, 0.44 cfs Dec. 2, 1950, result of freezeup.
The flood of May 25, 1942, may have exceeded the maximum of record.

REMARKS.--Records good. Llano ditch, the only diversion above station, diverts from right bank 900 ft above gage for irrigation of about 800 acres below. See tabulation below for monthly diversion of Llano ditch (records of daily discharge available in district files). Flow regulated by Cabresto Reservoir (capacity, 732 acre-feet, after reconstruction in 1928) on Lake Fork 1 mile above mouth.

REVISIONS.--WSP 1712: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	6.1	2.5	4.1	2.5	4.4	6.5	28	24	11	12	12
2	7.1	6.2	3.3	4.1	3.4	4.4	6.7	29	23	10	9.4	10
3	7.0	6.0	2.9	4.0	2.8	4.4	7.0	28	20	10	9.1	9.2
4	7.0	6.0	3.1	3.9	3.6	4.3	7.3	27	17	10	9.6	8.8
5	7.1	6.0	4.8	4.0	4.2	4.3	7.7	25	13	10	14	8.5
6	6.8	5.9	4.9	3.9	4.3	3.9	9.0	24	13	10	13	8.1
7	6.7	5.7	4.9	3.9	4.2	4.4	10	22	12	10	13	7.9
8	6.9	5.6	4.8	3.9	4.0	4.1	9.6	22	11	9.8	13	8.3
9	6.8	5.3	4.6	3.9	4.1	4.2	9.8	24	10	10	12	9.6
10	6.7	5.7	4.6	3.9	4.3	4.3	11	28	11	9.8	12	9.1
11	6.7	5.0	4.6	3.9	4.3	4.4	11	30	12	10	12	8.9
12	6.6	5.3	3.7	3.9	4.4	4.3	10	31	11	11	12	8.3
13	6.4	5.5	3.0	3.9	4.3	4.0	11	32	11	12	10	7.9
14	6.4	5.6	3.5	3.9	4.3	5.0	12	32	11	12	8.1	7.7
15	6.5	5.5	4.2	3.9	4.3	4.5	13	33	10	11	6.9	7.5
16	6.8	5.3	4.0	3.7	4.3	4.9	14	29	11	12	6.0	7.4
17	6.9	5.3	4.0	3.7	4.3	5.2	12	24	15	13	8.5	7.5
18	6.5	4.5	3.9	3.7	4.3	5.3	11	23	13	11	8.9	7.1
19	6.5	5.1	3.2	3.9	4.4	5.3	11	27	13	11	9.1	7.1
20	6.5	5.2	4.5	4.1	4.3	5.1	11	29	12	11	8.5	7.5
21	6.5	5.3	4.0	3.9	4.2	5.4	15	27	12	10	8.3	10
22	6.4	5.2	2.7	3.9	4.4	5.5	20	27	11	9.4	8.5	8.8
23	6.5	5.3	3.2	3.5	4.3	5.4	22	26	11	9.4	9.8	8.0
24	6.4	4.9	4.1	3.0	4.3	5.3	27	25	11	11	9.2	7.7
25	6.3	5.4	4.3	4.1	4.3	5.1	27	24	12	12	9.1	7.4
26	6.3	5.2	4.1	4.0	4.3	4.6	24	24	12	12	9.0	7.2
27	6.2	4.6	4.1	4.1	4.3	5.2	21	25	11	12	8.6	7.1
28	6.2	4.5	3.8	4.1	4.2	5.4	21	27	10	12	8.0	7.0
29	6.2	3.1	4.0	3.8	------	5.6	23	27	10	12	8.3	7.0
30	6.1	2.4	4.0	2.3	------	5.8	26	27	10	12	8.6	6.8
31	5.9	------	3.9	2.7	------	5.9	------	24	------	12	12	------
TOTAL	204.1	156.7	121.2	117.6	114.9	149.9	426.6	830	383	338.4	306.5	245.4
MEAN	6.58	5.22	3.91	3.79	4.10	4.84	14.2	26.8	12.8	10.9	9.89	8.18
MAX	7.2	6.2	4.9	4.1	4.4	5.9	27	33	24	13	14	12
MIN	5.9	2.4	2.5	2.3	2.5	3.9	6.5	22	10	9.4	6.0	6.8
AC-FT	405	311	240	233	228	297	846	1,650	760	671	608	487
(+)	-	-	-	-	-	-	0	496	671	332	63	.02

CAL YR 1968 TOTAL 3,481.2 MEAN 9.51 MAX 46 MIN 2.4 AC-FT 6,900
WTR YR 1969 TOTAL 3,394.3 MEAN 9.30 MAX 33 MIN 2.3 AC-FT 6,730

+ Diversion, in acre-feet, by Llano ditch.

08267000 Red River at mouth, near Questa, N. Mex.

LOCATION.--Lat 36°38'53", long 105°41'34", in SW¼NW¼ sec.20, T.28 N., R.12 E., Taos County, in Carson National Forest on left bank 250 ft upstream from Rio Grande and 6.5 miles southwest of Questa.

DRAINAGE AREA.--190 sq mi.

PERIOD OF RECORD.--October 1950 to current year. Monthly discharge only for October and November 1950, published in WSP 1732.

GAGE.--Water-stage recorder. Altitude of gage is 6,600 ft (from topographic map).

AVERAGE DISCHARGE.--19 years, 79.1 cfs (57,310 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 224 cfs May 31 (gage height, 3.60 ft); minimum, 32 cfs Jan. 24. Period of record: Maximum discharge, 730 cfs Aug. 12, 1964 (gage height, 6.05 ft); minimum, 29 cfs Feb. 13, 1965.

REMARKS.--Records good except those for September, which are fair. Diversions for irrigation of about 3,000 acres above station. Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	47	45	49	47	44	52	99	218	109	110	92
2	52	49	49	49	44	44	54	108	210	114	103	96
3	52	48	50	49	42	45	54	114	195	110	101	91
4	54	49	49	46	41	45	55	116	182	109	104	87
5	57	49	50	46	44	45	52	114	176	110	112	82
6	54	48	49	47	51	44	51	122	166	111	112	76
7	52	48	51	47	50	48	53	121	169	114	106	76
8	53	49	52	48	46	46	54	114	171	110	102	76
9	54	49	53	46	43	46	53	116	174	109	98	78
10	52	51	52	46	45	49	54	122	192	108	94	87
11	52	49	54	42	47	49	56	121	192	103	93	82
12	51	52	52	46	46	47	54	134	178	102	90	80
13	51	53	48	46	49	46	55	136	171	105	91	80
14	52	52	49	46	49	49	58	130	159	104	97	82
15	53	53	53	46	47	47	63	138	147	100	91	80
16	54	53	54	45	48	46	68	140	148	104	90	78
17	52	54	54	45	48	50	63	132	182	131	89	76
18	46	52	54	44	48	49	59	133	181	128	89	75
19	46	55	47	43	49	49	61	142	157	123	89	70
20	46	55	53	47	48	48	59	157	151	132	88	73
21	45	52	55	46	49	49	69	169	148	125	88	93
22	46	53	49	46	49	49	73	180	145	119	87	85
23	46	57	47	45	48	49	80	195	140	112	89	83
24	45	54	48	36	47	49	90	199	138	111	90	79
25	45	57	48	46	47	49	99	190	140	117	90	76
26	46	54	51	51	46	49	95	181	131	114	87	74
27	46	53	50	49	46	49	91	178	123	115	86	73
28	48	51	46	45	45	49	89	185	118	116	86	72
29	47	46	49	44	------	49	90	198	116	111	86	71
30	48	45	49	44	------	50	92	204	112	107	90	70
31	47	------	47	49	------	52	------	218	------	104	96	------
TOTAL	1,543	1,537	1,557	1,424	1,309	1,479	1,996	4,606	4,830	3,487	2,924	2,393
MEAN	49.8	51.2	50.2	45.9	46.8	47.7	66.5	149	161	112	94.3	79.8
MAX	57	57	55	51	51	52	99	218	218	132	112	96
MIN	45	45	45	36	41	44	51	99	112	100	86	70
AC-FT	3,060	3,050	3,090	2,820	2,600	2,930	3,960	9,140	9,580	6,920	5,800	4,750

CAL YR 1968 TOTAL 26,445 MEAN 72.3 MAX 221 MIN 45 AC-FT 52,450
WTR YR 1969 TOTAL 29,085 MEAN 79.7 MAX 218 MIN 36 AC-FT 57,690

PEAK DISCHARGE (BASE, 220 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-31	0900	3.60	224

08267500 Rio Hondo near Valdez, N. Mex.

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

DRAINAGE AREA.--36.2 sq mi.

PERIOD OF RECORD.--August 1934 to current year.

GAGE.--Water-stage recorder. Concrete control since Oct. 28, 1938. Altitude of gage is 7,650 ft (from topographic map). Prior to Oct. 28, 1938, at datum 1.92 ft lower.

AVERAGE DISCHARGE.--35 years, 35.5 cfs (25,720 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 167 cfs May 30 (gage height, 2.97 ft); maximum gage height, 3.88 ft Feb. 4 (ice jam); minimum discharge, 6.2 cfs Jan. 18, result of freezeup.
Period of record: Maximum discharge, 541 cfs May 13, 1941; maximum gage height, 4.27 ft Jan. 4, 1967 (ice jam); minimum discharge, about 1 cfs Jan. 27, 1942, result of freezeup.

REMARKS.--Records good except those for winter period, which are fair. No diversion above station.

REVISIONS (WATER YEARS).--WSP 1342: 1935. WSP 1712: Drainage area. WSP 1732: 1942(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	16	9.0	10	8.0	11	24	61	153	66	58	33
2	18	16	9.0	11	8.0	11	26	70	143	61	56	30
3	17	17	9.0	11	8.0	11	27	75	127	58	57	28
4	19	15	10	11	8.0	11	26	78	122	61	64	28
5	19	15	10	11	8.0	12	28	73	126	64	64	27
6	18	15	10	11	10	11	34	70	129	61	66	26
7	18	14	10	11	10	11	34	68	121	63	59	26
8	18	14	11	11	8.0	10	32	59	126	59	56	26
9	17	14	12	10	8.0	10	33	58	121	58	55	29
10	17	14	12	10	9.0	11	34	59	126	58	52	30
11	16	13	12	10	9.0	12	34	66	130	56	47	30
12	17	13	11	10	10	11	34	73	116	56	46	30
13	17	14	9.0	10	10	10	33	77	118	56	44	32
14	17	14	10	10	10	10	34	80	111	53	47	32
15	18	14	11	11	10	9.0	34	84	106	52	43	29
16	19	14	11	10	10	10	33	86	105	53	40	28
17	18	14	11	10	10	12	30	84	113	75	39	29
18	17	13	12	8.0	10	12	29	91	106	71	38	29
19	17	13	8.0	9.0	10	13	29	100	98	68	37	28
20	17	13	9.0	9.7	10	13	30	108	94	64	34	30
21	17	13	9.0	10	8.0	13	46	122	96	63	34	36
22	17	13	8.0	10	10	14	64	119	94	61	33	33
23	17	13	8.0	9.0	9.5	13	75	122	91	61	34	30
24	16	12	9.0	8.0	10	12	86	114	87	64	33	29
25	16	13	11	9.0	11	11	86	124	89	64	30	27
26	16	12	11	11	11	10	71	118	86	64	30	26
27	16	12	10	11	11	12	61	124	80	61	30	26
28	16	12	10	11	11	14	55	143	77	61	30	25
29	15	11	11	10	------	15	53	159	71	59	30	25
30	15	10	11	8.0	------	19	56	159	68	61	34	25
31	16	------	10	8.0	------	22	------	156	------	59	34	------
TOTAL	529	406	314.0	309.7	265.5	376.0	1,271	2,980	3,230	1,891	1,354	862
MEAN	17.1	13.5	10.1	9.99	9.48	12.1	42.4	96.1	108	61.0	43.7	28.7
MAX	19	17	12	11	11	22	86	159	153	75	66	36
MIN	15	10	8.0	8.0	8.0	9.0	24	58	68	52	30	25
AC-FT	1,050	805	623	614	527	746	2,520	5,910	6,410	3,750	2,690	1,710

CAL YR 1968 TOTAL 10,023.0 MEAN 27.4 MAX 96 MIN 8.0 AC-FT 19,880
WTR YR 1969 TOTAL 13,788.2 MEAN 37.8 MAX 159 MIN 8.0 AC-FT 27,350

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-30	0200	2.97	167
6-16	2300	2.76	134
7-16	2400	2.62	105
8- 3	2100	2.77	130
8- 5	2300	2.58	100

08268500 Arroyo Hondo at Arroyo Hondo, N. Mex.

LOCATION.--Lat 36°31'56", long 105°41'06", Taos County, in Arroyo Hondo Grant, on left bank 0.9 mile downstream from Arroyo Hondo and 1.4 miles upstream from mouth. Prior to Apr. 3, 1969, at site 25 ft downstream on right bank at same datum.

DRAINAGE AREA.--65.6 sq mi.

PERIOD OF RECORD.--April 1910 to June 1912 (discharge measurements and fragmentary gage-height record), July 1912 to December 1928 (fragmentary), and January 1932 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as Rio Hondo near Arroyo Hondo prior to 1928, and as Rio Hondo at Arroyo Hondo 1928-66.

GAGE.--Water-stage recorder. Altitude of gage is 6,670 ft (from topographic map). See WSP 1923 for history of changes prior to Sept. 11, 1963.

AVERAGE DISCHARGE.--53 years (1912-28, 1932-69), 28.0 cfs (20,290 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 96 cfs May 26 (gage height, 3.42 ft); minimum, 7.9 cfs Oct. 7, 8, 12, 13, 14.
1938-69: Maximum discharge, 1,060 cfs July 19, 1948 (gage height, 3.75 ft), from rating curve extended above 200 cfs; minimum, 3.8 cfs Aug. 1, 6, 1963.
Maximum gage height observed, 5.45 ft (site and datum then in use) Aug. 23, 1935 (discharge uncertain, but probably exceeded 1,200 cfs). A minimum daily discharge of 3 cfs occurred Oct. 19, 1912 (statement in WSP 328 that there was no flow in January and much of February 1912 is believed erroneous). Discharge not determined for the major floods of Oct. 6, 1911, Sept. 1, 1932, and July 22, 1934.

REMARKS.--Records good. Diversions above station for irrigation of about 2,500 acres.

REVISIONS (WATER YEARS).--WSP 1342: 1915, 1932(M), 1934-38(M). WSP 1712: Drainage area. WSP 1732: 1926.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	12	18	17	15	19	24	39	85	27	16	12
2	8.6	13	23	18	18	19	26	41	85	26	15	11
3	8.3	14	19	18	14	19	26	44	80	22	15	11
4	8.8	12	21	17	16	18	25	43	76	21	34	11
5	8.6	12	23	17	20	19	26	36	71	21	33	12
6	8.3	12	23	18	21	18	26	39	66	19	32	11
7	8.3	12	23	18	20	19	20	35	64	16	31	11
8	8.3	12	23	18	18	19	22	30	59	14	25	12
9	8.6	12	22	18	18	18	23	29	55	14	21	12
10	8.3	12	21	19	18	20	22	26	60	14	21	14
11	8.3	12	21	18	19	20	26	27	60	13	19	12
12	8.3	14	19	19	18	19	23	29	57	13	18	11
13	8.1	13	18	20	19	17	25	26	63	13	15	11
14	8.1	13	20	20	18	19	16	26	60	13	16	11
15	8.3	12	25	21	18	18	16	32	58	12	15	11
16	8.8	12	24	19	18	19	16	33	60	13	15	11
17	8.3	12	21	19	18	20	14	31	62	28	13	12
18	8.3	12	22	18	18	20	13	34	58	35	12	11
19	8.3	12	18	18	18	20	12	42	55	35	12	11
20	8.6	12	24	19	18	20	13	47	55	36	12	12
21	8.3	12	20	20	17	19	17	62	54	36	12	14
22	8.8	14	13	21	17	20	30	72	54	35	12	18
23	11	14	15	18	18	19	39	83	54	31	12	16
24	12	14	17	14	18	19	43	88	52	32	12	18
25	11	15	18	24	18	19	44	88	52	31	12	18
26	12	14	20	23	19	18	38	86	52	23	11	16
27	12	14	19	22	18	18	31	86	44	25	11	13
28	12	14	16	19	17	18	29	86	39	22	11	12
29	12	13	18	19	------	20	31	86	35	17	12	12
30	12	17	18	14	------	22	32	86	35	16	13	12
31	12	------	16	15	------	24	------	86	------	16	12	------
TOTAL	291.2	388	618	578	502	596	748	1,598	1,760	689	520	379
MEAN	9.39	12.9	19.9	18.6	17.9	19.2	24.9	51.5	58.7	22.2	16.8	12.6
MAX	12	17	25	24	21	24	44	88	85	36	34	18
MIN	8.1	12	13	14	14	17	12	26	35	12	11	11
AC-FT	578	770	1,230	1,150	996	1,180	1,480	3,170	3,490	1,370	1,030	752

CAL YR 1968 TOTAL 5,833.9 MEAN 15.9 MAX 48 MIN 7.9 AC-FT 11,570
WTR YR 1969 TOTAL 8,667.2 MEAN 23.7 MAX 88 MIN 8.1 AC-FT 17,190

PEAK DISCHARGE (BASE, 100 CFS). No peak above base.

08268700 Rio Grande near Arroyo Hondo, N. Mex.

LOCATION.--Lat 36°32'04", long 105°42'34", in NW¼ sec.31, T.27 N., R.12 E., Taos County, on right bank 350 ft downstream from Arroyo Hondo, 400 ft downstream from bridge on county road, 2.2 miles west of Arroyo Hondo and 11.6 miles northwest of Taos.

DRAINAGE AREA.--8,760 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

PERIOD OF RECORD.--February 1963 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,470 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 538 cfs (389,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,560 cfs June 20 (gage height, 4.48 ft); minimum, 198 cfs Oct. 2. Period of record: Maximum discharge, 4,400 cfs June 22, 1965 (gage height, 5.81 ft); minimum, 136 cfs Aug. 2, 1963.

REMARKS.--Records excellent except those for January, which are fair. Diversions above station for irrigation of about 620,000 acres in Colorado and 15,000 acres in New Mexico.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	206	259	334	419	444	575	559	1,050	1,490	692	506	352
2	203	271	375	419	461	590	580	1,140	1,540	645	474	349
3	203	285	352	415	440	590	585	1,200	1,500	617	470	368
4	208	302	360	419	432	590	585	1,240	1,430	612	474	379
5	214	487	368	415	457	564	540	1,280	1,270	628	470	368
6	208	590	371	415	466	506	520	1,240	1,010	640	506	349
7	208	634	379	427	461	559	502	1,120	913	680	474	337
8	217	785	379	432	457	530	511	1,020	969	662	470	330
9	234	811	383	440	453	407	559	920	1,180	617	484	330
10	226	831	383	436	461	524	585	811	1,360	651	432	349
11	223	838	391	444	461	559	564	692	1,380	686	399	371
12	223	838	395	453	461	525	520	716	1,440	640	375	364
13	223	851	352	457	479	600	559	760	1,380	570	383	371
14	223	606	371	457	479	587	559	886	1,200	511	415	356
15	226	502	403	470	488	530	535	920	1,220	502	440	371
16	234	466	407	474	506	530	530	906	1,270	492	590	383
17	228	423	411	484	506	559	544	899	1,640	535	651	387
18	226	411	423	492	506	549	559	892	2,110	535	686	383
19	226	383	352	497	511	544	544	906	2,420	559	634	379
20	234	379	368	495	506	559	516	1,090	2,520	704	580	387
21	240	391	383	490	484	564	488	1,290	2,230	766	530	427
22	240	411	349	485	506	559	492	1,260	1,920	735	502	432
23	240	415	352	500	502	564	506	1,320	1,760	680	544	444
24	246	419	383	490	511	580	754	1,480	1,660	692	544	570
25	274	411	395	470	516	580	969	1,610	1,430	741	506	651
26	271	399	407	480	540	549	1,090	1,550	1,180	692	484	716
27	271	352	415	510	554	540	1,050	1,480	1,090	680	466	651
28	271	305	415	500	554	525	969	1,520	1,010	728	474	570
29	259	291	432	485	------	540	920	1,560	948	668	436	535
30	256	240	436	460	------	554	920	1,460	831	606	387	488
31	259	------	427	403	------	549	------	1,470	------	544	379	------
TOTAL	7,220	14,586	11,951	14,233	13,602	17,081	19,114	35,688	43,301	19,710	15,165	12,747
MEAN	233	486	386	459	486	551	637	1,151	1,443	636	489	425
MAX	274	851	436	510	554	600	1,090	1,610	2,520	766	686	716
MIN	203	240	334	403	432	407	488	692	831	492	375	330
AC-FT	14,320	28,930	23,700	28,230	26,980	33,880	37,910	70,790	85,890	39,090	30,080	25,280

CAL YR 1968 TOTAL 224,965 MEAN 615 MAX 2,520 MIN 201 AC-FT 446,200
WTR YR 1969 TOTAL 224,398 MEAN 615 MAX 2,520 MIN 203 AC-FT 445,100

PEAK DISCHARGE (BASE, 1,400 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-25	2400	3.57	1,640
6-20	0530	4.48	2,560

08269000 Rio Pueblo de Taos near Taos, N. Mex.

LOCATION.--Lat 36°26'22", long 105°30'11", in SW¼SE¼ sec.36, T.26 N., R.13 E., Taos County, in Taos Pueblo Grant, on right bank 2.3 miles east of Taos Pueblo, 4.5 miles northeast of Taos, and 5.8 miles upstream from Rio Lucero.

DRAINAGE AREA.--66.6 sq mi.

PERIOD OF RECORD.--March to December 1910 (discharge measurements only), January 1911 to December 1916. January 1940 to December 1951, annual maximum, water years 1952-62, October 1962 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Concrete control since Nov. 20, 1962. Altitude of gage is 7,380 ft (from topographic map). See WSP 1923 for history of changes prior to Nov. 20, 1962.

AVERAGE DISCHARGE.--24 years (1910-16, 1940-51, 1962-69), 29.8 cfs (21,590 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 164 cfs May 23 (gage height, 1.89 ft); minimum, 2.4 cfs Nov. 28, result of freezeup.
Period of record: Maximum discharge, 970 cfs May 14, 1941 (gage height, 3.90 ft, from floodmark, site and datum then in use), from rating curve extended above 290 cfs; minimum, about 0.9 cfs Jan. 9, 1964, result of freezeup.

REMARKS.--Records good except those for winter period, which are fair. No diversion above station.

REVISIONS (WATER YEARS).--WSP 1312: 1911, 1912, 1914. WSP 1732: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	7.0	6.7	6.1	5.0	6.7	28	87	116	33	40	34
2	6.4	9.2	8.0	6.1	5.0	6.7	33	93	106	30	35	32
3	6.1	8.0	7.7	6.1	5.0	6.7	35	102	98	30	38	29
4	6.7	7.7	7.3	5.8	5.5	6.7	35	106	85	28	61	27
5	7.7	7.3	7.3	5.8	6.0	6.4	34	98	76	28	50	26
6	7.0	7.3	7.3	5.8	7.0	6.4	43	100	74	27	44	22
7	6.7	6.7	7.3	5.4	6.7	6.4	44	100	76	28	41	21
8	6.7	7.3	7.3	5.8	6.4	5.4	39	91	76	26	46	22
9	6.7	6.4	7.3	5.8	6.4	7.0	39	91	78	26	41	23
10	6.7	7.7	6.7	5.8	6.4	7.0	41	104	85	27	35	23
11	6.4	5.1	6.4	5.4	6.4	6.4	42	111	82	23	32	23
12	6.7	7.0	6.1	5.8	6.7	6.1	41	113	72	22	30	22
13	6.4	7.7	6.1	5.8	6.7	5.8	43	118	66	26	32	21
14	6.4	8.0	6.1	5.8	6.7	5.4	50	118	61	26	36	20
15	7.0	8.0	6.4	6.1	6.7	5.8	52	123	55	22	30	19
16	8.0	7.7	6.1	6.1	6.7	6.1	50	123	55	22	28	18
17	7.7	7.7	6.7	6.1	6.7	6.7	43	113	72	37	26	18
18	7.0	5.8	6.4	6.1	6.4	8.0	38	116	64	48	24	17
19	7.7	7.7	6.4	6.1	6.4	9.5	38	126	58	48	22	16
20	7.7	7.7	7.7	6.4	6.4	9.5	38	138	55	50	21	17
21	7.7	7.3	6.4	6.1	6.4	9.9	52	152	53	46	20	19
22	7.3	7.0	5.1	6.4	6.1	11	80	158	52	44	23	17
23	7.3	7.7	5.5	5.5	6.1	12	89	161	50	40	34	17
24	7.3	6.1	6.4	5.2	6.1	9.5	104	152	47	42	28	15
25	7.3	8.4	6.1	8.0	6.1	9.2	104	130	50	46	27	14
26	7.3	7.7	6.1	9.2	6.4	8.4	91	118	47	43	25	14
27	7.3	5.1	6.1	8.0	6.4	9.2	76	120	42	44	25	13
28	7.3	5.1	6.1	7.3	6.1	10	67	118	36	47	23	13
29	7.0	4.0	6.1	6.4	------	14	69	126	34	41	22	12
30	7.0	6.1	5.8	5.1	------	17	78	126	32	39	25	12
31	6.7	------	6.0	5.0	------	24	------	120	------	39	28	------
TOTAL	217.9	211.5	203.0	190.4	174.9	268.9	1,616	3,652	1,953	1,078	992	596
MEAN	7.03	7.05	6.55	6.14	6.25	8.67	53.9	118	65.1	34.8	32.0	19.9
MAX	8.0	9.2	8.0	9.2	7.0	24	104	161	116	50	61	34
MIN	6.1	4.0	5.1	5.0	5.0	5.4	28	87	32	22	20	12
AC-FT	432	420	403	378	347	533	3,210	7,240	3,870	2,140	1,970	1,180

CAL YR 1968 TOTAL 7,761.9 MEAN 21.2 MAX 116 MIN 4.0 AC-FT 15,400
WTR YR 1969 TOTAL 11,153.6 MEAN 30.6 MAX 161 MIN 4.0 AC-FT 22,120

PEAK DISCHARGE (BASE, 70 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-23	0100	1.89	164
8- 4	0230	1.54	76

08271000 Rio Lucero near Arroyo Seco, N. Mex.

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

DRAINAGE AREA.--16.6 sq mi.

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 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 mean sea level. See WSP 1923 for history of changes prior to Nov. 22, 1962.

AVERAGE DISCHARGE.--30 years (1910-15, 1933-51, 1962-69), 22.9 cfs (16,590 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 137 cfs May 22 (gage height, 1.73 ft); maximum gage height, 1.74 ft May 30; minimum discharge, 3.7 cfs Nov. 27, but may have been less during period of ice effect.
Period of record: Maximum discharge, 300 cfs May 13, 1941 (gage height, 3.12 ft, datum then in use); minimum, about 1.4 cfs Nov. 2, 1951, result of freezeup.

REMARKS.--Records fair. No diversion above station.

REVISIONS(WATER YEARS).--WSP 1512: 1912, 1916, 1949. WSP 1732: Drainage area. See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	9.4	5.0	4.9	5.2	5.2	20	41	102	42	35	21
2	11	9.8	5.5	4.9	5.2	5.2	20	45	90	40	34	22
3	11	9.8	6.0	4.9	5.1	5.2	20	48	76	40	38	23
4	11	9.4	7.2	4.5	4.9	5.2	20	48	67	38	74	22
5	11	9.0	7.4	5.0	4.9	5.2	21	37	63	37	62	21
6	11	8.3	7.4	5.5	4.9	5.1	24	41	69	36	57	20
7	11	7.6	7.0	5.5	4.9	5.2	24	38	72	36	52	20
8	10	7.6	7.0	5.5	4.7	5.2	22	35	76	33	50	21
9	9.8	7.6	7.0	5.5	4.7	5.2	22	35	83	33	45	23
10	9.8	7.6	7.0	5.2	4.7	5.1	24	41	97	31	42	23
11	9.8	7.4	6.5	5.2	4.7	5.1	25	42	92	28	40	23
12	9.8	7.6	6.5	5.2	4.9	5.1	23	44	71	29	37	22
13	9.4	7.4	6.0	5.2	4.7	5.1	23	47	65	32	37	21
14	9.4	7.4	7.0	5.5	4.7	5.1	23	48	57	28	37	21
15	11	7.4	7.0	5.5	4.7	5.1	23	52	54	29	33	20
16	11	6.8	6.5	5.5	4.7	5.1	22	52	57	30	30	20
17	10	7.1	6.0	5.5	4.7	5.8	20	48	69	37	28	20
18	9.0	7.1	5.5	5.2	4.7	6.6	18	57	69	41	28	18
19	9.8	6.8	4.5	5.5	4.7	7.1	18	65	65	43	27	18
20	9.8	7.1	5.0	5.5	4.7	7.1	20	76	65	43	25	18
21	9.8	6.8	5.0	5.5	4.7	7.6	28	90	62	41	25	20
22	9.4	6.8	5.2	5.5	4.7	8.7	41	110	62	37	24	20
23	9.4	6.3	5.2	5.2	4.9	8.7	43	110	60	36	24	18
24	9.4	6.3	5.2	5.5	4.9	7.9	54	99	58	38	23	21
25	9.0	6.0	5.2	5.2	4.9	7.4	51	90	58	40	22	20
26	9.4	5.5	5.2	5.5	4.9	7.1	41	94	54	40	22	20
27	9.4	4.7	5.2	5.5	5.1	7.4	34	105	47	40	22	16
28	9.0	4.7	5.2	5.8	5.1	8.3	32	105	44	38	20	16
29	9.0	4.7	5.1	5.1	------	11	33	119	42	36	20	16
30	8.7	4.7	5.1	5.1	------	14	38	119	41	36	23	16
31	9.0	------	5.1	5.2	------	17	------	116	------	36	22	------
TOTAL	307.1	214.7	183.7	164.3	135.6	214.1	827	2,097	1,987	1,124	1,058	600
MEAN	9.91	7.16	5.93	5.30	4.84	6.91	27.6	67.6	66.2	36.3	34.1	20.0
MAX	11	9.8	7.4	5.8	5.2	17	54	119	102	43	74	23
MIN	8.7	4.7	4.5	4.5	4.7	5.1	18	35	41	28	20	16
AC-FT	609	426	364	326	269	425	1,640	4,160	3,940	2,230	2,100	1,190

CAL YR 1968 TOTAL 6,436.7 MEAN 17.6 MAX 78 MIN 4.5 AC-FT 12,770
WTR YR 1969 TOTAL 8,912.5 MEAN 24.4 MAX 119 MIN 4.5 AC-FT 17,680

PEAK DISCHARGE (BASE, 70 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-22	2100	1.73	137
5-30	2200	1.74	130
8- 3	2230	1.66	110

08275000 Rio Fernando de Taos near Taos, N. Mex.

LOCATION.--Lat 36°22'32", long 105°32'55", in W½NW¼ sec.27, T.25 N., R.13 E., Taos County, in Carson National Forest, on right bank 175 ft upstream from Acequia Madre del Norte del Canon, 2.5 miles southeast of Taos, and 5.0 miles upstream from mouth.

DRAINAGE AREA.--71.7 sq mi.

PERIOD OF RECORD.--April to September 1910 (gage heights and discharge measurements only), October 1910 to June 1911 (discharge measurements only), October 1912 to September 1917, October 1927 to December 1928, and October 1962 to current year.

GAGE.--Water-stage recorder. Concrete control since Oct. 1, 1962. Altitude of gage is 7,140 ft (from topographic map). See WSP 1923 for history of changes prior to Oct. 1, 1962.

AVERAGE DISCHARGE.--13 years (1912-17, 1927-28, 1962-69), 6.87 cfs (4,980 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 49 cfs May 10 (gage height, 1.35 ft); minimum, 0.17 cfs Jan. 4, 10, 11, 18, 19, 23, 24.
1962 to current year: Maximum discharge, 211 cfs Aug. 12, 1967 (gage height, 2.27 ft), from rating curve extended above 47 cfs on basis of slope-area measurements at gage heights 1.64 and 2.27 ft; minimum, 0.02 cfs Jan. 14-18, 1967.
Peak discharge not determined prior to 1962; maximum daily discharge observed, 132 cfs May 2-6, 1914.
A flood of undetermined magnitude occurred July 21, 1921.

REMARKS.--Records fair. A few very small diversions above station for irrigation.

REVISIONS(WATER YEARS).--WSP 1512: 1914-15. WSP 1923: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.32	1.0	.44	.20	.32	1.8	5.0	19	9.1	2.7	3.2	2.2
2	.32	1.1	.57	.20	.38	1.8	6.7	20	8.8	2.8	3.2	1.8
3	.32	1.2	.50	.20	.38	1.8	8.8	21	8.4	2.5	2.7	1.6
4	.32	1.1	.38	.20	.50	1.8	11	22	8.1	2.2	4.1	1.2
5	.32	1.1	.44	.20	.57	1.6	12	25	7.4	2.3	2.8	1.1
6	.38	1.0	.38	.20	.64	1.6	16	34	6.7	2.3	2.5	1.0
7	.50	.91	.38	.20	.64	2.2	16	41	6.4	2.3	2.3	.91
8	.57	1.1	.32	.20	.64	1.6	12	34	6.0	2.3	2.2	.91
9	.57	.81	.32	.20	.72	1.6	12	39	5.7	2.8	1.5	1.4
10	.57	1.1	.32	.20	.72	1.8	12	44	6.7	3.2	1.4	1.5
11	.72	.64	.32	.20	.64	1.8	13	44	6.0	3.2	1.1	2.0
12	.64	.72	.28	.20	.72	1.6	14	44	5.7	2.8	1.0	3.2
13	.64	1.0	.28	.20	.72	1.4	14	43	6.0	2.5	1.1	2.3
14	.64	1.4	.28	.20	.72	2.0	14	44	6.0	2.2	2.8	1.6
15	.81	1.2	.28	.20	.81	1.4	14	42	6.4	2.7	2.3	1.5
16	.91	.91	.28	.20	.91	1.5	14	40	6.4	2.5	1.5	1.2
17	1.1	1.1	.28	.20	.91	2.2	13	38	11	4.8	1.2	1.1
18	1.0	.72	.28	.20	1.1	2.5	13	33	7.4	5.7	1.0	1.1
19	1.2	.72	.28	.20	1.2	2.8	13	30	7.1	4.8	1.0	1.1
20	1.4	.81	.28	.20	1.4	2.5	12	29	5.7	4.8	.91	1.4
21	1.4	.81	.24	.20	1.4	2.8	14	28	5.2	4.3	.91	1.6
22	1.4	.72	.24	.20	1.5	3.0	17	27	4.5	3.2	.91	2.0
23	1.5	.81	.24	.20	1.5	3.4	18	26	4.3	2.7	.81	1.6
24	1.5	.64	.20	.20	1.5	3.2	21	24	4.3	2.5	.81	1.2
25	1.5	1.0	.20	.24	1.6	2.8	24	21	4.8	3.2	.72	1.1
26	1.2	1.0	.20	.32	1.8	2.7	22	18	4.5	2.8	.81	.91
27	1.1	.64	.20	.28	1.6	2.8	19	15	4.3	2.5	.91	.57
28	.81	.57	.20	.32	1.5	3.0	19	15	3.4	3.6	.91	.64
29	.91	.57	.20	.28	------	3.2	18	13	3.0	2.5	.72	.64
30	1.0	.44	.20	.28	------	3.8	18	12	2.8	3.3	1.6	.57
31	.91	------	.20	.32	------	4.3	------	10	------	2.7	2.0	------
TOTAL	26.48	26.84	9.21	6.84	27.04	72.3	435.5	895	182.1	94.7	50.92	40.95
MEAN	.85	.89	.30	.22	.97	2.33	14.5	28.9	6.07	3.05	1.64	1.37
MAX	1.5	1.4	.57	.32	1.8	4.3	24	44	11	5.7	4.1	3.2
MIN	.32	.44	.20	.20	.32	1.4	5.0	10	2.8	2.2	.72	.57
AC-FT	53	53	18	14	54	143	864	1,780	361	188	101	81

CAL YR 1968 TOTAL 1,190.84 MEAN 3.25 MAX 26 MIN .20 AC-FT 2,360
WTR YR 1969 TOTAL 1,867.88 MEAN 5.12 MAX 44 MIN .20 AC-FT 3,700

PEAK DISCHARGE (BASE, 25 CFS)

DATE	TIME	G.HT.	DISCHARGE
4-25	0500	1.08	25
5-7	0300	1.33	46
5-10	0400	1.35	49
7-30	1800	1.10	28

08275300 Rio Pueblo de Taos near Ranchito, N. Mex.

LOCATION.--Lat 36°23'38", long 105°37'23", Taos County, in Gijosa Grant, on left bank 1,100 ft downstream from Rio Fernando de Taos and 1.6 miles southwest of Ranchito.

DRAINAGE AREA.--199 sq mi.

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

GAGE.--Water-stage recorder. Altitude of gage is 6,747 ft (from topographic map).

AVERAGE DISCHARGE.--12 years, 28.9 cfs (20,940 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 228 cfs May 23 (gage height, 3.28 ft); minimum, 8.5 cfs July 6. Period of record: Maximum discharge, 600 cfs May 13, 1958, from rating curve extended above 230 cfs; maximum gage height, 4.35 ft Dec. 29, 1966 (ice jam); minimum discharge, 0.80 cfs July 6, 1963, Aug. 6, 1964.

REMARKS.--Records good except those for winter period, which are fair. Diversions for irrigation of about 9,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	15	16	16	20	21	48	79	121	18	37	30
2	15	23	19	16	20	23	55	89	111	18	37	31
3	14	19	16	16	17	23	58	93	92	17	35	26
4	16	19	17	16	16	22	62	93	76	14	57	26
5	16	19	17	16	19	23	61	99	66	13	58	28
6	14	18	17	16	21	22	74	123	64	11	58	27
7	14	18	18	16	23	25	79	138	64	12	48	25
8	14	19	17	17	20	23	70	112	66	11	46	29
9	14	19	19	17	20	24	67	103	65	11	38	34
10	13	20	18	17	22	25	70	112	80	12	31	35
11	12	19	20	16	23	25	70	123	76	11	30	35
12	11	20	18	17	23	27	72	133	72	11	27	35
13	11	21	17	17	24	24	70	139	70	13	26	32
14	11	23	17	20	24	23	74	145	65	10	36	32
15	12	25	17	28	23	21	76	151	60	9.8	34	30
16	13	23	17	21	23	23	81	151	58	9.8	29	29
17	12	23	17	20	23	24	77	139	82	22	25	30
18	13	22	18	19	22	24	65	134	73	32	24	29
19	13	22	17	17	23	25	64	134	66	36	24	28
20	13	23	17	21	23	24	61	134	58	38	22	30
21	12	23	17	21	23	25	76	145	56	39	24	40
22	11	23	16	21	22	27	119	159	51	38	22	34
23	11	23	16	19	23	27	128	201	51	33	25	32
24	12	22	17	16	22	25	145	204	45	34	25	29
25	12	23	16	23	21	26	143	177	50	40	24	27
26	13	22	16	38	21	28	126	151	42	43	22	26
27	13	20	16	33	22	28	101	147	37	38	21	25
28	13	19	15	27	20	27	85	141	27	42	21	25
29	14	17	16	23	------	28	72	141	25	37	20	24
30	14	16	16	20	------	33	70	141	21	32	21	24
31	14	------	15	19	------	40	------	134	------	36	21	------
TOTAL	406	618	525	619	603	785	2,419	4,165	1,890	741.6	968	887
MEAN	13.1	20.6	16.9	20.0	21.5	25.3	80.6	134	63.0	23.9	31.2	29.6
MAX	16	25	20	38	24	40	145	204	121	43	58	40
MIN	11	15	15	16	16	21	48	79	21	9.8	20	24
AC-FT	805	1,230	1,040	1,230	1,200	1,560	4,800	8,260	3,750	1,470	1,920	1,760

CAL YR 1968 TOTAL 8,736.6 MEAN 23.9 MAX 99 MIN 4.5 AC-FT 17,330
WTR YR 1969 TOTAL 14,626.6 MEAN 40.1 MAX 204 MIN 9.8 AC-FT 29,010

PEAK DISCHARGE (BASE, 130 CFS)

DATE	TIME	G.HT.	DISCHARGE
4-24	1200	2.80	158
5- 6	2300	2.94	164
5-23	0700	3.28	228

08275500 Rio Grande del Rancho near Talpa, N. Mex.

LOCATION.--Lat 36°17'52", long 105°34'55", Taos County, in Carson National Forest, Rancho del Rio Grande Grant, on left bank 1.4 miles downstream from Rito de la Olla (locally known as Pot Creek), 3.2 miles south of Talpa, and 4.3 miles upstream from Rio Chiquito. Prior to Nov. 6, 1969, at site 1,000 ft downstream.

DRAINAGE AREA.--83 sq mi, approximately.

PERIOD OF RECORD.--October 1952 to current year. Prior to October 1955, published as Rio Grande del Rancho near Ranchos de Taos, and October 1955 to September 1965 as Rio Grande de Ranchos near Talpa.

GAGE.--Water-stage recorder. Altitude of gage is 7,238 ft (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, 1969, water-stage recorder at site 1,000 ft downstream at lower datum.

AVERAGE DISCHARGE.--17 years, 20.3 cfs (14,710 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 330 cfs July 24 (gage height, 3.08 ft), from rating curve extended above 85 cfs; minimum, 0.32 cfs Mar. 15, result of freezeup.
Period of record: Maximum discharge, 435 cfs Sept. 10, 1964 (gage height, 4.01 ft, site and datum then in use), from rating curve extended above 180 cfs; minimum, 0.2 cfs Jan. 5, 1955, result of freezeup.

REMARKS.--Records good except those below 5 cfs, which are fair. Minor diversions upstream for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	7.8	3.8	5.2	4.9	5.4	23	98	138	22	33	16
2	8.0	8.8	5.4	5.8	6.1	5.2	27	113	124	22	34	18
3	8.0	8.2	4.0	5.4	5.0	4.9	28	121	116	20	33	15
4	8.0	7.8	5.4	5.4	5.8	4.0	30	129	103	19	40	13
5	8.2	7.8	5.8	5.4	6.5	4.3	31	126	88	19	43	12
6	8.0	7.2	6.0	5.8	7.2	4.7	38	124	80	18	39	12
7	8.0	6.8	6.0	6.0	6.1	4.9	42	117	77	16	35	11
8	8.0	7.2	6.0	6.0	5.6	4.0	39	98	74	16	32	12
9	7.8	6.1	6.0	5.8	5.4	4.6	40	96	72	18	28	14
10	7.8	7.2	6.0	5.8	6.3	4.3	42	109	77	19	25	12
11	7.8	4.3	6.0	4.6	6.4	4.0	44	121	69	19	23	12
12	7.7	6.1	5.6	5.2	6.1	3.8	44	129	66	18	20	15
13	7.7	6.5	5.2	5.2	6.5	4.4	44	136	61	15	23	11
14	7.7	6.8	5.4	5.2	6.1	4.3	49	142	55	15	28	10
15	7.8	6.8	5.8	5.4	5.2	3.4	54	155	53	15	24	9.6
16	8.6	6.8	6.5	5.4	6.5	4.6	55	161	51	17	21	9.0
17	8.4	6.8	5.4	5.4	6.1	5.4	52	153	56	20	19	8.5
18	7.8	5.2	5.2	3.7	5.4	6.5	48	151	52	19	18	9.6
19	8.0	5.4	4.3	4.7	5.8	6.5	46	169	50	20	20	8.5
20	7.8	6.1	6.5	6.1	5.2	5.8	42	184	47	21	18	8.5
21	7.8	6.5	5.4	5.8	5.1	6.8	51	195	44	20	16	11
22	7.8	6.8	4.9	5.8	4.9	7.7	70	208	40	18	16	11
23	7.7	6.8	5.4	4.9	5.4	7.2	75	220	38	18	15	9.6
24	7.7	5.4	6.5	3.3	5.2	7.2	90	218	35	31	15	9.0
25	7.7	8.1	6.1	8.1	4.9	6.8	105	193	35	25	15	8.5
26	7.7	7.2	5.8	15	5.4	7.7	100	163	33	24	14	8.1
27	7.7	4.9	5.4	10	5.4	6.8	85	157	29	39	13	8.1
28	7.5	3.3	4.9	8.5	4.6	7.7	81	155	27	47	14	8.1
29	7.5	2.7	5.4	7.2	------	9.6	81	155	25	46	13	7.7
30	7.5	2.9	5.4	3.5	------	13	88	149	23	40	19	7.7
31	7.5	------	4.9	4.1	------	18	------	142	------	41	22	------
TOTAL	243.6	190.3	170.4	183.7	159.1	193.5	1,644	4,587	1,838	717	728	325.5
MEAN	7.86	6.34	5.50	5.93	5.68	6.24	54.8	148	61.3	23.1	23.5	10.9
MAX	8.6	8.8	6.5	15	7.2	18	105	220	138	47	43	18
MIN	7.5	2.7	3.8	3.3	4.6	3.4	23	96	23	15	13	7.7
AC-FT	483	377	338	364	316	384	3,260	9,100	3,650	1,420	1,440	646

CAL YR 1968 TOTAL 7,024.4 MEAN 19.2 MAX 140 MIN 2.7 AC-FT 13,930
WTR YR 1969 TOTAL 10,980.1 MEAN 30.1 MAX 220 MIN 2.7 AC-FT 21,780

PEAK DISCHARGE (BASE, 75 CFS)

DATE	TIME	G.HT.	DISCHARGE
4-25	2400	2.31	108
5- 5	2030	2.49	134
5-23	1230	2.85	222
7-24	1500	3.08	330

08275600 Rio Chiquito near Talpa, N. Mex.

LOCATION.--Lat 36°19'55", long 105°34'42", Taos County, in Carson National Forest, Rancho del Rio Grande Grant, on right bank 1 mile southeast of Talpa, and 2.1 miles upstream from mouth.

DRAINAGE AREA.--37.0 sq mi.

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

GAGE.--Water-stage recorder. Altitude of gage is 7,223 ft (from topographic map).

AVERAGE DISCHARGE.--12 years, 8.61 cfs (6,240 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 69 cfs May 21 (gage height, 2.19 ft); minimum, 0.33 cfs Mar. 15, result of freezeup.
Period of record: Maximum discharge, 193 cfs July 31, 1968 (gage height, 2.37 ft), from rating curve extended above 70 cfs; minimum, about 0.30 cfs Jan. 13, 1964, result of freezeup.

REMARKS.--Records good except those for winter period, which are fair. No diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	3.5	1.3	2.4	2.3	2.7	7.0	38	30	8.5	7.6	5.4
2	3.3	3.8	2.6	2.4	3.5	2.7	8.0	43	26	8.9	8.0	6.8
3	3.3	3.5	2.0	2.4	2.5	2.4	8.9	48	24	8.0	7.6	6.8
4	3.3	3.5	2.5	2.4	3.5	2.4	9.8	48	22	7.6	10	5.4
5	3.5	3.5	2.7	2.4	4.5	2.4	9.8	48	21	7.6	9.8	5.4
6	3.3	3.3	2.9	2.4	3.8	2.2	12	49	18	7.6	8.0	5.1
7	3.3	2.7	3.1	2.4	3.1	2.6	13	48	17	7.6	7.3	4.6
8	3.3	3.5	2.9	2.6	2.9	2.3	11	40	16	7.6	7.0	4.6
9	3.1	2.6	2.9	2.6	2.7	2.4	11	44	16	8.5	6.5	5.1
10	3.1	3.5	2.9	2.4	2.9	2.6	12	52	17	9.8	6.5	4.8
11	3.1	2.0	2.7	2.4	2.9	2.4	12	58	16	10	6.2	4.8
12	3.1	2.7	2.6	2.4	2.9	2.6	12	61	15	8.5	5.9	5.6
13	2.9	3.3	2.4	2.6	3.1	2.2	12	63	15	8.0	6.8	4.8
14	2.9	3.3	3.1	2.7	3.1	2.7	13	63	14	8.0	10	4.6
15	3.1	3.3	3.1	2.9	2.7	2.2	14	63	16	7.6	7.6	4.4
16	3.8	3.3	2.7	2.9	2.9	2.0	14	63	15	8.5	6.5	4.2
17	3.8	3.3	2.7	2.7	2.9	2.7	13	61	19	12	5.9	4.2
18	3.1	2.4	2.7	2.0	2.9	3.3	11	56	16	13	5.4	4.8
19	3.5	2.7	2.0	2.5	2.9	3.3	11	61	14	11	6.2	4.4
20	3.8	2.7	3.1	3.1	2.9	3.1	11	61	13	12	5.4	4.6
21	3.8	2.7	2.7	3.1	2.4	3.8	14	63	12	11	5.6	5.4
22	3.5	2.6	2.4	3.1	2.6	4.0	19	61	12	8.9	5.6	5.1
23	3.3	2.7	2.9	2.6	2.9	4.0	23	58	11	8.0	5.4	4.6
24	3.3	2.2	2.9	2.0	2.7	4.0	30	58	11	7.6	5.1	4.4
25	3.3	3.5	2.2	3.1	2.6	3.8	35	54	12	8.5	4.8	4.0
26	3.5	2.9	2.0	3.5	2.4	3.3	35	49	12	7.6	4.8	4.0
27	3.1	1.6	2.0	3.3	2.6	3.8	33	46	11	7.0	5.4	4.0
28	3.3	1.4	2.0	3.3	2.3	4.4	33	41	9.8	7.0	4.8	4.0
29	3.1	1.1	2.2	2.9	------	4.6	32	37	9.4	6.8	4.8	4.0
30	3.1	.87	2.3	1.5	------	4.8	35	33	8.0	6.8	6.2	4.0
31	3.5	------	2.3	2.0	------	5.9	------	31	------	9.4	6.2	------
TOTAL	102.9	83.97	78.8	81.0	81.4	97.6	514.5	1,599	468.2	268.9	202.9	143.9
MEAN	3.32	2.80	2.54	2.61	2.91	3.15	17.2	51.6	15.6	8.67	6.55	4.80
MAX	3.8	3.8	3.1	3.5	4.5	5.9	35	63	30	13	10	6.8
MIN	2.9	.87	1.3	1.5	2.3	2.0	7.0	31	8.0	6.8	4.8	4.0
AC-FT	204	167	156	161	161	194	1,020	3,170	929	533	402	285

CAL YR 1968 TOTAL 2,669.37 MEAN 7.29 MAX 40 MIN .87 AC-FT 5,290
WTR YR 1969 TOTAL 3,723.07 MEAN 10.2 MAX 63 MIN .87 AC-FT 7,380

PEAK DISCHARGE (BASE, 35 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-21	1230	2.19	69

08276300 Rio Pueblo de Taos below Los Cordovas, N. Mex.

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

DRAINAGE AREA.--380 sq mi.

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

GAGE.--Water-stage recorder. Concrete control since July 16, 1963. Datum of gage is 6,652 ft above mean sea level.

AVERAGE DISCHARGE.--12 years, 50.8 cfs (36,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 484 cfs May 24 (gage height, 3.84 ft); minimum, 14 cfs July 15-16. Period of record: Maximum discharge, 2,380 cfs Aug. 24, 1957 (gage height, 5.80 ft), from rating curve extended above 900 cfs; minimum, 3.0 cfs July 14, 17, 22, 23, 25, 1963.

REMARKS.--Records good except those for January, which are fair. Diversions for irrigation of about 12,000 acres above station.

REVISIONS(WATER YEARS).--WSP 1732: 1957(M). WSP 1923: 1958.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	25	26	30	34	32	56	180	229	32	55	36
2	22	35	27	30	36	32	64	189	200	32	54	38
3	22	29	28	30	32	32	68	194	166	29	51	35
4	24	28	28	30	34	31	71	193	134	25	68	34
5	25	27	29	30	36	30	77	200	110	23	73	37
6	20	26	28	30	39	29	84	242	96	20	74	35
7	19	26	28	30	39	34	90	262	92	19	64	33
8	19	27	28	30	36	31	83	214	95	18	61	36
9	19	26	28	30	35	32	83	199	91	18	51	44
10	19	26	28	30	37	33	89	227	109	20	41	43
11	18	26	29	30	38	30	95	258	100	19	37	44
12	17	27	28	32	38	32	97	285	98	18	34	44
13	17	29	27	35	41	30	96	296	94	20	32	43
14	17	32	26	38	42	32	100	299	87	17	44	40
15	18	31	28	46	38	27	112	316	80	15	42	39
16	20	31	29	38	38	28	128	328	78	15	36	37
17	20	30	29	35	37	31	125	300	114	29	35	37
18	22	29	29	33	36	31	111	278	100	40	30	37
19	22	29	25	31	37	31	106	285	97	44	29	35
20	23	30	27	37	38	30	97	313	84	45	30	36
21	23	32	29	38	37	31	116	343	79	47	29	46
22	22	32	27	37	35	33	168	383	74	45	27	41
23	22	31	26	34	35	32	200	451	70	41	30	39
24	22	30	28	29	35	32	231	447	63	46	30	36
25	23	32	30	38	34	35	242	376	68	52	29	34
26	25	31	33	66	34	36	228	315	64	51	27	33
27	25	29	32	59	33	36	191	296	58	51	26	32
28	25	26	31	49	30	36	174	287	47	61	27	32
29	25	26	30	44	------	36	163	281	42	57	29	32
30	25	26	30	35	------	42	163	270	38	46	28	31
31	25	------	30	34	------	48	------	253	------	56	30	------
TOTAL	667	864	881	1,118	1,014	1,015	3,708	8,760	2,857	1,051	1,253	1,119
MEAN	21.5	28.8	28.4	36.1	36.2	32.7	124	283	95.2	33.9	40.4	37.3
MAX	25	35	33	66	42	48	242	451	229	61	74	46
MIN	17	25	25	29	30	27	56	180	38	15	26	31
AC-FT	1,320	1,710	1,750	2,220	2,010	2,010	7,350	17,380	5,670	2,080	2,490	2,220

CAL YR 1968: TOTAL 15,173.1 MEAN 41.5 MAX 224 MIN 6.2 AC-FT 30,100
WTR YR 1969: TOTAL 24,307 MEAN 66.6 MAX 451 MIN 15 AC-FT 48,210

PEAK DISCHARGE (BASE, 230 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-25	0800	3.10	255	5-24	0800	3.84	484
5- 6	2245	3.26	291				

08276500 Rio Grande below Taos Junction Bridge, near Taos, N. Mex.

LOCATION.--Lat 36°19'12", long 105°45'14", in NW¼NE¼ sec.15, T.24 N., R.11 E., Taos County, on left bank 1.7 miles downstream from bridge on State Highway 96, 2.0 miles downstream from Rio Pueblo de Taos, and 11.8 miles southwest of Taos.

DRAINAGE AREA.--9,730 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

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.

GAGE.--Water-stage recorder. Datum of gage is 6,050.3 ft above mean sea level (unadjusted). Prior to Apr. 14, 1934, at bridge 1.7 miles upstream at different datum.

AVERAGE DISCHARGE.--44 years, 731 cfs (529,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,940 cfs June 20 (gage height, 6.17 ft); minimum, 245 cfs Oct. 1-3.
Period of record: Maximum discharge, 9,730 cfs June 7, 1948 (gage height, 9.18 ft), and June 22, 1949 (gage height, 9.23 ft); minimum, 155 cfs Sept. 21, 1956.
Maximum flood known since at least 1888, about 14,000 cfs June 19, 1903, from records for Rio Grande at Embudo and estimated inflow. Other floods exceeding 10,000 cfs occurred June 9, 1905, May 28, 1920, and June 16, 1921, from comparison of records for stations near Lobatos and at Embudo.

REMARKS.--Records good except those for October, which are fair. Diversions above station for irrigation of about 620,000 acres in Colorado and 30,000 acres in New Mexico.

REVISIONS(WATER YEARS).--WSP 788: 1934(M). WSP 828: Drainage area. WSP 1392: 1931-32, 1935, 1937, 1945, 1950.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	245	320	361	487	494	640	655	1,240	1,840	811	605	440
2	245	340	435	480	528	648	685	1,390	1,870	747	563	429
3	245	350	423	480	500	662	700	1,470	1,840	715	549	429
4	250	380	423	480	487	640	708	1,530	1,720	692	563	442
5	260	430	429	480	528	640	678	1,610	1,530	708	577	442
6	255	662	429	480	535	584	655	1,600	1,220	715	612	423
7	250	692	429	494	535	640	648	1,510	1,070	763	563	411
8	255	827	435	500	528	626	640	1,340	1,150	755	598	424
9	260	875	442	507	507	487	685	1,220	1,320	708	577	411
10	280	900	442	507	542	556	723	1,130	1,550	708	514	411
11	275	909	448	514	535	648	723	1,040	1,590	763	468	468
12	270	909	454	521	542	598	685	1,050	1,660	731	435	435
13	270	926	435	528	556	655	685	1,110	1,640	662	429	448
14	270	745	429	528	563	655	715	1,230	1,390	598	480	435
15	275	591	461	542	556	598	700	1,330	1,380	584	507	435
16	280	549	468	549	584	605	708	1,320	1,420	563	592	454
17	285	507	474	549	584	626	715	1,260	1,810	619	779	454
18	285	487	487	549	584	626	715	1,240	2,370	640	755	448
19	285	448	423	549	577	626	700	1,240	2,790	640	708	454
20	280	442	429	556	584	633	662	1,420	2,890	771	678	448
21	285	461	435	556	556	648	648	1,720	2,590	867	612	507
22	290	474	417	563	570	648	685	1,750	2,210	835	577	507
23	290	474	399	563	570	648	723	1,870	1,980	787	598	500
24	285	480	429	542	577	655	934	2,050	1,850	779	626	619
25	310	468	454	549	577	670	1,210	2,130	1,650	835	591	700
26	330	461	468	577	598	648	1,370	2,050	1,340	795	563	771
27	325	429	480	612	612	619	1,330	1,900	1,230	771	535	723
28	320	364	474	584	633	612	1,220	1,920	1,140	819	542	640
29	315	353	494	570	------	619	1,130	2,010	1,060	859	514	605
30	310	305	500	521	------	633	1,120	1,850	969	708	454	556
31	310	------	494	468	------	640	------	1,840	------	655	453	------
TOTAL	8,690	16,558	13,800	16,385	15,542	19,433	24,155	47,370	50,069	22,603	17,617	14,869
MEAN	280	552	445	529	555	627	805	1,528	1,669	729	568	496
MAX	330	926	500	612	633	670	1,370	2,130	2,890	867	779	771
MIN	245	305	361	468	487	487	640	1,040	969	563	429	411
AC-FT	17,240	32,840	27,370	32,500	30,830	38,550	47,910	93,960	99,310	44,830	34,940	29,490

CAL YR 1968 TOTAL 255,480 MEAN 698 MAX 2,820 MIN 245 AC-FT 506,700
WTR YR 1969 TOTAL 267,091 MEAN 732 MAX 2,890 MIN 245 AC-FT 529,800

PEAK DISCHARGE (BASE, 1,600 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5- 6	0200	5.31	1,710	6-13	0800	5.30	1,700
5-25	0900	5.65	2,160	6-20	0900	6.17	2,940

08279000 Embudo Creek at Dixon, N. Mex.

LOCATION.--Lat 36°12'41", long 105°54'57", in NW¼SE¼ sec.19, T.23 N., R.10 E., Rio Arriba County, at downstream end of bridge pier on U. S. Highway 64, 0.3 mile upstream from mouth, 0.4 mile east of Embudo Post Office, and 1.8 miles northwest of Dixon.

DRAINAGE AREA.--305 sq mi.

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.

GAGE.--Water-stage recorder. Datum of gage is 5,849.54 ft above mean sea level. Prior to Nov. 30, 1938, at site about 1 mile upstream at different datums. Nov. 30, 1938 to Aug. 1, 1941, at site about three-quarters of a mile upstream at datum about 69.0 ft higher. April 1956 to Sept. 21, 1962, crest-stage gage.

AVERAGE DISCHARGE.--38 years (1923-25, 1926-55, 1962-69), 79.2 cfs (57,380 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,320 cfs July 31 (gage height, 6.25 ft), from rating curve extended above 410 cfs on basis of slope-area measurement at gage height 7.39 ft; minimum, 2.5 cfs Jan. 31, result of freezeup.
Period of record: Maximum discharge determined, 2,280 cfs Aug. 4, 1967 (gage height, 7.39 ft), from rating curve extended above 410 cfs on basis of slope-area measurement of peak flow; minimum, 0.06 cfs June 26, 27, 1950.

REMARKS.--Records good except those for July and August, which are fair. Diversions above station for irrigation of about 6,500 acres, a small part of which is below gage.

REVISIONS (WATER YEARS).--WSP 1512: 1931-32, 1938(P), 1941.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	16	21	29	18	29	78	192	314	40	92	48
2	12	26	31	29	26	29	92	209	296	37	74	98
3	14	27	24	31	18	25	91	209	266	32	68	77
4	15	26	26	29	20	30	92	217	239	28	64	72
5	18	27	28	30	27	26	108	230	212	25	141	72
6	16	27	29	32	33	28	136	284	199	22	110	62
7	15	27	31	31	31	30	146	281	187	23	100	61
8	14	27	29	32	24	28	133	251	185	18	90	66
9	14	24	34	32	26	29	133	266	199	18	80	74
10	15	27	36	31	29	28	142	314	274	40	70	68
11	15	26	38	29	30	28	148	355	248	50	60	71
12	14	27	31	31	31	30	146	380	217	33	50	87
13	13	27	24	31	34	27	142	390	212	28	40	68
14	12	28	27	31	31	28	156	380	199	25	50	64
15	12	29	35	39	30	23	182	383	209	24	40	62
16	16	26	35	35	33	27	197	380	212	28	23	56
17	18	27	33	31	30	32	192	338	251	65	24	55
18	18	28	35	26	27	36	169	314	207	64	23	67
19	19	26	23	24	29	43	169	355	185	60	13	56
20	20	31	35	36	28	36	154	380	167	60	19	54
21	20	31	37	34	28	42	187	406	152	61	20	79
22	19	31	28	31	27	49	200	438	131	58	19	73
23	18	32	25	26	29	45	214	466	118	56	14	62
24	16	29	31	13	27	38	230	450	108	56	12	59
25	15	32	33	31	28	36	242	380	115	60	15	53
26	15	26	35	52	28	32	220	330	115	56	18	50
27	15	20	33	40	29	36	187	334	98	68	15	47
28	14	15	27	32	26	42	173	320	80	72	13	46
29	12	16	27	28	------	49	176	327	61	56	12	45
30	15	15	34	17	------	60	182	317	49	47	25	42
31	15	------	29	15	------	69	------	330	------	126	26	------
TOTAL	478	776	944	938	777	1,090	4,817	10,206	5,505	1,436	1,420	1,894
MEAN	15.4	25.9	30.5	30.3	27.8	35.2	161	329	184	46.3	45.8	63.1
MAX	20	32	38	52	34	69	242	466	314	126	141	98
MIN	12	15	21	13	18	23	78	192	49	18	12	42
AC-FT	948	1,540	1,870	1,860	1,540	2,160	9,550	20,240	10,920	2,850	2,820	3,760

CAL YR 1968 TOTAL 26,357.0 MEAN 72.0 MAX 398 MIN 4.2 AC-FT 52,280
WTR YR 1969 TOTAL 30,281 MEAN 83.0 MAX 466 MIN 12 AC-FT 60,060

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-31	2030	6.25	1,320	8- 5	2130	5.75	1,000

08279500 Rio Grande at Embudo, N. Mex.

LOCATION.--Lat 36°12'20", long 105°57'49", in SW¼SW¼ sec.23, T.23 N., R.9 E., Rio Arriba County, on right bank 0.2 mile downstream from bridge at Embudo, and 2.8 miles downstream from Embudo Creek.

DRAINAGE AREA.--10,400 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

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

GAGE.--Water-stage recorder. Datum of gage is 5,789.14 ft above mean sea level. Jan. 1 to Feb. 28, 1889, staff gage 1.2 miles upstream at different datum. March 1889 to December 1903, staff 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.

AVERAGE DISCHARGE.--80 years, 1,020 cfs (739,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,140 cfs June 20 (gage height, 6.14 ft); minimum, 254 cfs Oct. 2. 1889-1903, 1912 to current year: Maximum discharge, 16,200 cfs June 19, 1903 (gage height, about 15.9 ft); minimum daily, 130 cfs June 30, 1902.
A flood of about 14,000 cfs 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.

REMARKS.--Records good. Diversions above station for irrigation of about 620,000 acres in Colorado and 40,000 acres in New Mexico.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	260	331	331	524	515	682	734	1,410	2,230	849	730	521
2	257	357	455	523	559	682	775	1,600	2,240	768	649	521
3	260	366	452	519	526	694	799	1,690	2,190	732	631	471
4	264	375	437	517	521	677	817	1,740	2,030	699	625	478
5	277	444	453	515	550	688	799	1,800	1,800	703	746	481
6	274	660	462	516	565	612	793	1,900	1,480	711	751	455
7	264	709	467	527	574	655	799	1,810	1,280	745	665	437
8	271	810	471	537	554	677	757	1,620	1,330	743	696	455
9	278	897	477	544	543	551	793	1,490	1,510	706	689	472
10	293	918	482	540	556	541	848	1,460	1,860	710	599	451
11	291	932	487	542	559	682	867	1,400	1,870	795	542	495
12	286	932	495	558	565	644	836	1,430	1,890	746	487	494
13	285	945	466	557	583	666	805	1,520	1,880	682	463	483
14	286	828	459	562	591	694	855	1,600	1,620	604	530	470
15	288	633	486	577	586	633	861	1,700	1,600	567	557	459
16	296	586	508	594	618	626	874	1,720	1,640	556	581	476
17	304	531	515	582	618	676	880	1,640	2,060	640	799	475
18	303	517	533	586	612	659	861	1,560	2,550	667	763	482
19	304	488	487	582	618	660	848	1,600	2,980	666	711	476
20	304	466	460	596	623	663	805	1,740	3,090	774	680	466
21	317	470	482	600	586	682	799	2,110	2,800	905	606	523
22	321	480	474	604	602	691	886	2,280	2,370	875	575	546
23	318	490	448	593	612	687	958	2,410	2,120	815	589	520
24	315	500	481	575	607	684	1,150	2,610	1,980	788	632	596
25	332	500	513	593	612	706	1,440	2,610	1,780	874	594	679
26	348	488	514	647	633	681	1,600	2,480	1,470	849	567	768
27	346	468	517	647	655	658	1,540	2,340	1,320	812	543	743
28	345	397	512	654	660	650	1,410	2,320	1,200	866	541	661
29	340	371	525	621	-------	660	1,330	2,410	1,110	833	534	620
30	333	332	545	568	-------	684	1,320	2,280	1,020	751	508	570
31	330	-------	530	516	-------	711	-------	2,260	-------	793	490	-------
TOTAL	9,290	17,221	14,924	17,616	16,403	20,556	28,839	58,540	56,300	23,224	19,073	15,744
MEAN	300	574	481	568	586	663	961	1,888	1,877	749	615	525
MAX	348	945	545	654	660	711	1,600	2,610	3,090	905	799	768
MIN	257	331	331	515	515	541	734	1,400	1,020	556	463	437
AC-FT	18,430	34,160	29,600	34,940	32,530	40,770	57,200	116,100	111,700	46,060	37,830	31,230

CAL YR 1968 TOTAL 282,935 MEAN 773 MAX 3,240 MIN 254 AC-FT 561,200
WTR YR 1969 TOTAL 297,730 MEAN 816 MAX 3,090 MIN 257 AC-FT 590,500

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-24	1300	5.67	2,670	7-31	2100	5.04	2,070
6-20	1000	6.14	3,140	8- 5	2230	5.10	2,120

08281100 Rio Grande above San Juan Pueblo, N. Mex.

LOCATION.--Lat 36°03'58", long 106°04'34", in NE¼SE¼ sec.10, T.21 N., R.8 E., Rio Arriba County, in San Juan Pueblo Grant, on left bank 0.8 mile upstream from bridge on State Highway 74, 1.0 mile northwest of San Juan Pueblo, 1.8 miles upstream from Rio Chama, and 5.1 miles north of Espanola.

DRAINAGE AREA.--10,550 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

PERIOD OF RECORD.--March 1963 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,630 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 674 cfs (488,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, about 3,100 cfs June 20; minimum, 241 cfs Oct. 1-3.
Period of record: Maximum discharge, 4,900 cfs June 22, 1965 (gage height, 4.95 ft); minimum, 96 cfs Aug. 1, 1963.
For years of outstanding floods see records for Rio Grande at Embudo (08279500).

REMARKS.--Diversions above station for irrigation of about 620,000 acres in Colorado and 42,000 acres in New Mexico. San Juan lateral and San Juan Pueblo ditch, both on left bank, and Guique ditch, on right bank, bypass gage for irrigation of several hundred acres below station. See tabulation below for monthly and yearly diversion, as furnished by Bureau of Reclamation.

COOPERATION.--Records furnished by Bureau of Reclamation.

REVISIONS.--WRD N.MEX. 1964: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	246	337	337	508	522	755	704	1,200	2,140	782	813	538
2	241	362	459	500	566	755	747	1,390	2,160	679	670	568
3	241	374	465	493	529	773	764	1,510	2,100	654	654	545
4	251	386	445	493	522	755	809	1,590	1,960	638	598	545
5	267	424	472	493	529	782	755	1,650	1,760	630	693	553
6	272	658	479	493	553	679	747	1,800	1,420	583	892	523
7	267	722	486	493	553	738	764	1,770	1,200	670	721	502
8	277	797	500	508	545	755	747	1,560	1,210	670	738	502
9	282	902	508	515	545	638	773	1,400	1,340	654	713	568
10	304	920	507	515	553	575	836	1,360	1,820	630	630	523
11	304	938	508	529	568	738	865	1,320	1,830	747	545	648
12	304	946	515	543	568	713	845	1,320	1,840	704	482	560
13	304	946	486	551	598	704	800	1,360	1,840	662	461	590
14	304	875	459	566	606	748	855	1,460	1,600	590	523	568
15	298	665	493	596	614	672	827	1,560	1,600	553	575	553
16	309	595	529	618	646	651	875	1,580	1,600	560	575	553
17	321	550	522	615	654	713	885	1,500	2,000	638	809	530
18	321	536	536	626	654	687	845	1,390	2,500	662	818	538
19	321	515	515	634	679	696	818	1,440	2,900	630	755	523
20	321	493	479	642	679	696	755	1,560	3,000	713	721	508
21	309	493	486	650	646	730	730	1,900	2,800	827	622	560
22	309	522	515	658	638	730	800	2,100	2,400	809	568	575
23	315	515	432	650	662	713	865	2,220	2,100	791	590	553
24	315	522	479	626	654	713	1,010	2,500	1,900	773	670	590
25	321	522	521	634	662	730	1,340	2,550	1,700	836	630	679
26	343	515	522	681	679	687	1,480	2,460	1,420	845	583	755
27	349	493	515	673	713	654	1,420	2,250	1,300	800	560	755
28	343	418	500	681	730	638	1,280	2,240	1,130	827	553	679
29	337	386	529	650	------	646	1,160	2,360	1,030	800	575	630
30	332	362	529	596	------	670	1,120	2,220	935	704	590	590
31	332	------	515	543	------	687	------	2,180	------	761	633	------
TOTAL	9,360	17,689	15,243	17,973	17,067	21,821	27,221	54,700	54,535	21,822	19,960	17,304
MEAN	302	590	492	580	610	704	907	1,765	1,818	704	644	577
MAX	349	946	536	681	730	782	1,480	2,550	3,000	845	892	755
MIN	241	337	337	493	522	575	704	1,200	935	553	461	502
AC-FT	18,570	35,090	30,230	35,650	33,850	43,280	53,990	108,500	108,200	43,280	39,590	34,320
(+)	141	50	5.7	0	0	0	228	125	87	63	88	38
(++)	368	24	0	0	0	0	192	530	431	572	635	101
(‡)	381	796	115	0	0	0	45	482	227	623	678	26

CAL YR 1968: TOTAL 227,278 MEAN 758 MAX 3,150 MIN 231 AC-FT 550,000 + 1,280 ++ 3,510 ‡ 3,470
WTR YR 1969: TOTAL 294,695 MEAN 807 MAX 3,000 MIN 241 AC-FT 584,500 + 828 ++ 2,850 ‡ 3,370

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-25	1500	3.30	2,620
6-20	-	-	about 3,100

+ Diversion, in acre-feet, by San Juan lateral.
++ Diversion, in acre-feet, by San Juan Pueblo ditch.
‡ Diversion, in acre-feet, by Guique ditch.
NOTE.--No gage-height record June 16-25.

08284100 Rio Chama near La Puente, N. Mex.

LOCATION.--Lat 36°39'45", long 106°37'57", Rio Arriba County, in Tierra Amarilla Grant, on right bank 0.7 mile downstream from Rito de Tierra Amarilla, 3.1 miles southwest of La Puente, 6.7 miles upstream from flow line of El Vado Reservoir, and at mile 91.4.

DRAINAGE AREA.--480 sq mi, approximately.

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder. Concrete control since Nov. 9, 1965. Altitude of gage is 7,083 ft (from river-profile map).

AVERAGE DISCHARGE.--14 years, 316 cfs (228,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,480 cfs May 17 (gage height, 4.88 ft); minimum, 19 cfs Nov. 27, result of freezeup.
Period of record: Maximum discharge, 8,040 cfs June 7, 1957 (gage height, 6.07 ft), from rating curve extended above 3,000 cfs on basis of an inflow-outflow study of El Vado Reservoir; minimum, 4.0 cfs Sept. 19, 1956.
REVISIONS.--The figures of peak discharge for water year 1968 have been revised as shown in the following table. They supersede figures published in WRD N.Mex., 1968.
REVISED PEAK DISCHARGE.--1968: May 22 (2350) 6,200 cfs (5.48 ft); May 28 (0100) 3,020 cfs (4.75 ft).
A discharge of about 9,000 cfs occurred Apr. 16, 1937, based on flow of Rio Chama at Park View with allowance for tributary inflow. A peak on May 21 or 22, 1926, may have exceeded 10,000 cfs.

REMARKS.--Records good except those for winter period, which are poor. Diversions for irrigation of about 10,300 acres above station (1962 determination).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	56	37	50	50	56	347	2,340	1,060	224	185	112
2	55	62	40	50	50	60	421	2,480	943	207	170	131
3	49	60	38	50	55	56	490	2,700	818	193	198	110
4	64	60	38	50	55	55	537	2,510	723	178	162	90
5	101	60	37	50	55	58	638	2,180	696	220	185	93
6	83	58	36	50	55	55	761	2,110	733	198	144	90
7	71	49	38	50	55	51	770	1,810	733	170	128	80
8	62	44	40	50	50	51	644	1,300	670	141	112	83
9	56	49	40	45	50	45	703	1,570	610	134	128	90
10	55	53	45	45	55	50	799	1,880	618	162	115	98
11	56	46	50	45	60	53	849	2,240	545	140	98	93
12	55	44	50	45	65	55	789	2,460	500	150	90	189
13	51	64	50	45	65	51	802	2,370	478	150	125	128
14	49	76	50	50	70	53	943	2,290	429	150	494	121
15	58	60	45	60	70	50	943	2,570	449	162	300	112
16	62	58	45	70	70	52	723	2,480	553	166	189	96
17	56	58	45	70	70	60	618	2,540	761	155	159	93
18	51	53	45	60	70	71	561	2,850	594	193	144	128
19	53	55	45	55	70	83	669	2,760	492	229	151	112
20	55	62	45	55	70	83	906	2,730	422	238	131	118
21	55	62	45	80	65	90	1,380	2,730	389	166	112	498
22	55	60	45	100	60	110	1,750	2,660	345	155	101	382
23	53	62	45	70	60	107	1,830	2,400	311	144	170	253
24	53	56	50	55	60	101	2,210	2,080	273	141	148	202
25	53	66	50	50	55	96	2,240	1,900	345	300	121	170
26	53	49	50	200	53	89	1,790	1,830	525	333	104	155
27	53	42	50	400	58	127	1,480	1,680	446	229	98	141
28	53	46	45	200	55	166	1,620	1,500	311	178	93	131
29	53	40	45	100	------	203	1,810	1,400	263	166	110	131
30	53	35	46	60	------	232	2,080	1,310	248	141	155	118
31	53	------	48	50	------	287	------	1,210	------	128	138	------
TOTAL	1,793	1,645	1,378	2,410	1,676	2,756	32,103	66,870	16,283	5,641	4,758	4,348
MEAN	57.8	54.8	44.5	77.7	59.9	88.9	1,070	2,157	543	182	153	145
MAX	101	76	50	400	70	287	2,240	2,850	1,060	333	494	498
MIN	49	35	36	45	50	45	347	1,210	248	128	90	80
AC-FT	3,560	3,260	2,730	4,780	3,320	5,470	63,680	132,600	32,300	11,190	9,440	8,620

CAL YR 1968 TOTAL 107,502 MEAN 294 MAX 2,800 MIN 30 AC-FT 213,200
WTR YR 1969 TOTAL 141,661 MEAN 388 MAX 2,850 MIN 35 AC-FT 281,000

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-25	0200	4.66	2,730	5-12	0030	4.71	2,880
5- 3	0200	4.73	2,960	5-17	2400	4.88	3,480

08284200 Willow Creek above Heron Reservoir, near Park View, N. Mex.

LOCATION.--Lat 36°44'31", long 106°37'34", Rio Arriba County, in Tierra Amarilla Grant, on right bank 3.3 miles west of Park View, 8.4 miles upstream from Horse Lake Creek, and at mile 9.6.

DRAINAGE AREA.--112 sq mi.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder. Concrete control since June 6, 1963. Altitude of gage is 7,210 ft (from topographic map). Prior to June 6, 1963, at datum 2.74 ft lower.

AVERAGE DISCHARGE.--7 years, 11.5 cfs (8,330 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 846 cfs Apr. 4 (gage height, 3.24 ft); minimum, 0.03 cfs Oct. 14, Dec. 13, 14, but may have been less during period of ice effect.
Period of record: Maximum discharge, 1,600 cfs Aug. 11, 1967 (gage height, 3.88 ft); no flow at times most years.

REMARKS.--Records good except those below 1 cfs and those for winter period, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.28	.10	.05	.14	3.0	1.0	383	15	6.1	.58	1.7	2.4
2	.18	.18	.07	.14	2.0	1.0	364	12	5.1	.67	18	4.4
3	.10	.14	.07	.10	1.0	.80	360	11	4.1	.58	18	4.6
4	.34	.10	.07	.10	.80	.80	399	10	3.8	.41	3.8	2.5
5	.41	.10	.07	.10	.80	.80	380	9.7	2.2	.98	3.1	12
6	.18	.07	.07	.07	.80	1.0	327	13	1.2	2.7	5.2	3.2
7	.10	.07	.07	.07	.60	.80	225	19	1.1	3.8	1.8	2.4
8	.07	.07	.07	.07	.60	.60	140	12	.76	3.6	1.1	2.4
9	.05	.10	.10	.10	.60	.60	138	9.0	.76	3.4	.58	2.7
10	.05	.10	.10	.07	.60	.60	132	8.0	.87	4.4	.34	3.4
11	.05	.18	.10	.07	.60	.60	130	7.4	.76	4.4	.34	3.1
12	.05	.18	.10	.07	.60	.80	115	6.7	.34	5.6	.34	19
13	.05	.18	.07	.10	.60	.80	105	5.8	1.4	7.7	.58	5.8
14	.05	.41	.07	.14	.60	1.0	109	6.4	2.9	4.1	20	2.9
15	.10	.34	.10	.41	.60	.80	84	5.8	4.1	3.8	6.1	1.7
16	.10	.34	.10	1.2	.60	1.5	54	4.8	6.1	3.4	3.8	1.7
17	.07	.28	.10	.67	.60	3.0	76	4.1	9.3	2.4	2.2	1.1
18	.07	.18	.10	.48	.60	4.0	65	3.4	12	3.4	1.2	3.5
19	.05	.14	.14	.48	.60	9.0	69	3.1	4.8	5.8	.76	2.5
20	.05	.10	.14	.58	.60	13	97	2.7	2.4	12	.41	2.6
21	.07	.10	.14	3.5	.80	24	118	2.7	1.1	3.4	.34	96
22	.10	.07	.14	8.7	.80	52	106	4.1	.34	1.2	.28	22
23	.14	.17	.14	2.7	1.0	74	85	4.6	.41	.67	.34	9.0
24	.14	.76	.14	1.3	1.2	66	70	6.7	.34	.87	.34	5.4
25	.10	.34	.14	1.5	1.5	61	54	7.4	.67	8.7	.76	3.6
26	.10	.23	.18	205	2.0	62	30	7.4	1.4	5.6	.58	2.0
27	.10	.14	.18	120	2.0	101	22	6.1	3.8	3.2	1.1	1.3
28	.14	.10	.18	60	1.5	178	20	5.6	3.4	2.2	.98	.87
29	.14	.07	.14	20	------	287	19	4.8	2.0	1.2	2.4	.67
30	.14	.05	.14	11	------	358	17	4.8	.98	.76	13	.48
31	.10	------	.18	5.0	------	343	------	5.6	------	1.1	2.4	------
TOTAL	3.67	5.39	3.46	443.86	27.60	1,648.50	4,293	228.7	84.53	102.62	111.87	225.22
MEAN	.12	.18	.11	14.3	.99	53.2	143	7.38	2.82	3.31	3.61	7.51
MAX	.41	.76	.18	205	3.0	358	399	19	12	12	20	96
MIN	.05	.05	.05	.07	.60	.60	17	2.7	.34	.41	.28	.48
AC-FT	7.3	11	6.9	880	55	3,270	8,520	454	168	204	222	447

CAL YR 1968 TOTAL 2,871.12 MEAN 7.84 MAX 375 MIN 0 AC-FT 5,690
WTR YR 1969 TOTAL 7,178.42 MEAN 19.7 MAX 399 MIN .05 AC-FT 14,240

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-26	1200	2.55	385
4- 4	1930	3.24	846

08284300 Horse Lake Creek above Heron Reservoir, near Park View, N. Mex.

LOCATION.--Lat 36°42'30", long 106°44'52", Rio Arriba County, in Tierra Amarilla Grant, on left bank 5.5 miles upstream from mouth, 7.6 miles downstream from Horse Lake, and 10 miles west of Park View.

DRAINAGE AREA.--45 sq mi, approximately.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder. Concrete control since June 10, 1963. Altitude of gage is 7,205 ft (from topographic map). Prior to June 10, 1963, at datum 1.77 ft lower.

AVERAGE DISCHARGE.--7 years, 1.20 cfs (869 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 243 cfs Sept. 11 (gage height, 2.83 ft), from rating curve extended as explained below; no flow most of time.
Period of record: Maximum discharge, 3,960 cfs July 30, 1968 (gage height, 4.9 ft), from rating curve extended above 37 cfs on basis of slope-area measurements at gage heights 3.20 and 4.9 ft; no flow most of time.

REMARKS.--Records good except those for winter period and those above 50 cfs, which are fair. Diversions above station for irrigation of meadows and for off-channel stock tanks.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	.10	0	44	.31	0	0	0	0
2	0	0	0	0	.05	0	37	.27	0	0	0	8.7
3	0	0	0	0	.04	.05	29	.17	0	0	0	1.5
4	0	0	0	0	.03	.10	25	.14	0	0	.46	.02
5	0	0	0	0	.03	.05	17	.23	0	0	.28	0
6	0	0	0	0	.03	.04	12	.84	0	0	0	0
7	0	0	0	0	.03	.03	7.8	1.9	0	0	0	0
8	0	0	0	0	.03	.02	4.6	1.0	0	0	0	0
9	0	0	0	0	.03	.01	3.9	.60	0	0	0	1.3
10	0	0	0	0	.03	0	4.2	.38	0	0	0	3.6
11	0	0	0	0	.03	0	6.6	.27	0	0	0	22
12	0	0	0	0	.03	0	7.0	.17	0	.07	0	5.8
13	0	0	0	0	.03	0	5.4	.14	0	0	8.7	.06
14	0	0	0	0	.03	.05	5.2	.20	0	0	19	0
15	0	0	0	0	.03	.20	4.2	.10	0	0	.06	0
16	0	0	0	.48	.02	2.5	3.5	.05	0	.05	0	0
17	0	0	0	.41	.01	10	4.4	.03	0	0	0	3.0
18	0	0	0	.05	0	20	3.9	.01	0	0	0	.58
19	0	0	0	.03	0	30	3.1	0	0	.13	0	.01
20	0	0	0	.01	0	20	2.4	0	0	0	0	1.2
21	0	0	0	1.7	0	30	2.0	0	0	0	0	17
22	0	0	0	.97	0	40	1.9	0	0	0	0	.60
23	0	0	0	.03	0	30	1.8	0	0	.11	4.6	.10
24	0	0	0	0	0	12	1.3	0	0	.72	.23	.02
25	0	0	0	.50	0	9.6	.97	0	0	13	.01	0
26	0	0	0	20	0	14	.84	0	0	1.7	0	0
27	0	0	0	10	0	24	.78	0	0	.01	0	0
28	0	0	0	5.0	0	32	.60	0	0	0	0	0
29	0	0	0	2.0	------	37	.50	0	0	0	14	0
30	0	0	0	1.0	------	40	.38	0	0	0	5.4	0
31	0	------	0	.20	------	39	------	0	------	0	.03	------
TOTAL	0	0	0	42.38	0.58	390.65	241.27	6.81	0	15.79	52.77	65.49
MEAN	0	0	0	1.37	.021	12.6	8.04	.22	0	.51	1.70	2.18
MAX	0	0	0	20	.10	40	44	1.9	0	13	19	22
MIN	0	0	0	0	0	0	.38	0	0	0	0	0
AC-FT	0	0	0	84	1.2	775	479	14	0	31	105	130

CAL YR 1968 TOTAL 725.04 MEAN 1.98 MAX 144 MIN 0 AC-FT 1,440
WTR YR 1969 TOTAL 815.74 MEAN 2.23 MAX 44 MIN 0 AC-FT 1,620

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
3-22	1630	1.97	64	8-29	2200	2.72	206
3-30	1700	2.23	98	9- 2	1930	2.52	152
7-25	1900	2.46	138	9-11	2200	2.83	243
8-14	0030	2.50	147	9-21	0230	2.23	98

08284500 Willow Creek near Park View, N. Mex.

LOCATION.--Lat 36°40'05", long 106°42'15", Rio Arriba County, in Tierra Amarilla Grant, at Heron damsite, 0.7 mile downstream from Horse Lake Creek, 8.6 miles southwest of Park View, and at mile 0.4.

DRAINAGE AREA.--193 sq mi.

PERIOD OF RECORD.--May 1936 to current year (no winter records prior to 1943). Monthly or yearly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorders 0.7 mile upstream on Horse Lake Creek at mouth and 3 miles upstream on Willow Creek at steel bridge (construction of Heron Dam prevented collection of a record at Heron damsite subsequent to Nov. 8, 1965). At Heron damsite, datum of gage at time of discontinuance was 6,944.99 ft above mean sea level (Bureau of Reclamation datum). Prior to Oct. 1, 1937, at datum 0.79 ft higher. Apr. 19, 1949 to Aug. 8, 1951, at different datums. Aug. 9, 1951 to Sept. 30, 1960, at datum 0.41 ft higher.

AVERAGE DISCHARGE.--32 years (1936-38, 1939-69), 21.1 cfs (15,290 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,020 cfs Apr. 4; minimum, 0.06 cfs Oct. 3.
Period of record: Maximum discharge, 4,500 cfs Apr. 23, 1942 (gage height, 10.45 ft, site and datum then in use), from rating curve extended above 1,400 cfs on basis of slope-area measurement of peak flow; no flow at times.

REMARKS.--Records poor. Small diversions above station for irrigation and stock tanks. Subsequent to Nov. 8, 1965, published record is the composite of Horse Lake Creek at mouth and Willow Creek at steel bridge pending construction of Heron Dam.

REVISIONS (WATER YEARS).--WSP 858: 1936. WSP 1312: 1943(M), 1949(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.14	1.4	.51	.30	6.0	7.8	417	17	19	4.2	9.2	6.6
2	.10	1.5	.56	.30	4.0	6.2	407	15	18	4.0	7.4	9.2
3	.07	1.8	.55	.30	2.5	8.8	408	12	16	4.5	40	21
4	.42	1.6	.50	.30	2.0	5.5	437	11	15	4.7	14	9.3
5	3.7	1.5	.50	.30	2.0	3.0	395	10	13	6.0	11	16
6	3.9	1.5	.55	.40	1.9	2.8	331	14	11	8.5	13	7.8
7	4.6	1.2	.55	.40	1.7	2.7	233	22	11	8.1	8.5	6.1
8	3.9	.90	.55	.40	1.7	2.4	129	18	11	7.0	4.0	6.1
9	3.4	.72	.55	.30	1.7	1.9	129	10	9.9	6.7	3.7	6.5
10	3.0	.90	.60	.30	1.7	1.6	128	8.6	7.7	8.1	7.7	7.6
11	3.1	.56	.55	.40	1.6	1.8	124	7.6	7.7	8.8	5.3	29
12	2.9	.66	.50	.40	1.6	3.1	114	7.1	7.7	9.9	4.0	65
13	3.4	1.0	.40	.45	1.6	4.6	100	6.4	7.7	15	6.9	18
14	3.0	1.8	.30	.62	1.6	3.8	109	6.8	9.9	11	52	11
15	3.0	1.7	.30	1.2	1.6	4.2	91	6.8	11	10	24	8.7
16	3.1	1.7	.30	2.2	1.6	10	59	5.1	17	9.9	14	8.2
17	3.5	1.4	.30	1.7	1.6	28	71	3.5	23	8.1	10	7.9
18	4.3	1.2	.30	1.4	1.6	48	71	2.5	25	8.8	14	11
19	3.9	1.1	.30	1.2	1.6	58	69	1.9	17	13	7.7	12
20	4.1	1.0	.30	2.0	1.6	49	81	1.9	5.1	20	6.3	14
21	3.6	1.0	.30	4.8	1.9	76	110	1.2	1.3	12	5.0	150
22	3.9	1.0	.30	12	2.0	132	104	5.5	4.2	8.8	4.2	59
23	2.6	1.1	.30	7.2	2.6	132	82	5.8	6.9	7.4	5.3	31
24	2.2	1.1	.40	4.0	4.0	97	71	15	8.3	8.7	7.0	17
25	2.4	1.7	.40	4.7	11	80	56	17	8.5	26	6.6	13
26	3.2	.96	.40	405	14	88	31	18	7.4	26	5.1	9.6
27	3.9	.78	.35	305	11	158	23	14	9.9	16	4.8	7.5
28	3.1	.61	.35	97	12	235	20	13	9.5	13	4.5	6.4
29	2.4	.50	.35	32	------	325	18	13	6.0	11	11	5.4
30	1.9	.50	.35	19	------	379	18	14	4.7	8.5	65	4.3
31	1.5	------	.30	12	------	353	------	19	------	6.7	12	------
TOTAL	88.23	34.39	12.77	917.57	99.7	2,308.2	4,436	322.7	329.4	320.4	393.2	584.2
MEAN	2.85	1.15	.41	29.6	3.56	74.5	148	10.4	11.0	10.3	12.7	19.5
MAX	4.6	1.8	.60	405	14	379	437	22	25	26	65	150
MIN	.07	.50	.30	.30	1.6	1.6	18	1.2	1.3	4.0	3.7	4.3
AC-FT	175	68	25	1,820	198	4,580	8,800	640	653	636	780	1,160

CAL YR 1968 TOTAL 5,072.88 MEAN 13.9 MAX 771 MIN .07 AC-FT 10,060
WTR YR 1969 TOTAL 9,846.76 MEAN 27.0 MAX 437 MIN .07 AC-FT 19,530

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.HT.	DISCHARGE
1-26	2000	-	825
4- 4	2100	-	1,020

08285000 El Vado Reservoir near Tierra Amarilla, N. Mex.

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

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

PERIOD OF RECORD.--January 1935 to September 1965 (monthend contents only), October 1965 to current year.

GAGE.--Water-stage recorder and inclined staff gage. Datum of gage is 8.21 ft above mean sea level.

EXTREMES.--Current year: Maximum contents, 21,530 acre-ft June 17 (gage height, 6,812.1 ft); minimum, 1,050 acre-ft Dec. 7-9 (gage height, 6,774.9 ft).
Period of record: Maximum contents, 204,900 acre-ft June 4, 5, 1948 (gage height, 6,904.2 ft); no contents at times prior to December 1966.

REMARKS.--Reservoir is formed by rock-fill dam, steel faced. Storage began in January 1935. Capacity, 196,500 acre-ft between gage heights 6,759.0 and 6,902.0 ft (top of spillway gate). Dead storage, 1,060 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. Rehabilitation of outlet works, completed in December 1966, increased valve-controlled release from about 1,750 to about 4,000 cfs.

COOPERATION.--Records furnished by Bureau of Reclamation.

Capacity table (gage height, in feet, and contents, in acre-feet)

6,770	490	6,790	6,510	6,805	15,770
6,775	1,060	6,795	9,240	6,810	19,730
6,780	2,190	6,800	12,290	6,815	24,180
6,785	4,100				

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21,270	21,180	1,060	1,060	1,130	1,130	4,010	3,670	21,180	21,180	20,840	21,180
2	21,270	21,270	1,080	1,060	1,130	1,130	4,060	3,670	21,180	21,180	21,010	21,100
3	21,270	21,180	1,060	1,060	1,110	1,140	4,060	3,670	21,270	21,180	21,180	21,180
4	21,270	20,580	1,060	1,060	1,130	1,130	4,100	4,280	21,270	21,100	21,180	21,180
5	21,360	19,730	1,060	1,060	1,130	1,130	4,010	4,550	21,270	21,180	21,270	21,270
6	21,360	18,900	1,060	1,060	1,130	1,110	3,880	5,070	21,100	21,180	21,180	21,270
7	21,360	18,010	1,050	1,060	1,110	1,110	3,930	5,160	21,180	21,180	21,100	21,270
8	21,270	16,990	1,050	1,060	1,110	1,110	4,460	5,160	21,270	21,100	21,100	21,180
9	21,270	16,070	1,050	1,060	1,110	1,100	4,280	5,160	21,180	21,100	21,270	21,180
10	21,270	15,110	1,080	1,060	1,110	1,100	3,930	5,160	21,180	21,180	21,270	21,180
11	21,180	14,180	1,080	1,060	1,110	1,100	4,100	6,360	21,450	21,270	21,180	21,180
12	21,180	13,290	1,080	1,060	1,110	1,100	4,220	7,730	21,270	21,360	21,180	21,100
13	21,180	12,420	1,080	1,060	1,110	1,100	4,330	8,450	21,180	21,360	21,180	21,100
14	21,270	11,520	1,080	1,060	1,130	1,080	3,750	8,670	21,180	21,180	21,450	21,180
15	21,270	10,180	1,080	1,100	1,110	1,080	3,670	9,300	21,270	21,360	21,270	21,270
16	21,270	8,330	1,080	1,110	1,110	1,080	4,330	9,820	21,360	21,360	21,270	21,270
17	21,270	6,460	1,080	1,110	1,130	1,220	4,370	14,750	21,530	21,270	21,360	21,100
18	21,270	4,640	1,080	1,100	1,110	1,310	4,240	18,900	21,270	21,270	21,270	21,180
19	21,270	2,910	1,080	1,100	1,110	1,280	4,060	20,750	21,360	21,270	21,100	21,270
20	21,360	1,290	1,080	1,100	1,110	1,240	3,710	20,920	21,270	21,010	21,100	21,270
21	21,360	1,110	1,080	1,130	1,110	1,540	3,420	20,840	21,180	20,840	21,100	21,450
22	21,360	1,100	1,060	1,140	1,110	2,160	3,340	21,010	21,180	21,010	21,100	21,180
23	21,360	1,100	1,060	1,110	1,110	2,590	3,590	21,010	21,180	21,100	21,270	21,270
24	21,360	1,100	1,060	1,100	1,130	2,870	3,500	21,270	21,180	21,100	21,270	21,100
25	21,360	1,100	1,080	1,100	1,140	3,110	3,630	21,100	21,180	21,100	21,180	21,180
26	21,360	1,080	1,080	1,890	1,160	3,340	3,670	21,450	21,180	21,180	21,180	21,270
27	21,450	1,060	1,060	1,450	1,140	3,670	3,670	21,010	21,180	21,100	21,180	21,270
28	21,450	1,080	1,060	1,220	1,160	3,930	3,670	20,920	21,180	21,100	21,180	21,270
29	21,450	1,060	1,060	1,140	------	4,190	3,670	21,270	21,180	21,180	21,100	21,270
30	21,180	1,060	1,060	1,130	------	3,930	3,670	21,450	21,180	21,180	21,180	21,180
31	21,180	------	1,060	1,130	------	4,010	------	21,450	------	21,010	21,180	------
MAX	21,450	21,270	1,080	1,890	1,160	4,190	4,460	21,450	21,530	21,360	21,450	21,450
MIN	21,180	1,060	1,050	1,060	1,110	1,080	3,340	3,670	21,100	20,840	20,840	21,100
(†)	6811.7	6775.0	6775.0	6775.4	6775.6	6784.8	6784.0	6812.0	6811.6	6811.5	6811.7	6811.7
(‡)	0	-20,120	0	+70	+30	+2,850	-340	+17,780	-350	-90	+170	0

CAL YR 1968..... † -40
WTR YR 1969..... ‡ 0

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.

08285500 Rio Chama below El Vado Dam, N. Mex.

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

DRAINAGE AREA.--877 sq mi, of which about 100 sq mi 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.

GAGE.--Water-stage recorder. Datum of gage is 6,696.12 ft above mean sea level. Prior to October 1935, at site 1.5 miles upstream at different datum. October 1935 to September 1938 at site 1.1 miles upstream at datum 30.34 ft higher.

AVERAGE DISCHARGE.--5 years (1913-15, 1920-23), 448 cfs (324,600 acre-ft per year), prior to completion of El Vado Dam; 34 years (1935-69), 375 cfs (271,700 acre-ft per year), after completion of El Vado Dam.

EXTREMES.--Current year: Maximum discharge, 3,040 cfs May 20 (gage height, 5.27 ft); minimum, 27 cfs Nov. 30. Period of record: Maximum discharge, 9,000 cfs May 22, 1920 (gage height, 12 ft, site and datum then in use), from rating curve extended above 3,500 cfs; no flow Mar. 25, 26, 31, 1955. Maximum discharge since construction of El Vado Dam in 1935, 6,010 cfs May 17, 1941 (gage height, 6.89 ft).
Flood of Oct. 4 or 5, 1911, was greater than floods in September 1904 and May 1920, from information by local residents.

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated since 1935 by El Vado Reservoir (see sta 08285000). Diversions for irrigation of about 10,600 acres above station.

REVISIONS (WATER YEARS).--WSP 1312: 1914, 1949. WSP 1392: 1949.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	42	38	58	57	117	762	2,170	1,200	202	290	111
2	38	50	44	62	57	90	860	2,470	968	202	111	134
3	38	71	40	60	60	97	882	2,730	723	202	134	136
4	54	360	40	60	62	87	968	2,630	742	202	168	76
5	73	478	40	60	65	75	976	2,180	756	202	164	76
6	73	472	35	60	65	69	1,020	1,910	671	198	164	76
7	73	514	40	58	65	73	1,110	1,850	664	198	164	76
8	73	544	40	56	60	69	1,030	1,380	704	194	106	130
9	73	538	45	54	58	65	730	952	574	122	53	141
10	73	532	50	52	62	71	730	1,540	502	95	101	88
11	73	526	55	49	62	71	1,020	1,860	609	95	122	270
12	53	526	60	49	73	75	1,040	2,180	563	143	122	332
13	44	520	55	50	75	67	796	2,390	444	278	121	142
14	44	538	55	52	83	71	710	2,250	405	289	357	115
15	44	769	50	60	83	65	968	2,210	410	90	420	69
16	44	991	50	71	85	67	1,080	979	455	150	230	107
17	42	1,010	50	73	83	104	671	95	920	190	119	209
18	42	975	52	65	83	191	552	324	601	166	185	125
19	42	945	45	58	80	245	558	1,970	530	261	221	69
20	42	860	40	58	78	194	704	2,840	497	384	100	166
21	42	191	54	71	73	111	1,160	2,940	381	293	100	597
22	42	80	50	103	78	39	1,710	2,730	381	93	100	546
23	42	67	52	90	73	69	1,990	2,430	344	93	108	245
24	42	67	58	60	80	83	2,120	2,050	314	135	136	285
25	42	62	60	49	90	85	2,320	2,010	314	350	167	134
26	42	60	58	253	119	65	2,170	1,690	440	265	106	97
27	42	42	56	717	125	97	1,350	1,970	331	289	106	139
28	42	49	54	380	105	283	1,260	1,500	376	224	106	112
29	42	44	58	160	------	414	1,680	1,190	400	125	319	151
30	42	37	56	80	------	621	2,010	1,200	310	125	185	108
31	42	------	54	55	------	742	------	1,200	------	265	111	------
TOTAL	1,538	11,960	1,534	3,183	2,139	4,572	34,937	57,820	16,529	6,120	4,996	5,062
MEAN	49.6	399	49.5	103	76.4	147	1,165	1,865	551	197	161	169
MAX	73	1,010	60	717	125	742	2,320	2,940	1,200	384	420	597
MIN	38	37	35	49	57	39	552	95	310	90	53	69
AC-FT	3,050	23,720	3,040	6,310	4,240	9,070	69,300	114,700	32,790	12,140	9,910	10,040

CAL YR 1968 TOTAL 118,741 MEAN 324 MAX 3,970 MIN 31 AC-FT 235,500
WTR YR 1969 TOTAL 150,390 MEAN 412 MAX 2,940 MIN 35 AC-FT 298,300

08286500 Rio Chama above Abiquiu Reservoir, N. Mex.

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

DRAINAGE AREA.--1,600 sq mi, of which about 100 sq mi is probably noncontributing.

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

GAGE.--Water-stage recorder. Altitude of gage is 6,275 ft (from topographic map).

AVERAGE DISCHARGE.--8 years, 364 cfs (263,700 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,980 cfs July 31 (gage height, 7.08 ft); minimum, 32 cfs Dec. 3.
Period of record: Maximum discharge, 4,890 cfs Aug. 11, 1968 (gage height, 8.30 ft), from rating curve extended above 3,000 cfs on basis of slope-area mesurement of peak flow; minimum, 7.5 cfs Oct. 17, 18, 1963.
Major floods probably occurred on Sept. 29, 1904, Oct. 4 or 5, 1911, and May 22, 1920.

REMARKS.--Records fair except those for winter periods which are poor. Flow regulated by El Vado Reservoir (see sta 08285000). Diversions for irrigation of about 15,000 acres above station. Records of water temperatures and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	46	45	64	62	134	860	2,100	1,240	224	570	130
2	39	48	48	70	62	112	962	2,200	1,140	202	150	119
3	39	55	45	70	65	103	968	2,520	814	200	130	187
4	43	146	45	70	72	102	1,060	2,480	795	200	170	86
5	62	450	45	65	74	85	1,080	2,330	800	202	160	79
6	70	454	40	65	73	77	1,120	2,020	754	200	165	78
7	70	462	45	65	73	79	1,200	2,110	695	198	165	79
8	70	523	45	63	65	74	1,190	1,780	760	198	162	82
9	70	518	50	62	63	62	926	1,200	664	192	90	227
10	70	518	55	60	70	64	750	1,580	518	108	62	103
11	70	514	60	58	70	72	1,070	2,010	586	102	119	175
12	70	510	65	58	74	70	1,160	2,240	665	117	124	1,180
13	50	510	60	60	94	72	987	2,410	516	185	134	163
14	44	510	60	65	108	72	780	2,340	442	428	387	198
15	46	640	55	73	89	73	965	2,210	438	115	622	103
16	44	963	56	80	95	68	1,200	1,700	434	103	258	81
17	43	1,060	57	80	89	110	885	200	827	194	148	163
18	43	1,020	60	75	103	309	625	150	816	139	119	312
19	43	980	50	66	94	391	610	1,670	555	242	283	88
20	44	938	50	65	78	304	689	2,990	565	272	105	124
21	44	451	58	70	75	234	1,140	3,020	389	526	100	713
22	44	124	55	110	79	159	1,640	2,650	351	146	102	963
23	44	88	60	100	77	103	1,900	2,510	335	113	195	250
24	44	77	65	85	75	113	2,030	2,010	264	130	166	289
25	44	74	70	79	100	103	2,190	2,100	278	276	210	253
26	44	72	65	742	135	98	2,220	1,680	339	428	156	100
27	44	69	64	1,190	132	81	1,560	1,940	379	140	120	130
28	44	57	60	500	117	215	1,290	1,730	322	394	113	145
29	44	52	65	250	------	430	1,640	1,260	375	147	115	131
30	44	45	65	100	------	590	1,900	1,250	363	134	980	157
31	44	------	60	60	------	842	------	1,250	------	301	162	------
TOTAL	1,555	11,974	1,723	4,620	2,363	5,401	36,597	59,640	17,419	6,556	6,542	6,888
MEAN	50.2	399	55.6	149	84.4	174	1,220	1,924	581	211	211	230
MAX	70	1,060	70	1,190	135	842	2,220	3,020	1,240	526	980	1,180
MIN	39	45	40	58	62	62	610	150	264	102	62	78
AC-FT	3,080	23,750	3,420	9,160	4,690	10,710	72,590	118,300	34,550	13,000	12,980	13,660

CAL YR 1968 TOTAL 124,187 MEAN 339 MAX 4,290 MIN 34 AC-FT 246,300
WTR YR 1969 TOTAL 161,278 MEAN 442 MAX 3,020 MIN 39 AC-FT 319,900

08286900 Abiquiu Reservoir near Abiquiu, N. Mex.

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

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

PERIOD OF RECORD.--February 1963 to September 1965 (monthend contents only), October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

EXTREMES.--Current year: Maximum contents, 59,970 acre-ft May 28 (elevation, 6,172.21 ft); minimum, 1,680 acre-ft Apr. 14 (elevation, 6,098.97 ft).
Period of record: Maximum contents, 99,580 acre-ft Sept. 13, 1965 (elevation, 6,186.61 ft); no contents at times prior to May 1968.

REMARKS.--Reservoir is formed by earth-fill dam, completed Feb. 5, 1963. Capacity, 1,217,000 acre-ft (revised) between elevations 6,060 ft (invert of outlet tunnel) and 6,350 ft (crest of spillway). No dead storage. Reservoir is used for flood control. A desilting pool of about 2,000 acre-ft has been maintained since May 1968.

COOPERATION.--Records furnished by Corps of Engineers.

Capacity tables (elevation, in feet, and contents, in acre-feet)

Oct. 1 to July 31				Aug. 1 to Sept. 30	
6,100	1,850	6,140	19,560	6,105	2,080
6,110	4,320	6,150	28,030	6,110	3,430
6,120	8,160	6,160	39,600	6,120	7,110
6,130	13,210	6,175	65,720		

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13,840	13,700	2,000	2,090	2,060	2,160	3,980	26,000	53,320	2,660	2,700	2,630
2	13,830	13,700	2,040	2,090	2,020	2,180	4,030	29,310	51,330	2,630	2,580	2,770
3	13,830	13,720	2,030	2,060	2,000	2,120	3,700	32,880	48,650	2,620	2,470	2,790
4	13,830	13,550	2,040	2,040	1,990	2,090	3,200	36,420	45,910	2,670	2,330	2,720
5	13,850	13,410	2,040	2,000	2,050	2,070	2,910	39,030	43,160	2,680	2,480	2,650
6	13,890	13,240	2,040	2,010	2,060	2,050	2,540	41,270	40,150	2,690	2,540	2,660
7	13,860	13,120	2,040	2,020	2,060	2,070	2,270	43,280	36,890	2,690	2,550	2,710
8	13,860	13,110	2,040	2,020	2,090	2,070	2,000	44,060	33,930	2,680	2,560	2,780
9	13,900	13,110	2,060	2,020	2,120	2,040	1,960	43,410	31,170	2,750	2,480	2,870
10	13,890	13,070	2,060	2,040	2,070	2,060	2,940	43,460	28,030	2,820	2,420	2,740
11	13,880	13,040	2,060	2,020	2,030	2,080	2,260	44,360	24,850	2,880	2,480	3,010
12	13,890	13,000	2,000	2,000	2,040	2,080	2,080	45,780	21,700	2,880	2,510	4,400
13	13,840	12,970	2,000	2,000	2,050	2,080	1,900	47,740	18,180	2,840	2,580	3,460
14	13,780	12,970	2,040	2,020	2,100	2,080	2,080	49,600	14,670	2,900	2,590	3,460
15	13,810	12,770	2,120	2,040	2,060	2,080	2,420	51,020	11,410	2,630	2,810	3,390
16	13,810	12,760	2,110	2,060	2,040	2,070	2,550	51,930	9,400	2,790	2,600	3,460
17	13,830	12,870	2,080	2,080	2,020	2,080	2,260	49,820	8,020	2,860	2,600	3,500
18	13,840	12,900	2,030	2,060	2,040	2,330	2,000	47,700	6,380	2,850	2,550	3,520
19	13,840	12,870	1,990	2,030	2,060	2,880	2,060	48,150	3,820	3,000	2,710	3,310
20	13,840	12,820	2,030	2,000	2,040	3,250	2,140	50,670	2,710	2,980	2,540	3,420
21	13,840	11,860	2,070	2,010	2,000	3,450	2,580	53,820	2,610	3,440	2,520	3,720
22	13,840	10,230	2,070	2,060	1,980	3,490	3,880	56,270	2,540	3,190	2,540	3,950
23	13,810	8,550	2,080	2,040	1,950	3,400	5,850	58,320	2,570	3,180	2,700	3,820
24	13,790	6,910	2,060	1,990	1,940	3,370	7,720	59,060	2,570	3,450	2,630	3,810
25	13,780	5,160	2,020	2,060	1,980	3,360	10,610	59,950	2,640	3,850	2,720	3,870
26	13,760	3,240	2,010	2,100	2,080	3,320	14,680	59,580	2,680	3,400	2,640	3,860
27	13,750	2,030	2,040	3,960	2,120	3,320	17,010	59,850	2,710	3,090	2,660	3,870
28	13,740	2,040	2,080	3,500	2,120	3,220	18,500	59,660	2,670	3,690	2,700	3,950
29	13,720	1,980	2,120	2,340	------	3,360	20,340	58,070	2,750	3,520	2,740	3,910
30	13,720	1,960	2,080	2,040	------	3,790	22,730	56,460	2,740	3,550	3,250	3,910
31	13,710	------	2,050	2,110	------	4,090	------	54,630	------	a4,250	2,540	------
MAX	13,900	13,720	2,120	3,960	2,120	4,090	22,730	59,950	53,320	4,250	3,250	4,400
MIN	13,710	1,960	1,990	1,990	1,940	2,040	1,900	26,000	2,540	2,620	2,330	2,630
(+)	6,130.88	6,100.59	6,101.04	6,101.38	6,101.40	6,109.30	6,144.10	6,169.42	6,104.30	6,109.80	6,106.88	6,111.53
(‡)	-130	-11,750	+90	+60	+10	+1,970	+18,640	+31,900	-51,890	+1,510	-830	+1,370

CAL YR 1968..... ‡ +2,050
WTR YR 1969..... ‡ -8,640

+ Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.
a Contents from capacity table used prior to Aug. 1, 1969; contents July 31, 1969, from capacity table used subsequent to Aug. 1, 1969, is 3,370 acre-feet.
NOTE.--Contents on Sept. 30, 1968, from capacity table effective Aug. 1, 1969 is 12,550 acre-feet. Change in contents for 1969 water year obtained by using this value.

08287000 Rio Chama below Abiquiu Dam, N. Mex.

LOCATION.--Lat 36°14'12", long 106°24'59", in SE¼SE¼ sec.8, T.23 N., R.5 E., Rio Arriba County, on right bank 0.8 mile downstream from Abiquiu Dam, 5.9 miles northwest of Abiquiu, and at mile 31.3.

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

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

GAGE.--Water-stage recorder. Concrete control since Jan. 25, 1966. Altitude of gage is 6,040 ft (from topographic map). Prior to Jan. 25, 1966, at datum 1.60 ft lower.

AVERAGE DISCHARGE.--8 years, 389 cfs (281,800 acre-feet per year).

EXTREMES.--Current year: Maximum discharge, 2,530 cfs June 5 (gage height, 5.36 ft); minimum, 6.2 cfs Aug. 2, 3.
Period of record: Maximum discharge, 2,990 cfs July 1, 1965 (gage height, 6.69 ft); maximum gage height, 7.29 ft Jan. 14, 1967 (backwater from ice); minimum discharge, about 0.5 cfs Mar. 17, 1966 (result of regulation).

REMARKS.--Records good. Flow largely controlled by El Vado Reservoir (see sta 08285000) 46.4 miles upstream and Abiquiu Reservoir (see sta 08286900) 0.8 mile upstream. Diversions for irrigation of about 17,600 acres above station. Records of water temperatures and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	63	58	67	112	127	919	639	2,290	256	848	120
2	48	63	55	75	112	130	961	732	2,270	205	590	117
3	47	63	63	90	104	147	1,160	926	2,330	194	307	168
4	45	189	63	88	95	133	1,370	1,040	2,420	175	268	136
5	47	536	69	88	95	114	1,320	1,080	2,420	185	120	111
6	50	536	83	75	112	109	1,420	1,010	2,500	188	161	79
7	83	541	83	73	109	97	1,490	1,230	2,470	188	181	63
8	73	541	83	88	79	97	1,460	1,450	2,440	188	178	63
9	50	547	83	75	77	99	1,090	1,570	2,260	159	162	164
10	80	547	86	71	107	82	850	1,560	2,240	116	104	169
11	78	547	88	81	102	78	1,190	1,560	2,480	99	90	109
12	61	547	93	81	88	97	1,420	1,550	2,470	125	125	427
13	89	547	76	73	95	97	1,260	1,560	2,460	215	136	621
14	71	547	43	69	107	97	872	1,640	2,440	409	293	178
15	48	722	43	81	117	97	950	1,600	2,340	274	648	138
16	48	907	80	90	117	97	1,270	1,460	1,450	77	343	73
17	48	948	103	102	117	106	1,160	1,460	1,390	185	194	92
18	50	948	93	109	109	147	805	1,450	1,730	211	165	275
19	50	955	66	109	107	169	716	1,450	1,870	185	227	187
20	50	962	50	107	109	172	760	1,530	1,050	313	202	59
21	51	962	55	102	109	172	1,160	1,610	462	406	122	455
22	55	976	56	112	109	172	1,380	1,690	391	393	120	783
23	58	969	58	139	109	172	1,320	1,860	345	189	176	313
24	59	955	75	92	104	139	1,480	1,950	293	152	226	245
25	59	1,010	88	67	97	134	1,100	2,010	276	285	212	233
26	59	1,070	93	73	114	135	431	2,100	293	689	208	127
27	61	729	77	601	147	120	426	2,100	375	318	121	107
28	61	105	65	947	150	225	547	2,200	327	152	117	107
29	61	122	65	836	------	358	760	2,300	323	222	133	133
30	61	93	98	264	------	358	831	2,290	363	144	644	147
31	61	------	98	74	------	677	------	2,300	------	162	508	------
TOTAL	1,810	18,247	2,289	4,999	3,009	4,954	31,878	48,907	46,768	7,059	7,929	5,999
MEAN	58.4	608	73.8	161	107	160	1,063	1,578	1,559	228	256	200
MAX	89	1,070	103	947	150	677	1,490	2,300	2,500	689	848	783
MIN	45	63	43	67	77	78	426	639	276	77	90	59
AC-FT	3,590	36,190	4,540	9,920	5,970	9,830	63,230	97,010	92,760	14,000	15,730	11,900

CAL YR 1968 TOTAL 131,109 MEAN 358 MAX 1,470 MIN 32 AC-FT 260,100
WTR YR 1969 TOTAL 183,848 MEAN 504 MAX 2,500 MIN 43 AC-FT 364,700

08289000 Rio Ojo Caliente at La Madera, N. Mex.

LOCATION.--Lat 36°20'59", long 106°02'37", in NW¼NE¼ sec.1, T.24 N., R.8 E., Rio Arriba County, on left bank 400 ft upstream from bridge on State Highway 96, 2.4 miles south of La Madera, 2.6 miles downstream from confluence of Rio Vallecitos and Rio Tusas, and 3.1 miles north of Ojo Caliente.

DRAINAGE AREA.--419 sq mi.

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

GAGE.--Water-stage recorder. Datum of gage is 6,358.84 ft above mean sea level. Prior to Apr. 23, 1934, at site about 2.6 miles 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.

AVERAGE DISCHARGE.--37 years, 69.2 cfs (50,140 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 710 cfs May 3 (gage height, 5.16 ft); minimum, 4.3 cfs July 8, 10, 11-12.
Period of record: Maximum discharge, 3,140 cfs Apr. 21, 1958 (gage height, 6.42 ft), from rating curve extended above 1,300 cfs; minimum, 0.2 cfs Aug. 17, 1956.
The flood of Apr. 21, 1958, may have been exceeded by a flood in May 1920, from information by local resident.

REMARKS.--Records good prior to June and fair thereafter. Diversions above station for irrigation of about 3,500 acres (1962 determination).

REVISIONS (WATER YEARS).--WSP 1712: 1959.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	12	14	14	16	23	95	565	74	8.3	16	21
2	6.2	13	16	15	18	23	121	590	66	6.8	37	15
3	5.7	12	14	14	16	23	143	600	60	6.3	19	14
4	6.5	12	14	14	16	23	131	560	50	5.6	17	13
5	6.4	12	14	14	18	21	144	469	42	5.5	21	12
6	6.6	11	13	14	21	20	185	457	41	5.3	21	11
7	7.8	11	14	14	21	25	224	435	36	5.4	17	10
8	7.9	11	14	15	18	22	164	372	29	4.7	17	12
9	7.8	11	14	15	17	19	181	377	26	4.8	15	16
10	7.8	11	14	15	18	24	220	436	26	4.9	15	14
11	7.7	11	14	14	20	23	273	497	25	4.6	13	17
12	7.3	12	13	14	20	21	248	545	25	4.3	8.9	24
13	7.2	12	13	15	23	21	271	458	28	6.8	8.8	28
14	7.5	13	14	15	22	25	299	426	30	8.1	14	21
15	8.4	13	14	17	21	21	297	425	27	7.6	21	19
16	9.0	14	14	16	23	22	280	397	27	9.6	19	18
17	12	14	14	16	21	29	227	339	51	7.6	15	16
18	11	13	14	15	22	45	216	369	43	16	13	16
19	12	13	13	14	22	51	310	354	30	29	11	16
20	11	15	14	16	20	42	295	324	24	10	11	17
21	11	14	14	17	20	43	390	305	20	10	11	22
22	10	13	13	17	21	54	476	292	17	11	10	30
23	10	15	13	16	22	43	575	273	15	11	10	24
24	10	15	13	13	21	39	596	276	14	10	20	19
25	11	16	14	18	21	35	616	206	13	25	15	17
26	10	15	14	28	22	33	485	184	15	24	13	16
27	10	13	14	28	23	38	396	161	27	15	11	15
28	10	14	14	23	22	48	437	123	15	11	9.7	13
29	11	13	14	20	------	60	510	100	12	9.7	7.6	13
30	11	12	14	15	------	69	563	84	9.8	8.6	11	12
31	11	------	14	15	------	80	------	74	------	7.2	34	------
TOTAL	277.3	386	429	506	565	1,065	9,368	11,073	917.8	303.7	482.0	511
MEAN	8.95	12.9	13.8	16.3	20.2	34.4	312	357	30.6	9.80	15.5	17.0
MAX	12	16	16	28	23	80	616	600	74	29	37	30
MIN	5.7	11	13	13	16	19	95	74	9.8	4.3	7.6	10
AC-FT	550	766	851	1,000	1,120	2,110	18,580	21,960	1,820	602	956	1,010

CAL YR 1968 TOTAL 18,967.0 MEAN 51.8 MAX 478 MIN 4.3 AC-FT 37,620
WTR YR 1969 TOTAL 25,883.8 MEAN 70.9 MAX 616 MIN 4.3 AC-FT 51,340

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G.HT.	DISCHARGE
4-25	0030	5.13	695
5- 3	0230	5.16	710
5-12	0230	5.15	705

08290000 Rio Chama near Chamita, N. Mex.

LOCATION.--Lat 36°04'26", long 106°06'40", in NE¼NE¼ sec.8, T.21 N., R.8 E., Rio Arriba County, San Juan Pueblo Grant, at downstream end of pier nearest left bank of bridge on U. S. Highway 285, 0.5 mile west of Chamita, 2.5 miles northwest of San Juan Pueblo, and at mile 2.8.

DRAINAGE AREA.--3,144 sq mi, of which about 100 sq mi is probably noncontributing.

PERIOD OF RECORD.--October 1912 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as Chama River near Chamita prior to 1928, and Chama River at Chamita 1929-30.

GAGE.--Water-stage recorder. Concrete control since Jan. 1, 1964. Datum of gage is 5,653.61 ft above mean sea level. Prior to Oct. 4, 1933, at railroad bridge 2.3 miles downstream at different datums. Oct. 4, 1933 to Mar. 1, 1942, at site 50 ft downstream at datum 0.22 ft higher. Mar. 2, 1942 to Dec. 31, 1963, at site 200 ft downstream, present datum.

AVERAGE DISCHARGE.--57 years, 544 cfs (394,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, about 10,000 cfs Aug. 29 (gage height, 9.56 ft, from floodmark in gage well); minimum, 2.6 cfs Oct. 3.
Period of record: Maximum discharge, 15,000 cfs May 22, 1920, from rating curve extended above 2,300 cfs; maximum gage height, 10.45 ft Aug. 22, 1961; no flow at times.
The floods of Sept. 29, 1904, and Oct. 4 or 5, 1911, probably exceeded 15,000 cfs. Another major flood occurred in 1884, from newspaper accounts.

REMARKS.--Records good except those for August and September, which are poor. Diversions above station for irrigation of about 27,600 acres. Chamita ditch, on left bank, and Hernandez ditch, on right bank, bypass gage for irrigation of several hundred acres below station; see tabulation below for monthly and yearly diversion, as furnished by Bureau of Reclamation. Flow partly regulated by El Vado Reservoir (see sta 08285000) and Abiquiu Reservoir (see sta 08286900), 74.9 and 29.3 miles upstream, respectively. Records of chemical analyses, water temperatures, and suspended sediment loads for water year 1969 are published in Part 2 of this report.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	32	107	140	142	142	982	1,290	2,250	384	393	350
2	6.3	46	93	100	158	131	1,070	1,340	2,230	163	1,190	400
3	3.8	38	83	113	142	131	1,280	1,540	2,230	218	250	175
4	14	37	90	120	127	167	1,480	1,660	2,320	138	539	150
5	23	336	98	124	135	131	1,510	1,640	2,290	158	169	138
6	23	481	108	124	138	124	1,580	1,470	2,360	163	175	81
7	25	520	110	110	163	120	1,700	1,740	2,360	145	218	53
8	45	560	110	110	127	107	1,640	1,700	2,360	142	186	51
9	33	570	113	110	113	110	1,480	1,850	2,230	167	158	116
10	26	560	117	91	113	117	1,200	1,930	2,100	107	149	131
11	48	550	131	105	167	99	1,400	2,030	2,320	76	96	129
12	63	560	124	113	124	99	1,790	2,080	2,340	131	83	172
13	65	560	115	110	127	117	1,580	2,030	2,400	120	99	970
14	102	570	100	105	135	127	1,460	2,010	2,400	279	226	300
15	67	651	91	113	142	117	1,110	2,110	2,420	568	536	272
16	45	888	82	110	145	117	1,610	1,930	1,800	81	636	99
17	42	994	128	127	138	117	1,510	1,780	1,580	119	181	120
18	38	1,010	127	127	131	149	1,190	1,780	1,690	206	190	222
19	24	1,010	95	131	124	206	1,050	1,740	1,990	172	149	409
20	29	1,010	91	127	127	206	1,070	1,700	1,590	252	286	401
21	45	994	105	124	124	201	1,290	1,740	610	400	131	549
22	37	994	70	117	124	195	1,820	1,740	550	490	131	1,130
23	32	1,010	80	138	124	190	1,870	1,900	418	365	117	573
24	36	994	90	163	135	177	1,950	2,010	384	149	212	252
25	36	1,020	100	102	117	142	1,990	2,030	306	362	218	352
26	35	1,100	145	110	113	167	1,050	2,100	306	655	186	167
27	35	1,070	135	295	131	158	899	2,060	338	881	181	131
28	33	237	100	1,030	172	131	970	2,110	352	156	73	135
29	30	135	96	970	------	369	1,220	2,220	293	281	500	127
30	31	131	99	500	------	409	1,470	2,250	336	127	325	127
31	33	------	138	81	------	566	------	2,250	------	135	800	------
TOTAL	1,113.3	18,668	3,271	5,940	3,758	5,339	42,221	57,760	47,153	7,790	8,783	8,282
MEAN	35.9	622	106	192	134	172	1,407	1,863	1,572	251	283	276
MAX	102	1,100	145	1,030	172	566	1,990	2,250	2,420	881	1,190	1,130
MIN	3.8	32	70	81	113	99	899	1,290	293	76	73	51
AC-FT	2,210	37,030	6,490	11,780	7,450	10,590	83,750	114,600	93,530	15,450	17,420	16,430
(+)	709	591	0	0	0	0	589	1,050	817	1,010	821	339
(‡)	915	837	0	0	0	256	844	1,170	1,170	973	793	80

CAL YR 1968: TOTAL 148,764.9 MEAN 406 MAX 1,720 MIN 2.9 AC-FT 295,100 + 4,400 ‡ 5,190
WTR YR 1969: TOTAL 210,078.3 MEAN 576 MAX 2,420 MIN 3.8 AC-FT 416,700 + 5,930 ‡ 7,030

\+ Diversion, in acre-feet, by Chamita ditch.
‡ Diversion, in acre-feet, by Hernandez ditch.
NOTE.--No gage-height record Aug. 29 to Sept. 5.

08291000 Santa Cruz River at Cundiyo, N. Mex.

LOCATION.--Lat 35°57'53", long 105°54'14", in SE¼NW¼ sec.17, T.20 N., R.10 E., Santa Fe County, on left bank 135 ft downstream from bridge on State Highway 4 at confluence of Rio Medio and Rio Frijoles, 0.6 mile northwest of Cundiyo, and 1.8 miles upstream from Santa Cruz Dam.

DRAINAGE AREA.--86 sq mi, approximately.

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for 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. Altitude of gage is 6,460 ft (from topographic map). Sept. 1, 1930 to Aug. 12, 1932, water-stage recorder at site about 1 mile 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.

AVERAGE DISCHARGE.--39 years, 29.2 cfs (21,160 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 156 cfs Aug. 27 (gage height, 2.66 ft); minimum, 1.8 cfs Mar. 13, result of freezeup.
Period of record: Maximum discharge, 2,420 cfs Sept. 24, 1931 (gage height, 7.8 ft, site and datum then in use), from rating curve extended above 170 cfs; minimum, 0.19 cfs Mar. 13, 1954, result of freezeup.

REMARKS.--Records good except those for winter period, which are poor. Diversions for irrigation of about 1,000 acres above station.

REVISIONS(WATER YEARS).--WSP 1392: 1931(M), 1932-33, 1934-39(M), 1942, 1943(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	12	8.2	9.8	12	9.4	39	59	99	24	27	22
2	13	14	11	9.8	12	9.0	44	62	93	24	19	26
3	13	12	11	9.8	12	8.5	44	62	91	22	24	19
4	13	13	9.8	9.8	16	7.5	43	65	87	23	26	17
5	14	13	10	9.8	12	7.8	49	65	84	22	23	15
6	13	11	11	9.8	11	9.0	55	68	80	24	22	12
7	13	10	9.8	9.8	9.8	7.8	53	66	76	23	19	13
8	13	12	9.8	9.8	9.8	9.0	48	62	74	22	20	15
9	12	9.4	9.8	9.4	11	11	45	71	76	25	18	14
10	12	13	9.8	9.4	11	8.5	45	74	86	29	15	15
11	12	6.8	10	9.0	11	8.5	49	74	71	33	17	26
12	13	13	9.8	9.0	12	9.4	48	78	70	28	15	33
13	12	14	9.8	9.4	10	6.8	57	82	70	22	15	19
14	12	14	9.4	9.8	9.8	8.5	60	84	66	21	18	18
15	13	12	9.8	9.8	9.4	8.2	60	86	65	26	17	15
16	15	12	11	9.4	10	8.2	56	84	70	30	14	14
17	14	12	9.8	9.0	9.4	10	51	80	76	35	12	14
18	13	8.5	9.8	8.2	9.0	12	52	84	73	27	13	14
19	15	12	8.5	8.2	9.4	14	60	87	59	30	14	14
20	14	12	8.5	9.4	9.0	13	57	91	55	27	12	14
21	14	10	9.0	9.8	8.5	14	65	97	51	24	12	20
22	13	11	9.0	10	8.5	15	76	101	45	22	14	18
23	13	12	9.0	9.4	8.5	14	80	103	43	20	22	15
24	12	10	9.4	7.5	8.5	13	82	103	41	21	17	14
25	12	13	9.0	11	8.5	11	78	103	41	24	14	14
26	12	10	9.0	11	9.4	12	71	99	39	20	14	12
27	12	6.8	9.0	11	9.4	12	62	101	34	22	17	11
28	12	7.8	9.0	11	9.0	15	56	101	31	22	17	9.8
29	11	8.2	9.0	9.4	------	19	52	103	27	18	19	10
30	11	8.2	9.4	7.5	------	26	56	103	24	16	20	10
31	11	------	9.8	9.4	------	33	------	103	------	17	19	------
TOTAL	396	332.7	297.2	295.4	285.9	370.1	1,693	2,601	1,897	743	545	482.8
MEAN	12.8	11.1	9.59	9.53	10.2	11.9	56.4	83.9	63.2	24.0	17.6	16.1
MAX	15	14	11	11	16	33	82	103	99	35	27	33
MIN	11	6.8	8.2	7.5	8.5	6.8	39	59	24	16	12	9.8
AC-FT	785	660	589	586	567	734	3,360	5,160	3,760	1,470	1,080	958

CAL YR 1968 TOTAL 9,294.9 MEAN 25.4 MAX 99 MIN 6.5 AC-FT 18,440
WTR YR 1969 TOTAL 9,939.1 MEAN 27.2 MAX 103 MIN 6.8 AC-FT 19,710

PEAK DISCHARGE (BASE, 150 CFS)

DATE	TIME	G.HT.	DISCHARGE
8-27	1700	2.66	156

08294300 Rio Nambe at Nambe Falls, near Nambe, N. Mex.

LOCATION.--Lat 35°50'46", long 105°54'29", in NW¼SW¼ sec.29, T.19 N., R.10 E., Santa Fe County, in Nambe Indian Reservation, on left bank 800 ft downstream from Nambe Falls, 2.4 miles upstream from confluence of Rio Nambe and Rio En Medio, 4.2 miles southeast of Nambe Pueblo and 5.2 miles southeast of Nambe.

DRAINAGE AREA.--25.1 sq mi.

PERIOD OF RECORD.--March 1963 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 6,550 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 9.90 cfs (7,170 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 190 cfs Aug. 14 (gage height, 1.57 ft), from rating curve extended above 44 cfs; minimum, 0.74 cfs Nov. 28, result of freezeup.
Period of record: Maximum discharge, 1,090 cfs Aug. 8, 1967 (gage height, about 6.0 ft, from floodmarks), from rating curve extended above 44 cfs on basis of field estimate of peak flow; minimum, 0.74 cfs Nov. 28, 1968, result of freezeup.

COOPERATION.--Records furnished by Bureau of Reclamation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	5.4	4.2	3.3	5.0	4.5	8.9	18	46	13	9.8	19
2	6.1	6.4	6.2	3.3	5.4	4.5	8.9	20	43	13	10	14
3	6.1	6.1	4.4	3.5	7.3	4.0	8.5	21	40	12	8.9	11
4	6.1	5.8	5.8	3.5	8.5	4.0	9.3	21	39	11	9.8	10
5	6.8	5.8	6.8	3.5	5.8	4.0	11	20	36	11	6.8	8.5
6	6.4	4.8	5.4	3.5	4.3	4.0	12	21	35	10	8.0	11
7	5.8	4.5	5.1	3.5	3.8	4.0	12	19	35	10	8.2	13
8	5.8	5.1	5.1	3.5	7.2	3.8	11	18	34	10	8.5	13
9	5.8	4.5	5.1	3.5	12	4.0	12	20	35	11	8.5	12
10	5.8	5.8	4.8	3.5	10	3.8	14	20	36	12	8.9	11
11	5.8	3.5	4.2	3.5	12	4.0	19	21	34	16	8.8	12
12	5.8	5.1	3.5	3.5	14	3.8	14	22	31	12	8.9	9.8
13	5.8	5.1	3.8	3.5	4.5	4.0	14	22	30	11	9.8	8.5
14	6.1	5.1	6.1	3.8	4.5	3.8	14	22	29	11	12	8.5
15	6.1	5.1	6.4	3.8	6.8	4.0	15	26	27	14	7.7	8.0
16	6.1	4.8	4.8	3.5	5.1	3.8	17	25	29	14	6.0	8.5
17	6.1	4.8	4.0	3.5	5.1	4.0	15	24	28	11	6.1	8.5
18	5.4	2.9	3.8	3.3	4.8	3.8	11	28	26	11	6.1	8.5
19	6.1	4.5	3.5	3.5	4.8	4.3	13	28	24	11	6.5	8.5
20	6.1	4.0	3.8	3.5	5.1	4.3	13	31	23	9.9	6.8	8.5
21	6.1	4.0	3.8	3.5	5.1	3.5	19	35	21	9.6	7.2	9.8
22	6.1	4.2	3.5	3.5	4.5	4.0	22	39	20	8.0	9.8	9.8
23	6.1	4.8	3.5	3.5	4.5	4.3	21	41	20	7.8	13	8.9
24	6.1	3.5	3.5	3.8	4.5	4.3	24	40	18	7.8	11	8.0
25	5.8	4.0	3.3	3.8	4.5	4.8	22	40	17	9.4	9.8	7.6
26	5.8	3.5	3.5	4.5	4.3	4.8	20	41	17	8.3	9.4	7.6
27	5.8	2.7	3.8	4.1	4.5	5.1	18	44	15	9.3	10	7.2
28	5.8	2.0	3.3	3.8	4.5	5.4	19	49	14	8.9	11	7.2
29	5.8	1.7	3.3	3.5	------	5.8	18	56	14	8.5	10	6.8
30	5.8	2.0	3.3	4.0	------	7.2	18	53	13	7.8	10	6.8
31	5.1	------	3.3	4.5	------	8.0	------	50	------	8.5	9.4	------
TOTAL	185.6	131.5	134.9	112.5	172.4	137.6	453.6	935	829	327.8	276.7	291.5
MEAN	5.99	4.38	4.35	3.63	6.16	4.44	15.1	30.2	27.6	10.6	8.93	9.72
MAX	7.2	6.4	6.8	4.5	14	8.0	24	56	46	16	13	19
MIN	5.1	1.7	3.3	3.3	3.8	3.5	8.5	18	13	7.8	6.0	6.8
AC-FT	368	261	268	223	342	273	900	1,850	1,640	650	549	578

CAL YR 1968 TOTAL 3,849.2 MEAN 10.5 MAX 40 MIN 1.7 AC-FT 7,630
WTR YR 1969 TOTAL 3,988.1 MEAN 10.9 MAX 56 MIN 1.7 AC-FT 7,910

PEAK DISCHARGE (BASE, 40 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-28	2200	1.14	66	8-14	2200	1.57	190
6- 9	2230	1.46	127	8-23	0230	1.07	48
8- 4	1730	1.07	40	9- 1	2000	1.50	160

08295200 Rio En Medio near Santa Fe, N. Mex.

LOCATION.--Lat 35°47'30", long 105°47'38", Santa Fe County, in Santa Fe National Forest, on right bank 300 ft east of Ski Basin parking area and 10.8 miles northeast of Santa Fe.

DRAINAGE AREA.--0.63 sq mi.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 10,600 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 0.816 cfs (591 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4.78 cfs Aug. 21 (gage height, 1.15 ft); minimum, 0.20 cfs Jan. 21.
Period of record: Maximum discharge, 16.3 cfs July 16, 1965 (gage height, 1.70 ft); from rating curve extended above 4.50 cfs on basis of theoretical rating; minimum, 0.20 cfs Dec. 24, 1964, Jan. 21, 1969, result of freezeup.

REMARKS.--Records good except those for period of backwater from debris, which are fair.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.66	0.48	0.36	0.26	0.24	0.22	0.40	1.22	2.80	1.02	1.04	1.10
2	.62	.49	.36	.26	.24	.22	.40	1.37	2.72	.97	1.19	1.11
3	.62	.49	.36	.26	.24	.22	.39	1.52	2.56	.97	1.11	1.06
4	.66	.51	.36	.26	.24	.22	.48	1.47	2.40	.93	1.16	1.06
5	.66	.49	.35	.26	.24	.22	.56	1.31	2.25	.89	1.11	1.06
6	.62	.47	.35	.27	.24	.22	.57	1.16	2.18	.89	1.06	1.06
7	.60	.44	.35	.26	.24	.22	.54	1.06	2.18	.89	1.11	1.06
8	.59	.45	.35	.26	.24	.22	.54	1.02	2.18	.84	1.02	1.06
9	.60	.44	.35	.26	.24	.23	.56	1.02	2.40	.89	.97	1.06
10	.60	.44	.34	.26	.24	.24	.59	.97	2.48	1.02	.93	1.02
11	.59	.42	.34	.26	.24	.24	.54	.97	2.33	.97	.93	1.14
12	.59	.44	.34	.26	.24	.24	.51	1.06	2.18	.89	.93	1.06
13	.59	.41	.33	.26	.24	.24	.49	1.06	2.11	.84	1.04	1.06
14	.60	.42	.33	.26	.24	.24	.49	1.16	1.90	.80	1.03	1.06
15	.60	.41	.31	.26	.24	.24	.49	1.21	1.78	.89	.93	1.02
16	.60	.44	.30	.26	.24	.24	.48	1.21	1.84	.80	.84	.97
17	.59	.44	.29	.26	.24	.25	.47	1.63	1.78	.80	.80	.97
18	.57	.42	.28	.26	.24	.26	.47	1.89	1.59	.80	.80	.93
19	.57	.41	.28	.25	.24	.25	.44	2.32	1.53	.84	.80	.93
20	.57	.41	.28	.25	.24	.25	.48	2.71	1.42	.93	.80	.93
21	.59	.41	.28	.25	.23	.25	.65	2.98	1.36	.80	1.11	1.06
22	.56	.41	.27	.25	.23	.24	.87	3.15	1.31	.80	.97	.97
23	.54	.40	.27	.25	.23	.24	1.08	3.06	1.26	.80	1.06	.89
24	.52	.39	.26	.25	.22	.24	1.16	2.88	1.26	.80	.97	.89
25	.52	.39	.26	.24	.22	.25	1.11	2.56	1.21	.84	.89	.84
26	.51	.39	.26	.24	.22	.26	.97	2.56	1.16	.88	.93	.80
27	.49	.39	.26	.24	.22	.27	.93	2.80	1.06	1.02	.89	.80
28	.49	.36	.26	.24	.22	.28	.96	2.97	1.06	.93	.84	.80
29	.48	.37	.26	.23	------	.33	1.00	2.88	1.02	.84	.97	.80
30	.48	.37	.26	.23	------	.36	1.09	2.88	1.02	.80	.93	.80
31	.48	------	.26	.23	------	.40	------	2.80	------	.89	.93	------
TOTAL	17.76	12.80	9.51	7.84	6.59	7.80	19.71	58.86	54.33	27.27	30.09	29.37
MEAN	.573	.427	.307	.253	.235	.252	.657	1.899	1.811	.880	.971	.979
MAX	.66	.51	.36	.27	.24	.40	1.16	3.15	2.80	1.02	1.19	1.14
MIN	.48	.36	.26	.23	.22	.22	.39	.97	1.02	.80	.80	.80
AC-FT	35.2	25.4	18.9	15.6	13.1	15.5	39.1	117	108	54.1	59.7	58.3

CAL YR 1968: TOTAL 289.21 MEAN .790 MAX 3.15 MIN .26 AC-FT 574
WTR YR 1969: TOTAL 281.93 MEAN .772 MAX 3.15 MIN .22 AC-FT 559

PEAK DISCHARGE (BASE, 5.00 CFS).--No peak above base. NOTE.--Backwater from debris Aug. 3 to Sept. 5.

08302200 North Fork Tesuque Creek near Santa Fe, N. Mex.

LOCATION.--Lat 35°46'12", long 105°48'31", Santa Fe County, in Santa Fe National Forest, on left bank 60 ft upstream from culvert on State Highway 475, 250 ft upstream from Middle Fork Tesuque Creek, and 9.2 miles northeast of Santa Fe.

DRAINAGE AREA.--1.60 sq mi.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 9,670 ft (from topographic map).

AVERAGE DISCHARGE.--7 years, 1.534 cfs (1,110 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 9.17 cfs May 26 (gage height, 1.38 ft); maximum gage height, 2.13 ft May 5 (backwater from ice); minimum, 0.29 cfs Feb. 16.
Period of record: Maximum discharge, 32.9 cfs Aug. 1, 1966 (gage height, 2.25 ft), from rating curve extended above 8.50 cfs on basis of theoretical rating; minimum determined, 0.09 cfs Nov. 16, 1962, result of freezeup.

REMARKS.--Records good.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.97	0.64	0.56	0.41	0.36	0.36	1.06	3.33	7.41	1.71	1.18	1.47
2	.97	.71	.49	.41	.36	.35	1.02	3.52	6.97	1.65	1.62	1.47
3	.93	.67	.49	.41	.36	.35	1.06	3.81	6.83	1.53	1.42	1.36
4	.97	.67	.48	.41	.36	.35	1.28	4.12	6.41	1.47	1.47	1.47
5	.93	.64	.45	.41	.36	.35	1.50	4.12	6.14	1.42	1.59	1.47
6	.93	.60	.45	.41	.36	.35	1.47	4.01	5.75	1.36	1.65	1.42
7	.93	.56	.45	.41	.36	.35	1.42	3.52	5.37	1.31	1.82	1.53
8	.89	.59	.45	.40	.35	.35	1.42	3.33	5.13	1.31	1.84	1.47
9	.89	.59	.45	.39	.35	.35	1.47	3.33	4.89	1.31	1.78	1.53
10	.89	.56	.45	.39	.36	.35	1.47	3.52	4.78	1.36	1.71	1.47
11	.89	.56	.45	.39	.37	.35	1.36	3.61	4.66	1.26	1.71	1.53
12	.89	.60	.45	.39	.36	.35	1.31	3.81	4.55	1.21	1.65	1.59
13	.89	.56	.45	.39	.36	.34	1.36	3.91	4.33	1.11	1.80	1.59
14	.89	.57	.44	.39	.36	.34	1.53	4.12	4.01	1.06	1.71	1.53
15	.89	.57	.42	.39	.36	.34	1.65	4.22	3.81	1.21	1.62	1.47
16	.89	.57	.41	.37	.36	.37	1.53	4.33	3.71	1.06	1.42	1.42
17	.80	.54	.42	.37	.36	.50	1.31	4.44	3.42	1.02	1.36	1.42
18	.73	.54	.42	.36	.35	.56	1.36	4.78	3.15	1.02	1.31	1.36
19	.75	.54	.42	.36	.35	.54	1.31	5.62	2.97	1.12	1.26	1.31
20	.75	.56	.42	.36	.34	.51	1.61	6.55	2.80	1.19	1.21	1.31
21	.75	.54	.42	.36	.34	.51	2.21	7.41	2.64	.93	1.56	1.31
22	.73	.52	.41	.36	.34	.51	2.87	8.34	2.56	.84	1.31	1.26
23	.71	.52	.42	.36	.34	.47	3.24	8.67	2.40	.84	1.47	1.21
24	.71	.49	.42	.36	.34	.42	3.61	9.00	2.33	.84	1.26	1.21
25	.69	.51	.42	.36	.36	.41	3.71	8.83	2.33	.93	1.16	1.18
26	.69	.49	.44	.37	.36	.42	3.42	9.00	2.18	.98	1.16	1.16
27	.67	.48	.42	.36	.36	.48	3.15	8.67	2.04	1.26	1.11	1.16
28	.67	.45	.42	.36	.36	.63	2.97	8.18	1.97	.93	1.06	1.16
29	.66	.50	.42	.36	------	.84	2.97	8.03	1.84	.89	1.15	1.11
30	.66	.60	.42	.36	------	1.06	3.15	7.87	1.78	.93	1.16	1.11
31	.66	------	.42	.36	------	1.06	------	7.72	------	1.07	1.11	------
TOTAL	25.27	16.94	13.65	11.79	9.95	14.52	58.80	173.72	119.16	36.13	44.64	41.06
MEAN	.815	.565	.440	.380	.355	.468	1.960	5.604	3.972	1.165	1.440	1.369
MAX	.97	.71	.56	.41	.37	1.06	3.71	9.00	7.41	1.71	1.84	1.59
MIN	.66	.45	.41	.36	.34	.34	1.02	3.33	1.78	.84	1.06	1.11
AC-FT	50.1	33.6	27.1	23.4	19.7	28.8	117	345	236	71.7	88.5	81.4

CAL YR 1968: TOTAL 592.22 MEAN 1.618 MAX 8.83 MIN .40 AC-FT 1,170
WTR YR 1969: TOTAL 565.63 MEAN 1.550 MAX 9.00 MIN .34 AC-FT 1,120

PEAK DISCHARGE (BASE, 7.00 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-26	1900	1.38	9.17

08302300 Middle Fork Tesuque Creek near Santa Fe, N. Mex.

LOCATION.--Lat 35°46'03", long 105°48'25", Santa Fe County, in Santa Fe National Forest, on right bank 800 ft upstream from culvert on State Highway 475, 950 ft upstream from mouth, and 9.2 miles northeast of Santa Fe.

DRAINAGE AREA.--0.43 sq mi.

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

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 9,770 ft (from topographic map).

AVERAGE DISCHARGE.--7 years, 0.311 cfs (225 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2.16 cfs Sept. 1 (gage height, 0.98 ft); minimum, 0.020 cfs Nov. 1, result of freezeup.
Period of record: Maximum discharge, 4.55 cfs Aug. 24, 1966 (gage height, 1.27 ft), from rating curve extended above 2.20 cfs on basis of theoretical rating; minimum, 0.020 cfs Nov. 1, 1968, result of freezeup.

REMARKS.--Records good except those for period of no gage-height record, which are fair.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.22	0.11	0.095	0.090	0.086	0.074	0.16	0.48	1.69	0.45	0.29	0.40
2	.22	.14	.095	.090	.086	.070	.15	.53	1.69	.45	.37	.30
3	.21	.12	.095	.090	.082	.070	.15	.55	1.69	.42	.28	.21
4	.22	.13	.095	.090	.082	.070	.18	.55	1.65	.41	.25	.22
5	.21	.12	.095	.090	.082	.070	.22	.50	1.60	.40	.23	.20
6	.20	.12	.095	.090	.082	.070	.22	.50	1.58	.39	.22	.18
7	.20	.12	.090	.090	.082	.070	.20	.45	1.58	.37	.24	.19
8	.20	.12	.090	.090	.082	.070	.20	.43	1.56	.36	.22	.19
9	.20	.12	.090	.090	.082	.070	.20	.45	1.54	.37	.21	.21
10	.20	.12	.090	.090	.082	.074	.20	.48	1.50	.37	.20	.19
11	.18	.11	.090	.090	.082	.074	.18	.53	1.45	.34	.20	.21
12	.18	.11	.086	.086	.078	.078	.17	.55	1.45	.31	.20	.21
13	.18	.11	.086	.086	.078	.078	.17	.58	1.36	.30	.24	.24
14	.18	.11	.078	.086	.078	.078	.19	.60	1.28	.29	.25	.26
15	.18	.11	.074	.086	.078	.078	.21	.66	1.24	.35	.27	.23
16	.18	.11	.078	.082	.078	.082	.18	.63	1.12	.30	.22	.21
17	.15	.11	.078	.082	.078	.095	.16	.63	1.01	.28	.22	.20
18	.16	.11	.078	.082	.074	.095	.18	.68	.90	.28	.20	.20
19	.16	.11	.078	.082	.078	.095	.17	.80	.84	.31	.20	.20
20	.16	.11	.078	.086	.078	.090	.20	.90	.77	.35	.19	.22
21	.16	.11	.082	.090	.074	.090	.30	1.08	.71	.28	.30	.24
22	.15	.10	.082	.090	.074	.095	.42	1.24	.68	.25	.25	.22
23	.15	.10	.082	.090	.074	.086	.48	1.41	.66	.25	.28	.22
24	.14	.10	.082	.090	.074	.086	.50	1.41	.60	.25	.25	.22
25	.14	.10	.082	.090	.074	.086	.50	1.41	.60	.26	.24	.22
26	.13	.10	.082	.090	.074	.082	.41	1.36	.58	.28	.22	.22
27	.13	.099	.086	.090	.074	.086	.36	1.41	.55	.31	.21	.22
28	.13	.099	.086	.090	.074	.11	.35	1.36	.50	.25	.20	.22
29	.13	.095	.090	.090	------	.13	.37	1.41	.50	.23	.25	.22
30	.12	.095	.090	.086	------	.16	.42	1.50	.48	.22	.23	.22
31	.13	------	.090	.086	------	.17	------	1.69	------	.24	.20	------
TOTAL	5.30	3.318	2.668	2.730	2.200	2.732	7.80	26.76	33.36	9.92	7.33	6.69
MEAN	.171	.111	.0861	.0881	.0786	.0881	.260	.863	1.112	.320	.236	.223
MAX	.22	.14	.095	.090	.086	.17	.50	1.69	1.69	.45	.37	.40
MIN	.12	.095	.074	.082	.074	.070	.15	.43	.48	.22	.19	.18
AC-FT	10.5	6.58	5.29	5.41	4.36	5.42	15.5	53.1	66.2	19.7	14.5	13.3

CAL YR 1968: TOTAL 123.398 MEAN .337 MAX 1.64 MIN .074 AC-FT 245
WTR YR 1969: TOTAL 110.808 MEAN .304 MAX 1.69 MIN .070 AC-FT 220

PEAK DISCHARGE (BASE, 1.70 CFS)

DATE	TIME	G.HT.	DISCHARGE
8- 2	1500	0.87	1.74
9- 1	about 1200	.98	2.16

NOTE.--No gage-height record Aug. 18 to Sept. 2.

08302400 South Fork Tesuque Creek near Santa Fe, N. Mex.

LOCATION.--Lat 35°45'37", long 105°48'39", Santa Fe County, in Santa Fe National Forest, on left bank 150 ft upstream from culvert on State Highway 475, 2,700 ft upstream from mouth, and 8.7 miles northeast of Santa Fe.

DRAINAGE AREA.--0.47 sq mi.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 9,740 ft (from topographic map).

AVERAGE DISCHARGE.--7 years, 0.262 cfs (190 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1.94 cfs June 3 (gage height, 0.90 ft); maximum gage height, 1.16 ft June 2 (backwater from debris); minimum discharge recorded, 0.063 cfs Mar. 4-7, but may have been less during winter period.
Period of record: Maximum discharge 2.78 cfs Aug. 24, 1966 (gage height, 1.04 ft); maximum gage height, 1.16 ft June 2, 1969 (backwater from debris); minimum discharge recorded, 0.063 cfs Mar. 4-7, 1969, but may have been less during winter period.

REMARKS.--Records fair except those for winter period and periods of no gage-height record or backwater from debris, which are poor.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.25	0.18	0.11	0.085	0.070	0.067	0.15	0.26	1.79	0.32	0.21	0.26
2	.25	.18	.11	.085	.070	.067	.16	.30	1.84	.31	.28	.26
3	.25	.18	.11	.085	.070	.067	.16	.32	1.89	.30	.22	.21
4	.24	.18	.11	.085	.070	.063	.15	.35	1.84	.30	.20	.21
5	.22	.17	.11	.085	.070	.063	.16	.36	1.74	.30	.19	.20
6	.22	.16	.11	.085	.070	.063	.18	.35	1.64	.30	.19	.19
7	.22	.16	.10	.085	.070	.063	.17	.32	1.50	.30	.20	.19
8	.22	.16	.10	.085	.070	.067	.16	.30	1.36	.29	.24	.18
9	.22	.16	.10	.085	.070	.067	.15	.30	1.28	.28	.22	.18
10	.22	.16	.10	.085	.070	.067	.15	.30	1.16	.27	.22	.17
11	.22	.16	.10	.085	.070	.067	.15	.34	1.04	.26	.22	.18
12	.22	.15	.095	.085	.070	.070	.15	.38	.94	.25	.21	.19
13	.21	.15	.095	.085	.070	.070	.14	.42	.90	.24	.22	.25
14	.21	.15	.090	.085	.070	.070	.14	.48	.84	.24	.22	.23
15	.20	.15	.085	.080	.070	.070	.15	.50	.77	.27	.21	.19
16	.20	.14	.085	.078	.070	.076	.16	.50	.74	.25	.18	.18
17	.20	.14	.085	.078	.070	.080	.16	.50	.68	.23	.17	.17
18	.19	.14	.085	.078	.070	.080	.15	.53	.63	.23	.17	.16
19	.19	.14	.085	.078	.070	.080	.14	.60	.58	.23	.17	.18
20	.19	.14	.085	.078	.070	.080	.15	.68	.55	.25	.16	.18
21	.19	.13	.085	.078	.070	.080	.19	.74	.50	.25	.22	.19
22	.18	.12	.085	.078	.070	.078	.25	.94	.48	.22	.19	.18
23	.18	.12	.085	.078	.070	.074	.30	1.12	.45	.20	.22	.16
24	.18	.12	.085	.078	.070	.070	.35	1.24	.42	.21	.19	.16
25	.18	.12	.085	.078	.070	.070	.35	1.32	.41	.22	.18	.16
26	.18	.12	.085	.078	.070	.074	.31	1.32	.39	.22	.18	.16
27	.18	.11	.085	.078	.070	.080	.28	1.36	.37	.22	.18	.16
28	.18	.11	.085	.074	.070	.090	.27	1.41	.36	.21	.17	.16
29	.18	.11	.085	.074	------	.11	.26	1.50	.34	.20	.18	.16
30	.18	.11	.085	.070	------	.12	.25	1.64	.33	.20	.21	.16
31	.18	------	.085	.070	------	.13	------	1.74	------	.20	.20	------
TOTAL	6.33	4.32	2.885	2.494	1.960	2.373	5.89	22.42	27.76	7.77	6.22	5.61
MEAN	.204	.144	.0931	.0805	.0700	.0765	.196	.723	.925	.251	.201	.187
MAX	.25	.18	.11	.085	.070	.13	.35	1.74	1.89	.32	.28	.26
MIN	.18	.11	.085	.070	.070	.063	.14	.26	.33	.20	.16	.16
AC-FT	12.6	8.57	5.72	4.95	3.89	4.71	11.7	44.5	55.1	15.4	12.3	11.1

CAL YR 1968: TOTAL 101.099 MEAN .276 MAX 1.59 MIN .085 AC-FT 201
WTR YR 1969: TOTAL 96.032 MEAN .263 MAX 1.89 MIN .063 AC-FT 190

PEAK DISCHARGE (BASE, 1.30 CFS)

DATE	TIME	G.HT.	DISCHARGE
6- 3	0200	0.90	1.94

NOTE.--No gage-height record Oct. 29 to Jan. 15. Backwater from debris Mar. 28 to May 8.

08304100 Little Tesuque Creek near Santa Fe, N. Mex.

LOCATION.--Lat 35°44'48", long 105°49'39", in NW¼NE¼ sec.36, T.18 N., R.10 E., Santa Fe County, in Santa Fe National Forest, on right bank 1,200 ft upstream from east boundary of Hyde State Park, 0.25 mile (by access road) east of State Highway 475, and 7.4 miles northeast of Santa Fe.

DRAINAGE AREA.--0.64 sq mi (revised).

PERIOD OF RECORD.--June 1962 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 9,020 ft (from topographic map).

AVERAGE DISCHARGE.--7 years, 0.183 cfs (133 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1.20 cfs May 31 (gage height, 0.74 ft); maximum gage height, 0.87 ft (backwater from debris); minimum discharge, 0.053 cfs Jan. 25.
Period of record: Maximum discharge, 2.28 cfs July 30, 1965 (gage height, 0.97 ft), from rating curve extended above 0.93 cfs on basis of theoretical rating; minimum, 0.007 cfs July 5, 6, 10, 11, 1967.

REMARKS.--Records good except those for winter period and period of backwater from debris, which are poor.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.086	0.078	0.070	0.067	0.063	0.060	0.20	0.53	1.12	0.18	0.14	0.25
2	.078	.095	.070	.067	.063	.060	.22	.53	.94	.18	.18	.24
3	.082	.082	.074	.067	.063	.060	.24	.53	.87	.16	.099	.17
4	.099	.082	.074	.067	.063	.060	.25	.50	.77	.16	.078	.14
5	.095	.082	.067	.067	.063	.060	.28	.48	.68	.16	.070	.11
6	.086	.082	.067	.067	.063	.060	.29	.50	.63	.15	.067	.090
7	.082	.078	.063	.067	.063	.060	.28	.43	.58	.14	.095	.12
8	.078	.078	.067	.067	.063	.060	.25	.41	.53	.14	.11	.11
9	.078	.078	.067	.067	.063	.060	.25	.44	.50	.15	.12	.11
10	.078	.078	.067	.067	.063	.060	.26	.53	.45	.16	.10	.11
11	.078	.074	.070	.067	.063	.060	.26	.60	.43	.14	.099	.11
12	.078	.078	.070	.067	.063	.060	.30	.66	.42	.13	.10	.11
13	.078	.082	.063	.067	.060	.060	.33	.68	.42	.12	.10	.13
14	.078	.082	.063	.067	.060	.060	.36	.68	.38	.12	.12	.15
15	.086	.078	.067	.067	.060	.060	.37	.66	.35	.16	.13	.12
16	.090	.078	.067	.067	.060	.060	.32	.58	.42	.13	.11	.11
17	.086	.078	.067	.067	.060	.070	.28	.55	.36	.13	.10	.10
18	.082	.078	.067	.067	.060	.086	.32	.55	.32	.12	.11	.099
19	.082	.078	.067	.067	.060	.095	.38	.55	.30	.13	.10	.099
20	.082	.078	.067	.067	.060	.095	.43	.55	.29	.15	.099	.11
21	.082	.078	.067	.067	.060	.090	.66	.55	.27	.12	.13	.14
22	.078	.078	.067	.067	.060	.090	.80	.58	.25	.10	.12	.12
23	.078	.078	.067	.067	.060	.086	.87	.63	.24	.099	.18	.099
24	.078	.078	.067	.063	.060	.082	.90	.68	.24	.11	.12	.090
25	.078	.078	.067	.060	.060	.074	.87	.74	.23	.14	.11	.086
26	.074	.078	.067	.063	.060	.074	.74	.80	.22	.11	.11	.082
27	.074	.078	.067	.063	.060	.082	.63	.94	.20	.11	.11	.082
28	.070	.074	.067	.063	.060	.099	.55	1.04	.19	.10	.11	.082
29	.070	.074	.067	.063	------	.12	.45	1.08	.18	.095	.14	.082
30	.070	.074	.067	.063	------	.16	.50	1.16	.18	.090	.18	.082
31	.074	------	.067	.063	------	.18	------	1.16	------	.10	.20	------
TOTAL	2.488	2.365	2.091	2.042	1.716	2.443	12.84	20.30	12.96	4.084	3.637	3.533
MEAN	.0803	.0788	.0675	.0659	.0613	.0788	.428	.655	.432	.132	.117	.118
MAX	.099	.095	.074	.067	.063	.18	.90	1.16	1.12	.18	.20	.25
MIN	.070	.074	.063	.060	.060	.060	.20	.41	.18	.090	.067	.082
AC-FT	4.93	4.69	4.15	4.05	3.40	4.85	25.5	40.3	25.7	8.10	7.21	7.01

CAL YR 1968: TOTAL 70.551 MEAN .193 MAX .97 MIN .063 AC-FT 140
WTR YR 1969: TOTAL 70.499 MEAN .193 MAX 1.16 MIN .060 AC-FT 140

PEAK DISCHARGE (BASE, 1.00 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-31	0400	0.74	1.20

NOTE.--Backwater from debris July 26 to Sept. 4.

08304200 Little Tesuque Creek tributary No. 4 near Santa Fe, N. Mex.

LOCATION.--Lat 35°44'07", long 105°49'59", in NE¼NW¼ sec.1, T.17 N., R.10 E., Santa Fe County, on right bank in Hyde State Park, 1,000 ft upstream from mouth and State Highway 475, and 6.8 miles northeast of Santa Fe.

DRAINAGE AREA.--0.69 sq mi.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 8,600 ft (from topographic map). Prior to Aug. 6, 1968, at datum 0.20 ft lower.

AVERAGE DISCHARGE.--5 years, 0.126 cfs (91.3 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1.64 cfs Apr. 22 (gage height, 0.85 ft), from rating curve extended above 0.65 cfs on basis of theoretical rating; maximum gage height, 1.13 ft May 18 (backwater from debris); minimum discharge, 0.002 cfs Aug. 17, 23, 24.
Period of record: Maximum discharge, 2.98 cfs July 28, 1968 (gage height, 1.27 ft), from rating curve extended above 0.65 cfs on basis of theoretical rating; no flow at times.

REMARKS.--Records fair except those for period of no gage-height record, which are poor.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.032	0.018	0.029	0.032	0.029	0.023	0.36	0.66	0.27	0.016	0.005	0.090
2	.029	.021	.029	.032	.027	.023	.40	.66	.25	.015	.009	.14
3	.027	.032	.029	.032	.027	.023	.43	.72	.22	.016	.070	.070
4	.027	.036	.029	.032	.027	.023	.45	.77	.20	.016	.042	.044
5	.034	.034	.029	.032	.027	.021	.50	.82	.17	.013	.032	.053
6	.036	.034	.028	.032	.027	.021	.58	.94	.16	.011	.027	.032
7	.032	.032	.028	.032	.027	.021	.53	.87	.15	.011	.032	.031
8	.029	.032	.028	.032	.027	.021	.45	.77	.13	.010	.032	.067
9	.027	.032	.028	.032	.027	.021	.41	.80	.12	.009	.029	.063
10	.027	.032	.028	.032	.027	.021	.41	.84	.12	.008	.023	.053
11	.025	.032	.028	.032	.027	.023	.48	.94	.099	.007	.012	.047
12	.025	.029	.028	.032	.027	.023	.50	1.08	.090	.008	.009	.050
13	.023	.029	.028	.032	.027	.023	.58	1.16	.11	.009	.007	.047
14	.023	.032	.028	.032	.027	.023	.60	1.16	.11	.010	.006	.042
15	.023	.036	.028	.032	.027	.023	.63	1.16	.086	.010	.005	.036
16	.025	.036	.027	.032	.027	.023	.63	1.16	.12	.009	.004	.032
17	.029	.034	.027	.032	.027	.023	.58	1.10	.13	.009	.003	.025
18	.032	.032	.027	.032	.027	.023	.68	1.01	.078	.009	.004	.023
19	.032	.032	.027	.029	.027	.086	.77	.90	.067	.009	.004	.023
20	.029	.032	.027	.029	.027	.090	.90	.84	.059	.009	.004	.021
21	.027	.032	.027	.029	.027	.082	1.24	.80	.044	.009	.004	.029
22	.027	.032	.032	.029	.027	.082	1.59	.74	.035	.009	.003	.039
23	.025	.032	.032	.029	.027	.082	1.59	.71	.032	.010	.003	1036
24	.023	.032	.032	.029	.027	.074	1.50	.63	.029	.009	.002	.029
25	.023	.032	.032	.029	.027	.067	1.24	.57	.027	.007	.010	.023
26	.023	.032	.032	.029	.027	.067	1.04	.53	.027	.006	.011	.018
27	.021	.032	.032	.032	.027	.070	.87	.48	.028	.009	.011	.015
28	.021	.029	.032	.032	.025	.086	.77	.43	.027	.015	.010	.012
29	.020	.029	.032	.032	------	.15	.68	.41	.027	.011	.010	.011
30	.020	.029	.032	.032	------	.24	.66	.35	.020	.009	.034	.010
31	.018	------	.032	.032	------	.30	------	.30	------	.007	.060	------
TOTAL	.814	.938	.907	.968	.756	1.878	22.05	24.31	3.035	.315	.517	1.211
MEAN	.0263	.0313	.0293	.0312	.0270	.0606	.735	.784	.101	.0102	.0167	.0404
MAX	.036	.036	.032	.032	.029	.30	1.59	1.16	.27	.016	.070	.14
MIN	.018	.018	.027	.029	.025	.021	.36	.30	.020	.006	.002	.010
AC-FT	1.61	1.86	1.80	1.92	1.50	3.73	43.7	48.2	6.02	.62	1.03	2.40

CAL YR 1968: TOTAL 56.205 MEAN .154 MAX 1.04 MIN .005 AC-FT 111
WTR YR 1969: TOTAL 57.699 MEAN .158 MAX 1.59 MIN .002 AC-FT 114

PEAK DISCHARGE (BASE, 1.50 CFS)

DATE	TIME	G.HT.	DISCHARGE
4-22	1900	0.85	1.64

NOTE.--No gage-height record Dec. 4 to Jan. 13.

08304300 Little Tesuque Creek tributary No. 3 near Santa Fe, N. Mex.

LOCATION.--Lat 35°43'35", long 105°50'01", in SE¼SW¼ sec.1, T.17 N., R.10 E., Santa Fe County, in Santa Fe National Forest, on right bank 1,900 ft upstream from mouth and State Highway 475, and 6.5 miles northeast of Santa Fe.

DRAINAGE AREA.--0.65 sq mi.

PERIOD OF RECORD.--September 1963 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 8,460 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 0.0411 cfs (29.8 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1.89 cfs Apr. 21 (gage height, 0.89 ft), from rating curve extended above 0.48 cfs on basis of theoretical rating; maximum gage height, 0.92 ft Apr. 21 (backwater from debris); no flow most of time.
Period of record: Maximum discharge 1.89 cfs Apr. 21, 1969 (gage height, 0.89 ft), from rating curve extended above 0.48 cfs on basis of theoretical rating; maximum gage height, 0.92 ft Apr. 21, 1969 (backwater from debris); no flow most of time.

REMARKS.--Records good.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						0	0.33	0.33				
2						0	.39	.29				
3						0	.41	.26				
4						0	.39	.24				
5						0	.36	.22				
6						0	.34	.24				
7						0	.34	.29				
8						0	.30	.31				
9						0	.26	.35				
10						0	.23	.37				
11						0	.31	.36				
12						0	.53	.35				
13						0	.80	.33				
14						0	.80	.30				
15						0	.77	.26				
16						0	.66	.23				
17						0	.55	.20				
18						.008	.77	.18				
19						.082	1.36	.15				
20						.18	1.45	.12				
21						.16	1.76	.099				
22						.15	1.74	.082				
23						.13	1.50	.067				
24						.11	1.24	.053				
25						.086	1.01	.036				
26						.070	.80	.023				
27						.060	.66	.013				
28						.063	.55	.005				
29					------	.090	.45	0				
30					------	.16	.38	0				
31		------			------	.25	------	0	------			------
TOTAL	0	0	0	0	0	1.599	21.44	5.758	0	0	0	0
MEAN	0	0	0	0	0	.0516	.715	.186	0	0	0	0
MAX	0	0	0	0	0	.25	1.76	.37	0	0	0	0
MIN	0	0	0	0	0	0	.23	0	0	0	0	0
AC-FT	0	0	0	0	0	3.17	42.5	11.4	0	0	0	0

CAL YR 1968: TOTAL 15.918 MEAN .0435 MAX .58 MIN 0 AC-FT 31.6
WTR YR 1969: TOTAL 28.797 MEAN .0789 MAX 1.76 MIN 0 AC-FT 57.1

PEAK DISCHARGE (BASE, 0.40 CFS)

DATE	TIME	G.HT.	DISCHARGE
4- 3	1730	0.485	0.42
4-14	2100	.64	.84
4-21	2300	.89	1.89

08304400 Little Tesuque Creek tributary No. 2 near Santa Fe, N. Mex.

LOCATION.--Lat 35°43'34", long 105°51'24", in SW¼SW¼ sec.2, T.17 N., R.10 E., Santa Fe County, in Santa Fe National Forest, on right bank 150 ft upstream from mouth, 200 ft south of State Highway 475, and 5.3 miles northeast of Santa Fe.

DRAINAGE AREA.--0.45 sq mi.

PERIOD OF RECORD.--June 1962 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 7,960 ft (from topographic map).

AVERAGE DISCHARGE.--7 years, 0.0110 cfs (7.97 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 0.15 cfs Apr. 20-22 (gage height, 0.320 ft); no flow many days. Period of record: Maximum discharge, 0.31 cfs Aug. 2, 1966 (gage height, 0.44 ft), from rating curve extended above 0.11 cfs on basis of theoretical rating; no flow many days each year.

REMARKS.--Records fair.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.002	0.002	0.006	0.008	0.009	0.013	0.018	0.063	0.012	0	0	0.001
2	.002	.003	.006	.007	.009	.013	.025	.060	.011	0	0	.001
3	.003	.003	.006	.007	.009	.013	.032	.053	.010	0	0	.002
4	.004	.003	.006	.007	.010	.013	.032	.053	.008	0	0	.002
5	.004	.003	.006	.008	.010	.013	.027	.053	.008	.001	0	.004
6	.002	.003	.006	.008	.010	.013	.027	.057	.007	.001	0	.003
7	.002	.004	.006	.009	.011	.013	.032	.057	.006	.001	0	.002
8	.002	.006	.006	.009	.011	.013	.032	.060	.005	.001	0	.002
9	.002	.007	.006	.009	.011	.015	.029	.070	.004	0	0	.002
10	.002	.007	.006	.009	.011	.015	.027	.070	.004	.001	0	.002
11	.002	.007	.006	.009	.011	.015	.039	.067	.004	.001	0	.002
12	.002	.007	.006	.009	.011	.015	.074	.063	.003	.001	0	.002
13	.002	.007	.006	.009	.012	.015	.086	.057	.003	0	0	.002
14	.001	.008	.006	.009	.013	.015	.074	.053	.003	0	0	.002
15	.002	.008	.009	.009	.013	.015	.070	.050	.002	0	0	.002
16	.002	.008	.013	.009	.013	.015	.067	.044	.003	0	0	.002
17	.002	.007	.015	.009	.013	.015	.067	.039	.002	0	0	.002
18	.002	.007	.013	.009	.013	.016	.092	.036	.002	0	0	.002
19	.002	.007	.011	.009	.013	.021	.12	.034	.002	0	0	.002
20	.002	.006	.011	.009	.013	.023	.14	.032	.002	0	0	.002
21	.003	.006	.011	.009	.013	.025	.15	.032	.002	0	0	.002
22	.004	.006	.010	.009	.013	.025	.15	.032	.001	0	0	.002
23	.004	.006	.010	.009	.013	.024	.12	.029	.001	0	0	.002
24	.004	.006	.010	.009	.013	.023	.11	.027	.001	0	0	.002
25	.005	.006	.010	.009	.013	.020	.095	.025	.001	0	0	.002
26	.005	.006	.010	.010	.013	.017	.086	.023	.001	0	0	.002
27	.005	.006	.010	.010	.013	.014	.082	.020	.001	0	0	.002
28	.004	.006	.010	.010	.013	.013	.078	.020	0	0	0	.002
29	.002	.006	.009	.010	------	.013	.070	.016	0	0	0	.002
30	.002	.006	.009	.010	------	.013	.067	.015	0	0	.001	
31	.002	------	.009	.009	------	.015	------	.013	------	0	.001	------
TOTAL	.084	.173	.264	.275	.330	.501	2.118	1.323	.109	.007	.002	.061
MEAN	.0027	.0058	.0085	.0089	.0118	.0162	.0706	.0427	.0036	.0002	.0001	.0020
MAX	.005	.008	.015	.010	.013	.025	.15	.070	.012	.001	.001	.004
MIN	.001	.002	.006	.007	.009	.013	.018	.013	0	0	0	.001
AC-FT	.17	.34	.52	.55	.65	.99	4.20	2.62	.22	.014	.004	.12

CAL YR 1968: TOTAL 3.169 MEAN .0087 MAX .058 MIN 0 AC-FT 6.29
WTR YR 1969: TOTAL 5.247 MEAN .0144 MAX .15 MIN 0 AC-FT 10.4

PEAK DISCHARGE (BASE, 0.09 CFS)

DATE	TIME	G.HT.	DISCHARGE
4-20	1900	0.320	0.15

08313000 Rio Grande at Otowi Bridge, near San Ildefonso, N. Mex.

LOCATION.--Lat 35°52'29", long 106°08'30", in SW¼SW¼ sec.18, T.19 N., R.8 E., Santa Fe County, in San Ildefonso Pueblo Grant, near right bank on downstream end of pier of former railway bridge, 400 ft downstream from bridge on State Highway 4, 1.8 miles southwest of San Ildefonso Pueblo, 2.5 miles downstream from Pojoaque River, and 6.8 miles west of Pojoaque.

DRAINAGE AREA.--14,300 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

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."

GAGE.--Water-stage recorder. Datum of gage is 5,488.48 ft above mean sea level. See WSP 1312, 1732, or 1923 for history of changes prior to June 1, 1910.

AVERAGE DISCHARGE.--70 years (1895-1905, 1909-69), 1,534 cfs (1,111,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,760 cfs Aug. 6 (gage height, 7.00 ft); minimum, 264 cfs Oct. 16.
Period of record: Maximum discharge, 24,400 cfs May 23, 1920; maximum gage height, 14.5 ft Sept. 29, 1904 (present site and datum); minimum daily discharge, 60 cfs July 4, 5, 1902.
The 1920 flood is greatest since at least 1884 and probably since 1741; information from W. H. Yeo's file on floods.

REMARKS.--Records good. Flow partly regulated by El Vado and Abiquiu Reservoirs (see sta 08285000, 08286900) on Rio Chama which contributes about 40 percent of total flow. Diversions above station for irrigation of about 619,000 acres in Colorado and 75,000 acres in New Mexico. Records of chemical analyses, water temperatures, suspended sediment loads, and biochemical analyses for the water year 1969 are published in Part 2 of this report.

REVISIONS(WATER YEARS).--WSP 828: Drainage area. WSP 1512: 1895-99, 1904-6, 1911-12, 1914, 1931(M), 1935. WSP 1712: 1904(M).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	286	408	460	688	688	930	1,750	2,630	4,380	1,270	1,160	1,130
2	282	446	549	646	791	902	1,840	2,830	4,400	990	1,970	1,130
3	278	486	549	676	758	909	2,040	3,110	4,340	945	938	732
4	289	480	516	688	726	945	2,330	3,380	4,280	866	1,100	758
5	327	734	554	695	758	909	2,330	3,380	4,090	852	927	707
6	323	1,200	554	707	778	825	2,350	3,360	3,870	887	1,690	622
7	312	1,300	582	695	811	846	2,570	3,740	3,660	873	960	543
8	323	1,370	582	707	771	873	2,420	3,480	3,640	887	930	538
9	339	1,480	588	739	707	798	2,300	3,530	3,710	887	873	664
10	335	1,500	611	720	720	688	1,920	3,550	4,040	825	778	771
11	356	1,540	616	714	765	839	2,070	3,640	4,310	873	652	799
12	377	1,550	616	752	752	811	2,670	3,690	4,330	873	533	1,230
13	343	1,520	588	765	771	818	2,600	3,690	4,400	873	522	1,410
14	368	1,450	549	758	804	894	2,500	3,710	4,210	894	616	891
15	377	1,260	560	778	791	866	1,850	3,850	4,120	1,180	952	811
16	327	1,490	594	811	825	811	2,500	3,640	3,770	739	1,300	664
17	352	1,530	640	804	832	846	2,530	3,400	3,710	832	974	634
18	364	1,500	682	804	818	880	2,180	3,320	3,970	938	982	701
19	364	1,490	611	811	811	945	1,930	3,300	4,910	880	930	938
20	364	1,480	560	825	811	952	1,920	3,360	4,800	960	952	776
21	356	1,470	582	832	798	982	2,020	3,710	3,500	1,260	825	833
22	360	1,470	527	825	791	997	2,790	3,950	3,010	1,350	785	1,670
23	372	1,500	486	832	798	997	2,980	4,290	2,540	1,290	778	1,130
24	377	1,480	554	825	785	974	3,240	4,670	2,330	982	880	832
25	386	1,480	622	804	791	938	3,870	4,700	2,120	1,160	902	1,060
26	412	1,570	701	832	804	923	2,790	4,630	1,850	1,490	825	1,010
27	408	1,550	682	839	852	894	2,530	4,360	1,670	1,680	918	952
28	412	820	652	1,680	894	873	2,350	4,330	1,600	1,150	804	839
29	408	554	646	1,670	------	1,080	2,500	4,490	1,410	1,090	878	778
30	399	543	682	1,380	------	1,180	2,700	4,400	1,350	938	942	771
31	399	------	701	785	------	1,240	------	4,330	------	972	1,620	------
TOTAL	10,975	36,651	18,396	26,087	22,001	28,365	72,370	116,450	104,320	31,686	29,896	26,324
MEAN	354	1,222	593	842	786	915	2,412	3,756	3,477	1,022	964	877
MAX	412	1,570	701	1,680	894	1,240	3,870	4,700	4,910	1,680	1,970	1,670
MIN	278	408	460	646	688	688	1,750	2,630	1,350	739	522	538
AC-FT	21,770	72,700	36,490	51,740	43,640	56,260	143,500	231,000	206,900	62,850	59,300	52,210

CAL YR 1968 TOTAL 436,534 MEAN 1,193 MAX 4,360 MIN 261 AC-FT 865,900
WTR YR 1969 TOTAL 523,521 MEAN 1,434 MAX 4,910 MIN 278 AC-FT 1,038,000

PEAK DISCHARGE (BASE, 5,200 CFS)

DATE	TIME	G.HT.	DISCHARGE
8- 6	0100	7.00	6,760

08313350 Rito de los Frijoles in Bandelier National Monument, N. Mex.

LOCATION.--Lat 35°47'08", long 106°16'50", Sandoval County,in Bandelier National Monument, 1,600 ft southeast of Ceremonial Cave, 4,000 ft upstream from Monument headquarters, 6 miles south of Los Alamos and 19 miles northwest of Santa Fe.

DRAINAGE AREA.--17.5 sq mi.

PERIOD OF RECORD.--July 1963 to September 1969 (discontinued).

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 6,140 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 1.18 cfs (855 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4.6 cfs Sept. 12 (gage height, 0.65 ft); maximum gage height, 0.69 ft Apr. 24; minimum discharge, 0.20 cfs Jan. 31, result of freezeup.
Period of record: Maximum discharge, 19 cfs June 18, 1965 (gage height, 1.49 ft), from rating curve extended above 7.6 cfs on basis of theoretical rating; no flow Feb. 6, 1968, result of freezeup.

REMARKS.--Records fair except those for winter period, which are poor. Pipe line diversion upstream not presently in use.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.88	.81	.77	.80	.65	1.1	1.5	2.8	1.5	.70	1.2	1.6
2	.81	.88	1.2	.90	1.0	1.0	1.6	2.5	1.4	.70	1.3	1.7
3	.81	.88	.90	.90	.65	1.0	1.6	2.3	1.4	.70	1.2	1.6
4	1.0	.88	1.0	.90	.90	.96	1.7	2.1	1.4	.70	1.1	2.0
5	1.0	.88	1.2	.90	1.2	.83	1.8	2.3	1.3	.70	1.1	2.1
6	.88	.88	1.2	.90	1.2	.96	2.0	3.1	1.2	.70	1.2	2.1
7	.88	.88	1.2	.90	1.1	1.2	2.2	3.0	1.2	.70	1.0	2.0
8	.88	.88	1.2	.90	.96	.83	2.4	2.6	1.2	.64	1.5	2.1
9	.88	.88	1.2	.83	.90	.96	2.4	2.4	1.4	.64	1.2	2.4
10	.88	.88	1.2	.83	.90	.83	2.4	2.3	1.6	.70	1.1	2.3
11	.88	.88	1.2	.90	.96	1.1	3.6	2.5	1.2	.64	1.2	2.8
12	.81	.88	1.1	.90	1.0	1.2	3.4	2.8	1.1	.53	1.2	3.2
13	.81	.88	.77	.90	1.1	1.2	3.1	3.1	1.3	.64	1.2	3.7
14	.76	1.0	.90	.96	1.0	1.2	3.0	3.3	1.3	.58	1.4	3.6
15	.81	.94	1.1	.96	1.0	1.1	3.1	3.3	1.2	.47	1.5	3.7
16	.81	.94	1.1	.96	1.0	1.2	3.5	3.1	1.7	.42	1.2	3.7
17	.81	.94	1.1	.96	1.0	1.4	3.7	3.1	2.6	.78	1.4	3.4
18	.81	.88	.96	.96	1.0	1.6	3.7	2.9	1.9	1.3	1.3	3.1
19	.88	.88	.77	.96	.96	1.6	3.7	2.7	1.4	1.2	1.1	2.8
20	.81	.88	1.0	.96	1.1	1.4	3.7	2.5	1.2	.94	1.0	2.9
21	.81	.94	.96	1.0	.96	1.3	3.7	2.3	1.1	.88	1.0	3.1
22	.76	.94	.80	1.0	1.2	1.4	3.8	2.2	1.0	.76	1.0	3.0
23	.70	.88	.50	1.0	1.2	1.2	3.9	2.2	.94	.70	1.3	2.8
24	.76	.88	.70	.90	1.2	1.2	4.0	2.2	.94	.76	1.4	2.6
25	.76	.88	.80	1.2	1.1	1.2	4.0	2.1	.88	2.1	1.4	2.5
26	.76	.89	1.0	1.6	1.1	1.2	3.9	2.0	.88	2.0	1.2	2.4
27	.76	1.0	.90	1.2	1.1	1.4	3.7	1.9	.81	1.6	1.1	2.3
28	.76	.96	.75	1.2	1.1	1.4	3.5	1.8	.81	1.3	.94	2.2
29	.76	.65	.80	1.1	------	1.4	3.3	1.7	.76	1.2	1.5	2.2
30	.76	.53	.90	.59	------	1.4	3.0	1.7	.70	1.1	1.8	2.0
31	.76	------	.70	.59	------	1.5	------	1.5	------	1.0	1.8	------
TOTAL	25.44	26.38	29.88	29.56	28.54	37.27	90.9	76.3	37.32	27.78	38.84	77.9
MEAN	.82	.88	.96	.95	1.02	1.20	3.03	2.46	1.24	.90	1.25	2.60
MAX	1.0	1.0	1.2	1.6	1.2	1.6	4.0	3.3	2.6	2.1	1.8	3.7
MIN	.70	.53	.50	.59	.65	.83	1.5	1.5	.70	.42	.94	1.6
AC-FT	50	52	59	59	57	74	180	151	74	55	77	155

CAL YR 1968 TOTAL 635.72 MEAN 1.74 MAX 7.0 MIN .24 AC-FT 1,260
WTR YR 1969 TOTAL 526.11 MEAN 1.44 MAX 4.0 MIN .42 AC-FT 1,040

PEAK DISCHARGE (BASE, 4.0 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-11	0930	0.67	4.3	9-12	1900	0.65	4.6
4-24	1200	.69	4.2	9-15	2200	.64	4.5

08314500 Rio Grande at Cochiti, N. Mex.

LOCATION.--Lat 35°37'56", long 106°19'08", in SE¼NE¼ sec.17, T.16 N., R.6 E., Sandoval County, on downstream end of concrete pier near left end of highway bridge, 1.5 miles northeast of Cochiti, 3.2 miles north of Pena Blanca, and 8 miles upstream from Galisteo Creek.

DRAINAGE AREA.--14,600 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

PERIOD OF RECORD.--October 1924 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as "near Cochiti" prior to 1928.

GAGE.--Water-stage recorder. Datum of gage is 5,224.70 ft above mean sea level, datum of 1929. Prior to July 16, 1925, staff gage 1 mile upstream at different datum. July 16, 1925, to Jan. 28, 1947, at or near right abutment of bridge at same datum. Jan. 28 to May 15, 1947, 600 ft upstream at same datum.

AVERAGE DISCHARGE.--45 years, 1,307 cfs (946,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,180 cfs Aug. 6 (gage height, 6.71 ft); minimum, 105 cfs Oct. 7.
Period of record: Maximum discharge, 23,400 cfs May 15, 1941 (gage height, 10.93 ft); minimum, 0.7 cfs Aug. 10, 11, 1934.
The flood of May 23, 1920, probably exceeded 23,400 cfs, and is likely the highest since 1905.

REMARKS.--Records good except those for December, which are fair. Diversions above station for irrigation of about 700,000 acres, 6,000 of which are irrigated below by Cochiti eastside and Sili main canals which bypass station.

REVISIONS(WATER YEARS).--WSP 1312: 1925-29. WSP 1512: 1931-33, 1935, 1939-40(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	187	361	601	580	518	929	1,650	2,670	4,410	1,060	1,240	1,200
2	205	498	578	705	554	922	1,900	2,710	4,350	887	1,750	1,150
3	200	550	623	712	614	899	2,080	3,030	4,190	715	1,140	760
4	210	483	580	738	609	923	2,470	3,370	4,110	673	888	718
5	285	561	600	720	584	922	2,780	3,390	3,940	675	802	636
6	380	1,070	620	728	577	847	2,770	3,480	3,820	764	1,640	604
7	254	1,310	620	714	578	819	3,020	3,630	3,610	656	800	566
8	193	1,510	640	702	552	839	2,750	3,450	3,670	642	808	583
9	250	1,660	660	740	470	818	2,500	3,380	3,720	651	800	672
10	236	1,710	660	756	541	707	1,940	3,410	4,170	642	841	754
11	224	1,700	660	706	612	726	2,030	3,550	4,230	618	666	786
12	337	1,700	640	709	663	763	2,600	3,530	4,180	683	492	1,250
13	420	1,690	620	760	686	804	2,620	3,480	4,230	771	434	1,120
14	338	1,720	600	742	714	829	2,560	3,420	4,200	727	451	1,120
15	314	1,510	580	726	714	848	1,870	3,590	4,170	933	814	767
16	266	1,620	600	738	742	827	2,230	3,480	3,970	799	1,160	641
17	278	1,730	663	717	778	700	2,520	3,320	3,970	668	1,090	530
18	298	1,720	680	720	773	714	2,270	3,260	3,960	780	918	598
19	370	1,660	660	701	738	784	1,930	3,170	4,920	882	878	754
20	450	1,640	600	703	768	833	2,030	3,130	5,120	939	806	765
21	346	1,600	600	700	779	861	2,000	3,460	3,860	1,120	823	916
22	298	1,590	560	698	753	947	2,710	3,770	3,140	1,240	713	1,370
23	297	1,610	510	662	797	1,030	3,000	4,020	2,600	1,290	773	1,240
24	313	1,570	520	638	787	909	3,190	4,440	2,260	1,060	858	950
25	327	1,610	600	638	794	905	3,940	4,680	2,000	1,130	854	980
26	380	1,670	700	590	794	934	3,280	4,540	1,720	1,420	722	1,030
27	488	1,690	695	626	818	885	2,730	4,250	1,470	1,890	780	1,040
28	345	1,230	675	1,190	883	792	2,440	4,130	1,380	1,390	850	985
29	303	688	665	1,380	------	924	2,420	4,280	1,340	1,030	701	852
30	294	632	680	1,220	------	1,220	2,620	4,350	1,180	996	1,090	822
31	291	------	705	770	------	1,190	------	4,300	------	888	1,390	------
TOTAL	9,377	40,293	19,395	23,429	19,190	27,050	74,850	112,670	103,890	28,619	27,972	26,159
MEAN	302	1,343	626	756	685	873	2,495	3,635	3,463	923	902	872
MAX	488	1,730	705	1,380	883	1,220	3,940	4,680	5,120	1,890	1,750	1,370
MIN	187	361	510	580	470	700	1,650	2,670	1,180	618	434	530
AC-FT	18,600	79,920	38,470	46,470	38,060	53,650	148,500	223,500	206,100	56,770	55,480	51,890
(†)	5,950	175	0	0	0	2,670	5,340	6,310	5,160	7,040	6,040	4,410

CAL YR 1968 TOTAL 436,042 MEAN 1,191 MAX 4,610 MIN 187 AC-FT 864,900
WTR YR 1969 TOTAL 512,894 MEAN 1,405 MAX 5,120 MIN 187 AC-FT 1,017,000

PEAK DISCHARGE(BASE, 4,500 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
5-24	1930	6.31	4,780	8-6	0530	6.71	6,180
6-16	2000	6.50	5,370				

(†) Combined monthly diversion, in acre-ft, of Sili Main and Cochiti Eastside Canals; records of this flow are furnished by the Bureau of Reclamation.

08315500 McClure Reservoir near Santa Fe, N. Mex.

LOCATION.--Lat 35°41'18", long 105°50'06", in NE¼SW¼ sec.24, T.17 N., R.10 E., Santa Fe County, in Santa Fe National Forest, on outlet tower at McClure Dam on Santa Fe River, 2.1 miles upstream from Nichols Reservoir, and 5.8 miles east of Santa Fe.

DRAINAGE AREA.--17.4 sq mi.

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.

GAGE.--Water-stage recorder. Altitude of gage is 7,788 ft (from topographic map). Prior to October 1, 1947, staff gages at same site and various datums all referred to the Public Service Company of New Mexico assumed datum, 165.9 ft lower.

EXTREMES.--Current year: Maximum contents, 3,110 acre-ft May 22, 23 (gage height, 103.3 ft); minimum, 2,000 acre-ft Mar. 18-20 (gage height, 87.6 ft).
Period of record: Maximum contents, 3,140 acre-ft June 25, 1960 (gage height, 103.7 ft); no contents January 25 to May 8, 1951.

REMARKS.--Reservoir is formed by earth-fill dam, completed in 1926 (capacity, 503 acre-ft), raised 5 ft in 1935 (capacity, 650 acre-ft), and raised 36.5 ft more in 1947. Capacities and changes in height of dam are for effective height of spillway which includes 1 ft of flash boards above concrete crest 1926 to July 1935, 2 ft August 1935 to September 1947, and varying heights of sandbag bulkheads from October 1947 to May 1953 when spillway was equipped with radial gates which open automatically at gage height about 103.1 ft (some adjustment possible). Capacity, 3,090 acre-ft between gage heights -0.2 ft (bottom of lowest outlet tube) and 103.1 ft. No dead storage. Water is for municipal use of city of Santa Fe.

COOPERATION.--Supplementary stage readings and capacity table furnished by Public Service Co. of New Mexico.

Capacity table (gage height, in feet, and usable contents, in acre-feet)
(Based on survey by Public Service Co. of New Mexico in 1947)

85	1,840	100	2,860
90	2,160	105	3,240
95	2,500		

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.620	2.550	2.430	2.300	2.160	2.060	2.060	2.940	3.090	3.030	2.420	2.020
2	2.620	2.550	2.420	2.290	2.160	2.050	2.080	2.950	3.090	3.010	2.440	2.020
3	2.620	2.540	2.420	2.290	2.150	2.050	2.100	2.970	3.090	2.990	2.440	2.030
4	2.620	2.540	2.420	2.290	2.130	2.050	2.120	2.980	3.090	2.970	2.450	2.030
5	2.620	2.540	2.410	2.280	2.130	2.050	2.130	3.010	3.090	2.940	2.450	2.040
6	2.620	2.540	2.410	2.280	2.120	2.050	2.160	3.040	3.090	2.920	2.450	2.040
7	2.620	2.530	2.400	2.270	2.120	2.040	2.180	3.060	3.090	2.900	2.440	2.040
8	2.620	2.520	2.400	2.270	2.110	2.040	2.190	3.070	3.090	2.880	2.430	2.050
9	2.620	2.520	2.400	2.270	2.110	2.030	2.210	3.070	3.090	2.860	2.420	2.060
10	2.610	2.520	2.390	2.260	2.100	2.020	2.220	3.060	3.090	2.860	2.400	2.060
11	2.610	2.520	2.390	2.260	2.100	2.020	2.250	3.050	3.080	2.830	2.380	2.070
12	2.610	2.510	2.380	2.250	2.100	2.020	2.280	3.040	3.070	2.820	2.360	2.070
13	2.610	2.510	2.380	2.250	2.100	2.020	2.320	3.040	3.060	2.800	2.330	2.070
14	2.610	2.500	2.370	2.240	2.100	2.020	2.360	3.050	3.060	2.790	2.320	2.080
15	2.610	2.500	2.370	2.230	2.100	2.020	2.390	3.070	3.060	2.770	2.300	2.080
16	2.610	2.490	2.360	2.230	2.090	2.010	2.430	3.040	3.060	2.730	2.280	2.080
17	2.610	2.490	2.360	2.220	2.080	2.010	2.460	3.030	3.060	2.690	2.250	2.080
18	2.610	2.490	2.360	2.210	2.080	2.000	2.490	3.050	3.060	2.660	2.230	2.080
19	2.610	2.480	2.360	2.210	2.080	2.000	2.530	3.080	3.060	2.620	2.210	2.080
20	2.600	2.480	2.350	2.210	2.080	2.000	2.580	3.100	3.070	2.600	2.190	2.080
21	2.600	2.470	2.350	2.190	2.080	2.010	2.640	3.100	3.080	2.560	2.170	2.080
22	2.590	2.470	2.340	2.190	2.080	2.020	2.690	3.110	3.090	2.540	2.150	2.080
23	2.590	2.470	2.330	2.190	2.070	2.020	2.740	3.110	3.090	2.510	2.130	2.080
24	2.590	2.460	2.330	2.190	2.070	2.020	2.800	3.090	3.090	2.480	2.110	2.080
25	2.580	2.460	2.330	2.180	2.060	2.020	2.840	3.080	3.090	2.470	2.080	2.080
26	2.580	2.450	2.330	2.170	2.060	2.020	2.870	3.070	3.080	2.450	2.060	2.080
27	2.570	2.440	2.320	2.170	2.060	2.020	2.890	3.090	3.080	2.450	2.040	2.070
28	2.570	2.440	2.320	2.170	2.060	2.020	2.910	3.090	3.070	2.440	2.020	2.070
29	2.560	2.440	2.320	2.170	------	2.030	2.920	3.100	3.060	2.440	2.010	2.060
30	2.560	2.430	2.320	2.160	------	2.040	2.930	3.100	3.060	2.430	2.010	2.060
31	2.560	------	2.310	2.160	------	2.040	------	3.090	------	2.420	2.010	------
(†)	95.8	94.0	92.3	90.0	88.4	88.2	100.9	103.1	102.6	93.9	87.7	88.5
(‡)	-60	-130	-120	-150	-100	-20	+890	+160	-30	-640	-410	+50
MAX	2,620	2,550	2,430	2,300	2,160	2,060	2,930	3,110	3,090	3,030	2,450	2,080
MIN	2,560	2,430	2,310	2,160	2,060	2,000	2,060	2,940	3,060	2,420	2,010	2,020

CAL YR 1968..... ‡ +560
WTR YR 1969..... ‡ -560

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.

08316000 Santa Fe River near Santa Fe, N. Mex.

LOCATION.--Lat 35°41'12", long 105°50'35", in NE¼SE¼ sec.23, T.17 N., R.10 E., Santa Fe County, in Santa Fe National Forest, on left bank 0.4 mile downstream from McClure Dam and 5.3 miles east of Santa Fe.

DRAINAGE AREA.--18.2 sq mi.

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.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,718 ft (from topographic map). See WSP 1312 for history of changes prior to Oct. 1, 1947.

AVERAGE DISCHARGE.--56 years, 8.15 cfs (5,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 68 cfs May 16 (gage height, 2.75 ft); minimum, 1.9 cfs Oct. 13.
Period of record: Maximum discharge, 1,500 cfs Aug. 14, 1921 (gage height, 5.17 ft, site and datum then in use), from rating curve extended above 150 cfs; minimum, 0.08 cfs July 31, Aug. 1, 1951.
Peaks which probably exceeded 1,000 cfs occurred Aug. 19, 1872, and Sept. 29 or 30, 1904. Without regulation the flood of Sept. 23, 1929, might have exceeded 1,500 cfs.

REMARKS.--Records excellent. Flow regulated by McClure Reservoir (see sta 08315500), completed in 1926, raised in 1935 and again in 1947.

REVISIONS (WATER YEARS).--WSP 1512: 1933, 1936-37(M), 1942, drainage area. WSP 1712: 1923, 1925.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	4.1	3.9	3.6	3.6	3.3	3.3	11	27	14	9.8	5.2
2	2.7	4.1	3.9	3.6	3.6	3.3	3.3	11	24	16	9.8	5.2
3	2.7	4.1	3.9	3.6	3.6	3.3	3.3	12	25	16	9.8	5.2
4	2.7	4.1	3.9	3.6	3.6	3.3	3.1	11	22	15	9.8	5.2
5	2.7	4.1	3.9	3.6	3.6	3.3	3.1	9.1	17	15	9.8	5.2
6	2.5	4.1	3.9	3.6	3.6	3.3	3.1	7.6	14	15	9.8	5.2
7	2.4	4.1	3.9	3.6	3.6	3.3	3.1	9.2	14	14	14	5.2
8	2.2	4.1	3.9	3.6	3.6	3.3	3.1	11	15	15	17	5.2
9	2.2	4.1	3.9	3.6	3.9	3.3	3.1	20	17	14	17	5.2
10	2.1	4.1	3.9	3.6	3.9	3.3	3.1	28	17	13	17	5.2
11	2.1	4.1	3.9	3.6	3.9	3.3	3.3	27	16	12	17	5.2
12	2.1	4.1	3.9	3.6	3.9	3.3	3.3	27	16	11	17	5.2
13	2.1	4.1	3.9	3.6	3.9	3.3	3.3	22	18	10	17	5.2
14	2.2	4.1	3.9	3.6	3.6	3.3	3.3	15	14	9.1	17	5.2
15	2.5	4.1	3.9	3.4	3.4	3.3	3.3	10	12	14	17	5.2
16	3.4	4.1	3.9	3.4	3.4	3.3	3.3	36	11	22	17	5.2
17	4.3	4.1	3.9	3.4	3.4	3.3	3.3	32	10	23	17	5.2
18	4.1	3.9	3.9	3.4	3.4	3.3	3.6	7.6	7.4	21	17	5.2
19	4.1	3.9	3.9	3.4	3.4	3.3	4.5	6.7	2.8	20	16	5.2
20	4.1	3.9	3.9	3.4	3.4	3.3	4.5	16	2.8	20	16	5.2
21	4.1	3.9	3.9	3.4	3.4	3.3	4.5	28	2.8	19	16	5.2
22	4.1	3.9	3.9	3.4	3.4	3.3	7.6	37	2.8	19	16	5.2
23	4.1	3.9	3.9	3.4	3.4	3.3	8.8	42	2.8	19	16	5.2
24	4.1	3.9	3.9	3.4	3.4	3.3	9.1	44	4.3	19	15	5.2
25	4.1	3.9	3.9	3.4	3.4	3.3	9.4	43	5.6	14	15	5.2
26	4.1	3.9	3.6	3.4	3.4	3.3	10	34	5.6	9.8	15	5.2
27	4.1	3.9	3.6	3.5	3.4	3.4	11	27	5.6	9.8	15	5.2
28	4.1	3.9	3.6	3.5	3.4	3.4	9.4	28	5.9	9.4	15	5.2
29	4.1	3.9	3.6	3.5	------	3.3	9.4	29	6.4	9.4	11	5.2
30	4.1	3.9	3.6	3.5	------	3.3	10	31	9.6	9.4	4.9	5.2
31	4.1	------	3.6	3.6	------	3.3	------	31	------	9.4	4.9	------
TOTAL	101.3	120.4	119.1	108.8	99.5	102.5	156.5	703.2	353.4	456.3	435.6	156.0
MEAN	3.27	4.01	3.84	3.51	3.55	3.31	5.22	22.7	11.8	14.7	14.1	5.20
MAX	4.3	4.1	3.9	3.6	3.9	3.4	11	44	27	23	17	5.2
MIN	2.1	3.9	3.6	3.4	3.4	3.3	3.1	6.7	2.8	9.1	4.9	5.2
AC-FT	201	239	236	216	197	203	310	1,390	701	905	864	309

CAL YR 1968 TOTAL 2,437.56 MEAN 6.66 MAX 25 MIN .92 AC-FT 4,830
WTR YR 1969 TOTAL 2,912.6 MEAN 7.98 MAX 44 MIN 2.1 AC-FT 5,780

08316500 Nichols Reservoir near Santa Fe, N. Mex.

LOCATION.--Lat 35°41'24", long 105°52'46", in SE¼NE¼ sec.21, T.17 N., R.10 E., Santa Fe County, in Santa Fe National Forest, on outlet tower at Nichols Dam on Santa Fe River, 0.6 mile east of Twomile Reservoir, 2.5 miles downstream from McClure Dam, and 3.3 miles east of Santa Fe.

DRAINAGE AREA.--22.8 sq mi.

PERIOD OF RECORD.--March 1943 (corrected) to September 1965 (monthend contents only), October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 7,313.2 ft above mean sea level.

EXTREMES.--Current year: Maximum contents, 707 acre-ft May 17 (gage height, 167.7 ft); minimum, 279 acre-ft Oct. 16 (gage height, 150.0 ft).
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.

REMARKS.--Reservoir is formed by earthfill dam. No storage prior to Mar. 16, 1943. Capacity, 796 acre-ft between gage heights 121.2 ft (bottom of lower operational gate) and 171.0 ft (top of flashboards in spillway). Dead storage, 14 acre-ft. Water is for municipal use of city of Santa Fe.

COOPERATION.--Supplementary stage readings and survey to compute capacity table furnished by Public Service Co. of New Mexico.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Public Service Co. of New Mexico in 1943)

150	279	165	625
155	375	170	776
160	491		

CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	405	294	302	306	323	435	447	539	698	475	477	555
2	396	294	302	306	327	433	449	534	695	472	463	552
3	386	296	302	308	333	428	449	520	695	470	452	544
4	375	296	302	310	338	426	444	510	698	470	440	536
5	367	296	302	310	342	426	438	502	695	465	431	531
6	360	296	302	312	348	421	433	491	695	463	419	523
7	350	298	302	312	354	421	426	486	695	461	412	515
8	342	298	302	312	360	419	421	494	695	458	419	510
9	333	298	302	312	365	417	414	515	695	454	440	507
10	325	298	302	313	369	414	407	552	695	458	458	507
11	317	298	302	313	373	414	407	587	695	472	472	507
12	308	298	302	313	380	414	405	620	695	479	477	510
13	300	298	302	313	384	414	403	649	695	477	482	512
14	292	300	302	313	389	417	403	664	695	472	477	512
15	285	300	302	313	396	417	403	667	692	468	477	512
16	281	302	302	313	400	419	407	704	692	472	486	515
17	283	302	302	315	405	421	414	695	692	477	494	515
18	283	302	302	315	410	421	426	688	688	482	502	518
19	285	302	302	315	414	424	442	685	673	486	510	518
20	285	302	302	315	419	426	461	695	661	489	515	520
21	286	302	302	317	424	428	475	698	646	491	520	518
22	286	302	302	317	428	431	491	701	634	504	520	515
23	288	302	302	317	433	431	510	701	617	515	520	512
24	288	302	300	317	438	433	528	701	601	526	520	507
25	288	302	300	317	442	435	536	701	579	536	531	504
26	290	302	300	319	444	435	539	698	555	531	544	502
27	290	302	300	319	442	438	542	698	534	526	555	496
28	290	302	300	319	438	440	544	698	512	523	563	493
29	290	302	300	319	------	440	544	698	491	515	571	491
30	292	302	302	319	------	442	544	698	479	502	566	489
31	292	------	304	321	------	444	------	698	------	489	561	------
(+)	150.7	151.2	151.3	152.2	157.7	158.0	162.0	167.4	159.5	159.9	162.6	159.9
(‡)	-122	+10	+2	+17	+117	+6	+100	+154	-219	+10	+72	-72
MAX	405	302	304	321	444	444	544	704	698	536	571	555
MIN	281	294	300	306	323	414	403	486	479	454	412	489

CAL YR 1968..... ‡ -238
WTR YR 1969..... ‡ +75

+ Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.

08318000 Galisteo Creek at Domingo, N. Mex.

LOCATION.--Lat 35°30'45", long 106°19'00", in SW¼ sec.21, T.15 N., R.6 E., Sandoval County, in Santo Domingo Pueblo Grant, 160 ft downstream from highway bridge, 0.3 mile northeast of Domingo, 2.8 miles east of Santo Domingo Pueblo, and 4 miles upstream from mouth.

DRAINAGE AREA.--640 sq mi, approximately.

PERIOD OF RECORD.--October 1941 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5,255.50 ft above mean sea level. Prior to July 20, 1956, at site 160 ft upstream at same datum.

AVERAGE DISCHARGE.--28 years, 10.3 cfs (7,460 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,800 cfs June 17 (gage height, 3.02 ft.); no flow on many days.
Period of record: Maximum discharge, 22,800 cfs Aug. 2, 1966, (gage height, 8.08 ft inside, 10.4 ft from floodmarks), from rating curve extended above 1,000 cfs on basis of field estimate of peak flow; no flow for most of time.
The floods of Sept. 23, 1929, and Aug. 20, 1935, probably exceeded 20,000 cfs. Discharge for the flood of Aug. 20, 1935, was estimated as 24,300 cfs by H. W. Yeo.

REMARKS.--Records fair. Flow regulated by Galisteo Dam, 8.5 miles upstream. Diversions for irrigation of about 50 acres above station. Records of suspended sediment loads and water temperatures for the water year 1969 are published in part 2 of this report.

REVISIONS(WATER YEARS).--WSP 1148: 1942, 1943(M), 1944, 1945(M), 1946-47.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	.50	0	0	0	0	0	0	0	65
2	0	0	0	.50	0	0	0	0	0	0	0	45
3	0	0	0	.50	0	0	0	0	0	0	.10	20
4	0	0	0	.40	0	0	0	0	0	0	.20	0
5	0	0	0	.40	0	0	0	5.3	0	0	0	0
6	0	0	0	.40	0	0	0	32	0	0	34	0
7	0	0	0	.30	0	0	0	77	0	0	0	0
8	0	0	0	.20	0	0	0	35	0	0	0	24
9	0	0	0	0	0	0	0	9.6	0	0	0	241
10	0	0	0	0	0	0	0	0	0	0	0	20
11	0	0	0	0	0	0	4.1	0	0	0	0	1,060
12	0	0	0	0	0	0	13	0	0	13	0	910
13	0	0	0	0	0	0	.92	0	0	0	10	65
14	0	0	0	0	0	0	0	0	0	0	1.4	35
15	0	0	0	0	0	0	0	0	0	66	0	16
16	0	0	0	0	0	0	0	0	201	120	0	7.0
17	0	0	0	0	0	0	0	0	1,110	47	0	3.5
18	0	0	0	0	0	0	0	0	218	18	0	3.0
19	0	0	0	0	0	0	0	0	20	5.5	0	1.0
20	0	0	0	0	0	0	3.8	0	0	0	0	1.0
21	0	0	0	0	0	0	.03	0	0	0	0	1.0
22	0	0	0	0	0	0	0	0	0	0	0	1.0
23	0	0	0	0	0	0	0	0	0	0	54	.10
24	0	0	0	0	0	0	0	0	1.0	1.4	54	.10
25	0	0	0	0	0	0	0	4.6	0	67	15	0
26	0	0	0	0	0	0	0	.60	0	47	3.4	0
27	0	0	0	0	0	0	0	0	0	25	6.5	0
28	0	0	0	0	0	0	0	0	0	10	9.0	0
29	0	0	0	0	-------	0	0	0	0	5.0	33	0
30	0	0	.50	0	-------	0	0	0	0	0	90	0
31	0	-------	1.0	0	-------	0	-------	0	-------	0	98	-------
TOTAL	0	0	1.50	3.20	0	0	21.85	164.10	1,550.0	424.9	408.60	2,518.70
MEAN	0	0	.048	.10	0	0	.73	5.29	51.7	13.7	13.2	84.0
MAX	0	0	1.0	.50	0	0	13	77	1,110	120	98	1,060
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	3.0	6.3	0	0	43	325	3,070	843	810	5,000

CAL YR 1968 TOTAL 1,841.60 MEAN 5.03 MAX 360 MIN 0 AC-FT 3,650
WTR YR 1969 TOTAL 5,092.85 MEAN 14.0 MAX 1,110 MIN 0 AC-FT 10,100

PEAK DISCHARGE(BASE, 3,000 CFS).--No peak above base.

08319000 Rio Grande at San Felipe, N. Mex.

LOCATION.--Lat 35°26'40", long 106°26'20", in SW¼NW¼ sec.17, T.14 N., R.5 E., Sandoval County, in San Felipe Grant, on right bank 200 ft downstream from Tonque Arroyo, 1,800 ft upstream from steel highway bridge, .8 mile upstream from San Felipe Pueblo, and 11 miles northeast of Bernalillo.

DRAINAGE AREA.--16,100 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

PERIOD OF RECORD.--October 1925 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Datum of gage is 5,115.73 ft above mean sea level. 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.

AVERAGE DISCHARGE.--44 years, 1,389 cfs (1,006,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,940 cfs June 17 (gage height, 6.39 ft); minimum, 192 cfs Oct. 1.
Period of record: Maximum discharge, 27,300 cfs June 26, 1937 (gage height, 11.13 ft, site and datum then in use), from rating curve extended above 15,000 cfs; minimum, 32 cfs July 7, 1934.
Other major floods occurred in 1874, 1884 and 1904.

REMARKS.--Records good except those for winter periods, which are fair. Diversions for irrigation of about 705,000 acres above station, some of which is irrigated below by Cochiti eastside main canal and San Felipe eastside acequia, which bypass station. Flow partly regulated by El Vado Reservoir (see station 08285000 and Abiquiu Reservoir (see station 08286900), 133 and 87 miles upstream, respectively.

REVISIONS(WATER YEARS).--WSP 1312: 1926-30, WSP 1392: 1937(M), WSP 1512: 1931-32, 1933(M), 1934-36, 1938(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	206	331	635	734	680	926	1,570	2,940	4,570	1,270	1,380	1,340
2	217	472	640	700	720	915	1,880	2,980	4,490	1,130	1,660	1,240
3	203	469	675	696	770	900	2,080	3,280	4,410	848	1,200	940
4	211	475	640	697	680	925	2,340	3,600	4,320	823	1,090	800
5	236	462	662	708	720	946	2,430	3,650	4,170	756	1,070	720
6	407	980	673	703	730	893	2,430	3,940	3,940	867	1,800	640
7	345	1,260	692	713	751	829	2,580	3,980	3,720	796	1,040	600
8	250	1,340	723	719	758	859	2,580	3,840	3,640	783	996	640
9	254	1,470	720	744	692	867	2,440	3,740	3,680	786	922	1,310
10	263	1,520	720	751	676	721	2,090	3,780	4,070	773	992	904
11	264	1,570	724	707	716	752	2,110	3,890	4,070	708	770	1,750
12	300	1,580	702	740	763	820	2,550	3,840	4,110	802	600	2,560
13	419	1,590	630	760	738	857	2,570	3,840	4,210	862	500	1,560
14	349	1,610	602	752	782	881	2,480	3,830	4,270	792	491	1,400
15	321	1,390	595	755	780	917	2,100	3,980	4,150	983	756	900
16	314	1,410	603	792	784	882	2,250	3,940	4,240	1,110	1,210	735
17	279	1,590	653	785	857	790	2,600	3,760	5,050	770	1,220	589
18	300	1,570	686	793	830	818	2,370	3,690	4,160	852	1,030	643
19	314	1,550	717	786	821	885	2,010	3,660	4,600	950	986	761
20	440	1,500	617	796	817	946	2,050	3,620	4,890	925	863	892
21	356	1,490	600	809	807	956	1,960	3,860	4,130	1,080	969	1,070
22	307	1,520	580	806	750	998	2,470	4,170	3,350	1,280	790	1,360
23	321	1,560	509	786	786	1,040	2,950	4,360	2,840	1,410	845	1,480
24	328	1,560	494	777	791	956	3,120	4,720	2,490	1,150	995	1,050
25	349	1,550	616	752	794	942	3,690	4,930	2,250	1,090	1,050	1,020
26	356	1,610	730	731	776	954	3,440	4,860	1,960	1,380	854	1,090
27	494	1,640	700	797	806	915	2,890	4,670	1,710	1,800	903	1,050
28	419	1,360	680	1,240	883	863	2,640	4,560	1,630	1,560	1,240	981
29	356	692	651	1,460	------	897	2,680	4,590	1,560	973	1,170	822
30	370	660	666	1,470	------	1,230	2,840	4,620	1,400	1,060	1,380	822
31	332	------	686	960	------	1,210	------	4,550	------	810	1,610	------
TOTAL	9,880	37,781	20,221	25,419	21,458	28,290	74,190	123,670	108,080	31,179	32,382	31,669
MEAN	319	1,259	652	820	766	913	2,473	3,989	3,603	1,006	1,045	1,056
MAX	494	1,640	730	1,470	883	1,230	3,690	4,930	5,050	1,800	1,800	2,560
MIN	203	331	494	696	676	721	1,570	2,940	1,400	708	491	589
AC-FT	19,600	74,940	40,110	50,420	42,560	56,110	147,200	245,300	214,400	61,840	64,230	62,820
(†)	4,290	123	0	0	0	1,850	3,550	3,930	3,240	4,720	4,160	2,420

CAL YR 1968 TOTAL 460,293 MEAN 1,258 MAX 4,770 MIN 203 AC-FT 913,000
WTR YR 1969 TOTAL 544,219 MEAN 1,491 MAX 5,050 MIN 203 AC-FT 1,079,000

PEAK DISCHARGE(BASE, 5,000 CFS).--June 17(0630)5,940 cfs (6.39 ft).

† Monthly diversion, in acre-ft, of Cochiti Eastside Canal; record of this flow is furnished by Bureau of Reclamation.

08321500 Jemez River below East Fork, near Jemez Springs, N. Mex.

LOCATION.--Lat 35°49'39", long 106°38'51", in NW¼ sec.5, T.18 N., R.3 E., Sandoval County, on left bank 0.4 mile downstream from East Fork and boundary of Santa Fe National Forest and 5.3 miles northeast of Jemez Springs.

DRAINAGE AREA.--173 sq mi.

PERIOD OF RECORD.--July 1949 to October 1950 (gaged separately above East Fork), May 1951 to September 1957 (irrigation seasons only), March 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,702.7 ft above mean sea level (planetable survey). Prior to May 1951, at sites 3,000 ft upstream, at different datums and on separate channels.

AVERAGE DISCHARGE.--12 years (1949-50, 1958-69), 25.7 cfs (18,620 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 624 cfs Apr. 1 (gage height, 3.70 ft); minimum, 0.91 cfs Jan. 24, result of freezeup.
Period of record: Maximum discharge recorded, 2,520 cfs Apr. 21, 1958 (gage height, 7.35 ft), from rating curve extended above 1,100 cfs on basis of slope-area and contracted-opening measurements of peak flow; minimum, 0.91 cfs Jan. 24, 1969, result of freezeup.

REMARKS.--Records good except for February, March and September which are poor. No diversion above station.

REVISIONS(WATER YEARS).--WSP 1242: Drainage area. WSP 1512: 1951-54(M), 1955, 1956(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	11	11	7.3	13	16	339	38	23	9.8	37	40
2	12	13	7.8	7.7	14	14	358	37	23	9.8	38	47
3	12	13	22	8.4	11	13	308	35	23	9.8	30	56
4	14	12	8.1	7.8	12	14	261	34	22	9.5	24	39
5	16	11	13	7.9	14	11	274	37	22	9.6	28	35
6	13	11	11	8.1	14	12	299	64	21	9.4	44	34
7	13	10	7.2	8.2	14	17	272	96	21	10	27	32
8	12	11	7.0	8.2	11	10	144	93	21	11	33	35
9	12	10	7.1	7.9	12	18	130	183	21	10	26	53
10	12	11	7.3	8.1	13	11	122	122	22	11	20	50
11	12	9.4	7.6	7.6	13	9.3	135	77	19	12	17	70
12	12	11	7.3	8.3	11	11	130	86	17	11	15	60
13	11	12	23	8.6	14	14	175	89	19	11	15	50
14	11	16	7.0	9.9	13	11	178	86	23	11	19	31
15	12	14	7.4	12	12	10	122	74	20	11	20	26
16	12	12	7.5	11	13	11	86	61	24	23	17	24
17	12	12	7.4	11	12	14	74	54	50	32	14	24
18	11	10	8.1	8.8	13	15	76	50	32	27	14	22
19	12	13	29	8.8	13	15	131	46	21	18	13	22
20	12	13	7.2	9.9	13	15	88	42	17	16	12	21
21	12	12	7.5	10	12	17	75	40	15	18	12	30
22	12	13	13	10	15	18	73	38	14	29	16	33
23	11	13	24	5.6	16	17	68	38	13	32	21	26
24	11	12	6.0	3.3	14	15	63	38	13	32	22	21
25	11	16	6.8	7.5	14	15	58	39	14	37	18	20
26	11	6.5	7.9	14	15	15	52	36	13	31	17	18
27	11	6.8	8.5	12	17	19	48	33	12	22	17	17
28	11	6.5	14	11	14	23	46	30	11	21	33	16
29	11	8.0	7.5	9.0	------	31	43	28	10	14	73	16
30	11	17	7.9	11	------	61	42	26	10	12	88	16
31	11	------	8.0	11	------	169	------	24	------	31	60	------
TOTAL	369	346.2	324.1	279.9	372	661.3	4,270	1,774	586	550.9	840	984
MEAN	11.9	11.5	10.5	9.03	13.3	21.3	142	57.2	19.5	17.8	27.1	32.8
MAX	16	17	29	14	17	169	358	183	50	37	88	70
MIN	11	6.5	6.0	3.3	11	9.3	42	24	10	9.4	12	16
AC-FT	732	687	643	555	738	1,310	8,470	3,520	1,160	1,090	1,670	1,950

CAL YR 1968 TOTAL 12,633.7 MEAN 34.5 MAX 388 MIN 6.0 AC-FT 25,060
WTR YR 1969 TOTAL 11,357.4 MEAN 31.1 MAX 358 MIN 3.3 AC-FT 22,530

PEAK DISCHARGE(BASE, 100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-1	2300	3.70	624	5-9	0500	2.60	263
4-14	0530	2.52	245	7-31	2130	3.05	403

08323000 Rio Guadalupe at Box Canyon near Jemez, N. Mex.

LOCATION.--Lat 35°43'55", long 106°45'45", in E½ sec.6, T.17 N., R.2 E. (projected), Sandoval County, in Canon de San Diego Grant, on left bank at downstream end of Guadalupe Box Canyon, 4.8 miles upstream from mouth, 5 miles southwest of Jemez Springs, and 7 miles north of Jemez.

DRAINAGE AREA.--235 sq mi.

PERIOD OF RECORD.--May 1951 to September 1957 (irrigation seasons only), May 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,015.5 ft above mean sea level, datum of 1929 (planetable survey).

AVERAGE DISCHARGE.--11 years (1958-69), 32.1 cfs (23,260 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 357 cfs May 20 (gage height, 5.11 ft); minimum 3.2 cfs Nov. 30.
Period of record: Maximum discharge determined, 1,440 cfs Apr. 21, 1958 (gage height, 7.6 ft, from flood-marks), from rating curve extended above 750 cfs on basis on slope-area measurements of peak flow; minimum, 2.8 cfs Dec. 9, 1967.
The flood of May 13 or 14, 1941, exceeded all other known floods at this location. The discharge for that flood was computed to be 3,190 cfs at a downstream station, Rio Guadalupe near Jemez Springs (drainage area, 239 sq mi.).

REMARKS.--Records good except those for December-March, which are fair. Flow regulated to some extent since October 1958 by San Gregorio Reservoir on Clear Creek, 24 miles upstream (capacity, 345 acre-ft), and by trans-mountain diversion into Rio Puerco Basin for irrigation of 200 to 300 acres in vicinity of Cuba.

REVISIONS.--WSP 1712: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	7.7	17	8.4	24	13	95	217	96	16	23	15
2	8.1	8.5	9.6	8.6	20	11	114	227	80	16	26	20
3	7.7	8.2	8.4	9.4	16	10	121	248	71	15	31	15
4	8.7	8.2	8.0	9.0	24	12	130	231	66	14	25	13
5	9.7	8.0	8.6	9.0	21	8.8	152	224	57	14	19	12
6	9.5	7.8	9.0	9.6	12	11	180	189	50	13	21	12
7	8.8	7.7	8.4	9.6	11	11	200	176	45	13	16	12
8	8.3	7.7	8.4	9.0	11	9.6	172	161	42	14	16	21
9	8.1	7.8	8.8	9.2	12	12	175	200	38	14	14	29
10	7.9	8.0	9.2	9.2	12	9.6	185	228	36	14	18	23
11	7.7	7.6	8.2	9.0	12	13	228	228	32	15	11	21
12	7.6	7.7	7.2	10	11	13	224	239	32	13	11	17
13	7.4	7.7	6.6	11	12	14	213	257	32	13	10	17
14	7.5	9.6	7.6	12	11	13	208	274	32	14	12	19
15	7.6	9.5	8.8	13	11	14	207	299	30	13	14	18
16	7.7	9.0	8.8	12	11	13	184	297	31	13	12	15
17	7.7	9.0	8.0	11	10	15	148	286	38	16	11	15
18	7.5	8.3	7.4	11	11	21	128	296	34	20	9.8	14
19	7.5	8.3	8.4	10	11	24	142	290	28	19	9.4	14
20	7.5	8.7	30	10	11	23	143	292	26	17	8.8	14
21	7.5	8.6	8.4	11	11	23	193	280	23	15	8.3	20
22	7.4	8.5	7.4	12	11	27	256	263	21	14	8.8	26
23	7.4	8.8	8.0	11	12	30	275	261	19	16	11	19
24	7.6	8.6	9.0	9.8	12	28	280	220	20	15	14	16
25	7.6	9.3	10	12	11	25	280	190	23	17	13	14
26	7.6	8.4	11	17	11	25	233	160	25	22	12	13
27	7.6	8.4	12	20	13	26	194	153	22	19	11	12
28	7.6	8.2	12	16	11	33	181	147	20	16	12	12
29	7.5	8.7	9.8	14	------	47	192	129	18	15	19	12
30	7.5	11	8.6	14	------	63	205	117	17	13	23	11
31	7.5	------	8.8	18	------	77	------	104	------	12	19	------
TOTAL	243.5	253.5	301.4	354.8	366	675.0	5,638	6,883	1,104	470	469.1	491
MEAN	7.85	8.45	9.72	11.4	13.1	21.8	188	222	36.8	15.2	15.1	16.4
MAX	9.7	11	30	20	24	77	280	299	96	22	31	29
MIN	7.4	7.6	6.6	8.4	10	8.8	95	104	17	12	8.3	11
AC-FT	483	503	598	704	726	1,340	11,180	13,650	2,190	932	930	974

CAL YR 1968 TOTAL 15,988.5 MEAN 43.7 MAX 386 MIN 5.0 AC-FT 31,710
WTR YR 1969 TOTAL 17,249.3 MEAN 47.3 MAX 299 MIN 6.6 AC-FT 34,210

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
4-11	2100	4.89	291	5-20	0200	5.11	357
4-25	0200	5.11	357				

08324000 Jemez River near Jemez, N. Mex.

LOCATION.--Lat 35°39'45", long 106°44'30", in NW¼ sec.33, T.17 N., R.2 E. (projected), Sandoval County, in Canyon de San Diego Grant, on left bank 0.7 mile downstream from Rio Guadalupe and 3.5 miles north of Jemez.

DRAINAGE AREA.--470 sq mi.

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.

GAGE.--Water-stage recorder. Concrete control since Dec. 6, 1966. Datum of gage is 5,622.3 ft above mean sea level. 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 0.70 ft higher. July 9, 1938, to May 6, 1941, at site 60 ft upstream at datum 0.70 ft higher.

AVERAGE DISCHARGE.--21 years (1936-40, 1949-50, 1953-69), 65.3 cfs (47,310 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,270 cfs Sept. 1 (gage height, 7.28 ft); minimum, 6.2 cfs Nov. 30.
Period of record: Maximum discharge, 5,900 cfs Apr. 21, 1958, from rating curve extended above 2,200 cfs on basis of contracted-opening measurement; maximum gage height, 8.6 ft May 6, 1941, present datum; minimum discharge, 5.5 cfs Jan. 2, 1961.
Maximum flood known since at least 1890 occurred between May 6 and 15, 1941, after gage was destroyed (discharge probably exceeded 6,000 cfs), from information by local residents.

REMARKS.--Records good. Diversions for irrigation of about 300 acres above stations.

REVISIONS(WATER YEARS).--WSP 1712: Drainage area. WSP 1923, Vol. 2: 1957-58.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	21	20	22	25	30	393	273	106	25	118	176
2	20	25	23	22	27	28	562	281	92	22	70	101
3	20	24	21	23	21	24	436	295	89	23	69	78
4	25	23	25	22	23	27	390	277	83	23	62	54
5	29	22	24	22	26	21	423	284	75	22	52	42
6	26	22	24	24	26	23	480	318	67	21	67	40
7	25	22	22	24	26	32	503	320	63	21	48	35
8	21	23	22	23	21	26	329	286	61	17	45	45
9	19	22	23	24	22	21	307	435	127	19	42	72
10	20	23	23	24	24	31	308	408	63	24	36	75
11	23	20	24	23	24	24	365	351	59	24	25	100
12	22	22	22	23	24	24	356	351	56	22	22	100
13	22	23	18	24	26	20	400	358	56	31	23	87
14	21	30	21	24	25	29	408	353	59	26	28	67
15	22	30	24	30	23	21	345	353	56	23	33	57
16	22	29	24	29	25	23	286	335	182	30	31	49
17	22	26	23	27	24	27	242	317	91	47	25	48
18	23	23	22	25	25	32	227	316	83	55	21	47
19	23	25	16	25	25	41	292	300	61	45	20	41
20	23	27	25	26	25	41	257	299	52	39	17	40
21	22	26	23	25	23	45	274	284	44	38	22	55
22	22	25	19	28	28	53	334	266	37	41	21	74
23	22	27	23	24	29	53	347	262	34	45	29	58
24	22	25	23	16	27	49	342	227	33	48	31	46
25	22	31	22	25	26	43	342	201	36	46	34	41
26	21	23	24	40	28	46	300	168	41	61	35	38
27	22	22	24	48	32	52	262	161	39	63	29	30
28	22	23	21	39	27	66	249	151	34	44	39	25
29	20	20	23	33	------	79	252	136	31	33	222	26
30	21	15	23	20	------	127	265	126	28	26	155	27
31	20	------	23	21	------	219	------	113	------	39	119	------
TOTAL	685	719	694	805	707	1,377	10,276	8,605	1,938	1,043	1,590	1,774
MEAN	22.1	24.0	22.4	26.0	25.3	44.4	343	278	64.6	33.6	51.3	59.1
MAX	29	31	25	48	32	219	562	435	182	63	222	176
MIN	19	15	16	16	21	20	227	113	28	17	17	25
AC-FT	1,360	1,430	1,380	1,600	1,400	2,730	20,380	17,070	3,840	2,070	3,150	3,520

CAL YR 1968 TOTAL 30,861 MEAN 84.3 MAX 770 MIN 15 AC-FT 61,210
WTR YR 1969 TOTAL 30,213 MEAN 82.8 MAX 562 MIN 15 AC-FT 59,930

PEAK DISCHARGE(BASE, 1,000 CFS).--June 16 (1830) 1,990 cfs (7.10 ft); Sept. 1 (2130) 2,270 cfs (7.28 ft).

08328500 Jemez Canyon Reservoir near Bernalillo, N. Mex.

LOCATION.--Lat 35°23'40", long 106°32'45", in SW¼SW¼ sec.32, T.14 N., R.4 E., Sandoval County, at corner of outlet works control tower of Jemez Canyon Dam, about 2.3 miles upstream from mouth and 6 miles north of Bernalillo, N. Mex.

DRAINAGE AREA.--1,034 sq mi.

PERIOD OF RECORD.--October 1953 to current year. Prior to October 1965 monthend contents only.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

EXTREMES.--Current year: Maximum contents, 2,800 acre-ft June 17 (elevation, 5,156.59 ft); no contents most of year.
Period of record: Maximum contents, 71,220 acre-ft June 8, 1958 (elevation, 5,213.36 ft); no storage most of time.

REMARKS.--Reservoir is formed by earth-fill dam, completed Oct. 19, 1953. Capacity, 181,800 acre-ft (from capacity table adopted July 20, 1969) between elevations 5,125.0 (sill of outlet gates) and 5,252.3 ft (operating deck of spillway). Maximum controlled capacity, 112,600 acre-ft at elevation 5,232.3 ft (floor of spillway which is located about 0.8 mile south of dam; flows directly to Rio Grande). Original plan for reservoir operation was to desilt all flow above 30 cfs by storage for one day before releasing to Rio Grande, and for possible detention during flood stage on Rio Grande.

COOPERATION.--Capacity tables and records furnished by Corps of Engineers.

Capacity tables, water year 1968-69 (elevation, in feet, and contents, in acre-feet

Oct. 1 to July 19						July 20 to Sept. 30					
5,135.1	1	5,144	169	5,152	1,475	5,137.9	1	5,146	86	5,154	1,019
5,138	6	5,146	350	5,154	2,005	5,140	4	5,148	192	5,156	1,513
5,140	15	5,148	628	5,156	2,604	5,142	16	5,150	376	5,158	2,183
5,142	59	5,150	1,010	5,158	3,292	5,144	36	5,152	643	5,160	2,965

CONTENTS IN, ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	413	1,160	923	0	124	*1,500
2	0	0	0	0	0	0	504	1,140	853	0	91	* 997
3	0	0	0	0	0	0	800	1,200	764	0	283	*1,140
4	0	0	0	0	0	0	694	1,210	640	0	94	**1,090
5	0	0	0	0	0	0	502	1,410	473	0	101	††1,060
6	0	0	0	0	0	0	435	2,140	0	0	245	††1,040
7	0	0	0	0	0	0	905	1,920	0	0	146	**1,020
8	0	0	0	0	0	0	696	1,380	0	0	127	**1,120
9	0	0	0	0	0	0	744	1,520	462	0	111	**1,240
10	0	0	0	0	0	0	791	1,590	2,060	0	82	**1,230
11	0	0	0	0	0	0	1,160	1,560	806	0	37	**1,570
12	0	0	0	0	0	0	1,030	1,380	0	0	0	**1,110
13	0	0	0	0	0	0	1,150	1,250	0	0	0	0
14	0	0	0	0	0	0	1,150	1,200	0	0	0	0
15	0	0	0	0	0	0	1,110	1,210	0	0	0	0
16	0	0	0	0	0	0	1,070	1,160	580	0	0	0
17	0	0	0	0	0	0	1,100	1,130	2,800	0	0	0
18	0	0	0	0	0	0	1,130	1,190	1,810	350	0	0
19	0	0	0	0	0	0	1,240	1,190	0	0	0	0
20	0	0	0	0	0	0	1,310	1,130	0	0	0	0
21	0	0	0	0	0	0	1,250	1,120	0	0	0	0
22	0	0	0	0	0	0	1,120	1,120	0	0	66	0
23	0	0	0	0	0	0	1,120	1,130	0	0	0	0
24	0	0	0	0	0	0	1,050	1,050	0	0	0	0
25	0	0	0	0	0	0	1,080	1,050	0	0	0	0
26	0	0	0	0	0	0	1,100	1,050	0	0	0	0
27	0	0	0	0	0	0	1,160	1,030	0	0	0	0
28	0	0	0	0	0	0	1,130	1,100	0	0	0	0
29	0	0	0	0	------	0	1,100	1,050	0	0	* 835	0
30	0	0	0	0	------	0	1,140	990	0	0	* 914	0
31	0	------	0	0	------	9.0	------	969	------	0	*1,110	------
(†)	0	0	0	0	0	5,138.9	5,150.6	5,149.8	0	0	5,154.4	0
(‡)	0	0	0	0	0	+9	+1,131	-171	-969	0	+1,110	-1,110
MAX	0	0	0	0	0	9	1,310	2,140	2,800	350	1,110	1,570
MIN	0	0	0	0	0	0	413	969	0	0	0	0

CAL YR 1968 . . . . . ‡ 0
WTR YR 1969 . . . . . ‡ 0

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.
* Contents at 0900 following date.
** Contents at 0800 following date.
†† Contents estimated.

08329000 Jemez River below Jemez Canyon Dam, N. Mex.

LOCATION.--Lat 35°23'10", long 106°31'45", in NE¼ sec.5, T.13 N., R.4 E., Sandoval County, on right bank 0.75 mile downstream from Jemez Canyon Dam, 1.5 miles upstream from mouth, and 6 miles north of Bernalillo.

DRAINAGE AREA.--1,038 sq mi.

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.

GAGE.--Water-stage recorder. Datum of gage is 5,095.60 ft above mean sea level (Corps of Engineers bench mark). Prior to Apr. 24, 1951, at site 0.75 mile 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 gates on Jemez Canyon Dam at datum 5,125.00 ft above mean sea level (Corps of Engineers bench mark) used at times since January 1953.

AVERAGE DISCHARGE.--27 years (1936-37, 1943-69), 51.4 cfs (37,210 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,340 cfs Apr. 2 (gage height, 8.40 ft); no flow for many days. Period of record: Maximum discharge, 16,300 cfs Aug. 29, 1943 (gage height, 5.62 ft, site and datum then in use), from rating curve extended above 3,000 cfs; no flow for many days most years.
A flood in 1900 was probably less than 16,000 cfs, but highest known outside period of record.

REMARKS.--Records poor. Subsequent to October 1953, flow at this station can be completely regulated by Jemez Canyon Reservoir (see station 08328500).However, reservoir is designed essentially for desilting and flood control rather than storage. Diversions for irrigation of about 3,000 acres above station.

REVISIONS(WATER YEARS).--WSP 1178: 1949. WSP 1212: 1950. WSP 1512: 1936, 1943, 1945, 1947-48, 1949(M), 1950. WSP 1732: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	2.3	6.0	25	8.0	24	199	199	91	7.0	214	66
2	0	3.1	4.0	25	4.6	19	687	214	88	1.1	169	288
3	0	5.5	3.0	25	2.7	20	397	192	85	.12	272	181
4	0	12	1.8	20	3.5	16	75	205	82	0	161	34
5	0	15	1.0	15	4.9	19	103	202	79	0	39	31
6	0	15	3.0	30	6.8	14	203	429	100	.01	49	29
7	0	15	5.0	39	9.0	14	187	649	57	.01	89	26
8	0	19	10	7.3	12	15	423	498	89	.01	36	21
9	0	16	20	11	17	14	271	316	120	.02	28	12
10	0	14	24	16	24	13	223	359	381	.02	25	30
11	0	16	25	19	33	12	332	363	446	.02	19	33
12	0	15	25	27	28	42	396	411	191	.02	20	130
13	0	16	25	31	32	43	295	355	140	3.4	14	387
14	0	26	25	32	33	27	354	329	271	3.9	11	145
15	0	34	25	33	32	44	332	294	319	12	8.9	59
16	0	27	25	41	30	23	286	319	409	1.5	6.0	75
17	0	29	25	32	27	22	218	287	357	9.8	4.1	51
18	0	30	26	36	25	16	183	232	444	27	1.5	36
19	0	29	25	32	39	14	184	245	486	98	4.7	26
20	0	27	25	28	51	9.1	202	265	41	30	.91	23
21	0	30	15	29	42	6.4	247	229	36	27	.19	74
22	0	28	15	38	40	4.8	302	216	30	61	124	53
23	0	27	15	30	30	2.1	301	219	25	34	40	42
24	0	24	15	23	29	2.0	298	222	20	16	14	20
25	0	20	15	25	25	2.6	270	169	19	31	8.9	14
26	.19	19	15	29	25	3.4	243	144	8.9	20	6.2	11
27	1.5	22	15	40	19	4.9	210	134	10	24	11	8.4
28	1.8	10	25	46	24	5.7	208	109	15	29	9.3	5.9
29	2.1	10	25	40	------	7.6	208	131	11	31	234	4.2
30	2.3	8.0	25	23	------	16	174	117	8.5	26	382	2.9
31	2.1	------	25	13	------	49	------	96	------	12	248	------
TOTAL	9.99	563.9	533.8	860.3	656.5	524.6	8,011	8,149	4,459.4	504.93	2,249.70	1,918.4
MEAN	.32	18.8	17.2	27.8	23.4	16.9	267	263	149	16.3	72.6	63.9
MAX	2.3	34	26	46	51	49	687	649	486	98	382	387
MIN	0	2.3	1.0	7.3	2.7	2.0	75	96	8.5	0	.19	2.9
AC-FT	20	1,120	1,060	1,710	1,300	1,040	15,890	16,160	8,850	1,000	4,460	3,810

CAL YR 1968 TOTAL 26,244.72 MEAN 71.7 MAX 710 MIN 0 AC-FT 52,060
WTR YR 1969 TOTAL 28,441.52 MEAN 77.9 MAX 687 MIN 0 AC-FT 56,410

08329100 Bernalillo floodwater retarding reservoir No. 1 (Piedra Lisa Arroyo), near Bernalillo, N. Mex.

LOCATION.--Lat 35°18'50", long 106°31'45", in NW¼ sec.33, T.13 N., R.4 E. (projected), in Bernalillo Grant, Bernalillo County, in reservoir 0.3 mile east of intersection of State Highways 44 and 422 and 1.5 miles northeast of Bernalillo.

DRAINAGE AREA.--4.1 sq mi, of which 2.0 sq mi has contouring, pitting and small dams to reduce runoff.

PERIOD OF RECORD.--September 1955 to current year.

GAGE.--Water-stage recorder adjacent to outlet tower with fixed ports. Datum of gage is 5,169.98 above mean sea level (levels by Soil Conservation Service). Since July 21, 1958, supplementary outflow gage 390 ft below toe of dam, water-stage recorder and Parshall flume.

AVERAGE OUTFLOW.--14 years, 0.012 cfs (8.69 acre-ft per year).

EXTREMES.--Maximum outflow during year, 2.96 cfs Aug. 29; no inflow or outflow except that of Aug. 29.
Period of record: Maximum outflow, 55 cfs July 19, 1956 (gage height, 11.23 ft). Maximum inflow, 2,330 cfs, July 19, 1956 (average for 5-minute interval), computed from outflow and change in reservoir contents. No inflow or outflow for most of time.

Reservoir is formed by earth-fill dam, completed in 1955. Capacity, 300 acre-ft (original survey, no dead storage). Gage height of spillway crest is 27 ft, crest of dam is 35 ft. Outlet tower has an inside opening 3 ft square and outlet pipe through dam is 2 ft in diameter. A total of 9 port openings are spaced at 5-ft vertical intervals on upstream and sides of tower. They are 2 ft wide by 1 ft high; sill of lowest upstream port is at gage-height 4.8 ft (modified in 1963) and lowest side ports at gage-heights 6.3 ft.

Outflow during water year October 1968 to September 1969, supplementary gage

Flow event	Date	Outflow (hours)	Maximum (cfs)	cfs-days	Runoff (acre-ft)
26	Aug. 29	6.75	2.96	0.16	0.32

08329500 Rio Grande near Bernalillo, N. Mex.

LOCATION.--Lat 35°17'05", long 106°35'45", Sandoval County, on right bank 2 miles northwest of Sandia Pueblo, 3 miles southwest of Bernalillo, 3.5 miles downstream from State Highway 44, and 8.5 miles downstream from Jemez River.

DRAINAGE AREA.--17,300 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

RECORDS AVAILABLE.--May 1941 to September 1969 (discontinued). Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Datum of gage is 5,030.57 ft above mean sea level. Supplemental water-stage recorder at a site 1,900 ft downstream used alternately 1953-58, 1961, 1964, 1966 at the same datum 1953-55, variable 1956-58 and 1.26 ft lower than primary gage in 1961.

AVERAGE DISCHARGE.--28 years, 1,076 cfs (779,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, about 6,400 cfs June 17 (gage height, 4.58 ft; maximum gage height, 6.77 ft Jan. 2 (backwater from ice); no flow for many days in October.
Period of record: Maximum discharge, 25,400 cfs May 16, 1941; maximum gage height, 6.83 ft Sept. 20, 1941; no flow at times.
Other major floods occurred as follows (based primarily on records for station at San Felipe); Sept. 23, 1929, about 23,000 cfs; Aug. 21, 1935, about 22,000 cfs; June 26, 1937, about 27,000 cfs.

REMARKS.--Records poor. Diversions above station for irrigation of about 710,000 acres, some of which is below station. Possible regulation by operation of two reservoirs on Rio Chama and flood-and-silt detention reservoir on Jemez River (see sta 08328500). Records of water temperatures and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

REVISIONS(WATER YEARS).--WSP 1312: 1943(M). WSP 1923: 1953-54.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	12	547	657	839	890	1,130	2,400	4,840	975	1,300	1,600
2	0	253	447	705	878	890	1,620	2,740	4,190	869	1,670	1,400
3	0	280	563	721	904	800	1,380	3,000	4,100	501	2,130	930
4	0	346	509	717	817	790	1,540	3,400	4,000	415	674	380
5	0	373	493	681	850	764	1,640	3,800	3,800	369	394	380
6	0	1,050	554	723	840	717	2,930	4,300	3,700	394	1,480	352
7	0	1,230	527	689	830	554	1,790	4,500	3,600	422	818	347
8	0	1,260	568	564	880	562	1,660	4,500	3,500	325	571	333
9	0	1,350	596	532	900	590	2,070	4,200	3,900	316	501	1,050
10	0	1,490	720	505	890	464	1,610	4,100	4,300	325	484	544
11	0	1,580	720	497	880	371	2,040	4,000	4,400	289	364	1,690
12	0	1,600	710	480	899	503	2,500	3,900	4,400	387	202	2,860
13	0	1,580	690	525	939	467	2,600	3,800	4,300	364	110	1,580
14	0	1,600	640	654	965	531	2,600	3,700	4,200	369	93	1,990
15	0	1,500	610	814	962	564	2,390	3,800	4,200	415	102	682
16	0	1,400	640	860	1,050	647	2,270	3,800	4,400	746	407	535
17	0	1,600	650	816	1,010	584	2,920	3,700	5,000	380	770	387
18	0	1,650	660	622	1,050	502	2,500	3,500	4,700	330	401	342
19	0	1,650	660	619	751	594	1,770	3,400	4,900	580	320	408
20	0	1,650	640	802	544	658	2,050	3,400	5,000	501	320	720
21	0	1,650	580	867	566	632	1,880	3,500	4,400	589	322	908
22	0	1,650	560	860	621	652	2,400	3,600	2,500	792	418	1,040
23	0	1,650	520	780	720	690	2,700	3,800	2,300	908	320	2,050
24	0	1,650	500	750	811	619	3,200	4,100	2,200	711	415	790
25	0	1,650	480	650	826	589	3,500	4,570	2,000	760	484	589
26	0	1,750	619	561	906	645	3,300	4,400	1,900	882	380	750
27	0	1,750	700	667	822	565	3,000	5,160	1,700	1,510	394	770
28	15	1,750	626	1,310	906	459	2,700	4,500	1,500	1,720	780	770
29	8.8	637	605	1,690	------	400	2,600	4,490	1,400	526	663	484
30	0	612	600	1,320	------	688	2,500	5,010	1,300	458	1,600	429
31	0	------	626	1,160	------	815	------	4,350	------	316	1,480	------
TOTAL	23.8	38,203	18,560	23,798	23,856	19,196	68,790	121,420	106,630	18,444	20,367	27,090
MEAN	0.77	1,273	599	768	856	619	2,293	3,917	3,554	595	657	903
MAX	15	1,750	720	1,690	1,050	890	3,500	5,160	5,000	1,720	2,130	2,860
MIN	0	12	447	480	544	371	1,130	2,400	1,300	289	93	333
AC-FT	47.2	75,780	36,810	47,200	47,520	38,080	136,400	240,800	211,500	36,580	40,400	53,730

CAL YR 1968 TOTAL 403,160.6 MEAN 1,102 MAX 4,380 MIN 0 AC-FT 799,700
WTR YR 1969 TOTAL 486,377.8 MEAN 1,333 MAX 5,160 MIN 0 AC-FT 964,700

PEAK DISCHARGE (BASE, 5,000 CFS).--June 7 (0930) About 6,400 cfs (4.58 ft).

08329900 North Floodway Channel near Alameda, N. Mex.

LOCATION.--Lat 35°11'52", long 106°35'56", in S½NW¼ sec.11, T.11 N., R.3 E. (projected), in Elena Gallegos Grant, Bernalillo County, on left bank 0.5 mile upstream from Edith Blvd., 1.1 miles upstream from mouth, and 1.2 miles northeast of Alameda.

PERIOD OF RECORD.--July 1968 to current year.

GAGE.--Water-stage recorder and concrete lined channel. Altitude of gage is 5,015 ft (from Corps of Engineers plan and profile map).

EXTREMES.--Current year: Maximum discharge, 1,640 cfs May 6 (gage height, 3.04 ft), from rating curve extended above 750 cfs; no flow most of time.
Period of record: Maximum discharge, 1,640 cfs May 6, 1969 (gage height, 3.04 ft) from rating curve extended above 750 cfs; minimum, no flow most of time.

REMARKS.--Records good. Floodway channel intercepts flow of numerous arroyos in northeast Albuquerque and discharges into the Rio Grande at a point 1.6 miles north of Alameda.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	44	0	0	0	0	0	0	9.7	0	61	0
2	0	1.8	7.4	0	0	0	0	0	6.9	5.0	21	0
3	0	0	0	0	0	0	0	0	0	0	9.0	0
4	9.4	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	76	0	0	7.2	0
6	0	0	0	0	0	0	0	187	0	0	0	0
7	0	0	0	0	0	0	0	12	0	0	7.2	26
8	0	0	0	0	0	0	0	2.1	0	0	.90	76
9	0	0	0	0	0	0	0	2.5	0	.41	0	25
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	167	0	0	11	0	5.4
12	0	0	0	0	0	0	.75	0	0	0	0	6.3
13	0	0	0	0	0	0	0	0	2.3	1.7	43	0
14	0	6.6	0	0	0	0	0	0	1.0	.50	17	0
15	0	11	0	0	0	0	0	0	39	0	.90	0
16	0	8.1	0	0	0	0	0	0	23	10	0	0
17	0	4.5	0	0	0	0	0	0	0	17	0	0
18	0	2.7	0	0	0	0	0	0	0	2.7	0	0
19	0	0	0	0	0	0	0	0	0	3.0	2.0	15
20	0	0	0	0	0	0	0	0	0	3.6	1.8	8.9
21	0	0	0	0	0	0	0	0	0	.90	0	12
22	0	0	0	0	0	0	0	0	4.9	0	0	9.0
23	0	0	0	0	0	0	0	0	0	0	11	1.8
24	0	0	0	0	0	0	0	0	0	2.7	2.7	0
25	0	0	0	0	0	0	0	0	1.6	21	0	0
26	0	0	0	0	0	0	0	0	0	3.6	0	0
27	0	0	0	0	0	0	0	0	0	.90	0	0
28	0	0	0	0	0	0	0	4.0	0	0	0	0
29	0	0	0	0	------	0	0	0	0	0	13	0
30	0	0	0	0	------	0	0	5.2	0	9.1	7.2	0
31	0	------	0	0	------	0	------	8.2	------	6.3	.90	------
TOTAL	9.4	78.7	7.4	0	0	0	167.75	297.0	88.4	99.41	205.80	185.4
MEAN	.30	2.62	.24	0	0	0	5.59	9.58	2.95	3.21	6.64	6.18
MAX	9.4	44	7.4	0	0	0	167	187	39	21	61	76
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	19	156	15	0	0	0	333	589	175	197	408	368

CAL YR 1968	TOTAL	MEAN	MAX	MIN	AC-FT
WTR YR 1969	TOTAL 1,139.26	MEAN 3.12	MAX 187	MIN 0	AC-FT 2,260

08330000 Rio Grande at Albuquerque, N. Mex.

LOCATION.--Lat 35°05'25", long 106°40'44", in SE¼ sec.13, T.10 N., R.2 E. (projected), in Atrisco Grant, Bernalillo County, at downstream side of Old Town bridge on U.S. Highway 66 at Albuquerque.

DRAINAGE AREA.--17,440 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

PERIOD OF RECORD.--October 1941 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Datum of gages is 4,946.16 ft above mean sea level. Prior to Sept. 18, 1947, at various sites at datum about 2.00 ft higher; Sept. 18, 1947, to Apr. 12, 1959, at site 550 ft to the left of present site; Apr. 13, 1959, to June 29, 1960, at site 150 ft to the right of present site. Supplemental water-stage recorders at sites 75 and 150 ft to right of present site used at various times since 1964.

AVERAGE DISCHARGE.--28 years, 1,066 cfs (772,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,480 cfs June 17 (gage height, 6.74 ft); no flow at times.
Period of record: Maximum discharge, 25,000 cfs Apr. 24, 1942, from rating curve extended above 13,900 cfs; maximum gage height, 7.82 ft Aug. 10, 1967; no flow at times.

REMARKS.--Records good except those for summer months, which are fair. Possible regulation by operation of reservoirs on Rio Chama and by flood-and-silt-detention reservoir on Jemez River (see stations 08285000, 08286900, 08328500). Diversions above station for irrigation of about 718,000 acres, several hundred of which are below station.

COOPERATION.--Records for Albuquerque Riverside drain and Arenal, Armijo, and Atrisco canals furnished by Bureau of Reclamation.

REVISIONS(WATER YEARS).--WSP 1312: 1946(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	40	579	694	973	777	886	2,640	4,310	748	772	1,190
2	0	74	544	742	822	791	2,000	2,380	4,250	660	1,230	946
3	0	72	558	758	766	742	2,020	2,760	4,340	494	1,720	1,120
4	0	152	560	750	710	854	2,250	3,200	4,370	362	964	628
5	0	268	565	718	726	798	2,640	3,850	4,280	334	734	446
6	0	444	614	760	670	802	2,610	4,450	4,160	309	1,090	410
7	.40	1,040	628	726	663	803	2,600	4,500	3,740	315	614	395
8	.20	1,110	656	703	710	718	2,700	4,570	3,400	275	600	360
9	0	1,280	649	723	678	701	2,440	3,810	3,300	276	600	718
10	0	1,300	642	727	656	707	2,210	3,950	3,740	315	586	649
11	0	1,340	668	701	673	623	2,340	4,010	3,890	333	609	851
12	0	1,370	644	723	741	670	2,540	3,920	4,070	300	380	2,080
13	.39	1,430	605	706	760	656	2,800	3,740	3,740	340	315	1,480
14	5.7	1,480	572	725	783	663	2,520	3,540	3,860	366	315	1,910
15	.53	1,440	547	795	795	703	2,480	3,640	3,800	330	310	973
16	1.1	1,390	573	814	805	770	1,950	3,660	4,040	453	325	719
17	2.1	1,610	613	862	845	741	2,440	3,430	5,120	467	544	675
18	3.9	1,630	604	854	873	712	2,070	3,320	4,460	295	593	530
19	.60	1,620	631	854	906	710	1,840	3,130	5,040	455	446	517
20	.81	1,560	598	862	921	734	1,730	3,050	4,760	480	400	610
21	13	1,620	530	878	864	758	1,710	2,980	4,150	433	365	774
22	7.0	1,590	524	902	853	790	2,070	3,280	2,940	611	375	973
23	0	1,590	470	862	813	846	2,520	3,400	2,280	775	410	1,290
24	0	1,590	482	854	829	894	2,650	3,950	1,870	779	399	878
25	0	1,700	420	830	799	878	3,040	4,370	1,660	723	476	758
26	0	1,700	656	798	826	814	3,360	4,400	1,470	740	487	742
27	0	1,690	726	782	814	726	2,650	4,130	1,290	1,080	421	758
28	0	1,560	663	1,100	851	670	2,480	3,980	1,070	1,400	510	734
29	0	886	642	1,730	------	600	2,420	4,060	1,060	820	571	621
30	0	607	635	1,720	------	694	2,520	4,230	962	577	1,000	558
31	0	------	663	1,320	------	894	------	4,030	------	603	1,070	------
TOTAL	35.73	35,183	18,461	26,973	22,125	23,239	70,486	114,360	101,422	16,448	19,231	25,293
MEAN	1.15	1,173	596	870	790	750	2,350	3,689	3,381	531	620	843
MAX	13	1,700	726	1,730	973	894	3,360	4,570	5,120	1,400	1,720	2,080
MIN	0	40	420	694	656	600	886	2,380	962	275	310	360
AC-FT	71	69,790	36,620	53,500	43,880	46,090	139,800	226,800	201,200	32,620	38,140	50,170
(†)	16,000	2,780	2,280	2,100	2,180	8,460	13,520	14,150	14,370	17,920	14,930	13,000

CAL YR 1968 TOTAL 384,248.73 MEAN 1,050 MAX 4,160 MIN 0 AC-FT 762,200 (†) 118,200
WTR YR 1969 TOTAL 473,256.73 MEAN 1,297 MAX 5,120 MIN 0 AC-FT 938,700 (†) 121,700

PEAK DISCHARGE(BASE, 4,000 CFS).--May 6 (2000) 5,240 cfs (6.65 ft); June 17 (1430) 6,480 cfs (6.74 ft).

† Combined flow, in acre-ft, of Albuquerque Riverside drain and Arenal, Armijo, and Atrisco canals. This flow, which bypasses river gage, can be added to river records to get entire surface flow in valley cross-section.

08331990 Rio Grande conveyance channel near Bernardo, N. Mex.

LOCATION.--Lat 34°24'55", long 106°48'10", Socorro County, in Sevilleta or Belen Grant, 0.2 mile south of U.S. Highway 60, 1.8 miles east of Bernardo, about 3 miles upstream from floodway, and 4 miles 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-feet 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", not equivalent.

GAGE.--Water-stage recorder with concrete control. Datum of gage is 4,720.00 ft above mean sea level. Prior to October 1964, 0.2 mile upstream at various datums.

AVERAGE DISCHARGE.--17 years (1952-69), 478 cfs (346,300 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 2,220 cfs Apr. 22, 1958; no flow many days most years.

REMARKS.--Records good. Conveyance channel is 1 of 4 channels (see sta 08332010, 08332030, and 08332050) carrying flow in valley cross-section. Original design and plan was for conveyance channel to carry flows up to about 2,000 cfs. 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 sta 08332010. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	675	675	1,110	745	271	1,020	729	438	42	695
2		14	643	696	800	734	539	1,020	730	238	33	823
3		16	582	710	705	734	1,380	1,010	872	236	775	567
4		21	607	724	793	549	1,380	1,010	1,020	188	787	644
5		38	625	717	743	834	1,730	955	968	95	381	298
6		43	587	710	689	774	1,670	906	1,150	78	271	168
7		58	597	745	707	690	1,610	941	1,310	79	716	137
8		598	608	773	730	602	1,480	1,090	1,130	53	437	121
9		800	624	697	762	607	1,440	1,010	1,280	46	275	154
10		993	615	711	758	640	1,260	866	1,460	52	186	251
11		1,110	631	732	707	701	1,280	697	1,370	56	170	247
12		1,210	677	713	688	555	1,130	854	1,160	95	81	777
13		1,260	665	689	740	408	1,030	1,030	1,020	94	65	1,080
14		1,380	658	701	771	445	927	1,060	1,070	98	28	863
15		1,300	628	722	784	430	906	999	1,050	80	22	709
16		1,320	618	722	784	541	1,070	905	1,320	53	13	436
17		1,280	641	732	775	495	1,490	973	1,450	96	9.2	294
18		1,450	673	781	816	465	1,460	941	1,300	165	21	243
19		1,470	681	766	877	358	1,270	1,110	1,410	163	28	172
20		1,440	732	763	910	285	1,220	1,280	1,670	88	47	158
21		1,450	671	759	878	322	1,140	1,320	1,470	255	35	221
22		1,460	584	750	830	406	1,020	1,280	1,290	95	17	617
23		1,150	514	781	812	577	1,260	1,090	1,250	88	6.2	778
24		968	400	801	786	802	1,260	834	1,040	298	7.3	1,180
25		932	437	826	812	596	1,260	525	915	329	71	593
26		907	418	817	794	455	1,230	795	771	114	70	554
27		900	619	743	795	330	1,040	1,110	681	120	62	478
28		885	717	779	755	334	1,040	1,160	589	351	53	667
29		850	682	1,130	------	227	1,070	1,180	538	601	65	731
30		726	668	1,440	------	139	1,070	1,160	554	105	416	476
31		------	633	1,340	------	152	------	1,050	------	15	598	------
TOTAL	0	26,029	19,110	24,645	22,111	15,932	35,933	31,181	32,567	4,862	5,787.7	15,126
MEAN	0	868	616	795	790	514	1,198	1,006	1,086	157	187	504
MAX	0	1,470	732	1,440	1,110	834	1,730	1,320	1,670	601	787	1,180
MIN	0	0	400	675	689	139	271	525	538	15	6.2	121
AC-FT	0	51,630	37,900	48,880	43,860	31,600	71,270	61,850	64,600	9,640	11,480	30,000

CAL YR 1968: TOTAL 203,477.20 MEAN 556 MAX 1,910 MIN 0 AC-FT 403,600
WTR YR 1969: TOTAL 233,283.7 MEAN 639 MAX 1,730 MIN 0 AC-FT 462,700

08332010 Rio Grande floodway near Bernardo, N. Mex.

LOCATION.--Lat 34°25'03", long 106°48'00", Socorro County, in Belen or Sevilleta Grant on downstream side of bridge on U.S. Highway 60, 5 miles downstream from heading of conveyance channel and 2 miles east of Bernardo.

DRAINAGE AREA.--19,230 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

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 record prior to October 1964.

GAGE.--Water-stage recorder. Datum of gage is 4,722.55 ft above mean sea level.

AVERAGE DISCHARGE.--19 years (1936-38, 1941-58), 1,142 cfs (826,800 acre-ft per year). Includes flow of floodway, conveyance channel, and Bernardo interior drain.
11 years (1958-69) 238 cfs (172,400 acre-ft per year). Floodway only.
11 years (1958-69) 837 cfs (606,400 acre-ft per year). Includes flow of floodway, conveyance channel, Bernardo interior drain, and Lower San Juan Riverside drain.

EXTREMES.--Current year: Maximum discharge, 3,700 cfs May 8 (gage height, 6.12 ft); no flow most of time.
1936-39, 1941 to current year: Maximum discharge, 21,000 cfs April 25, 1942 (gage height, 6.90 ft); no flow for many days most years.

REMARKS.--Records poor. Floodway is 1 of 4 channels (see sta 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. Normal plan is for floodway to carry flow when capacity of conveyance channel (about 2,000 cfs) is exceeded. Diversions for irrigation of about 740,000 acres above station. Records of chemical analyses, water temperatures and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	200	0	102		0	800	3580		0	0
2		0	75	22	10		0	982	2290		0	0
3		0	10	36	0		117	943	2120		0	0
4		0	0	52	0		132	1870	2000		663	0
5		0	0	53	0		308	2620	1930		400	0
6		0	0	48	0		314	3460	1870		290	0
7		0	0	15	0		336	3300	1750		477	0
8		0	0	0	0		376	3180	1590		464	0
9		0	0	0	0		534	2900	1550		320	0
10		0	11	0	0		432	2820	1410		205	0
11		0	.88	0	0		748	2500	2050		132	0
12		0	0	0	0		1550	2290	2050		97	0
13		0	0	0	0		1750	2150	1810		84	887
14		0	0	0	0		1200	2150	1950		0	480
15		0	0	0	0		1200	2050	2400		0	285
16		0	0	0	0		820	2200	2380		0	87
17		0	0	0	0		557	2080	2100		0	60
18		0	0	0	0		984	1690	2660		0	0
19		0	0	0	0		581	1510	2120		0	360
20		0	0	0	0		400	1260	2080		0	320
21		0	0	0	0		416	1200	1980		0	280
22		0	0	0	0		290	1610	1260		0	240
23		202	0	0	0		807	1980	943		0	200
24		416	0	0	0		1160	2380	943		0	146
25		456	0	0	0		1260	4280	249		0	40
26		534	0	0	0		1890	3880	120		0	10
27		647	29	0	0		1370	3200	100		0	0
28		752	21	0	0		956	2540	80		0	0
29		525	12	67	------		464	2150	60		0	0
30		376	11	227	------		498	2500	40		0	0
31		------	0	272	------		------	3000	------		0	------
TOTAL	0	3908	33388	792	112	0	21450	71475	47465	0	3132	3395
MEAN	0	130	1078	25.5	4.0	0	715	2,306	1,582	0	101	113
MAX	0	752	200	272	102	0	1,890	4,280	3,580	0	663	887
MIN	0	0	0	0	0	0	0	800	40	0	0	0
AC-FT	0	7,750	660	1,570	220	0	42,550	141,800	94,150	0	6,210	6,730
(†)	9,250	64,000	43,920	55,520	48,710	44,590	127,900	219,200	171,500	20,910	28,820	48,190

CAL YR 1968 TOTAL 107,215.88 MEAN 293 MAX 3,460 MIN 0 AC-FT 212,700 (†) MEAN 1,000 AC-FT 726,900
WTR YR 1969 TOTAL 152,062.88 MEAN 417 MAX 4,280 MIN 0 AC-FT 152,062.88 (†) MEAN 1,219 AC-FT 882,500

† Combined flow, in acre-ft and mean, in cfs, of Floodway, Conveyance Channel, Bernardo Interior Drain, and Lower San Juan Riverside Drain.

08332030 Lower San Juan Riverside drain near Bernardo, N. Mex.

LOCATION.--Lat 34°24'50", long 106°47'40", in SE¼NW¼ sec.12, T.2 N., R.1 E., Socorro County, on right bank, 1,400 feet downstream from bridge on U.S. Highway 60 and 2.5 miles east of Bernardo.

PERIOD OF RECORD.--June 1936 to September 1937, August 1954 to current year. Monthly discharge only August 1955 to September 1960, published in WSP 1732, and October 1960 to September 1964, published in WSP 1923 vol. 2 (daily records available in district files). Records collected under name of "La Joya Eastside drain" are equivalent.

GAGE.--Water-stage recorder. Datum of gage is 4,722.35 ft above mean sea level.

EXTREMES.--Period of record: Maximum daily discharge, 200 cfs May 22, 1961; no flow for several days during 1963.

REMARKS.--This drain is one of four channels (see stations 08331990, 08332010 and 08332050) carrying flow in valley cross-section. For combined flow in acre-ft of this drain, conveyance channel, floodway, and Bernardo interior drain see tabulation below daily table for station 08332010.

COOPERATION.--Since July 1958 records for this station or La Joya Eastside drain (records equivalent) furnished by Bureau of Reclamation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	42	61	61	50	83	107	105	88	102	83	77
2	53	37	60	61	50	110	123	114	139	117	103	65
3	53	36	61	61	50	111	134	115	169	99	119	85
4	60	36	61	61	50	109	128	123	147	98	87	92
5	109	36	61	61	51	119	117	151	144	106	128	101
6	111	36	60	61	51	120	123	128	142	129	130	115
7	88	37	60	61	51	124	124	120	109	119	140	133
8	73	38	60	60	50	130	119	128	142	113	130	133
9	62	39	61	59	51	127	136	131	117	112	129	112
10	61	41	61	58	52	127	137	124	107	126	145	110
11	68	43	62	57	52	120	154	133	124	126	148	135
12	71	45	61	56	52	97	110	162	119	112	133	82
13	84	46	61	56	53	123	96	163	115	108	108	69
14	89	47	61	55	53	137	122	124	118	110	105	68
15	107	49	60	55	53	142	149	143	143	88	100	69
16	103	49	60	54	54	131	148	152	107	88	108	102
17	110	50	59	53	55	122	160	149	104	104	106	87
18	89	50	59	53	55	123	110	144	109	109	76	119
19	125	50	59	52	56	136	100	122	109	108	81	99
20	133	50	59	51	56	142	131	131	133	107	86	107
21	77	52	60	51	55	146	119	126	122	112	92	119
22	135	52	59	50	55	136	112	139	125	106	93	80
23	142	52	58	50	55	131	121	156	113	118	115	65
24	116	54	58	49	55	115	125	170	114	104	113	74
25	124	56	58	49	55	119	92	178	115	93	112	118
26	132	58	58	48	55	127	71	169	114	109	107	114
27	134	60	58	47	55	127	78	160	104	102	115	124
28	137	60	59	47	55	115	106	163	131	93	117	144
29	96	62	60	48	------	107	109	178	134	88	159	134
30	86	61	60	49	------	118	112	88	105	83	91	124
31	84	------	60	50	------	119	------	88	------	71	79	------
TOTAL	2,974	1,424	1,855	1,684	1,485	3,793	3,573	4,277	3,662	3,210	3,438	3,056
MEAN	95.9	47.5	59.8	54.3	53.0	122	119	138	122	105	111	102
MAX	142	62	62	61	56	146	160	178	169	129	159	144
MIN	53	36	58	47	50	83	71	88	88	71	76	65
AC-FT	5,900	2,820	3,680	3,340	2,950	7,520	7,090	8,480	7,260	6,470	6,820	6,060

CAL YR 1968 TOTAL 33,084 MEAN 90.4 MAX 183 MIN 34 AC-FT 65,620
WTR YR 1969 TOTAL 34,481 MEAN 94.5 MAX 178 MIN 36 AC-FT 68,390

08332050 Bernardo interior drain near Bernardo, N. Mex.

LOCATION.--Lat 34°24'55", long 106°49'15", Socorro County, on downstream side of bridge on U.S. Highway 60 and 1.0 mile 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-feet published in WSP 1923. Daily records available in district files beginning October 1943.

GAGE.--Water-stage recorder. Datum of gage is 4,713.99 ft above mean sea level. June 4, 1936 to May 17, 1937, staff gage 150 ft downstream at datum 2.77 ft higher.

EXTREMES.--Period of record: Maximum daily discharge, 182 cfs Aug. 28, 1968; no flow at times. Prior to 1952, drain was subject to overflow from floodway.

REMARKS.--Records good. This drain is 1 of 4 channels (see sta 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 sta 08332010. Records of chemical analyses, water temperatures, and suspended sediment loads for water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	41	28	28	29	32	130	105	133	74	71	86
2	45	38	27	28	29	32	130	108	130	67	71	106
3	48	39	27	28	28	32	116	106	116	70	83	99
4	50	36	26	28	29	31	130	116	131	73	86	89
5	54	24	25	28	29	32	105	120	112	88	77	87
6	80	24	25	28	29	33	95	123	107	95	77	99
7	79	24	24	28	29	32	90	122	111	82	75	97
8	84	24	24	28	29	35	119	111	107	65	69	111
9	80	25	23	27	30	35	117	105	97	71	79	107
10	72	26	23	27	30	35	133	102	98	67	77	98
11	65	27	26	27	31	43	115	102	86	75	73	88
12	54	28	29	27	31	77	140	119	86	84	62	96
13	50	29	29	27	31	81	118	114	84	83	61	106
14	51	30	29	28	31	125	113	114	87	84	59	100
15	52	31	29	28	31	141	152	107	96	74	60	90
16	62	31	29	28	31	123	158	110	97	68	63	102
17	64	31	29	28	31	96	160	110	91	75	69	98
18	57	31	29	28	31	83	156	102	85	74	64	92
19	54	31	29	28	31	126	126	101	79	74	64	90
20	49	31	29	28	31	135	119	92	80	85	62	91
21	43	31	29	28	31	141	96	87	88	91	62	93
22	47	31	29	28	32	156	97	91	87	82	57	79
23	42	31	28	28	32	148	105	118	83	85	62	70
24	43	31	28	28	31	81	103	133	81	82	56	75
25	42	31	28	29	31	73	102	134	74	76	66	78
26	44	31	28	29	31	128	97	122	70	84	72	82
27	45	32	28	29	31	136	107	134	77	87	82	85
28	42	31	28	29	32	142	102	140	74	87	86	81
29	47	30	28	29	------	144	102	143	72	76	74	74
30	44	28	28	29	------	117	101	134	67	73	75	71
31	52	------	28	30	------	133	------	122	------	69	80	------
TOTAL	1,690	908	849	871	852	2,758	3,534	3,547	2,786	2,420	2,174	2,720
MEAN	54.5	30.3	27.4	28.1	30.4	89.0	118	114	92.9	78.1	70.1	90.7
MAX	84	41	29	30	32	156	160	143	133	95	86	111
MIN	42	24	23	27	28	31	90	87	67	62	56	71
AC-FT	3,350	1,800	1,680	1,730	1,690	5,470	7,010	7,040	5,530	4,800	4,310	5,400

CAL YR 1968: TOTAL 22,678 MEAN 62.0 MAX 182 MIN 23 AC-FT 44,980
WTR YR 1969: TOTAL 25,109 MEAN 68.8 MAX 160 MIN 23 AC-FT 49,800

08334000 Rio Puerco above Arroyo Chico, near Guadalupe, N. Mex.

LOCATION.--Lat 35°36'05", long 107°09'55", in SW¼ sec.21, T.16 N., R.3 W., Sandoval County, on right bank 1.6 miles upstream from Arroyo Chico and 5.5 miles northeast of village of Guadalupe.

DRAINAGE AREA.--420 sq mi, approximately.

PERIOD OF RECORD.--July 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5,950 ft above mean sea level.

AVERAGE DISCHARGE.--18 years, 12.9 cfs (9,350 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,730 cfs Aug. 1 (gage height, 7.16 ft); no flow for many days.
Period of record: Maximum discharge, 6,940 cfs July 29, 1967 (gage height, 13.53 ft); from rating curve extended above 1,300 cfs on basis of slope-area measurements at gage heights 7.75 and 10.60 ft; no flow for many days most years.
Flood of June 29, 1943, probably exceeded 5,000 cfs (based on records for stations above and below).

REMARKS.--Records poor. Diversions for irrigation of about 3,700 acres above station in past years, but present diversion negligible.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.01	.01	0	3.3	6.8	25	11	0	234	50
2	0	0	.01	.01	0	2.6	9.6	31	8.2	0	74	125
3	0	0	.01	.01	0	4.1	12	36	5.2	0	96	14
4	1.3	0	.01	.01	0	1.1	11	44	3.6	0	18	1.9
5	1.1	0	.01	.01	0	.55	12	57	1.6	0	5.0	.30
6	.55	0	.01	.01	0	.79	14	79	.54	0	32	0
7	.42	0	.01	.01	0	1.1	14	141	.28	0	.22	0
8	.49	0	.01	.01	0	1.0	15	50	.25	0	30	0
9	.46	.01	.01	.01	0	.57	13	41	.31	0	5.0	33
10	.35	.01	.01	.01	0	.47	13	27	.34	0	1.0	49
11	.35	.01	.01	.01	0	.57	19	66	.34	0	.20	3.0
12	.38	.02	.01	.01	0	.45	43	66	.44	0	.15	9.4
13	.38	.02	.01	.01	0	.10	22	63	.64	0	.15	3.0
14	1.1	.01	.01	.01	0	.17	18	69	.64	0	5.2	6.2
15	1.0	.03	.01	.01	0	1.2	17	75	.64	0	24	.54
16	.91	.02	.01	.01	0	2.1	18	75	3.9	0	12	0
17	.50	.01	.01	.01	0	1.1	19	80	2.9	0	5.9	0
18	0	.01	.01	.01	.01	51	16	85	.16	164	15	0
19	0	.01	.01	.01	.03	77	16	81	.03	87	.50	0
20	0	.01	.01	.01	0	32	16	83	.02	53	0	0
21	0	.01	.01	.01	0	18	15	77	.01	50	1.8	53
22	0	.01	.01	.01	0	18	16	64	0	50	.70	77
23	0	.01	.01	.01	.01	9.0	22	70	0	65	49	.30
24	0	.01	.01	.01	0	4.0	28	65	0	60	3.0	.04
25	0	.01	.01	.01	0	1.0	32	50	0	62	0	0
26	0	.01	.01	0	0	.50	35	35	0	107	0	0
27	0	.01	.01	0	.97	.30	25	18	0	60	0	0
28	0	.01	.01	0	7.0	.10	20	18	0	50	0	0
29	0	.01	.01	0	------	.02	19	16	0	45	30	0
30	0	.01	.01	0	------	.02	20	15	0	40	103	0
31	0	------	.01	0	------	.47	------	14	------	30	50	------
TOTAL	9.29	0.27	0.31	0.25	8.02	232.68	556.4	1,716	41.04	923	795.82	425.68
MEAN	.30	.009	.010	.008	.27	7.51	18.5	55.4	1.37	29.8	25.7	14.2
MAX	1.3	.03	.01	.01	7.0	77	43	141	11	164	234	125
MIN	0	0	.01	0	0	.02	6.8	14	0	0	0	0
AC-FT	18	.5	.6	.5	16	462	1,100	3,400	81	1,830	1,580	844

CAL YR 1968 TOTAL 3,880.21 MEAN 10.6 MAX 354 MIN 0 AC-FT 7,700
WTR YR 1969 TOTAL 4,708.76 MEAN 12.9 MAX 234 MIN 0 AC-FT 9,340

PEAK DISCHARGE(BASE, 1,800 CFS).--No peak above base.

08340500 Arroyo Chico near Guadalupe, N. Mex.

LOCATION.--Lat 35°35'40", long 107°11'20", in NE¼ sec.30, T.16 N., R.3 W., Sandoval County, on left bank 0.2 mile upstream from mouth, 4.1 miles northwest of Guadalupe, and 5.5 miles southwest of Cabezon.

DRAINAGE AREA.--1,390 sq mi, approximately.

PERIOD OF RECORD.--November 1943 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 5,921 ft above mean sea level. Prior to June 21, 1968 at site 500 ft upstream at datum 2.00 ft higher.

AVERAGE DISCHARGE.--26 years, 23.9 cfs (17,320 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,670 cfs Aug. 1 (gage height, 7.06 ft), from rating curve extended above 170 cfs; no flow for many days.
Period of record: Maximum discharge, 12,200 cfs July 17, 1953 (gage height, 17.1 ft, present datum), from rating curve extended above 2,900 cfs on basis on slope-area measurements at gage heights 11.6 and 14.8 ft, present datum; no flow for many days each year.

REMARKS.--Records poor above 200 cfs and fair below. Diversions for irrigation of about 100 acres above station.

REVISIONS(WATER YEARS).--WSP 1282: 1944-50.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	1.2	.01	1.9	0	0	0	541	.60
2	0	0	0	0	1.1	.01	.98	0	0	0	55	41
3	0	0	.10	0	1.0	.01	.66	0	0	0	18	13
4	110	0	.66	0	.90	0	.52	0	0	0	1.1	1.4
5	101	0	.06	0	.90	.01	.31	.12	0	0	.50	1.1
6	5.0	0	.01	0	.80	.01	.13	97	0	0	153	17
7	1.0	0	.01	0	.80	.01	.05	84	0	0	78	1.0
8	.50	0	.04	0	.70	.27	0	15	0	0	38	9.7
9	0	0	.03	0	.60	.19	0	5.0	0	0	.20	777
10	0	0	.04	.01	.50	.06	0	1.0	18	0	0	50
11	0	0	.03	.02	.50	.03	2.4	.50	1.0	0	0	17
12	0	0	.08	.16	.40	.06	2.8	0	0	0	0	10
13	0	0	.06	.27	.35	.40	1.4	0	0	.01	.17	4.9
14	0	0	.04	2.1	.27	.59	1.0	0	0	.05	79	2.8
15	0	.03	.04	3.7	.16	.59	.50	0	0	0	28	1.6
16	0	.01	.04	3.2	.10	.81	0	0	10	69	47	1.2
17	0	.04	.02	1.9	.10	1.8	0	0	44	32	19	18
18	0	0	.52	1.2	.06	37	0	0	2.0	29	29	19
19	0	0	.59	.73	.13	20	.70	0	.10	16	11	3.4
20	0	0	.52	1.5	.27	5.2	0	0	0	10	0	93
21	0	0	.27	1.2	.73	1.8	0	0	0	2.0	0	34
22	0	0	.19	1.4	.35	2.8	0	0	0	26	.51	27
23	0	0	.19	1.4	.31	4.6	0	0	0	68	12	2.1
24	0	0	.19	1.0	.23	2.2	0	.14	0	16	35	0
25	0	0	.16	.52	.13	1.0	0	.35	0	289	17	0
26	0	0	.01	2.6	.03	.50	0	0	0	100	.40	0
27	0	0	0	8.3	.02	.13	0	0	0	16	.20	0
28	0	0	0	4.2	.01	.06	0	0	0	10	24	0
29	0	0	0	2.6	------	.01	0	0	0	5.0	24	0
30	0	0	0	1.3	------	.01	0	0	0	2.0	411	0
31	0	------	0	1.2	------	1.3	------	0	------	1.0	11	------
TOTAL	217.50	0.08	3.90	40.51	12.65	81.47	13.35	203.11	75.10	691.06	1,633.08	1,145.80
MEAN	7.02	.003	.13	1.31	.45	2.63	.45	6.55	2.50	22.3	52.7	38.2
MAX	110	.04	.66	8.3	1.2	37	2.8	97	44	289	541	777
MIN	0	0	0	0	.01	0	0	0	0	0	0	0
AC-FT	431	.2	7.7	80	25	162	26	403	149	1,370	3,240	2,270

CAL YR 1968 TOTAL 5,999.33 MEAN 16.4 MAX 1,110 MIN 0 AC-FT 11,900
WTR YR 1969 TOTAL 4,117.61 MEAN 11.3 MAX 777 MIN 0 AC-FT 8,160

PEAK DISCHARGE(BASE, 2,500 CFS).--Aug. 1(0200) 3,670 cfs (7.06 ft); Sept. 9(0300) 3,090 cfs (6.70 ft).

08341400 Bluewater Lake near Bluewater, N. Mex.

LOCATION.--Lat 35°17'40", long 108°06'40", in SE¼ sec.4, T.12 N., R.12 W., Valencia County, on left end of dam and 9.5 miles west of Bluewater.

DRAINAGE AREA.--201 sq mi.

PERIOD OF RECORD.--June 1927 to December 1950 (monthend contents only, published in WSP 1732), April 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 7,345.57 ft above mean sea level. July 1958 to January 1961, inclined staff gage and supplemental staff sections at nearby site, same datum. Gage heights have been converted to sea-level elevations.

EXTREMES.--Current year: Maximum contents, 11,700 acre-ft April 4 (elevation, 7,381.0 ft); minimum, 4,840 acre-ft Dec. 29 (elevation, 7,369.6 ft).
Period of record: Maximum contents determined, 47,100 acre-ft in April 1941 (date and elevation not available), from table then in use; no storage at times prior to 1947.

REMARKS.--Reservoir is formed by concrete arch dam. Storage began in 1927. Capacity, 38,500 acre-ft 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). 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, based on table derived from 10-foot contour survey made in 1945 by Bureau of Reclamation. Prior to Jan. 27, 1961, contents computed from daily staff gage readings at about 0800; recorded gage heights at 2400 to September 1963; incomplete recorder record supplemented by monthly staff readings to September 1968.

Month-end elevations and contents, water year October 1968 to September 1969

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	7,371.0	5,420	-280
Oct. 31	7,370.5	5,210	-210
Nov. 30	7,370.1	5,040	-170
Dec. 31	7,369.6	4,840	-200
Calendar year 1968	-	-	+1,890
Jan. 31	7,370.1	5,040	+200
Feb. 28	7,370.0	5,000	-40
Mar. 31	7,377.5	9,120	+4,120
Apr. 30	7,381.0	11,700	+2,580
May. 31	7,379.9	10,860	-840
June 30	7,377.9	9,390	-1,470
July 31	7,376.4	8,380	-1,010
Aug. 31	7,374.8	7,380	-1,000
Sept. 30	7,374.1	6,980	-400
Water year 1968-69	-	-	+1,560

08342000 Bluewater Creek near Bluewater, N. Mex.

LOCATION.--Lat 35°17'50", long 108°01'40", in W½SW¼ sec.5, T.12 N., R.11 W., Valencia County, on left bank 3.5 miles northwest of Bluewater Village and 8 miles downstream from Bluewater Dam.

DRAINAGE AREA.--209 sq mi.

PERIOD OF RECORD.--July 1912 to August 1915, April 1916 to June 1919, water years 1919-22, 1924, 1926 (annual maximum), January 1927 to current year. Figures of daily discharge for July 20-23, 1912, published in WSP 358, have been found to be unreliable and should not be used. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Altitude of gage is 6,720 ft (by barometer). Prior to Mar. 4, 1918, at site 113 ft upstream at different datums. Mar. 4, 1918, to Mar. 17, 1939, at site 83 ft upstream; Mar. 4, 1918, to June 28, 1919 (destroyed by flood), at datum 1.92 ft higher; Apr. 6, 1921, to Mar. 17, 1939, at datum 1.57 ft higher.

AVERAGE DISCHARGE.--47 years (1912-15, 1916-18, 1927-69), 9.40 cfs (6,810 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 65 cfs Aug. 29 (gage height, 3.89 ft); minimum, 0.34 cfs Jan. 30.
Period of record: Maximum discharge, about 4,000 cfs, during period July 12-19, 1919 (gage height, 13.5 ft, from floodmarks, site and datum in use Mar. 4, 1918 to June 28, 1919), estimated; no flow at times.
The flood of Sept. 6, 1909, when Bluewater Dam washed out exceeded all other known floods at this location (stage and discharge not determined). For other major floods during period 1919-26, see WSP 1732, p. 429, and WSP 1682, p. 410.

REMARKS.--Records good except those for winter period and July, which are poor. Flow regulated by Bluewater Lake (see station 08341400).

REVISIONS(WATER YEARS).--WSP 1512: 1912-15, 1931, 1943(M), 1945(M). WSP 1312: 1915, 1917-18, 1929. WSP 1732: 1931(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.44	1.4	.90	1.1	.76	1.1	.76	4.3	15	14	16	3.8
2	.45	1.2	.91	1.1	.84	1.3	.89	8.5	15	14	16	3.5
3	.48	1.1	.81	1.1	.77	1.1	.96	12	15	16	11	3.7
4	.55	1.0	.86	1.1	.89	1.1	1.1	13	16	16	9.8	4.0
5	.64	.98	.84	1.1	.92	1.1	1.4	14	16	18	9.5	4.2
6	.49	.94	.87	1.1	.97	1.1	1.5	13	16	18	9.5	4.0
7	.53	.93	.86	1.1	1.0	1.0	1.5	5.8	13	22	13	4.5
8	.51	1.0	.87	1.1	.91	.97	1.7	3.9	13	27	14	14
9	.59	.94	.93	1.1	.94	.98	1.8	3.3	13	28	14	13
10	.58	.89	.93	1.1	.94	1.1	2.1	3.3	13	28	14	3.1
11	.62	.89	.93	1.1	.99	1.2	2.4	3.4	13	28	20	4.9
12	.62	.88	.90	1.1	.97	1.1	2.4	3.2	13	29	21	2.6
13	.73	.92	.87	1.1	1.0	1.1	2.3	2.9	14	23	22	2.0
14	.61	.93	.87	1.1	.95	1.1	2.4	2.9	14	18	27	1.9
15	.74	.92	.87	1.1	.90	.96	2.4	2.8	14	9.6	27	1.7
16	.74	.90	.93	1.1	.99	.96	2.8	2.7	15	8.2	27	1.7
17	.81	.82	.93	1.1	1.0	.89	3.0	2.7	17	8.1	28	1.8
18	.85	.76	.93	1.1	1.0	.90	3.7	2.5	17	22	27	1.9
19	.86	.78	.93	1.1	1.1	.87	1.2	2.4	17	20	21	1.7
20	.91	.73	.93	1.1	1.2	.83	1.2	7.1	22	19	18	1.6
21	.87	.75	.93	1.1	1.1	.76	1.3	13	24	20	14	1.7
22	.85	.76	.93	1.1	1.1	.77	1.4	14	24	19	15	1.5
23	.84	.82	1.0	1.1	1.1	.73	1.5	15	24	16	17	1.5
24	.85	.78	1.0	1.1	1.1	.68	1.6	15	23	14	15	1.5
25	.84	.75	1.0	1.1	1.1	.67	1.9	16	19	13	15	1.4
26	.83	.73	1.0	1.1	1.1	.68	2.0	18	18	12	11	1.3
27	.91	.72	1.0	.88	1.1	.63	2.2	19	18	11	15	1.2
28	.82	.69	1.0	.83	1.1	.77	2.4	19	19	10	16	1.2
29	.91	.73	1.0	.50	------	.70	2.4	18	19	9.8	21	1.2
30	1.0	.68	1.1	.34	------	.80	2.6	18	14	15	15	1.2
31	1.1	------	1.1	.90	------	.81	------	15	------	16	5.1	------
TOTAL	22.57	26.32	28.93	32.05	27.84	28.76	56.81	293.7	503	541.7	523.9	93.3
MEAN	.73	.88	.93	1.03	.99	.93	1.89	9.47	16.8	17.5	16.9	3.11
MAX	1.1	1.4	1.1	1.1	1.2	1.3	3.7	19	24	29	28	14
MIN	.44	.68	.81	.34	.76	.63	.76	2.4	13	8.1	5.1	1.2
AC-FT	45	52	57	64	55	57	113	583	998	1,070	1,040	185

CAL YR 1968 TOTAL 378.49 MEAN 1.03 MAX 3.3 MIN .39 AC-FT 751
WTR YR 1969 TOTAL 2,178.88 MEAN 5.97 MAX 29 MIN .34 AC-FT 4,320

08343000 Rio San Jose at Grants, N. Mex.

LOCATION.--Lat 35°09'20", long 107°52'10", in SW¼NW¼ sec.26, T.11 N., R.10 W., Valencia County, on right bank at bridge on State Highway 53 at Grants, 0.2 mile south of U.S. Highway 66.

DRAINAGE AREA.--1,020 sq mi, 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.

GAGE.--Water-stage recorder. Datum of gage is 6,468.34 ft above mean sea level (levels by Corps of Engineers). Oct. 30, 1912, to Apr. 23, 1915, staff gage, Apr. 24, 1915, to Dec. 5, 1917, chain gage, and Dec. 6, 1917, to Dec. 31, 1926, staff gage, all at nearby sites at different datums.

AVERAGE DISCHARGE.--28 years (1912-13, 1914-20, 1921-22, 1923-25, 1949-66, 1968-69), 4.26 cfs (3,080 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 19 cfs Sept. 8 (gage height, ~~1.96~~ 2.05 ft); no flow most of year.
Period of Record 1949-66, 1968-69: Maximum discharge recorded, 1,760 cfs Aug. 28, 1952 (gage height, 5.35 ft), from rating curve extended above 300 cfs on basis of velocity-area studies; no flow for long periods.
Maximum flood known occurred Sept. 6 or 7, 1909, when Bluewater Dam washed out. A flood in July 1919 probably exceeded the one in 1952.

REMARKS.--Records fair. Flow partly regulated by Bluewater Lake 32 miles upstream (see sta 08341400). Diversions and ground-water withdrawals for irrigation of about 4,500 acres above station.

REVISIONS(WATER YEARS).--WSP 1512: 1913-14. WSP 1712: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	1.1
9	0	0	0	0	0	0	0	0	0	0	0	1.2
10	0	0	0	0	0	0	0	0	0	0	0	.01
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	.07	0	0
13	0	0	0	0	0	0	0	0	0	.22	0	.52
14	0	0	0	0	0	0	0	0	0	.56	0	1.5
15	0	0	0	0	0	0	0	0	0	0	0	.01
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	.07
19	0	0	0	0	0	0	0	0	0	0	0	.01
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	------	0	0	0	0	0	0	0
30	0	0	0	0	------	0	0	0	0	0	0	0
31	0	------	0	0	------	0	------	0	------	0	0	------
TOTAL	0	0	0	0	0	0	0	0	0	0.85	0	4.42
MEAN	0	0	0	0	0	0	0	0	0	.027	0	.15
MAX	0	0	0	0	0	0	0	0	0	.56	0	1.5
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	1.7	0	8.8

CAL YR 1968 TOTAL — MEAN — MAX — MIN — AC-FT —
WTR YR 1969 TOTAL 5.27 MEAN .014 MAX 1.5 MIN 0 AC-FT 11

PEAK DISCHARGE (BASE, 200 CFS).--No peak above base.

08343100 Grants Canyon at Grants, N. Mex.

LOCATION.--Lat 35°09'40", long 107°50'15", in NE¼NE¼ sec.25, T.11 N., R.10 W., Valencia County, at Roosevelt Avenue, in the town of Grants, 0.2 mile east of intersection of Roosevelt and First Avenue and 1.1 mile upstream from confluence with Rio San Jose (formerly Bluewater Creek).

DRAINAGE AREA.--13.0 sq mi.

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

GAGE.--Water-stage recorder and culvert control. Altitude of gage is 6,450 ft (from topographic map).

AVERAGE DISCHARGE.--8 years, 0.209 cfs (151 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 250 cfs Sept. 7 (gage height, 1.92 ft); no flow most of time.
Period of record: Maximum discharge, 1,550 cfs Aug. 26, 1963, (gage height, 5.10 ft), from rating curve extended above 220 cfs on basis of slope-area measurements at gage heights 3.17, 5.10 and 5.38 ft; maximum gage height, 5.38 ft Sept. 8, 1967; no flow for most of time.

REMARKS.--Records poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	0	0	0	13	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	8.3
5	0	0	0	0	0	0	0	1.1	0	0	0	0
6	0	0	0	0	0	0	0	1.9	0	0	0	0
7	0	0	0	0	0	0	0	1.3	0	0	0	20
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	8.5	3.2	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	6.1	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	------	0	0	0	0	0	1.0	0
30	0	0	0	0	------	0	0	0	0	0	0	0
31	0	------	0	0	------	0	------	0	------	8.6	14	------
TOTAL	0	0	0	0	0	0	0	4.3	8.5	17.9	28.0	28.3
MEAN	0	0	0	0	0	0	0	.14	.28	.58	.90	.94
MAX	0	0	0	0	0	0	0	1.9	8.5	8.6	14	20
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	8.5	17	36	56	56

CAL YR 1968 TOTAL 24.92 MEAN .068 MAX 12 MIN 0 AC-FT 49
WTR YR 1969 TOTAL 87.00 MEAN .24 MAX 20 MIN 0 AC-FT 173

PEAK DISCHARGE(BASE, 175 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
8-1	0300	1.70	195	9-7	1930	1.92	250
8-31	1600	1.89	242				

08343500 Rio San Jose near Grants, N. Mex.

LOCATION.--Lat 35°04'30", long 107°45'00", in SE¼SE¼ sec.23, T.10 N., R.9 W., Valencia County, on right bank at west boundary of Acoma Pueblo Grant, 8.5 miles southeast of Grants.

DRAINAGE AREA.--2,300 sq mi, approximately, of which about 1,130 sq mi 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.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 6,269.47 ft above mean sea level.

AVERAGE DISCHARGE.--33 years, 6.50 cfs (4,710 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 216 cfs July 24 (gage height, 2.77 ft); minimum, 3.4 cfs Oct. 3-11, July 29, 30.
Period of record: Maximum discharge, 1,400 cfs Sept. 20, 1963 (gage height, 4.87 ft), from rating curve extended above 450 cfs on basis of slope-area measurements at gage heights 3.19 and 4.87 ft; minimum, 2.8 cfs June 25, 1967.
Maximum flood known 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.

REMARKS.--Records good. Flow partly regulated by Bluewater Lake, 62 miles upstream (See station 08341400). Diversions and ground-water withdrawal for irrigation of about 5,100 acres above station.

REVISIONS(WATER YEARS).--WSP 898: 1936-39(M). WSP 1512: 1943. WSP 1712: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	4.4	5.2	4.9	4.6	4.9	4.8	6.1	4.2	4.6	13	35
2	4.2	4.4	5.0	5.1	4.6	4.7	4.6	6.0	4.0	4.5	12	15
3	3.9	4.2	4.7	5.4	4.7	4.6	4.7	5.6	4.2	4.6	5.7	8.1
4	3.8	4.3	4.7	5.4	4.8	4.6	4.5	5.7	4.2	4.7	5.0	7.7
5	3.8	4.3	4.7	5.5	5.0	4.7	4.4	6.2	4.0	4.7	4.9	12
6	3.8	4.3	4.8	5.6	5.1	4.8	4.4	6.6	4.2	4.7	5.4	8.9
7	3.7	4.4	4.9	5.5	5.0	4.7	4.4	9.3	4.2	4.7	6.0	16
8	3.7	4.4	5.1	5.8	4.8	4.7	4.5	8.8	4.0	4.7	5.7	105
9	3.6	4.4	5.3	5.5	4.8	4.7	4.8	6.0	4.1	4.8	4.8	24
10	3.7	4.6	5.5	5.2	4.9	4.7	4.8	5.5	4.2	4.9	4.6	8.6
11	3.7	4.6	5.7	5.0	4.8	4.7	4.9	5.5	4.4	4.9	4.6	6.6
12	3.9	4.6	5.3	5.1	5.0	4.7	4.7	4.9	4.4	4.8	4.7	6.8
13	3.9	4.7	5.2	5.0	5.3	4.7	4.4	4.9	4.2	4.8	7.6	7.9
14	3.9	4.9	5.4	5.0	5.1	4.6	4.4	4.9	4.4	4.5	6.7	7.1
15	3.9	4.8	5.5	5.1	4.9	4.5	4.5	4.7	4.5	4.2	5.8	7.0
16	4.1	4.9	5.6	4.8	5.0	4.4	4.9	4.7	4.5	4.3	5.8	6.5
17	4.3	4.7	5.7	4.8	4.9	4.4	5.4	4.7	4.5	4.4	5.4	5.5
18	4.3	4.7	5.3	4.7	4.9	4.4	5.4	4.4	4.6	4.4	4.9	5.5
19	4.4	4.6	5.0	4.8	5.2	4.5	5.4	4.3	4.6	4.5	4.9	5.3
20	4.4	4.7	4.9	4.9	5.5	4.5	5.4	4.4	4.6	4.5	4.9	6.3
21	4.4	4.8	5.0	4.9	5.4	4.6	5.4	4.2	4.4	4.5	4.9	5.8
22	4.4	4.9	4.7	5.2	4.7	4.6	5.4	4.2	4.4	4.5	5.3	5.4
23	4.4	4.9	4.6	4.9	4.6	4.7	5.6	4.4	4.5	5.0	5.0	5.4
24	4.4	4.9	4.7	4.7	4.6	4.6	5.7	4.2	4.6	25	5.3	5.4
25	4.4	4.9	5.0	4.9	4.6	4.6	5.8	4.4	4.7	7.3	5.0	5.4
26	4.4	4.9	5.3	4.8	4.7	4.7	5.8	4.5	4.7	4.4	5.0	5.4
27	4.4	5.3	5.4	4.7	4.6	4.6	5.9	4.2	4.7	4.8	4.6	5.4
28	4.4	5.4	5.0	4.6	4.7	4.6	5.8	4.2	4.5	4.7	4.8	5.1
29	4.4	5.3	5.1	4.7	------	4.6	6.1	4.3	4.5	4.3	5.0	5.0
30	4.4	5.4	5.0	4.4	------	4.6	6.2	4.2	4.5	3.6	8.4	5.1
31	4.4	------	4.9	4.4	------	4.6	------	4.2	------	3.9	9.7	------
TOTAL	127.5	141.6	158.2	155.3	136.8	143.3	153.0	160.2	131.5	164.2	185.4	358.2
MEAN	4.11	4.72	5.10	5.01	4.89	4.62	5.10	5.17	4.38	5.30	5.98	11.9
MAX	4.4	5.4	5.7	5.8	5.5	4.9	6.2	9.3	4.7	25	13	105
MIN	3.6	4.2	4.6	4.4	4.6	4.4	4.4	4.2	4.0	3.6	4.6	5.0
AC-FT	253	281	314	308	271	284	303	318	261	326	368	710

CAL YR 1968 TOTAL 1,952.2 MEAN 5.33 MAX 76 MIN 3.6 AC-FT 3,870
WTR YR 1969 TOTAL 2,015.2 MEAN 5.52 MAX 105 MIN 3.6 AC-FT 4,000

BASE DISCHARGE(BASE, 100 CFS).--July 24(1930) 216 cfs (2.77 ft), Sept. 8(0800) 199 cfs (2.62 ft).

08351500 Rio San Jose at Correo, N. Mex.

LOCATION.--Lat 34°58'05", long 107°11'15", in NE¼ sec.31, T.9 N., R.3 W., Valencia County, on right bank 0.7 mile upstream from State Highway 6, 0.8 mile northwest of Correo, and 14 miles upstream from mouth.

DRAINAGE AREA.--3,660 sq mi, approximately, of which about 1,130 sq mi does not contribute directly to surface runoff.

PERIOD OF RECORD.--April 1943 to current year. Prior to October 1955, published as San Jose River at Correo.

GAGE.--Water-stage recorder. Datum of gage is 5,492.43 ft above mean sea level. Prior to Oct. 1, 1958, water-stage recorder and concrete control at site 1 mile downstream at datum 17.55 ft lower.

AVERAGE DISCHARGE.--26 years, 11.6 cfs (8,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,940 cfs Sept. 9 (gage height, 4.28 ft), from rating curve extended above 700 cfs on basis of slope-area measurement of peak flow; no flow for many days.
Period of record: Maximum discharge, 7,150 cfs Aug. 11, 1955; maximum gage height, 20.7 ft Aug. 22, 1958, backwater from dam (site and datum then in use); no flow for long periods.
A flood which probably occurred Aug. 21, 1935, reached a stage of 15.4 ft, from floodmarks, former site and datum (discharge, about 11,000 cfs), but was probably exceeded by the flood of Sept. 23, 1929 (discharge not determined), based on study of records for Rio Puerco at Rio Puerco.

REMARKS.--Records fair except those for April, June and July, which are poor. Flow regulated to some extent since 1927 by Bluewater Lake 120 miles upstream (see sta 08341400).

REVISIONS(WATER YEARS).--WSP 1442: 1944, 1945(M), 1946-48, 1949(M), 1950, 1951(P), 1952. WSP 1732: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	6.0	15	3.2	.31	0	0	0	14	105
2	0	0	0	4.0	11	1.9	.74	0	0	0	11	101
3	0	0	0	4.0	16	2.9	1.5	0	0	0	8.6	43
4	0	0	0	4.0	74	3.5	1.1	0	0	0	11	156
5	0	0	0	4.0	59	6.0	1.1	0	0	0	10	50
6	0	0	0	5.0	36	6.5	.80	0	0	0	6.4	56
7	0	0	0	5.0	9.3	5.8	.50	6.7	0	0	3.0	21
8	0	0	0	12	6.1	4.3	.30	2.2	0	0	1.1	19
9	0	0	.66	15	2.6	6.4	.30	.08	0	0	.59	780
10	0	0	1.4	16	.58	8.5	.60	0	0	0	.42	374
11	0	0	3.2	7.2	6.9	12	3.0	0	0	0	.36	102
12	0	0	2.6	7.0	4.7	13	10	0	0	0	.30	66
13	0	0	0	7.1	4.9	10	25	0	0	0	.24	41
14	0	0	0	5.2	4.5	9.7	30	0	0	0	52	23
15	0	0	0	5.2	4.2	10	20	0	15	45	22	19
16	0	0	0	5.0	4.2	9.0	14	0	25	9.2	37	9.8
17	0	0	0	5.2	4.1	9.0	10	0	180	17	19	5.6
18	0	0	0	5.2	3.8	2.6	.89	0	70	45	13	4.7
19	0	0	0	5.8	5.4	2.6	.89	0	0	43	3.9	2.1
20	0	0	0	5.2	4.6	14	1.7	0	0	4.6	0	1.9
21	0	0	0	4.9	6.3	40	1.5	0	0	3.0	0	9.1
22	0	0	0	5.7	5.6	30	.41	0	0	1.9	5.4	24
23	0	0	0	5.8	5.0	25	0	0	0	2.4	9.8	7.4
24	0	0	0	6.2	5.1	22	0	0	0	3.4	16	4.8
25	0	0	0	6.0	4.2	16	0	0	0	49	29	3.0
26	0	0	.10	5.0	3.7	14	0	0	0	15	35	1.4
27	0	0	1.8	.42	3.3	14	0	0	0	38	19	.62
28	0	0	4.0	2.2	2.0	14	0	0	0	29	17	.33
29	0	0	1.6	2.6	------	12	0	0	0	26	3.9	.22
30	0	0	.10	.60	------	10	0	0	0	21	82	.17
31	0	------	7.0	2.2	------	10	------	0	------	17	97	------
TOTAL	0	0	22.46	174.72	312.08	347.9	124.64	8.98	290	369.5	528.01	2,031.14
MEAN	0	0	.72	5.64	11.1	11.2	4.15	.29	9.67	11.9	17.0	67.7
MAX	0	0	7.0	16	74	40	30	6.7	180	49	97	780
MIN	0	0	0	.42	.58	1.9	0	0	0	0	0	.17
AC-FT	0	0	45	347	619	690	247	18	575	733	1,050	4,030

CAL YR 1968 TOTAL 5,046.09 MEAN 13.8 MAX 1,000 MIN 0 AC-FT 10,010
WTR YR 1969 TOTAL 4,209.43 MEAN 11.5 MAX 780 MIN 0 AC-FT 8,350

PEAK DISCHARGE(BASE, 800 CFS).--Sept. 9(0400) 1,940 cfs (4.28 ft).

08352500 Rio Puerco at Rio Puerco, N. Mex.

LOCATION.--Lat 34°47'35", long 106°59'20", in NW¼ sec.31, T.7 N., R.1 W., in San Clemente Grant, Valencia County, on downstream end of pier nearest left abutment of the Atchison, Topeka and Santa Fe, Railway Co. bridge, 7 miles downstream from Rio San Jose.

DRAINAGE AREA.--6,590 sq mi, approximately, of which at least 1,130 sq mi does not contribute directly to surface runoff.

PERIOD OF RECORD.--June 1909 to December 1912 (records fragmentary, gage heights only), March 1934 to current year. Records for January 1913 to December 1914 published in WSP 358, 388, and 408 have been found to be unreliable and should not be used.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 5,008.59 ft above mean sea level.

AVERAGE DISCHARGE.--35 years (1934-70), 59.5 cfs (43,110 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,250 cfs Aug. 1 (gage height, 3.60 ft); no flow for many days. Period of record: Maximum discharge, 28,000 cfs Aug. 21, 1935 (gage height, 7.24 ft), by computation of peak flow over dam; no flow at times.
The damaging flood of Sept. 23, 1929, is the greatest since about 1880; it reached a stage of 18 ft (conditions prior to destruction of railroad bridge. Discharge, 37,700 cfs, by weir formula, from reports of State engineer). The flood of Aug. 12, 1929, reached a stage of about 16 ft (discharge, 31,300 cfs, by weir formula, from reports of State engineer). A flood on Oct. 4, 1913, reached a stage of 9.5 ft (discharge not determined) prior to construction of the concrete control.

REMARKS.--Records fair. Diversions for irrigation of about 11,500 acres above station (includes 3,700 acres irrigated partly or entirely from wells).

REVISIONS(WATER YEARS).--WSP 1512: 1937 (calendar year figures only), 1941, 1944. WSP 1712: 1958. WSP 1732: Drainage area. See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.35	.44	2.0	1.9	1.8	.35	5.0	5.5	0	1,360	144
2	0	.35	.42	2.0	3.1	.90	.41	4.0	4.8	0	711	120
3	0	.35	.38	2.0	2.6	1.1	.41	3.8	4.3	0	218	110
4	0	.35	.41	2.0	.36	.85	.31	7.7	3.8	0	192	166
5	0	.50	.38	1.6	2.5	1.1	.36	13	3.1	0	80	89
6	8.2	.52	.37	2.2	2.0	1.8	.25	41	2.6	0	6.8	71
7	21	.45	0	2.6	3.0	3.1	.17	187	2.1	0	6.1	31
8	6.5	.62	0	2.5	3.0	2.2	.12	216	1.7	0	204	20
9	3.7	.56	0	2.5	2.5	1.4	.11	72	1.3	0	43	612
10	2.7	.45	.30	3.0	3.0	2.5	.18	52	81	0	13	570
11	4.7	.44	.20	3.5	1.2	4.2	1.8	45	44	0	2.5	144
12	2.8	.53	.10	4.0	.71	4.6	5.6	36	18	0	2.5	100
13	2.3	.57	0	4.5	2.9	4.7	19	64	13	.62	2.0	120
14	1.9	.95	0	5.1	3.3	5.3	20	68	10	.06	2.0	30
15	1.7	1.3	0	5.8	2.8	5.4	11	60	7.9	1.8	9.0	15
16	1.2	1.2	0	4.9	2.7	4.5	7.0	68	47	21	5.5	11
17	.81	.87	0	3.9	2.6	4.0	5.5	80	135	5.4	20	9.0
18	.67	.69	.05	3.2	2.3	4.5	4.6	76	52	14	8.4	7.0
19	.59	.84	.03	3.4	3.1	2.7	4.9	64	8.4	112	5.1	2.2
20	.55	.78	.13	4.1	3.0	7.3	3.6	55	5.2	184	28	3.8
21	.55	.76	0	4.2	2.4	50	2.8	48	4.7	101	11	3.8
22	.55	.80	0	4.0	2.5	20	1.8	56	4.2	163	4.7	60
23	.55	.83	0	3.7	3.1	15	.08	56	3.8	259	24	132
24	.55	.65	.03	3.2	2.9	11	.06	53	2.0	122	17	32
25	.45	.89	0	3.7	2.6	8.2	.03	81	1.0	107	60	19
26	.44	.73	.01	4.5	2.4	7.2	.01	43	0	535	71	12
27	.44	.92	.88	4.1	2.0	7.1	3.7	21	0	296	56	6.0
28	.44	.54	1.8	1.9	1.8	6.7	11	13	0	332	36	4.0
29	.36	.55	.88	13	------	4.0	11	9.9	0	228	21	2.0
30	.35	.47	.01	13	------	2.8	7.5	7.5	0	208	540	0
31	.35	------	1.5	2.5	------	.82	------	6.4	------	191	1,510	------
TOTAL	64.35	19.81	8.32	122.6	68.27	196.77	123.65	1,612.3	466.4	2,880.88	5,269.6	2,645.8
MEAN	2.08	.66	.27	3.95	2.44	6.35	4.12	52.0	15.5	92.9	170	88.2
MAX	21	1.3	1.8	13	3.3	50	20	216	135	535	1,510	612
MIN	0	.35	0	1.6	.36	.82	.01	3.8	0	0	2.0	0
AC-FT	128	39	17	243	135	390	245	3,200	925	5,710	10,450	5,250

CAL YR 1968 TOTAL 17,247.00 MEAN 47.1 MAX 2,250 MIN 0 AC-FT 34,210
WTR YR 1969 TOTAL 13,478.75 MEAN 36.9 MAX 1,510 MIN 0 AC-FT 26,740

PEAK DISCHARGE(BASE, 2,000 CFS).--Aug. 1(1645) 5,250 cfs (3.60 ft), Aug. 31(1745) 4,560 cfs (3.42 ft).

08353000. Rio Puerco near Bernardo, N. Mex.

LOCATION.--Lat 34°24'30", long 106°51'10", in SE¼ sec.8, T.2 N., R.1 E., Socorro County, on bridge on former U.S. Highway 85 and 0.2 mile upstream from Interstate Highway 25, 1.2 miles southwest of Bernardo, 3 miles upstream from mouth, and 18 miles south of Belen.

DRAINAGE AREA.--7,350 sq mi, approximately, of which at least 1,130 sq mi does not contribute directly to surface runoff.

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, have been found to be in error and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 4,722.34 ft above mean sea level. Prior to Jan. 24, 1969, at datum 3.10 ft higher.

AVERAGE DISCHARGE.--29 years (1940-69), 50.9 cfs (36,880 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,580 cfs Sept. 21 (gage height, 10.80 ft); no flow for extended periods.
Period of record: Maximum discharge, 18,800 cfs Sept. 23, 1941, from rating curve extended above 7,800 cfs; maximum gage height, 16.9 ft present datum, Aug. 12, 1955; no flow for extended periods.
The greatest flood known since about 1880 occurred Sept. 23, 1929, from information by local residents (discharge, about 35,000 cfs, estimated on basis of peak at Rio Puerco). Another flood occurred Aug. 12, 1929 (discharge 30,600 cfs, by slope-area method, from reports of State engineer).

REMARKS.--Records poor. Diversions for irrigation of about 11,500 acres above station (includes 3,700 acres irrigated wholly or partly from wells). Records of chemical analyses, water temperatures and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

REVISIONS(WATER YEAR).--WSP 1512: 1941-42, 1944-45, 1946(P), 1947-49. WSP 1632: 1957. WSP 1732: Drainage area. See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	5.2	3.0	0	152	1,140
2	0	0	0	0	0	0	0	7.2	1.0	0	1,720	128
3	0	0	0	0	0	0	0	11	.50	0	238	101
4	0	0	0	0	0	0	0	16	0	0	166	154
5	0	0	0	0	0	0	0	31	0	0	118	88
6	0	0	0	0	0	0	0	67	0	0	70	48
7	0	0	0	0	0	0	0	137	0	0	60	34
8	0	0	0	0	0	0	0	192	0	0	95	12
9	0	0	0	0	0	0	0	93	0	0	64	172
10	0	0	0	0	0	0	0	80	0	0	50	940
11	0	0	0	0	0	0	0	70	42	0	10	274
12	0	0	0	0	0	0	0	60	33	0	2.0	112
13	0	0	0	0	0	0	0	50	23	0	0	136
14	0	0	0	0	0	0	0	40	13	0	0	104
15	0	0	0	0	0	0	5.4	30	3.0	0	0	22
16	0	0	0	0	0	0	9.4	27	997	59	0	2.8
17	0	0	0	0	0	0	3.6	27	29	22	0	0
18	0	0	0	0	0	0	4.4	30	127	100	1.9	0
19	0	0	0	0	0	0	3.2	30	52	115	6.0	0
20	0	0	0	0	0	0	2.9	33	35	84	6.0	2.9
21	0	0	0	0	0	0	3.0	32	25	70	15	472
22	0	0	0	0	0	2.6	2.6	32	10	30	6.0	55
23	0	0	0	0	0	14	2.0	33	0	10	0	62
24	0	0	0	0	0	8.0	1.3	35	0	151	25	39
25	0	0	0	0	0	7.0	.70	45	0	70	45	33
26	0	0	0	0	0	5.4	0	45	0	384	58	29
27	0	0	0	0	0	2.0	0	38	0	317	36	27
28	0	0	0	0	0	3.0	0	28	0	180	20	25
29	0	0	0	0	------	0	0	18	0	215	11	21
30	0	0	0	0	------	0	5.2	7.0	0	50	9.0	20
31	0	------	0	0	------	0	------	5.0	------	68	1,220	------
TOTAL	0	0	0	0	0	42.0	43.70	1,354.4	1,393.50	1,925	4,203.9	4,253.7
MEAN	0	0	0	0	0	1.35	1.46	43.7	46.5	62.1	136	142
MAX	0	0	0	0	0	14	9.4	192	997	384	1,720	1,140
MIN	0	0	0	0	0	0	0	5.0	0	0	0	0
AC-FT	0	0	0	0	0	83	87	2,690	2,760	3,820	8,340	8,440

CAL YR 1968 TOTAL 13,858.39 MEAN 37.9 MAX 1,760 MIN 0 AC-FT 27,490
WTR YR 1969 TOTAL 13,216.20 MEAN 36.2 MAX 1,720 MIN 0 AC-FT 26,210

PEAK DISCHARGE (BASE 2,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-16	0400	10.77	3,500	9-1	0300	10.22	3,250
8-2	0630	10.22	3,170	9-21	1900	10.80	3,580

08354000 Rio Salado near San Acacia, N. Mex.

LOCATION.--Lat 34°17'50", long 106°54'00", in NW¼ sec.24, T.1 N., R.1 W., Socorro County, at former bridge site 0.3 mile upstream from bridge on Interstate Highway 25, 3.1 miles upstream from mouth, 2.9 miles north of San Acacia, and 15 miles north of Socorro.

DRAINAGE AREA.--1,380 sq mi, approximately.

PERIOD OF RECORD.--October 1947 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,765 ft (from topographic map). Prior to Sept. 14, 1966 at site 1.7 miles downstream at different datum.

AVERAGE DISCHARGE.--22 years, 13.8 cfs (10,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 10,100 cfs July 31 (gage height, 4.40 ft), from rating curve extended as explained below; no flow most of time.
Period of Record: Maximum discharge, 36,200 cfs July 31, 1965 (gage height, 5.54 ft, from floodmarks, present site and datum), from rating curve extended above 900 cfs on basis of slope-area measurement of peak flow; no flow most of time.
Another flood occurred Aug. 12, 1929 (discharge, 27,400 cfs, by slope-area method), from reports of State engineer.

REMARKS.--Records poor. Diversions for irrigation of about 100 acres above station. Records of chemical analyses, water temperatures and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0									0	15	85
2	0									0	10	160
3	0									0	5.0	105
4	7.8									0	25	50
5	9.1									0	25	30
6	0									0	210	124
7	0									0	44	44
8	0									0	21	4.6
9	0									0	0	24
10	0									0	0	5.0
11	0									0	0	.50
12	0									0	0	460
13	0									0	0	0
14	0									0	160	70
15	0									0	10	0
16	0									5.8	0	0
17	0									39	0	0
18	0									0	0	0
19	0									0	10	60
20	0									0	0	85
21	0									0	0	240
22	0									0	0	50
23	0									7.3	0	0
24	0									0	177	0
25	0									0	21	0
26	0									74	7.3	0
27	0									0	0	0
28	0									0	14	0
29	0				------					0	33	0
30	0				------					0	204	0
31	0	------			------		------		------	336	0	------
TOTAL	16.9	0	0	0	0	0	0	0	0	462.1	991.3	1,597.10
MEAN	0.54	0	0	0	0	0	0	0	0	14.9	32.0	53.2
MAX	9.1	0	0	0	0	0	0	0	0	336	210	460
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	34	0	0	0	0	0	0	0	0	917	1,980	3,170

CAL YR 1968: TOTAL 3,187.93 MEAN 8.71 MAX 541 MIN 0 AC-FT 6,320
WTR YR 1969: TOTAL 3,067.40 MEAN 8.40 MAX 460 MIN 0 AC-FT 6,080

PEAK DISCHARGE (BASE, 3,000 CFS).--July 31 (2230) 10,100 cfs (4.40 ft); Sept. 12 (0100) 3,100 cfs (3.05 ft).

08354500 Socorro main canal north at San Acacia, N. Mex.

LOCATION.--Lat 34°15'15", long 106°53'45", in SE¼NW¼ sec.1, T.1 S., R.1 W., Socorro County, 0.5 mile downstream from point of diversion, on right bank at San Acacia.

PERIOD OF RECORD.--April 1936 to current year. Monthly discharge prior to October 1964 (daily records in district files).

GAGE.--Water-stage recorder. Datum of gage is 4,660.16 ft above mean sea level. Prior to Mar. 8, 1958, at site 300 ft upstream (in old channel) at datum 0.42 ft lower.

PERIOD OF RECORD: Maximum daily discharge, 251 cfs July 30, 1965; no flow at times.

REMARKS.--Records fair. This canal is 1 of 3 channels (see 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 station 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 above station for irrigation of about 400 acres. Discharge records collected at the canal heading October 1964 to September 1965, indicate 7,770 acre-ft or 9% of the initial canal flow was diverted before reaching the regular gaging station.

REVISIONS(WATER YEARS).--WSP 1242, 1951.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	5.4	0	0	0	83	188	209	211	219	180	150
2	66	0	0	0	0	70	190	214	217	218	177	165
3	64	0	0	0	0	110	193	211	213	224	177	166
4	64	0	0	0	0	140	189	203	218	216	176	154
5	79	0	0	0	0	151	202	187	220	220	178	143
6	74	0	0	0	0	121	198	197	221	222	199	126
7	74	0	0	0	0	116	189	200	220	226	201	153
8	67	0	0	0	0	122	198	190	212	217	204	145
9	67	0	0	0	0	127	214	179	209	194	211	131
10	72	0	0	0	0	128	211	189	210	210	208	115
11	73	0	0	0	0	83	210	188	211	196	209	78
12	75	0	0	0	0	98	201	188	214	200	194	115
13	73	0	0	0	0	141	202	187	203	203	201	134
14	77	0	0	0	0	136	195	184	211	211	189	141
15	81	0	0	0	0	126	219	165	209	213	190	137
16	80	0	0	0	0	116	222	180	223	160	169	146
17	79	0	0	0	0	118	220	189	223	162	173	149
18	77	0	0	0	0	118	218	201	224	199	163	151
19	73	0	0	0	0	148	212	201	229	199	165	141
20	69	0	0	0	0	143	205	205	223	210	170	123
21	87	0	0	0	0	146	205	203	221	208	185	118
22	77	0	0	0	0	154	199	204	220	202	164	99
23	106	0	0	0	0	152	202	199	220	205	154	123
24	100	0	0	0	0	158	202	199	211	206	171	131
25	96	0	0	0	0	155	203	198	209	206	181	133
26	102	0	0	0	0	152	207	200	213	201	180	135
27	108	0	0	0	0	156	209	198	220	161	181	138
28	107	0	0	0	0	179	210	197	223	186	157	147
29	99	0	0	0	------	184	214	198	220	205	152	147
30	97	0	0	0	------	191	211	203	221	205	150	153
31	91	------	0	0	------	191	------	209	------	211	155	------
TOTAL	2,520	5.4	0	0	0	4,213	6,138	6,075	6,499	6,315	5,564	4,087
MEAN	81.3	.18	0	0	0	136	205	196	217	204	179	136
MAX	108	5.4	0	0	0	191	222	214	229	226	211	166
MIN	64	0	0	0	0	70	188	165	203	160	150	78
AC-FT	5,000	11	0	0	0	8,360	12,170	12,050	12,890	12,530	11,040	8,110

CAL YR 1968 TOTAL 35,722.40 MEAN 97.6 MAX 246 MIN 0 AC-FT 70,860
WTR YR 1969 TOTAL 41,416.40 MEAN 113 MAX 229 MIN 0 AC-FT 82,150

08354800 Rio Grande conveyance channel at San Acacia, N. Mex.

LOCATION.--Lat 34°15'55", long 106°54'00", in SW¼ sec.1, T.1 S., R.1 W., Socorro County, on right bank 75 ft upstream from railway crossing, 1.2 miles downstream from San Acacia diversion dam, and 0.5 mile south of San Acacia.

PERIOD OF RECORD.--October 1958 to current year. October 1958 to September 1960, included in composite records for "Rio Grande at San Acacia". October 1960 to September 1964, monthly discharge published in WSP 1923 vol 2. Daily records since 1958 available in District files.

GAGE.--Water-stage recorder. Datum of gage is 4,652.5 ft above mean sea level (Bureau of Reclamation datum). Prior to 1958 all flow in floodway and Socorro main canal north.

AVERAGE DISCHARGE.--11 years, 475 cfs (344,100 acre-ft per year).

EXTREMES.--Period of Record: Maximum daily discharge, 1,950 cfs May 12, 13, 1966; no flow at times.

REMARKS.--Records good. Conveyance channel is 1 of 3 channels (see stations 08354500, 08354900) carrying flow in valley cross-section. Original design and plan was for conveyance channel to carry all flows up to about 2,000 cfs. For combined monthly flow in acre-ft of this channel, floodway, and Socorro main canal north see tabulation below daily table for station 08354900. Records of water temperatures and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	91	762	687	1,100	828	84	1,570	1,570	298	491	1.2
2	2.4	77	687	749	900	856	221	1,650	1,580	182	1,240	1.0
3	2.4	67	641	780	850	773	988	1,580	1,580	83	1,060	379
4	2.5	54	602	808	832	577	1,370	1,570	1,580	90	1,440	723
5	2.5	67	658	829	797	786	1,570	1,570	1,600	47	937	497
6	2.2	62	638	832	742	862	1,590	1,530	1,590	10	571	467
7	2.7	63	637	806	750	732	1,670	1,500	1,610	6.0	873	168
8	2.9	441	649	797	779	614	1,630	1,490	1,610	5.5	751	116
9	2.8	750	660	788	815	550	1,710	1,510	1,590	5.2	362	230
10	2.7	930	673	788	830	603	1,610	1,480	1,570	5.0	249	1,060
11	2.7	1,020	665	788	749	719	1,590	1,470	1,560	4.8	216	787
12	2.7	1,100	674	788	743	590	1,720	1,460	1,580	4.8	105	1,030
13	2.6	1,180	666	788	788	411	1,720	1,460	1,570	27	34	1,380
14	2.9	1,220	652	785	847	481	1,590	1,490	1,550	16	190	1,340
15	2.8	1,270	647	782	844	508	1,580	1,490	1,550	13	45	1,150
16	3.0	1,300	640	779	851	605	1,560	1,520	1,540	5.4	18	518
17	3.2	1,290	621	801	840	613	1,550	1,530	1,550	204	22	345
18	3.6	1,460	714	835	851	531	1,610	1,560	1,540	74	34	264
19	4.0	1,500	742	830	938	439	1,560	1,580	1,560	322	13	200
20	4.3	1,470	798	807	986	373	1,480	1,610	1,540	138	5.5	229
21	4.4	1,460	760	810	961	351	1,450	1,600	1,560	308	5.6	203
22	4.4	1,460	659	815	897	414	1,240	1,590	1,510	225	4.3	657
23	5.0	1,440	647	804	840	499	1,390	1,570	1,540	171	3.7	508
24	5.1	1,460	487	840	827	704	1,580	1,580	1,400	385	5.4	1,010
25	5.5	1,450	515	864	856	663	1,530	1,580	1,120	366	5.0	599
26	6.1	1,470	479	861	856	478	1,550	1,580	887	368	4.5	544
27	6.7	1,560	598	777	854	367	1,550	1,560	679	872	2.0	426
28	6.9	1,590	744	801	847	339	1,550	1,570	536	518	1.5	413
29	7.5	1,510	746	903	------	235	1,520	1,560	451	781	1.3	528
30	8.0	918	714	1,610	------	133	1,480	1,580	411	481	1.2	357
31	43	------	676	1,640	------	101	------	1,590	------	152	1.1	------
TOTAL	159.9	29,730	20,451	26,572	23,770	16,735	43,243	47,980	41,514	6,167.7	8,692.1	16,130.2
MEAN	5.16	991	660	857	849	540	1,441	1,548	1,384	199	280	538
MAX	43	1,590	798	1,640	1,100	862	1,720	1,650	1,610	872	1,440	1,380
MIN	2.2	54	479	687	742	101	84	1,460	411	4.8	1.1	1.0
AC-FT	317	58,970	40,560	52,710	47,150	33,190	85,770	95,170	82,340	12,230	17,240	31,990

CAL YR 1968 TOTAL 190,678.40 MEAN 521 MAX 1,880 MIN 0 AC-FT 378,200
WTR YR 1969 TOTAL 281,144.9 MEAN 770 MAX 1,720 MIN 1.0 AC-FT 557,700

08354900 Rio Grande floodway at San Acacia, N. Mex.

LOCATION.--Lat 34°15'28", long 106°53'30", Socorro County, in Sevilleta Grant, 0.25 mile below San Acacia diversion dam, 2 miles downstream from Rio Salado, and 0.3 mile east of San Acacia.

DRAINAGE AREA.--26,770 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

PERIOD OF RECORD.--April 1936 to current year. Flow in the conveyance channel has been included prior to October 1964, and records published as, "8-3550. Rio Grande at San Acacia".

GAGE.--Water-stage recorder. Datum of gage is 4,654.50 ft above mean sea level. Aug. 19, 1965 to Aug. 15, 1967 at same site at datum 1.89 ft higher. Prior to Mar. 19, 1953, at several sites 0.1 mile upstream at different datums. Mar. 19, 1953 to Aug. 19, 1965, at site 0.4 mile downstream at datum 3.60 ft higher. Floodway is bypassed by Socorro main canal north and, since October 1958, by conveyance channel.

AVERAGE DISCHARGE.--22 years (1936-58), 1,192 cfs (863,000 acre-ft per year), prior to construction of conveyance channel; does not include Socorro main canal north.
11 years (1958-69), 288 cfs (208,700 acre-ft per year), flow of floodway only.
11 years (1958-69), 849 cfs (615,100 acre-ft per year), combined flow of floodway, conveyance channel and Socorro main canal north.

EXTREMES.--Current year: Maximum discharge, 8,100 cfs July 31 (gage height, 8.20 ft); no flow at times.
Period of record: Maximum discharge, 27,400 cfs Aug. 5, 1936 (gage height, 10.75 ft, site and datum then in use); no flow at times.

REMARKS.--Records poor. Floodway is 1 of 3 channels (see 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 cfs) and Socorro main canal north (about 200 cfs) is exceeded, during periods of silt sluicing, and when river silt load is excessive. Diversions above station for irrigation of about 760,000 acres; this includes Socorro main canal north which bypasses station and irrigates about 8,000 acres. Records of water temperatures and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

REVISIONS(WATER YEARS).--WSP 1242: 1951. WSP 1732: 1958(M). Figure of daily discharge for Aug. 9, 1967, has been corrected to 1,300 cfs, superseding that published in WRD N. Mex., 1967. Resulting monthly and annual figures are as follows:

Month	Total (cfs-days)	Mean (cfs)	Runoff in acre-feet
August 1967	48,400.4	1,561	96,000 ✓
Water year 1967 . .	54,425.38	149	108,000
Calendar year 1967 .	~~55,940.70~~	~~153~~	~~111,000~~
	54,664.7	150	108,400

Corrected monthly and annual figures of combined flow are as follows:

Month	Mean (cfs)	Runoff in acre-feet
August 1967	-	153,200
Water year 1967 . .	661.8	478,700
Calendar year 1967 .	~~675.4~~	~~489,000~~
	671	486,500

08354900 Rio Grande floodway at San Acacia, N. Mex.-- concluded

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	3.4	0	.66	3.5	3.8	48	179	1,980	32	475	2,570
2	18	2.3	7.4	.76	2.1	7.7	58	224	2,170	24	555	1,600
3	18	.20	5.4	.83	2.5	9.6	175	227	2,080	34	34	400
4	17	2.0	9.4	1.2	3.9	15	22	659	2,000	39	480	46
5	31	3.0	9.7	1.7	1.0	22	79	1,380	1,700	13	10	37
6	32	3.2	4.6	1.4	.93	8.3	104	2,130	1,480	15	6.0	70
7	46	2.6	3.7	3.8	1.5	8.5	124	2,840	1,450	15	199	39
8	64	1.7	3.4	3.0	1.0	6.2	84	2,840	1,080	11	52	121
9	58	1.7	3.4	2.3	1.2	16	100	2,290	1,000	10	13	150
10	42	3.5	3.7	2.2	1.4	12	47	2,510	898	12	8.5	183
11	42	8.7	9.0	2.2	3.9	12	124	2,310	1,840	11	7.4	33
12	42	12	46	2.4	6.1	4.1	1,340	2,130	1,710	19	15	791
13	36	8.7	49	6.6	3.3	8.4	1,170	1,750	1,250	43	9.7	537
14	30	6.0	62	4.9	7.5	11	718	1,520	1,240	23	22	141
15	35	3.2	56	3.8	1.8	6.4	628	1,220	1,310	38	15	20
16	43	6.3	49	3.7	2.0	7.3	418	1,240	3,360	16	3.4	19
17	64	6.8	61	3.3	1.9	12	279	1,070	2,350	46	4.8	20
18	72	9.7	25	3.1	2.3	13	576	797	3,130	25	3.5	14
19	74	7.1	1.3	2.9	6.0	9.1	165	622	2,270	101	5.7	57
20	95	3.9	1.1	8.2	2.1	9.5	64	700	2,460	65	4.0	26
21	31	2.3	1.1	6.8	1.6	23	24	982	2,260	41	7.2	369
22	10	1.6	1.0	8.2	1.7	43	14	1,390	1,850	13	3.7	64
23	14	1.7	.78	12	2.9	33	300	1,670	1,100	23	3.1	32
24	12	.80	.66	7.0	12	68	818	1,830	103	78	481	60
25	10	.50	.60	9.0	6.2	37	1,290	2,560	31	20	61	32
26	11	.80	.64	7.7	6.0	32	2,170	2,640	34	155	66	18
27	12	2.1	.67	6.9	4.2	27	1,440	2,230	24	65	85	20
28	16	3.0	.80	6.2	4.3	29	362	1,910	37	64	152	39
29	14	0	.83	69	------	25	108	1,750	73	86	161	17
30	13	0	.71	37	------	24	57	2,020	42	16	1,110	21
31	9.4	------	.61	5.0	------	30	------	2,050	------	486	1,680	------
TOTAL	1,029.4	108.80	418.50	233.75	94.83	572.9	12,906	49,670	42,312	1,639	5,733.0	7,546
MEAN	33.2	3.63	13.5	7.54	3.39	18.5	430	1,602	1,410	52.9	185	252
MAX	95	12	62	69	12	68	2,170	2,840	3,360	486	1,680	2,570
MIN	9.4	0	0	.66	.93	3.8	14	179	24	10	3.1	14
AC-FT	2,040	216	830	464	188	1,140	25,600	98,520	83,930	3,250	11,370	14,970
(†)	7,360	59,200	41,390	53,170	47,700	42,690	123,500	205,700	179,200	28,010	89,650	55,070

CAL YR 1968 TOTAL 146,248.90 MEAN 400 MAX 6,420 MIN 0 AC-FT 290,100 † MEAN 1,015 AC-FT 737,200
WTR YR 1969 TOTAL 122,264.18 MEAN 335 MAX 3,360 MIN 0 AC-FT 242,500 † MEAN 1,219 AC-FT 882,300

† Combined flow, in acre-ft and mean, in cfs, of floodway, conveyance channel, and Socorro main canal north.

08356000 Socorro main canal south near San Antonio, N. Mex.

LOCATION.--Lat 33°53'30", long 106°52'00", in NW¼ sec.8, T.5 S., R.1 E., Socorro County, on right bank 1.5 miles upstream from Bosque del Apache Grant and 1.75 miles south of San Antonio.

PERIOD OF RECORD.--April 1937 to July 1938, March 1948 to current year. Published as "at end near San Antonio" 1937-38.

GAGE.--Water-stage recorder and V-notch weir control since Mar. 27, 1954. Datum of gage is 4,526.41 ft above mean sea level. April 1937 to July 1938 at two different sites about 1.5 miles downstream at different datums. March 1948 to November 1951 at site 30 ft upstream at datum 7.29 ft higher.

EXTREMES.--Period of record: Maximum daily discharge, 51 cfs Sept. 20, 1965; no flow for many days each year.

REMARKS.--Records good. Diversions made at San Acacia into Socorro main canal north are the main source of water but may be supplemented by diversions from the conveyance channel at 3 points and from San Antonio Riverside drain, 2 miles above gage. Some diversions occur between gage and north boundary of U.S. Fish and Wildlife Refuge (Bosque del Apache Grant). This is 1 of 3 stations gaging flow into refuge.

Monthly discharge, in cubic feet per second, water year October 1968 to September 1969

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	33	1.2	14.7	903
November	3.0	0	.10	6.0
December	0	0	0	0
Calendar year 1968	42	0	13.5	9,810
January	0	0	0	0
February	0	0	0	0
March	42	0	15.1	928
April	37	7.8	22.4	1,340
May	48	4.7	32.9	2,020
June	47	3.1	22.7	1,350
July	33	2.2	20.1	1,230
August	50	.22	25.8	1,590
September	41	7.8	29.3	1,740
Water year 1968-69	50	0	15.3	11,110

RIO GRANDE BASIN

08356500 San Antonio Riverside drain near San Antonio, N. Mex.

LOCATION.--Lat 33°53'00", long 106°51'05", in SW¼SW¼ sec.9, T.5 S., R.1 E., Socorro County, on left bank 1 mile east of old U.S. Highway 85, and 1.2 miles upstream from boundary of Bosque del Apache Grant (wildlife refuge), and 2 miles southeast of San Antonio.

PERIOD OF RECORD.--March 1948 to current year. May 1936 to February 1938, at site 50 ft downstream from Elmendorf interior drain; records not equivalent.

GAGE.--Water-stage recorder. Datum of gage is 4,524.33 ft above mean sea level (levels by Bureau of Reclamation). Mar. 15, 1948, to Mar. 31, 1949, site 1.2 miles downstream at datum 1.14 ft lower.

EXTREMES.--Period of record: Maximum daily discharge, 161 cfs May 31, 1957; no flow at times since 1959.

REMARKS.--Records good. Diversions from drain above station, canal wasteways and interior drains entering channel above station. Flow represents 1 of 3 channels entering north boundary of Bosque del Apache Grant. Reduction in flow occurred after conveyance channel was completed in about 1957. Average pickup per mile between station and Grant boundary is about 5 percent (as determined from comparative discharge measurements).

Monthly discharge, in cubic feet per second, water year October 1968 to September 1969

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	32	4.2	13.3	816
November	23	4.4	13.6	807
December	14	9.1	10.6	652
Calendar year 1968	105	1.5	24.0	17,440
January	16	9.4	10.8	661
February	16	10	11.9	659
March	35	10	15.4	948
April	51	7.3	39.2	2,330
May	54	39	45.1	2,770
June	77	38	55.3	3,290
July	46	15	26.7	1,640
August	38	12	24.0	1,470
September	32	13	21.4	1,270
Water year 1968-69	77	4.2	23.9	17,330

08357000 Elmendorf interior drain near San Antonio, N. Mex.

LOCATION.--Lat 33°51'50", long 106°51'25", in NE¼ sec.20, T.5 S., R.1 E., Socorro County, (projected), in Bosque del Apache Grant (wildlife refuge), on right bank 2,000 ft downstream from north boundary of refuge, 1.0 mile east of railroad, and 3.7 miles south of junction of U.S. Highways 85 and 380.

PERIOD OF RECORD.--July 1936 to January 1938 (Published as "at end near San Antonio"), March 1948 to current year.

GAGE.--Water-stage recorder and culvert control. Datum of gage is 4,518.9 ft above mean sea level (levels by Bureau of Reclamation). July 1936 to January 1938, staff gage at site 0.5 mile upstream in former channel at datum about 0.34 ft higher. Mar. 11, 1948, to Nov. 10, 1949, at site about 2,500 ft upstream in former channel at different datum. Nov. 11, 1949, to Feb. 7, 1956, at site 2,000 ft upstream in present channel at datum about 0.26 ft lower.

EXTREMES.--Period of Record: Maximum daily discharge, 59 cfs Aug. 21, 1965; no flow at times.

REMARKS.--Records fair. Flow past station represents 1 of 3 channels entering north boundary of Bosque del Apache Grant.

Monthly discharge, in cubic feet per second, water year October 1968 to September 1969

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	42	9.5	25.1	1,540
November	3.5	1.8	2.96	176
December	3.7	.57	1.76	108
Calendar year 1968	51	1.4	19.7	14,260
January	3.1	0	1.08	67
February	4.2	.49	1.62	90
March	40	.34	18.5	1,140
April	47	14	30.3	1,800
May	53	19	38.2	2,350
June	37	8.6	23.5	1,400
July	38	16	28.7	1,770
August	48	4.6	27.0	1,660
September	53	16	30.2	1,860
Water year 1968-69	53	0	19.3	13,950

RIO GRANDE BASIN

08357500 San Antonio Riverside drain near San Marcial, N. Mex.

LOCATION.--Lat 33°44'45", long 106°55'15", Socorro County, in Bosque del Apache Grant (wildlife refuge), on left bank 1.0 mile upstream from outlet to Rio Grande conveyance channel, 5 miles northeast of San Marcial, and 12 miles south of San Antonio.

PERIOD OF RECORD.--March 1948 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,487.12 ft above mean sea level. Mar. 19, 1948, to July 28, 1960, at datum 2.00 ft higher. July 28, 1960, to May 14, 1962, at site 0.4 mile downstream at datum 1.42 ft lower. May 14, 1962 to Dec. 1, 1966 at present site at datum 2.00 ft higher.

EXTREMES.--Period of record: Maximum daily discharge, 226 cfs May 22, 1957; no flow at times.

REMARKS.--Records fair. Flow represents surface outflow from wildlife refuge. Diversion for irrigation of a few hundred acres above station.

Monthly discharge, in cubic feet per second, water year October 1968 to September 1969

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	70	16	43.1	2,650
November	33	8.1	11.5	686
December	17	11	13.0	799
Calendar year 1968	141	7.1	49.3	35,770
January	27	9.4	14.8	907
February	30	18	23.2	1,290
March	92	15	45.5	2,800
April	106	36	81.0	4,820
May	143	75	119	7,300
June	130	37	89.0	5,300
July	124	30	73.6	4,530
August	104	9.6	64.5	3,960
September	114	41	77.3	4,600
Water year 1968-69	143	8.1	54.8	39,640

08358300 Rio Grande conveyance channel at San Marcial, N. Mex.

LOCATION.--Lat 33°41'20", long 106°59'35", in Pedro Armendaris Grant No. 34, Socorro County, on right bank 0.4 mile northwest of Atchison, Topeka and Santa Fe Railway Co. bridge over floodway channel, 1.0 mile southwest of former site of San Marcial, 3.5 miles downstream from railroad bridge near Tiffany siding and 51 miles downstream from heading at San Acacia.

PERIOD OF RECORD.--April 1950 to current year. April 1950 to September 1960, included in composite records for "08358500. Rio Grande at San Marcial". October 1960 to September 1964, monthly discharge published in WSP 1923 vol. 2. Daily records since 1950 available in district files.

GAGE.--Water-stage recorder. Datum of gage is 4,454.00 ft above mean sea level (levels by Bureau of Reclamation). Prior to Apr. 29, 1958, at datum 4.19 ft higher. Apr. 14, 1950, to Feb. 28, 1954, bypass flow (included in composite) was measured in Tiffany channel at a site 4 miles upstream; prior to 1950 all flow through floodway.

AVERAGE DISCHARGE.--15 years, 481 cfs (348,500 acre-ft per year).

EXTREMES.--1954-69: Maximum daily discharge, 2,200 cfs May 14, 1966; no flow at times.

REMARKS.--Records fair. Original design and plan was for conveyance channel to carry all flows up to about 2,000 cfs. Conveyance channel is 1 of 2 channels (see sta 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 sta 08358400. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	37	808	702	1,450	826	283	1,680	1,730	550	527	151
2	0	132	754	738	1,020	794	281	1,750	1,710	413	910	112
3	0	124	696	782	829	812	645	1,780	1,650	344	1,080	250
4	0	120	690	802	882	753	1,360	1,690	1,700	323	1,220	671
5	0	106	736	822	874	740	1,360	1,760	1,750	329	1,150	586
6	0	87	706	830	829	1,040	1,640	1,710	1,740	274	722	522
7	0	59	694	789	779	801	1,640	1,700	1,780	272	742	371
8	0	112	678	805	822	776	1,630	1,720	1,840	248	1,130	352
9	0	625	674	776	817	729	1,690	1,740	1,830	248	530	366
10	0	873	706	768	839	743	1,710	1,740	1,740	228	482	797
11	0	999	702	798	795	751	1,610	1,730	1,710	223	455	1,100
12	0	1,110	694	790	731	728	1,800	1,750	1,760	218	383	881
13	0	1,200	718	763	789	553	1,770	1,700	1,800	206	292	1,210
14	0	1,260	702	788	830	578	1,740	1,780	1,850	224	234	1,510
15	0	1,260	694	798	849	626	1,650	1,770	1,800	201	292	1,390
16	0	1,320	702	808	834	657	1,660	1,780	1,810	178	198	853
17	0	1,120	685	821	826	743	1,680	1,850	1,820	287	195	659
18	0	1,280	694	845	832	667	1,840	1,810	1,820	310	135	558
19	0	1,410	802	860	868	566	1,730	1,810	1,730	421	129	527
20	0	1,400	798	839	954	567	1,760	1,840	1,780	410	117	522
21	0	1,370	810	814	970	552	1,670	1,840	1,760	484	111	464
22	0	1,370	690	852	938	488	1,490	1,890	1,720	492	106	713
23	0	1,400	686	838	890	598	1,380	1,830	1,740	338	103	535
24	0	1,410	562	846	846	667	1,690	1,880	1,660	447	116	834
25	0	1,420	554	878	850	746	1,670	1,900	1,420	486	138	857
26	0	1,480	558	886	866	575	1,680	1,870	1,130	444	139	551
27	0	1,550	534	840	846	482	1,720	1,870	961	824	119	528
28	0	1,620	758	798	850	436	1,710	1,810	764	545	133	468
29	0	1,630	814	841	------	427	1,660	1,810	691	714	159	574
30	0	1,120	750	1,390	------	367	1,580	1,760	633	818	195	462
31	0	------	710	1,730	------	312	------	1,690	------	433	134	------
TOTAL	0	29,004	21,759	26,637	24,505	20,100	45,729	55,240	47,829	11,932	12,376	19,374
MEAN	0	967	702	859	875	648	1,524	1,782	1,594	385	399	646
MAX	0	1,630	814	1,730	1,450	1,040	1,840	1,900	1,850	824	1,220	1,510
MIN	0	37	534	702	731	312	281	1,680	633	178	103	112
AC-FT	0	57,530	43,160	52,830	48,610	39,870	90,700	109,600	94,870	23,670	24,550	38,430

CAL YR 1968 TOTAL 222,119.00 MEAN 607 MAX 2,050 MIN 0 AC-FT 440,600
WTR YR 1969 TOTAL 314,485.00 MEAN 862 MAX 1,900 MIN 0 AC-FT 623,800

08358400 Rio Grande floodway at San Marcial, N. Mex.

LOCATION.--Lat 33°40'50", long 106°59'15", Socorro County, in Pedro Armendaris Grant No. 33 on pier of the Atchison, Topeka, and Santa Fe Railway Co. bridge, 1.1 miles downstream from former site of San Marcial, and 18.5 miles southwest of San Antonio.

DRAINAGE AREA.--27,700 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo).

PERIOD OF RECORD.--January 1895 to current year. Published as "Rio Grande at San Marcial" prior to October 1964 with flow in the conveyance channel included.

GAGE.--Water-stage recorder. Datum of gage is 4,455.19 ft above mean sea level. Prior to June 25, 1943, floodway had water-stage recorder and non-recording gages at several sites within 2 miles of present site at various datums. Prior to 1950 all flow through floodway.

AVERAGE DISCHARGE.--63 years (1895-58), 1,363 cfs (986,800 acre-ft per year), includes flow of conveyance channel.
11 years (1958-69), 194 cfs (140,600 acre-ft per year), flow in floodway only.
11 years (1958-69), 757 cfs (548,400 acre-ft per year), includes flow of floodway and conveyance channel.

EXTREMES.--Current year: Maximum discharge, 3,180 cfs June 16 (gage height, 12.10 ft); no flow for most of time.
Period of record: Maximum discharge, about 50,000 cfs Oct. 11, 1904; no flow at times.

REMARKS.--Records fair. Floodway is 1 of 2 channels (see sta 08358300) carrying flow in valley cross-section. For combined monthly flow in acre-ft see tabulation below. Normal plan is for floodway to carry flow when capacity of conveyance channel (about 2,000 cfs) is exceeded. Diversions for irrigation of about 775,000 acres above station (includes about 13,800 acre-ft diverted from conveyance channel, as based on weekly measurements, data furnished by Bureau of Reclamation). Record of chemical analyses, water temperatures, and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	82					0	8.7	1,560		302	1,310
2	38	9.8					0	0	1,670		94	867
3	32	.35					0	13	1,600		278	804
4	38	0					0	54	1,550		42	107
5	45	0					0	508	1,430		242	6.5
6	55	0					0	1,120	1,200		78	0
7	66	0					17	1,840	955		12	0
8	72	0					33	2,270	765		104	0
9	63	0					4.0	2,250	604		28	0
10	54	0					0	1,640	608		0	0
11	64	0					2.2	1,570	730		0	11
12	74	0					152	1,600	1,200		0	398
13	67	0					420	1,500	1,170		0	191
14	78	0					552	1,450	920		0	268
15	78	0					360	1,330	1,050		0	39
16	78	0					436	1,240	1,840		0	26
17	88	0					168	1,200	2,120		0	2.0
18	78	0					269	985	2,060		0	0
19	70	0					332	830	1,840		0	0
20	80	0					70	770	1,800		0	0
21	90	0					15	680	1,630		0	2.5
22	98	0					0	692	1,350		0	169
23	98	0					0	1,070	722		0	35
24	88	0					71	1,370	432		15	4.4
25	98	0					239	1,650	140		98	.1
26	94	0					432	2,020	20		23	0
27	96	0					648	1,850	0		10	0
28	112	0					396	1,750	0		25	0
29	112	0			------		162	1,650	0		64	0
30	110	0			------		48	1,590	0		113	0
31	104	------			------		------	1,690	------		405	------
TOTAL	2,358	93.15	0	0	0	0	4,826.2	38,190.7	30,966	0	1,933	4,240.5
MEAN	76.1	3.07	0	0	0	0	161	1,232	1,032	0	62.4	141
MAX	112	82	0	0	0	0	648	2,270	2,120	0	405	1,310
MIN	32	0	0	0	0	0	0	0	0	0	0	0
AC-FT	4,680	183	0	0	0	0	9,570	75,750	61,420	0	3,830	8,410
(†)	4,680	57,710	43,160	52,830	48,610	39,870	100,270	185,350	156,290	23,670	28,380	46,840

CAL YR 1968: TOTAL 104,089.05 MEAN 284 MAX 4,190 MIN 0 AC-FT 206,500 (†)MEAN 891 AC-FT 646,700
WTR YR 1969: TOTAL 82,606.55 MEAN 226 MAX 2,270 MIN 0 AC-FT 163,900 (†)MEAN 1,088 AC-FT 787,600

(†) Combined flow, in acre-ft and mean, in cfs, of Floodway and Conveyance Channel.

08360000 Alamosa Creek near Monticello, N. Mex.

LOCATION.--Lat 33°34'10", long 107°36'20", in SW¼ sec.31, T.8 S., R.7 W., Socorro County, on left bank at Alamosa damsite and below Old Fort Ojo Caliente, just downstream from Wildhorse Creek, 15 miles northwest of Monticello.

DRAINAGE AREA.--403 sq mi.

PERIOD OF RECORD.--October to December 1929, May 1931 to April 1942, July 1956 to June 1958 (annual maximum only), July 1958 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to 1966 published as Alamosa River.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 6,142.04 ft above mean sea level. Prior to Aug. 17, 1930, at different datum. May 2, 1931, to Dec. 14, 1939, water-stage recorder at datum 0.20 ft lower and Dec. 15, 1939, to Apr. 17, 1942, at present datum. July 16, 1956, to July 27, 1958, crest-stage gage only at present site and datum.

AVERAGE DISCHARGE.--21 years (1931-41, 1958-69), 8.34 cfs (6,040 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,150 cfs Aug. 31 (gage height, 4.89 ft); minimum, 5.0 cfs on several days in June, July and August.
Period of record: Maximum discharge, 10,800 cfs Aug. 13, 1964 (gage height, 14.04 ft), from rating curve extended above 390 cfs on basis of slope-area measurements at gage heights 6.66 and 12.0 ft; minimum, 5.0 cfs on several days in June, July and August 1969.
A flood in 1895 exceeded all other floods at this location from information by local residents. A flood in August 1943 was the highest since 1917.

REMARKS.--Records good except those for September, which are poor. No diversion above station. Entire normal flow diverted below station for irrigation.

REVISIONS(WATER YEARS).--WSP 1562: 1931, 1932-34(M), 1935-36, 1937-38(M), 1940-41(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	6.6	7.0	6.4	5.8	6.0	5.4	5.2	5.8	5.0	5.4	7.0
2	6.4	6.6	6.8	6.4	5.8	6.0	5.4	5.2	5.6	5.0	5.4	8.0
3	6.6	6.6	6.8	6.4	5.8	6.0	5.4	5.4	5.6	5.2	5.4	8.3
4	6.6	6.6	6.8	6.4	5.8	6.0	5.4	5.2	5.6	5.2	5.4	8.3
5	6.6	6.6	6.8	6.4	5.8	6.0	5.4	5.6	5.6	5.2	29	7.8
6	6.6	6.6	6.8	6.4	6.0	6.0	5.4	5.6	5.6	5.4	5.0	7.8
7	6.4	6.6	6.8	6.4	6.2	6.0	5.4	5.8	5.6	5.4	6.0	26
8	6.4	6.6	6.8	6.4	6.2	6.0	5.4	5.4	5.4	5.4	5.4	6.0
9	6.4	6.6	6.6	6.4	6.2	5.8	5.4	5.4	5.4	5.4	5.4	7.0
10	6.4	6.6	6.6	6.4	6.2	5.8	5.4	5.4	5.4	5.4	5.4	7.3
11	6.4	6.6	6.6	6.4	6.2	5.8	5.4	5.8	5.4	5.6	5.4	6.4
12	6.2	6.6	6.4	6.4	6.2	5.8	5.4	5.8	5.4	5.4	5.4	15
13	6.2	6.6	6.4	6.2	6.2	5.8	5.4	5.8	5.4	5.4	5.6	19
14	6.2	6.6	6.4	6.2	6.2	5.8	5.4	6.0	5.4	5.2	5.6	7.0
15	6.2	6.6	6.4	6.4	6.2	5.8	5.4	6.0	5.4	5.0	5.6	7.0
16	6.2	6.6	6.4	6.2	6.2	5.8	5.2	6.0	5.4	5.0	6.0	7.0
17	6.2	6.4	6.4	6.2	6.0	5.8	5.4	5.8	5.4	5.2	6.0	7.0
18	6.2	6.4	6.4	6.2	6.0	5.8	5.2	5.8	5.4	6.6	5.8	7.5
19	6.2	6.4	6.4	6.2	6.0	5.6	5.2	5.6	5.4	5.4	5.8	6.8
20	6.2	6.4	6.4	6.2	6.0	5.6	5.2	5.6	5.4	5.0	5.8	6.8
21	6.2	6.4	6.4	6.2	6.0	5.6	5.4	6.0	5.4	5.0	5.8	6.8
22	6.2	6.6	6.4	6.2	6.0	5.6	5.4	6.2	5.6	5.0	5.8	6.8
23	6.2	6.6	6.4	6.2	6.0	5.6	5.2	6.2	5.4	9.2	5.6	6.8
24	6.2	6.6	6.4	6.0	6.0	5.6	5.2	6.2	5.4	5.2	5.8	6.6
25	6.2	6.6	6.4	6.0	6.0	5.6	5.2	6.2	5.2	5.2	5.4	6.6
26	6.2	6.8	6.4	6.0	6.0	5.6	5.2	6.0	5.2	5.0	5.4	6.6
27	6.2	7.0	6.4	6.0	6.0	5.6	5.2	6.0	5.2	5.2	5.4	6.4
28	6.2	7.3	6.4	6.0	6.0	5.6	5.2	5.8	5.0	5.6	7.0	6.4
29	6.2	7.3	6.4	5.8	------	5.6	5.2	5.8	5.0	5.6	7.3	6.4
30	6.2	7.3	6.4	5.8	------	5.6	5.2	5.8	5.0	5.4	7.3	6.4
31	6.2	------	6.4	5.8	------	5.6	------	6.0	------	5.4	86	------
TOTAL	195.2	199.7	202.4	192.6	169.0	178.8	159.6	178.6	162.0	168.2	281.6	248.8
MEAN	6.30	6.66	6.53	6.21	6.04	5.77	5.32	5.76	5.40	5.43	9.08	8.29
MAX	6.6	7.3	7.0	6.4	6.2	6.0	5.4	6.2	5.8	9.2	86	26
MIN	6.2	6.4	6.4	5.8	5.8	5.6	5.2	5.2	5.0	5.0	5.0	6.0
AC-FT	387	396	401	382	335	355	317	354	321	334	559	493

CAL YR 1968 TOTAL 2,523.7 MEAN 6.90 MAX 43.0 MIN 5.4 AC-FT 5,010
WTR YR 1969 TOTAL 2,336.5 MEAN 6.40 MAX 86.0 MIN 5.0 AC-FT 4,630

PEAK DISCHARGE(BASE, 1,000 CFS).--Aug. 31(2000) 1,150 cfs (4.89 ft).

08360500 Elephant Butte Reservoir at Elephant Butte, N. Mex.

LOCATION.--Lat 33°09'15", long 107°11'30", in NW¼ sec.30, T.13 S., R.3 W., Sierra County, at dam on Rio Grande, 1 mile west of Elephant Butte and 4 miles northeast of Truth or Consequences (Hot Springs), N. Mex.

DRAINAGE AREA.--29,445 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

PERIOD OF RECORD.--March 1915 to December 1939 (published in WSP 1312). January 1940 to current year. (Prior to October 1965 monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is 43.3 ft above mean sea level. Oct. 16, 1939, to May 2, 1940, and prior to September 1930, staff gages.

EXTREMES.--Current year: Maximum daily contents, 479,400 acre-ft June 24 (gage height, 4,331.26 ft); minimum daily, 230,000 acre-ft Oct. 1 (gage height, 4,307.77 ft).
Period of record: Maximum daily contents, 2,302,800 acre-ft June 16-18, 1942 (gage height, 4,409.19 ft); minimum daily after initial filling, 9,900 acre-ft Aug. 6, 1954 (gage height, 4,258.03 ft).

REMARKS.--Reservoir is formed by concrete dam. Storage began Jan. 6, 1915. Dam completed May 13, 1916. Capacity, 2,195,000 acre-ft (survey of 1961) between gage heights 4,231.5 (sill of outlet gate) and 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, surveys of 1957 and 1961. No storage allocated to flood control. Figures given herein represent usable contents. Water is used for power development and irrigation on Rio Grande Project of Bureau of Reclamation. Lake is major recreational area. Contents given herein are computed from mean daily gage heights.

COOPERATION.--Records furnished by Bureau of Reclamation.

Capacity table, water year 1968-69 (gage heights, in feet, and contents, in thousands of acre-feet)

4,300	169.1	4,320	346.6
4,305	207.2	4,325	402.9
4,310	249.1	4,330	463.4
4,315	295.5	4,335	528.2

Contents, in acre-feet, water year October 1968 to September 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	230,000	236,300	297,500	335,000	384,800	406,400	361,100	352,800	437,400	464,500	359,700	251,000
2	230,000	236,500	298,800	336,400	387,300	406,400	357,500	353,600	439,700	461,600	357,100	249,400
3	230,200	236,900	300,000	338,100	388,700	405,500	354,000	354,400	442,200	458,300	354,700	247,700
4	230,400	237,100	301,400	339,400	390,300	404,200	351,500	355,300	444,200	454,600	352,600	245,600
5	230,500	237,500	302,500	341,000	392,000	403,200	349,900	356,100	446,300	450,800	351,000	244,100
6	230,600	237,700	303,800	342,400	393,300	402,100	348,500	358,100	448,500	446,600	349,400	242,900
7	230,700	238,000	305,100	344,200	394,500	401,100	347,500	361,200	450,000	442,700	346,600	241,700
8	231,000	238,200	306,400	345,700	395,700	400,000	346,500	365,600	451,000	438,700	344,400	240,500
9	231,100	238,500	306,500	347,200	397,100	398,800	345,900	371,100	451,600	435,600	342,300	238,900
10	231,300	239,800	308,700	348,800	398,200	397,500	345,000	376,700	451,700	431,600	339,200	238,500
11	231,500	241,500	310,000	350,200	399,600	396,000	344,400	381,200	452,300	428,900	336,000	240,200
12	231,600	243,500	311,200	351,700	401,000	394,700	343,700	384,900	453,100	425,300	332,700	242,200
13	231,800	245,900	312,400	353,100	402,300	393,600	343,400	388,400	455,100	421,700	328,600	244,800
14	232,000	246,300	313,700	354,500	403,500	392,000	343,200	392,400	456,500	417,800	324,200	247,900
15	232,100	250,000	314,900	356,500	404,300	390,400	343,300	395,900	457,800	413,400	319,700	251,100
16	232,400	253,500	315,900	357,800	404,400	389,000	343,400	399,600	459,100	410,000	315,600	253,800
17	232,600	256,200	317,100	359,500	404,300	387,500	343,500	402,500	462,000	406,500	311,100	255,200
18	232,800	258,600	318,600	360,900	404,400	386,100	343,400	405,800	465,400	403,100	306,100	256,200
19	233,100	261,100	319,700	362,600	404,600	384,800	343,400	408,400	468,800	399,500	301,500	257,300
20	233,200	264,000	320,900	363,900	404,900	383,100	343,400	410,600	472,000	396,000	297,200	258,800
21	233,500	266,900	322,200	365,300	405,100	381,500	342,500	412,900	475,000	392,400	293,100	263,500
22	233,700	270,600	323,600	366,900	405,300	379,800	342,400	414,600	477,500	389,500	289,700	264,300
23	234,000	274,700	324,800	368,600	405,600	378,100	342,700	415,900	479,100	386,700	285,200	265,500
24	234,200	278,300	325,700	370,000	405,500	376,300	343,200	417,400	479,400	383,100	280,800	266,700
25	234,500	282,000	327,000	371,700	405,600	374,800	343,900	419,600	478,600	380,100	276,400	268,300
26	234,700	285,000	327,800	373,300	405,900	373,500	345,000	422,000	477,300	377,100	271,800	269,900
27	235,000	287,700	328,900	375,100	406,000	371,900	346,600	425,300	475,300	374,100	267,900	270,900
28	235,200	290,200	329,700	376,500	406,200	370,100	349,500	428,400	472,900	371,700	264,000	272,000
29	235,500	293,100	331,100	377,900	------	368,300	351,300	430,800	470,300	368,500	260,400	273,000
30	235,800	295,400	332,700	379,600	------	366,400	352,200	433,000	467,400	365,600	256,900	274,000
31	236,000	------	333,600	382,100	------	364,000	------	435,100	------	363,000	253,800	------
(†)	4,308.5	4,315.0	4,318.8	4,323.2	4,325.3	4,321.6	4,320.5	4,327.7	4,330.3	4,321.5	4,310.5	4,312.7
(‡)	+6,100	+59,400	+38,200	+48,500	+24,100	-42,200	-11,800	+82,900	+32,300	-104,400	-109,200	+20,200
MAX	236,000	295,400	333,600	382,100	406,200	406,400	361,100	435,100	479,400	464,500	359,700	274,000
MIN	230,000	236,300	297,500	335,000	384,800	364,000	342,400	352,800	437,400	363,000	253,800	238,500

CAL YR 1968 ..... ‡ +66,500
WTR YR 1969 ..... ‡ +44,100

† Gage height, in feet, at end of month.

‡ Change in contents, in acre-feet.

08361000 Rio Grande below Elephant Butte Dam, N. Mex.

LOCATION.--Lat 33°08'45", long 107°12'20", in SW¼ sec.25, T.13 S., R.4 W. (projected), Sierra County, in Pedro Armendaris Grant, on left bank 1.0 mile downstream from dam and 1.5 miles upstream from Cuchillo Negro River.

DRAINAGE AREA.--29,450 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

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, have been found to be unreliable and should not be used.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 4,242.09 ft above mean sea level. See WSP 1732 for history of changes prior to April 24, 1942.

AVERAGE DISCHARGE.--54 years, 1,011 cfs (731,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,400 cfs Aug. 12 (gage height, 6.44 ft); minimum, 3.1 cfs Jan. 4-8.
Period of record: Maximum daily discharge, 8,220 cfs May 22, 1942; no flow at times prior to 1929.

REMARKS.--Records good except those for April to July, which are fair. Flow regulated by Elephant Butte Reservoir (see station 08360500). Diversion for irrigation of about 800,000 acres above station.

REVISIONS(WATER YEARS).--WSP 1562: 1920. WSP 1632: Drainage area. WSP 1732: 1920.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	5.5	7.0	3.5	8.5	643	1,950	1,270	1,860	2,080	1,960	1,940
2	8.0	6.0	7.0	3.5	8.5	642	1,940	1,250	1,860	2,070	1,970	1,950
3	8.5	6.0	6.5	3.5	9.2	1,260	1,960	1,250	1,860	2,060	1,970	1,950
4	8.5	6.2	6.5	3.1	10	1,280	1,980	1,250	1,860	2,040	1,970	1,940
5	8.0	6.5	6.5	3.1	10	1,280	2,000	1,250	1,860	2,040	1,970	1,360
6	10	6.0	7.0	3.1	127	1,280	1,980	1,240	1,870	2,020	1,980	1,330
7	8.0	5.1	6.5	3.1	12	1,280	1,970	1,250	1,890	2,010	1,980	1,330
8	7.5	5.1	6.5	3.1	11	1,280	1,970	1,240	1,890	2,000	1,990	1,330
9	7.5	5.5	7.0	4.4	11	1,280	1,970	1,250	1,910	2,000	1,990	1,330
10	10	5.5	7.0	4.2	11	1,280	1,970	1,250	1,920	1,980	2,000	82
11	13	5.5	7.0	4.2	11	1,280	1,970	1,250	1,940	1,960	2,010	13
12	13	5.5	7.0	4.2	9.8	1,280	1,970	1,260	1,960	1,930	2,150	12
13	12	5.5	7.0	4.2	9.0	1,280	1,980	1,270	1,980	1,910	2,260	11
14	10	5.2	6.5	4.8	9.0	1,280	1,980	1,270	2,000	1,900	2,260	11
15	9.0	5.5	6.5	4.6	599	1,280	1,980	1,280	2,010	1,890	2,260	9.4
16	5.5	5.5	6.5	3.4	633	1,280	1,960	1,280	2,010	1,890	2,260	9.5
17	5.5	6.7	6.5	3.4	636	1,280	1,760	1,280	2,010	1,910	2,250	10
18	6.0	8.0	6.5	3.4	636	1,280	1,970	1,290	2,020	1,920	2,250	10
19	6.0	7.5	6.5	3.6	635	1,290	1,960	1,290	2,020	1,930	2,230	9.6
20	6.2	7.5	7.0	3.8	636	1,290	1,970	1,280	2,030	1,920	2,220	11
21	6.5	7.5	7.0	4.3	638	1,290	1,970	1,280	2,030	1,930	2,210	112
22	6.0	7.5	5.5	5.2	627	1,300	1,370	1,890	2,030	1,930	2,210	10
23	6.0	7.5	5.5	5.3	638	1,300	1,330	1,900	2,050	1,920	2,210	9.2
24	5.5	7.5	5.5	4.7	647	1,300	1,330	1,890	2,080	1,920	2,200	9.3
25	5.5	8.0	5.5	4.8	632	1,300	1,320	1,870	2,080	1,920	1,930	9.5
26	5.5	6.0	6.5	5.3	643	1,300	1,310	1,860	2,080	1,920	2,080	8.9
27	5.1	6.0	5.5	5.7	635	1,310	1,300	1,860	2,080	1,920	1,960	8.4
28	5.1	6.5	5.1	6.4	638	1,350	1,300	1,850	2,090	1,920	1,960	8.5
29	5.1	6.5	5.1	9.1	------	1,320	1,290	1,840	2,090	1,940	1,950	8.5
30	5.1	7.0	5.1	9.0	------	1,330	1,270	1,850	2,080	1,950	1,950	8.5
31	5.1	------	5.1	8.7	------	1,350	------	1,850	------	1,960	1,950	------
TOTAL	230.2	189.8	195.9	142.7	9,130.0	38,775	52,980	45,190	59,450	60,690	64,540	14,841.3
MEAN	7.43	6.33	6.32	4.60	326	1,251	1,766	1,458	1,982	1,958	2,082	495
MAX	13	8.0	7.0	9.1	647	1,350	2,000	1,900	2,090	2,080	2,260	1,950
MIN	5.1	5.1	5.1	3.1	8.5	642	1,270	1,240	1,860	1,890	1,930	8.4
AC-FT	457	376	389	283	18,110	76,910	105,100	89,630	117,900	120,400	128,000	29,440

CAL YR 1968 TOTAL 271,287.4 MEAN 741 MAX 1,810 MIN 5.1 AC-FT 538,100
WTR YR 1969 TOTAL 346,354.9 MEAN 949 MAX 2,260 MIN 3.1 AC-FT 687,000

08362000 Caballo Reservoir near Arrey, N. Mex.

LOCATION.--Lat 32°53'45", Long 107°17'30", in SE¼SW¼ sec.19, T.16 S., R.4 W., Sierra County, in control tower of Caballo Dam on Rio Grande, 0.5 mile downstream from mouth of Apache Canyon, 0.9 mile upstream from Bojarquez Bridge, 2 miles upstream from Percha diversion dam, 3.5 miles northeast of Arrey, and 5.2 miles south of Caballo, N. Mex.

DRAINAGE AREA.--30,700 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

PERIOD OF RECORD.--February 1938 to September 1965 (monthend contents only), October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 43.3 ft above mean sea level.

EXTREMES.--Current year: Maximum daily contents, 83,370 acre-ft June 10 (gage height, 4,150.52 ft); minimum daily, 17,960 acre-ft Apr. 1 (gage height, 4,131.57 ft).
Period of record: Maximum daily contents, 347,000 acre-ft Mar. 4, 1942 (gage height, 4,182.06 ft); minimum daily 118 acre-ft Oct. 14, 1938 (gage height, 4,108.1 ft).

REMARKS.--Reservoir is formed by earth-fill dam, completed Sept. 19, 1938. Storage began Feb. 8, 1938. Capacity (1958 survey), 344,000 acre-ft between gage heights 4,104 (bottom of tunnel entrance of gates) and 4,182 ft (gage height above which spillway gates operate automatically). No dead storage. Storage held for flood control, 100,000 acre-ft. Figures given herein represent usable contents. 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. Contents given herein are computed from mean daily gage heights.

COOPERATION.--Records furnished by Bureau of Reclamation.

Capacity table, water year 1968-69 (gage height, in feet, and contents, in thousands of acre-feet)

4,131	16.73	4,138	34.19	4,146	62.50
4,132	18.88	4,140	40.31	4,148	71.28
4,134	23.52	4,142	47.03	4,150	80.76
4,136	28.61	4,144	54.42	4,152	91.03

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39,340	41,590	43,460	44,970	46,520	59,980	17,960	54,890	78,350	66,990	53,470	40,610
2	39,500	41,690	43,530	45,000	46,580	59,200	17,970	55,520	79,220	65,900	52,340	43,100
3	39,660	41,690	43,560	45,070	46,720	58,660	18,000	56,310	79,700	64,740	50,980	45,660
4	39,780	41,720	43,560	45,140	46,620	58,660	18,170	57,140	80,130	63,020	49,740	48,190
5	39,970	41,790	43,630	45,210	46,580	58,210	18,930	58,130	80,710	61,260	48,760	50,380
6	40,030	41,850	43,700	45,240	46,690	57,420	20,150	58,990	81,260	59,530	47,540	51,470
7	40,120	41,950	43,760	45,280	46,720	56,710	21,200	59,940	81,420	57,820	46,310	52,530
8	40,220	41,980	43,800	45,310	46,760	56,000	22,480	61,060	82,670	56,430	45,040	53,740
9	40,280	42,020	43,870	45,380	46,830	55,210	24,320	61,920	83,220	55,880	43,700	54,730
10	40,310	42,050	43,900	45,420	46,930	54,570	26,110	62,890	83,370	55,680	42,280	54,650
11	40,310	42,080	43,940	45,480	47,000	57,740	27,960	63,790	83,270	56,390	40,870	52,600
12	40,480	42,120	44,000	45,550	47,030	56,310	29,940	64,740	82,870	57,860	39,470	50,170
13	40,570	42,180	44,070	45,620	47,100	51,020	31,880	65,640	82,570	59,650	38,460	47,970
14	40,570	42,280	44,110	45,660	47,210	49,630	33,790	66,290	82,470	60,440	37,780	46,580
15	40,610	42,380	44,180	45,760	47,390	48,220	35,690	66,850	82,420	62,010	36,940	45,240
16	40,740	42,540	44,250	45,860	48,470	46,830	37,900	67,480	82,270	62,010	36,200	43,830
17	40,770	42,580	44,280	45,930	49,630	45,480	40,030	67,880	82,370	61,760	35,480	42,380
18	40,800	42,640	44,350	46,000	50,710	44,040	41,820	68,200	82,020	61,550	34,880	40,900
19	40,870	42,710	44,380	46,000	51,850	42,210	44,040	68,460	81,720	61,800	34,340	39,060
20	40,940	42,800	44,280	46,000	53,130	40,280	46,240	68,730	81,160	62,250	33,850	37,280
21	40,970	42,870	44,310	46,000	54,260	38,000	48,550	69,000	79,750	62,800	33,330	37,370
22	41,030	42,940	44,520	46,100	55,480	35,450	50,460	69,580	79,020	63,320	32,960	37,650
23	41,130	42,970	44,520	46,140	56,630	33,220	51,020	71,100	77,960	63,280	33,050	37,780
24	41,160	43,000	44,520	46,170	57,890	31,340	51,240	72,400	76,900	62,930	33,310	37,870
25	41,200	42,970	44,590	46,210	59,030	28,850	51,470	73,610	75,840	62,420	33,680	38,060
26	41,260	43,100	44,590	46,310	60,190	26,320	52,000	74,720	74,820	61,140	34,250	38,120
27	41,360	43,230	44,730	46,310	61,260	23,900	52,600	75,790	73,560	59,900	34,490	38,220
28	41,360	43,360	44,800	46,310	60,770	21,800	53,170	76,320	71,280	58,450	34,520	38,250
29	41,390	43,530	44,900	46,340	-------	20,240	53,810	76,800	69,490	57,340	34,940	38,340
30	41,460	43,430	44,830	46,450	-------	18,970	54,340	77,330	68,200	56,160	36,160	38,370
31	41,530	-------	44,930	46,480	-------	18,170	-------	77,820	-------	54,890	38,310	-------
†	4,140.4	4,141.0	4,141.4	4,141.8	4,145.6	4,131.7	4,144.0	4,149.4	4,147.3	4,144.1	4,139.4	4,139.4
‡	+2,250	+1,900	+1,500	+1,550	+14,290	-42,600	+36,170	+23,480	-9,620	-13,310	-16,580	+60
MAX	41,530	43,530	44,930	46,480	61,260	59,980	54,340	77,820	83,370	66,990	53,470	54,730
MIN	39,340	41,590	43,460	44,970	46,520	18,170	17,960	54,890	68,200	54,890	32,960	37,280

CAL YR 1968 ..... ‡ +2,350
WTR YR 1969 ..... ‡ - 910

† Gage height, in feet, at end of month.

‡ Change in contents, in acre-feet.

08362500 Rio Grande below Caballo Dam, N. Mex.

LOCATION.--Lat 32°53'05", long 107°17'30", in NE¼SW¼ sec.30, T.16 S., R.4 W., Sierra County, on left bank 2,000 ft upstream from Interstate Highway 25, 4,200 ft downstream from Caballo Dam, 1¼ miles downstream from Apache Canyon, 1.3 miles upstream from Percha diversion dam, 3 miles northeast of Arrey, and 5 miles south of Caballo.

DRAINAGE AREA.--30,700 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

PERIOD OF RECORD.--January 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,140.9 ft above mean sea level. 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.

AVERAGE DISCHARGE.--31 years, 884 cfs (640,500 acre-ft per year).

EXTREMES.--Current year: Maximum daily discharge, 2,930 cfs June 28, minimum daily, 0.8 cfs Nov. 13, Dec. 26. to Nov. 10.
Period of record: Maximum daily discharge, 7,650 cfs May 20, 1942; minimum daily, 0.1 cfs Oct. 31 to Nov. 14, 1954, Nov. 7 to Dec. 31, 1955.

REMARKS.--Records good. Flow regulated by Caballo Reservoir (capacity, 344,000 acre-ft, 1958 survey) and Elephant Butte Reservoir (capacity, 2,195,000 acre-ft, 1961 survey). Diversions for irrigation of about 800,000 acres above station. Figures of daily discharge do not include Bonita ditch which diverts from Caballo Dam and bypasses station for irrigation below. See monthly table below for record of ditch.

COOPERATION.--Records furnished by Bureau of Reclamation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	1.4	1.8	1.5	1.2	1,100	1,770	952	1,460	2,460	2,640	823
2	3.3	1.4	1.8	1.6	1.2	954	1,800	865	1,420	2,460	2,580	684
3	3.3	1.3	1.8	1.6	1.2	923	1,870	795	1,480	2,590	2,600	615
4	3.3	1.3	1.8	1.5	1.2	1,270	1,720	801	1,540	2,780	2,550	621
5	3.3	1.2	1.8	1.5	1.2	1,560	1,460	804	1,550	2,770	2,520	694
6	3.3	1.2	1.8	1.5	1.2	1,560	1,350	787	1,500	2,680	2,560	763
7	3.3	1.1	1.8	1.5	1.2	1,560	1,370	747	1,440	2,640	2,560	766
8	3.3	1.1	1.8	1.4	1.2	1,550	1,170	746	1,450	2,380	2,560	750
9	3.3	1.0	1.8	1.4	1.2	1,540	994	752	1,450	2,150	2,570	896
10	3.3	1.0	1.8	1.4	1.2	1,540	1,020	734	1,640	1,890	2,650	1,140
11	3.2	.90	1.8	1.4	1.2	1,700	978	732	1,890	1,420	2,680	1,280
12	3.2	.90	1.8	1.3	1.2	1,910	941	733	1,960	1,110	2,640	1,280
13	3.2	.80	1.8	1.3	1.2	1,920	913	778	1,900	1,120	2,590	1,060
14	3.2	.90	1.7	1.3	1.2	1,910	896	845	1,820	1,330	2,580	834
15	3.2	.90	1.7	1.3	1.2	1,900	880	860	1,800	1,730	2,590	834
16	3.2	1.0	1.7	1.3	1.2	1,890	836	910	1,740	1,990	2,530	826
17	3.2	1.0	1.6	1.3	1.2	1,890	792	995	1,860	1,990	2,470	810
18	3.2	1.1	1.5	1.3	1.2	2,130	795	1,030	2,010	1,840	2,450	908
19	3.2	1.2	1.4	1.3	1.2	2,250	741	1,030	2,000	1,710	2,430	990
20	3.2	1.3	1.3	1.3	1.2	2,260	712	1,040	2,180	1,660	2,400	832
21	3.3	1.4	1.2	1.3	1.2	2,320	729	1,100	2,380	1,640	2,390	512
22	3.3	1.4	1.2	1.3	1.2	2,400	847	1,140	2,360	1,790	2,230	119
23	3.3	1.5	1.1	1.3	1.2	2,140	935	1,130	2,340	2,000	2,070	8.0
24	3.3	1.6	1.0	1.3	1.2	2,120	1,150	1,220	2,300	2,050	2,010	4.6
25	3.3	1.7	.90	1.2	1.2	2,340	1,030	1,230	2,280	2,350	1,920	3.9
26	3.0	1.8	.80	1.2	1.2	2,410	877	1,250	2,360	2,460	1,870	3.5
27	2.7	1.8	.90	1.2	405	2,380	880	1,400	2,740	2,460	1,870	3.2
28	2.4	1.8	1.0	1.2	1,090	2,220	892	1,520	2,930	2,460	1,840	3.0
29	2.1	1.8	1.1	1.2	------	1,980	922	1,530	2,720	2,460	1,630	2.9
30	1.8	1.8	1.3	1.2	------	1,820	957	1,530	2,460	2,460	1,410	2.6
31	1.5	------	1.4	1.2	------	1,810	------	1,520	------	2,590	1,090	------
TOTAL	95.0	38.60	46.20	41.6	1,526.2	57,257	32,227	31,506	58,960	65,420	71,480	18,068.7
MEAN	3.06	1.29	1.49	1.34	54.5	1,847	1,074	1,016	1,965	2,110	2,306	602
MAX	3.3	1.8	1.8	1.6	1,090	2,410	1,870	1,530	2,930	2,780	2,680	1,280
MIN	1.5	.80	.80	1.2	1.2	923	712	732	1,420	1,110	1,090	2.6
AC-FT	188	77	92	83	3,030	113,600	63,920	62,490	116,900	129,800	141,800	35,840
(†)	0	0	0	0	0	127	101	32	66	90	121	31

CAL YR 1968 TOTAL 254,943.30 MEAN 697 MAX 2,470 MIN .80 AC-FT 505,700
WTR YR 1969 TOTAL 336,666.30 MEAN 922 MAX 2,930 MIN .80 AC-FT 667,800

† Diversion, in acre-feet, by Bonita ditch. Bonita ditch diverts directly from Caballo Dam and this diversion is not included in the river records.

08363700 Tortugas Arroyo near Las Cruces, N. Mex.

LOCATION.--Lat 32°17'20", long 106°43'45", in SE¼SW¼ sec.22, T.23 S., R.2 E. (projected), in Dona Ana Bend Colony Grant, Dona Ana County, 30 ft downstream from flood detention dam, 1.2 miles northeast of New Mexico State University and 3.3 miles southeast of Las Cruces.

DRAINAGE AREA.--20.7 sq mi.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder and Parshall flume at downstream end of reservoir outlet pipe. Datum of gage is 4,071.62 ft above mean sea level (Soil Conservation Service bench mark).

AVERAGE DISCHARGE.--7 years, 0.21 cfs (152 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 43 cfs Sept. 1 (gage height, 1.55 ft); no flow most of time.
Period of record: Maximum discharge 100 cfs Aug. 6, 1967 (gage height, 2.48 ft); no flow most of time.

REMARKS.--Records good. Records represent outflow from Tortugas Reservoir, completed in 1962. Records of suspended sediment loads for the water year 1969 are published in part 2 of this report.

Reservoir is designed to retard flood flows and detain silt. Dam is earth-fill, L-shaped, 3,400 ft long at crest and 44 ft high. Original capacity, 1,325 acre-ft at spillway crest. No dead storage, though deposition of silt is expected to reduce storage capacity. Outlet drop tower is 9' -2" x 4' -2" inside and 18' 6" high. The tower has 9 rectangular outlet ports, each 8"x17", but 6 are presently closed. Tower is connected to downstream channel by a 30-inch diameter pipe. Records will be published in tabular form, as flow events.

Outflow during water year October 1968 to September 1969

Flow event	Date	Outflow (hours)	Maximum (cfs)	Cfs-days	Runoff (acre-ft)
33	June 2	6.0	7.7	0.13	0.3
34	June 15, 16	12.0	13.	1.9	3.8
35	July 9	11.0	15.	1.9	3.8
36	July 9, 10, 11	33.0	34.	19.	37.
37	July 17, 18	19.0	17.	3.8	7.6
38	July 19, 20	19.0	8.2	0.74	1.5
39	July 20, 21	24.5	19.	5.8	12.
40	Aug. 6	7.0	4.3	0.17	0.3
41	Aug. 31 and Sept. 1	28.25	40.	22.	44.
42	Sept. 1, 2, 3	44.25	43.	33.	66.
Totals		203.5	-	88.44	176.

08364000 Rio Grande at El Paso, Tex.

LOCATION.--Lat 31°48'10", long 106°32'25", El Paso County, on downstream side of first pier from left abutment of Courchesne Bridge at El Paso, 1.7 miles upstream from American Dam, 5.6 miles upstream from Santa Fe Street - Juarez Avenue Bridge between El Paso and Cd. Juarez, Chihuahua, and at mile mile 1,249.9.

DRAINAGE AREA.--32,207 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

PERIOD OF RECORD.--January 1889 to current year. October 1960 to September 1965 in bulletins of International Boundary and Water Commission. Monthly discharges only for some periods published in WSP 1312 or 1732.

GAGE.--Water-stage recorder. Datum of gage is 3,722.30 ft above mean sea level (U.S.C. & G.S. datum). See WSP 1312 or 1732 for history of changes prior to Aug. 4, 1938.

AVERAGE DISCHARGE.--32 years (1937-69), 535 cfs (387,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,730 cfs Aug. 30 (gage height, 6.24 ft); minimum, 23.0 cfs Feb. 19.
Period of record: Maximum discharge, 24,000 cfs June 12, 1905; no flow at times. Maximum discharge since construction of Elephant Butte Dam in 1915, 13,500 cfs Sept. 3, 1925.

REMARKS.--Daily discharges were computed by adding discharges of American Canal at El Paso and Rio Grande below American Dam at El Paso. Reservoirs, diversions, and drainage returns modify the river flow at this station.

COOPERATION.--Records furnished by International Boundary and Water Commission, United States and Mexico.

DISCHARGE, IN CFS, WATER YEAR OCTOBER TO SEPTEMBER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	190	87.5	91.9	76.1	64.3	34.8	553	576	77.9	1,180	1,000	1,410
2	182	87.0	97.1	78.3	60.5	32.5	563	525	825	1,010	1,200	1,200
3	167	83.3	88.4	79.4	55.8	275	604	455	860	939	1,140	1,060
4	154	88.7	83.7	79.5	69.0	459	592	470	794	935	1,160	932
5	142	86.7	82.3	78.7	65.8	525	730	439	770	1,140	1,240	700
6	133	80.8	82.5	81.9	59.8	770	756	469	754	1,340	1,070	616
7	125	76.8	84.8	80.1	56.7	652	762	550	807	1,380	1,080	581
8	116	79.8	83.0	80.7	53.6	657	694	516	807	1,380	1,030	642
9	111	77.8	88.2	76.2	50.8	647	731	456	762	1,530	1,040	611
10	106	76.8	82.1	79.8	51.8	628	763	443	815	1,530	995	582
11	105	76.9	82.3	76.4	50.9	722	564	431	813	1,580	1,080	540
12	104	76.9	83.7	78.0	48.3	799	542	411	843	1,360	1,180	619
13	102	77.6	80.4	76.5	53.3	868	614	406	837	1,190	1,090	685
14	106	108	84.5	75.1	52.6	949	605	413	850	1,010	1,040	1,170
15	107	93.9	86.7	81.4	48.1	878	616	374	857	882	1,010	910
16	84.8	81.5	90.8	83.7	45.5	849	553	394	916	869	1,110	703
17	77.8	79.2	94.3	80.0	30.6	776	513	420	961	856	1,240	591
18	80.9	81.8	87.8	79.4	32.8	742	422	418	858	966	1,250	473
19	78.1	79.5	85.4	76.7	35.0	781	429	442	834	1,030	1,180	402
20	89.2	77.6	87.0	78.0	33.8	773	438	498	840	1,070	1,090	364
21	93.4	81.8	86.7	75.3	23.4	771	457	500	856	1,020	1,060	397
22	98.5	82.9	81.4	76.3	35.4	809	432	487	956	963	1,130	493
23	91.6	82.1	79.1	74.2	44.5	1,080	436	456	1,040	916	1,130	519
24	84.7	84.2	80.8	72.2	36.8	865	421	504	1,080	826	1,110	428
25	83.8	88.4	78.3	71.1	34.3	520	485	491	1,020	868	1,220	379
26	87.0	97.5	84.6	71.1	34.8	788	561	621	916	873	1,020	340
27	86.1	99.8	98.4	72.0	33.8	855	570	623	798	1,050	912	298
28	87.2	82.0	82.6	71.0	34.3	781	532	624	827	1,120	923	280
29	88.3	80.3	80.1	69.7	------	765	522	663	1,250	1,220	920	268
30	89.8	83.6	79.4	67.1	------	690	542	777	1,290	1,120	1,660	263
31	91.2	------	76.9	67.1	------	588	------	750	------	986	1,600	------
TOTAL	3,342.4	2,520.7	2,635.2	2,363.0	1,296.3	21,329.3	17,002	15,602	26,615	34,139	34,910	18,456
MEAN	108	84.0	85.0	76.2	46.3	688	567	503	887	1,100	1,130	615
MAX	190	108	98.4	83.7	69.0	1,080	763	777	1,290	1,580	1,660	1,410
MIN	77.8	76.8	76.9	67.1	23.4	32.5	421	374	754	826	912	263
AC-FT	6,630	5,000	5,227	4,687	2,571	42,307	33,723	30,947	52,791	67,715	69,244	36,607

CAL YR 1968: TOTAL 133,303.5 MEAN 364 MAX 1,630 MIN 26.8 AC-FT 264,408
WTR YR 1969: TOTAL 180,210.9 MEAN 494 MAX 1,660 MIN 23.4 AC-FT 357,449

08377900 Rio Mora near Terrero, N. Mex.
(Hydrologic bench-mark station)

LOCATION.--Lat 35°46'38", long 105°39'27", in E½NE¼ sec.22, T.18 N., R.12 E., San Miguel County, 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 miles north of Terrero.

DRAINAGE AREA.--53.2 sq mi.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,890 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 28.6 cfs (20,720 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 288 cfs May 22 (gage height, 3.05 ft); minimum, 1.6 cfs Nov. 28, result of freezeup.
Period of record: Maximum discharge, 451 cfs July 29, 1965 (gage height, 3.56 ft), from rating curve extended above 190 cfs; minimum determined, 0.90 cfs Jan. 12-14, 1964, but may have been less during periods of ice effect.
Greatest flood since 1886 probably occurred Sept. 29, 1904 (based on statement for Pecos River near Pecos and history of that flood period).

REMARKS.--Records good except those for winter period, which are poor. This bench-mark station was established to define hydrologic trends of the contiguous area. 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. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	6.6	4.0	4.0	4.5	4.5	17	61	168	30	57	64
2	11	7.7	4.0	4.0	4.5	4.5	21	65	154	51	53	61
3	11	7.2	4.0	3.8	3.8	4.5	22	60	138	35	52	59
4	12	7.5	4.0	3.5	4.3	4.5	23	63	120	31	65	54
5	11	7.2	4.0	3.5	5.0	4.0	24	60	106	29	84	50
6	10	6.0	4.5	3.7	5.0	4.0	29	61	98	32	89	47
7	10	5.0	4.5	3.5	5.0	4.0	27	60	92	28	72	46
8	9.7	4.5	4.5	3.7	5.0	4.0	25	56	84	27	65	46
9	9.2	4.7	4.5	3.7	5.0	4.0	26	66	85	27	59	43
10	8.9	5.0	4.5	3.7	5.0	4.0	28	84	127	28	52	40
11	8.7	4.5	4.5	3.8	5.0	4.0	29	103	104	27	46	38
12	8.2	5.0	4.5	3.8	5.0	4.0	28	120	92	24	43	42
13	7.7	5.0	4.0	3.7	5.0	4.0	33	120	85	24	46	37
14	7.7	5.0	4.0	4.0	5.0	4.0	36	115	74	25	52	35
15	7.7	4.5	4.5	4.3	5.0	4.0	36	109	69	27	41	33
16	8.2	4.5	5.0	4.1	5.0	4.0	32	108	79	25	36	31
17	7.7	4.5	5.0	4.1	5.0	4.5	28	98	80	29	33	30
18	6.8	4.5	4.5	3.8	5.0	5.0	27	109	66	44	31	29
19	7.5	4.5	4.5	3.8	4.5	5.0	32	136	61	49	29	27
20	7.7	4.5	4.5	4.0	4.5	5.0	30	170	55	65	27	27
21	7.2	4.5	4.5	4.0	4.0	5.0	41	206	52	56	34	35
22	6.8	4.5	4.0	4.0	4.0	4.5	55	248	46	60	35	31
23	7.0	4.5	4.5	4.0	4.0	4.5	63	258	43	76	69	28
24	6.8	4.5	5.1	4.0	4.5	4.5	70	242	40	78	52	26
25	6.8	4.5	4.9	4.1	4.5	4.5	69	202	38	84	44	24
26	6.6	4.0	5.1	4.5	4.5	4.5	59	188	35	69	44	23
27	6.8	3.8	4.9	4.0	4.5	5.0	50	184	32	61	44	22
28	6.6	3.5	4.5	4.5	4.5	6.0	47	182	29	57	42	21
29	6.6	3.3	4.3	4.3	------	7.0	49	184	27	54	41	21
30	6.4	3.8	4.1	4.1	------	10	54	182	25	48	51	20
31	6.6	------	4.0	4.3	------	10	------	178	------	47	59	------
TOTAL	256.9	148.8	137.4	122.3	130.6	151.0	1,110	4,078	2,304	1,347	1,547	1,090
MEAN	8.29	4.96	4.43	3.95	4.66	4.87	37.0	132	76.8	43.5	49.9	36.3
MAX	12	7.7	5.1	4.5	5.0	10	70	258	168	84	89	64
MIN	6.4	3.3	4.0	3.5	3.8	4.0	17	56	25	24	27	20
AC-FT	510	295	273	243	259	300	2,200	8,090	4,570	2,670	3,070	2,160

CAL YR 1968 TOTAL 13,424.9 MEAN 36.7 MAX 251 MIN 3.3 AC-FT 26,630
WTR YR 1969 TOTAL 12,423.0 MEAN 34.0 MAX 258 MIN 3.3 AC-FT 24,640

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-22	2200	3.05	288
6-10	0700	2.44	151
7- 1	2300	2.25	118
8- 5	2200	2.34	128

08378500 Pecos River near Pecos, N. Mex.

LOCATION.--Lat 35°42'30", long 105°40'55", in NE¼NE¼ sec.17, T.17 N., R.12 E., San Miguel County, in Santa Fe National Forest, on left bank at downstream side of bridge on private road, 300 ft upstream from Indian Creek, 2.4 miles downstream from Holy Ghost Creek, and 9.0 miles north of Pecos.

DRAINAGE AREA.--189 sq mi.

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.

GAGE.--Water-stage recorder. Datum of gage is 7,502.94 ft above mean sea level.

AVERAGE DISCHARGE.--50 years, 98.7 cfs (71,510 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 573 cfs May 22 (gage height, 3.59 ft); minimum, 4.6 cfs Mar. 16, result of freezeup.
Period of record: Maximum discharge, about 4,500 cfs Sept. 21 or 22, 1929 (gage height, 6.2 ft, from floodmark), from rating curve extended above 1,600 cfs; minimum, 4.1 cfs Dec. 8, 1963, result of freezeup.
Flood of Sept. 29, 1904, was greatest since 1886, from information by local residents.

REMARKS.--Records good except those for winter period, which are poor. Diversions for irrigation of about 75 acres (1959 determination) above station.

REVISIONS(WATER YEARS).--WSP 898: Drainage area. WSP 1312: 1932(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	26	17	20	17	19	63	192	416	93	175	156
2	36	30	18	22	17	19	72	204	388	136	182	154
3	36	27	20	20	17	19	74	189	351	104	180	151
4	39	30	20	18	20	17	72	195	321	95	215	137
5	40	28	20	20	19	18	78	183	294	91	236	125
6	38	22	21	20	18	20	93	186	275	100	246	117
7	35	20	20	22	18	19	85	180	264	87	201	112
8	35	27	21	21	18	19	78	164	253	81	183	114
9	35	22	22	20	18	18	80	189	257	83	164	114
10	35	26	23	18	19	19	89	223	342	93	146	106
11	33	20	23	17	19	19	91	250	282	89	132	100
12	33	26	21	17	20	22	85	286	250	80	121	125
13	32	24	20	18	19	19	104	290	253	74	125	102
14	32	26	20	18	18	21	108	282	230	72	149	93
15	33	22	22	18	17	20	110	282	210	95	119	87
16	36	22	25	16	19	20	102	275	236	89	104	83
17	35	22	24	15	18	23	89	253	246	87	95	81
18	30	20	23	14	18	27	82	275	207	122	91	83
19	33	24	20	12	19	29	97	330	189	121	87	76
20	33	24	20	13	18	27	95	383	172	139	89	76
21	32	23	21	13	17	27	130	442	161	121	91	102
22	30	23	20	13	17	24	175	496	151	121	100	95
23	30	22	21	12	17	23	207	524	142	137	170	83
24	30	21	21	12	17	21	223	501	134	150	125	76
25	30	22	22	14	17	20	220	442	132	172	112	67
26	28	20	21	15	19	22	189	426	123	160	108	63
27	27	19	21	18	19	24	164	436	114	164	108	62
28	26	18	20	16	18	30	159	426	104	154	106	62
29	26	17	18	15	------	37	164	436	97	151	102	60
30	24	17	18	13	------	47	178	431	93	128	123	58
31	24	------	19	15	------	55	------	431	------	132	140	------
TOTAL	1,006	690	642	515	507	744	3,556	9,802	6,687	3,521	4,325	2,920
MEAN	32.5	23.0	20.7	16.6	18.1	24.0	119	316	223	114	140	97.3
MAX	40	30	25	22	20	55	223	524	416	172	246	156
MIN	24	17	17	12	17	17	63	164	93	72	87	58
AC-FT	2,000	1,370	1,270	1,020	1,010	1,480	7,050	19,440	13,260	6,980	8,580	5,790

CAL YR 1968 TOTAL 36,629 MEAN 100 MAX 503 MIN 17 AC-FT 72,650
WTR YR 1969 TOTAL 34,915 MEAN 95.7 MAX 524 MIN 12 AC-FT 69,250

PEAK DISCHARGE (BASE, 310 CFS)

DATE	TIME	G.HT.	DISCHARGE
5-22	2300	3.59	573
6-10	0630	3.24	383
8- 4	2200	3.13	334

08379500 Pecos River near Anton Chico, N. Mex.

LOCATION.--Lat 35°10'44", long 105°06'30", Guadalupe County, in Anton Chico Grant, on right bank 2.1 miles upstream from Canon Blanco, 2.3 miles southeast of Anton Chico, and 9.7 miles downstream from Tecolote Creek.
DRAINAGE AREA.--1,050 sq mi, 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.
GAGE.--Water-stage recorder. Altitude of gage is 5,130 ft (from river-profile map). See WSP 1312 for history of changes prior to June 21, 1951.
AVERAGE DISCHARGE.--56 years (1910-15, 1916-24, 1926-69), 135 cfs (97,810 acre-ft per year).
EXTREMES.--Current year: Maximum discharge, 10,590 cfs Aug. 30 (gage height, 11.93 ft); minimum, 0.08 cfs Dec. 1.
Period of record: Maximum discharge, 40,300 cfs June 1, 1937 (gage height, 20.34 ft, from floodmarks, at site and datum then in use), by slope-area measurement; no flow at times.
The greatest flood since 1879 occurred Sept. 29, 1904 (discharge, about 73,000 cfs), from information by a local resident.
REMARKS.--Records fair. Diversions above station for irrigation of about 4,900 acres (1959 determination) above and below station. Acequia del Bodo Juan Paiz (see table below) diverts water about 8 miles above gage and bypasses this station on left bank; ditch flow not included in record. Discharge measurements made at point opposite regular gage. A portion of this flow may be returned to the river about five miles downstream.
REVISIONS (WATER YEARS).--WSP 1342: 1951(M), 1952-53. WSP 1512: 1912-14, 1931, 1933(M), 1935-36(M), 1938(P), 1939-40, 1941-42(P), 1945(M), 1946(P), 1949(P). WSP 1712: 1942(P).

Discharge measurements, in cubic feet per second, of Acequia del Bodo Juan Paiz, October 1968 to September 1969

Date	Discharge	Date	Discharge	Date	Discharge
Oct. 9	15.8	Feb. 17	0	June 11	29.9
29	7.79	Mar. 7	0	July 1	4.96
Nov. 21	14.5	26	0	17	*28
Dec. 10	22.4	Apr. 17	14.5	Aug. 12	26.9
Jan. 2	15.8	May 8	27.0	Sept. 10	0
24	8.81	28	22.7		

* Estimate

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	10	2.0	16	4.0	26	56	198	386	14	97	833
2	5.2	7.8	1.0	15	7.0	26	73	202	379	12	95	232
3	6.3	13	3.5	14	10	24	96	212	345	24	121	372
4	12	15	5.5	13	14	24	111	197	317	27	119	318
5	18	16	10	14	12	28	96	216	264	17	222	259
6	16	15	12	17	20	27	69	325	235	16	319	228
7	16	15	10	15	22	25	78	580	224	18	278	242
8	15	16	11	14	22	27	86	374	201	20	154	210
9	16	11	11	12	21	27	81	308	196	20	128	434
10	14	9.4	5.8	14	19	20	80	323	200	39	108	246
11	8.1	14	3.5	13	20	22	95	347	245	65	86	250
12	18	16	2.0	18	21	25	129	356	236	40	58	244
13	16	15	4.0	17	26	28	172	386	215	31	56	192
14	14	15	5.0	18	28	29	210	389	202	21	141	193
15	14	17	10	14	29	29	216	378	195	21	66	174
16	14	16	17	9.3	25	27	224	361	188	130	57	130
17	15	15	14	14	23	26	229	353	1,250	143	40	500
18	18	12	7.0	11	23	25	205	294	253	102	25	340
19	18	13	11	9.6	25	24	188	291	197	117	18	145
20	16	11	8.0	7.0	29	28	231	341	165	103	12	572
21	14	8.8	20	1.0	26	35	229	399	134	112	13	600
22	15	10	35	2.0	25	37	284	452	103	107	190	294
23	14	6.6	30	5.0	26	33	358	519	86	90	600	220
24	12	6.8	35	11	26	31	384	554	74	77	318	178
25	13	7.3	30	7.8	30	33	355	516	57	114	136	150
26	13	7.4	19	8.0	26	33	318	468	40	130	132	121
27	14	6.8	20	8.5	25	32	263	434	36	110	209	109
28	13	9.2	14	7.6	25	31	223	409	32	123	185	97
29	11	7.0	30	8.6	------	34	202	400	25	92	193	86
30	9.1	5.0	14	7.4	------	37	195	422	21	83	1,680	79
31	9.7	------	13	5.0	------	45	------	395	------	64	1,680	------
TOTAL	412.9	347.1	413.3	346.8	609.0	898	5,536	11,399	6,501	2,082	7,536	8,048
MEAN	13.3	11.6	13.3	11.2	21.8	29.0	185	368	217	67.2	243	268
MAX	18	17	35	18	30	45	384	580	1,250	143	1,680	833
MIN	5.2	5.0	1.0	1.0	4.0	20	56	197	21	12	12	79
AC-FT	819	688	820	688	1,210	1,780	10,980	22,610	12,890	4,130	14,950	15,960

CAL YR 1968 TOTAL 38,338.9 MEAN 105 MAX 1,100 MIN 1.0 AC-FT 76,050
WTR YR 1969 TOTAL 44,129.1 MEAN 121 MAX 1,680 MIN 1.0 AC-FT 87,530

PEAK DISCHARGE (BASE, 3,000 CFS).--Aug. 23 (1930) discharge unknown; Aug. 30 (2200) 10,590 cfs (11.93 ft).

08380500 Gallinas Creek near Montezuma, N. Mex.

LOCATION.--Lat 35°39'07", long 105°19'06", San Miguel County, in Las Vegas Grant, on left bank 2.4 miles west of Montezuma, and 6.9 miles northwest of Las Vegas.

DRAINAGE AREA.--84 sq mi, 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.

GAGE.--Water-stage recorder. Altitude of gage is 6,875 ft (from topographic map). Prior to Sept. 21, 1934, at different datum.

AVERAGE DISCHARGE.--53 years (1916-69), 19.6 cfs (14,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 404 cfs Aug. 6 (gage height, 3.25 ft); minimum, 0.31 cfs Feb. 2, result of freezeup.
Period of record: Maximum discharge, 7,120 cfs Aug. 2, 1966 (gage height, 9.7 ft, from floodmarks), from rating curve extended above 500 cfs on basis of slope-area measurements at gage heights 5.25, 8.25, and 9.7 ft; minimum, 0.20 cfs Oct. 6-9, 1922, Sept. 21, Oct. 9-14, 1956, Dec. 13, 1964.
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.

REMARKS.--Records good except those for winter period, which are poor. Diversions for irrigation of about 80 acres (1959 determination) above station.

REVISIONS(WATER YEARS).--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).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	3.6	3.0	3.0	3.5	3.8	10	28	36	4.8	65	35
2	4.2	4.2	3.2	3.0	3.5	3.4	14	29	34	6.0	42	55
3	3.6	4.2	3.2	2.9	3.0	3.4	15	29	32	5.2	36	41
4	4.0	4.0	3.2	2.9	3.5	3.4	15	30	28	4.4	33	33
5	4.2	4.0	3.2	2.9	4.0	3.2	14	35	25	4.2	29	27
6	4.4	4.4	3.5	3.0	4.0	3.2	15	68	24	4.2	47	22
7	4.2	4.0	3.5	3.0	4.0	3.5	16	95	22	4.0	29	21
8	4.0	4.4	3.5	3.1	3.5	3.2	15	78	22	4.2	23	24
9	3.8	4.4	3.5	3.2	4.0	3.2	14	76	20	4.8	19	22
10	4.0	4.2	3.5	3.3	4.0	3.2	15	86	20	6.7	16	24
11	4.0	3.8	3.5	3.5	4.0	3.0	22	90	17	7.2	13	19
12	4.0	4.0	3.5	3.6	3.8	3.0	33	90	16	5.7	11	32
13	4.0	4.0	3.0	3.6	3.8	3.0	34	82	17	5.0	11	27
14	3.8	4.0	3.0	3.6	3.7	3.0	34	77	16	8.5	12	24
15	4.0	4.0	3.5	3.6	3.6	3.2	33	69	15	6.2	10	21
16	4.2	3.6	4.0	3.2	3.6	3.5	31	67	16	6.4	9.2	20
17	4.2	3.8	4.0	3.2	3.4	4.0	28	60	18	15	8.6	19
18	4.4	3.8	3.5	3.3	3.6	5.0	27	53	14	45	8.0	20
19	4.2	3.4	3.5	3.3	3.2	6.0	36	55	11	35	7.2	18
20	4.2	3.4	3.5	3.6	3.2	6.0	34	58	10	25	6.2	17
21	4.0	3.4	3.5	3.4	3.0	5.2	39	61	8.6	42	6.4	100
22	4.0	3.2	3.0	3.8	3.2	5.4	46	64	8.0	38	8.6	75
23	4.0	3.4	3.5	3.2	3.6	5.4	51	63	7.4	40	29	56
24	4.4	3.8	4.0	3.2	3.4	5.2	50	64	6.2	65	25	44
25	4.4	3.8	3.8	3.5	3.6	5.2	46	56	6.7	88	20	37
26	4.2	3.6	4.0	4.6	3.6	4.8	40	48	6.7	52	30	31
27	4.0	3.4	3.8	4.6	3.4	5.4	34	45	7.0	34	26	27
28	4.0	3.0	3.5	4.0	3.6	5.7	30	42	5.7	28	25	24
29	3.8	2.8	3.4	3.8	------	5.7	29	42	5.0	23	21	23
30	3.8	3.0	3.2	3.5	------	7.2	28	42	4.8	19	20	21
31	3.8	------	3.0	3.5	------	8.9	------	38	------	35	21	------
TOTAL	126.4	112.6	107.0	105.9	100.3	137.3	848	1,820	479.1	671.5	667.2	959
MEAN	4.08	3.75	3.45	3.42	3.58	4.43	28.3	58.7	16.0	21.7	21.5	32.0
MAX	4.6	4.4	4.0	4.6	4.0	8.9	51	95	36	88	65	100
MIN	3.6	2.8	3.0	2.9	3.0	3.0	10	28	4.8	4.0	6.2	17
AC-FT	251	223	212	210	199	272	1,680	3,610	950	1,330	1,320	1,900

CAL YR 1968 TOTAL 5,683.5 MEAN 15.5 MAX 88 MIN 2.5 AC-FT 11,270
WTR YR 1969 TOTAL 6,134.3 MEAN 16.8 MAX 100 MIN 2.8 AC-FT 12,170

PEAK DISCHARGE (BASE, 250 CFS)

DATE	TIME	G.HT.	DISCHARGE
8- 6	1630	3.25	404
9-21	0300	2.90	267

08382500 Gallinas River near Colonias, N. Mex.

LOCATION(revised).--Lat 35°10'55", long 104°53'59", Guadalupe County, in Anton Chico and Preston Beck Grants, on right bank 2.4 miles upstream from mouth, 2.3 miles south of San Miguel - Guadalupe County line, and 5.8 miles northwest of Colonias, and 9.0 miles east of Dilia.

DRAINAGE AREA.--610 sq mi, approximately.

PERIOD OF RECORD.--January 1951 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,944 ft (from topographic map).

AVERAGE DISCHARGE.--18 years, 16.5 cfs (11,590 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,870 cfs Aug. 30 (gage height, 15.24 ft), from rating curve extended above 1,900 cfs, as explained below; no flow most of time.
Period of record: Maximum discharge, 9.360 cfs June 16, 1963 (gage height, 16.65 ft), from rating curve extended above 1,900 cfs on basis of slope-area measurements at gage heights 8.64, 12.74, 16.65, and 27.2 ft; no flow most of time.
Flood of about June 1, 1937, reached a stage of about 27.2 ft; discharge determined as 26,700 cfs by slope-area measurement made in 1951. A flood of about the same magnitude occurred Sept. 29-30, 1904.

REMARKS.--Records poor. Diversions for irrigation of about 7,000 acres (1959 determination) above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	0	0	0	22	178
2	0	0	0	0	0	0	0	0	0	0	74	60
3	0	0	0	0	0	0	0	0	0	0	27	40
4	0	0	0	0	0	0	0	0	0	0	4.1	20
5	0	0	0	0	0	0	0	0	0	0	2.7	10
6	0	0	0	0	0	0	0	2.0	0	0	2.9	5.0
7	0	0	0	0	0	0	0	.21	0	0	1.8	3.5
8	0	0	0	0	0	0	0	0	0	0	.67	35
9	0	0	0	0	0	0	0	0	322	0	0	23
10	0	0	0	0	0	0	0	0	60	15	0	7.5
11	0	0	0	0	0	0	0	0	11	38	0	410
12	0	0	0	0	0	0	0	0	3.5	3.2	0	36
13	0	0	0	0	0	0	0	0	2.5	1.2	0	12
14	0	0	0	0	0	0	6.2	0	1.1	.56	0	4.7
15	0	0	0	0	0	0	2.8	0	.56	0	0	2.0
16	0	0	0	0	0	0	1.6	0	.35	0	0	1.0
17	0	0	0	0	0	0	6.6	0	517	0	0	45
18	0	0	0	0	0	0	3.2	0	169	0	0	243
19	0	0	0	0	0	0	4.4	0	56	0	0	54
20	0	0	0	0	0	0	6.3	0	23	0	0	8.4
21	0	0	0	0	0	0	3.2	0	13	0	0	284
22	0	0	0	0	0	0	.90	0	5.5	0	88	187
23	0	0	0	0	0	0	.20	8.9	3.2	0	86	56
24	0	0	0	0	0	0	0	2.9	2.1	0	35	25
25	0	0	0	0	0	0	0	.11	1.3	0	6.0	14
26	0	0	0	0	0	0	0	0	.94	0	5.3	8.4
27	0	0	0	0	0	0	0	0	.35	0	7.5	5.8
28	0	0	0	0	0	0	0	0	.02	0	14	4.1
29	0	0	0	0	------	0	0	0	0	0	205	2.9
30	0	0	0	0	------	0	0	0	0	0	841	2.1
31	0	------	0	0	------	0	------	0	------	0	468	------
TOTAL	0	0	0	0	0	0	35.40	14.12	1,192.42	57.96	1,890.97	1,787.4
MEAN	0	0	0	0	0	0	1.18	.46	39.7	1.87	61.0	59.6
MAX	0	0	0	0	0	0	6.6	8.9	517	38	841	410
MIN	0	0	0	0	0	0	0	0	0	0	0	1.0
AC-FT	0	0	0	0	0	0	70	28	2,370	115	3,750	3,550

CAL YR 1968 TOTAL 4,545.87 MEAN 12.4 MAX 867 MIN 0 AC-FT 9,020
WTR YR 1969 TOTAL 4,978.27 MEAN 13.6 MAX 841 MIN 0 AC-FT 9,870

PEAK DISCHARGE (BASE, 1,700 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-17	0945	7.74	1,790	9-11	0145	8.78	2,430
8-30	2215	15.24	7,870				

08382800 Pecos River above Los Esteros damsite, near Santa Rosa, N. Mex.

LOCATION.--Lat 35°02'26", long 104°40'52", Guadalupe County, in Jose Perea Grant, on left bank, 1.3 miles downstream from Catfish Falls, 1.6 miles southwest from mouth of Esteros Creek, and 7.2 miles (revised) north of Santa Rosa.

DRAINAGE AREA.--2,430 sq mi, approximately.

PERIOD OF RECORD.--October 1965 to current year. Operated as a low-flow station only.

GAGE.--Water-stage recorder. Altitude of gage is 4,630 ft (revised), from topographic map.

EXTREMES.--No maximums or minimums determined.

REMARKS.--Records poor. Diversions for irrigation of about 12,000 acres (1959 determination) above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	19	17	13	10	14	13	105	281	19	21	-
2	19	21	17	16	12	14	14	109	281	18	30	-
3	19	19	17	15	8.0	15	15	108	271	17	110	-
4	23	18	17	16	10	15	14	115	251	16	67	-
5	24	18	16	16	13	17	15	116	209	17	58	221
6	19	19	17	15	13	15	15	165	158	17	169	169
7	19	19	17	14	13	14	16	431	120	19	154	-
8	18	21	17	14	14	15	16	354	100	21	173	176
9	18	19	17	13	13	15	17	271	-	36	102	-
10	19	18	17	12	13	15	19	226	-	39	65	-
11	18	17	17	13	13	16	21	230	255	41	35	-
12	18	17	15	14	13	14	25	251	160	24	22	-
13	18	17	11	14	18	14	34	271	153	19	45	150
14	18	18	13	13	15	14	62	286	177	17	59	110
15	18	17	15	14	13	15	84	281	98	16	46	85
16	18	17	14	13	13	15	98	279	-	15	28	70
17	21	17	14	13	13	14	122	295	-	197	21	55
18	20	18	12	13	14	14	127	258	-	133	17	-
19	20	18	10	13	15	13	111	205	238	51	18	270
20	19	18	7.0	14	15	14	105	191	135	47	18	250
21	19	17	12	14	15	14	116	232	85	52	19	-
22	19	16	10	13	14	14	127	279	52	40	19	-
23	19	16	8.0	12	14	14	158	350	33	41	78	240
24	20	16	14	10	14	14	209	510	24	35	-	150
25	20	16	14	12	14	15	246	470	22	25	209	111
26	19	16	16	12	14	14	221	400	21	45	99	80
27	19	17	16	12	14	14	215	354	20	77	81	60
28	19	17	13	13	14	13	178	318	19	63	149	40
29	19	18	12	13	------	13	141	286	19	51	147	33
30	18	17	13	10	------	14	120	304	19	35	-	28
31	18	------	11	8.0	------	14	------	301	------	20	-	------
TOTAL	594	531	436.0	407.0	374.0	445	2,674	8,351	-	1,263	-	-
MEAN	19.2	17.7	14.1	13.1	13.4	14.4	89.1	269	-	40.7	-	-
MAX	24	21	17	16	18	17	246	510	-	197	-	-
MIN	18	16	7.0	8.0	8.0	13	13	105	-	15	-	-
AC-FT	1,180	1,050	865	807	742	883	5,300	16,560	-	2,510	-	-

CAL YR 1968 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR YR 1969 TOTAL - MEAN - MAX - MIN - AC-FT -

08383000 Pecos River at Santa Rosa, N. Mex.

LOCATION.--Lat 34°56'36", long 104°41'55", in NW¼SE¼ sec.3, T.8 N., R.21 E., Guadalupe County, on left bank 0.6 mile upstream from bridge on U.S. Highway 66 in Santa Rosa and 1.9 miles upstream from El Rito Creek (revised).

DRAINAGE AREA.--2,650 sq mi, approximately (contributing area).

PERIOD OF RECORD.--May 1903 to December 1905 (gage heights only), January to December 1906, February 1910 to July 1911, September 1912 to December 1924, March to May 1927, July 1927, January 1928 to current year. Monthly discharge only for some periods, published in WSP 1312. Figures of daily discharge for Apr. 5-20, May 4-7, 11, Aug. 13, 16-18, 24, Sept. 7-9, 11, 13, 19, 21, 23, 25, 27, Oct. 1-31, Nov. 3, 4, 9, 11, 20, 22, 1910, and Feb. 1 to Mar. 31, June 1 to July 31, 1911, published in WSP 358 have been found to be unreliable and should not be used.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 4,537.56 ft above mean sea level. For history of changes prior to July 1, 1958 see WSP 1732. July 1, 1958 to Sept. 30, 1963, water-stage recorder at site 800 ft downstream at datum 4.16 ft lower. Supplemental water-stage recorder at site 800 ft downstream Oct. 1, 1963 to Sept. 13, 1967, datum 4.16 ft lower.

AVERAGE DISCHARGE.--53 years (1912-24, 1928-69), 142 cfs (102,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 20,000 cfs June 10 (gage height, 12.08 ft); minimum, 6.5 cfs Dec. 20, result of freezeup.
Period of record (1930-69): Maximum discharge, 55,200 cfs June 2, 1937 (gage height, 25.7 ft, site and datum then in use), from rating curve extended above 32,000 cfs; minimum, 1.8 cfs, Dec. 29, 1966, result of freezeup.
The flood of June 2, 1937, is the greatest since about 1886. Flood of Sept. 30, 1904, reached a stage of 24.7 ft (site and datum then in use), discharge, 45,500 cfs, by Kutter's formula. Flood of June 9, 1903, reached a stage of 21.1 ft (same site and datum as in 1904), discharge, 34,000 cfs, by comparison with 1904 flood.

REMARKS.--Records fair. Diversions for irrigation of about 12,000 acres (1959 determination) above station. Records of water temperatures and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

REVISIONS(WATER YEARS).--WSP 1512: 1913-15. See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	19	21	21	21	19	18	120	275	31	24	1,430
2	26	22	21	21	22	21	18	115	275	34	18	628
3	26	19	21	19	20	21	19	115	270	38	64	916
4	31	19	19	16	21	21	21	120	260	34	75	437
5	34	19	21	19	22	22	21	125	218	36	58	241
6	26	21	19	19	20	22	21	135	174	46	94	196
7	26	22	19	18	18	21	21	450	132	49	187	227
8	24	29	21	16	20	19	26	370	120	65	152	174
9	24	27	22	16	18	19	24	270	1,550	86	103	192
10	24	26	21	13	18	19	29	232	5,410	74	69	556
11	22	26	21	16	18	21	31	228	330	103	53	1,040
12	21	24	21	21	18	19	34	250	196	75	36	302
13	21	24	18	19	22	19	40	260	187	60	26	174
14	19	26	22	19	21	19	60	285	245	60	79	117
15	19	26	24	19	20	21	86	285	132	63	38	106
16	18	24	22	16	18	21	103	265	383	63	49	89
17	21	24	21	16	18	19	136	280	1,500	249	27	66
18	24	22	22	15	19	18	140	260	598	179	24	770
19	22	22	19	15	21	16	124	210	285	60	24	308
20	22	22	16	18	22	15	106	192	196	46	24	304
21	22	21	24	19	19	16	106	228	128	51	22	975
22	22	19	18	19	19	18	120	285	77	44	24	625
23	22	21	15	19	19	18	152	333	53	46	58	295
24	21	19	26	19	19	18	223	434	40	44	446	196
25	21	21	26	21	19	16	255	428	34	38	275	128
26	21	22	21	22	19	16	241	366	29	46	136	100
27	19	22	21	22	19	16	246	316	29	69	96	80
28	21	21	18	24	19	16	200	295	27	69	158	51
29	21	21	21	24	------	18	165	270	26	53	178	40
30	19	21	21	20	------	18	140	270	27	44	255	36
31	18	------	16	20	------	18	------	295	------	22	4,960	------
TOTAL	701	671	638	581	549	580	2,926	8,087	13,206	1,977	7,832	10,799
MEAN	22.6	22.4	20.6	18.7	19.6	18.7	97.5	261	440	63.8	253	360
MAX	34	29	26	24	22	22	255	450	5,410	249	4,960	1,430
MIN	18	19	15	13	18	15	18	115	26	22	18	36
AC-FT	1,390	1,330	1,270	1,150	1,090	1,150	5,800	16,040	26,190	3,920	15,530	21,420

CAL YR 1968 TOTAL 29,319 MEAN 80.1 MAX 1,640 MIN 11 AC-FT 58,150
WTR YR 1969 TOTAL 48,547 MEAN 133 MAX 5,410 MIN 13 AC-FT 96,290

PEAK DISCHARGE (BASE, 4,000 CFS).--June 10 (0300) 20,000 cfs (12.08 ft); Aug. 31 (0715) 13,400 cfs (9.62 ft).

08383500 Pecos River near Puerto de Luna, N. Mex.

LOCATION.--Lat 34°43'48", long 104°31'28", in NE¼SE¼NW¼ sec.20, T.6 N., R.23 E., Guadalupe County, on left bank 9 miles southeast of Puerto de Luna and 15.8 miles upstream from Alamogordo Dam.

DRAINAGE AREA.--3,970 sq mi, approximately (contributing area).

PERIOD OF RECORD.--April 1938 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage 4,311.34 ft above mean sea level. Prior to April 15, 1954, at datum 1 ft higher.

AVERAGE DISCHARGE.--31 years, 219 cfs (158,700 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 16,890 cfs June 10 (gage height 9.23 ft); minimum, 71 cfs April 7, 8.
Period of record: Maximum discharge, 48,600 cfs Sept. 1, 1942 (gage height, 17.00 ft), from rating curve extended above 7,400 cfs on basis of flow at Santa Rosa; minimum, 11 cfs Jan. 31, 1951.
Maximum flood known since at least 1886 occurred June 2, 1937, when peak at Santa Rosa was 55,200 cfs. 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.

REMARKS.--Records good. Diversions for irrigation of about 12,500 acres (1959 determination) above station. Discharge represents inflow to Alamogordo Reservoir (capacity, 110,700 acre-ft). Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	83	96	97	90	91	77	151	348	92	90	1,820
2	78	88	94	96	86	94	76	136	327	91	180	755
3	80	88	95	92	88	94	76	139	354	86	162	620
4	91	89	95	92	88	93	76	143	329	86	213	529
5	106	88	94	90	89	103	78	245	278	88	179	348
6	97	86	95	90	88	98	78	324	235	291	134	278
7	92	87	94	90	87	93	72	340	199	333	235	240
8	89	96	96	90	85	91	74	422	224	172	200	308
9	90	99	96	90	91	91	76	345	875	218	233	394
10	93	94	97	90	92	91	77	297	7,500	242	153	1,120
11	93	92	97	94	88	93	81	268	946	524	127	1,720
12	94	91	94	96	87	95	87	283	357	330	109	544
13	90	90	93	96	97	93	85	296	320	220	92	280
14	86	96	94	94	111	95	90	309	433	150	102	205
15	87	97	98	99	101	97	110	312	253	120	122	190
16	88	92	97	95	95	97	144	310	215	100	95	175
17	85	91	97	94	93	94	167	328	2,360	400	93	398
18	88	93	100	94	94	93	188	298	1,120	370	83	862
19	89	96	101	94	98	91	188	265	433	201	80	490
20	88	97	94	97	105	88	155	226	304	124	83	356
21	89	96	99	93	101	89	140	222	236	112	196	955
22	82	96	96	93	97	91	160	274	185	125	223	719
23	84	93	94	90	97	92	162	326	146	121	85	465
24	84	92	92	90	94	87	202	445	124	116	337	335
25	84	96	106	94	93	89	262	456	101	111	459	250
26	84	94	100	96	91	86	282	408	96	100	257	200
27	80	94	99	91	91	81	253	378	96	111	190	164
28	82	94	98	89	90	76	243	370	96	140	165	140
29	83	95	94	90	------	75	204	901	90	126	219	125
30	85	95	92	88	------	80	171	393	90	116	222	112
31	86	------	90	88	------	78	------	366	------	105	5,470	------
TOTAL	2,708	2,778	2,977	2,872	2,607	2,799	4,134	9,976	18,670	5,521	10,588	15,097
MEAN	87.4	92.6	96.0	92.6	93.1	90.3	138	322	622	178	342	503
MAX	106	99	106	99	111	103	282	901	7,500	524	5,470	1,820
MIN	78	83	90	88	85	75	72	136	90	86	80	112
AC-FT	5,370	5,510	5,900	5,700	5,170	5,550	8,200	19,790	37,030	10,950	21,000	29,940

CAL YR 1968 TOTAL 63,254 MEAN 173 MAX 2,890 MIN 56 AC-FT 125,500
WTR YR 1969 TOTAL 80,727 MEAN 221 MAX 7,500 MIN 72 AC-FT 160,100

PEAK DISCHARGE (BASE, 5,500 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-10	1100	9.23	16,890	8-31	1515	9.15	16,590

08384000 Alamogordo Reservoir near Fort Sumner, N. Mex.

LOCATION.--Lat 34°36'30", long 104°23'04", in SE¼SW¼ sec.34, T.5 N., R.24 E., DeBaca County, on right bank near dam on Pecos River, 5.0 miles northeast of Guadalupe, and 12.2 miles northwest of Fort Sumner.

DRAINAGE AREA.--4,390 sq mi (contributing area).

PERIOD OF RECORD.--December 1938 to September 1965 (monthend contents only), October 1965 to current year.

GAGE.--Staff gage. Datum of gage is at mean sea level, Bureau of Reclamation datum.

EXTREMES.--Current year: Maximum contents at 0800 hours, 74,070 acre-ft Mar. 13 (elevation, 4,265.75 ft); minimum, 3,490 acre-ft Aug. 20, 21 (elevation, 4,224.70 ft).
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).

REMARKS.--Reservoir is formed by earthfill dam, completed and storage began in August 1937. Capacity, 110,700 acre-ft between elevations 4,210.0 ft (sill of outlet gate) and 4,275.0 ft (top of spillway gates). No dead storage. No storage allocated for flood control. Reservoir is used to store water for irrigation.

COOPERATION.--Elevation record furnished by Bureau of Reclamation and Carlsbad Irrigation District. Capacity table furnished by Bureau of Reclamation.

REVISIONS(WATER YEARS).--WSP 1732: 1939-54. WSP 1923: 1939-53.

CONTENTS, IN ACRE-FEET, AT 0800 HOURS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58,320	57,750	61,980	66,580	68,640	72,730	42,590	34,300	48,600	44,720	38,280	20,790
2	58,320	57,900	62,130	66,740	68,800	72,730	40,550	34,400	48,990	42,820	38,170	24,760
3	58,040	58,040	62,280	66,740	68,800	72,900	38,590	34,400	49,380	40,880	39,020	25,740
4	58,040	58,040	62,430	66,900	68,960	73,070	36,600	34,490	50,300	38,800	39,240	27,000
5	58,320	58,180	62,580	67,060	69,120	73,240	34,690	34,590	50,820	36,500	37,330	28,050
6	58,320	58,180	62,740	67,210	69,120	73,400	32,750	35,090	51,090	34,590	35,290	28,400
7	58,040	58,320	62,890	67,370	69,290	73,400	30,940	35,500	51,360	33,140	33,040	28,760
8	58,040	58,470	63,040	67,530	69,450	73,570	30,660	36,200	51,500	32,750	31,230	29,200
9	58,040	58,610	63,190	67,680	69,450	73,740	30,660	36,910	52,580	33,520	29,020	30,570
10	58,040	58,750	63,340	67,840	69,610	73,740	30,660	37,120	55,630	34,300	26,580	34,200
11	58,040	58,900	63,500	68,000	69,770	73,740	30,660	37,650	67,680	36,000	24,270	37,230
12	58,040	59,040	63,650	68,160	69,940	73,910	30,660	37,960	68,640	36,810	22,040	40,550
13	58,040	59,180	63,800	68,310	70,100	74,070	30,660	38,380	67,060	37,120	19,520	41,330
14	58,040	59,330	63,950	68,480	70,260	72,560	30,660	38,700	66,430	37,440	16,900	41,790
15	57,750	59,480	64,110	68,640	70,420	70,750	30,660	39,130	65,330	37,440	14,420	42,020
16	57,750	59,770	64,260	68,800	70,750	69,770	30,850	39,460	63,950	37,440	11,980	42,240
17	57,750	59,920	64,410	68,800	70,910	68,000	31,040	39,900	63,650	37,540	9,480	42,360
18	57,750	60,060	64,410	68,960	71,070	66,430	31,230	40,440	66,740	37,750	6,830	44,840
19	57,750	60,210	64,560	68,960	71,230	64,870	31,420	40,880	66,430	38,070	4,170	46,700
20	57,750	60,360	64,720	68,960	71,400	62,890	31,610	41,100	65,170	38,170	3,490	47,330
21	57,750	60,510	64,870	68,960	71,560	61,240	31,990	41,330	63,950	38,280	3,490	47,830
22	57,750	60,660	65,020	68,960	71,730	59,620	32,080	41,450	62,130	38,380	4,000	49,910
23	57,750	60,800	65,170	68,800	71,890	57,750	32,270	41,790	60,360	38,380	4,170	50,960
24	57,750	60,950	65,330	68,800	72,060	56,040	32,370	42,360	58,610	38,380	4,660	51,770
25	57,750	61,100	65,480	68,800	72,230	54,650	32,560	43,270	56,750	38,380	5,510	52,040
26	57,750	61,240	65,640	68,800	72,230	52,720	32,840	44,120	54,790	38,280	6,600	52,450
27	57,750	61,390	65,800	68,800	72,400	51,090	33,230	44,720	52,720	38,280	6,980	52,450
28	57,750	61,540	65,960	68,800	72,400	49,380	33,720	45,090	50,820	38,280	7,140	52,580
29	57,750	61,690	66,110	68,800	------	47,450	33,910	45,570	48,860	38,280	7,290	52,720
30	57,750	61,830	66,270	68,640	------	45,690	34,200	47,450	46,700	38,280	7,690	52,720
31	57,750	------	66,430	68,480	------	44,120	------	48,210	------	38,280	8,190	------
(†)	-860	+4,080	+4,600	+2,050	+3,920	-28,280	-9,920	+14,010	-1,510	-8,420	-30,090	+44,530
MAX	58,320	61,830	66,430	68,960	72,400	74,070	42,590	48,210	68,640	44,720	39,240	52,720
MIN	57,750	57,750	61,980	66,580	68,640	44,120	30,660	34,300	46,700	32,750	3,490	20,790

CAL YR 1968: (†) +3,390
WTR YR 1969: (†) -5,890

† Change in contents, in acre-feet.

08384000 Alamogordo Reservoir near Fort Sumner, N. Mex.--Continued

ELEVATION, IN FEET, AT 0800 HOURS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60.70	60.50	61.95	63.45	64.10	65.35	54.70	50.80	57.15	55.60	52.75	42.90
2	60.70	60.55	62.00	63.50	64.15	65.35	53.80	50.85	57.30	54.80	52.70	45.50
3	60.60	60.60	62.05	63.50	64.15	65.40	52.90	50.85	57.45	53.95	53.10	46.10
4	60.60	60.60	62.10	63.55	64.20	65.45	51.95	50.90	57.80	53.00	53.20	46.85
5	60.70	60.65	62.15	63.60	64.25	65.50	51.00	50.95	58.00	51.90	52.30	47.45
6	60.70	60.65	62.20	63.65	64.25	65.55	50.00	51.20	58.10	50.95	51.30	47.65
7	60.60	60.70	62.25	63.70	64.30	65.55	49.05	51.40	58.20	50.20	50.15	47.85
8	60.60	60.75	62.30	63.75	64.35	65.60	48.90	51.75	58.25	50.00	49.20	48.10
9	60.60	60.80	62.35	63.80	64.35	65.65	48.90	52.10	58.65	50.40	48.00	48.85
10	60.60	60.85	62.40	63.85	64.40	65.65	48.90	52.20	59.75	50.80	46.60	50.75
11	60.60	60.90	62.45	63.90	64.45	65.65	48.90	52.45	63.80	51.65	45.20	52.25
12	60.60	60.95	62.50	63.95	64.50	65.70	48.90	52.60	64.10	52.05	43.75	53.80
13	60.60	61.00	62.55	64.00	64.55	65.75	48.90	52.80	63.60	52.20	42.00	54.15
14	60.60	61.05	62.60	64.05	64.60	65.30	48.90	52.95	63.40	52.35	40.00	54.35
15	60.50	61.10	62.65	64.10	64.65	64.75	48.90	53.15	63.05	52.35	37.90	54.45
16	60.50	61.20	62.70	64.15	64.75	64.45	49.00	53.30	62.60	52.35	35.60	54.55
17	60.50	61.25	62.75	64.15	64.80	63.90	49.10	53.50	62.50	52.40	33.00	54.60
18	60.50	61.30	62.75	64.20	64.85	63.40	49.20	53.75	63.50	52.50	29.80	55.65
19	60.50	61.35	62.80	64.20	64.90	62.90	49.30	53.95	63.40	52.65	25.90	56.40
20	60.50	61.40	62.85	64.20	64.95	62.25	49.40	54.05	63.00	52.70	24.70	56.65
21	60.50	61.45	62.90	64.20	65.00	61.70	49.60	54.15	62.60	52.75	24.70	56.85
22	60.50	61.50	62.95	64.20	65.05	61.15	49.65	54.20	62.00	52.80	25.60	57.65
23	60.50	61.55	63.00	64.15	65.10	60.50	49.75	54.35	61.40	52.80	25.90	58.05
24	60.50	61.60	63.05	64.15	65.15	59.90	49.80	54.60	60.80	52.80	26.70	58.35
25	60.50	61.65	63.10	64.15	65.20	59.40	49.90	55.00	60.15	52.80	28.00	58.45
26	60.50	61.70	63.15	64.15	65.20	58.70	50.05	55.35	59.45	52.75	29.50	58.60
27	60.50	61.75	63.20	64.15	65.25	58.10	50.25	55.60	58.70	52.75	30.00	58.60
28	60.50	61.80	63.25	64.15	65.25	57.45	50.50	55.75	58.00	52.75	30.20	58.65
29	60.50	61.85	63.30	64.15	-----	56.70	50.60	55.95	57.25	52.75	30.40	58.70
30	60.50	61.90	63.35	64.10	-----	56.00	50.75	56.70	56.40	52.75	30.90	58.70
31	60.50	-----	63.40	64.05	-----	55.35	-----	57.00	-----	52.75	31.50	-----
MAX	60.70	61.90	63.40	64.20	65.25	65.75	54.70	57.00	64.10	55.60	53.20	58.70
MIN	60.50	60.50	61.95	63.45	64.10	55.35	48.90	50.80	56.40	50.00	24.70	42.90
MEAN	60.56	61.16	62.68	63.96	64.67	62.71	50.05	53.36	60.35	52.43	38.08	53.38

Note.--Add 4,200 ft to obtain elevation above mean sea level.

08384500 Pecos River below Alamogordo Dam, N. Mex.

LOCATION(revised).--Lat 34°36'15", long 104°23'14", in lot 1, sec.2, T.4 N., R.24 E., De Baca County, on left bank 1,200 ft downstream from Alamogordo Dam, 2.9 miles upstream from Salado Creek, and 4.6 miles northeast of Guadalupe, and 12.2 miles northwest of Fort Sumner.

DRAINAGE AREA.--4,390 sq mi, 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. Prior to October 1944, published as "near Guadalupe."

GAGE.--Water-stage recorder and Parshall flume, with concrete control above top of flume. Datum of gage is 4,142.67 ft above mean sea level (Bureau of Reclamation datum). Prior to Sept. 10, 1936, at site 1.5 miles upstream at different datum. Sept. 14, 1936, to Mar. 8, 1941, and June 11 to Sept. 21, 1941, at site 0.2 mile downstream at different datums.

AVERAGE DISCHARGE.--23 years (1912-25, 1926-36), 236 cfs (170,900 acre-ft per year), prior to completion of Alamogordo Dam; 33 years (1936-69), 215 cfs (155,800 acre-ft per year).

EXTREMES.--Current year: Maximum daily discharge, 1,230 cfs Aug. 5, 8-10 (gage height, 3.27 ft); minimum daily discharge, 2.2 cfs Nov. 10, 11.
Period of record: Maximum discharge, 42,800 cfs Sept. 1, 1942, by computation of flow over spillway and through outlet gates of Alamogordo Dam by Bureau of Reclamation; maximum gage height, 13.58 ft Sept. 22, 1941; no flow at times.
Flood of June 2, 1937 probably exceeded 55,000 cfs at site 1.5 miles upstream.

REMARKS.--Records good. Diversion for irrigation of about 12,500 acres (1959 determination) above station. Flow regulated by Alamogordo Reservoir. (See sta 08384000.)

REVISIONS (WATER YEAR).--WSP 1512: 1932. WSP 1632: 1942. WSP 1712: 1944.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	3.1	2.7	4.6	8.4	10	971	99	66	1,030	99	85
2	90	2.9	2.4	5.0	8.3	7.5	1,020	97	66	1,040	98	163
3	91	2.7	2.4	4.8	8.5	6.7	1,050	98	68	1,050	98	97
4	92	2.7	2.6	4.7	8.6	7.2	1,040	99	68	1,050	820	95
5	91	2.6	2.7	4.2	8.5	7.2	1,050	99	69	1,040	1,230	98
6	90	2.4	2.7	3.2	8.5	7.5	1,050	99	68	1,040	1,220	80
7	91	2.5	2.8	2.9	8.1	6.9	582	99	83	736	1,220	64
8	91	2.6	3.0	2.7	7.6	6.2	98	98	102	97	1,230	59
9	92	2.5	3.0	2.7	7.8	6.8	100	99	96	98	1,230	61
10	92	2.2	3.2	2.8	8.3	6.7	96	99	105	96	1,230	63
11	92	2.2	3.1	2.9	8.6	6.7	97	100	101	98	1,220	58
12	92	2.3	2.5	2.9	8.6	7.0	97	100	650	96	1,220	57
13	93	2.4	2.5	3.1	8.4	473	98	101	1,040	95	1,220	58
14	93	2.4	2.6	3.2	8.5	965	78	102	1,040	97	1,210	60
15	92	2.4	2.7	3.2	8.8	971	67	102	1,050	97	1,200	60
16	91	2.4	2.8	3.4	8.9	971	69	102	1,050	98	1,180	62
17	75	2.4	3.1	3.5	8.7	976	69	103	1,050	98	1,180	61
18	68	2.4	3.2	67	8.6	975	69	104	1,050	97	1,190	37
19	68	2.7	3.1	94	8.6	976	66	96	1,050	99	740	37
20	68	2.7	3.2	93	8.7	971	68	103	1,050	95	111	64
21	67	2.7	3.4	94	8.8	979	68	103	1,050	98	109	64
22	68	2.7	3.3	97	9.0	981	71	94	1,050	99	103	66
23	67	3.0	3.3	98	9.2	976	76	102	1,050	100	104	66
24	65	2.7	3.4	96	9.2	971	77	81	1,050	100	103	66
25	65	2.7	3.8	96	9.6	979	78	65	1,050	97	104	65
26	65	2.4	3.8	95	9.9	975	79	71	1,050	97	104	60
27	65	2.4	3.8	96	10	977	79	89	1,050	97	101	66
28	65	2.4	3.8	97	9.9	976	89	103	1,050	98	102	66
29	65	2.4	4.1	97	------	972	98	102	1,050	100	103	69
30	65	2.7	4.5	97	------	978	99	90	1,050	101	104	71
31	57	------	4.6	41	------	983	------	68	------	101	101	------
TOTAL	2,457	76.6	98.1	1,317.8	244.6	18,111.4	8,649	2,967	20,422	9,335	20,084	2,078
MEAN	79.3	2.55	3.16	42.5	8.74	584	288	95.7	681	301	648	69.3
MAX	93	3.1	4.6	98	10	983	1,050	104	1,050	1,050	1,230	163
MIN	57	2.2	2.4	2.7	7.6	6.2	66	65	66	95	98	37
AC-FT	4,870	152	195	2,610	485	35,920	17,160	5,880	40,510	18,520	39,840	4,120

CAL YR 1968 TOTAL 56,212.77 MEAN 154 MAX 1,070 MIN .45 AC-FT 111,500
WTR YR 1969 TOTAL 85,840.5 MEAN 235 MAX 1,230 MIN 2.2 AC-FT 170,300

08385000 Fort Sumner main canal near Fort Sumner, N. Mex.

LOCATION.--Lat 34°30'30", long 104°16'40", in SW¼SW¼ sec.1, T.3 N., R.25 E., De Baca County, on right bank of concrete canal, 200 ft downstream from diversion dam on Pecos River, and 3.0 miles northwest of Fort Sumner.

PERIOD OF RECORD.--March 1939 to February 1943 (in WSP 1732), April 1954 to current year (monthly diversion only prior to October 1968).

GAGE.--Water-stage recorder. Datum of gage is 4,034.7 ft above mean sea level (Bureau of Reclamation Bench Mark). Prior to March 1954 at site 2.4 miles downstream at different datum. April 1954 to March 1965 at site 1.1 miles downstream at datum 1.7 ft lower.

EXTREMES.--Current year: Maximum daily discharge, 111 cfs Apr. 8, May 7; no flow many days.
Period of record: Maximum daily discharge, 174 cfs July 22, 1941; no flow many days each year.

REMARKS.--Records good. Canal diverts water from Pecos River for irrigation of about 6,600 acres (1961 determination) by the Fort Sumner Irrigation District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	34	0	0	12	0	54	96	57	102	100	64
2	88	0	0	0	0	0	75	96	59	103	57	12
3	88	0	0	0	0	0	95	95	66	105	102	35
4	97	0	0	0	0	0	105	98	75	106	95	102
5	105	0	0	0	0	0	109	100	66	106	79	104
6	93	0	0	0	0	0	107	106	64	106	95	101
7	94	0	0	0	0	0	110	111	65	106	91	80
8	91	0	0	0	0	0	111	102	90	106	72	96
9	90	0	0	0	0	0	108	98	98	105	102	59
10	90	0	0	0	0	0	108	98	104	107	98	42
11	90	0	0	0	0	0	105	96	94	102	98	0
12	90	0	0	0	0	0	102	96	90	102	100	0
13	89	0	0	0	0	0	98	96	85	100	100	0
14	91	0	0	0	0	0	96	97	74	99	99	42
15	96	0	0	0	0	0	75	104	82	99	99	74
16	83	0	0	0	0	0	77	103	75	101	98	65
17	95	0	0	0	0	0	78	100	85	99	99	63
18	75	0	0	0	0	0	74	98	102	97	100	99
19	66	0	0	60	0	0	74	95	98	97	101	45
20	64	0	0	89	0	0	72	94	89	94	101	58
21	64	0	0	87	0	0	74	97	85	94	101	64
22	62	0	0	63	0	0	75	94	86	98	99	66
23	62	0	0	77	0	0	77	97	99	97	98	68
24	61	0	0	90	0	0	77	110	101	95	96	66
25	60	0	0	92	0	0	78	69	102	96	102	66
26	59	0	0	92	0	0	78	65	102	96	104	63
27	59	0	0	92	0	0	78	69	103	96	101	65
28	58	0	0	91	0	0	80	90	104	97	100	64
29	61	0	0	92	------	0	93	93	103	28	100	69
30	63	0	0	92	------	0	96	104	102	53	103	71
31	63	------	0	89	------	19	------	70	------	100	100	------
TOTAL	2,439	34	0	1,106	12	19	2,639	2,937	2,605	2,992	2,990	1,803
MEAN	78.7	1.13	0	35.7	.43	.61	88.0	94.7	86.8	96.5	96.5	60.1
MAX	105	34	0	92	12	19	111	111	104	107	104	104
MIN	58	0	0	0	0	0	54	65	57	28	57	0
AC-FT	4,840	67	0	2,190	24	38	5,230	5,830	5,170	5,930	5,930	3,580

CAL YR 1968 TOTAL 18,233.20 MEAN 49.8 MAX 119 MIN 0 AC-FT 36,170
WTR YR 1969 TOTAL 19,576.00 MEAN 53.6 MAX 111 MIN 0 AC-FT 38,830

08385520 Pecos River below Fort Sumner, N. Mex.

LOCATION.--Lat 34°20'53"(revised), long 104°10'21", in SW¼SW¼ sec.36, T.2 N., R.26 E., DeBaca County, on left bank 0.7 mile upstream from Taiban Creek and 9.5 miles southeast of Fort Sumner.

DRAINAGE AREA.--5,600 sq mi, approximately.

PERIOD OF RECORD.--August 1957 to May 1958, March 1962 to current year (operated as a low-flow station only). Records prior to 1967 published in WRD 1966.

GAGE.--Water-stage recorder. Altitude of gage is 3,915 ft (revised), from topographic map. Prior to Mar. 27, 1962, at different datum.

EXTREMES.--No maximums or minimums determined.

REMARKS.--Records poor. Flow partly regulated by Alamogordo Reservoir. (See sta 08384000.) Diversions 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, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	40	20	16	35	20	-	30	47	-	42	260
2	29	36	20	18	28	19	-	29	39	-	44	185
3	29	33	20	18	28	20	-	32	37	-	46	185
4	32	32	19	17	26	19	-	36	46	-	48	127
5	43	30	18	17	25	20	-	32	38	-	-	138
6	41	29	18	18	25	20	-	32	32	-	-	113
7	35	28	18	17	25	19	-	34	32	-	-	91
8	35	29	18	16	24	18	176	30	35	538	-	175
9	41	28	18	16	23	18	84	29	45	132	-	395
10	42	25	18	16	23	18	66	31	52	211	-	-
11	50	25	18	15	23	18	62	30	37	106	-	390
12	58	24	18	17	24	18	56	29	34	68	-	196
13	45	23	18	17	25	18	54	32	-	59	-	157
14	45	24	19	16	26	-	48	31	-	54	-	149
15	56	21	18	16	24	-	47	35	-	49	-	138
16	91	21	18	16	24	-	42	38	-	47	-	111
17	85	21	18	15	23	-	46	39	-	47	-	102
18	85	20	19	15	22	-	38	32	-	43	-	176
19	77	20	18	18	23	-	37	32	-	42	-	127
20	73	20	18	23	24	-	34	31	-	41	320	66
21	72	20	18	18	23	-	33	32	-	40	106	82
22	63	20	19	17	22	-	33	41	-	40	93	80
23	62	20	17	29	22	-	30	36	-	40	65	70
24	56	20	18	25	21	-	32	70	-	42	130	59
25	59	20	18	25	21	-	31	70	-	41	89	54
26	58	19	18	23	20	-	31	41	-	41	84	48
27	47	19	18	24	20	-	31	32	-	45	72	49
28	47	20	17	27	20	-	31	30	-	44	62	47
29	43	20	18	27	------	-	32	92	-	43	58	48
30	39	20	18	33	------	-	32	104	-	41	130	45
31	37	------	20	39	------	-	------	67	------	41	154	------
TOTAL	1,603	727	568	624	669	-	-	1,259	-	-	-	-
MEAN	51.7	24.2	18.3	20.1	23.9	-	-	40.6	-	-	-	-
MAX	91	40	20	39	35	-	-	104	-	-	-	-
MIN	28	19	17	15	20	-	-	29	-	-	-	-
AC-FT	3,180	1,440	1,130	1,240	1,330	-	-	2,500	-	-	-	-

CAL YR 1968 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR YR 1969 TOTAL - MEAN - MAX - MIN - AC-FT -

08386000 Pecos River near Acme, N. Mex.

LOCATION(revised).--Lat 33°32'10", long 104°22'34", in SW¼NW¼ sec.14, T.9 S., R.25 E., Chaves County, on right bank, 3.0 miles downstream from U.S. Highway 70, 3.7 miles downstream from Salt Creek, 4.7 miles southwest of Acme, and 14 miles northeast of Roswell.

DRAINAGE AREA.--11,380 sq mi, 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. Altitude of gage is 3,507 ft(revised), from topographic map. Prior to Nov. 1, 1938, at site on highway bridge three miles upstream at various datums. Since Oct. 25, 1963, supplemental water-stage recorder on left bank opposite base gage at same datum.

AVERAGE DISCHARGE.--32 years (1937-69), 201 cfs (145,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,260 cfs Sept. 18 (gage height, 8.68 ft); no flow Oct. 1-14.
Period of record: Maximum discharge, 45,000 cfs Sept. 23, 1941 (gage height, 13.71 ft), from rating curve extended above 26,000 cfs; no flow at times.
The flood of May 28, 1937, reached a discharge of 53,000 cfs (gage height, 14.82 ft, from floodmarks, site and datum then in use), by slope-area method, but may have been exceeded by the flood of Oct. 1, 1904.

REMARKS.--Records fair except those below 10 cfs, which are poor. Flow regulated by Alamogordo Reservoir. (See sta 08384000.) Diversions for irrigation of about 20,000 acres (1959 determination) above station. Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	19	7.0	6.0	10	8.1	890	14	60	873	16	683
2	0	17	7.0	6.0	11	7.2	840	14	41	734	28	1,610
3	0	14	7.0	6.4	14	7.2	800	13	32	822	44	372
4	0	13	7.0	5.3	20	8.1	820	14	57	910	184	218
5	0	16	6.8	5.3	22	11	782	27	49	822	117	204
6	0	14	6.8	8.5	16	13	800	96	44	855	184	112
7	0	13	7.6	8.1	15	13	850	90	30	921	730	87
8	0	14	6.0	8.1	14	12	782	103	95	877	844	105
9	0	15	8.1	8.1	13	13	334	58	475	640	888	241
10	0	15	7.6	7.2	13	11	174	37	274	418	888	3,640
11	0	14	8.1	5.0	12	9.3	133	27	88	418	921	2,610
12	0	13	7.2	5.6	12	8.9	115	19	40	442	932	805
13	0	12	6.0	6.4	14	8.9	92	15	27	143	921	425
14	0	13	5.3	6.8	21	8.9	77	13	532	89	943	272
15	5.0	14	5.3	7.2	22	190	62	12	800	71	943	227
16	6.4	14	5.3	6.8	25	715	52	9.3	791	65	1,020	204
17	3.9	14	6.8	6.4	22	715	44	12	820	56	965	255
18	13	13	6.8	6.8	19	734	43	10	860	52	921	3,680
19	33	12	6.4	6.8	17	762	39	10	850	60	954	1,310
20	40	11	6.0	6.4	18	791	38	12	870	70	921	371
21	43	10	5.0	5.6	17	820	39	6.8	810	44	591	568
22	38	9.0	3.0	5.3	16	820	62	4.4	840	39	343	349
23	37	8.5	2.5	4.2	14	820	37	6.0	791	33	200	207
24	36	8.0	2.3	3.9	13	820	30	5.3	772	28	85	164
25	31	8.0	5.3	6.8	12	820	26	4.4	791	21	61	136
26	30	7.5	6.4	6.8	11	800	22	6.8	772	16	127	112
27	27	7.5	11	5.3	9.7	753	19	17	753	26	98	97
28	25	7.5	16	12	8.5	840	17	27	724	55	60	84
29	29	7.5	12	12	-------	900	16	16	734	24	55	75
30	22	7.0	9.3	9.7	-------	860	14	21	810	14	51	70
31	20	-------	6.8	8.5	-------	860	-------	6.9	-------	27	256	-------
TOTAL	439.3	360.5	213.7	213.3	431.2	13,159.6	8,049	726.9	14,632	9,665	15,291	19,293
MEAN	14.2	12.0	6.89	6.88	15.4	425	268	23.4	488	312	493	643
MAX	43	19	16	12	25	900	890	103	870	921	1,020	3,680
MIN	0	7.0	2.3	3.9	8.5	7.2	14	4.4	27	14	16	70
AC-FT	871	715	424	423	855	26,100	15,960	1,440	29,020	19,170	30,330	38,270

CAL YR 1968 TOTAL 38,639.33 MEAN 106 MAX 1,180 MIN 0 AC-FT 76,640
WTR YR 1969 TOTAL 82,474.50 MEAN 226 MAX 3,680 MIN 0 AC-FT 163,600

PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
9- 2	0830	7.34	3,350	9-18	1745	8.68	6,260
9-10	2200	8.64	5,540				

08387000 Rio Ruidoso at Hollywood, N. Mex.

LOCATION (revised).--Lat 33°19'43", long 105°36'34", in SE¼NE¼ sec.30, T.11 S., R.14 E., Lincoln County, on right upstream bridge abutment on road leading to Ruidoso Downs race track, 0.2 mile north of U. S. Highway 70, 1.1 miles east of the Hollywood Post Office, 1.2 miles downstream from the Ruidoso sewage disposal plant, 1.8 miles downstream from Gavilan Canyon, and 2.8 miles downstream from Carrizo Creek.

DRAINAGE AREA.--120 sq mi, approximately.

PERIOD OF RECORD.--March 1953 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,365.42 ft above mean sea level. Prior to October 14, 1961, at datum 0.30 ft higher. October 14, 1961, to Mar. 8, 1962, at datum 0.60 ft higher. Mar. 9, 1962, to June 18, 1965, at datum 1.0 ft higher.

AVERAGE DISCHARGE.--16 years, 12.0 cfs (8,690 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 137 cfs Aug. 26 (gage height, 2.13 ft); minimum, 3.0 cfs July 4.
Period of record: Maximum discharge, 1,340 cfs June 17, 1965 (gage height, 9.05 ft), from rating curve extended above 110 cfs on basis of slope-area measurement of peak flow; minimum, 0.30 cfs Jan. 1, 1962, May 8-9, 1964.
The flood of Sept. 29, 1941, is probably the highest since at least 1904 (discharge not determined).

REMARKS.--Records good. Figures of discharge do not include F. Herrera ditch-S., which diverts from right bank 1.5 miles upstream and bypasses station for irrigation of 75 acres (1959 determination) below. See monthly table below for record of ditch. Village of Ruidoso diverts from right bank 7 miles upstream for municipal use and returns a portion of this to river as effluent from sewage disposal plant 1.2 miles upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	5.3	6.5	6.5	7.4	7.5	42	30	17	3.5	12	4
2	5.6	5.6	6.5	6.2	7.4	7.6	45	29	17	3.3	11	5
3	5.6	5.6	6.2	5.6	7.1	7.6	43	28	18	3.3	16	4
4	7.1	5.6	6.2	5.5	7.7	7.4	40	28	13	3.3	11	3
5	7.1	5.3	6.0	5.9	7.6	8.6	40	30	12	3.4	14	3
6	6.2	5.3	6.2	5.9	6.8	9.8	45	30	10	4.8	37	3
7	6.2	5.3	5.9	5.9	6.7	8.2	50	24	10	4.4	37	3
8	5.9	5.3	5.6	6.4	6.5	9.0	49	21	9.4	4.2	35	4
9	5.6	5.3	5.6	6.5	6.0	9.3	45	16	9.3	6.4	30	7
10	5.6	5.3	5.6	6.5	5.6	7.9	44	14	8.9	5.6	25	8
11	5.6	5.3	5.0	6.3	5.5	7.4	42	14	8.6	9.1	20	6
12	5.3	5.3	5.3	6.6	5.7	7.6	39	14	8.3	6.6	17	5
13	5.3	4.7	5.0	6.5	7.2	7.3	39	16	8.6	5.6	14	4
14	5.3	8.6	5.2	6.6	7.7	7.2	42	18	8.3	4.9	12	6
15	5.6	6.8	5.6	11	7.0	6.9	43	21	8.5	4.5	11	6
16	5.6	5.6	5.3	9.3	7.1	8.1	44	21	8.2	5.7	11	5
17	5.9	5.6	5.3	7.9	7.0	7.1	40	21	7.3	9.4	9.8	4
18	5.9	5.6	5.4	7.5	7.3	7.5	35	19	6.5	7.5	9.1	4
19	5.3	5.3	5.0	7.5	7.5	8.2	33	19	6.1	7.7	8.3	3
20	5.6	5.6	5.2	7.3	7.3	10	30	19	5.5	7.9	10	3
21	6.8	5.6	5.0	7.2	7.0	11	32	19	5.3	11	9.7	3
22	5.6	5.6	4.8	8.1	6.8	13	39	20	5.1	10	8.0	2
23	5.3	5.6	5.0	7.3	7.0	15	44	32	5.0	9.1	7.4	2
24	5.3	5.9	5.0	7.0	6.8	15	43	31	4.8	8.9	7.5	2
25	5.3	5.9	5.3	7.1	7.0	14	40	30	4.7	8.0	9.0	2
26	5.3	6.5	8.1	8.5	7.1	13	36	26	4.7	7.4	22	1
27	5.3	7.4	7.4	8.0	7.1	13	34	23	4.4	12	16	1
28	5.0	7.1	7.0	8.0	7.4	15	31	21	4.2	12	12	1
29	5.0	6.8	6.2	9.1	-------	20	30	22	4.5	11	15	1
30	5.0	6.8	5.9	7.8	-------	27	30	22	4.0	10	46	1
31	5.0	-------	5.9	8.0	-------	34	-------	19	-------	9.2	44	-------
TOTAL	175.1	175.5	178.2	223.5	194.3	350.2	1,189	697	247.2	219.7	546.8	1,20
MEAN	5.65	5.85	5.75	7.21	6.94	11.3	39.6	22.5	8.24	7.09	17.6	40.
MAX	7.1	8.6	8.1	11	7.7	34	50	32	18	12	46	8
MIN	5.0	4.7	4.8	5.5	5.5	6.9	30	14	4.0	3.3	7.4	1
AC-FT	347	348	353	443	385	695	2,360	1,580	490	436	1,080	2,380
(†)	18	31	5.3	3.1	8.1	10	25	92	93	60	60	44

CAL YR 1968 TOTAL 8,358.9 MEAN 22.8 MAX 110 MIN 4.5
WTR YR 1969 TOTAL 5,397.5 MEAN 14.8 MAX 83 MIN 3.3

PEAK DISCHARGE (BASE, 100 CFS).--Aug. 26 (1430) 137 cfs (2.13 ft); Sept. 10 (1800) 104 cfs (1.92 ft).

† Diversion, in acre-feet, by F. Herrera ditch-S.

08390500 Rio Hondo at Diamond A Ranch, near Roswell, N. Mex.

LOCATION.--Lat 33°20'57", long 104°51'05", in NE¼NE¼ sec.20, T.11 S., R.21 E., Chaves County, on right bank 15 ft downstream from county road bridge at Diamond A Ranch, 1.3 miles south of U.S. Highway 70 - 380, 13 miles upstream from Two Rivers Reservoir, 21 miles upstream from mouth of Rocky Arroyo, and 18 miles west of Roswell.

DRAINAGE AREA.--947 sq mi (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 No. 7, State of New Mexico, Streamflow and Reservoir Content 1888-1954.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,190 ft (revised), from topographic map. Prior to Nov. 11, 1965, at site on opposite bank at same datum. Supplemental water-stage recorder on opposite bank since Nov. 11, 1965, at same datum.

AVERAGE DISCHARGE.--30 years (1939-69), 24.3 cfs (17,610 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,540 cfs Sept. 21 (gage height, 20.35 ft); no flow most of time.
Period of record: Maximum discharge, 54,800 cfs June 18, 1965 (gage height, 26.40 ft), from rating curve extended above 3,000 cfs on basis of slope-area measurement of peak flow; maximum gage height, 28.78 ft, Sept. 22, 1941; no flow most of time.
A flood on June 1, 1937, reached a discharge of 24,900 cfs at Riverside about 13 miles upstream. Other major floods occurred Oct. 31, 1901, Sept. 29, 30, 1904, and July 25, 1905.

REMARKS.--Records poor. Diversions and ground-water withdrawals above station for irrigation above and below station of about 6,500 acres (1959 determination).

REVISIONS(WATER YEARS).--WSP 1392: Drainage area. WSP 1512: 1939-40(P), 1941, 1942-43(P), 1946(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	0	0	0	0	353
2	0	0	0	0	0	0	0	0	0	0	0	87
3	0	0	0	0	0	0	0	0	0	0	0	107
4	0	0	0	0	0	0	0	0	0	0	0	102
5	0	0	0	0	0	0	0	0	0	0	0	54
6	0	0	0	0	0	.40	0	0	0	70	0	37
7	0	0	0	0	0	.34	0	0	0	12	0	67
8	0	0	0	0	0	0	0	0	0	2.9	0	72
9	0	0	0	0	0	0	0	0	0	4.2	0	90
10	0	0	0	0	0	0	0	0	0	.32	0	130
11	0	0	0	0	0	0	0	0	0	53	0	152
12	0	0	0	0	0	0	0	0	0	0	0	237
13	0	0	0	0	0	0	0	0	0	0	0	120
14	0	0	0	0	0	0	0	0	0	0	0	101
15	0	0	0	0	0	0	0	.89	0	0	0	114
16	0	0	0	0	0	0	0	0	140	0	0	107
17	0	0	0	0	0	0	0	0	124	0	0	92
18	0	0	0	0	0	0	0	0	21	0	0	83
19	0	0	0	0	0	0	0	0	6.1	0	0	101
20	0	0	0	0	0	0	0	0	.70	0	0	54
21	0	0	0	0	0	0	0	0	0	0	0	862
22	0	0	0	0	0	0	0	0	0	0	0	239
23	0	0	0	0	0	0	0	0	0	0	0	57
24	0	0	0	0	0	0	0	0	0	0	0	42
25	0	0	0	0	0	0	0	0	0	0	40	30
26	0	0	0	0	0	0	0	0	0	0	.10	20
27	0	0	0	0	0	0	0	0	0	28	0	15
28	0	0	0	0	0	0	0	0	0	2.7	0	10
29	0	0	0	0	------	0	0	0	0	.15	0	8.0
30	0	0	0	0	------	0	0	0	0	0	35	5.0
31	0	------	0	0	------	0	------	0	------	0	69	------
TOTAL	0	0	0	0	0	0.74	0	0.89	291.80	173.27	144.10	3,548.0
MEAN	0	0	0	0	0	.024	0	.029	9.73	5.59	4.65	118
MAX	0	0	0	0	0	.40	0	.89	140	70	69	862
MIN	0	0	0	0	0	0	0	0	0	0	0	5.0
AC-FT	0	0	0	0	0	1.5	0	1.8	579	344	286	7,040

CAL YR 1968 TOTAL 8,192.69 MEAN 22.4 MAX 3,060 MIN 0 AC-FT 16,250
WTR YR 1969 TOTAL 4,158.80 MEAN 11.4 MAX 862 MIN 0 AC-FT 8,250

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-16	2050	13.23	1,100	9-12	2145	14.85	1,350
9- 1	1130	13.84	1,200	9-21	0245	20.35	2,540

08390600 Two Rivers Reservoir near Roswell, N. Mex.

LOCATION.--Lat 33°17'55", long 104°43'20", in SW¼SE¼NE¼ sec.4, T.12 S., R.22 E., near center of Diamond A Dam on Rio Hondo, 13 miles southwest of Roswell, and lat 33°16'20", long 104°43'20", in NW¼SE¼NE¼ sec.16, T.12 S., R.22 E., Chaves County, at left end of Rocky Dam on Rocky Arroyo, 14 miles southwest of Roswell.

DRAINAGE AREA.--1,030 sq mi (Rio Hondo, 963 sq mi; Rocky Arroyo, 64 sq mi).

PERIOD OF RECORD.--July 1963 to current year. Prior to October 1965 monthend contents only.

GAGE.--Water-stage recorders. Datums of gages are at mean sea level.

EXTREMES.--Current year: Maximum contents at 2400 hours of Rio Hondo Reservoir, 849 acre-ft Sept. 21 (elevation, 3,982.70 ft); no contents most of time. Maximum contents at 2400 hours of Rocky Arroyo Reservoir, 100 acre-ft Sept. 22 (elevation, 3,947.57 ft); no contents most of time.

Period of record: Maximum contents at 0800 hours of Rio Hondo Reservoir, 1,260 acre-ft July 29, 1965 (elevation, 3,985.7 ft); Rocky Arroyo Reservoir at 0800 hours, 6,090 acre-ft June 18, 1965 (elevation, 3,970.7 ft); no contents both reservoirs most of time.

REMARKS.--Two Rivers Reservoir, completed July 16, 1963, is formed by earthfill dams on Rio Hondo, which forms Rio Hondo Reservoir; and Rocky Arroyo which forms Rocky Arroyo Reservoir. Above elevation 3,9080.0 ft the pools of the two reservoirs combine to form Two Rivers Reservoir with a total capacity of 167,900 acre-ft at elevation 4,032.0 ft (crest of ungated spillway). Capacity of Rio Hondo Reservoir, 550 acre-ft between elevations 3,957.0 (sill of outlet gate) and 3,980.0 ft. Capacity of Rocky Arroyo Reservoir, 14,240 acre-ft between elevations 3,945.0 (sill of outlet gate) and 3,980.0 ft. No appreciable dead storage in Rio Hondo Reservoir. Dead storage in Rocky Arroyo Reservoir, 39 acre-ft. Primary objective of project is flood control. Outlet conduits in Rocky Dam have fixed openings. Figures given herein represent total contents (in table, reservoirs separated as indicated).

COOPERATION.--Records furnished by Corps of Engineers.

ELEVATION, IN FEET, AND CONTENTS, IN ACRE-FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	Rio Hondo Res.		Rocky Arroyo Res.	
	Elevation (ft)	Contents (acre-ft)	Elevation (ft)	Contents (acre-ft)
Sept. 1	3,977.67	355	-	0
13	3,977.30	327	-	0
21	3,982.70	849	-	0
22	3,975.00	186	3,947.57	100
23	3,969.13	43	3,947.34	93

Note.--Storage only on days listed above. Month end, calendar year, and water year contents were all zero.

08390800 Rio Hondo below Diamond A Dam, near Roswell, N. Mex.

LOCATION.--Lat 33°18'05", long 104°43'12", in NE¼SE¼NE¼ sec.4, T.12 S., R.22 E., Chaves County, on left bank, 500 ft downstream from outlet conduit of Diamond A Dam (Two Rivers Reservoir) and 13 miles southwest of Roswell.

DRAINAGE AREA.--963 sq mi (contributing area).

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3,949.68 ft above mean sea level (Corps of Engineer bench mark).

AVERAGE DISCHARGE.--6 years, 8.58 cfs (6,220 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 425 cfs Sept. 22 (gage height, 3.78 ft); no flow most of time.
Period of record: Maximum discharge, 659 cfs July 29, 1965 (gage height, 4.91 ft); no flow most of time.

REMARKS.--Records fair. Diversions and ground-water withdrawals for irrigation of about 6,500 acres (1959 determination) above station. This record represents the outflow from Two Rivers Reservoir through Diamond A Dam.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	0	0	0	0	199
2	0	0	0	0	0	0	0	0	0	0	0	145
3	0	0	0	0	0	0	0	0	0	0	0	61
4	0	0	0	0	0	0	0	0	0	0	0	115
5	0	0	0	0	0	0	0	0	0	0	0	89
6	0	0	0	0	0	0	0	0	0	15	0	34
7	0	0	0	0	0	0	0	0	0	47	0	48
8	0	0	0	0	0	0	0	0	0	4.6	0	48
9	0	0	0	0	0	0	0	0	0	.12	0	64
10	0	0	0	0	0	0	0	0	0	0	0	101
11	0	0	0	0	0	0	0	0	0	32	0	182
12	0	0	0	0	0	0	0	0	0	2.0	0	105
13	0	0	0	0	0	0	0	0	0	.10	0	212
14	0	0	0	0	0	0	0	0	0	0	0	110
15	0	0	0	0	0	0	0	0	0	0	0	105
16	0	0	0	0	0	0	0	0	0	0	0	100
17	0	0	0	0	0	0	0	0	200	0	0	97
18	0	0	0	0	0	0	0	0	22	0	0	78
19	0	0	0	0	0	0	0	0	2.5	0	0	93
20	0	0	0	0	0	0	0	0	.37	0	0	49
21	0	0	0	0	0	0	0	0	.05	0	0	277
22	0	0	0	0	0	0	0	0	0	0	0	386
23	0	0	0	0	0	0	0	0	0	0	0	134
24	0	0	0	0	0	0	0	0	0	0	0	44
25	0	0	0	0	0	0	0	0	0	0	17	35
26	0	0	0	0	0	0	0	0	0	0	1.1	25
27	0	0	0	0	0	0	0	0	0	1.8	0	15
28	0	0	0	0	0	0	0	0	0	2.2	0	10
29	0	0	0	0	------	0	0	0	0	0	0	7.0
30	0	0	0	0	------	0	0	0	0	0	20	4.0
31	0	------	0	0	------	0	------	0	------	0	25	------
TOTAL	0	0	0	0	0	0	0	0	224.92	104.82	63.1	2,972.0
MEAN	0	0	0	0	0	0	0	0	7.50	3.38	2.04	99.1
MAX	0	0	0	0	0	0	0	0	200	47	25	386
MIN	0	0	0	0	0	0	0	0	0	0	0	4.0
AC-FT	0	0	0	0	0	0	0	0	446	208	125	5,890

CAL YR 1968 TOTAL 3,444.23 MEAN 9.41 MAX 328 MIN 0 AC-FT 6,830
WTR YR 1969 TOTAL 3,364.84 MEAN 9.22 MAX 386 MIN 0 AC-FT 6,670

08393200 Rocky Arroyo above Two Rivers Reservoir, near Roswell, N. Mex.

LOCATION.--Lat 33°17'07", long 104°47'47", in NE¼SW¼ sec.11, T.12 S., R.21½ E., Chaves County, on left bank, 2.1 miles upstream from mouth of Buchnan Draw, 5.2 miles upstream from Rocky Dam (Two Rivers Reservoir), and 17 miles southwest of Roswell.

DRAINAGE AREA.--31 sq mi, approximately.

PERIOD OF RECORD.--May 1963 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,059.17 ft above mean sea level (Corps of Engineers datum). Prior to Dec. 7, 1968, at site on opposite bank at datum 3.72 ft lower.

AVERAGE DISCHARGE.--6 years, 1.24 cfs (898 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 590 cfs Sept. 21 (gage height, 3.96 ft); no flow most of time.
Period of record: Maximum discharge, 12,000 cfs July 5, 1968 (gage height 11.53 ft, from floodmarks, present datum), from rating curve extended above 350 cfs on basis of slope-area measurements at gage heights 5.92, 7.14, and 11.53 ft, present datum; no flow most of time.

REMARKS.--Records fair. No diversions above station. Flow past station represents inflow to Two Rivers Reservoir.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

Sept.	11	26
	21	61
	22	23

SEPT.	TOTAL	110	MEAN	3.67	MAX	61	MIN	0	AC-FT	218
CAL YR 1968	TOTAL	836.60	MEAN	2.29	MAX	695	MIN	0	AC-FT	1,660
WTR YR 1969	TOTAL	110	MEAN	.30	MAX	61	MIN	0	AC-FT	218

PEAK DISCHARGE (BASE, 90 CFS).--Sept. 11 (0500) 262 cfs (3.24 ft); Sept. 21 (2045) 590 cfs (3.96 ft).

Note.--Flow occurred only on days listed above.

08393300 Rocky Arroyo below Rocky Dam, near Roswell, N. Mex.

LOCATION.--Lat 33°15'58", long 104°42'06", in SE¼NE¼SE¼ sec.15, T.12 S., R.22 E., Chaves County, on left bank, 1.4 miles downstream from Rocky Dam (Two Rivers Reservoir) and 13 miles southwest of Roswell.

DRAINAGE AREA.--65 sq mi, approximately.

PERIOD OF RECORD.--May 1963 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3,906.90 ft above mean sea level (Corps of Engineers bench mark).

AVERAGE DISCHARGE.--6 years, 2.99 cfs (2,170 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 139 cfs Sept. 22 (gage height, 3.71 ft); no flow most of time.
Period of record: Maximum discharge, 548 cfs Aug. 21, 1966 (gage height, 4.57 ft), from rating curve extended above 260 cfs; no flow most of time.

REMARKS.--Records poor. No diversions above station. This record represents the outflow from Two Rivers Reservoir through Rocky Dam plus any runoff in the 1.4 miles of intervening area between the dam and the gage. Outlet conduits in Rocky Dam have fixed openings.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

July	7	.09
	8	.04
Sept.	22	62
	23	37
	24	.15

JULY	TOTAL	.13	MEAN	.004	MAX	.09	MIN	0	AC-FT	.3
SEPT.	TOTAL	99.15	MEAN	3.31	MAX	62	MIN	0	AC-FT	197
CAL YR 1968	TOTAL	1,127.01	MEAN	3.08	MAX	220	MIN	0	AC-FT	2,240
WTR YR 1969	TOTAL	99.28	MEAN	.27	MAX	62	MIN	0	AC-FT	197

Note.--Flow occurred only on days listed above.

08393600 North Spring River at Roswell, N. Mex.

LOCATION.--Lat 33°23'47", long 104°32'53", in NW¼SW¼SE¼ sec.31, T.10 S., R.24 E., Chaves County, in Roswell Municipal Golf Course, on left bank 2,400 ft upstream from Montana Avenue, and 2 blocks north of West Second Street, in Roswell.

DRAINAGE AREA.--19.5 sq mi.

PERIOD OF RECORD.--May 1958 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,575 ft (revised), from topographic map.

AVERAGE DISCHARGE.--11 years, 0.045 cfs (33 acre-ft per year).

EXTREMES.--Current year: No flow during year.
Period of record: Maximum discharge, 387 cfs June 13, 1964 (gage height, 4.65 ft), from rating curve extended above 80 cfs on basis of slope-area measurement; no flow most of time.

REMARKS.--Records excellent. No diversions above station.

REVISIONS(WATER YEARS).--WRD 1965: 1962-64.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

CAL YR 1968	TOTAL	1.90	MEAN	.005	MAX	1.8	MIN	0	AC-FT	3.8
WTR YR 1969	TOTAL	0	MEAN	0	MAX	0	MIN	0	AC-FT	0

Note.--No flow occurred during year.

08394100 Pecos River near Hagerman, N. Mex.

LOCATION.--Lat 33°10'08", long 104°18'24", in SE¼SW¼SE¼ sec.23, T.13 S., R.26 E., Chaves County, on left bank 3.4 miles upstream from Rio Felix, and 4.9 miles north of Hagerman.

DRAINAGE AREA.--13,630 sq mi (revised), approximately (contributing area).

PERIOD OF RECORD.--February 1968 to current year (operated as a low-flow station only).

GAGE.--Water-stage recorder. Altitude of gage is 3,390 ft (from topographic map).

EXTREMES.--No maximums or minimums determined.

REMARKS.--Records fair. Flow partly regulated by Alamogordo Reservoir. (See sta 08384000.) Diversions and ground-water withdrawals for irrigation of about 80,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	31	38	36	36	29	837	31	25	809	12	240
2	9.6	33	37	34	28	28	823	30	28	844	15	1,800
3	10	31	37	31	28	25	816	30	55	718	11	1,000
4	10	28	36	30	30	28	767	30	42	697	16	332
5	13	28	39	31	32	28	802	42	39	781	92	290
6	13	28	44	31	42	29	746	39	61	795	89	248
7	10	32	39	31	45	33	802	84	38	858	266	184
8	10	33	37	32	37	31	802	97	51	972	651	319
9	10	33	38	32	36	32	618	101	186	932	767	226
10	10	32	37	31	35	33	237	76	358	455	844	1,350
11	12	32	38	32	34	31	181	58	151	285	844	3,700
12	12	32	36	33	33	33	159	47	97	251	858	1,400
13	12	33	34	31	32	31	131	38	55	244	886	724
14	12	34	33	31	35	30	114	33	38	141	932	439
15	12	35	33	32	35	34	101	31	847	101	930	319
16	11	34	34	31	37	369	87	28	697	75	940	302
17	12	34	35	31	38	697	78	28	767	61	960	286
18	15	39	31	31	42	684	72	27	795	50	886	1,500
19	16	38	30	31	42	746	69	23	774	48	886	3,400
20	30	32	31	32	44	746	65	22	781	45	916	850
21	51	31	30	34	45	767	61	21	795	65	851	402
22	58	29	26	34	41	781	57	23	732	42	338	650
23	55	28	28	37	41	795	78	21	774	31	269	420
24	54	31	29	42	37	781	58	18	746	30	146	315
25	51	32	30	40	35	816	51	19	739	27	116	210
26	48	34	30	38	34	802	46	19	725	23	87	210
27	45	42	31	40	34	809	42	15	725	23	121	181
28	42	41	32	40	30	809	38	16	718	30	110	154
29	40	42	37	41	------	816	33	27	697	47	76	134
30	41	40	42	42	------	830	32	28	732	31	69	118
31	39	------	38	47	------	837	------	23	------	19	78	------
TOTAL	773.2	1,002	1,070	1,069	1,018	12,540	8,803	1,125	13,268	9,530	14,062	21,703
MEAN	24.9	33.4	34.5	34.5	36.4	405	293	36.3	442	307	454	723
MAX	58	42	44	47	45	837	837	101	847	972	960	3,700
MIN	9.6	28	26	30	28	25	32	15	25	19	11	118
AC-FT	1,530	1,990	2,120	2,120	2,020	24,870	17,460	2,230	26,320	18,900	27,890	43,050

CAL YR 1968	TOTAL	MEAN	MAX	MIN	AC-FT
WTR YR 1969	TOTAL 85,963.2	MEAN 236	MAX 3,700	MIN 9.6	AC-FT 170,500

08394500 Rio Felix at old highway bridge, near Hagerman, N. Mex.

LOCATION.--Lat 33°07'30", long 104°20'40", in SW¼SW¼SE¼ sec.4(revised), T.14 S., R.26 E., Chaves County, near left bank on downstream side of abandoned bridge pier, 0.6 mile upstream from alternate U.S. Highway 285, 1.3 miles northwest of Hagerman, and 2.7 miles upstream from mouth.

DRAINAGE AREA.--932 sq mi (contributing area).

PERIOD OF RECORD.--April 1939 to current year. March 1932 to April 1939 at site 1 mile downstream; records for periods of low flow not equivalent.

GAGE.--Water-stage recorder. Datum of gage is 3,403.40 ft above mean sea level.

AVERAGE DISCHARGE.--30 years, 15.8 cfs (11,450 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,600 cfs Aug. 30 (gage height, 14.05 ft); no flow most of time.
Period of record: Maximum discharge, 74,000 cfs Oct. 7, 1954 (gage height, 27.5 ft, from floodmarks), from rating curve extended above 12,000 cfs on basis of slope-area measurement at point 5.5 miles upstream from gage (adjusted for channel storage); no flow for many periods.
Flood in 1954 is the highest since 1894 (information from local residents). Flood of Oct. 1, 1904, is probably second highest. Another major flood occurred in April 1915.

REMARKS.--Records poor. Diversions for irrigation of about 350 acres (1959 determination) above station.

REVISIONS(WATER YEARS).--WSP 928: 1940(M). WSP 1562: 1939-40, 1941(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	0	0	0	0	1.9
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	.42
12	0	0	0	0	0	0	0	0	0	0	0	2.2
13	0	0	0	0	0	0	0	0	0	0	0	.40
14	0	0	0	0	0	0	0	0	0	0	0	8.6
15	0	0	0	0	0	0	0	0	0	0	0	31
16	0	0	0	0	0	13	0	0	0	0	0	31
17	0	0	0	0	0	6.8	0	0	0	0	0	15
18	0	0	0	0	0	0	0	0	0	0	0	1.0
19	0	0	0	0	0	0	0	0	0	0	0	294
20	0	0	0	0	0	0	0	0	0	0	0	45
21	0	0	0	0	0	0	0	0	0	0	0	30
22	0	0	0	0	0	0	0	0	0	0	0	46
23	0	0	0	0	0	0	0	0	0	0	0	45
24	0	0	0	0	0	0	0	0	0	0	0	26
25	0	0	0	0	0	0	0	0	0	0	0	1.2
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	------	0	0	0	0	0	0	0
30	0	0	0	0	------	0	0	0	0	0	302	0
31	0	------	0	0	------	0	------	0	------	0	83	------
TOTAL	0	0	0	0	0	19.8	0	0	0	0	385	578.72
MEAN	0	0	0	0	0	.64	0	0	0	0	12.4	19.3
MAX	0	0	0	0	0	13	0	0	0	0	302	294
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	39	0	0	0	0	764	1,150

CAL YR 1968 TOTAL 3,605.00 MEAN 9.85 MAX 2,810 MIN 0 AC-FT 7,150
WTR YR 1969 TOTAL 983.52 MEAN 2.69 MAX 302 MIN 0 AC-FT 1,950

PEAK DISCHARGE(BASE, 500 CFS).--Aug. 30 (1930) 2,600 cfs (14.05 ft); Sept. 19 (time unknown) 788 cfs (10.26 ft).

08395500 Pecos River near Lake Arthur, N. Mex.

LOCATION.--Lat 32°59'18", long 104°19'20", in SW¼NE¼ sec.27, T.15 S., R.26 E., Chaves County, on left bank 400 ft upstream from county bridge, 2.5 miles east of Lake Arthur, 7 miles upstream from Cottonwood Creek, and 11 miles northeast of Artesia.

DRAINAGE AREA.--14,760 sq mi, approximately (contributing area).

PERIOD OF RECORD.--August 1938 to current year.

GAGE.--Water-stage recorder and rock control. Datum of gage is 3,327.07 ft above mean sea level.

AVERAGE DISCHARGE.--31 years, 263 cfs (190,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,530 cfs Sept. 12 (gage height, 8.17 ft); maximum gage height, 8.58 ft Sept. 19; minimum, 0.36 cfs Aug. 3.
Period of record: Maximum discharge, 49,600 cfs Sept. 24, 1941 (gage height, 21.90 ft), from rating curve extended above 16,100 cfs on basis of slope-area measurement at gage height 21.77 ft; no flow at times in 1947, 1953-4, 1962, 1964.
Flood of May 30, 1937, reached a stage of 21.77 ft (discharge, 51,500 cfs, on basis of slope-area measurement of peak flow), but may have been exceeded by floods in 1904 and 1919.

REMARKS.--Records good. Flow partly regulated by Alamogordo Reservoir. (See sta 08384000.) Diversions and ground-water withdrawals for irrigation of about 124,000 acres (1959 determination) above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	32	44	41	51	35	781	25	10	656	6.4	239
2	3.4	27	42	40	46	36	795	30	13	782	6.3	972
3	4.2	30	41	39	38	31	783	30	12	622	5.8	1,350
4	5.6	33	40	37	35	29	756	33	31	647	5.2	449
5	2.5	27	40	34	35	32	785	38	20	697	3.3	258
6	8.6	22	42	39	38	32	762	39	15	698	88	224
7	11	28	48	40	45	27	746	34	37	752	93	168
8	9.9	33	42	39	44	29	818	91	20	858	582	218
9	9.8	39	40	37	39	27	771	88	29	838	678	225
10	8.9	41	39	35	41	29	348	84	303	575	765	429
11	11	39	39	37	35	29	209	57	233	349	769	3,390
12	11	39	41	42	32	31	187	53	85	257	780	2,150
13	14	39	39	42	32	22	153	34	49	262	782	790
14	18	38	37	41	39	21	130	28	32	174	798	475
15	16	37	37	42	37	34	109	27	407	108	821	376
16	16	41	38	42	39	128	99	26	655	85	823	296
17	14	40	35	41	43	666	78	22	680	49	819	274
18	11	39	39	40	44	642	75	22	724	37	803	520
19	10	41	36	39	48	698	70	29	732	26	803	3,390
20	12	43	37	40	52	721	78	18	733	22	813	1,250
21	30	39	37	40	50	726	76	16	746	26	812	559
22	44	36	35	41	49	738	62	19	698	40	530	734
23	56	35	33	41	47	744	55	16	691	21	306	514
24	48	34	33	43	47	740	64	15	681	9.3	187	373
25	48	37	33	49	43	730	43	14	658	6.3	113	220
26	50	41	36	47	41	744	34	18	676	5.3	96	167
27	48	46	38	47	39	714	34	13	662	5.3	73	148
28	49	45	35	43	35	722	40	9.3	672	6.1	120	137
29	34	45	36	43	------	717	29	5.8	647	13	81	129
30	32	46	40	47	------	743	27	10	660	16	59	111
31	35	------	43	49	------	766	------	16	------	5.9	363	------
TOTAL	675.1	1,112	1,195	1,277	1,164	11,383	8,997	960.1	11,611	8,648.2	12,984.0	20,535
MEAN	21.8	37.1	38.5	41.2	41.6	367	300	31.0	387	279	419	685
MAX	56	46	48	49	52	766	818	91	746	858	823	3,390
MIN	2.5	22	33	34	32	21	27	5.8	10	5.3	3.3	111
AC-FT	1,340	2,210	2,370	2,530	2,310	22,580	17,850	1,900	23,030	17,150	25,750	40,730

CAL YR 1968 TOTAL 47,525.7 MEAN 130 MAX 3,330 MIN 2.0 AC-FT 94,270
WTR YR 1969 TOTAL 80,541.4 MEAN 221 MAX 3,390 MIN 2.5 AC-FT 159,800

PEAK DISCHARGE (BASE, 2,500 CFS).--Sept. 12 (0145) 4,530 cfs (8.17 ft); Sept. 19 (1945) 4,440 cfs (8.58 ft).

08396500 Pecos River near Artesia, N. Mex.

LOCATION.--Lat 32°50'25", long 104°19'23", in NW¼NW¼ sec.18, T.17 S., R.27 E., Eddy County, near left bank on downstream end of bridge pier on State Highway 83, 4.3 miles east of Artesia, 7.0 miles north of mouth of Rio Penasco, and 17 miles north of McMillan Dam.

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

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. Daily discharges 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."

GAGE.--Water-stage recorder. Datum of gage is 3,291.05 ft (Bureau of Reclamation bench mark). Prior to Aug. 27, 1914, staff gage and Aug. 27, 1914, to Feb. 20, 1936, water-stage recorder at site 6.5 miles downstream at different datum. Feb. 21, 1936, to Apr. 4, 1941, water-stage recorder at site 600 ft downstream at different datum.

AVERAGE DISCHARGE.--30 years (1905-8, 1909-36), 365 cfs (264,200 acre-ft per year), prior to completion of Alamogordo Reservoir; 33 years (1936-69), 282 cfs (204,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,580 cfs Sept. 19 (gage height, 12.31 ft); minimum, 1.8 cfs Oct. 4.
Period of record: Maximum discharge probably occurred May 30, 1937, when a discharge of 51,500 cfs was measured by slope-area method at a point 15 miles upstream (gage height, 14.7 ft, site and datum then in use); no flow at times in 1934, 1946-47, 1953-54, 1957, 1964-65.
Greatest flood known 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 as 82,000 cfs). The second highest flood occurred July 25, 1905 (discharge below Rio Penasco, 50,300 cfs, 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.

REMARKS.--Records fair except those for discharges below 10 cfs, which are poor. Flow partly regulated by Alamogordo Reservoir (see sta 08384000) since August 1937. Diversions and ground-water withdrawals for irrigation of about 154,000 acres (1959 determination) above station. Discharge represents inflow to Lake McMillan (see sta 08400500) which is part of the storage system for the irrigation of about 25,000 acres of the Carlsbad project. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--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.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	34	48	44	49	36	771	32	17	675	6.8	228
2	4.2	31	45	44	51	36	791	27	13	752	4.0	490
3	3.8	26	43	42	46	33	762	29	15	674	4.2	1,420
4	2.3	29	42	41	40	33	750	32	16	646	4.0	587
5	7.5	30	42	40	38	32	742	41	28	652	4.7	302
6	4.2	22	42	38	38	36	774	44	21	687	13	226
7	5.2	25	46	42	39	33	736	47	19	701	52	187
8	11	30	47	43	38	29	759	56	33	826	362	144
9	9.0	39	45	41	47	31	759	103	23	811	612	268
10	8.5	41	44	36	41	31	505	100	136	732	704	219
11	8.5	41	43	32	43	33	224	70	298	438	750	2,140
12	11	38	43	35	35	34	194	60	78	272	768	2,560
13	12	39	43	43	40	35	154	50	36	242	785	860
14	12	40	43	44	35	29	148	42	29	207	794	803
15	16	42	41	43	40	31	120	36	121	103	826	396
16	15	41	42	44	40	47	94	33	615	80	841	298
17	14	40	43	44	40	498	72	31	678	56	829	270
18	14	42	40	43	44	610	70	26	750	40	847	239
19	12	39	43	41	47	643	60	28	739	35	832	2,590
20	11	42	42	41	50	663	76	30	704	20	832	1,880
21	13	43	43	42	56	695	84	23	710	16	847	621
22	29	41	39	43	51	704	76	20	687	21	709	584
23	46	39	37	42	47	704	57	24	669	32	313	570
24	50	36	38	42	45	736	63	22	678	14	262	396
25	46	36	38	46	45	733	68	23	652	7.1	117	295
26	47	42	38	49	42	739	46	21	690	6.8	100	202
27	46	48	42	49	37	713	39	24	698	7.1	78	163
28	47	46	40	47	38	713	44	21	695	5.9	92	151
29	45	46	39	44	------	730	44	17	687	7.8	97	136
30	33	47	40	44	------	745	34	11	690	9.0	74	119
31	33	------	43	47	------	779	------	12	------	9.0	322	------
TOTAL	620.0	1,135	1,304	1,316	1,202	10,944	9,116	1,135	11,225	8,784.7	12,881.7	19,344
MEAN	20.0	37.8	42.1	42.5	42.9	353	304	36.6	374	283	416	645
MAX	50	48	48	49	56	779	791	103	750	826	847	2,590
MIN	2.3	22	37	32	35	29	34	11	13	5.9	4.0	119
AC-FT	1,230	2,250	2,590	2,610	2,380	21,710	18,080	2,250	22,260	17,420	25,550	38,370

CAL YR 1968 TOTAL 45,964.3 MEAN 126 MAX 3,150 MIN 1.2 AC-FT 91,170
WTR YR 1969 TOTAL 79,007.4 MEAN 216 MAX 2,590 MIN 2.3 AC-FT 156,700

PEAK DISCHARGE (BASE, 2,000 CFS).--Sept. 12 (0700) 3,360 cfs (12.26 ft); Sept. 19 (2400) 3,580 cfs (12.31 ft).

08398500 Rio Penasco at Dayton, N. Mex.

LOCATION.--Lat 32°44'36", long 104°24'49", in NE¼SE¼SE¼ sec.18, T.18 S., R.26 E., Eddy County, on right bank 1.2 miles upstream from U.S. Highway 285, 1.9 miles northwest of old Dayton railway station, 6 miles upstream from mouth, and 7 miles south of Artesia.

DRAINAGE AREA.--1,060 sq mi, approximately.

PERIOD OF RECORD.--April 1951 to current year. Prior to October 1953, published as "near Dayton."

GAGE.--Water-stage recorder and rock control. Datum of gage is 3,387.17 ft above mean sea level. Prior to May 9, 1968, at site 2.4 miles downstream, at datum 46.28 ft lower.

AVERAGE DISCHARGE.--18 years, 6.31 cfs (4,570 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,540 cfs Aug. 31 (gage height, about 4.28 ft); no flow most of time.
Period of record: Maximum discharge, 29,800 cfs Aug. 23, 1966 (gage height, 16.4 ft, from floodmarks, present site and datum), from rating curve extended above 6,000 cfs on basis of slope-area measurements at gage heights 6.82 and 7.90 ft, at previous site and datum; no flow most of time.
Flood of about Sept. 22, 1941, reached a stage of about 9 ft, previous site and datum (from old logs), and peak discharge for station near Dunken (about 50 miles upstream) was 70,000 cfs (as determined for that station in 1956, from floodmarks and rating curve extended above 36,300 cfs).

REMARKS.--Records fair. Diversions and ground-water withdrawals for irrigation of about 3,000 acres (1959 determination) above station. Records of water temperatures and suspended sediment loads for the water year 1969 are published in Part 2 of this report.

REVISIONS(WATER YEARS).--WSP 1242: 1951(M). WSP 1512: 1955, 1956(M). WRD 1966: 1955.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	0	0	0	0	647
2	0	0	0	0	0	0	0	0	0	0	0	374
3	0	0	0	0	0	0	0	0	0	0	0	22
4	0	0	0	0	0	0	0	0	0	0	0	3.5
5	0	0	0	0	0	0	0	0	0	0	0	.12
6	0	0	0	0	0	0	0	0	0	0	0	.06
7	0	0	0	0	0	0	0	0	0	0	0	.04
8	0	0	0	0	0	0	0	0	0	0	0	.03
9	0	0	0	0	0	0	0	0	0	0	0	113
10	0	0	0	0	0	0	0	0	0	0	0	13
11	0	0	0	0	0	0	0	0	0	0	0	.12
12	0	0	0	0	0	0	0	0	0	0	0	5.7
13	0	0	0	0	0	0	0	0	0	0	0	90
14	0	0	0	0	0	0	0	0	0	0	0	3.9
15	0	0	0	0	0	0	0	0	0	0	0	.10
16	0	0	0	0	0	0	0	0	0	0	0	.04
17	0	0	0	0	0	0	0	0	0	0	0	.04
18	0	0	0	0	0	0	0	0	0	0	0	.03
19	0	0	0	0	0	0	0	0	0	0	0	185
20	0	0	0	0	0	0	0	0	0	0	0	1.7
21	0	0	0	0	0	0	0	0	0	0	0	1.4
22	0	0	0	0	0	0	0	0	0	0	0	.63
23	0	0	0	0	0	0	0	0	0	0	0	.09
24	0	0	0	0	0	0	0	0	0	0	0	.06
25	0	0	0	0	0	0	0	0	0	0	0	.04
26	0	0	0	0	0	0	0	0	0	0	0	.03
27	0	0	0	0	0	0	0	0	0	0	0	.02
28	0	0	0	0	0	0	0	0	0	0	0	.02
29	0	0	0	0	------	0	0	0	0	0	0	0
30	0	0	0	0	------	0	0	0	0	0	0	0
31	0	------	0	0	------	0	------	0	------	0	325	------
TOTAL	0	0	0	0	0	0	0	0	0	0	325	1,461.67
MEAN	0	0	0	0	0	0	0	0	0	0	10.5	48.7
MAX	0	0	0	0	0	0	0	0	0	0	325	647
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	0	645	2,900

CAL YR 1968 TOTAL 6,865.28 MEAN 18.8 MAX 6,760 MIN 0 AC-FT 13,620
WTR YR 1969 TOTAL 1,786.67 MEAN 4.90 MAX 647 MIN 0 AC-FT 3,540

PEAK DISCHARGE (BASE, 750 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
8-31	Unknown	4.28	2,540	9-19	0945	3.04	1,160
9- 1	2330	3.76	1,900				

08399500 Pecos River (Kaiser Channel) near Lakewood, N. Mex.

LOCATION.--Lat 32°41'22", long 104°17'53", in NW¼SE¼ sec.5, T.19 S., R.27 E., Eddy County, on left bank 3 miles upstream from high-water line of Lake McMillan, 6 miles northeast of Lakewood, 7 miles northeast of gates in McMillan Dam, and 12 miles southeast of Artesia.

PERIOD OF RECORD.--May 1950 to current year. Prior to October 1954, published as Kaiser Lake-McMillan Channel near Lakewood.

GAGE.--Water-stage recorder. Datum of gage is 3,268.53 ft above mean sea level (Bureau of Reclamation bench mark). Prior to March 23, 1955, at site 3 miles downstream at datum 7.83 ft lower. Mar. 23, 1955, to Sept. 30, 1963, at present site at datum 2.00 ft higher.

AVERAGE DISCHARGE.--19 years, 155 cfs (112,300 acre-ft per year).

EXTREMES.--Current year: Maximum daily discharge, 1,880 cfs Sept. 12; no flow at times.
Period of record: Maximum daily discharge, 2,920 cfs July 12, 1960; no flow at times in most years.

REMARKS.--Records good. Flow partly regulated by Alamogordo Reservoir. (See sta 08384000.) Diversions and ground-water withdrawals for irrigation of about 170,000 acres (1959 determination) above station. Above about 1,500 cfs flow will begin bypassing station and, depending on the magnitude and duration of flow, may reach Lake McMillan.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	29	44	45	47	35	752	31	6.2	661	3.4	208
2	0	30	41	45	51	33	765	27	8.5	701	.63	385
3	0	22	40	42	50	32	749	21	6.4	674	0	1,470
4	0	22	38	40	39	30	760	24	7.7	630	0	598
5	0	25	38	39	36	30	736	32	15	645	0	328
6	0	21	38	36	34	30	762	42	13	684	0	240
7	0	16	38	36	34	31	734	41	10	718	10	208
8	0	24	47	40	40	26	731	38	17	815	217	155
9	1.5	28	41	39	44	27	741	99	16	824	583	240
10	2.6	34	39	36	42	27	558	110	57	766	666	197
11	3.2	35	40	31	42	28	260	85	256	406	726	1,370
12	3.4	33	39	28	40	28	206	55	101	267	749	1,880
13	5.0	31	38	35	34	29	170	59	36	245	765	1,050
14	5.9	33	38	41	35	24	150	37	19	230	773	598
15	7.7	34	37	41	36	26	128	33	12	125	788	439
16	8.8	35	38	42	37	33	102	28	596	87	807	338
17	8.1	33	39	42	36	331	79	27	619	66	799	300
18	9.2	34	35	41	41	598	66	23	713	38	824	264
19	7.7	32	38	38	46	627	59	18	721	31	813	1,520
20	6.7	33	38	37	50	648	59	25	705	18	802	1,680
21	8.1	36	38	38	53	661	82	19	705	8.5	818	752
22	12	36	37	37	61	679	78	11	697	9.6	744	582
23	33	31	36	37	51	684	57	14	674	20	399	717
24	47	29	34	38	47	708	48	16	684	12	294	488
25	42	29	34	39	44	710	70	14	658	5.0	134	367
26	42	33	34	47	44	728	47	13	663	3.0	106	235
27	45	42	38	47	34	708	36	13	676	1.9	85	212
28	41	42	38	45	38	713	34	12	674	.50	60	186
29	47	42	37	42	------	718	45	7.7	669	.80	104	165
30	33	41	37	40	------	726	35	5.3	663	2.4	68	145
31	26	------	39	45	------	749	------	3.8	------	2.1	249	------
TOTAL	445.9	945	1,186	1,229	1,186	10,457	9,099	983.8	10,697.8	8,696.8	12,387.03	17,317
MEAN	14.4	31.5	38.3	39.6	42.4	337	303	31.7	357	281	400	577
MAX	47	42	47	47	61	749	765	110	721	824	824	1,880
MIN	0	16	34	28	34	24	34	3.8	6.2	.50	0	145
AC-FT	884	1,870	2,350	2,440	2,350	20,740	18,050	1,950	21,220	17,250	24,570	34,350

CAL YR 1968 TOTAL 44,163.24 MEAN 121 MAX 1,980 MIN 0 AC-FT 87,600
WTR YR 1969 TOTAL 74,630.33 MEAN 204 MAX 1,880 MIN 0 AC-FT 148,000

08400000 Fourmile Draw near Lakewood, N. Mex.

LOCATION.--Lat 32°40'20", long 104°22'07", in SW¼NW¼SE¼ sec.10, T.19 S., R.26 E., Eddy County, in left side of channel 360 ft downstream from ford on Lakewood - Dayton road, 1.9 miles downstream from U.S. Highway 285, 2.8 miles north of Lakewood, 3.7 miles upstream from mouth, and 11.5 miles south of Artesia.

DRAINAGE AREA.--265 sq mi, approximately.

PERIOD OF RECORD.--October 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,299.14 ft above mean sea level. Oct. 1, 1951, to June 19, 1962, at site 1.8 miles 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.

AVERAGE DISCHARGE.--18 years, 3.66 cfs (2,650 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 0.42 cfs July 7 (gage height, 0.60 ft); no flow most of time.
Period of record: Maximum discharge, 29,300 cfs Aug. 23, 1966 (gage height, 19.9 ft, from floodmarks, present datum), from rating curve extended above 600 cfs on basis of slope-area measurement of peak flow; no flow most of time.
The flood of Aug. 23, 1966 (information from local resident) is believed to be the greatest known since at least 1920.

REMARKS.--Records good. No known diversions above station.

REVISIONS(WATER YEARS).--WRD 1968: 1967.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

CAL YR 1968	TOTAL	2,417.20	MEAN	6.60	MAX	2,380	MIN	0	AC-FT 4,790
WTR YR 1969	TOTAL	0	MEAN	0	MAX	0	MIN	0	AC-FT 0

PEAK DISCHARGE (BASE, 200 CFS).--No peak above base.

Note.--No flow occurred during year.

08400500 Lake McMillan near Lakewood, N. Mex.

LOCATION(revised).--Lat 32°35'42", long 104°20'49", in NE¼NE¼ sec.11, T.20 S., R.26 E., Eddy County, near outlet gages of McMillan Dam on Pecos River, 3.4 miles southeast of Lakewood.

DRAINAGE AREA.--16,990 sq mi, approximately (contributing area).

PERIOD OF RECORD.--January to September 1939, October 1939 to September 1965 (monthend contents only), October 1965 to current year. Monthend gage heights January 1918 to December 1938 in files of Pecos River Commission.

GAGE.--Float-tape gage. Datum of gage is 3,241.6 ft above mean sea level, Bureau of Reclamation datum.

EXTREMES.--Current year: Maximum contents at 0800 hours, 33,340 acre-ft Sept. 23 (gage height, 26.05 ft); minimum, 689 acre-ft Oct. 19-24 (gage height, 15.80 ft).
Period of record: Maximum contents observed, 68,500 acre-ft Sept. 26, 1941 (gage height, 29.95 ft); no storage for periods in 1944-54, 1957, 1964, 1965.

REMARKS.--Lake is formed by earthfill dam, completed and storage began in 1893. The structure was damaged by floods of October 1893 and Oct. 2, 1904. Capacity, 27,300 acre-ft between gage heights 0.0 ft (sill of outlet gate) and 24.9 ft (crest of spillway 2). Flashboards may be used in spillway 2 to increase this capacity. Maximum capacity without spill, 33,620 acre-ft at gage height 26.1 ft (crest of spillway 1). No dead storage. No storage allocated to flood control. Gage heights may be affected by variable drawdown due to flow through gates. Water is used for irrigation by Carlsbad Irrigation District.

COOPERATION.--Gage-height record and capacity table furnished by Carlsbad Irrigation District.

CONTENTS, IN ACRE-FEET, AT 0800 HOURS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,120	1,100	2,400	3,810	5,080	6,080	19,900	18,280	9,900	18,280	13,780	20,960
2	2,930	1,160	2,480	3,810	5,080	6,200	20,320	18,280	9,500	19,080	13,140	21,180
3	2,750	1,160	2,570	3,910	5,080	6,200	20,740	18,080	9,240	19,900	12,660	22,290
4	2,400	1,160	2,570	3,910	5,190	6,200	21,180	17,880	9,240	19,690	12,210	24,860
5	2,140	1,160	2,660	3,910	5,190	6,200	21,840	17,880	8,980	19,690	12,060	25,580
6	1,900	1,160	2,660	4,020	5,190	6,200	22,520	17,690	8,850	20,530	11,310	25,820
7	1,660	1,160	2,750	4,120	5,190	6,200	22,980	17,310	8,720	21,620	10,600	26,060
8	1,370	1,230	2,750	4,220	5,300	6,200	23,670	17,310	8,720	22,750	9,900	26,300
9	1,100	1,230	2,840	4,220	5,300	6,200	24,140	16,930	8,590	23,440	9,760	26,060
10	912	1,300	2,930	4,330	5,300	6,200	24,380	16,930	8,590	24,620	10,180	26,060
11	912	1,370	2,930	4,330	5,410	6,200	24,620	16,740	8,590	25,100	10,740	26,060
12	854	1,440	3,020	4,330	5,410	6,200	24,620	16,560	9,110	25,100	11,610	29,080
13	854	1,440	3,120	4,330	5,410	6,200	24,380	16,200	8,850	24,860	12,360	31,440
14	797	1,520	3,120	4,330	5,520	6,200	23,900	15,840	8,720	24,380	13,140	32,520
15	797	1,590	3,220	4,440	5,520	6,310	23,210	15,480	8,590	24,140	13,620	32,520
16	743	1,590	3,220	4,440	5,520	6,310	22,750	14,960	8,460	23,670	14,280	32,520
17	743	1,660	3,310	4,540	5,630	6,420	22,290	14,620	9,370	22,980	15,660	32,520
18	743	1,660	3,310	4,540	5,630	7,360	22,060	14,280	10,600	22,060	16,740	32,520
19	689	1,660	3,310	4,540	5,630	8,330	21,840	13,940	11,310	21,400	17,880	30,380
20	689	1,740	3,410	4,640	5,630	9,500	21,620	13,780	12,060	20,740	18,680	32,520
21	689	1,740	3,410	4,640	5,740	10,740	21,400	13,140	12,820	20,110	19,900	32,520
22	689	1,820	3,410	4,750	5,740	11,760	21,180	12,820	13,460	19,690	20,960	32,520
23	689	1,820	3,410	4,750	5,850	12,980	20,740	12,360	14,110	19,280	21,840	33,340
24	689	1,900	3,510	4,750	5,850	13,940	20,320	11,910	14,620	18,680	22,060	32,520
25	743	1,900	3,510	4,750	5,960	15,300	19,900	11,610	14,960	17,880	22,060	32,520
26	797	1,980	3,510	4,860	5,960	16,380	19,480	11,310	15,480	17,310	22,060	32,520
27	854	1,980	3,510	4,860	6,080	17,500	19,280	11,310	16,200	16,740	21,620	32,520
28	912	2,230	3,610	4,860	6,080	18,680	19,080	11,160	16,560	16,380	21,180	32,520
29	974	2,320	3,610	4,970	-------	18,880	18,680	10,880	17,120	15,840	20,530	32,520
30	1,040	2,320	3,710	4,970	-------	19,280	18,480	10,600	17,500	15,300	20,110	32,520
31	1,100	-------	3,710	4,970	-------	19,690	-------	10,180	-------	14,450	20,320	-------
(+)	-2,310	+1,220	+1,390	+1,260	+1,110	+13,610	-1,210	-8,300	-7,320	-3,050	+5,870	+12,200
MAX	3,120	2,320	3,710	4,970	6,080	19,690	24,620	18,280	17,500	25,100	22,060	33,340
MIN	689	1,100	2,400	3,810	5,080	6,080	18,480	10,180	8,460	14,450	9,760	20,960

CAL YR 1968: (+) 0
WTR YR 1969: (+) +29,110

+ Change in contents, in acre-feet.

08400500 Lake McMillan near Lakewood, N. Mex.--Continued

GAGE HEIGHT, IN FEET, AT 0800 HOURS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.40	16.15	17.00	17.75	18.35	18.80	23.30	22.90	20.35	22.90	21.65	23.55
2	17.30	16.20	17.05	17.75	18.35	18.85	23.40	22.90	20.20	23.10	21.45	23.60
3	17.20	16.20	17.10	17.80	18.35	18.85	23.50	22.85	20.10	23.30	21.30	23.85
4	17.00	16.20	17.10	17.80	18.40	18.85	23.60	22.80	20.10	23.25	21.15	24.40
5	16.85	16.20	17.15	17.80	18.40	18.85	23.75	22.80	20.00	23.25	21.10	24.55
6	16.70	16.20	17.15	17.85	18.40	18.85	23.90	22.75	19.95	23.45	20.85	24.60
7	16.55	16.20	17.20	17.90	18.40	18.85	24.00	22.65	19.90	23.70	20.60	24.65
8	16.35	16.25	17.20	17.95	18.45	18.85	24.15	22.65	19.90	23.95	20.35	24.70
9	16.15	16.25	17.25	17.95	18.45	18.85	24.25	22.55	19.85	24.10	20.30	24.65
10	16.00	16.30	17.30	18.00	18.45	18.85	24.30	22.55	19.85	24.35	20.45	24.65
11	16.00	16.35	17.30	18.00	18.50	18.85	24.35	22.50	19.85	24.45	20.65	24.65
12	15.95	16.40	17.35	18.00	18.50	18.85	24.35	22.45	20.05	24.45	20.95	25.25
13	15.95	16.40	17.40	18.00	18.50	18.85	24.30	22.35	19.95	24.40	21.20	25.70
14	15.90	16.45	17.40	18.00	18.55	18.85	24.20	22.25	19.90	24.30	21.45	25.90
15	15.90	16.50	17.45	18.05	18.55	18.90	24.05	22.15	19.85	24.25	21.60	25.90
16	15.85	16.50	17.45	18.05	18.55	18.90	23.95	22.00	19.80	24.15	21.80	25.90
17	15.85	16.55	17.50	18.10	18.60	18.95	23.85	21.90	20.15	24.00	22.20	25.90
18	15.85	16.55	17.50	18.10	18.60	19.35	23.80	21.80	20.60	23.80	22.50	25.90
19	15.80	16.55	17.50	18.10	18.60	19.75	23.75	21.70	20.85	23.65	22.80	25.50
20	15.80	16.60	17.55	18.15	18.60	20.20	23.70	21.65	21.10	23.50	23.00	25.90
21	15.80	16.60	17.55	18.15	18.65	20.65	23.65	21.45	21.35	23.35	23.30	25.90
22	15.80	16.65	17.55	18.20	18.65	21.00	23.60	21.35	21.55	23.25	23.55	25.90
23	15.80	16.65	17.55	18.20	18.70	21.40	23.50	21.20	21.75	23.15	23.75	26.05
24	15.80	16.70	17.60	18.20	18.70	21.70	23.40	21.05	21.90	23.00	23.80	25.90
25	15.85	16.70	17.60	18.20	18.75	22.10	23.30	20.95	22.00	22.80	23.80	25.90
26	15.90	16.75	17.60	18.25	18.75	22.40	23.20	20.85	22.15	22.65	23.80	25.90
27	15.95	16.75	17.60	18.25	18.80	22.70	23.15	20.85	22.35	22.50	23.70	25.90
28	16.00	16.90	17.65	18.25	18.80	23.00	23.10	20.80	22.45	22.40	23.60	25.90
29	16.05	16.95	17.65	18.30	-----	23.05	23.00	20.70	22.60	22.25	23.45	25.90
30	16.10	16.95	17.70	18.30	-----	23.15	22.95	20.60	22.70	22.10	23.35	25.90
31	16.15	-----	17.70	18.30	-----	23.25	-----	20.45	-----	21.85	23.40	-----
MAX	17.40	16.95	17.70	18.30	18.80	23.25	24.35	22.90	22.70	24.45	23.80	26.05
MIN	15.80	16.15	17.00	17.75	18.35	18.80	22.95	20.45	19.80	21.85	20.30	23.55
MEAN	16.18	16.49	17.41	18.05	18.55	20.14	23.71	21.88	20.77	23.41	22.16	25.30

08401000 Pecos River below McMillan Dam, N. Mex.

LOCATION.--Lat 32°35'40", long 104°20'59", in NW¼NE¼ sec.11, T.20 S., R.26 E., Eddy County, on left bank 700 ft downstream from gates in McMillan Dam and 3.4 miles southeast of Lakewood.

DRAINAGE AREA.--16,990 sq mi, approximately (contributing area).

PERIOD OF RECORD.--January 1906 to March 1908, January 1909 to December 1911, August 1939 to December 1940, December 1946 to current year (January 1906 and January 1910 to December 1911, gage heights and discharge measurements only). Published as "near Lakewood" 1906-11, and as "below McMillan Dam, near Lakewood" 1939-40.

GAGE.--Water-stage recorder and rock control. Datum of gage is 3,238.21 ft above mean sea level. See WSP 1732 for history of changes prior to Mar. 12, 1957. Supplemental water-stage recorders on McMillan Dam spillways, Nos. 1 and 2, since July 9, 1960, and Apr. 6, 1960, respectively.

AVERAGE DISCHARGE.--24 years (1906-7, 1939-40, 1947-69), 101 cfs (73,170 acre-ft per year).

EXTREMES.--Current year: Maximum daily discharge, 1,230 cfs Sept. 20 (gage height, 5.47 ft), includes flow of spillways; no flow for many days.
Period of record: 1939-40, 1947-69: Maximum discharge, 16,500 cfs Aug. 23, 1966, includes flow of spillways; no flow for many days.
Flood of Oct. 2, 1904, may have reached 60,000 cfs. This station may have had a higher discharge in August 1893 when part of McMillan Dam was blasted to prevent total destruction of the dam (that flood was described as "highest in 50 years" and it also destroyed Avalon Dam).

REMARKS.--Records good. Flow regulated by Alamogordo Reservoir and Lake McMillan (see sta 08384000, 08400500). Flow over McMillan Dam spillways bypasses station but is gaged and included with discharge. Diversions and ground-water withdrawals for irrigation of about 171,000 acres (1959 determination) above station.

REVISIONS(WATER YEARS).--WSP 1512: 1909.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	103	0	0	0	0	0	427	.11	94	141	261	.49
2	104	0	0	0	0	0	427	.09	69	183	185	.41
3	103	0	0	0	0	0	431	.09	69	333	153	.30
4	101	0	0	0	0	0	416	45	69	455	151	.26
5	101	0	0	0	0	0	333	68	69	294	153	.26
6	101	0	0	0	0	0	279	67	23	.26	264	.26
7	101	0	0	0	0	0	347	67	0	100	326	.26
8	101	0	0	0	0	0	416	68	0	202	326	49
9	100	0	0	0	0	0	382	68	0	253	326	98
10	32	0	0	0	0	0	337	68	0	291	330	111
11	.17	0	0	0	0	0	301	69	11	261	247	113
12	.07	0	0	0	0	0	258	80	106	220	233	116
13	.13	0	0	0	0	0	258	128	106	220	304	125
14	.03	0	0	0	0	0	258	205	106	223	304	302
15	0	0	0	0	0	0	258	225	108	223	307	321
16	0	0	0	0	0	0	239	137	109	241	212	300
17	0	0	0	0	0	0	139	106	109	320	103	92
18	0	0	0	0	0	0	118	106	149	320	116	711
19	0	0	0	0	0	0	88	106	183	294	212	1,000
20	0	0	0	0	0	0	68	157	188	223	183	1,230
21	0	0	0	0	0	0	77	183	188	143	109	966
22	0	0	0	0	0	0	159	183	210	111	83	461
23	0	0	0	0	0	0	179	181	273	181	72	796
24	0	0	0	0	0	0	179	137	276	261	72	587
25	0	0	0	0	0	0	136	80	276	261	71	284
26	0	0	0	0	0	0	80	24	276	233	109	159
27	0	0	0	0	0	0	67	.09	276	159	161	.71
28	0	0	0	0	0	293	67	79	276	159	264	.89
29	0	0	0	0	------	427	67	120	276	157	228	1.1
30	0	0	0	0	------	423	23	120	176	223	113	.74
31	0	------	0	0	------	423	------	120	------	261	.69	------
TOTAL	947.40	0	0	0	0	1,566	6,814	2,997.38	4,071	6,946.26	5,978.69	7,826.68
MEAN	30.6	0	0	0	0	50.5	227	96.7	136	224	193	261
MAX	104	0	0	0	0	427	431	225	276	455	330	1,230
MIN	0	0	0	0	0	0	23	.09	0	.26	.69	.26
AC-FT	1,880	0	0	0	0	3,110	13,520	5,950	8,070	13,780	11,860	15,520

CAL YR 1968 TOTAL 27,580.92 MEAN 75.4 MAX 451 MIN 0 AC-FT 54,710
WTR YR 1969 TOTAL 37,147.41 MEAN 102 MAX 1,230 MIN 0 AC-FT 73,680

08401200 South Seven Rivers near Lakewood, N. Mex.

LOCATION.--Lat 32°35'19", long 104°25'17", in SE¼SE¼NW¼ sec.7, T.20 S., R.26 E., Eddy County, on downstream side of center pier of bridge on U.S. Highway 285, 0.4 mile south of Seven Rivers, 3.0 miles upstream from mouth, and 4.0 miles southwest of Lakewood.

DRAINAGE AREA.--220 sq mi, approximately.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,276 ft (from topographic map). Prior to July 8, 1965, at site 400 ft upstream at datum 0.57 ft higher.

AVERAGE DISCHARGE.--6 years, 7.75 cfs (5,610 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 80 cfs Sept. 21 (gage height, 4.73 ft); no flow most of time.
Period of record: Maximum discharge, 25,500 cfs May 30, 1965 (gage height, 20.0 ft, from floodmarks, present site and datum), from rating curve extended above 5,700 cfs on basis of slope-area measurements at gage heights 18.15 and 20.0 ft; no flow most of time.
Maximum discharge since at least 1941, about 30,000 cfs (gage height, 22.8 ft, from old debris on left bank, former site and datum), from rating curve extended above 5,700 cfs on basis of slope-area measurement at gage height 21.8 ft. Probably date of flood, Oct. 7, 1954.

REMARKS.--Records poor. No known diversions above gage.

REVISIONS.--WRD 1966: 1965(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

									JULY 27.....	1.2
									Sept.13.....	.14
									21.....	6.6
									22.....	.01
JULY	TOTAL	1.2	MEAN	.039	MAX	1.2	MIN	0	AC-FT	2.4
SEPT.	TOTAL	6.75	MEAN	.23	MAX	6.6	MIN	0	AC-FT	13
CAL YR 1968	TOTAL	882.11	MEAN	2.41	MAX	306	MIN	0	AC-FT	1,750
WTR YR 1969	TOTAL	7.95	MEAN	.022	MAX	6.6	MIN	0	AC-FT	16

PEAK DISCHARGE (BASE, 450 CFS).--No peak above base.

Note.--Flow occurred only on days listed above.

08401900 Rocky Arroyo at highway bridge, near Carlsbad, N. Mex.

LOCATION.--Lat 32°30'23", long 104°22'28", in SE¼SE¼ sec.3, T.21 S., R.25 E., Eddy County, at downstream end of bridge pier nearest left bank on U.S. Highway 285, 2 miles upstream from mouth, and 10 miles northwest of Carlsbad.

DRAINAGE AREA.--285 sq mi, approximately.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,248 ft (from topographic map).

AVERAGE DISCHARGE.--6 years, 11.9 cfs (8,620 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 22 cfs Sept. 12 (gage height, 5.12 ft); no flow most of time.
Period of record: Maximum discharge, 31,600 cfs Aug. 23, 1966 (gage height, 15.35 ft), from rating curve extended above 5,500 cfs on basis of slope-area measurement of peak flow; no flow most of time.
Since about 1941 the highest peak probably occurred Oct. 7, 1954, discharge 63,600 cfs (gage height, 19.2 ft, from high-water marks on downstream end of bridge pier), by slope-area measurement at site 5 miles upstream.

REMARKS.--Records poor. Diversions for irrigation of 220 acres (from Agricultural Stabalization and Conservation Service) above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

									Aug. 31.....	.18
									Sept. 1.....	.19
									12.....	.53
									13.....	.31
AUG.	TOTAL	.18	MEAN	.006	MAX	.18	MIN	0	AC-FT	.4
SEPT.	TOTAL	1.03	MEAN	.034	MAX	.53	MIN	0	AC-FT	2.0
CAL YR 1968	TOTAL	500.96	MEAN	1.37	MAX	254	MIN	0	AC-FT	994
WTR YR 1969	TOTAL	1.21	MEAN	.003	MAX	.53	MIN	0	AC-FT	2.4

PEAK DISCHARGE (BASE, 1,000 CFS).--No peak above base.

Note.--Flow occurred only on days listed above.

08402000 Pecos River at damsite 3, near Carlsbad, N. Mex.

LOCATION.--Lat 32°30'40", long 104°19'58", in lot 14, sec.6, T.21 S., R.26 E., Eddy County, on right bank at damsite 3 of Carlsbad project of Bureau of Reclamation, about 1 mile upstream from flow line of Lake Avalon, 1.3 miles downstream from Rocky Arroyo, and 8 miles northwest of Carlsbad.

DRAINAGE AREA.--17,980 sq mi, approximately (contributing area).

PERIOD OF RECORD.--August 1939 to December 1940, August 1944 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,171.31 ft above mean sea level (Bureau of Reclamation datum). 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 site at datum 1.00 ft higher.

AVERAGE DISCHARGE.--26 years, 170 cfs (123,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,410 cfs Sept. 19 (gage height, 5.94 ft); minimum, 7.8 cfs Mar. 23.
Period of record: Maximum discharge, 69,000 cfs Aug. 23, 1966 (gage height, 20.32 ft, from floodmark), from rating curve extended above 25,000 cfs on basis of slope-area measurement at gage height 18.53 ft; minimum, 4.3 cfs Aug. 5, 1954.
Peaks which probably exceeded 40,000 cfs occurred in August 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 cfs. Floods of 1893 and 1904 originated above McMillan Dam and contributed to the two failures of Avalon Dam.

REMARKS.--Records good. Flow regulated by Alamogordo Reservoir and Lake McMillan. (See sta 08384000, 08400500.) Diversions and groundwater withdrawals for irrigation of about 173,000 acres (1959 determination) above station. Discharge represents inflow to Lake Avalon.

REVISIONS(WATER YEARS).--WSP 1512: 1946-47(M), 1948(P), 1949, 1950(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	24	22	22	23	18	402	56	139	162	298	40
2	132	24	22	22	24	20	409	54	96	185	253	39
3	130	24	22	23	24	18	413	52	92	297	191	36
4	128	23	22	22	24	19	417	58	92	468	188	36
5	128	23	23	22	23	19	357	106	90	416	185	36
6	126	23	22	23	22	17	295	104	76	61	250	36
7	128	23	23	22	21	14	322	102	35	76	346	36
8	126	25	23	19	22	15	413	106	32	216	343	42
9	126	23	23	23	22	16	402	104	31	262	346	106
10	99	23	23	23	22	17	357	104	32	343	343	142
11	34	23	23	23	21	16	336	106	28	305	298	142
12	30	22	23	23	22	15	302	104	88	259	240	144
13	30	23	23	23	23	15	288	152	123	256	319	146
14	29	23	23	23	24	17	288	228	123	259	319	278
15	28	23	23	23	22	19	288	253	123	256	322	332
16	27	20	23	23	21	19	285	205	123	256	282	332
17	27	22	23	24	22	18	210	146	123	346	132	208
18	27	23	22	25	23	18	164	142	149	346	126	282
19	27	23	23	26	23	17	152	142	193	346	219	1,260
20	27	23	24	24	23	17	113	172	196	262	234	1,000
21	27	22	21	23	22	17	113	210	196	213	142	1,050
22	27	22	23	22	22	16	180	210	196	142	121	490
23	27	23	22	20	20	10	228	208	256	182	94	637
24	25	22	22	23	20	15	228	193	259	295	94	686
25	26	23	22	24	21	16	199	113	266	291	94	346
26	24	25	23	23	19	16	135	90	266	291	115	272
27	24	24	21	21	20	16	108	43	269	216	164	71
28	24	23	21	23	19	145	106	66	275	202	275	62
29	24	22	20	23	------	387	106	146	278	199	278	61
30	24	23	21	23	------	394	96	148	225	240	174	60
31	24	------	22	25	------	402	------	146	------	295	72	------
TOTAL	1,817	689	693	708	614	1,778	7,712	4,069	4,470	7,943	6,857	8,408
MEAN	58.6	23.0	22.4	22.8	21.9	57.4	257	131	149	256	221	280
MAX	132	25	24	26	24	402	417	253	278	468	346	1,260
MIN	24	20	20	19	19	10	96	43	28	61	72	36
AC-FT	3,600	1,370	1,370	1,400	1,220	3,530	15,300	8,070	8,870	15,750	13,600	16,680

CAL YR 1968 TOTAL 38,135 MEAN 104 MAX 432 MIN 20 AC-FT 75,640
WTR YR 1969 TOTAL 45,758 MEAN 125 MAX 1,260 MIN 10 AC-FT 90,760

PEAK DISCHARGE (BASE, 1,700 CFS).--Sept. 19 (0700) 2,410 cfs (5.94 ft).

08403500 Carlsbad main canal at head, near Carlsbad, N. Mex.

LOCATION.--Lat 32°29'25", long 104°15'08", in N½SW¼SW¼ sec.12, T.21 S., R.26 E., Eddy County, on right bank 220 ft downstream from headgates in Avalon Dam and 5.0 miles north of Carlsbad.

PERIOD OF RECORD.--July 1939 to current year (monthly discharge only July 1939 to September 1968). January 1941 to March 1951 published in WSP 1732. Published as Carlsbad main canal near Carlsbad, August 1939 to December 1940.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3,156.50 ft above mean sea level (Bureau of Reclamation datum). Prior to March 1951 at site 20 ft upstream at datum 0.9 ft higher.

EXTREMES.--Current year: Maximum daily discharge, 404 cfs Apr. 2; no flow many days.
Period of record: Maximum daily discharge, 526 cfs Sept. 15, 16, 1946; no flow for many days each year.

REMARKS.--Records good. Carlsbad main canal diverts water from Lake Avalon for irrigation of about 25,000 acres of Carlsbad Irrigation District. Most of the irrigation is on the right bank of the Pecos River, downstream from gaging station Pecos River at Carlsbad; about 1,600 acres is irrigated on the left bank, most of it above the gaging station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	0	0	0	0	0	358	71	68	294	234	.40
2	134	0	0	0	0	0	404	75	57	298	216	.20
3	123	0	0	0	0	0	402	82	61	306	191	0
4	127	0	0	0	0	0	351	52	49	310	207	37
5	118	0	0	0	0	0	328	78	57	245	243	94
6	102	0	0	0	0	0	326	75	52	171	278	94
7	110	0	0	0	0	0	381	68	38	175	284	80
8	121	0	0	0	0	0	389	51	58	202	304	99
9	140	0	0	0	0	0	353	53	71	222	298	92
10	139	0	0	0	0	0	339	105	80	247	270	98
11	142	0	0	0	0	0	326	108	81	228	236	68
12	116	0	0	0	0	0	312	123	92	218	290	71
13	115	0	0	0	0	0	292	157	105	226	330	68
14	147	0	0	0	0	0	266	182	108	266	270	71
15	60	0	0	0	0	0	247	149	105	302	249	140
16	0	0	0	0	0	0	268	147	137	312	202	162
17	0	0	0	0	0	0	202	151	156	345	175	173
18	0	0	0	0	0	0	175	137	152	326	205	171
19	0	0	0	0	0	0	152	147	185	294	254	185
20	0	0	0	0	0	0	127	189	198	220	232	184
21	0	0	0	0	0	0	140	205	182	182	149	184
22	0	0	0	0	0	0	157	178	164	228	78	209
23	0	0	0	0	0	0	152	154	232	249	84	304
24	0	0	0	0	0	66	151	132	230	224	80	324
25	0	0	0	0	0	132	137	76	256	196	111	341
26	0	0	0	0	0	191	111	86	243	207	126	304
27	0	0	0	0	0	276	99	118	224	191	154	218
28	0	0	0	0	0	310	107	116	237	193	200	154
29	0	0	0	0	------	332	86	119	236	226	168	144
30	0	0	0	0	------	345	68	123	236	280	132	118
31	0	------	0	0	------	356	------	104	------	270	39	------
TOTAL	1,802	0	0	0	0	2,008	7,206	3,611	4,150	7,653	6,289	4,187.60
MEAN	58.1	0	0	0	0	64.8	240	116	138	247	203	140
MAX	147	0	0	0	0	356	404	205	256	345	330	341
MIN	0	0	0	0	0	0	68	51	38	171	39	0
AC-FT	3,570	0	0	0	0	3,980	14,290	7,160	8,230	15,180	12,470	8,310

CAL YR 1968 TOTAL 33,915.60 MEAN 92.7 MAX 416 MIN 0 AC-FT 67,270
WTR YR 1969 TOTAL 36,906.60 MEAN 101 MAX 404 MIN 0 AC-FT 73,200

08403800 Lake Avalon near Carlsbad, N. Mex.

LOCATION.--Lat 32°29'27", long 104°15'05", in NW¼SW¼ sec.12, T.21 S., R.26 E., Eddy County, on headwall at outlet gate of dam on Pecos River, 5.0 miles north of Carlsbad.

DRAINAGE AREA.--18,070 sq mi, approximately (contributing area).

PERIOD OF RECORD.--January 1939 to September 1965 (monthend contents only). October 1965 to current year. Monthend gage heights January 1919 to December 1938 in files of Pecos River Commission.

GAGE.--Staff gage. Datum of gage is 3,157.0 ft above mean sea level (levels by Bureau of Reclamation).

EXTREMES.--Current year: Maximum contents at 0800 hours during year, 5,770 acre-ft Sept. 21 (gage height, 21.20 ft); minimum, 449 acre-ft Oct. 15.
Period of record: Maximum contents, 11,000 acre-ft May 22, 1941 (gage height, 25.0 ft), no storage at times when natural flow was passing through reservoir.

REMARKS.--Lake is formed by earthfill dam. The original Eddy (Avalon) Dam was completed and storage began in 1893. The dam was destroyed by flood of October 1893 (date of reconstruction not available), was destroyed again by flood of Oct. 2, 1904; present dam rebuilt in 1905-6. Capacity, 4,970 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. Water is used by Carlsbad Irrigation District.

COOPERATION.--Capacity table based on data furnished by Carlsbad Irrigation District.

REVISIONS(WATER YEARS).--WSP 898: 1939.

CONTENTS, IN ACRE-FEET, AT 0800 HOURS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,540	1,040	1,700	2,020	2,220	2,330	738	900	845	1,010	1,010	1,510
2	1,540	1,070	1,700	2,020	2,220	2,330	791	845	928	738	1,190	1,580
3	1,540	1,070	1,740	2,020	2,220	2,330	764	686	982	494	1,190	1,610
4	1,510	1,130	1,770	2,050	2,220	2,330	818	636	1,040	612	1,130	1,640
5	1,510	1,130	1,770	2,050	2,220	2,330	900	636	1,100	1,010	1,040	1,540
6	1,510	1,160	1,770	2,080	2,220	2,330	900	661	1,130	1,190	872	1,350
7	1,540	1,190	1,800	2,080	2,220	2,330	738	661	1,160	928	900	1,190
8	1,580	1,280	1,800	2,120	2,220	2,330	661	738	1,100	818	1,010	1,070
9	1,580	1,280	1,800	2,120	2,220	2,330	791	818	1,010	818	1,070	928
10	1,480	1,320	1,840	2,120	2,220	2,330	845	818	900	955	1,160	955
11	1,320	1,350	1,840	2,120	2,220	2,330	845	791	791	1,130	1,350	1,040
12	1,100	1,350	1,840	2,120	2,220	2,300	928	712	661	1,250	1,380	1,160
13	928	1,380	1,840	2,160	2,220	2,300	845	636	661	1,280	1,190	1,280
14	712	1,380	1,880	2,160	2,260	2,300	818	587	712	1,280	1,220	1,440
15	449	1,480	1,880	2,160	2,260	2,300	818	686	738	1,190	1,280	1,910
16	472	1,440	1,910	2,190	2,260	2,330	900	900	791	1,040	1,440	2,190
17	494	1,480	1,910	2,190	2,300	2,360	900	900	712	900	1,540	2,400
18	494	1,480	1,910	2,190	2,300	2,360	845	845	661	872	1,380	2,260
19	540	1,510	1,910	2,190	2,300	2,360	818	845	686	955	1,190	3,730
20	587	1,510	1,910	2,190	2,330	2,360	738	764	686	1,040	1,070	4,660
21	712	1,510	1,910	2,220	2,330	2,360	686	686	661	1,130	1,130	5,770
22	738	1,540	1,940	2,220	2,330	2,360	564	686	712	1,100	1,130	4,970
23	764	1,580	1,940	2,220	2,330	2,360	636	764	764	845	1,160	5,170
24	818	1,580	1,980	2,220	2,330	2,360	738	845	818	791	1,130	5,020
25	845	1,580	1,980	2,220	2,330	2,080	845	982	845	900	1,100	4,970
26	872	1,580	1,980	2,220	2,330	1,800	955	1,010	845	1,100	1,010	4,790
27	900	1,670	1,980	2,220	2,330	1,320	955	928	955	1,220	1,010	4,520
28	955	1,670	2,020	2,220	2,330	712	928	738	1,040	1,280	982	4,300
29	982	1,670	2,020	2,220	------	494	872	661	1,070	1,220	1,160	3,890
30	982	1,700	2,020	2,220	------	612	900	712	1,160	1,070	1,320	3,610
31	1,010	------	2,020	2,220	------	661	------	738	------	982	1,440	------
(†)	-470	+690	+320	+200	+110	-1,670	+239	-162	+422	-178	+458	+2,170
MEAN	1,032	1,404	1,881	2,154	2,268	2,055	816	768	872	1,005	1,167	2,599
MAX	1,580	1,700	2,020	2,220	2,330	2,360	955	1,010	1,160	1,280	1,540	5,770
MIN	449	1,040	1,700	2,020	2,220	494	564	587	661	494	872	928

CAL YR 1968: (†) -760
WTR YR 1969: (†) +2,130

† Change in contents, in acre-feet.

08403800 Lake Avalon near Carlsbad, N. Mex.--Continued

GAGE HEIGHT, IN FEET, AT 0800 HOURS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.05	15.25	16.30	16.75	17.05	17.20	14.70	15.00	14.90	15.20	15.20	16.00
2	16.05	15.30	16.30	16.75	17.05	17.20	14.80	14.90	15.05	14.70	15.50	16.10
3	16.05	15.30	16.35	16.75	17.05	17.20	14.75	14.60	15.15	14.20	15.50	16.15
4	16.00	15.40	16.40	16.80	17.05	17.20	14.85	14.50	15.25	14.45	15.40	16.20
5	16.00	15.40	16.40	16.80	17.05	17.20	15.00	14.50	15.35	15.20	15.25	16.05
6	16.00	15.45	16.40	16.85	17.05	17.20	15.00	14.55	15.40	15.50	14.95	15.75
7	16.05	15.50	16.45	16.85	17.05	17.20	14.70	14.55	15.45	15.05	15.00	15.50
8	16.10	15.65	16.45	16.90	17.05	17.20	14.55	14.70	15.35	14.85	15.20	15.30
9	16.10	15.65	16.45	16.90	17.05	17.20	14.80	14.85	15.20	14.85	15.30	15.05
10	15.95	15.70	16.50	16.90	17.05	17.20	14.90	14.85	15.00	15.10	15.45	15.10
11	15.70	15.75	16.50	16.90	17.05	17.20	14.90	14.80	14.80	15.40	15.75	15.25
12	15.35	15.75	16.50	16.90	17.05	17.15	15.05	14.65	14.55	15.60	15.80	15.45
13	15.05	15.80	16.50	16.95	17.05	17.15	14.90	14.50	14.55	15.65	15.50	15.65
14	14.65	15.80	16.55	16.95	17.10	17.15	14.85	14.40	14.65	15.65	15.55	15.90
15	14.10	15.95	16.55	16.95	17.10	17.15	14.85	14.60	14.70	15.50	15.65	16.60
16	14.15	15.90	16.60	17.00	17.10	17.20	15.00	15.00	14.80	15.25	15.90	17.00
17	14.20	15.95	16.60	17.00	17.15	17.25	15.00	15.00	14.65	15.00	16.05	17.30
18	14.20	15.95	16.60	17.00	17.15	17.25	14.90	14.90	14.55	14.95	15.80	17.10
19	14.30	16.00	16.60	17.00	17.15	17.25	14.85	14.90	14.60	15.10	15.50	19.00
20	14.40	16.00	16.60	17.00	17.20	17.25	14.70	14.75	14.60	15.25	15.30	20.05
21	14.65	16.00	16.60	17.05	17.20	17.25	14.60	14.60	14.55	15.40	15.40	21.20
22	14.70	16.05	16.65	17.05	17.20	17.25	14.35	14.60	14.65	15.35	15.40	20.40
23	14.75	16.10	16.65	17.05	17.20	17.25	14.50	14.75	14.75	14.90	15.45	20.60
24	14.85	16.10	16.70	17.05	17.20	17.25	14.70	14.90	14.85	14.80	15.40	20.45
25	14.90	16.10	16.70	17.05	17.20	16.85	14.90	15.15	14.90	15.00	15.35	20.40
26	14.95	16.10	16.70	17.05	17.20	16.45	15.10	15.20	14.90	15.35	15.20	20.20
27	15.00	16.25	16.70	17.05	17.20	15.70	15.10	15.05	15.10	15.55	15.20	19.90
28	15.10	16.25	16.75	17.05	17.20	14.65	15.05	14.70	15.25	15.65	15.15	19.65
29	15.15	16.25	16.75	17.05	-----	14.20	14.95	14.55	15.30	15.55	15.45	19.20
30	15.15	16.30	16.75	17.05	-----	14.45	15.00	14.65	15.45	15.30	15.70	18.85
31	15.20	-----	16.75	17.05	-----	14.55	-----	14.70	-----	15.15	15.90	-----
MAX	16.10	16.30	16.75	17.05	17.20	17.25	15.10	15.20	15.45	15.65	16.05	21.20
MIN	14.10	15.25	16.30	16.75	17.05	14.20	14.35	14.40	14.55	14.20	14.95	15.05
MEAN	15.19	15.83	16.56	16.95	17.11	16.77	14.84	14.75	14.94	15.18	15.46	17.58

08404000 Pecos River below Avalon Dam, N. Mex.

LOCATION.--Lat 32°28'55", long 104°15'47", in SW¼SW¼NE¼ sec.14, T.21 S., R.26 E., Eddy County, on right bank 4,800 ft below Avalon Dam and 4.5 miles northwest of Carlsbad.

DRAINAGE AREA.--18,080 sq mi, approximately (contributing area).

PERIOD OF RECORD.--January 1906 to March 1907 (published as "at Avalon"), June 1951 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,130 ft (from topographic map). January 1906 to March 1907 staff gage at site half a mile upstream at different datum.

AVERAGE DISCHARGE.--18 years (1951-69), 36.3 cfs (26,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,340 cfs Sept. 21 (gage height 7.92 ft); no flow most of time.
Period of record: Maximum discharge, 55,500 cfs Aug. 23, 1966 (gage height, 26.4 ft, from floodmarks), from rating curve extended above 33,000 cfs on basis of computation of peak flow over Tansill Dam 5.8 miles downstream; no flow most of time.
Flood of Oct. 2, 1904, caused in part, by failure of Avalon Dam, was described at that time as the greatest flood known. Flood in August 1893 is probably second highest, and was described as "greatest in 50 years"; it damaged McMillan Dam and washed out the original Avalon Dam.

REMARKS.--Records fair. Flow regulated by Alamogordo Reservoir, Lake McMillan and Lake Avalon. (See sta 08384000, 08400500, 08403800.) Diversions and ground-water withdrawals above station for irrigation of about 198,000 acres (1959 determination). Station bypassed by Carlsbad main canal (see sta 08403500).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

								Sept. 20	72	
								21	888	
								22	201	
								23	236	
								24	296	
								25	4.3	
								26	.01	
SEPT.	TOTAL	1,697.31	MEAN	56.6	MAX	888	MIN	0	AC-FT	3,370
CAL YR 1968	TOTAL	1.97	MEAN	.005	MAX	1.9	MIN	0	AC-FT	4.0
WTR YR 1969	TOTAL	1,697.31	MEAN	4.65	MAX	888	MIN	0	AC-FT	3,370

Note.--Flow occurred only on days listed above.

08405000 Pecos River at Carlsbad, N. Mex.

LOCATION.--Lat 32°25'03", long 104°13'27", in NW¼SE¼SE¼ sec.6, T.22 S., R.27 E., Eddy County, in downstream end of pier near center of Greene Street bridge in Carlsbad, 0.6 mile upstream from Dark Canyon.

DRAINAGE AREA.--18,100 sq mi, approximately (contributing area).

PERIOD OF RECORD.--May 1903 to March 1908 (January 1907 to March 1908, gage heights and discharge measurements only), May 1914 to September 1915, and April 1920 to current year. Monthly discharge only for some periods, published in WSP 1312. Records (except maximum discharges) for October 1915 to March 1920, published in WSP 438, 458, 478, and 508, have been found to be unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 3,080.28 ft above mean sea level. Prior to June 1, 1920, staff gages in immediate vicinity of present site, and at different datums prior to Jan. 6, 1938.

AVERAGE DISCHARGE.--19 years (1903-4, 1905-6, 1914-15, 1920-36), 255 cfs (184,600 acre-ft per year), prior to completion of Alamogordo Dam; 33 years (1936-69), 169 cfs (122,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,300 cfs Sept. 21 (gage height, 4.46 ft); minimum, 0.24 cfs July 14.
Period of record: Maximum discharge probably exceeded 90,000 cfs Oct. 2, 1904 (gage height, 23.44 ft, present datum, from floodmarks); minimum determined, 0.1 cfs June 19, 1954.
Flood of Oct. 2, 1904, caused in part by failure of Avalon Dam, was described at that time as "greatest flood known at Carlsbad." Flood in August 1893 is probably second highest, and was described as "greatest in 50 years"; it damaged McMillan Dam and washed out the original Avalon Dam.

REMARKS.--Records good. Flow regulated by Alamogordo Reservoir, Lake McMillan and Lake Avalon (see sta 08384000, 08400500, 08403800, and at low stages by power plant above station. Gage is bypassed on left bank by Carlsbad main canal east which irrigates several hundred acres adjacent to and below gage site, and on right bank by Carlsbad main canal south, which with supplemental ground-water withdrawals irrigates about 23,000 acres below. This bypass flow is not presently gaged. Diversions and ground-water withdrawals above station for irrigation of about 198,000 acres (1959 determination). Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS(WATER YEARS).--WSP 1632: 1903-6, 1936, 1938. See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	15	16	16	15	15	9.6	5.0	8.1	1.1	3.9	5.2
2	21	16	16	17	15	19	11	10	7.4	1.1	3.9	6.3
3	19	15	15	17	14	11	9.6	10	28	.88	3.9	6.8
4	21	15	15	16	15	15	10	13	33	.88	3.5	6.8
5	21	15	15	17	15	16	8.8	11	1.6	.99	45	7.4
6	15	15	15	17	15	14	8.8	10	.81	1.1	.81	6.8
7	15	15	15	17	15	15	9.6	34	.81	1.3	.74	6.8
8	15	17	16	17	14	12	25	30	1.1	1.6	.68	6.8
9	15	16	16	15	15	12	1.6	.81	26	40	.68	7.4
10	16	16	16	15	15	12	6.3	.81	26	16	.74	6.8
11	15	16	16	16	14	12	12	1.6	.81	.62	.74	6.0
12	16	17	16	17	14	13	18	13	8.7	.55	.68	5.0
13	16	17	16	17	16	13	11	9.6	29	.55	.68	4.5
14	15	18	15	17	16	15	13	8.1	10	.48	.68	4.5
15	16	17	15	17	15	16	13	8.8	.74	26	.68	3.5
16	15	17	16	17	15	15	10	10	.81	1.5	.68	18
17	15	17	17	17	14	14	12	6.8	13	.55	.68	3.0
18	15	17	17	17	14	15	12	7.4	2.8	.48	.55	4.5
19	16	17	17	18	14	11	13	8.8	4.3	.55	.62	4.5
20	17	16	17	19	15	11	12	7.4	3.9	.55	.74	4.5
21	17	17	17	19	15	11	12	28	3.9	.81	.74	849
22	15	17	15	21	15	13	12	16	3.5	.81	.68	327
23	15	17	15	19	15	15	12	.88	3.2	.81	.55	154
24	15	16	16	17	14	11	13	.74	2.8	.81	.62	436
25	15	17	17	19	14	10	17	1.6	2.5	.74	18	26
26	16	20	17	20	14	10	17	5.2	1.9	.68	20	6.8
27	15	17	17	18	14	10	17	6.3	1.4	1.6	.68	11
28	15	17	16	15	13	10	60	6.8	1.3	3.5	.62	10
29	16	15	17	15	------	9.6	3.6	17	1.3	3.2	.62	9.6
30	15	16	16	15	------	8.8	.81	5.2	1.1	2.8	2.0	10
31	15	------	16	15	------	9.6	------	6.3	------	3.2	4.8	------
TOTAL	500	493	496	529	409	394.0	390.71	300.14	229.78	115.74	119.89	1,964.5
MEAN	16.1	16.4	16.0	17.1	14.6	12.7	13.0	9.68	7.66	3.73	3.87	65.5
MAX	21	20	17	21	16	19	60	34	33	40	45	849
MIN	15	15	15	15	13	8.8	.81	.74	.74	.48	.55	3.0
AC-FT	992	978	984	1,050	811	781	775	595	456	230	238	3,900

CAL YR 1968 TOTAL 6,070.5 MEAN 16.6 MAX 39 MIN 2.0 AC-FT 12,040
WTR YR 1969 TOTAL 5,941.76 MEAN 16.3 MAX 849 MIN .48 AC-FT 11,790

08405500 Black River above Malaga, N. Mex.

LOCATION (revised).--Lat 32°13'44", long 104°09'02", in SW¼NW¼SW¼ sec.12, T.24 S., R.27 E., Eddy County, on right bank 0.6 mile upstream from Black River diversion dam, 4.6 miles west of Malaga, and 7.8 miles upstream from mouth.

DRAINAGE AREA.--343 sq mi.

PERIOD OF RECORD.--March to December 1940, December 1946 to current year.

GAGE.--Water-stage recorder and rock control. Altitude of gage is 3,070 ft (from topographic map). March to December 1940 water-stage recorder and Cippoletti weir at site 0.3 mile downstream at different datum.

AVERAGE DISCHARGE.--22 years (1947-69), 14.7 cfs (10,650 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,910 cfs Aug. 30 (gage height, 8.25 ft); minimum, 0.73 cfs June 25.
Period of record: Maximum discharge, 74,600 cfs Aug. 23, 1966 (gage height, 21.7 ft, from floodmarks), from rating curve extended above 6,000 cfs on basis of slope-area measurements at gage heights 12.60 and 21.7 ft; minimum, 0.73 cfs June 25, 1969.
The flood of Aug. 23, 1966, exceeded the previous known maximum stage which occurred in 1908 by about one foot (information from local resident). Flood of Sept. 20 or 21, 1941, reached a stage of 19.0 ft, determined in 1947 from well-defined floodmarks (discharge, 33,000 cfs, from rating curve extended above 1,400 cfs on basis of slope-area measurements at gage heights 8.41 and 12.60 ft).

REMARKS.--Records good. Diversions and ground-water withdrawals for irrigation of about 1,000 acres (1959 determination) above station.

REVISIONS(WATER YEARS).--WSP 1632: 1948, 1949-50(P). WSP 1923: 1963.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	5.6	8.8	7.2	12	7.2	8.8	8.4	6.0	5.2	4.5	20
2	6.4	4.9	9.3	7.2	12	6.8	10	9.7	7.7	5.2	4.5	12
3	6.4	4.9	11	7.2	14	6.8	11	11	8.7	5.2	4.5	8.4
4	6.4	5.2	11	6.8	13	6.8	11	11	13	4.9	4.2	7.6
5	6.4	5.2	11	6.8	13	7.2	11	11	8.0	4.9	4.2	6.8
6	6.0	8.8	11	6.8	13	7.2	11	11	7.2	5.2	68	5.6
7	5.6	10	11	6.8	13	6.8	11	11	7.2	5.6	16	4.9
8	4.9	11	11	7.6	12	6.4	11	11	7.2	5.6	9.7	4.9
9	4.9	12	11	9.3	11	6.8	11	11	7.2	5.6	7.2	38
10	4.9	11	11	11	8.0	7.2	13	9.7	7.6	5.6	6.4	7.2
11	4.5	11	11	11	7.6	7.2	15	9.7	7.2	5.2	5.6	7.8
12	4.5	10	11	12	7.6	7.2	11	11	6.8	4.9	5.2	5.2
13	4.2	10	11	12	10	7.2	11	11	7.2	4.5	4.9	5.2
14	4.2	10	11	13	8.0	7.6	11	10	7.2	4.5	4.9	5.2
15	4.2	8.4	11	13	8.0	9.3	9.7	9.3	7.2	4.2	4.9	4.9
16	3.9	8.0	12	12	7.6	8.8	9.7	9.3	8.0	4.5	4.5	4.5
17	3.9	7.6	12	12	8.0	8.4	9.7	8.8	12	4.5	4.5	4.5
18	3.9	6.8	11	12	8.0	7.6	9.7	8.8	10	4.9	4.2	5.2
19	3.9	6.4	11	12	8.0	7.2	9.7	8.8	8.0	4.9	4.5	5.6
20	4.2	6.0	11	12	8.0	7.2	9.3	8.4	6.8	4.9	7.2	6.0
21	4.2	6.0	11	12	8.4	6.8	9.3	8.4	6.4	4.9	6.4	6.4
22	4.5	6.4	11	13	8.4	6.8	9.7	8.0	6.0	4.9	4.5	6.4
23	4.5	6.4	11	12	8.4	6.4	9.7	8.0	5.6	4.9	3.9	7.6
24	4.5	6.0	11	12	7.6	6.0	9.7	9.8	5.6	4.9	3.9	6.0
25	4.9	6.0	11	12	7.6	6.0	9.3	8.8	4.7	5.2	3.9	5.2
26	4.9	7.6	12	13	7.6	6.4	9.3	7.2	5.2	6.0	4.2	6.0
27	5.2	8.0	12	13	7.6	6.0	8.0	6.8	5.6	6.4	4.2	6.8
28	5.6	7.6	11	12	7.2	6.0	7.0	6.4	5.6	5.6	4.2	6.4
29	5.2	7.2	9.7	12	------	6.0	6.8	6.0	5.6	4.9	4.2	5.2
30	5.2	7.6	8.0	12	------	6.4	7.2	6.0	5.2	4.9	1,110	4.2
31	4.9	------	7.6	12	------	6.8	------	5.6	------	4.5	92	------
TOTAL	153.3	231.6	333.4	332.7	264.6	216.5	300.6	280.9	215.7	157.1	1,421.0	229.7
MEAN	4.95	7.72	10.8	10.7	9.45	6.98	10.0	9.06	7.19	5.07	45.8	7.66
MAX	6.4	12	12	13	14	9.3	15	11	13	6.4	1,110	38
MIN	3.9	4.9	7.6	6.8	7.2	6.0	6.8	5.6	4.7	4.2	3.9	4.2
AC-FT	304	459	661	660	525	429	596	557	428	312	2,820	456

CAL YR 1968 TOTAL 4,882.3 MEAN 13.3 MAX 1,330 MIN 3.3 AC-FT 9,680
WTR YR 1969 TOTAL 4,137.1 MEAN 11.3 MAX 1,110 MIN 3.9 AC-FT 8,210

PEAK DISCHARGE (BASE, 450 CFS).--Aug. 30 (0615) 5,910 cfs (8.25 ft).

08406500 Pecos River near Malaga, N. Mex.

LOCATION.--Lat 32°12'26", long 104°01'22", in SW¼NW¼NE¼ sec.19, T.24 S., R.29 E., Eddy County, on right bank 3.1 miles southeast of Malaga, and 4.3 miles downstream from Black River.

DRAINAGE AREA.--19,190 sq mi, approximately (contributing area).

PERIOD OF RECORD.--May 1920 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Datum of gage is 2,895.64 ft above mean sea level. May 1, 1920, to Mar. 24, 1949, at datum 3 ft higher.

AVERAGE DISCHARGE.--16 years (1920-36), 274 cfs (198,400 acre-ft per year), prior to completion of Alamogordo Reservoir; 33 years (1936-69) 215 cfs (155,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,070 cfs Aug. 30 (gage height, 9.92 ft); minimum, 12 cfs Aug. 6.
Period of record: Maximum discharge, 120,000 cfs Aug. 23, 1966 (gage height, 42.1 ft, from floodmarks), from rating curve extended above 36,000 cfs on basis of slope-area measurement at gage height 42.1 ft; minimum, 5.0 cfs Mar. 9, 1965.
The flood of Aug. 23, 1966, exceeded all known floods at this location. A major flood occurred in 1904, discharge not determined. Flood of Aug. 7, 1916, reached a discharge of 70,000 cfs at Carlsbad, 27 miles upstream. Flood in September 1919 reached a stage of 29.4 ft, present datum (discharge, 40,400 cfs).

REMARKS.--Records good. Flow regulated by storage in Alamogordo Reservoir, Lake McMillan, and Lake Avalon (see sta 08384000, 08400500, 08403800),and by small diversion dams that divert for power or irrigation. Diversions and ground-water withdrawals above 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 below gage. This bypass is not gaged. Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1632: 1925, 1932-37.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	43	44	44	43	17	17	21	15	14	15	41
2	21	44	45	45	45	17	16	19	15	13	15	20
3	21	44	44	45	45	17	16	17	20	14	13	16
4	21	44	44	45	47	17	17	22	23	15	12	15
5	21	44	44	44	46	18	17	27	19	22	12	15
6	21	39	44	43	37	18	20	30	18	23	21	15
7	21	38	44	43	31	18	18	20	17	22	31	18
8	21	41	44	43	36	17	16	18	17	18	17	16
9	22	43	45	43	37	18	16	17	17	16	13	20
10	22	42	45	42	38	17	21	17	18	15	13	28
11	22	40	45	48	36	18	29	17	17	16	12	18
12	25	40	46	51	34	19	23	17	16	16	14	16
13	34	41	45	52	32	18	32	17	17	15	13	16
14	35	45	45	52	34	19	27	17	18	15	13	16
15	35	44	45	53	32	22	22	17	17	15	15	16
16	36	41	45	52	30	23	22	17	18	15	14	15
17	37	39	46	49	28	27	20	16	23	19	15	15
18	37	37	42	45	27	29	18	16	20	17	14	16
19	39	37	38	44	25	27	23	18	19	15	15	17
20	41	38	36	43	22	26	20	17	17	15	34	17
21	42	39	37	44	21	24	18	16	16	15	16	16
22	42	39	40	42	20	22	18	17	16	15	14	545
23	42	39	42	43	21	20	18	17	16	15	13	234
24	42	38	43	44	20	18	17	20	17	15	13	189
25	41	38	44	49	18	18	17	29	16	15	13	364
26	43	43	45	49	18	19	16	19	15	16	14	85
27	43	50	45	44	18	18	16	17	15	16	14	44
28	43	49	44	42	18	17	16	16	15	16	14	31
29	43	45	44	42	------	16	16	15	14	16	13	25
30	43	43	45	42	------	17	17	15	14	15	1,010	24
31	43	------	44	43	------	17	------	16	------	14	301	------
TOTAL	1,022	1,247	1,349	1,410	859	608	579	574	515	498	1,756	1,923
MEAN	33.0	41.6	43.5	45.5	30.7	19.6	19.3	18.5	17.2	16.1	56.6	64.1
MAX	43	50	46	53	47	29	32	30	23	23	1,010	545
MIN	21	37	36	42	18	16	16	15	14	13	12	15
AC-FT	2,030	2,470	2,680	2,800	1,700	1,210	1,150	1,140	1,020	988	3,480	3,810

CAL YR 1968 TOTAL 13,481 MEAN 36.8 MAX 1,290 MIN 15 AC-FT 26,740
WTR YR 1969 TOTAL 12,340 MEAN 33.8 MAX 1,010 MIN 12 AC-FT 24,480

PEAK DISCHARGE (BASE, 1,800 CFS).--Aug. 30 (1300) 3,070 cfs (9.92 ft).

08407000 Pecos River at Pierce Canyon Crossing, near Malaga, N. Mex.

LOCATION.--Lat 32°11'18", long 103°58'44", in SW¼SW¼NW¼ (revised) sec.27, T.24 S., R.29 E., Eddy County, on right bank 550 ft upstream from Pierce Canyon Crossing and 6 miles southeast of Malaga.

DRAINAGE AREA.--19,260 sq mi, approximately (contributing area).

PERIOD OF RECORD.--July 1938 to September 1941, August 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,889.18 ft above mean sea level. July 1938 to September 1941 at datum 1.19 ft higher.

AVERAGE DISCHARGE.--21 years, 175 cfs (126,800 acre-ft per year).

EXTREMES.--Current year: Maximum gage height, 5.48 ft, Aug. 30 (discharge not determined); minimum discharge, 5.2 cfs July 26.
Period of record: Maximum gage height, 31.6 ft (from floodmarks), Aug. 23, 1966; minimum discharge, 0.54 cfs May 30, 1965.

REMARKS --Records good except those above 200 cfs, which are poor. Flow regulated by storage in Alamogordo Reservoir, Lake McMillan, and Lake Avalon (see sta 08384000, 08400500, 08403800), and by several small diversion dams that divert for power or irrigation. Diversions and ground-water withdrawals above station for irrigation of about 202,000 acres (1959 determination). Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 898: 1938(M). WSP 1712: 1959.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	45	46	46	45	20	21	16	9.4	13	12	69
2	24	46	48	47	47	21	19	18	9.7	14	11	27
3	23	46	47	47	48	18	19	18	14	12	11	16
4	23	45	47	48	48	20	19	16	19	9.9	10	13
5	23	47	45	47	51	20	19	22	20	12	9.6	12
6	23	43	47	46	45	20	20	61	16	19	8.7	12
7	23	39	46	45	35	21	23	27	12	22	24	12
8	24	43	46	46	34	19	20	20	11	19	19	15
9	24	44	47	46	38	20	19	19	11	17	13	16
10	24	45	49	45	40	20	26	20	18	16	12	23
11	24	43	49	48	41	20	60	22	17	12	13	21
12	25	41	50	53	38	20	29	24	15	10	9.4	16
13	32	40	49	54	38	20	31	23	14	9.7	9.8	15
14	37	47	48	55	38	22	33	16	14	9.4	9.6	15
15	37	50	47	58	36	27	26	16	14	9.9	9.4	17
16	38	45	48	57	34	26	24	14	14	10	10	18
17	39	41	48	56	32	26	24	15	17	9.7	11	17
18	38	39	46	49	30	32	21	16	21	13	11	17
19	40	39	40	47	30	31	23	19	19	15	11	18
20	43	39	37	47	27	29	24	18	16	14	21	18
21	45	40	38	47	26	28	22	18	14	13	18	19
22	45	40	39	46	23	26	20	17	13	8.6	11	355
23	45	40	42	45	25	24	19	13	14	7.4	9.2	306
24	44	40	44	44	24	20	19	14	16	9.3	9.6	124
25	44	40	45	50	22	21	19	26	14	8.0	11	367
26	44	47	47	53	21	22	20	25	14	7.3	14	126
27	45	54	48	49	21	22	18	16	12	8.9	12	51
28	45	54	46	45	20	21	17	15	14	11	14	34
29	45	48	45	45	------	20	15	12	16	10	13	26
30	45	47	46	45	------	20	15	10	15	15	583	23
31	45	------	46	45	------	20	------	10	------	13	321	------
TOTAL	1,082	1,317	1,416	1,501	957	696	684	596	443.1	378.1	1,261.3	1,818
MEAN	34.9	43.9	45.7	48.4	34.2	22.5	22.8	19.2	14.8	12.2	40.7	60.6
MAX	45	54	50	58	51	32	60	61	21	22	583	367
MIN	23	39	37	44	20	18	15	10	9.4	7.3	8.7	12
AC-FT	2,150	2,610	2,810	2,980	1,900	1,380	1,360	1,180	879	750	2,500	3,610

CAL YR 1968 TOTAL 13,528.8 MEAN 37.0 MAX 1,060 MIN 8.6 AC-FT 26,830
WTR YR 1969 TOTAL 12,149.5 MEAN 33.3 MAX 583 MIN 7.3 AC-FT 24,100

08407500 Pecos River at Red Bluff, N. Mex.

LOCATION.--Lat 32°04'30", long 104°02'21", in SW¼NW¼NE¼ sec.1, T.26 S., R.28 E., Eddy County, on right bank at Red Bluff, 0.2 mile downstream from Red Bluff Draw, 1.6 miles northwest of the El Paso Natural Gas, Pecos River compressor station, 5.2 miles north of the New Mexico - Texas state line, and 5.6 miles upstream from Delaware River.

DRAINAGE AREA.--19,540 sq mi, approximately (contributing area).

PERIOD OF RECORD.--October 1937 to current year.

GAGE.--Water-stage recorder. Datum of gate is 2,850.05 ft above mean sea level.

AVERAGE DISCHARGE.--32 years, 204 cfs (147,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,530 cfs Sept. 21 (gage height, 6.80 ft); minimum, 6.0 cfs July 13, 14, 24.
Period of record: Maximum discharge, 111,000 cfs Aug. 23, 1966 (gage height, 33.32 ft), from rating curve extended above 30,000 cfs on basis of slope-area measurement of peak flow; minimum, 0.19 cfs Aug. 1, 1966.
The flood of Aug. 23, 1966, exceeded all known floods at this location. 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 sta 8-4050, 8-4065.)

REMARKS.--Records good. Flow regulated by storage in Alamogordo Reservoir, Lake McMillan and Lake Avalon (see sta 08384000, 08400500, 08403800), and by several small diversion dams that divert for power or irrigation. Diversions and ground-water withdrawals above station for irrigation of about 202,000 acres (1959 determination). Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	42	41	40	38	18	16	13	9.5	13	11	126
2	24	44	41	40	39	19	17	14	9.0	12	10	49
3	22	42	41	41	40	17	16	16	9.5	12	9.5	27
4	22	44	40	41	41	17	16	15	15	12	9.0	16
5	21	44	40	41	44	18	16	21	18	9.5	8.5	12
6	21	44	40	40	44	18	16	61	17	109	8.1	10
7	21	39	40	39	36	17	16	41	14	14	7.6	9.0
8	20	40	40	39	28	18	18	22	12	15	21	9.5
9	22	41	40	39	31	16	15	16	11	13	14	15
10	21	42	44	39	34	17	21	17	14	12	10	15
11	22	41	44	38	36	17	87	18	19	11	10	45
12	22	40	45	42	35	17	44	20	16	8.5	10	19
13	23	39	44	47	33	17	26	21	13	7.2	7.6	18
14	33	47	44	48	37	18	33	19	14	6.4	8.1	15
15	35	52	42	50	33	26	28	14	12	6.8	8.5	13
16	35	44	42	50	31	25	23	13	12	7.2	8.5	16
17	36	39	42	50	30	22	21	12	12	7.6	9.0	16
18	37	37	44	47	28	23	20	12	15	7.6	9.5	16
19	37	36	39	41	27	28	18	14	18	11	10	16
20	39	35	36	39	27	27	20	16	15	12	15	17
21	42	36	34	39	31	25	20	16	12	11	18	258
22	45	36	33	38	22	23	17	16	11	10	14	189
23	44	36	35	38	20	22	16	15	10	7.2	9.0	434
24	42	36	38	38	22	20	16	12	10	6.4	8.1	137
25	42	36	40	39	21	16	16	14	12	7.6	8.1	304
26	41	44	41	45	19	16	15	28	12	8.1	9.5	177
27	42	48	42	45	19	17	16	20	11	7.2	11	72
28	41	50	41	40	18	17	15	14	10	7.6	10	42
29	42	46	40	38	------	17	15	13	12	8.5	12	31
30	42	42	40	38	------	16	13	10	14	9.0	186	26
31	42	------	41	38	------	16	------	11	------	12	696	------
TOTAL	1,001	1,242	1,254	1,287	864	600	646	564	389.0	401.4	1,186.6	2,149.5
MEAN	32.3	41.4	40.5	41.5	30.9	19.4	21.5	18.2	13.0	12.9	38.3	71.7
MAX	45	52	45	50	44	28	87	61	19	109	696	434
MIN	20	35	33	38	18	16	13	10	9.0	6.4	7.6	9.0
AC-FT	1,990	2,460	2,490	2,550	1,710	1,190	1,280	1,120	772	796	2,350	4,260

CAL YR 1968 TOTAL 13,315.5 MEAN 36.4 MAX 983 MIN 6.4 AC-FT 26,410
WTR YR 1969 TOTAL 11,584.5 MEAN 31.7 MAX 696 MIN 6.4 AC-FT 22,980

PEAK DISCHARGE (BASE, 1,800 CFS).--No peak above base.

08408500 Delaware River near Red Bluff, N. Mex.

LOCATION.--Lat 32°01'23", long 104°03'15", in NE¼SW¼SE¼ sec.23, T.26 S., R.28 E., Eddy County, near center of channel on downstream side of pier of bridge on U. S. Highway 285, 2.1 miles northwest of the New Mexico - Texas state line, 3.6 miles southwest of Red Bluff, 3.7 miles upstream from mouth, and 14 miles south of Malaga.

DRAINAGE AREA.--689 sq mi.

PERIOD OF RECORD.--April 1912 to September 1913, May 1914 to June 1915, October 1937 to current year. Published as "near Malaga, N. Mex." 1912-13, and as "near Angeles, Tex." 1914-15.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,900.66 ft above mean sea level. Prior to May 1914, at site 3 miles upstream at different datum. May 1914 to June 1915 at site 2.5 miles downstream at different datum.

AVERAGE DISCHARGE.--32 years (1937-69), 14.0 cfs (10,140 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,690 cfs Sept. 22 (gage height, 6.47 ft); no flow many days.
Period of record: Maximum discharge, 81,400 cfs Oct. 2, 1955 (gage height, 27.0 ft, from floodmark), from rating curve extended above 1,500 cfs on basis of slope-area measurements at gage heights 8.65, 12.84, 18.00, and 27.0 ft; no flow many days most years. Maximum stage known since at least 1911 is that of Oct. 2, 1955. Flood of June 27, 1938, reached a stage of 18.00 ft, from floodmark.

REMARKS.--Records poor. One small upstream diversion.

REVISIONS(WATER YEARS).--WRD 1965: 1963-64.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	2.2	3.5	3.8	4.0	.47	3.8	.08	0	0	0	15
2	2.2	2.2	3.2	2.2	4.1	.24	3.3	.09	0	0	0	6.3
3	2.1	2.2	3.2	.57	4.0	.27	3.4	.08	0	0	0	3.5
4	2.0	2.2	3.2	.80	4.1	.26	3.3	.07	0	3.0	0	2.6
5	2.3	2.2	3.3	3.8	4.0	.21	3.3	.98	0	.99	0	1.7
6	2.4	2.2	3.3	4.0	4.3	.20	4.1	.19	0	0	0	1.3
7	2.2	2.4	3.3	4.0	4.3	.18	4.9	.19	0	3.8	0	.94
8	2.0	2.8	3.3	3.9	4.0	.22	4.8	.39	0	19	0	.80
9	1.9	3.0	3.4	3.6	4.0	.30	4.8	.43	0	5.6	0	.80
10	1.9	2.6	3.5	3.8	4.0	.21	6.0	.52	0	5.6	0	.80
11	2.6	2.6	3.4	3.7	4.0	.21	10	2.2	0	29	0	4.0
12	2.9	2.2	3.4	3.9	4.0	.22	9.7	4.0	0	16	0	1.5
13	2.3	.35	3.3	4.0	4.3	.23	5.0	2.6	9.5	5.6	0	4.9
14	2.0	.62	3.2	4.2	4.9	.24	4.8	2.4	4.3	1.7	0	5.0
15	1.9	.49	3.2	4.0	4.6	.43	3.5	1.9	.35	.68	0	1.2
16	1.7	1.6	3.2	4.0	4.3	2.0	3.1	.74	2.2	.31	0	.84
17	1.9	2.8	3.3	4.0	4.1	4.6	2.1	.46	46	.22	0	.71
18	2.0	2.8	3.2	4.0	4.0	4.6	.42	.45	7.8	.16	0	.76
19	2.4	3.0	3.2	4.0	3.1	3.5	.24	.53	2.2	.19	0	.90
20	2.4	3.0	3.2	4.0	.52	.47	.19	.25	1.1	2.8	2.2	.97
21	2.6	3.0	3.3	4.0	.35	.35	.17	.22	.62	.57	1.2	129
22	2.4	3.0	3.1	4.0	.31	.31	.17	.19	.35	5.6	.07	830
23	2.4	3.0	3.2	3.9	.28	.27	.19	.10	.22	.28	0	64
24	2.2	3.0	3.5	3.6	.25	.20	.16	.10	.10	1.1	0	22
25	1.7	3.0	3.5	3.8	.25	.21	.11	.10	0	.35	0	11
26	1.5	4.9	3.8	4.6	.25	.22	.07	.03	0	.08	0	7.4
27	1.7	4.9	3.8	4.9	2.8	.22	.04	0	0	0	0	5.2
28	2.2	4.0	3.8	4.0	3.0	.21	.32	0	0	0	0	4.6
29	2.4	3.8	3.8	4.0	------	1.0	.13	0	0	0	0	4.0
30	2.4	3.5	3.8	4.0	------	3.8	.08	0	0	0	59	3.4
31	2.4	------	3.8	4.0	------	4.0	------	0	------	0	64	------
TOTAL	67.3	79.56	105.2	115.07	86.11	29.85	82.19	19.29	74.74	102.63	126.47	1,135.12
MEAN	2.17	2.65	3.39	3.71	3.08	.96	2.74	.62	2.49	3.31	4.08	37.8
MAX	2.9	4.9	3.8	4.9	4.9	4.6	10	4.0	46	29	64	830
MIN	1.5	.35	3.1	.57	.25	.18	.04	0	0	0	0	.71
AC-FT	133	158	209	228	171	59	163	38	148	204	251	2,250

CAL YR 1968 TOTAL 5,344.56 MEAN 14.6 MAX 2,050 MIN 0 AC-FT 10,600
WTR YR 1969 TOTAL 2,023.53 MEAN 5.54 MAX 830 MIN 0 AC-FT 4,010

PEAK DISCHARGE (BASE, 1,700 CFS).--No peak above base.

08410000 Red Bluff Reservoir near Orla, Tex.

LOCATION.--Lat 31°54'05", long 103°54'40", Reeves County, at right end of Red Bluff Dam on Pecos River, 3 miles upstream from Salt (Screwbean) Draw, and 4.5 miles north of Orla.

DRAINAGE AREA.--20,720 sq mi, approximately (contributing area).

PERIOD OF RECORD.--February 1937 to current year. Monthly contents only for some periods, published in WSP 1312.

GAGE.--Nonrecording gage read at irregular intervals. Datum of gage is 0.30 ft below mean sea level.

EXTREMES.--Current year: Maximum contents observed, 58,950 acre-ft Feb. 18 to Mar.16 (gage height, 2,806.7 ft); minimum observed, 29,730 acre-ft Sept. 21 (gage height, 2,795.7 ft).
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).

REMARKS.--Reservoir is formed by a rock-faced earthfill dam 9,200 ft long. Dam completed and storage began in September 1936. The concrete service spillway is equipped with 12 tainter gates 25 ft wide by 15 ft high. The emergency spillway, located on the right bank, is 790 ft long. Water is used for power development and irrigation from Mentone to Grandfalls. Inflow partly regulated by major reservoirs above station include Alamogordo Reservoir, Lake McMillan, and Lake Avalon, with a total combined capacity of 154,400 acre-ft. Also several small diversion dams divert water for power and irrigation. Contents computed from intermittent gage readings; figures given herein represent total contents. Data regarding dam and reservoir are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Crest of emergency spillway	2,845.0	340,000
Top of tainter gates (top of conservation storage)	2,842.0	310,000
Crest of service spillway	2,827.0	166,500
Bottom of two 7.0- by 9.0-foot conduits	2,764.0	3,000

COOPERATION.--Gage-height records and capacity curve furnished by Red Bluff Water Power and Control District. Capacity curve based on Geological Survey topographic map, survey of 1925.

MONTHEND GAGE HEIGHT AND CONTENTS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

Date	Gage height (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2,804.9	52,700	-
Oct. 31	2,804.5	51,500	-1,200
Nov. 30	2,805.2	53,700	+2,200
Dec. 31	2,805.8	55,800	+2,100
CAL YR 1968	-	-	-44,200
Jan. 31	2,806.4	57,900	+2,100
Feb. 28	2,806.7	58,950	+1,050
Mar. 31	2,804.6	51,800	-7,150
Apr. 30	2,804.1	50,300	-1,500
May 31	2,803.6	48,800	-1,500
June 30	2,801.7	43,250	-5,550
July 31	2,800.0	39,000	-4,250
Aug. 31	2,797.2	32,720	-6,280
Sept. 30	2,799.3	37,320	+4,600
WTR YR 1969	-	-	-15,380

08412500 Pecos River near Orla, Tex.

LOCATION.--Lat 31°48'14", long 103°48'25", Reeves County, on left bank 600 ft upstream from Pasotex pipeline crossing, 6 miles southeast of Orla, 12 miles downstream from Salt (Screwbean) Draw, and 15 miles downstream from Red Bluff dam.

DRAINAGE AREA.--21,300 sq mi, approximately (contributing area).

PERIOD OF RECORD.--May 1937 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,718.05 ft above mean sea level.

AVERAGE DISCHARGE.--32 years, 199 cfs (144,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,800 cfs Sept. 22 (gage height, 6.28 ft); minimum, 0.59 cfs May 18-19.
Period of record: Maximum discharge, 23,700 cfs Sept. 29, 1941 (gage height, 20.74 ft); no flow at times in 1946 and 1965.

REMARKS.--Records good. Flow largely regulated by Red Bluff Reservoir (station 8-4100) and reservoirs above Carlsbad, N. Mex. Occasional runoff from draws between dam and station. Many diversions above Red Bluff Reservoir for irrigation. Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	8.3	9.8	6.4	5.8	4.1	100	6.4	60	87	47	158
2	6.4	7.6	9.0	6.4	5.3	4.1	98	6.4	74	87	47	161
3	4.9	7.6	8.3	6.4	5.3	3.7	98	6.4	62	87	47	161
4	7.0	7.6	8.3	6.4	5.3	4.1	98	7.0	60	87	47	161
5	9.8	7.6	8.3	6.4	5.8	4.5	95	6.4	39	100	62	118
6	9.0	7.6	7.6	6.4	5.8	4.5	95	19	37	92	67	115
7	8.3	7.6	7.6	6.4	5.8	4.5	95	13	126	92	67	112
8	8.3	9.0	7.6	7.0	5.3	4.1	92	9.0	123	90	67	112
9	7.6	9.0	7.6	5.8	5.3	4.1	92	7.0	84	87	67	112
10	7.6	7.6	7.6	6.4	5.3	4.1	81	6.4	120	57	67	112
11	9.8	7.6	7.6	7.0	5.3	4.1	26	6.4	109	51	67	98
12	9.8	7.6	7.6	12	5.3	508	30	6.4	84	49	84	98
13	9.8	7.6	7.0	7.0	5.3	576	22	3.4	84	49	87	98
14	8.3	8.3	7.0	6.4	6.4	194	12	1.7	87	49	87	98
15	8.3	10	7.0	6.4	5.8	154	9.8	1.4	90	49	90	98
16	7.6	10	7.0	6.4	5.8	151	8.3	1.2	90	51	90	98
17	9.5	8.3	7.0	5.8	5.8	151	7.6	.93	316	49	90	98
18	193	7.6	7.0	5.8	5.3	151	7.0	.59	100	49	90	98
19	103	7.6	7.0	5.8	5.3	151	7.6	.59	46	49	90	98
20	100	7.6	6.4	6.4	5.3	151	7.6	109	19	51	90	98
21	100	7.6	7.0	6.4	7.0	154	7.0	45	87	47	90	100
22	100	7.6	7.0	6.4	7.6	154	7.0	36	87	47	90	1,320
23	100	7.6	6.4	5.8	5.8	158	7.0	36	87	47	90	306
24	100	7.0	7.0	5.3	5.3	151	7.0	36	87	47	90	126
25	103	7.0	7.0	5.8	4.9	151	6.4	36	87	47	90	115
26	103	9.8	7.0	5.8	4.9	151	6.4	36	87	47	90	112
27	100	19	7.6	5.8	4.9	151	5.8	36	87	83	90	109
28	103	17	7.0	5.3	4.5	151	5.8	36	87	53	90	109
29	92	11	7.0	5.8	------	151	6.4	36	87	49	103	109
30	16	9.8	7.0	5.8	------	154	6.4	36	87	47	154	109
31	9.0	------	7.0	5.8	------	142	------	55	------	47	154	------
TOTAL	1,464.0	265.1	229.3	197.0	155.5	3,900.9	1,147.1	642.61	2,680	1,923	2,581	4,817
MEAN	47.2	8.84	7.40	6.35	5.55	126	38.2	20.7	89.3	62.0	83.3	161
MAX	193	19	9.8	12	7.6	576	100	109	316	100	154	1,320
MIN	4.9	7.0	6.4	5.3	4.5	3.7	5.8	.59	19	47	47	98
AC-FT	2,900	526	455	391	308	7,740	2,280	1,270	5,320	3,810	5,120	9,550

CAL YR 1968 TOTAL 32,377.9 MEAN 88.5 MAX 483 MIN 4.9 AC-FT 64,220
WTR YR 1969 TOTAL 20,002.51 MEAN 54.8 MAX 1,320 MIN .59 AC-FT 39,670

08476300 Mimbres River at McKnight damsite, near Mimbres, N. Mex.

LOCATION.--Lat 32°56'12", long 108°00'52", in SW¼SE¼ sec.6, T.16 S., R.11 W., Grant County, on right bank 0.3 mile upstream from Mimbres Ranger station, 0.4 mile downstream from Cottonwood Canyon and 8 miles northwest of Mimbres.

DRAINAGE AREA.--97.3 sq mi.

PERIOD OF RECORD.--November 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,236.73 ft above mean sea level.

AVERAGE DISCHARGE.--5 years (1964-69), 6.21 cfs (4,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 23 cfs Aug. 30 (gage height, 1.65 ft); no flow most of year.
Period of record: Maximum discharge, 840 cfs Aug. 5, 1968 (gage height, 3.96 ft), from rating curve extended above 220 cfs on basis of slope-area measurement at gage height 3.34 ft; no flow for many days most years.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	0	0	0	0	0	0	0	0	0	0	0
2	.09	0	0	0	0	0	0	0	0	0	0	0
3	.01	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	1.4
12	0	0	0	0	0	0	0	0	0	0	0	.04
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	------	0	0	0	0	0	0	0
30	0	0	0	0	------	0	0	0	0	0	.90	0
31	0	------	0	0	------	0	------	0	------	0	.03	------
TOTAL	0.50	0	0	0	0	0	0	0	0	0	0.93	1.44
MEAN	.016	0	0	0	0	0	0	0	0	0	.030	.048
MAX	.40	0	0	0	0	0	0	0	0	0	.90	1.4
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	1.0	0	0	0	0	0	0	0	0	0	1.8	2.9

CAL YR 1968 TOTAL 5,664.90 MEAN 15.5 MAX 267 MIN 0 AC-FT 11,240
WTR YR 1969 TOTAL 2.87 MEAN .008 MAX 1.4 MIN 0 AC-FT 5.8

PEAK DISCHARGE (BASE, 250 CFS).--No peak above base.

08477000 Mimbres River near Mimbres, N. Mex.

LOCATION.--Lat 32°52'30", long 107°59'00", in SE¼NW¼ sec.33, T.16 S., R.11 W., Grant County, on left bank, 0.7 mile downstream from Bear Canyon and 1.5 miles northwest of Mimbres.

DRAINAGE AREA.--152 sq mi.

PERIOD OF RECORD.--June 1921 to September 1930 (fragmentary), October 1930 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Concrete control since Mar. 26, 1938. Datum of gage is 5,972 ft above mean sea level. Prior to Sept. 12, 1923, at site 10 ft downstream at datum 0.3 ft higher. Sept. 12, 1923, to Jan. 17, 1934, at datum of 0.1 ft lower.

AVERAGE DISCHARGE.--39 years, 10.6 cfs (7,680 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 105 cfs Sept. 7 (gage height, 3.52 ft); minimum, 1.4 cfs Mar. 21-23
Period of record: Maximum discharge determined, 1,560 cfs Aug. 2, 1952 (gage height, 6.22 ft), from rating curve extended above 230 cfs; minimum, 0.7 cfs Aug. 10, 1951.

REMARKS.--Records good. Some regulation by Bear Canyon Reservoir 1.3 miles upstream (capacity, 700 acre-ft). Diversions for irrigation of about 300 acres above station.

REVISIONS(WATER YEARS).--WSP 1282: Drainage area. WSP 1512: 1931, 1933(M), 1935(M), 1937(M), 1938, 1939-40(M), 1941, 1942-43(M), 1944, 1945(M), 1946, 1947(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	2.3	5.6	5.9	4.4	4.3	2.2	2.2	2.4	1.9	2.5	7.0
2	3.6	2.6	6.2	5.8	4.7	4.3	1.7	2.3	2.4	2.0	2.6	6.1
3	3.3	2.6	6.1	5.8	4.5	4.4	1.7	2.4	2.4	2.0	2.6	5.6
4	3.5	2.8	6.8	5.8	4.5	4.4	1.6	2.5	2.4	2.1	2.5	5.2
5	6.7	2.8	6.8	5.7	4.4	4.4	1.6	2.7	2.4	2.0	2.5	5.1
6	7.8	2.8	6.7	5.6	4.4	4.5	1.8	2.6	2.4	2.1	2.4	5.0
7	7.9	3.1	6.4	5.5	4.5	4.8	1.8	2.9	2.7	2.0	2.4	7.6
8	9.6	3.3	6.3	5.4	4.5	4.7	1.8	2.8	3.4	2.0	2.5	5.9
9	9.6	3.5	6.5	5.4	4.5	4.7	1.8	2.8	2.5	2.1	2.4	7.1
10	8.5	6.7	6.4	5.3	4.5	4.7	1.8	2.8	2.5	2.0	2.4	5.5
11	7.9	10	6.3	5.3	4.4	4.9	1.8	2.7	2.5	2.2	2.5	5.4
12	7.6	11	6.2	5.1	4.5	4.8	1.9	2.6	2.5	2.3	2.5	5.7
13	6.7	10	6.2	5.3	4.8	4.7	1.9	2.6	2.7	2.2	2.5	5.1
14	7.6	11	6.0	5.3	4.4	4.9	2.1	2.6	2.8	2.1	2.6	4.9
15	8.6	9.7	6.1	5.2	4.3	4.8	2.1	2.5	2.8	2.2	2.6	4.7
16	7.5	9.0	6.3	5.0	4.3	4.7	2.2	2.4	2.9	2.1	2.6	4.6
17	7.3	8.4	6.2	4.9	4.3	4.6	2.2	2.5	3.1	2.2	2.6	4.3
18	7.4	8.1	6.1	4.9	4.2	4.4	2.2	2.6	2.6	2.3	2.5	4.3
19	7.3	8.0	5.9	4.9	4.3	4.3	2.2	2.5	2.2	2.4	2.5	4.1
20	6.3	7.8	5.6	4.8	4.3	2.2	2.2	2.4	2.2	2.4	2.6	3.8
21	5.6	7.8	6.1	4.7	4.1	1.4	2.2	2.5	2.2	2.3	2.5	3.7
22	5.6	7.7	6.3	4.8	4.1	1.5	2.2	2.4	2.2	2.4	2.4	2.8
23	6.6	7.5	6.7	4.7	4.4	1.5	2.1	2.5	2.2	2.4	2.5	2.2
24	7.4	7.1	6.6	4.7	4.5	1.5	2.2	2.7	2.4	2.4	2.5	2.4
25	7.2	6.3	6.5	4.6	4.4	1.6	2.1	2.6	2.8	2.5	2.7	2.5
26	6.8	6.4	7.7	4.6	4.4	1.6	2.2	2.5	3.6	2.6	2.7	2.3
27	6.6	6.1	7.0	4.4	4.4	1.8	2.2	2.5	2.8	2.6	2.7	2.3
28	6.6	5.6	6.6	4.6	4.4	2.0	2.2	2.6	2.0	2.8	2.8	2.3
29	6.6	5.7	6.4	4.6	------	2.1	2.2	2.5	2.0	2.8	4.1	2.4
30	6.2	5.7	6.2	4.6	------	2.1	2.2	2.5	2.0	2.6	3.9	2.5
31	3.5	------	6.0	4.6	------	2.2	------	2.6	------	2.6	5.8	------
TOTAL	207.1	191.4	196.8	157.8	123.4	108.8	60.4	79.3	76.0	70.6	84.9	132.4
MEAN	6.68	6.38	6.35	5.09	4.41	3.51	2.01	2.56	2.53	2.28	2.74	4.41
MAX	9.6	11	7.7	5.9	4.8	4.9	2.2	2.9	3.6	2.8	5.8	7.6
MIN	3.3	2.3	5.6	4.4	4.1	1.4	1.6	2.2	2.0	1.9	2.4	2.2
AC-FT	411	380	390	313	245	216	120	157	151	140	168	263

CAL YR 1968 TOTAL 10,452.0 MEAN 28.6 MAX 288 MIN 2.3 AC-FT 20,730
WTR YR 1969 TOTAL 1,488.9 MEAN 4.08 MAX 11 MIN 1.4 AC-FT 2,950

PEAK DISCHARGE(BASE, 290 CFS).--No peak above base.

08481500 Rio Tularosa near Bent, N. Mex.

LOCATION.--Lat 33°08'41", long 105°53'50", in SE¼NW¼ sec.32, T.13 S., R.11 E., Lincoln County, on right bank 50 ft downstream from bridge on U. S. Highway 70, 2.6 miles west of Bent, and 8.5 miles northeast of Tularosa.

DRAINAGE AREA.--120 sq mi, approximately.

PERIOD OF RECORD.--December 1947 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 5,450 ft (from topographic map).

AVERAGE DISCHARGE.--21 years (1948-69), 9.46 cfs (6,850 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 174 cfs Aug. 29 (gage height 2.80 ft); minimum, 0.65 cfs April 15.
Period of record: Maximum discharge, 4,280 cfs June 18, 1965 (gage height, 5.02 ft), from rating curve extended above 160 cfs on basis of slope-area measurement of peak flow; no flow May 14, 1955, result of unusual regulation.
A major flood probably occurred Sept. 3, 1938, when a peak of 9,640 cfs was computed for station near Tularosa. Another high peak may have occurred July 2, 1914.

REMARKS.--Records poor. Diversion for irrigation of about 1,000 acres (1959 determination) above station. Records of chemical analyses and water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1312: 1949(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.3	10	11	9.3	11	11	10	8.2	3.9	3.5	7.4	8.3
2	7.3	9.9	11	10	11	11	10	8.2	4.5	5.2	6.6	3.5
3	8.2	9.4	10	9.8	11	11	9.8	6.5	5.6	5.0	7.0	2.8
4	8.0	9.7	10	9.8	11	11	10	4.4	8.7	4.8	6.9	2.4
5	7.7	9.1	10	10	11	11	9.3	3.9	8.7	5.2	7.1	2.4
6	5.9	9.1	9.6	11	11	11	6.0	7.4	8.4	5.4	6.7	2.4
7	8.0	9.1	9.4	10	11	11	5.6	8.4	7.6	5.1	6.7	2.4
8	7.9	9.9	9.9	11	11	11	9.8	8.3	8.1	6.5	7.1	12
9	9.0	10	10	10	11	11	10	8.2	6.7	6.2	6.8	8.2
10	9.0	10	11	10	11	11	9.6	9.1	6.6	8.8	4.1	6.5
11	9.1	10	11	10	10	11	11	9.5	6.3	11	4.2	7.3
12	9.0	9.6	11	11	10	11	10	8.6	6.3	6.2	5.6	7.3
13	9.7	10	10	11	11	10	9.8	8.3	6.2	4.6	6.9	9.1
14	8.5	13	10	11	11	9.7	9.2	8.4	6.7	5.0	6.8	14
15	8.6	11	10	12	10	9.8	8.8	7.8	4.7	5.6	6.9	11
16	8.7	10	10	11	10	10	10	7.5	4.0	8.4	6.4	10
17	8.7	11	11	11	10	10	10	6.9	4.9	8.8	6.4	9.1
18	8.6	11	11	12	10	10	11	5.3	7.6	8.8	5.5	8.2
19	9.0	11	10	12	11	10	11	4.4	7.0	7.9	4.7	8.2
20	6.9	10	11	12	11	9.7	6.5	6.3	6.7	11	5.5	8.2
21	9.0	11	11	11	11	10	6.4	9.2	6.5	6.5	5.0	9.1
22	9.1	10	10	12	10	10	6.3	9.0	6.4	6.8	5.7	8.2
23	9.1	10	9.1	11	11	11	9.3	10	5.2	6.4	5.7	9.1
24	9.5	10	11	11	11	9.8	9.6	11	4.0	6.5	3.8	9.1
25	8.2	10	9.5	11	11	10	9.7	11	4.0	7.0	4.6	9.1
26	9.1	11	11	12	11	10	10	9.8	3.9	6.2	4.7	9.1
27	9.9	11	10	12	11	10	9.1	9.6	4.7	4.0	6.9	9.1
28	10	11	9.8	12	11	8.9	8.2	8.0	5.0	3.3	8.2	9.1
29	10	11	9.8	11	------	11	8.2	8.0	3.3	5.4	18	8.2
30	9.8	11	9.7	11	------	9.5	8.2	7.3	3.5	7.3	7.4	8.2
31	10	------	9.1	11	------	9.4	------	6.6	------	7.3	3.5	------
TOTAL	268.8	308.8	316.9	338.9	301	320.8	272.4	245.1	175.7	199.7	198.8	231.6
MEAN	8.67	10.3	10.2	10.9	10.8	10.3	9.08	7.91	5.86	6.44	6.41	7.72
MAX	10	13	11	12	11	11	11	11	8.7	11	18	14
MIN	5.9	9.1	9.1	9.3	10	8.9	5.6	3.9	3.3	3.3	3.5	2.4
AC-FT	533	613	629	672	597	636	540	486	349	396	394	459

CAL YR 1968 TOTAL 3,418.2 MEAN 9.34 MAX 41 MIN 2.7 AC-FT 6,780
WTR YR 1969 TOTAL 3,178.5 MEAN 8.71 MAX 18 MIN 2.4 AC-FT 6,300

PEAK DISCHARGE (BASE, 125 CFS).--Aug. 29 (2215) 174 cfs (2.80 ft).

08486250 Tularosa Valley Tributary near White Sands, N. Mex.

LOCATION.--Lat 32°24'11", long 106°28'46", in SW¼SW¼ sec.7, T.22 S., R.5 E., Dona Ana County, on right upstream wingwall of culvert 1.2 miles north of entrance gate to White Sands Missile Range on paved road 2.6 miles south of U.S. Highway 70.

DRAINAGE AREA.--17.2 sq mi.

PERIOD OF RECORD.--August 1965 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,230 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 1,460 cfs Aug. 31 (gage height, 5.85 ft); no flow for most of time. Period of record: Maximum discharge, 1,460 cfs Aug. 31, 1969 (gage height 5.85 ft) from rating curve extended on basis of slope-area measurements at gage heights 4.34, 5.64 and 5.85 ft; no flow for most of time.

REMARKS.--Records poor.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										0	0	0
2										0	0	0
3										0	0	0
4										0	0	0
5										0	0	0
6										0	0	0
7										0	0	0
8										0	0	0
9										2.5	0	0
10										0	0	0
11										0	0	1.0
12										0	0	0
13										0	0	.10
14										0	0	0
15										0	0	0
16										0	0	0
17										0	0	0
18										0	0	0
19										0	0	0
20										0	0	0
21										0	0	0
22										0	0	0
23										0	0	0
24										0	0	0
25										0	0	0
26										0	0	0
27										0	0	0
28										0	0	0
29					------					0	0	0
30					------					0	0	0
31		------			------		------		------	0	67	------
TOTAL	0	0	0	0	0	0	0	0	0	2.5	67	1.10
MEAN	0	00	0	0	0	0	0	0	0	.08	2.16	.04
MAX	0	0	0	0	0	0	0	0	0	2.5	67	1.0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	5.0	133	2.2

CAL YR 1968: TOTAL 13.38 MEAN 0.037 MAX 6.6 MIN 0 AC-FT 27
WTR YR 1969: TOTAL 70.6 MEAN 0.19 MAX 67 MIN 0 AC-FT 140

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7- 9	2215	2.64	52	9-11	1300	2.85	79
8-31	0630	5.85	1,460				

08486260 Tularosa Valley tributary at White Sands, N. Mex.

LOCATION.--Lat 32°22'05", long 106°28'44", in SE¼NE¼ sec.25, T.22 S., R.4 E., Dona Ana County, on left upstream wingwall of culvert 2,000 ft south of Raritan Avenue in White Sands.

DRAINAGE AREA.--21.0 sq mi.

PERIOD OF RECORD.--August 1965 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,230 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 909 cfs Aug. 31 (gage height, 5.45 ft); no flow for most of time.
Period of record: Maximum discharge, 909 cfs August 31, 1969 (gage height, 5.45 ft, from rating curve extended above 50 cfs on basis of slope-area measurements at gage heights 5.24 ft (5.7, outside), 4.04 ft (4.7, outside), and 5.45 ft; no flow for most of time.

REMARKS.--Records poor.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									0	0	0	
2									1.6	0	0	
3									0	0	0	
4									0	0	0	
5									0	0	0	
6									0	0	0	
7									0	0	0	
8									0	0	0	
9									0	2.5	0	
10									0	0	0	
11									0	0	0	
12									0	0	0	
13									0	0	0	
14									0	0	0	
15									0	0	0	
16									0	0	0	
17									0	0	0	
18									0	0	0	
19									0	0	0	
20									0	0	0	
21									0	0	0	
22									0	0	0	
23									0	0	0	
24									0	0	0	
25									0	0	.12	
26									0	0	0	
27									0	0	0	
28									0	0	0	
29					------				0	0	0	
30					------				0	0	.25	
31		------			------		------		------	0	43	------
TOTAL	0	0	0	0	0	0	0	0	1.6	2.5	43.37	0
MEAN	0	0	0	0	0	0	0	0	.05	.08	1.40	0
MAX	0	0	0	0	0	0	0	0	1.6	2.5	43	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	3.2	5.0	86	0

CAL YR 1968: TOTAL 12.87 MEAN .035 MAX 5.0 MIN 0 AC-FT 26
WTR YR 1969: TOTAL 47.47 MEAN 0.13 MAX 43 MIN 0 AC-FT 94

PEAK DISCHARGE (BASE, 350 CFS).--Aug. 31 (0630) 909 cfs (5.45 ft).

09346400 San Juan River near Carracas, Colo.

LOCATION.--Lat 37°00'47", long 107°18'39", in SE¼SW¼ sec.17, T.32 N., R.4 W., Archuleta County, on right bank just upstream from flow line of Navajo Reservoir, 3 miles northwest of Carracas, 7.2 miles upstream from Piedra River, and at mile 178.8.

DRAINAGE AREA.--1,230 sq mi, approximately.

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

GAGE.--Water-stage recorder. Altitude of gage is 6,090 ft (from river-profile map).

AVERAGE DISCHARGE.--8 years, 636 cfs (460,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,550 cfs May 22 (gage height, 5.40 ft); minimum, 38 cfs Dec. 4.
Period of record: Maximum discharge, 6,120 cfs May 22, 1965 (gage height, 6.85 ft); minimum, about 5 cfs Dec. 10, 1961, result of freezeup.
The flood of Oct. 5, 1911 exceeded all other known floods at this location. Other major floods occurred Sept. 5 or 6, 1909 and June 29, 1927.

REMARKS.--Records good except those for winter periods, which are poor. Diversions for irrigation of about 11,000 acres above station. Record of chemical analyses, biochemical measurements, and water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	141	126	77	94	104	123	1,300	1,880	2,740	1,500	584	338
2	129	154	108	95	102	123	1,360	2,100	2,590	1,450	561	334
3	121	148	105	94	104	136	1,540	2,280	2,240	1,410	752	351
4	130	141	65	94	100	141	1,600	2,170	2,130	1,360	709	277
5	306	140	90	94	105	121	1,860	1,910	2,360	1,360	790	353
6	223	133	102	94	106	107	2,050	1,930	2,590	1,180	583	286
7	180	130	103	94	106	119	1,870	1,900	2,510	1,020	517	253
8	161	115	105	94	105	119	1,340	1,570	2,320	870	448	307
9	153	115	102	94	102	102	1,400	1,460	2,330	766	375	477
10	149	118	102	93	105	104	1,540	1,470	2,440	768	366	409
11	146	115	110	92	105	114	1,660	1,580	2,030	723	338	341
12	136	98	110	97	110	111	1,530	1,800	1,670	1,190	321	467
13	138	130	110	94	118	95	1,470	1,830	1,600	1,380	355	333
14	136	155	96	100	130	103	1,610	1,820	1,620	1,240	1,050	353
15	134	148	95	112	173	106	1,630	1,930	1,530	940	635	313
16	140	136	92	113	162	99	1,300	1,990	1,830	829	459	283
17	145	127	100	110	145	171	1,150	2,080	2,170	1,140	400	272
18	130	119	104	95	123	310	1,190	2,530	1,880	1,060	382	338
19	120	100	92	95	115	352	1,250	2,670	1,670	1,000	427	301
20	128	118	92	112	116	329	1,300	2,890	1,650	986	394	334
21	126	127	92	112	118	356	1,820	3,100	1,730	907	341	1,400
22	125	136	94	100	112	491	2,340	3,250	1,630	892	304	1,130
23	116	140	102	90	110	485	2,300	3,220	1,510	770	401	741
24	114	133	108	78	110	365	2,450	3,010	1,410	692	472	585
25	118	133	110	71	128	302	2,360	2,720	1,510	989	385	502
26	117	125	112	98	133	340	1,940	2,930	1,990	1,060	342	444
27	119	78	108	112	139	464	1,530	3,210	1,760	942	341	392
28	113	106	105	115	126	617	1,540	3,210	1,640	737	350	364
29	110	111	106	110	------	809	1,640	3,200	1,600	669	365	343
30	112	90	104	98	------	963	1,820	3,180	1,570	581	411	315
31	114	------	95	102	------	1,110	------	3,030	------	677	369	------
TOTAL	4,330	3,745	3,096	3,046	3,312	9,287	49,690	73,850	58,250	31,088	14,527	12,936
MEAN	140	125	99.9	98.3	118	300	1,656	2,382	1,942	1,003	469	431
MAX	306	155	112	115	173	1,110	2,450	3,250	2,740	1,500	1,050	1,400
MIN	110	78	65	71	100	95	1,150	1,460	1,410	581	304	253
AC-FT	8,590	7,430	6,140	6,040	6,570	18,420	98,560	146,500	115,500	61,660	28,810	25,660

CAL YR 1968 TOTAL 224,583 MEAN 614 MAX 3,400 MIN 76 AC-FT 445,500
WTR YR 1969 TOTAL 267,157 MEAN 732 MAX 3,250 MIN 65 AC-FT 529,900

PEAK DISCHARGE (BASE, 2,500 CFS).--APR. 24 (0600) 2,800 CFS (4.89 FT); MAY 22 (0900) 3,550 CFS (5.40 FT).

09349800 Piedra River near Arboles, Colo.

LOCATION.--Lat 37°05'17", long 107°23'52", in NE¼SW¼ sec.21, T.33 N., R.5 W., Archuleta County, on left bank 3 miles downstream from Ignacio Creek, 5.2 miles northeast of Arboles Post Office, 8 miles upstream from mouth.

DRAINAGE AREA.--629 sq mi.

PERIOD OF RECORD.--August 1962 to current year. Gage operated 1895-1899, 1910-1927 at a site 7.5 miles downstream at altitude 6,000 ft. Low flow records probably not equivalent.

GAGE.--Water-stage recorder. Datum of gage is 6,147.52 ft above mean sea level (from Colorado State Highway Department bench mark).

AVERAGE DISCHARGE.--7 years (1962-69), 327 cfs (236,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,190 cfs May 21 (gage height, 3.94 ft); minimum, 12 cfs Dec. 4.
Period of record: Maximum discharge, 4,000 cfs Apr. 23, 1965 (gage height, 5.20 ft); minimum, 11 cfs Dec. 9, 1963, Oct. 1, 1966.
The flood of Oct. 5, 1911 exceeded all other floods known at this location. A major flood occurred Sept. 5 or 6, 1909.

REMARKS.--Records good except those for winter periods, and August, which are poor. Diversions for irrigation of about 2,800 acres above station. Record of chemical analyses, biochemical measurements, and water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	69	42	48	46	64	492	1,220	1,500	642	320	197
2	64	77	41	48	47	62	580	1,300	1,380	598	280	206
3	61	75	40	48	46	62	658	1,370	1,150	559	310	198
4	69	71	40	48	48	62	705	1,300	1,040	526	330	169
5	136	80	49	48	50	60	815	1,200	1,130	473	334	198
6	103	69	52	48	53	54	978	1,180	1,210	426	284	174
7	88	66	54	48	56	63	992	1,230	1,110	369	258	158
8	81	58	54	48	56	61	799	1,070	1,060	316	225	233
9	78	57	53	48	54	59	881	988	1,100	284	205	311
10	76	61	56	48	53	56	1,030	1,030	1,130	290	195	276
11	77	56	58	52	53	61	1,190	1,130	944	264	180	250
12	79	54	58	51	53	56	1,040	1,220	784	566	170	248
13	78	68	58	49	56	52	1,050	1,190	760	593	162	240
14	73	74	55	51	58	56	1,200	1,100	794	449	260	225
15	72	70	53	54	57	56	1,260	1,130	733	364	218	225
16	77	65	53	56	57	55	1,020	1,180	848	323	182	214
17	75	62	51	52	57	69	878	1,240	958	419	162	204
18	67	52	52	48	52	93	963	1,460	919	430	176	211
19	65	49	51	48	58	112	1,050	1,530	813	633	200	195
20	68	61	50	52	58	109	1,160	1,760	785	735	208	188
21	69	61	50	52	58	108	1,610	1,980	802	754	175	583
22	67	63	51	53	61	145	1,640	2,000	755	630	155	583
23	65	65	53	51	58	152	1,550	1,950	691	562	174	460
24	64	57	56	47	58	132	1,640	1,880	656	506	290	385
25	64	62	58	48	61	116	1,550	1,720	724	547	218	330
26	66	72	57	50	61	130	1,260	1,550	1,060	550	176	292
27	65	67	54	52	61	155	1,000	1,640	848	502	162	264
28	63	46	53	54	57	196	948	1,790	750	439	164	237
29	62	60	53	56	------	246	1,010	1,820	733	350	170	221
30	59	41	53	50	------	316	1,130	1,800	690	319	218	204
31	60	------	50	47	------	384	------	1,700	------	317	210	------
TOTAL	2,265	1,888	1,608	1,553	1,543	3,402	32,079	44,658	27,857	14,735	6,771	7,879
MEAN	73.1	62.9	51.9	50.1	55.1	110	1,069	1,441	929	475	218	263
MAX	136	80	58	56	61	384	1,640	2,000	1,500	754	334	583
MIN	59	41	40	47	46	52	492	988	656	264	155	158
AC-FT	4,490	3,740	3,190	3,080	3,060	6,750	63,630	88,580	55,250	29,230	13,430	15,630

CAL YR 1968 TOTAL 128,541 MEAN 351 MAX 2,010 MIN 23 AC-FT 255,000
WTR YR 1969 TOTAL 146,238 MEAN 401 MAX 2,000 MIN 40 AC-FT 290,100

PEAK DISCHARGE (BASE, 1,500 CFS).--APR. 24 (0230) 1,860 CFS (3.73 FT); MAY 21 (0630) 2,190 CFS (3.94 FT).

09354500 Los Pinos River at La Boca, Colo.

LOCATION.--Lat 37°00'40", long 107°35'55", in S½ sec.15, T.32 N., R.7 W., La Plata County, on downstream end of right abutment of the Denver & Rio Grande Western Railroad Co. bridge at southeast edge of La Boca, 0.1 mile upstream from Spring Creek and 13 miles upstream from mouth.

DRAINAGE AREA.--510 sq mi, approximately.

PERIOD OF RECORD.--October 1950 to current year. Monthly discharge only for some periods, published in WSP 1733.

GAGE.--Water-stage recorder. Datum of gage is 6,143.58 ft above mean sea level.

AVERAGE DISCHARGE.--19 years, 190 cfs (137,700 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,390 cfs May 23, 24 (gage height, 5.73 ft); minimum 21 cfs Nov. 30, result of freezeup.
Period of record: Maximum discharge, 6,400 cfs July 27, 1957 (gage height, 8.95 ft); minimum determined, 13 cfs Apr. 23, 1951 (may have been lower during periods of freezeup).
The flood of Oct. 5, 1911 exceeded all other known floods at this location.

REMARKS.--Records good except those for winter period, which are poor. Flow regulated by Vallecito Reservoir 24 miles upstream since April 1941, (see sta. 09353000). Diversions for irrigation of about 33,000 acres above station. Record of chemical analyses, biochemical measurements, and water temperatures for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	150	129	30	52	52	73	391	147	819	267	210	222
2	150	148	30	54	52	69	430	283	573	218	370	211
3	152	74	30	54	52	77	358	381	346	207	396	209
4	201	58	30	54	52	73	300	364	201	197	413	230
5	192	52	36	54	54	69	314	335	137	299	292	269
6	176	47	43	54	58	64	336	410	210	383	177	211
7	176	44	45	54	62	72	318	433	224	252	183	203
8	182	41	46	54	58	63	256	437	258	148	171	255
9	188	40	47	54	54	61	249	805	252	140	169	263
10	174	39	48	54	54	65	271	1,210	258	194	211	272
11	184	36	50	60	54	67	304	1,160	350	184	192	372
12	180	36	46	56	54	56	315	1,150	403	545	189	320
13	180	38	43	56	58	57	261	1,140	414	489	184	316
14	180	49	40	56	66	61	243	1,130	566	319	185	315
15	165	45	45	58	60	62	235	1,120	452	247	188	338
16	165	40	45	60	66	66	208	1,040	511	254	188	414
17	162	36	46	56	60	95	190	890	740	234	185	404
18	154	33	40	54	60	134	186	898	784	278	192	401
19	152	35	47	54	68	153	206	915	675	476	286	389
20	139	33	47	56	66	164	211	863	523	648	225	488
21	135	33	31	56	63	188	234	912	389	787	200	655
22	153	33	35	58	68	311	266	1,200	307	736	180	407
23	136	33	40	55	61	338	253	1,320	292	682	220	374
24	138	31	46	50	67	296	245	1,240	305	521	330	358
25	134	32	56	53	75	247	236	989	417	413	210	327
26	131	30	45	54	78	296	185	956	546	535	233	342
27	133	31	45	56	66	413	113	930	383	369	237	346
28	134	31	42	58	70	482	105	917	308	300	203	347
29	132	30	48	60	------	448	101	916	291	297	206	337
30	130	30	49	60	------	416	144	923	277	252	292	361
31	116	------	50	56	------	386	------	896	------	199	232	------
TOTAL	4,874	1,367	1,321	1,720	1,708	5,422	7,464	26,310	12,211	11,070	7,149	9,956
MEAN	157	45.6	42.6	55.5	61.0	175	249	849	407	357	231	332
MAX	201	148	56	60	78	482	430	1,320	819	787	413	655
MIN	116	30	30	52	52	56	101	147	137	140	169	203
AC-FT	9,670	2,710	2,620	3,410	3,390	10,750	14,800	52,190	24,220	21,960	14,180	19,750

CAL YR 1968 TOTAL 54,991 MEAN 150 MAX 1,320 MIN 26 AC-FT 109,100
WTR YR 1969 TOTAL 90,572 MEAN 248 MAX 1,320 MIN 30 AC-FT 179,600

09355000 Spring Creek at La Boca, Colo.

LOCATION.--Lat 37°00'50", long 107°35'40", in S½ sec.15, T.32 N., R.7 W., La Plata County, on right bank in an excavated channel, 0.2 mile upstream from mouth and 0.2 mile east of La Boca.

DRAINAGE AREA.--58 sq mi, approximately.

PERIOD OF RECORD.--October 1950 to current year. Monthly discharge only for some periods, published in WSP 1733.

GAGE.--Water-stage recorder. Altitude of gage is 6,160 ft (from topographic map).

AVERAGE DISCHARGE.--19 years, 28.3 cfs (20,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 595 cfs Mar. 22 (gage height, 2.90 ft); minimum, 2.4 cfs Mar. 7, result of freezeup.
Period of record: Maximum discharge, 595 cfs Mar. 22, 1969 (gage height, 2.90 ft), from rating curve extended above 100 cfs; maximum gage height, 5.98 ft Mar. 9, 1960 (ice jam); minimum discharge, 0.6 cfs Nov. 27, 1959.

REMARKS.--Records good except those for winter periods, which are poor. Part of flow is return waste from irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	38	5.0	3.0	6.0	6.5	18	23	52	45	49	58
2	52	48	4.5	3.5	7.0	6.5	19	21	52	57	50	56
3	49	16	4.5	3.5	6.0	6.0	21	23	52	58	50	57
4	74	13	5.0	3.5	6.0	6.7	19	24	48	66	50	71
5	53	13	5.5	3.5	7.0	7.1	17	32	44	72	51	76
6	46	12	6.0	3.5	7.5	7.0	15	47	46	68	63	58
7	53	10	6.5	4.0	8.0	8.4	14	56	53	61	49	56
8	53	11	5.8	3.5	7.0	7.2	10	43	58	57	51	78
9	52	11	6.5	4.0	7.0	6.9	9.9	42	68	55	53	71
10	49	10	7.0	4.0	7.0	6.9	11	39	66	70	53	59
11	52	11	6.5	4.0	7.0	6.9	12	46	82	71	53	103
12	49	10	5.5	5.0	7.0	7.4	14	48	66	244	47	151
13	48	11	5.5	7.0	9.0	7.0	12	48	86	142	59	92
14	49	18	6.0	8.0	8.0	7.3	9.9	45	76	120	99	92
15	47	14	5.5	7.5	8.0	9.3	9.1	54	73	113	65	98
16	47	12	6.0	7.0	9.0	15	8.1	47	77	104	60	115
17	45	11	5.5	6.5	8.0	37	7.6	71	81	122	61	114
18	41	9.3	6.0	6.0	9.0	79	6.9	203	80	130	66	113
19	40	9.6	4.5	6.0	9.0	82	8.6	149	82	125	71	113
20	41	8.9	3.0	6.0	7.3	68	7.6	30	75	98	64	140
21	42	9.1	2.9	8.0	6.9	76	7.6	40	75	83	55	185
22	34	7.8	3.5	8.0	6.2	147	8.0	51	77	81	72	118
23	28	8.1	4.0	7.0	6.1	55	7.5	56	77	72	120	86
24	28	8.1	4.5	7.0	7.0	26	7.2	62	85	67	83	54
25	28	8.3	3.5	8.0	6.5	21	6.6	59	114	63	76	46
26	28	8.6	3.5	9.0	7.0	21	6.2	70	132	100	70	47
27	27	8.4	3.5	8.0	6.5	20	30	57	67	60	64	46
28	24	8.1	2.5	7.5	6.0	18	16	51	77	55	55	45
29	24	8.0	3.0	7.0	------	18	11	49	76	55	73	45
30	24	7.4	3.0	6.5	------	19	18	50	68	52	69	41
31	24	------	3.0	6.0	------	19	------	56	------	50	60	------
TOTAL	1,302	378.7	147.2	181.0	202.0	828.1	367.8	1,692	2,165	2,616	1,961	2,484
MEAN	42.0	12.6	4.75	5.84	7.21	26.7	12.3	54.6	72.2	84.4	63.3	82.8
MAX	74	48	7.0	9.0	9.0	147	30	203	132	244	120	185
MIN	24	7.4	2.5	3.0	6.0	6.0	6.2	21	44	45	47	41
AC-FT	2,580	751	292	359	401	1,640	730	3,360	4,290	5,190	3,890	4,930

CAL YR 1968 TOTAL 10,698.8 MEAN 29.2 MAX 211 MIN 1.7 AC-FT 21,220
WTR YR 1969 TOTAL 14,324.8 MEAN 39.2 MAX 244 MIN 2.5 AC-FT 28,410

PEAK DISCHARGE (BASE, 180 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
3-22	2015	2.90	595	8-23	1330	2.08	227
5-18	0230	2.00	223	9-11	2145	2.24	297
7-12	1615	2.74	550	9-21	Unknown	2.25	332

09355100 Navajo Reservoir near Archuleta, N. Mex.

LOCATION.--Lat 36°48'35", long 107°36'35", in SW¼SE¼ sec.18, T.30 N., R.7 W., San Juan County, in gage shaft of outlet works structure near right abutment of Navajo Dam on San Juan River at river mile 145.0, 5.5 miles east of Archuleta and 33 miles east of Farmington.

DRAINAGE AREA.--3,230 sq mi, approximately.

PERIOD OF RECORD.--June 1962 to current year. Prior to October 1968 dead storage included.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

EXTREMES.--Current year: Maximum daily contents, 1,164,000 acre-ft Aug. 5, 6 (elevation, 6,044.99 ft); minimum daily, 808,500 acre-ft Mar. 22 (elevation, 6,008.61 ft).
Period of record: Maximum daily contents, 1,164,000 acre-ft Aug. 5, 6, 1969 (elevation, 6,044.99 ft); minimum daily after June 1964 (initial filling period), 234,300 acre-ft Mar. 10, 11, 1965 (elevation, 5,906.36 ft).

REMARKS.--Reservoir is formed by earth-rock-fill dam, completed in June 1963; storage began June 27, 1962. Capacity, 1,708,600 acre-ft between elevations 5,720 ft (upstream toe of dam) and 6,085 ft (crest of spillway). Usable capacity 1,696,000 acre-ft above elevation 5,774.9 ft (minimum operating level). Dead storage below elevation 5,774.9 ft is 12,600 acre-ft. Figures given herein are usable contents. Reservoir is used for irrigation storage, river regulation, desilting, flood control, and recreation.

COOPERATION.--Records furnished by Bureau of Reclamation.

Capacity table, water year 1968-69 (elevation, in feet, and usable contents, in thousands of acre-feet)

6,006	786.4	6,030	1,006.0
6,010	820.5	6,035	1,056.7
6,015	864.5	6,040	1,109.4
6,020	910.1	6,045	1,164.3
6,025	957.2	6,050	1,221.6

USABLE CONTENTS, IN THOUSANDS OF ACRE-FEET, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,009	1,000	988.9	973.1	953.0	866.7	829.1	897.9	1,069	1,142	1,162	1,148
2	1,009	1,000	988.4	972.5	949.7	863.6	832.4	901.4	1,074	1,143	1,162	1,147
3	1,008	1,000	987.8	972.2	946.6	861.3	833.6	905.6	1,077	1,144	1,163	1,146
4	1,008	1,000	987.1	971.6	943.2	857.8	836.2	909.3	1,080	1,144	1,163	1,145
5	1,008	1,000	986.5	971.2	939.8	854.7	838.6	912.9	1,083	1,144	1,164	1,144
6	1,007	999.5	985.8	970.6	936.6	851.5	841.4	916.5	1,087	1,144	1,164	1,143
7	1,007	999.1	985.3	970.2	933.6	848.3	844.2	919.9	1,091	1,144	1,163	1,142
8	1,006	998.6	984.9	969.7	930.3	845.2	845.0	922.1	1,094	1,143	1,163	1,141
9	1,005	997.9	984.5	969.4	928.3	841.9	846.1	924.9	1,098	1,141	1,162	1,141
10	1,005	997.5	983.9	968.9	925.2	838.9	848.2	928.1	1,101	1,140	1,161	1,141
11	1,004	997.0	983.4	968.4	921.9	836.0	850.7	931.9	1,104	1,139	1,160	1,142
12	1,003	996.5	983.0	968.1	918.6	833.0	852.7	936.3	1,106	1,140	1,159	1,143
13	1,003	996.4	982.6	967.7	916.0	829.7	854.5	940.6	1,108	1,142	1,158	1,142
14	1,003	996.3	982.1	967.5	913.3	826.4	856.7	945.1	1,110	1,142	1,159	1,141
15	1,003	996.0	981.5	967.6	910.6	823.3	859.1	952.0	1,112	1,142	1,159	1,141
16	1,002	995.6	981.0	967.5	907.5	820.4	860.9	957.6	1,114	1,141	1,158	1,140
17	1,003	995.3	980.4	967.3	904.3	817.7	861.3	961.8	1,118	1,142	1,157	1,140
18	1,002	994.9	979.9	966.9	901.1	815.8	862.1	967.5	1,122	1,143	1,157	1,139
19	1,002	994.6	979.3	966.5	897.9	813.9	863.1	973.6	1,124	1,146	1,157	1,138
20	1,002	994.2	978.6	966.5	894.9	812.1	864.9	980.1	1,126	1,148	1,157	1,139
21	1,002	993.7	978.1	966.2	891.7	810.0	868.1	987.7	1,128	1,151	1,156	1,142
22	1,002	993.2	977.5	965.9	888.5	808.5	872.8	996.2	1,129	1,153	1,155	1,144
23	1,002	992.8	977.0	965.2	885.4	809.4	877.3	1,004	1,130	1,155	1,154	1,145
24	1,002	992.5	976.6	964.1	882.1	810.4	881.8	1,012	1,131	1,157	1,154	1,145
25	1,001	992.1	975.9	963.9	879.0	811.3	886.3	1,018	1,133	1,158	1,154	1,145
26	1,001	991.6	975.4	964.9	875.9	812.1	889.3	1,025	1,136	1,160	1,153	1,145
27	1,001	990.9	975.1	966.3	873.3	813.6	890.8	1,033	1,138	1,161	1,152	1,145
28	1,001	990.5	974.7	966.5	869.9	815.6	891.9	1,041	1,140	1,162	1,151	1,145
29	1,000	990.1	974.5	963.9	------	817.7	893.2	1,049	1,141	1,162	1,150	1,144
30	1,000	989.5	974.2	960.7	------	820.7	895.4	1,056	1,142	1,162	1,149	1,144
31	1,000	------	973.6	956.8	------	825.1	------	1,063	------	1,162	1,149	------
(†)	6,029.4	6,028.3	6,026.7	6,025.0	6,015.6	6,010.5	6,018.4	6,035.6	6,043.0	6,044.8	6,043.6	6,043.2
(‡)	-10.5	-10.5	-15.9	-16.8	-86.9	-44.8	+70.3	+167.6	+79.0	+20.0	-13.0	-5.0
MAX	1,009	1,000	988.9	973.1	953.0	866.7	895.4	1,063	1,142	1,162	1,164	1,148
MIN	1,000	989.5	973.6	956.8	869.9	808.5	829.1	897.9	1,069	1,139	1,149	1,138

CAL YR 1968: ‡ +385.9
WTR YR 1969: ‡ +133.5

(†) Elevations, in feet, at end of month.

(‡) Change in contents, in thousands of acre feet.

09355500 San Juan River near Archuleta, N. Mex.

LOCATION.--Lat 36°48'10", long 107°41'55", in NW¼ sec.20, T.30 N., R.8 W., in San Juan County, on left bank at river mile 136.8, 0.5 mile upstream from Gobernador Canyon, 0.8 mile northeast of Archuleta, and 7.2 miles downstream from Navajo Dam.

DRAINAGE AREA.--3,260 sq mi, approximately.

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

GAGE.--Water-stage recorder. Altitude of gage is 5,655 ft (from river-profile survey). Dec. 29, 1959 to Oct. 15, 1964, at site 0.4 mile upstream at altitude 5 ft higher. Prior to Dec. 29, 1959, at site 5.0 miles upstream at altitude 55 ft higher.

AVERAGE DISCHARGE.--14 years, 1,127 cfs (816,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,060 cfs Feb. 10 (gage height, 4.73 ft); minimum, 94 cfs March 23. Period of record: Maximum discharge, 18,900 cfs July 27, 1957 (gage height, 11.00 ft, site and datum then in use); minimum determined, 8 cfs Feb. 28, 1963.

REMARKS.--Records good. Flow completely regulated by Navajo Dam (see station 09355100) except for minor inflow from 30 sq mi intervening drainage area. Diversions above station for irrigation of about 47,000 acres. Records of chemical analyses and water temperatures for the water year 1969 are published in part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	753	417	382	400	2,000	2,000	387	1,990	1,980	1,990	1,170	1,250
2	753	382	382	401	2,010	2,010	776	1,990	1,970	1,990	1,170	1,270
3	753	382	382	394	2,020	2,000	1,580	1,990	1,950	1,990	1,160	1,270
4	754	382	382	396	2,020	2,010	1,930	2,000	1,970	1,990	1,180	1,280
5	744	382	394	397	2,010	2,000	1,930	1,590	1,960	1,990	1,190	1,280
6	744	382	395	399	2,010	2,000	1,940	1,980	1,960	1,990	1,200	1,290
7	753	382	395	401	2,020	2,010	1,930	1,980	1,960	1,990	1,190	1,290
8	793	382	395	401	2,010	2,000	1,940	1,980	1,970	1,990	1,200	1,300
9	845	382	396	401	1,460	2,000	1,950	1,990	1,980	1,990	1,200	1,300
10	847	382	401	405	1,970	2,000	1,940	1,990	1,970	1,990	1,210	1,310
11	850	382	400	405	2,030	2,000	1,950	2,000	1,970	1,990	1,210	1,320
12	860	382	400	408	2,030	2,000	1,950	2,000	1,980	1,990	1,200	1,310
13	858	382	400	405	1,990	2,000	1,950	2,000	1,990	1,990	1,200	1,310
14	636	382	400	412	2,000	2,000	1,960	2,010	1,990	1,990	1,210	1,310
15	381	382	400	414	2,000	2,000	1,970	552	1,990	1,990	1,200	1,310
16	362	382	400	410	2,000	2,000	1,970	1,330	1,990	1,990	1,200	1,320
17	383	382	400	408	2,000	2,000	1,950	1,950	1,990	1,550	1,190	1,320
18	384	382	400	407	2,000	2,000	1,950	1,980	1,990	1,180	1,210	1,310
19	385	382	400	401	2,000	2,000	1,940	1,980	1,990	1,200	685	1,310
20	396	382	400	401	2,000	2,000	1,940	1,990	2,000	1,190	671	1,340
21	396	382	401	634	2,000	2,000	1,940	1,990	2,000	1,180	1,170	1,310
22	396	382	401	805	2,000	2,000	1,940	1,980	2,000	1,170	1,210	1,310
23	396	382	401	805	2,000	972	1,940	1,960	2,000	1,160	1,220	1,310
24	402	382	401	805	2,000	282	1,950	1,960	2,000	1,150	1,190	1,320
25	404	382	401	805	2,000	259	1,980	1,960	2,000	1,150	1,210	1,240
26	403	382	400	820	2,000	255	1,990	1,960	1,950	1,160	1,190	1,200
27	410	382	400	805	2,000	258	1,990	1,970	1,940	1,160	1,220	1,200
28	408	382	401	805	2,000	260	2,000	1,970	1,980	1,160	1,230	1,220
29	409	382	400	1,650	------	305	2,000	1,970	1,980	1,160	1,230	1,210
30	408	382	400	2,000	------	308	1,990	1,970	1,990	1,170	1,230	1,210
31	406	------	400	2,000	------	349	------	1,980	------	1,150	1,240	------
TOTAL	17,672	11,495	12,310	20,000	55,580	47,278	55,553	58,942	59,390	49,730	36,186	38,530
MEAN	570	383	397	645	1,985	1,525	1,852	1,901	1,980	1,604	1,167	1,284
MAX	860	417	401	2,000	2,030	2,010	2,000	2,010	2,000	1,990	1,240	1,340
MIN	362	382	382	394	1,460	255	387	552	1,940	1,150	671	1,200
AC-FT	35,050	22,800	24,420	39,670	110,200	93,780	110,200	116,900	117,800	98,640	71,770	76,420

CAL YR 1968 TOTAL 197,623 MEAN 540 MAX 1,690 MIN 196 AC-FT 392,000
WTR YR 1969 TOTAL 462,666 MEAN 1,268 MAX 2,030 MIN 255 AC-FT 917,700

09363500 Animas River near Cedar Hill, N. Mex.

LOCATION.--Lat 37°02'15", long 107°52'25", in sec.7, T.32 N., R.9 W., La Plata County, Colorado, on right bank 0.8 mile downstream from Florida River, 2.5 miles upstream from Colorado-New Mexico State line, and 8.5 miles north of Cedar Hill.

DRAINAGE AREA.--1,090 sq mi, approximately.

PERIOD OF RECORD.--October 1933 to current year. Monthly discharge only for October and November 1933, published in WSP 1313.

GAGE.--Water-stage recorder. Altitude of gage is 5,960 ft (from topographic map). Prior to Sept 14, 1937, at datum between 1.52 and 1.36 ft higher. Sept. 15, 1937, to Sept. 30, 1946, at datum 1.36 ft higher.

AVERAGE DISCHARGE.--36 years, 878 cfs (643,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,750 cfs May 23 (gage height, 7.62 ft); minimum, about 140 cfs Dec. 11, result of freezeup.
Period of record: Maximum discharge, 13,100 cfs June 19, 1949 (gage height, 11.45 ft); minimum, 63 cfs Jan. 21, 1935.
A flood in October 1911 exceeded all other known floods at this location.

REMARKS.--Records good except those for winter period, which are poor. Diversions for irrigation of about 20,000 acres above station. During water years 1944-49, Twin Rocks Canal diverted above stations for irrigation below. Slight regulation by Lemon Dam about 30 miles upstream on Florida River since November 1963 (capacity) 40,100 acre-ft). Record of chemical analyses, biochemical measurements, and water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS(WATER YEARS).--WSP 1563: 1940 and 1946 (monthly figures only).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	296	277	236	210	210	219	983	2,110	3,410	2,370	792	473
2	289	298	236	215	218	220	1,030	2,370	3,110	2,400	758	465
3	282	270	218	212	220	216	1,030	2,600	2,890	2,450	781	460
4	328	261	218	218	210	226	1,040	2,450	2,810	2,500	773	584
5	338	267	208	215	220	230	1,110	2,170	3,010	2,300	721	524
6	325	263	210	212	240	226	1,240	1,980	3,250	2,060	677	471
7	308	260	230	220	240	227	1,220	1,880	2,900	1,890	642	455
8	299	248	240	225	225	224	1,090	1,640	2,760	1,590	590	489
9	298	245	245	220	200	215	1,120	1,520	2,890	1,350	564	624
10	303	245	255	218	198	217	1,310	1,570	3,050	1,250	545	705
11	311	245	260	215	215	232	1,420	1,860	2,770	1,190	556	700
12	306	244	250	230	218	230	1,370	2,040	2,390	1,330	546	665
13	308	263	240	230	247	222	1,230	2,070	2,070	1,410	634	657
14	304	275	230	250	238	230	1,200	2,020	2,030	1,390	716	626
15	313	271	254	290	220	236	1,240	2,050	2,010	1,470	609	610
16	304	265	260	275	223	245	1,160	2,180	2,180	1,370	572	601
17	298	283	264	225	219	292	1,070	2,350	2,550	1,540	541	598
18	299	278	246	214	208	300	1,040	2,930	2,660	1,670	530	575
19	296	271	220	208	219	404	1,130	3,200	2,540	2,460	554	550
20	293	260	204	212	220	401	1,320	3,470	2,420	2,400	584	575
21	298	249	225	253	213	408	1,790	3,750	2,550	2,140	549	540
22	288	243	190	284	213	458	2,210	4,130	2,570	1,960	521	893
23	286	242	190	253	213	446	2,470	4,480	2,470	1,770	548	714
24	284	241	210	245	209	412	2,680	3,910	2,270	1,600	566	776
25	288	236	232	230	218	401	2,640	3,410	2,180	1,440	536	742
26	285	243	250	260	228	465	2,300	3,520	2,090	1,380	507	696
27	274	228	240	281	225	531	1,980	4,030	2,020	1,230	498	664
28	277	233	220	227	219	604	1,730	4,250	1,950	1,100	485	610
29	272	247	225	218	------	675	1,830	4,090	2,100	1,030	480	578
30	265	235	228	214	------	781	1,960	3,890	2,300	900	499	548
31	266	------	215	210	------	873	------	3,930	------	811	507	------
TOTAL	9,181	7,686	7,149	7,189	6,146	11,066	44,943	87,850	76,200	51,751	18,381	18,168
MEAN	296	256	231	232	220	357	1,498	2,834	2,540	1,669	593	606
MAX	338	298	264	290	247	873	2,680	4,480	3,410	2,500	792	893
MIN	265	241	190	210	198	215	983	1,520	1,950	811	480	455
AC-FT	18,210	15,240	14,180	14,260	12,190	21,950	89,140	174,200	151,100	102,600	36,460	36,040

CAL YR 1968 TOTAL 320,347 MEAN 875 MAX 6,380 MIN 170 AC-FT 635,400
WTR YR 1969 TOTAL 345,710 MEAN 947 MAX 4,480 MIN 190 AC-FT 685,700

PEAK DISCHARGE (BASE), 4,000 CFS).--MAY 23 (1100) 4,750 CFS (7.62 FT).

09364500 Animas River at Farmington, N. Mex.

LOCATION.--Lat 36°43'13", long 108°12'07", in SE¼ sec.16, T.29 N., R.13 W., San Juan County, on left bank at bridge on former State Highway 17, 0.6 mile downstream from bridge on State Highway 17, and 1.3 miles upstream from mouth.

DRAINAGE AREA.--1,360 sq mi, approximately.

PERIOD OF RECORD.--June 1904 to October 1905 (published as "near Farmington"). September 1912 to current year. Monthly discharge only for some periods, published in WSP 1313.

GAGE.--Water-stage recorder. Altitude of gage is 5,278 ft (from bridge-profile plans). Prior to Nov. 1, 1905, chain gage at old bridge 0.3 mile upstream at different datum. Sept. 17, 1912, to Oct. 4, 1938, water-stage recorder at site 0.6 mile downstream at lower datums (datum lowered 2.0 ft Aug. 15, 1927, and raised 0.2 ft Dec. 16, 1929).

AVERAGE DISCHARGE.--58 years, 928 cfs (672,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,150 cfs May 28 (gage height, 5.93 ft); minimum, 134 cfs Oct. 1.
Period of record: Maximum discharge, about 25,000 cfs June 29, 1927 (gage height, 8.5 ft, site and datum then in use), from rating curve extended above 10,000 cfs; minimum, 1.4 cfs Sept. 4, 1956.
Maximum flood known occurred Oct. 6, 1911, when a stage of about 16.5 ft was reached (present site and datum). Flood of Sept. 6, 1909, reached a stage of 11.1 ft, 1904-5 site and datum (discharge, about 19,000 cfs).

REMARKS.--Records good except those for March, April, and May which are fair. Diversions for irrigation of about 30,000 acres above station. Records of chemical analyses, bio-chemical measurements, suspended sediment loads, and water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS(WATER YEARS).--WSP 1243: 1931. WSP 1313: 1913.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	140	230	240	226	224	248	1,020	1,710	3,460	2,000	640	255
2	156	265	252	234	232	242	1,130	2,020	2,750	1,980	794	260
3	142	252	236	230	228	240	1,050	2,260	2,560	2,030	830	230
4	200	228	236	234	228	238	1,050	2,260	2,380	2,160	788	240
5	220	218	216	234	240	242	1,080	2,030	2,480	2,060	624	474
6	224	226	220	238	260	242	1,270	1,790	2,720	1,840	616	372
7	206	226	242	238	260	245	1,400	1,770	2,550	1,660	480	288
8	200	220	262	238	250	238	1,180	1,500	2,300	1,390	448	324
9	190	214	260	238	222	230	1,100	1,390	2,360	1,200	372	456
10	194	204	268	238	226	228	1,250	1,380	2,530	1,220	358	584
11	202	204	282	230	232	230	1,390	1,540	2,430	1,170	344	640
12	212	210	272	248	248	234	1,440	1,860	2,030	1,260	330	696
13	200	224	252	248	275	222	1,280	1,940	1,700	1,380	294	624
14	192	250	248	268	298	224	1,190	1,850	1,540	1,320	597	568
15	198	250	265	318	275	224	1,200	1,810	1,550	1,290	715	552
16	212	248	280	310	258	226	1,120	1,960	1,640	1,310	456	496
17	204	250	285	288	255	234	1,120	2,120	2,040	1,280	318	488
18	214	268	260	252	245	299	1,000	2,520	2,220	1,640	255	480
19	226	272	236	252	240	451	1,050	2,840	2,080	2,230	235	440
20	230	260	228	245	252	451	1,170	3,060	2,030	2,480	294	679
21	220	262	250	272	242	471	1,480	3,360	2,020	2,190	270	1,010
22	226	262	208	342	240	518	1,860	3,570	2,090	1,820	240	918
23	220	262	190	312	242	598	2,080	3,750	2,040	1,680	318	927
24	224	258	224	262	240	484	2,200	3,460	1,900	1,450	408	864
25	220	258	252	242	238	393	2,210	2,940	1,840	1,280	379	765
26	220	234	272	292	262	408	2,000	3,000	1,770	1,170	330	704
27	234	236	265	376	258	513	1,700	3,440	1,740	1,080	294	616
28	232	245	232	312	248	652	1,400	3,890	1,630	945	282	544
29	224	258	242	250	------	764	1,430	3,930	1,720	828	265	488
30	216	255	248	236	------	910	1,610	3,670	1,900	765	250	472
31	218	------	234	220	------	1,000	------	3,630	------	632	270	------
TOTAL	6,416	7,249	7,657	8,123	6,918	11,899	41,460	78,250	64,000	46,740	13,094	16,454
MEAN	207	242	247	262	247	384	1,382	2,524	2,133	1,508	422	548
MAX	234	272	285	376	298	1,000	2,210	3,930	3,460	2,480	830	1,010
MIN	140	204	190	220	222	222	1,000	1,380	1,540	632	235	230
AC-FT	12,730	14,380	15,190	16,110	13,720	23,600	82,240	155,200	126,900	92,710	25,970	32,640

CAL YR 1968 TOTAL 277,908 MEAN 759 MAX 5,780 MIN 85 AC-FT 551,200
WTR YR 1969 TOTAL 308,260 MEAN 845 MAX 3,930 MIN 140 AC-FT 611,400

PEAK DISCHARGE(BASE, 4,000 CFS).--May 28 (2200) 4,150 cfs (5.93 ft).

09365000 San Juan River at Farmington, N. Mex.

LOCATION.--Lat 36°43'25", long 108°13'30", in SE¼ sec.17, T.29 N., R.13 W., San Juan County, on left bank at river mile 97.4, 360 ft downstream from highway bridge, 4,000 ft downstream from Animas River and 1 mile west of Farmington.

DRAINAGE AREA.--7,240 sq mi, approximately.

PERIOD OF RECORD.--June to December 1904, January 1905 to September 1906 (gage heights and discharge measurements only), September 1912 to current year. Monthly discharges only for some periods, published in WSP 1313. Discharge records for January to December 1905, published in WSP 175 are unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 5,230.37 ft above mean sea level. See WSP 1313 or 1733 for history of changes prior to Nov. 19, 1933.

AVERAGE DISCHARGE.--57 years (1912-69), 2,446 cfs (1,772,000 acre-ft per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 8,480 cfs Sept. 20 (gage height, 5.69 ft); minimum, 410 cfs Oct. 16
Period of record: Maximum discharge, about 68,000 cfs June 29, 1927 (gage height, 10.2 ft, site and datum then in use), from rating curve extended above 37,000 cfs; minimum, 14 cfs Aug. 22, 1939.
Maximum flood known occurred Oct. 6, 1911. Flood of Sept. 6, 1909, reached a stage of about 12.3 ft, site and datum in use May to September 1906.

REMARKS.--Records good. Since June 1962 flow is partly controlled by operation of Navajo Reservoir 50 miles upstream. (See station 09355100) Diversions above station for irrigation of about 86,000 acres, 4,000 of which is irrigated by Farmers Mutual ditch which diverts from Animas River and bypasses this station; ditch flow not included in record. At times this ditch may be supplied partly or entirely by diversion from San Juan River below this station. Records of chemical analyses and water temperatures for the water year 1969 are published in part 2 of this report.

REVISIONS(WATER YEARS).--WSP 1119: Drainage area. WSP 1243: 1938. WSP 1313: 1905, 1914. See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	760	632	525	708	2,290	2,200	1,420	3,710	5,270	3,900	1,620	1,350
2	720	656	520	753	2,330	2,210	1,650	3,960	4,830	3,920	1,760	1,210
3	723	582	520	780	2,290	2,220	2,420	4,150	4,540	3,930	2,560	1,160
4	807	552	515	770	2,290	2,220	2,980	4,170	4,420	4,030	1,870	1,220
5	747	576	546	754	2,340	2,250	2,710	3,860	4,470	3,960	1,600	1,460
6	757	576	578	743	2,310	2,260	2,840	3,570	4,760	3,690	1,570	1,310
7	707	576	628	743	2,340	2,310	3,110	3,720	4,660	3,460	1,380	1,360
8	721	564	627	729	2,310	2,300	2,960	3,540	4,410	3,180	1,350	1,520
9	704	552	623	736	2,310	2,320	2,730	3,330	4,460	2,960	1,300	2,430
10	627	510	637	812	1,710	2,320	2,920	3,340	4,580	2,910	1,300	1,810
11	643	535	700	771	2,310	2,350	3,160	3,540	4,510	2,840	1,290	1,680
12	646	515	685	848	2,320	2,370	3,270	3,870	4,180	2,970	1,290	2,420
13	635	525	765	843	2,350	2,370	3,120	3,920	3,790	3,100	1,360	1,920
14	627	594	835	871	2,400	2,390	3,020	3,800	3,640	3,080	2,770	1,690
15	445	505	779	919	2,380	2,360	3,030	3,150	3,490	3,060	1,860	1,450
16	425	505	788	860	2,400	2,350	3,010	2,850	3,620	3,090	1,440	1,400
17	455	480	841	812	2,370	2,370	2,880	3,930	4,130	3,050	1,380	1,550
18	485	510	800	804	2,360	2,530	2,780	4,470	4,210	2,930	1,370	1,560
19	505	495	775	846	2,340	2,850	2,740	5,030	4,160	3,780	1,300	1,590
20	505	510	755	863	2,360	2,630	2,870	5,230	4,040	3,920	554	2,780
21	552	525	772	906	2,320	2,620	3,150	5,480	4,000	3,600	1,090	2,630
22	600	525	673	1,290	2,280	2,650	3,720	5,650	4,050	3,290	1,310	2,240
23	576	558	658	1,190	2,260	2,560	4,060	5,830	3,970	2,990	1,810	1,990
24	558	530	789	1,120	2,170	870	4,130	5,600	3,890	2,690	1,860	2,040
25	582	552	801	1,140	2,140	764	4,190	4,960	3,910	2,960	1,600	1,970
26	608	535	769	1,310	2,160	763	4,030	4,810	3,760	2,500	1,540	1,780
27	632	546	777	2,050	2,210	768	3,640	5,250	3,660	2,220	1,490	1,730
28	664	576	730	1,520	2,180	845	3,300	5,700	3,540	2,030	1,510	1,680
29	680	570	740	1,310	------	976	3,250	5,770	3,570	1,870	1,470	1,620
30	616	570	712	2,260	------	1,150	3,510	5,630	3,780	1,780	1,580	1,640
31	588	------	687	2,260	------	1,270	------	5,580	------	1,630	1,580	------
TOTAL	19,300	16,437	21,550	32,321	63,830	62,416	92,600	137,400	124,300	95,320	47,764	52,190
MEAN	623	548	695	1,043	2,280	2,013	3,087	4,432	4,143	3,075	1,541	1,740
MAX	807	656	841	2,260	2,400	2,850	4,190	5,830	5,270	4,030	2,770	2,780
MIN	425	480	515	708	1,710	763	1,420	2,850	3,490	1,630	554	1,160
AC-FT	38,280	32,600	42,740	64,110	126,600	123,800	183,700	272,500	246,500	189,100	94,740	103,500

CAL YR 1968 TOTAL 474,644 MEAN 1,297 MAX 6,600 MIN 425 AC-FT 941,500
WTR YR 1969 TOTAL 765,428 MEAN 2,097 MAX 5,830 MIN 425 AC-FT 1,518,000

PEAK DISCHARGE(BASE, 5,000 CFS).--May 23 (2115) 6,190 cfs (4.75 ft); Sept. 20 (2000) 8,480 cfs (5.69 ft).

09366500 La Plata River at Colorado-New Mexico State line

LOCATION.--Lat 36°59'59", long 108°11'17", in NW¼SE¼ sec.10, T.32 N., R.13 W., La Plata County, Colorado, on right bank at Colorado-New Mexico State line, 0.2 mile downstream from Ponds Arroyo, and 4.8 miles north of La Plata, N. Mex.

DRAINAGE AREA.--331 sq mi.

PERIOD OF RECORD.--January 1920 to current year. Monthly discharge only for some periods, published in WSP 1313.

GAGE.--Water-stage recorder. Datum of gage is 5,975.15 ft above mean sea level. See WSP 1733 for history of changes prior to Mar. 17, 1934.

AVERAGE DISCHARGE.--49 years, 33.3 cfs (24,130 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 574 cfs July 19 (gage height, 3.77 ft); minimum daily, 0.75 cfs Sept. 28-30.
Period of record: Maximum discharge, 4,750 cfs Aug. 24, 1927 (gage height, 11.36 ft, present datum), from rating curve extended above 750 cfs on basis of slope-area measurement of peak flow; no flow at times in many years.

REMARKS.--Records fair except those for winter period, which are poor. Diversions above station for irrigation of about 15,000 acres, mostly above station.

REVISIONS (WATER YEARS).--WSP 1313: 1934(M), 1936(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	5.6	7.6	6.0	11	15	91	159	59	50	15	7.2
2	1.8	5.6	9.8	6.0	10	13	131	147	56	47	13	6.4
3	1.5	4.8	6.0	6.5	10	15	128	137	66	63	18	6.4
4	3.5	4.8	7.0	6.5	10	15	135	114	61	64	33	6.4
5	3.2	4.8	7.5	6.5	11	14	171	75	75	49	27	6.4
6	2.8	4.8	8.0	7.0	12	13	205	53	66	37	18	3.8
7	2.5	4.8	8.0	7.0	13	15	268	50	57	34	13	3.0
8	2.5	4.8	7.5	7.5	10	13	205	45	70	27	9.2	4.8
9	2.8	4.8	7.5	7.5	12	15	218	37	77	24	45	7.2
10	2.8	4.8	8.0	7.0	14	13	268	40	63	25	20	7.6
11	4.0	4.8	8.5	6.5	16	13	302	37	59	21	11	7.2
12	3.2	4.8	7.6	6.5	14	12	305	55	58	53	8.6	9.8
13	3.0	5.2	5.5	8.0	42	11	270	90	46	42	4.8	7.6
14	3.0	6.0	5.5	9.0	27	12	240	71	44	30	3.5	8.0
15	3.2	5.6	6.0	8.5	17	12	242	77	45	23	3.8	7.2
16	3.2	5.6	6.5	8.0	17	12	203	103	70	25	5.2	6.0
17	3.2	5.2	7.0	7.1	15	36	185	88	110	40	3.0	6.0
18	3.2	5.2	6.5	6.0	15	48	171	114	90	47	2.8	6.0
19	3.2	4.8	5.5	6.5	16	36	173	122	61	296	2.2	6.4
20	3.2	4.8	7.6	6.8	14	34	191	94	53	47	1.8	6.4
21	3.2	4.8	6.5	7.6	13	60	250	96	72	43	1.2	11
22	3.2	5.2	5.0	10	13	55	330	98	59	90	2.8	10
23	3.2	5.2	5.5	8.0	11	36	325	91	53	55	5.6	9.2
24	3.2	5.2	5.5	7.0	11	24	330	70	53	38	14	5.2
25	3.2	5.6	6.0	9.4	19	20	308	60	84	36	5.2	2.2
26	3.2	6.4	6.5	11	17	46	218	91	108	27	5.2	2.5
27	3.2	9.8	7.0	13	13	53	163	96	64	20	4.8	2.0
28	3.2	6.4	6.6	13	15	44	133	102	51	13	4.8	.75
29	3.5	6.4	6.0	12	------	34	126	88	56	21	3.8	.75
30	3.5	4.0	5.5	12	------	42	151	60	57	24	22	.75
31	3.8	------	6.0	11	------	67	------	84	------	23	11	------
TOTAL	93.7	160.6	209.2	254.4	418	848	6,436	2,644	1,943	1,434	338.3	174.15
MEAN	3.02	5.35	6.75	8.21	14.9	27.4	215	85.3	64.8	46.3	10.9	5.81
MAX	4.0	9.8	9.8	13	42	67	330	159	110	296	45	11
MIN	1.5	4.0	5.0	6.0	10	11	91	37	44	13	1.2	.75
AC-FT	186	319	415	505	829	1,680	12,770	5,240	3,850	2,840	671	345

CAL YR 1968 TOTAL 8,025.3 MEAN 21.9 MAX 165 MIN 1.5 AC-FT 15,920
WTR YR 1969 TOTAL 14,953.35 MEAN 41.0 MAX 330 MIN .75 AC-FT 29,660

NOTE.--No gage height record Dec. 4 to Jan. 2.

09367500 La Plata River near Farmington, N. Mex.

LOCATION.--Lat 36°44'25", long 108°14'52", in SW¼ sec.7, T.29 N., R.13 W., San Juan County, on right bank 1,300 ft upstream from bridge on U.S. Highway 550, 1,800 ft upstream from mouth, and 2.5 miles northwest of Farmington.

DRAINAGE AREA.--583 sq mi.

PERIOD OF RECORD.--March 1938 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,215 ft (from river-profile map).

AVERAGE DISCHARGE.--31 years, 23.8 cfs (17,240 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,850 cfs Aug. 3 (gage height, 5.32 ft), from rating curve extended above 130 cfs on basis of slope-area measurement at gage height 5.93 ft; minimum, 0.06 cfs Oct. 1.
Period of record: Maximum gage height, 6.03 ft Sept. 10, 1939 (discharge not determined); no flow for long period in some years.
Major floods occurred Sept. 5 or 6, 1909, and Oct. 5 or 6, 1911.

REMARKS.--Records fair except those for December to February, which are poor. Diversions for irrigation of about 24,000 acres above station.

REVISIONS(WATER YEARS).--WSP 1243: 1944-45. WSP 1313: 1943-44(M), 1946-50(M). WSP 1733: 1951(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	42	6.7	12	13	14	93	49	8.7	9.5	9.9	.60
2	.40	26	7.9	11	14	13	135	47	4.8	7.5	51	49
3	.40	19	6.2	10	14	15	160	41	4.5	7.5	274	13
4	8.4	17	4.5	11	13	15	129	38	3.9	10	19	1.0
5	4.0	14	7.5	12	17	15	138	24	3.7	13	13	.90
6	3.6	12	12	12	16	14	168	17	2.7	7.9	9.9	.80
7	3.2	9.8	13	12	16	18	220	14	5.4	6.0	7.5	.60
8	3.6	9.8	11	13	16	15	206	9.9	3.1	4.1	5.4	.60
9	3.6	9.8	11	14	13	13	198	7.5	3.7	2.7	4.5	32
10	2.6	9.0	10	14	14	14	220	5.4	4.8	2.5	30	6.0
11	2.6	8.3	11	14	16	15	260	5.4	4.1	2.7	7.5	4.1
12	2.6	7.1	11	15	19	16	294	6.3	4.8	11	3.5	4.8
13	2.6	7.1	11	15	28	15	255	6.9	3.7	12	15	2.5
14	2.3	7.1	16	14	52	16	225	12	2.7	6.9	2.9	2.4
15	3.2	7.1	13	15	31	16	193	7.5	2.2	6.0	4.8	2.4
16	3.0	7.1	12	14	31	16	164	8.7	30	4.5	2.9	2.5
17	3.2	7.5	11	14	29	16	142	7.2	25	5.1	2.4	2.0
18	3.6	7.9	10	9.8	24	46	132	4.8	12	19	2.5	2.2
19	4.3	7.5	12	8.6	23	59	132	23	9.4	183	1.1	2.5
20	5.1	7.5	17	9.4	20	38	154	12	6.0	137	.50	68
21	5.4	7.9	15	12	20	34	210	7.9	6.3	66	.80	46
22	5.6	7.9	14	16	18	66	315	7.2	6.6	47	13	8.3
23	5.6	7.9	12	16	15	60	350	11	6.9	47	20	6.9
24	5.6	7.1	14	14	14	37	326	7.9	6.3	35	7.5	6.0
25	7.5	7.9	15	20	14	27	305	4.5	8.7	174	4.5	5.4
26	7.5	7.1	18	22	18	27	202	4.8	14	90	2.7	5.4
27	7.5	7.5	16	28	15	45	145	11	13	10	1.9	3.5
28	7.5	6.7	15	24	13	56	108	9.9	7.9	7.5	.80	4.1
29	7.9	7.5	14	20	------	56	81	18	7.9	7.5	1.0	3.9
30	8.3	5.9	13	15	------	59	59	10	12	5.1	.90	1.2
31	9.0	------	12	16	------	68	------	6.0	------	5.1	1.0	------
TOTAL	139.90	316.0	371.8	452.8	546	934	5,719	444.8	234.8	952.1	521.40	288.60
MEAN	4.51	10.5	12.0	14.6	19.5	30.1	191	14.3	7.83	30.7	16.8	9.62
MAX	9.0	42	18	28	52	68	350	49	30	183	274	68
MIN	.20	5.9	4.5	8.6	13	13	59	4.5	2.2	2.5	.50	.60
AC-FT	277	627	737	898	1,080	1,850	11,340	882	466	1,890	1,030	572

CAL YR 1968 TOTAL 3,556.36 MEAN 9.72 MAX 227 MIN .06 AC-FT 7,050
WTR YR 1969 TOTAL 10,921.20 MEAN 29.9 MAX 350 MIN .20 AC-FT 21,660

09368000 San Juan River at Shiprock, N. Mex.

LOCATION.--Lat 36°47'35", long 108°43'55", in SW¼ sec.22, T.30 N., R.18 W., San Juan County, on left bank at river mile 61.0, 3 miles west of Shiprock and 6 miles downstream from Chaco River.

DRAINAGE AREA.--12,900 sq mi, approximately.

PERIOD OF RECORD.--January to October 1911, February 1927 to current year. Monthly or yearly discharge only for some periods, published in WSP 1313.

GAGE.--Water-stage recorder. Datum of gage is 4,848.68 ft above mean sea level (river-profile survey). Prior to Apr. 6, 1922, chain gage and Apr. 7, 1922, to Oct. 25, 1933, water-stage recorder, at site 3 miles upstream at different datum. Oct. 26, 1933, to Sept. 30, 1936, water-stage recorder at present site at datum 3.31 ft higher and Oct. 1, 1936, to Sept. 30, 1952, at datum 1.77 ft higher. Supplementary water-stage recorders at nearby sites, same datum, used at times.

AVERAGE DISCHARGE.--43 years (1926-69), 2,245 cfs (1,625,000 acre-ft per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 10,600 cfs Sept. 20 (gage height, 6.74 ft); minimum, 450 cfs Dec. 23.
Period of record: Maximum discharge, about 80,000 cfs Aug. 11, 1929 (gage height, 5.7 ft, site and datum then in use); minimum daily, 8 cfs Aug. 25, 26, 1939.
Maximum flood known occurred Oct. 6, 1911, and reached a stage of 22 ft, site and datum then in use.

REMARKS.--Records good. Since 1962 flow partly regulated by Navajo Reservoir (see station 09355100). Diversions for irrigation of about 118,000 acres above station. Ungaged canals bypass station on both right and left bank, though some of bypass flow is returned to river below gage. Records of chemical analyses, suspended sediment loads, and water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS(WATER YEARS).--WSP 1243: 1931, 1934-38, 1951. WSP 1313: 1911, 1933.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	830	780	726	748	1,860	2,160	1,500	3,590	5,490	3,520	1,430	1,550
2	692	964	740	753	1,980	2,190	1,720	3,790	4,720	3,580	1,490	1,570
3	592	764	740	751	1,950	2,220	2,190	3,920	4,440	3,740	2,600	1,670
4	747	677	740	755	2,130	2,170	3,230	4,070	4,200	3,520	2,020	1,610
5	853	635	756	746	2,240	2,210	3,230	3,760	4,270	3,580	1,540	1,990
6	846	614	756	745	2,240	2,230	3,330	3,320	4,500	3,360	1,480	1,990
7	800	607	788	757	2,240	2,230	3,610	3,710	4,690	3,150	1,340	1,960
8	768	558	815	746	2,210	2,190	3,430	3,520	4,290	3,050	1,270	2,370
9	796	558	847	753	2,270	2,220	3,130	3,230	4,210	2,970	1,220	3,410
10	734	522	839	818	1,930	2,240	3,180	3,160	4,310	2,780	1,230	2,730
11	759	522	839	800	2,270	2,220	3,390	3,160	4,430	2,960	1,170	2,270
12	769	522	854	800	2,260	2,230	3,510	3,560	4,070	2,890	1,150	2,670
13	793	522	807	866	2,360	2,240	3,370	3,750	3,820	3,150	1,150	2,270
14	770	635	799	897	2,330	2,260	3,170	3,630	3,450	3,250	2,400	1,900
15	669	642	798	930	2,350	2,240	3,070	3,450	3,360	3,290	2,490	1,640
16	523	691	808	900	2,250	2,240	3,100	2,460	3,350	3,340	1,630	1,610
17	510	691	832	840	2,240	2,200	3,080	3,350	4,150	3,170	1,380	1,700
18	509	712	755	848	2,310	2,290	2,820	4,170	4,190	3,320	1,270	1,760
19	539	726	732	842	2,290	2,560	2,750	4,900	4,060	3,880	1,230	1,760
20	531	712	756	860	2,270	2,650	2,690	5,090	3,930	4,200	866	3,000
21	543	705	811	900	2,240	2,420	2,950	5,420	3,710	3,990	578	4,420
22	541	691	701	1,100	2,180	2,390	3,580	5,730	3,860	3,560	1,060	2,200
23	548	691	621	1,180	2,270	2,470	4,110	5,870	3,840	3,000	1,340	2,160
24	557	656	695	1,120	2,290	1,310	4,150	5,850	3,740	2,620	2,100	2,020
25	560	663	808	1,100	2,320	796	4,170	5,080	3,740	2,940	1,810	2,280
26	560	677	812	1,260	2,110	726	4,060	4,710	3,680	2,660	1,690	2,090
27	560	670	784	1,600	2,240	756	3,620	5,190	3,750	2,400	1,370	1,890
28	588	684	740	1,430	2,180	1,120	3,200	5,850	3,570	1,970	1,270	1,780
29	621	698	778	1,100	------	1,240	3,170	6,010	3,410	1,800	1,260	1,640
30	663	712	765	1,710	------	1,360	3,420	5,760	3,420	1,710	1,380	1,580
31	607	------	762	1,760	------	1,340	------	5,590	------	1,650	1,640	------
TOTAL	20,378	19,901	24,004	30,415	61,810	61,118	95,930	134,650	120,650	95,000	45,854	63,490
MEAN	657	663	774	981	2,208	1,972	3,198	4,344	4,022	3,065	1,479	2,116
MAX	853	964	854	1,760	2,360	2,650	4,170	6,010	5,490	4,200	2,600	4,420
MIN	509	522	621	745	1,860	726	1,500	2,460	3,350	1,650	578	1,550
AC-FT	40,420	39,470	47,610	60,330	122,600	121,200	190,300	267,100	239,300	188,400	90,950	125,900

CAL YR 1968 TOTAL 468,041 MEAN 1,279 MAX 6,540 MIN 468 AC-FT 928,300
WTR YR 1969 TOTAL 773,200 MEAN 2,118 MAX 6,010 MIN 509 AC-FT 1,534,000

PEAK DISCHARGE (BASE, 6,000 CFS).--JULY 19 (2130) 7,120 (5.74); SEPT. 20 (2400) 10,600 (6.74).

09379500 San Juan River near Bluff, Utah

LOCATION.--Lat 37°08'49", long 109°51'51", in SE¼NE¼NW¼ sec.7, T.42 S., R.19 E., San Juan County, on left bank 1,600 ft downstream from Gypsum Creek, 1,800 ft upstream from highway bridge, 20 miles southwest of Bluff, at mile 113.5

DRAINAGE AREA.--23,000 sq mi, approximately.

PERIOD OF RECORD.--October 1914 to current year. Monthly discharge only for some periods, published in WSP 1313.

GAGE.--Water-stage recorder. Datum of gage is 4,048 ft (from levels of Topographic Division, U.S.G.S.). Prior to Mar. 16, 1927, nonrecording gages at sites about 1,700 ft downstream at different datums.

AVERAGE DISCHARGE.--55 years, 2,621 cfs (1,898,000 acre-ft per year), unadjusted.

EXTREMES.--Current year: Maximum discharge, 10,900 cfs July 19 (gage height, 11.00 ft); minimum daily, 110 cfs Dec. 24.
1914-17, 1927-68: Maximum discharge, 70,000 cfs Sept. 10, 1927 (gage height, 32.0 ft); no flow July 3-13, 1934, Aug. 24-27, 29, 1939.
Flood of Oct. 6, 1911, which is greatest known at Shiprock, N. Mex., probably exceeded that of Sept. 10, 1927, at this station, but stage was not accurately determined.

REMARKS.--Records good. Diversions for irrigation of approximately 200,000 acres above station. No diversion between station and mouth of river. Flow regulated by Navajo Reservoir since June 28, 1962 (see sta 09355100 in New Mexico report). Records of chemical analysis, water temperatures, and suspended-sediment loads for the water year 1969 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	753	670	782	760	2,310	2,240	2,820	3,390	5,540	3,550	1,560	1,810
2	774	906	789	760	2,360	2,240	2,850	3,640	5,330	3,610	1,380	1,440
3	811	1,300	789	760	2,370	2,220	3,090	3,930	4,730	3,550	1,640	1,300
4	1,110	873	796	760	2,380	2,190	3,150	4,170	4,450	3,600	2,960	1,320
5	1,860	796	774	760	2,360	2,270	3,970	4,270	4,200	3,720	2,090	1,230
6	1,980	745	774	760	2,400	2,260	4,000	4,090	4,200	3,670	1,590	1,540
7	1,350	738	718	760	2,500	2,250	4,030	3,820	4,450	3,360	1,520	1,470
8	1,200	767	731	767	2,440	2,280	4,060	4,160	4,390	3,090	1,400	1,280
9	1,050	745	740	827	2,310	2,270	3,720	3,820	4,060	2,830	1,230	1,880
10	1,050	753	760	811	2,300	2,270	3,640	3,530	4,000	2,600	1,190	3,220
11	1,050	731	782	834	1,750	2,250	3,920	3,460	4,240	2,570	1,150	1,880
12	1,050	724	827	834	2,250	2,250	4,110	3,530	4,250	2,460	1,180	1,790
13	1,080	731	866	972	2,370	2,280	4,230	3,890	3,950	2,920	1,080	2,910
14	1,080	774	811	998	2,520	2,250	3,900	3,950	3,480	2,890	1,290	2,160
15	1,030	889	789	1,840	2,540	2,300	3,640	3,850	3,320	2,840	3,640	1,900
16	1,020	998	819	1,710	2,760	2,320	3,600	3,370	3,200	2,710	2,380	1,670
17	738	889	866	1,620	2,790	2,320	3,430	2,340	3,620	2,720	1,680	1,570
18	711	858	889	1,370	2,390	2,430	3,340	3,650	4,390	2,930	1,360	1,560
19	690	881	922	1,190	2,330	2,750	3,040	4,450	4,140	6,010	1,300	1,580
20	697	881	789	1,070	2,440	3,340	2,930	5,040	3,960	6,420	1,340	1,550
21	684	858	670	1,060	2,480	3,090	2,940	5,210	3,670	5,820	1,140	5,010
22	684	842	640	1,470	2,360	2,920	3,340	5,450	3,550	4,320	731	3,430
23	657	842	600	1,500	2,310	3,090	4,000	5,740	3,690	3,570	866	2,420
24	651	827	110	1,480	2,280	3,100	4,240	5,960	3,610	3,040	2,360	2,270
25	645	774	350	1,390	2,140	1,650	4,280	5,630	3,640	3,080	2,180	2,130
26	638	760	600	3,020	2,140	1,140	4,490	4,880	3,970	3,690	1,640	2,040
27	645	789	731	3,080	2,240	1,010	4,130	4,740	3,790	2,580	1,470	1,870
28	645	753	750	3,190	2,210	1,460	3,620	5,260	3,510	2,270	1,380	1,770
29	670	760	760	1,910	------	2,100	3,180	5,820	3,260	2,010	1,910	1,700
30	684	767	760	1,350	------	2,690	3,150	5,830	3,320	1,960	2,430	1,590
31	677	------	760	2,130	------	3,020	------	5,630	------	1,670	1,940	------
TOTAL	28,364	24,621	22,744	41,743	66,030	72,250	108,840	136,500	119,910	102,060	51,007	59,290
MEAN	915	821	734	1,347	2,358	2,331	3,628	4,403	3,997	3,292	1,645	1,976
MAX	1,980	1,300	922	3,190	2,790	3,340	4,490	5,960	5,540	6,420	3,640	5,010
MIN	638	670	110	760	1,750	1,010	2,820	2,340	3,200	1,670	731	1,230
AC-FT	56,260	48,840	45,110	82,800	131,000	143,300	215,900	270,700	237,800	202,400	101,200	117,600

CAL YR 1968 TOTAL 534,315 MEAN 1,460 MAX 11,000 MIN 110 AC-FT 1,060,000
WTR YR 1969 TOTAL 833,359 MEAN 2,283 MAX 6,420 MIN 110 AC-FT 1,653,000

PEAK DISCHARGE (BASE, 8,000 CFS).--July 19, 1969 (1800) 10,900 cfs (11.00 ft); Sept. 21, 1969 (2030) 9,170 cfs (10.12 ft).

09430150 Sapillo Creek below Lake Roberts, near Silver City, N. Mex.

LOCATION.--Lat 33°01'55", long 108°10'05", in SE¼SE¼ sec.34, T.14 S., R.13 W., Grant County, on left bank 1,100 ft downstream from Lake Roberts Dam about 1 mile upstream from former mining town of Meerschaum and 18 miles north of Silver City.

DRAINAGE AREA.--78 sq mi.

PERIOD OF RECORD.--May 1964 to current year.

GAGE.--Water-stage recorder and V-notch wier. Altitude of gage is 5,990 ft (from topographic map). Prior to May 21, 1966 at site 300 ft downstream at different datums.

EXTREMES.--Current year: Maximum discharge, 345 cfs July 17 (gage height, 3.30 ft); minimum, 0.16 cfs June 9. Period of record: Maximum discharge, 1,210 cfs Sept. 23, 1964 (gage height, 5.58 ft), from rating curve extended above 166 cfs on basis of slope-area measurement of peak flow; no flow for many days.

REMARKS.--Records good. Flow regulated by Lake Roberts. The dam is earthfill with a concrete spillway. The reservoir capacity is 1,870 acre-ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	3.4	2.4	2.0	1.6	1.2	1.2	1.3	1.0	2.1	1.1	2.3
2	3.6	3.7	2.5	1.9	1.5	1.2	1.2	1.3	1.1	1.3	1.3	.79
3	4.0	3.5	2.4	1.9	1.5	1.2	1.2	1.5	1.1	1.2	1.3	.49
4	4.0	3.4	2.4	1.9	1.5	1.1	1.1	1.5	1.2	1.1	1.2	.63
5	3.9	3.3	2.4	1.9	1.5	1.1	1.3	2.2	1.2	.76	1.0	.63
6	3.8	3.1	2.4	1.8	1.5	1.1	1.1	2.8	1.0	.67	.84	.21
7	3.6	3.1	2.3	1.8	1.5	1.3	1.1	2.7	2.4	.62	1.7	1.2
8	3.6	3.1	2.3	1.9	1.4	1.3	1.3	2.2	4.0	.69	1.2	3.2
9	3.6	2.9	2.3	1.8	1.4	1.2	1.4	1.9	.77	1.0	.87	2.3
10	3.6	2.8	2.3	1.8	1.4	1.3	1.5	1.8	.66	1.1	.65	1.8
11	3.6	2.5	2.3	1.8	1.4	1.5	1.8	1.4	.50	1.7	.56	1.8
12	3.7	3.5	2.2	1.8	1.4	1.4	1.7	1.2	.47	1.7	.61	1.8
13	3.8	3.3	2.1	1.8	1.7	1.3	1.4	1.3	.54	1.5	.76	1.5
14	3.9	4.3	2.1	2.0	1.7	1.3	1.5	1.4	.59	1.4	.76	1.5
15	4.0	3.9	2.2	2.2	1.6	1.3	1.4	1.4	.64	1.1	.71	1.5
16	3.7	3.6	2.2	2.1	1.5	1.2	1.4	1.4	.54	1.2	.79	1.2
17	3.6	3.3	2.2	2.0	1.4	1.2	1.3	1.7	.70	13	.70	1.0
18	3.6	3.1	2.5	1.8	1.4	1.2	1.4	1.8	.81	2.3	.54	.97
19	3.5	2.9	2.3	1.8	1.5	1.2	1.4	1.5	.94	2.0	.47	.93
20	3.7	2.8	2.2	1.8	1.6	1.2	1.4	1.3	.78	7.5	.44	.93
21	3.9	2.8	2.4	1.8	1.5	1.2	1.5	1.2	.87	5.5	.37	.87
22	3.7	2.7	2.2	1.9	1.4	1.3	1.4	1.1	.71	3.3	.33	.82
23	3.6	2.6	2.3	1.8	1.4	1.4	1.4	1.1	.63	2.4	.40	.80
24	3.5	2.6	1.6	1.7	1.3	1.2	1.4	1.0	.58	1.8	1.8	.81
25	3.5	2.5	1.6	1.8	1.3	1.2	1.3	.93	.49	1.7	.38	.82
26	3.5	2.5	3.2	1.8	1.2	1.2	1.2	.84	.48	1.6	3.7	.83
27	3.6	2.6	3.7	1.7	1.2	1.2	1.3	.80	.53	1.5	5.6	.85
28	3.4	2.5	3.0	1.7	1.3	1.2	1.4	.80	2.7	1.4	4.3	.90
29	3.4	2.6	2.6	1.7	------	1.2	1.4	.83	5.6	1.2	4.0	.84
30	3.3	2.5	2.4	1.6	------	1.2	1.3	.66	7.9	1.0	4.7	.82
31	3.3	------	2.2	1.5	------	1.3	------	.83	------	1.0	3.7	------
TOTAL	113.2	91.4	73.2	56.8	40.6	38.4	40.7	43.69	41.43	66.34	46.78	35.04
MEAN	3.65	3.05	2.36	1.83	1.45	1.24	1.36	1.41	1.38	2.14	1.51	1.17
MAX	4.0	4.3	3.7	2.2	1.7	1.5	1.8	2.8	7.9	13	5.6	3.2
MIN	3.3	2.5	1.6	1.5	1.2	1.1	1.1	.66	.47	.62	.33	.21
AC-FT	225	181	145	113	81	76	81	87	82	132	93	70

CAL YR 1968 TOTAL 3,195.7 MEAN 8.73 MAX 200 MIN 1.4 AC-FT 6,340
WTR YR 1969 TOTAL 687.58 MEAN 1.88 MAX 13 MIN .21 AC-FT 1,360

09430500 Gila River near Gila, N. Mex.

LOCATION.--Lat 33°03'40", long 108°32'12", in NE¼NW¼ sec.30, T.14 S., R.16 W., Grant County, on left bank at Hooker damsite, 1.6 miles upstream from Mogollon Creek, and 7 miles northeast of Gila.

DRAINAGE AREA.--1,864 sq mi.

PERIOD OF RECORD.--April to December 1914, December 1927 to current year. Monthly discharge only December 1927 to September 1930, published in WSP 1313.

GAGE.--Water-stage recorder. Datum of gage is 4,655.8 ft above mean sea level (river-profile survey). Prior to Dec. 31, 1928, at site 5 miles upstream at different datum. Dec. 31, 1928, to Jan. 7, 1942, at site 200 ft upstream at same datum.

AVERAGE DISCHARGE.--42 years (1927-69), 129 cfs (93,460 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 702 cfs Sept. 9 (gage height, 3.96 ft); minimum, 18.5 cfs July 6. Period of record: Maximum discharge, 25,400 cfs Sept. 29, 1941 (gage height, 17.2 ft, from floodmark), from rating curve extended above 3,900 cfs on basis of velocity-area studies; minimum, 15 cfs July 7, 1956. Other major floods occurred in November 1905, December 1906, and January 1916.

REMARKS.--Records good. Diversions for irrigation of about 500 acres above station.

REVISIONS(WATER YEARS).--WSP 1283: Drainage area. WSP 1313: 1944(M), 1949(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	54	57	74	95	71	151	83	54	21	48	102
2	46	55	59	72	89	71	177	80	51	21	47	86
3	48	56	59	70	86	71	192	78	51	22	48	179
4	50	57	57	68	86	71	190	78	50	21	48	115
5	50	59	55	67	86	71	190	86	50	20	55	98
6	50	59	56	67	85	71	177	100	48	19	74	85
7	49	57	56	67	85	71	170	102	44	20	68	83
8	49	57	57	67	83	71	170	95	40	21	68	80
9	48	57	57	68	80	71	165	85	38	25	60	326
10	47	57	57	69	78	71	156	77	37	28	54	276
11	47	56	57	71	77	74	149	75	35	31	49	209
12	46	56	57	69	75	74	145	74	34	34	48	172
13	46	56	56	65	75	72	138	72	34	32	47	126
14	47	65	55	69	77	71	128	75	33	31	56	111
15	50	68	54	83	75	71	124	78	32	31	57	124
16	49	67	55	102	74	71	124	78	32	35	49	113
17	49	65	55	96	74	69	122	80	31	48	46	98
18	50	78	57	91	72	69	118	80	30	67	46	88
19	50	80	55	89	74	71	111	80	29	69	47	80
20	51	65	54	85	75	78	104	78	26	67	44	77
21	53	60	56	83	74	86	98	78	25	78	42	74
22	53	59	56	85	72	98	93	78	24	78	49	68
23	51	60	59	88	72	111	95	80	24	62	43	65
24	51	56	54	86	71	117	98	78	24	55	43	61
25	51	56	54	85	69	120	102	75	23	51	48	59
26	51	56	71	86	69	120	102	71	22	108	56	54
27	51	60	113	98	69	118	100	68	21	90	57	51
28	51	60	91	115	69	118	96	65	21	75	50	49
29	51	60	78	118	------	118	93	61	21	68	54	47
30	53	57	78	113	------	120	86	59	20	59	71	45
31	54	------	76	102	------	134	------	57	------	51	69	------
TOTAL	1,539	1,808	1,911	2,568	2,166	2,690	3,964	2,404	1,004	1,438	1,641	3,201
MEAN	49.6	60.3	61.6	82.8	77.4	86.8	132	77.5	33.5	46.4	52.9	107
MAX	54	80	113	118	95	134	192	102	54	108	74	326
MIN	46	54	54	65	69	69	86	57	20	19	42	45
AC-FT	3,050	3,590	3,790	5,090	4,300	5,340	7,860	4,770	1,990	2,850	3,250	6,350

CAL YR 1968 TOTAL 105,872 MEAN 289 MAX 1,440 MIN 40 AC-FT 210,000
WTR YR 1969 TOTAL 26,334 MEAN 72.1 MAX 326 MIN 19 AC-FT 52,230

PEAK DISCHARGE (BASE, 600 CFS).--SEPT. 9 (1000) 702 CFS (3.96 FT).

09430600 Mogollon Creek near Cliff, N. Mex.

(Hydrologic bench-mark station)

LOCATION.--Lat 33°10'01", long 108°38'58", in SE¼ sec.13, T.13 S., R.18 W., Grant County, 12 miles upstream from mouth, 14.2 miles north of Cliff.

DRAINAGE AREA.--69 sq mi.

PERIOD OF RECORD.--March 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,440 ft (from topographic map).

EXTREMES.--Maximum discharge during year, 180 cfs Jan. 26 (gage height, 3.33 ft); minimum, no flow for several days in June, July, and September.
Period of record: Maximum discharge, 10,800 cfs Aug. 12, 1968(gage height, 13.7 ft, from floodmarks), from rating curve extended above 220 cfs on basis of slope-area measurement of peak flow; minimum, no flow at times.

REMARKS.--Records good. Records of chemical analysis, water temperatures, suspended sediment loads and bio chemical measurements made during 1969 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.2	2.0	14	21	14	67	9.1	1.8	0	8.4	25
2	1.3	1.3	2.4	14	18	13	69	8.9	1.6	0	4.6	33
3	1.5	1.4	2.4	12	16	12	61	8.6	1.6	0	4.2	45
4	1.9	1.4	2.3	11	15	12	60	8.4	2.7	0	3.3	15
5	1.7	1.4	2.6	10	15	12	52	14	2.0	0	3.5	9.4
6	1.6	1.4	2.8	10	13	11	51	12	1.6	0	5.2	8.1
7	1.4	1.5	3.0	11	12	11	49	12	1.4	0	5.9	9.8
8	1.3	1.5	2.9	11	11	8.9	40	11	1.2	0	7.0	18
9	1.3	1.5	2.8	12	10	8.5	33	10	1.0	0	4.8	22
10	1.3	1.5	2.7	12	9.6	8.3	30	13	.83	0	3.2	9.1
11	1.3	1.5	2.7	13	9.8	8.3	29	15	.75	0	2.5	7.0
12	1.3	1.5	2.7	14	11	7.1	25	14	.72	0	2.6	7.0
13	1.2	1.6	2.4	16	13	7.4	24	13	.69	.07	3.0	5.1
14	1.2	5.5	2.4	18	13	7.9	30	13	.62	.06	2.4	4.4
15	1.3	5.2	2.4	22	12	7.1	27	12	.57	0	1.6	4.2
16	1.2	4.6	2.4	26	11	6.8	23	11	.52	0	1.3	3.4
17	1.4	3.6	2.3	30	11	7.7	20	9.5	.43	1.6	2.5	2.9
18	1.4	3.1	2.2	25	10	11	17	8.7	.27	1.6	2.0	2.6
19	1.3	2.8	3.1	26	11	19	17	8.1	.17	1.0	1.5	1.9
20	1.3	2.6	4.1	23	11	27	17	7.6	.09	1.9	1.4	1.7
21	1.3	2.5	2.5	20	9.9	28	18	6.8	0	1.3	1.3	1.6
22	1.3	2.4	2.5	20	11	31	21	6.1	0	5.5	1.2	1.4
23	1.3	2.3	2.8	22	11	28	21	5.6	0	2.0	1.5	1.2
24	1.2	2.2	2.4	23	11	27	18	4.9	0	1.2	1.5	.98
25	1.2	2.2	2.4	20	11	26	17	4.4	0	1.9	1.6	.84
26	1.2	2.1	26	126	12	28	15	3.9	0	1.6	2.2	.67
27	1.2	2.2	18	90	12	31	13	3.3	0	2.6	2.3	.33
28	1.2	2.1	11	63	14	35	11	2.9	0	7.2	2.5	0
29	1.2	2.1	8.6	45	------	41	9.5	2.6	0	3.3	7.7	0
30	1.2	2.0	9.9	31	------	51	9.1	2.4	0	1.9	15	0
31	1.2	------	11	26	------	61	------	2.1	------	2.1	19	------
TOTAL	41.1	68.2	149.7	816	345.3	607.0	893.6	263.9	20.56	36.83	126.7	241.62
MEAN	1.33	2.27	4.83	26.3	12.3	19.6	29.8	8.51	.69	1.19	4.09	8.05
MAX	1.9	5.5	26	126	21	61	69	15	2.7	7.2	19	45
MIN	1.2	1.2	2.0	10	9.6	6.8	9.1	2.1	0	0	1.2	0
AC-FT	82	135	297	1,620	685	1,200	1,770	523	41	73	251	479

CAL YR 1968 TOTAL 22,800.60 MEAN 6.25 MAX 337 MIN 1.1 AC-FT 45,220
WTR YR 1969 TOTAL 3,610.51 MEAN 9.89 MAX 126 MIN 0 AC-FT 7,160

09431500 Gila River near Redrock, N. Mex.

LOCATION.--Lat 32°43'30", long 108°40'30", in W½ sec.23 T.18 S., R.18 W., Grant County, on left bank 0.2 mile downstream from Copper Canyon, 0.2 mile upstream from lower end of box canyon, 4.7 miles northeast of Redrock, and 14 miles downstream from Mangas Creek.

DRAINAGE AREA.--2,829 sq mi.

PERIOD OF RECORD.--September 1904 to May 1927, fragmentary (see WSP 1313), July 1927 to September 1955, October 1962 to current year. Published as "near Cliff" 1904-7, and as "near Red Rock" 1908 to 1955.

GAGE.--Water-stage recorder. Altitude of gage is 4,090 ft (planetable survey). Prior to Dec. 31, 1907, staff gage at site 13.5 miles upstream at different datum. May 14, 1908, to July 16, 1909, staff gage at site 0.2 mile downstream at different datum.

AVERAGE DISCHARGE.--53 years (1905-6, 1908-10, 1912-55, 1962-69), 196 cfs (142,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,050 cfs Sept. 2 (gage height, 12.84 ft); minimum, 5.2 cfs Aug. 4. Period of record: Maximum discharge, 40,000 cfs Sept. 29, 1941 (gage height, 31 ft, from floodmark), computed on basis of known peak flow for station below Blue Creek; minimum, 2.2 cfs Aug. 5, 1947.

REMARKS.--Records good. Diversions for irrigation of about 5,000 acres above station.

REVISIONS (WATER YEARS).--WSP 1213: 1906, 1911-15, 1931, 1936-37, 1939, 1941, 1944, 1945(P), 1946(M), 1947. WSP 1283: Drainage area. WSP 1733: 1955.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	47	84	100	143	95	157	79	48	17	17	129
2	45	56	83	96	134	96	189	78	44	16	15	500
3	44	56	84	95	130	96	214	73	41	18	8.0	283
4	45	58	83	96	124	96	221	63	42	18	14	210
5	43	63	78	95	122	103	210	72	38	18	21	190
6	48	65	78	95	120	99	215	90	38	16	30	188
7	54	63	83	93	116	99	215	87	39	15	31	234
8	54	64	84	93	112	99	200	89	24	14	40	188
9	54	63	83	93	110	99	204	84	22	16	44	377
10	51	62	83	93	107	96	202	78	20	22	40	351
11	50	63	83	94	104	95	186	71	22	29	38	415
12	50	67	84	95	104	96	194	76	27	32	26	328
13	50	67	84	95	105	99	178	67	25	31	24	214
14	51	72	83	96	107	98	173	65	18	30	53	187
15	51	77	82	102	106	96	154	62	16	29	33	171
16	47	77	83	108	105	93	148	67	18	31	34	170
17	46	78	83	119	106	95	132	58	25	69	28	153
18	48	81	87	118	106	97	124	68	25	50	43	128
19	49	96	87	114	108	90	113	63	26	43	26	109
20	49	96	86	114	109	91	112	62	27	112	21	96
21	47	86	87	112	111	90	115	59	24	47	20	90
22	46	85	83	110	109	89	100	55	24	46	22	84
23	42	85	84	109	108	106	90	52	21	92	26	70
24	43	86	84	110	104	121	89	51	19	57	22	50
25	43	87	86	112	101	114	94	48	19	48	29	48
26	44	88	95	110	99	115	83	48	21	48	36	48
27	38	87	111	148	98	119	84	52	17	59	42	54
28	40	84	124	160	98	112	86	54	16	54	32	51
29	23	87	117	167	------	118	81	54	16	44	198	49
30	36	84	109	164	------	114	82	51	16	32	116	47
31	37	------	104	152	------	123	------	51	------	26	343	------
TOTAL	1,414	2,230	2,749	3,458	3,106	3,149	4,445	2,027	778	1,179	1,472.0	5,212
MEAN	45.6	74.3	88.7	112	111	102	148	65.4	25.9	38.0	47.5	174
MAX	54	96	124	167	143	123	221	90	48	112	343	500
MIN	23	47	78	93	98	89	81	48	16	14	8.0	47
AC-FT	2,800	4,420	5,450	6,860	6,160	6,250	8,820	4,020	1,540	2,340	2,920	10,340

CAL YR 1968 TOTAL 150,808 MEAN 412 MAX 2,360 MIN 23 AC-FT 299,100
WTR YR 1969 TOTAL 31,219.0 MEAN 85.5 MAX 500 MIN 8.0 AC-FT 61,920

PEAK DISCHARGE (BASE, 3,000 CFS).--SEPT. 2 (0145) 3,050 CFS (12.84 FT).

9-4320. Gila River below Blue Creek, near Virden, N. Mex.

LOCATION.--Lat 32°38'53", long 108°50'43", in SE¼SW¼ sec.18, T.19 S., R.19 W., Grant County, on left bank at head of canyon, 1.4 miles (revised) downstream from Blue Creek, 10 miles east of Virden, and 16 miles upstream from New Mexico-Arizona State line.

DRAINAGE AREA.--3,203 sq mi, excluding Animas River basin.

PERIOD OF RECORD.--May to November 1914, March to September 1915, July 1927 to current year. July 1927 to May 1931 monthly discharge only, published in WSP 1313, computed as sum of flow at Virden Bridge, 9 miles downstream, and in Sunset Canal. Published as Gila River near Duncan, Ariz., 1914-15 and as Gila River at Fuller's Ranch, near Duncan, Ariz., 1931-38.

GAGE.--Water-stage recorder. Altitude of gage is 3,875 ft (from river-profile map). May 11, 1914, to Sept. 30, 1915, at site 6 miles downstream, 1,000 ft upstream from intake of Sunset Canal. June 1 to July 7, 1931, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--42 years (1927-69), 171 cfs (123,900 acre-ft per year); median of yearly mean discharges, 130 cfs (94,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,790 cfs Sept. 2 (gage height, 8.78 ft); minimum, 4.8 cfs July 7 (gage height, 2.56 ft). Period of record: Maximum discharge, 41,700 cfs Sept. 29, 1941 (gage height, 25.78 ft); minimum, 1 cfs July 14, 1934.

REMARKS.--Records good. Station is above all Duncan Valley diversions. Diversions for irrigation of about 6,200 acres above station.

REVISIONS (WATER YEARS).--WSP 1283: drainage area. WSP 1313: 1929, 1931-32(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	47	90	107	158	108	130	75	45	7.8	21	146
2	41	57	90	108	154	104	155	70	42	7.3	18	465
3	41	65	87	106	150	108	179	67	38	6.5	16	247
4	42	65	87	107	147	108	188	57	38	6.8	13	197
5	40	69	86	107	145	110	185	60	36	6.0	12	161
6	42	74	84	107	142	110	185	72	36	5.8	21	143
7	45	74	85	104	141	110	190	81	31	5.3	36	147
8	50	74	88	106	135	109	185	78	30	6.5	43	188
9	50	73	90	106	135	110	190	77	30	7.3	50	332
10	47	72	90	106	131	108	188	75	30	8.1	45	422
11	45	72	90	108	129	107	178	67	30	11	41	508
12	45	76	90	109	129	106	179	68	20	12	32	535
13	44	78	90	109	129	108	173	61	20	13	20	264
14	45	86	90	111	128	109	168	60	20	12	48	198
15	49	87	90	113	128	109	157	55	20	13	37	146
16	47	88	90	115	124	104	148	55	20	18	30	145
17	47	86	90	127	125	103	143	53	20	121	30	137
18	48	90	91	128	125	106	134	53	20	59	40	127
19	50	96	92	128	125	100	130	50	20	48	30	115
20	50	102	93	129	124	100	123	50	20	143	30	102
21	49	97	95	128	127	99	127	50	20	76	20	94
22	48	92	90	128	124	97	123	50	20	90	20	88
23	47	91	90	128	122	104	106	50	10	96	20	78
24	47	91	88	129	119	119	97	50	10	70	20	62
25	47	91	91	133	116	121	99	50	10	60	28	50
26	49	93	96	134	111	116	91	50	10	50	20	50
27	47	93	106	148	109	117	77	50	10	50	28	50
28	45	91	117	167	108	104	77	50	10	40	20	40
29	43	90	116	173	------	104	76	45	10	35	20	40
30	42	89	110	176	------	107	73	45	10	30	253	40
31	44	------	107	170	------	115	------	45	------	25	300	------
TOTAL	1,416	2,449	2,889	3,855	3,640	3,340	4,254	1,819	686	1,139.4	1,372	5,317
MEAN	45.7	81.6	93.2	124	130	108	142	58.7	22.9	36.8	44.3	177
MAX	50	102	117	176	158	121	190	81	45	143	300	535
MIN	40	47	84	104	108	97	73	45	10	5.3	12	40
AC-FT	2,810	4,860	5,730	7,650	7,220	6,620	8,440	3,610	1,360	2,260	2,720	10,550

CAL YR 1968 TOTAL 157,017 MEAN 429 MAX 2,350 MIN 37 AC-FT 311,400
WTR YR 1969 TOTAL 32,176.4 MEAN 88.2 MAX 535 MIN 5.3 AC-FT 63,820

PEAK DISCHARGE (BASE, 1,900 CFS).--No peak above base.

09442653 Trout Creek near Luna, N. Mex.

LOCATION.--Lat 33°53'24", long 109°00'39" in NE¼NE¼ sec.10, T.5 S., R.21 W., Catron County, on left bank 0.9 mile downstream from Romero Creek, and 5.9 miles northwest of Luna.

DRAINAGE AREA.--27.1 sq mi.

PERIOD OF RECORD.--December 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 8,050 ft (from topographic map).

EXTREMES.--Maximum discharge during period, 605 cfs Sept. 11 (gage height 5.50 ft) from rating curve extended above 15 cfs on basis of slope-area measurement of peak flow; no flow July 7-12.

REMARKS.--Records good except those for January and February, which are poor. Flow is slightly regulated by unnamed reservoir 3 miles upstream on Romero Creek.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			-	.23	.80	1.5	8.9	.98	.22	.02	.86	6.5
2			-	.23	.70	1.8	7.9	.87	.21	.01	.51	4.5
3			-	.23	.69	1.6	6.7	.84	.22	.01	.34	3.2
4			-	.23	.69	1.3	5.6	.79	.24	.01	.31	2.6
5			-	.23	.83	1.5	5.2	1.5	.18	.01	.35	3.8
6			-	.25	.89	1.1	4.8	2.7	.17	.01	.34	3.2
7			-	.31	.88	.98	4.2	2.7	.16	0	.18	5.4
8			-	.37	.83	1.1	3.8	3.1	.15	0	.14	6.4
9			-	.43	.66	1.0	3.6	2.1	.14	0	.10	6.1
10			-	.42	.74	.90	3.4	1.7	.13	0	.08	4.0
11			-	.44	1.1	1.0	4.5	1.7	.13	0	.07	113
12			-	.45	1.4	1.2	5.1	1.6	.13	.01	.07	41
13			-	.47	1.4	1.4	4.2	1.5	.13	.06	.62	36
14			-	.51	1.2	1.1	3.6	1.5	.13	.11	.26	35
15			-	.56	1.2	1.6	2.6	1.6	.13	.12	.26	39
16			-	.64	1.2	1.4	3.2	1.4	.13	.12	.21	29
17			-	.63	1.1	1.8	3.8	1.0	.12	.11	.18	21
18			-	.57	1.1	12	3.2	.87	.12	.18	.15	15
19			-	.53	1.0	22	2.9	.76	.11	.19	.16	12
20			-	.69	1.0	14	2.7	.70	.10	.25	.22	8.8
21			.22	.60	1.2	11	2.5	.57	.09	.28	.16	7.0
22			.16	.60	1.0	8.8	2.4	.47	.08	.25	.12	5.4
23			.15	.60	1.0	9.8	2.0	.43	.06	.24	.11	4.5
24			.16	.60	.91	6.7	1.7	.40	.05	.20	.15	3.6
25			.18	.60	1.0	6.3	1.5	.36	.04	.23	.39	2.9
26			.19	.70	1.4	6.6	1.4	.31	.03	.44	1.2	1.9
27			.21	.70	1.8	8.3	1.3	.29	.02	.51	1.0	1.6
28			.20	.70	1.9	9.5	1.3	.27	.02	.66	5.7	1.4
29			.21	.80	------	10	1.2	.28	.02	.25	23	1.2
30			.21	.80	------	10	1.1	.27	.02	.16	19	.99
31		------	.21	.80	------	10	------	.24	------	.21	10	------
TOTAL			-	15.92	29.62	167.28	106.3	33.80	3.48	4.65	66.24	425.99
MEAN			-	0.51	1.06	5.40	3.54	1.09	.12	.15	2.14	14.2
MAX			-	.80	1.9	22	8.9	3.1	.24	.66	23	113
MIN			-	.23	.66	.90	1.1	.24	.02	0	.07	.99
AC-FT			-	32	59	332	211	67	6.9	9.2	131	845

CAL YR 1968 TOTAL - MEAN - MAX - MIN - AC-FT -
WTR YR 1969 TOTAL - MEAN - MAX - MIN - AC-FT -

09442680 San Francisco River near Reserve, N. Mex.

LOCATION.--Lat 33°44'25", long 108°46'20", in SW¼NE¼ sec.35, T.6 S., R.19 W., Catron County, on left bank 500 ft upstream from Rainbow Bridge Canyon and 2 miles northwest of Reserve.

DRAINAGE AREA.--350 sq mi, approximately.

PERIOD OF RECORD.--March 1959 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Altitude of gage is 5,830 ft (from topographic map).

AVERAGE DISCHARGE.--10 years, 24.1 cfs (17,450 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 640 cfs Sept. 11 (gage height, 2.71 ft); minimum, 2.7 cfs Dec. 12.
Period of record: Maximum discharge, 1,320 cfs July 31, 1967 (gage-height, 3.73 ft in gage well, 4.4 ft from outside floodmarks), from rating curve extended above 460 cfs on basis of slope-area measurement of peak flow; minimum, 1.0 cfs Mar. 16, 1959.
Maximum stage known, about 15 ft, as determined in 1962 from old floodmarks. Major floods of Nov. 26, 1905 and Dec. 3, 1906, exceeded 20,000 cfs at Alma (downstream). See WSP 1313.

REMARKS.--Records good except those for April and June, which are poor. Possible minor regulation by Luna Lake, 27 miles upstream. Diversions for irrigation of about 500 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	7.9	11	8.9	12	14	21	5.9	5.4	3.5	20	21
2	7.2	8.5	11	9.6	13	14	25	6.0	5.3	3.4	14	20
3	7.4	8.4	6.6	11	12	14	26	6.0	5.3	2.8	11	9.3
4	20	8.5	8.8	9.8	12	14	25	6.0	5.2	2.8	8.9	7.1
5	12	8.5	11	11	13	13	25	8.7	5.2	3.0	8.4	6.6
6	11	8.2	11	13	11	12	24	8.8	5.1	2.8	5.5	9.2
7	9.7	8.7	11	11	11	13	23	9.2	5.1	2.8	5.0	8.5
8	8.9	9.3	11	13	10	11	21	9.4	5.0	2.8	4.6	20
9	8.3	8.3	13	14	11	12	17	7.6	5.0	3.1	4.1	25
10	7.6	9.2	12	12	11	13	15	6.9	4.9	3.2	3.8	15
11	7.2	7.9	12	12	11	13	15	7.1	4.8	3.9	3.7	162
12	6.6	9.4	10	12	11	13	17	7.2	4.9	4.1	6.2	91
13	6.2	10	7.1	12	12	12	16	7.1	4.8	4.5	16	48
14	6.0	14	10	12	13	12	15	7.1	4.7	4.1	11	61
15	6.6	13	12	13	12	11	14	6.9	4.6	4.1	7.4	55
16	6.6	11	13	12	12	10	13	6.1	4.5	4.2	5.9	55
17	6.9	11	10	10	12	11	13	5.8	4.4	6.4	6.7	33
18	7.2	9.9	7.4	9.7	12	11	12	6.2	4.3	6.0	8.2	26
19	7.5	10	7.0	11	13	18	11	5.8	4.1	6.2	11	23
20	7.8	10	9.3	11	14	27	11	5.7	4.0	6.7	6.5	21
21	7.8	9.8	9.3	10	12	23	10	5.5	3.9	6.7	5.6	18
22	8.0	9.8	6.8	11	13	20	10	5.7	3.9	9.2	4.7	16
23	8.5	9.6	6.6	10	12	19	9.3	5.6	3.9	10	4.0	13
24	8.5	10	7.7	9.5	13	17	8.2	5.5	3.9	9.3	3.6	11
25	8.6	11	9.9	10	12	16	7.7	5.3	3.8	7.2	15	8.6
26	8.6	8.6	15	11	12	16	7.5	5.1	3.7	7.1	21	7.3
27	8.5	11	15	12	12	15	6.5	4.9	3.6	9.6	15	6.2
28	7.7	9.7	11	17	13	14	6.4	5.4	3.6	20	20	5.6
29	6.8	9.4	9.3	19	------	14	6.1	5.4	3.3	13	56	5.0
30	7.8	7.8	8.9	14	------	15	6.0	5.4	3.3	8.9	27	4.6
31	7.8	------	8.6	12	------	18	------	5.4	------	6.1	21	------
TOTAL	255.5	288.4	312.3	363.5	337	455	436.7	198.7	133.5	187.5	360.8	812.0
MEAN	8.24	9.61	10.1	11.7	12.0	14.7	14.6	6.41	4.45	6.05	11.6	27.1
MAX	20	14	15	19	14	27	26	9.4	5.4	20	56	162
MIN	6.0	7.8	6.6	8.9	10	10	6.0	4.9	3.3	2.8	3.6	4.6
AC-FT	507	572	619	721	668	902	866	394	265	372	716	1,610

CAL YR 1968 TOTAL 22,932.7 MEAN 62.7 MAX 438 MIN 4.7 AC-FT 45,490
WTR YR 1969 TOTAL 4,140.9 MEAN 11.3 MAX 162 MIN 2.8 AC-FT 8,210

PEAK DISCHARGE (BASE, 450 CFS).--AUG. 29 (1300) 472 CFS (2.33 FT); SEPT. 11 (1500) 640 CFS (2.71 FT).

09442692 Tularosa River above Aragon, N. Mex.

LOCATION.--Lat 33°53'30", long 108°30'56", in NW¼ sec.9, T.5 S., R.16 W., Catron County, on right bank 0.4 mile upstream from first diversion, 1.4 miles northeast of Aragon, and 8 miles upstream from Apache Creek.

DRAINAGE AREA.--94 sq mi.

PERIOD OF RECORD.--July 1966 to current year. 1955 to 1965 at site 0.6 mile upstream (drainage area, 89 sq mi), annual maximum only.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 6,750 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 53 cfs Sept. 8 (gage height, 1.85 ft), from rating curve extended above 10 cfs; minimum, 1.1 cfs July 22.
Period of record: Maximum discharge, 224 cfs July 30, 1967 (gage height, 2.47 ft), from rating curve extended above 10 cfs; minimum determined, 0.80 cfs Sept. 18, 1966.

REMARKS.--Records excellent below 10 cfs, poor above.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	2.8	2.9	3.0	2.9	3.0	3.0	3.0	2.8	2.6	3.0	3.4
2	2.6	2.8	2.9	3.0	2.9	3.0	3.0	3.1	2.8	2.7	3.0	3.4
3	2.7	2.9	2.9	2.9	2.9	3.0	3.0	3.1	2.8	2.7	3.0	3.3
4	2.7	2.8	2.9	2.9	3.0	3.0	3.0	3.1	2.8	2.7	3.2	3.4
5	2.7	2.8	2.9	2.9	3.0	3.0	3.0	3.4	2.8	2.7	3.8	3.4
6	2.6	2.8	2.9	2.9	3.0	3.0	3.0	3.4	2.8	2.7	3.0	3.4
7	2.7	2.8	2.9	2.9	3.0	3.0	3.0	3.4	2.8	2.7	3.4	3.5
8	3.0	2.8	2.9	3.0	3.0	3.0	3.0	3.2	2.8	2.7	2.8	6.5
9	2.9	2.8	2.9	3.0	3.0	3.0	3.0	3.1	2.8	2.7	2.9	3.1
10	2.8	2.7	2.9	3.0	3.0	3.0	3.0	3.2	2.7	2.8	2.9	3.0
11	2.8	2.8	3.0	3.0	3.0	3.0	3.1	3.2	2.8	2.8	2.9	3.1
12	2.8	2.8	2.9	3.0	3.0	3.0	3.0	3.2	2.8	2.8	3.0	3.1
13	2.8	2.8	2.9	3.0	3.0	3.0	3.0	3.2	2.8	2.7	3.0	3.3
14	2.8	2.9	3.0	3.0	3.0	3.0	3.0	3.2	2.8	2.8	3.1	3.2
15	2.8	2.8	3.0	3.0	3.0	3.0	3.0	3.2	2.8	3.0	3.1	3.0
16	2.8	2.8	3.0	3.0	3.0	3.0	3.0	3.2	2.8	3.0	3.1	3.0
17	2.8	2.8	3.0	3.0	3.0	3.0	3.0	3.1	2.7	2.8	3.1	3.0
18	2.8	2.8	3.0	2.9	3.0	3.0	3.0	3.1	2.8	2.8	3.0	3.0
19	2.9	2.8	3.0	2.9	3.1	3.0	3.0	3.1	2.8	2.8	3.0	3.0
20	3.0	2.8	3.0	2.9	3.1	3.0	3.0	3.0	2.7	2.9	3.0	3.0
21	2.9	2.8	3.0	2.9	3.0	2.9	3.0	3.0	2.7	2.8	3.0	3.0
22	2.9	2.8	3.0	3.0	3.0	3.0	3.0	3.0	2.7	3.1	3.0	3.0
23	3.0	2.8	3.0	2.9	3.0	3.0	3.0	3.0	2.7	2.8	3.2	3.0
24	2.9	2.8	3.0	2.9	3.0	2.9	3.0	3.0	2.7	2.9	4.7	3.0
25	3.0	2.8	3.1	3.0	3.0	2.9	3.0	3.0	2.7	2.9	3.2	3.0
26	2.9	2.8	3.2	3.0	3.0	3.0	3.0	3.0	2.7	3.7	3.3	2.9
27	2.9	2.9	3.0	3.0	3.0	3.1	3.0	3.0	2.7	3.0	3.3	2.9
28	2.8	2.9	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.9	3.3	2.9
29	2.8	2.9	3.0	3.0	------	3.0	3.1	2.9	2.6	2.9	3.4	2.9
30	2.8	2.9	3.0	2.9	------	3.0	3.2	3.0	2.8	2.9	3.4	2.8
31	2.8	------	3.0	2.9	------	3.0	------	3.0	------	2.9	3.4	------
TOTAL	87.3	84.5	92.1	91.7	83.9	92.8	90.4	96.3	82.7	88.2	98.5	96.5
MEAN	2.82	2.82	2.97	2.96	3.00	2.99	3.01	3.11	2.76	2.85	3.18	3.22
MAX	3.0	2.9	3.2	3.0	3.1	3.1	3.2	3.4	2.8	3.7	4.7	6.5
MIN	2.6	2.7	2.9	2.9	2.9	2.9	3.0	2.9	2.6	2.6	2.8	2.8
AC-FT	173	168	183	182	166	184	179	191	164	175	195	191

CAL YR 1968 TOTAL 1,516.3 MEAN 4.14 MAX 50 MIN 2.4 AC-FT 3,010
WTR YR 1969 TOTAL 1,084.9 MEAN 2.97 MAX 6.5 MIN 2.6 AC-FT 2,150

PEAK DISCHARGE (BASE, 20 CFS).--AUG. 24 (2000) 26 CFS (1.60 FT); SEPT. 8 (1800) 53 CFS (1.85 FT).

09443000 San Francisco River near Alma, N. Mex.

LOCATION.--Lat 33°22'06", long 108°54'35", in SW¼SE¼ sec.4, T.11 S., R.20 W., Catron County, on right bank 1.2 miles downstream from Alma, 4 miles northwest of Glenwood and 6 miles upstream from Whitewater Creek.

DRAINAGE AREA.--1.546 sq mi.

PERIOD OF RECORD.--September 1904 to January 1914, fragmentary (see WSP 1313), January 1964 to current year. Prior to October 1911, published as "at Alma".

GAGE.--Water-stage recorder. Datum of gage is 4,844 ft above mean sea level. Prior to Aug. 11, 1912, staff gages at various sites, within 500 ft of each other, 0.8 mile upstream, at different datums. Aug. 11, 1912, to Feb. 2, 1914, staff gage at approximately present site and datum.

AVERAGE DISCHARGE.--5 years, (1964-69), 73.5 cfs (53,250 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,390 cfs Aug. 30 (gage height, 3.43 ft); no flow several days.
1964-69: Maximum discharge 7,500 cfs, Dec. 30, 1965 (gage height 7.45 ft); no flow at times.
Discharges of 25,000 cfs, Nov. 26, 1905 and 21,000 cfs Dec. 3, 1906 (gage heights, 14 ft. and 13.4 ft, respectively, datum then in use), were measured by float-area method. Major floods probably occurred Jan. 19 and Oct. 14, 1916, when discharges of 90,000 cfs (or greater) were computed at Clifton, Ariz.

REMARKS.--Records good. Diversions for irrigation of about 1,500 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	8.3	14	15	23	19	28	1.0	.95	1.6	6.1	33
2	5.6	10	19	15	22	20	34	1.1	.94	1.5	8.1	75
3	7.8	13	17	17	21	19	40	.50	.70	1.4	9.5	76
4	12	12	14	18	20	18	40	.50	.72	1.2	8.6	17
5	30	12	17	18	21	16	36	1.3	.76	1.3	8.9	13
6	21	12	17	18	21	12	38	1.8	.72	1.5	20	36
7	18	13	16	19	20	13	36	4.9	.52	2.1	14	13
8	16	13	16	18	19	14	34	7.2	.50	1.3	2.2	56
9	12	12	16	19	18	15	30	5.2	.36	1.7	0	203
10	11	12	16	22	19	17	25	5.5	.39	1.9	0	49
11	11	14	16	20	18	17	24	8.3	.37	2.1	0	25
12	6.7	16	16	20	19	17	23	11	.71	2.4	0	230
13	6.2	16	14	19	21	16	25	12	1.3	2.5	8.5	115
14	.33	23	11	20	20	15	24	12	1.3	2.7	24	61
15	.04	29	14	23	19	16	23	11	1.4	9.3	12	155
16	.10	27	16	23	18	15	22	10	1.3	5.7	15	73
17	0	22	16	22	16	13	21	9.6	1.4	11	7.4	50
18	.46	19	15	20	11	11	17	6.3	1.7	4.8	.31	35
19	.24	19	12	18	15	11	14	2.6	1.8	4.8	3.3	29
20	1.4	18	9.5	17	12	15	12	1.9	1.7	4.6	3.8	24
21	6.2	17	14	17	12	23	11	1.6	1.6	5.2	1.6	20
22	7.9	17	13	17	14	27	10	1.5	1.6	5.2	0	17
23	6.8	16	9.3	17	21	29	8.9	1.4	1.6	14	0	16
24	6.6	17	5.6	17	20	29	4.4	1.4	1.6	35	0	14
25	6.2	17	13	16	18	26	3.0	1.4	1.6	20	0	9.3
26	6.5	17	24	17	19	23	2.6	1.3	2.4	95	7.8	4.8
27	7.4	17	33	16	19	18	2.3	1.0	1.3	.66	11	.76
28	7.2	17	28	16	19	17	2.9	.54	1.4	0	38	.05
29	8.4	16	22	18	------	17	2.0	.52	1.7	1.1	118	.19
30	9.9	14	18	22	------	19	1.3	.80	1.6	2.0	151	0
31	8.6	------	16	24	------	27	------	.89	------	2.4	41	------
TOTAL	247.57	485.3	497.4	578	515	564	594.4	126.05	35.94	245.96	520.11	1,450.10
MEAN	7.99	16.2	16.0	18.6	18.4	18.2	19.8	4.07	1.20	7.93	16.8	48.3
MAX	30	29	33	24	23	29	40	12	2.4	95	151	230
MIN	0	8.3	5.6	15	11	11	1.3	.50	.36	0	0	0
AC-FT	491	963	987	1,150	1,020	1,120	1,180	250	71	488	1,030	2,880

CAL YR 1968 TOTAL 56,689.97 MEAN 155 MAX 1,130 MIN 0 AC-FT 112,400
WTR YR 1969 TOTAL 5,859.83 MEAN 16.1 MAX 230 MIN 0 AC-FT 11,620

PEAK DISCHARGE (BASE, 1,000 CFS).--JULY 26 (1600) 1,300 CFS (3.20 FT); AUG. 30 (1745) 1,390 CFS (3.43 FT).

09444000 San Francisco River near Glenwood, N. Mex.

LOCATION.--Lat 33°14'50", long 108°52'45", in NE¼NW¼ sec.23, T.12 S., R.20 W., Catron County, on left bank 0.2 mile upstream from hot springs, 5 miles south of Glenwood, 6 miles downstream from Whitewater Creek, and at mile 64.6.

DRAINAGE AREA.--1,653 sq mi.

PERIOD OF RECORD.--October 1927 to current year. Monthly discharge only for some periods, published in WSP 1313.

GAGE.--Water-stage recorder. Datum of gage is 4,552.06 ft above mean sea level; prior to Feb. 15, 1934, at site 4.5 miles upstream at datum 98.82 ft higher.

AVERAGE DISCHARGE.--42 years, 66.7 cfs (48,320 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,270 cfs Aug. 30 (gage height, 4.96 ft); minimum, 6.3 cfs Aug. 26.
Period of record: Maximum discharge, 8,200 cfs Dec. 30, 1965 (gage height, 11.00 ft), from rating curve extended above 2,800 cfs on basis of slope-area measurement at gage height 10.74 ft ; minimum, 1.5 cfs Aug. 6, 1961.
Major floods probably occurred Jan. 19 and Oct. 14, 1916 when discharges of 90,000 cfs (or greater) were computed for station at Clifton, Ariz. On Nov. 26, 1905, a peak of 25,000 cfs was measured (by float-area method) at station at Alma (about 12 miles upstream, drainage area, 1,560 sq mi); a similar measurement of 21,000 cfs was made at the Alma station for peak of Dec. 3, 1906.

REMARKS.--Records good except those for November to March, which are fair. Diversions for irrigation of about 2,000 acres above station. Records of chemical analyses, and water temperatures for the water year 1969 are published in Part 2 of this report.

REVISIONS(WATER YEARS).--WSP 1213: 1931, 1934, 1936-37, 1940-42, 1943-44(M), 1945-47. WSP 1283: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	25	35	35	43	37	31	29	20	16	16	47
2	27	25	35	35	42	36	39	29	20	16	23	83
3	28	24	35	35	41	38	50	29	23	19	23	112
4	30	25	35	35	39	38	54	25	26	17	31	40
5	56	25	35	36	38	38	53	39	31	15	34	25
6	40	25	35	36	37	31	54	44	29	15	28	33
7	30	25	35	36	39	34	59	40	28	14	48	23
8	27	25	35	36	38	41	59	37	31	16	31	42
9	26	25	28	35	38	41	56	39	24	20	28	249
10	24	25	22	35	36	40	48	35	21	21	24	85
11	23	25	22	35	35	37	47	34	26	21	19	43
12	21	27	22	36	36	37	47	36	26	18	19	201
13	20	30	25	37	37	37	44	38	27	18	30	169
14	21	40	25	38	38	37	45	37	21	18	34	97
15	19	53	25	40	37	37	44	36	20	18	47	189
16	21	40	25	43	36	36	44	30	21	22	38	106
17	20	37	25	41	35	33	43	34	22	35	41	88
18	20	36	27	39	29	31	41	30	22	33	36	65
19	21	36	25	38	32	29	39	31	19	25	31	51
20	21	35	24	36	29	29	38	25	17	26	26	45
21	22	35	25	35	29	34	33	22	19	33	21	42
22	23	35	24	41	30	39	35	23	18	32	16	34
23	24	35	24	48	37	40	38	23	22	27	19	30
24	22	30	22	44	41	39	37	24	25	58	15	33
25	25	35	25	41	37	36	37	26	24	50	13	29
26	24	36	47	39	37	36	35	23	22	108	9.0	24
27	23	34	84	54	35	27	36	20	20	45	22	20
28	23	36	60	51	35	25	32	17	19	35	20	20
29	24	35	46	49	------	23	32	20	20	23	123	21
30	26	35	36	46	------	22	35	19	20	19	248	18
31	25	------	35	44	------	29	------	18	------	17	93	------
TOTAL	785	954	1,003	1,229	1,016	1,067	1,285	912	683	850	1,206.0	2,064
MEAN	25.3	31.8	32.4	39.6	36.3	34.4	42.8	29.4	22.8	27.4	38.9	68.8
MAX	56	53	84	54	43	41	59	44	31	108	248	249
MIN	19	24	22	35	29	22	31	17	17	14	9.0	18
AC-FT	1,560	1,890	1,990	2,440	2,020	2,120	2,550	1,810	1,350	1,690	2,390	4,090

CAL YR 1968 TOTAL 69,629.3 MEAN 190 MAX 1,460 MIN 8.1 AC-FT 138,100
WTR YR 1969 TOTAL 13,054.0 MEAN 35.8 MAX 249 MIN 9.0 AC-FT 25,890

PEAK DISCHARGE (BASE, 800 CFS).--JULY 26 (2000) 835 CFS (4.04 FT); AUG. 30 (2030) 1,270 CFS (4.96 FT).

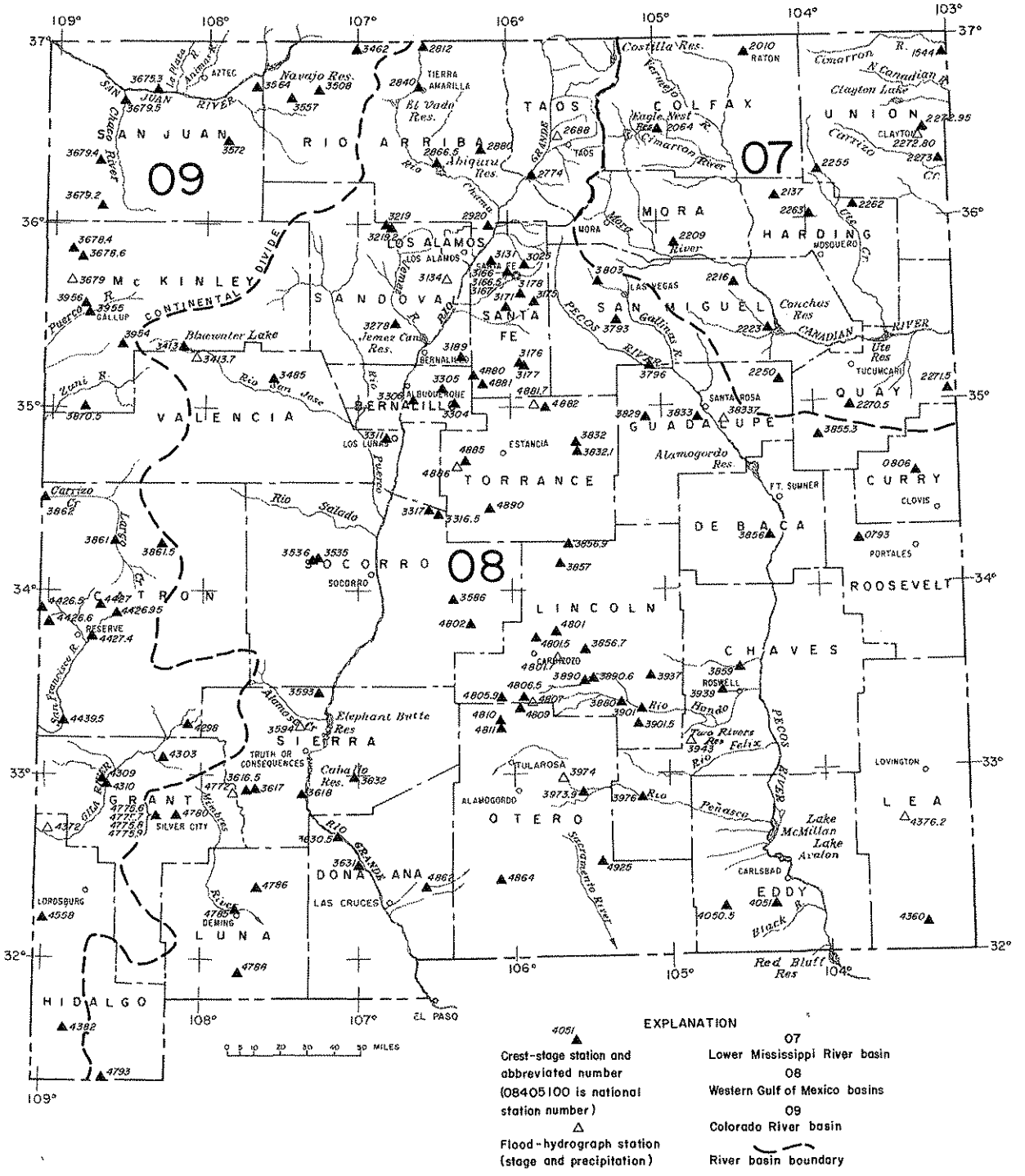


Figure 2.—Map of New Mexico showing location of partial-record stations.

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 low-flow or floodflow analyses, depending on the type of data collected. 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 discharge measurements at low-flow partial-record stations, and the second 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 a third table.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of a stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site.

Discharge measurements made at low-flow partial-record stations during water year 1969

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Rio Grande basin				
08386500	Rio Ruidoso near Ruidoso, N. Mex.	Lat 33°20'11", long 105°43'31", in NW¼SW¼SW¼ sec.19, T.11 S., R.13 E., Lincoln County, at Mescalero Apache Indian Reservation boundary, 3 miles west of Ruidoso.	17.2	1953-69	12-18-68 3-20-69 6-16-69 9-17-69	2.42 7.45 4.95 39.4
08386600	Carrizo Creek at Ruidoso, N. Mex.	Lat 33°19'27", long 105°39'13", in SE¼NW¼SW¼ sec.26, T.11 S., R.13 E., Lincoln County, at mouth at Ruidoso .	24.2	1953-69	12-18-68 3-20-69 6-16-69 9-17-69	2.41 3.35 2.50 5.02

Crest-stage partial-record stations

The following table contains annual maximum discharge for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. An S under the station number indicates that a complete hydrograph of flow events and precipitation data are recorded. 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 water 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 years given in the period of record represent water years for which the annual maximum stage has been determined; for some stations, publication of discharge is delayed pending definition of stage-stage-discharge relationship.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Arkansas River basin					
07154400	Carrizozo Creek near Kenton, Okla.	NE¼ sec.31, T.31 N., R.37 E., Union County, under bridge on New Mexico State Highway 18, 4 miles southwest of Kenton.	111	1953-69	7- 5-69	2.38	520
07201000	Raton Creek at Raton, N. Mex.	Lat 36°54', long 104°26', Colfax County, 60 ft above bridge on State Highway 72 at Raton.	14.4	1953-69	7-17-69	2.88	275
07206400	Clear Creek near Ute Park, N. Mex.	Lat 36°31'35", long 105°10'30", Colfax County, Maxwell Grant, 0.25 mile upstream from mouth, and 4 miles southwest of Ute Park.	7.44	1962-67‡ 1968-69	7-13-69	2.62	151
07213700	Canadian River tributary near Mills, N. Mex.	NE¼ sec.3, T.22 N., R.25 E., Harding County, on downstream end of left bridge abutment on State Highway 39, 6 miles north of Mills.	a4.2	1965-69	6-13-69	1.60	d70
07220900	Dog Creek near Shoemaker, N. Mex.	Lat 35°49'32", long 104°53'28", Mora County, 0.5 mile above Valmora-Shoemaker road, and 1.8 miles northwest of Shoemaker.	b18.4	1954-69	8-13-69	9.56	1,800
07221600	Lagartija Creek tributary near Sanchez, N. Mex.	SW¼SE¼ sec.5, T.16 N., R.24 E., San Miguel County, at bridge on State Highway 65, 0.9 mile northeast of Sanchez.	a1	1961-69	9-18-69	2.63	(+)
07222300	Trementina Creek at Trementina, N. Mex.	NW¼ sec.8, T.14 N., R.24 E., San Miguel County, at bridge on State Highway 65 at Trementina.	a65	1959-69	6-16-69	6.75	2,450
07225000	Pajarito Creek at Newkirk, N. Mex.	SW¼SW¼ sec.24, T.10 N., R.25 E., Guadalupe County, downstream side of bridge on U. S. Highway 66, 1 mile east of Newkirk.	55.0	1954-69	6-17-69	7.87	3,370
07225500	Ute Creek near Gladstone, N. Mex.	On line of secs. 14 and 23, T.24 N., R.28 E., Union County, on bridge on State Highway 58, 3 miles east of Gladstone.	256	1953-69	8-31-69	6.94	10,900
07226200	Bueyeros Creek at Bueyeros, N. Mex.	Lat 35°58'10", long 103°41'05", in E½ sec.7, T.20 N., R.31 E., Harding County, 50 ft above culvert on State Road 102 at Bueyeros.	a34	1957-69	1967 1968 9-21-69	(c) (c) e6.41	(+) (+) (+)
07226300	Carrizo Creek near Roy, N. Mex.	NW¼SE¼ sec.16, T.21 N., R.28 E., Harding County, 800 ft below State Highway 120, and 15 miles northeast of Roy.	a68	1954-69	5- 6-69	5.03	720
07227050	Plaza Larga Creek tributary near Ragland, N. Mex.	NE¼ sec.15, T.7 N., R.30 E., Quay County, at culvert on State Highway 18, 1.2 miles northwest of Ragland.	a.5	1952-69	8-21-69	10.08	680
07227150	Arroyo del Puerto near Endee, N. Mex.	SW¼SW¼ sec.26, T.10 N., R.36 E., Quay County, at bridge on State Highway 93, 5.4 miles south of Endee.	a25	1961-69	9- 1-69	3.42	(+)
07227280 S	Sand Draw tributary near Clayton, N. Mex.	SW¼SW¼ sec.23, T.25 N., R.33 E., Union County, 0.85 mile north of U. S. Highway 56 and 11.5 miles southwest of Clayton.	1.81	1968-69	8-24-69	10.94	13
07227295	Sandy Arroyo tributary near Clayton, N. Mex.	NW¼ sec.21, T.25 N., R.34 E., Union County, above culvert on State Highway 58, 8 miles southwest of Clayton.	1.25	1952-69	8-22-69	.38	21
07227300	Sandy Arroyo near Clayton, N. Mex.	At center of boundary of secs. 2 and 3, T.24 N., R.35 E., Union County, on downstream side of bridge on State Highway 18, 7.5 miles south of Clayton.	a42	1953-69	1969	(c)	<5

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Brazos River basin					
08079300	Blackwater Draw tributary near Floyd, N. Mex.	NW¼SW¼ sec.13, T.1 S., R.30 E., Roosevelt County, 0.5 mile below section road and 10 miles west of Floyd.	a10	1963-69	9- 1-69	f5.96	3,400
08080600	Running Water Draw near Clovis, N. Mex.	In NE¼ sec.31, T.4 N., R.36 E., Curry County, .25 mile upstream from Highway 18 and 8 miles north of Clovis.	109	1953-56 1957-64‡ 1965-69	5- 6-69	7.19	5,300
		Rio Grande basin					
08268800 S	Rio Grande tributary near Arroyo Hondo, N. Mex.	Lat 36°28'29", long 105°43'05", Taos County, upstream from culvert on State Road 111, 0.8 mile east of Rio Grande Gorge Bridge and 4.6 miles southwest of Arroyo Hondo.	1.16	1968-69	1969	(c)	<1
08277400	Rio Grande tributary at Rinconada, N. Mex.	SW¼NW¼ sec.21, T.23 N., R.10 E., Rio Arriba County, at culvert on U. S. Highway 64, 0.6 mile west of Rinconada.	.02	1952-69	1969	(c)	<5
08281200	Wolf Creek near Chama, N. Mex.	Lat 36°57'20", long 106°32'10", Rio Arriba County, at bridge on State Highway 17, and 4.5 miles northeast of Chama.	27.7	1959-69	6- 6-69	2.94	660
08284000	Rito de Tierra Amarilla at Tierra Amarilla, N. Mex.	Lat 36°41'55", long 106°33'25", Rio Arriba County, 400 ft below culvert on U. S. Highway 84, at Tierra Amarilla.	49.7	1957-69	5- 6-69	2.76	196
08286650	Canjilon Creek above Abiquiu Reservoir, N. Mex.	Lat 36°18'55", long 106°29'05", Rio Arriba County, in Piedra Lumbre Grant, 300 ft upstream from bridge on U. S. Highway 84, 0.2 mile northwest of entrance to Ghost Ranch and about 12 miles northwest of Abiquiu.	144	1965-69	7-31-65 7-23-69	f6.0 5.31	1,150 745
08288000	El Rito near El Rito, N. Mex.	Sec.19, T.25 N., R.7 E., Rio Arriba County, 3 miles northwest of El Rito.	50.5	1932-51‡ 1952-69	1969	(c)	<50
08292000	Santa Clara Creek near Espanola, N. Mex.	SW¼SW¼ sec.11, T.20 N., R.7 E., Rio Arriba County, 5.5 miles southwest of Espanola.	34.5	1936-41‡ 1949-50‡ 1952-69	1969	(c)	<40
08302500	Tesuque Creek above diversions, near Santa Fe, N. Mex.	NW¼ sec.5, T.17 N., R.10 E., 500 ft above point of diversion of Cajon Grande ditch, 1 mile above Little Tesuque Creek, and 4 miles northeast of Santa Fe.	11.7	1936-51‡ 1953-69	1969	(c)	<50
08313100	Canada Ancha tributary near Santa Fe, N. Mex.	Lat 35°44'05", long 106°07'00", Santa Fe County, in Caja del Rio Grant, 9 miles northwest of Santa Fe.	1.23	1940-48g 1952-69	1969	2.88	1
08313400 S	Bland Canyon near Cochiti, N. Mex.	Lat 35°42'11", long 106°24'56", Sandoval County, 200 ft south of Forest Service Road, 0.3 mile inside Santa Fe National Forest, 7.5 miles north of Cochiti.	7.57	1962-69	9- 8-69	2.31	49
08316600	North Frijoles Arroyo near Santa Fe, N. Mex.	Lat 35°43'10", long 105°57'30", Santa Fe County, within city limits of Santa Fe and 2.6 miles northwest of State Capitol in Santa Fe.	.33	1958-69	8-23-69	4.93	d60
08316650	Arroyo de los Frijoles, Locust Tree Reach, near Santa Fe, N. Mex.	Lat 35°42'13", long 105°58'19", Santa Fe County, city limits of Santa Fe and 2.2 miles northwest of State Capitol in Santa Fe.	1.30	1957-69	8-23-69	5.25	d240
08316700	Arroyo de los Frijoles near Santa Fe, N. Mex.	Lat 35°42'05", long 106°00'30", in SE¼ sec.17, T.17 N., R.9 E., Santa Fe County, 4 miles west of State Capitol in Santa Fe.	2.92	1957-69	8-23-69	10.96	d160
08317100	Arroyo Yupa tributary near Cerrillos, N. Mex.	SE¼NE¼ sec.13, T.15 N., R.7 E., Santa Fe County, 300 ft above culvert on U. S. Highway 85, 1.4 miles southwest of Turquoise Trading Post, and 6.5 miles north of Cerrillos.	0.47	1957-69	8-23-69	(c)	d <5

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Rio Grande basin--Continued					
08317500	Galisteo Creek at Canoncito, N. Mex.	NW¼NW¼ sec.7, T.15 N., R.11 E., Santa Fe County, above railroad bridge, 0.2 mile above Apache Canyon at Canoncito.	11.3	1955-56 1959-69	4-11-69	2.93	740
08317600	San Cristobal Arroyo near Galisteo, N. Mex.	Lat 35°22'55", long 105°51'05", Santa Fe County, at bridge on U. S. Highway 285, 5.5 miles east of Galisteo.	116	1955-69	6-16-69	7.99	2,920
08317700	Tarhole Canyon (formerly Jaspe Arroyo tributary) near Galisteo, N. Mex.	Lat 35°21'55", long 105°50'40", Santa Fe County, at culvert on U. S. Highway 285, 6 miles southeast of Galisteo.	2.15	1952-69	9-12-69	19.31	1,080
08317800	Canada de las Minas tributary near Santa Fe, N. Mex.	Lat 35°36'27", long 105°54'42", Santa Fe County, at culvert on U. S. Highway 84, 85, and 285, 1.3 miles northeast of Seton Village, and 5.7 miles south of Santa Fe.	.56	1952-69	1969	.97	<10
08318900	San Pedro Creek near Golden, N. Mex.	Lat 36°13'45", long 106°18'00", Sandoval County, 1 mile below bridge on State Highway 10 and 5.5 miles southwest of Golden.	45.2	1953-69	1969	(h)	
08321900	Rio de las Vacas near Senorita, N. Mex.	Lat 35°59'35", long 106°47'45", Sandoval County, at bridge on side road, 0.1 mile south of State Highway 126 and 6.5 miles east of Senorita.	26.8	1957-69	7-19-69	3.54	195
08321920	Rock Creek near Senorita (Cuba) N. Mex.	NW¼SW¼ sec.6, T.20 N., R.2 E., Sandoval County, 1 mile east of State Highway 126, 8 miles east of village of Senorita, and 11 miles east of Cuba.	3.7	1960-69	7-19-69	2.58	(+)
08327800	Arroyo Ojito at Zia Pueblo, N. Mex.	SE¼SE¼ sec.21, T.15 N., R.2 E., Sandoval County, 100 ft upstream from culvert on State Highway 44, in Zia Pueblo Grant, 0.7 mile south of Zia Pueblo.	17.7	1961-69	1969	(h)	(+)
08330400	Juan Toro Canyon near Miera, N. Mex.	NW¼SE¼ sec.7, T.9 N., R.6 E., Bernalillo County, 150 ft east of State Highway 10, 1 mile southeast of Cedro, and 4.5 miles northwest of Miera.	1.57	1959-69	8-23-69	.98	(+)
08330500	Tijeras Arroyo at Albuquerque, N. Mex.	Lat 35°03'40", long 106°28'40" Bernalillo County, 300 ft south of U. S. Highway 66 and 0.4 mile southeast of city limits of Albuquerque.	75.3	1943-48, 1958-69	8-28-69	2.32	620
08330600	Tijeras Arroyo near Albuquerque, N. Mex.	SE¼SW¼ sec.17, T.9 N., R.3 E., Bernalillo County, at culvert on State Highway 47, 5.7 miles south of Central Avenue in Albuquerque.	133	1952-68			
08331100	Belen Highline Canal tributary near Los Lunas, N. Mex.	Lat 34°49'20", long 106°49'10", Valencia County, above culvert on State Highway 6, 5.0 miles west of Los Lunas.	.16	1952-53 1955-69	7-17-69	6.09	(+)
08331650	Canada Montoso near Scholle, N. Mex.	SW¼SW¼ sec.12, T.2 N., R.4 E., Socorro County, 130 ft upstream from dip on abandoned highway, 500 ft upstream from bridge on U. S. Highway 60, 3.6 miles southwest of Scholle.	a35	1961-69	8-31-69	3.43	1,030
08331700	Abo Arroyo tributary near Scholle, N. Mex.	Lat 34°24'10", long 106°30'35", Socorro County, at culvert on U. S. Highway 60, 2.5 miles southeast of junction of U. S. Highway 60 and State Highway 6, and 5.5 miles southwest of Scholle.	a.2	1954-69	8-24-69	14.29	68
08341300	Bluewater Creek above Bluewater Dam, near Bluewater, N. Mex.	NE¼ sec.20, T.12 N., R.12 W., Valencia County, 2.3 miles south of Bluewater Dam, and 8 miles west of Bluewater.	a75	1953-69	9- 4-69	3.36	245

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Rio Grande basin--Continued					
08341370 S	Pine Canyon near Thoreau, N. Mex.	SE¼SW¼ sec.36, T.13 N., R.13 W., McKinley County, about 1 mile southwest of the north end of Bluewater Lake and about 7 miles southeast of Thoreau.	6.09	1969	3-28-69	(h)	<10
08348500	Encinal Creek near Casa Blanca, N. Mex.	NW¼NW¼ sec.34, T.11 N., R.6 W., Valencia County, 1.8 miles north of village of Encinal and 6.8 miles north of Casa Blanca.	6.19	1937-39, 1959-69	1969	(c)	<90
08353500	La Jencia Creek near Magdalena, N. Mex.	NE¼SW¼ sec.1, T.2 S., R.4 W., Socorro County, 3.5 miles northwest of Magdalena.	195	1957-69	9-13-69	3.04	1,450
08353600	La Jencia Creek tributary near Magdalena, N. Mex.	NE¼SE¼ sec.13, T.2 S., R.4 W., Socorro County, at Santa Fe Railroad bridge, 2.7 miles northeast of Magdalena.	5.67	1957-69	7-12-69	.10	(+)
08358600	Chupadera Wash tributary at Bingham, N. Mex.	NE¼SW¼ sec.12, T.5 S., R.5 E., Socorro County, 75 ft upstream from culvert on U. S. Highway 380, 0.1 mile west of Bingham.	1.29	1961-69	1969	-	0
08359300	San Jose Arroyo near Monticello, N. Mex.	NW¼SW¼ sec.3, T.10 S., R.4 W., Sierra County, at head of box canyon just below major tributary, 800 ft below culvert on U. S. Highway 85, 13 miles northeast of Monticello.	26.9	1959-69	1969	(c)	(+)
08359400 S	Lumber Canyon tributary near Monticello, N. Mex.	NE¼NE¼ sec.5, T.11 S., R.4 W., Sierra County, at culvert on U. S. Highway 85, 0.2 mile north of road to Red Rock Ranger station, and 10.5 miles east of Monticello.	.90	1952-69	8-27-68 9-12-69	.24 2.07	<8 261
08361650	Percha Creek near Kingston, N. Mex.	NE¼NE¼ sec.15, T.16 S., R.8 W., Sierra County, at bridge on State Highway 180, 3.3 miles east of Kingston.	21.5	1953-69	8-29-69	4.11	600
08361700	Percha Creek near Hillsboro, N. Mex	SE¼NW¼ sec.18, T.16 S., R.7 W., Sierra County, 150 ft south of State Highway 180, and 2 miles west of Hillsboro.	35.4	1957-69	8-29-69	3.34	580
08361800	Percha Creek at Caballo Dam near Arrey, N. Mex.	SW¼ sec.24, T.16 S., R.5 W., Sierra County, at bridge on U. S. Highway 85, 0.5 mile above mouth and Caballo Reservoir, and 3.5 miles north of Arrey.	119	1953-69	7-10-69	1.32	455
08363050	Arroyo Angostura near Rincon, N. Mex.	SE¼ sec.13, T.19 S., R.3 W., Dona Ana County, 140 ft below dip on U. S. Highway 85, and 2.2 miles southwest of Rincon.	a8.5	1959-69	1969	(c)	(+)
08363100	Rio Grande tributary near Radium Springs, N. Mex.	NW¼NW¼ sec.9, T.21 S., R.1 W., Dona Ana County, above culvert on U. S. Highway 85, 120 ft above mouth, and 1.4 miles west of Radium Springs.	.40	1955-69	7-10-69	5.21	125
08363200	Aleman Draw at Aleman, N. Mex.	SW¼ sec.13, T.15 S., R.2 W., Sierra County, on Santa Fe Railroad bridge, 140 ft above dip on Engle-Rincon road, and 0.25 mile west of Aleman.	b25.4	1959-69	9-20-69	3.55	360
08379300	Tecolote Creek at Tecolote, N. Mex.	Lat 35°27'20", long 105°16'55", San Miguel County, on bridge on U. S. Highway 85 at Tecolote.	122	1954-69	8-14-69	9.21	3,750
08379600	Pecos River tributary near Dilia, N. Mex.	Lat 35°12'50", long 105°04'50", Guadalupe County, above culvert on U. S. Highway 84, and 1.7 miles northwest of Dilia.	.16	1952-69	9-20-69	.62	7
08380300	Sandoval Canyon at Gallinas, N. Mex.	Lat 35°41'19", long 105°21'17", San Miguel County, about 500 ft upstream from culvert on State Highway 65, at north edge of Gallinas.	7.6	1957, 1961-69	9-21-69	1.69	106

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Rio Grande basin--Continued					
08382900	Pecos River tributary near Pintada, N. Mex.	Lat 34°58'06", long 105°05'38", Guadalupe County, in Anton Chico Grant, 1,500 ft south of U. S. Highway 66, 6.8 miles north of Pintada.	a16	1961-69	6- 9-69	2.65	1,770
08383200	Pintada Arroyo tributary near Clines Corners, N. Mex.	Lat 34°50'40", long 105°35'05", Torrance County, above culvert on U. S. Highway 285, 12.2 miles south of Clines Corners.	29.2	1952-69	6- 9-69	1.70	59
08383210	Pintada Arroyo tributary near Encino, N. Mex.	Lat 34°48'40", long 105°34'00", Torrance County, above culvert on U. S. Highway 285, 0.1 mile south of ranch road, and 12.5 miles northwest of Encino.	a1	1959-69	1969	-	0
08383300	Pintada Arroyo near Santa Rosa, N. Mex.	NE¼ sec.29, T.8 N., R.21 E., Guadalupe County, 300 ft above bridge on U. S. Highway 54, and 4.5 miles southwest of Santa Rosa.	896	1959-69	6- 9-69	f5.51	3,640
08383370 S	Pecos River tributary near Puerto de Luna, N. Mex.	SW¼NW¼ sec.32, T.8 N., R.22 E., Guadalupe County, 25 ft upstream from culvert on State Highway 91, 3.1 miles north of Puerto de Luna.	.37	1961-69	9-12-61 7-25-62 8-25-63 6- 3-64 8- 4-65 8-22-66 7-12-67 8-10-68 5-29-69	f8.0 6.39 5.23 5.87 6.73 f13.93 5.96 9.79 8.30	b148 bd62 <10 bd37 b80 b547 b41 b287 183
08385530	Alamosa Creek tributary near Jordan, N. Mex.	SW¼SW¼ sec.27, T.7 N., R.28 E., Quay County, 500 ft upstream from dip on State Highway 156, 6.9 miles west of Jordan.	a10	1962-69	8-31-69	3.67	222
08385600	Yeso Creek (formerly Arroyo) near Fort Sumner, N. Mex.	SE¼ sec.35, T.1 N., R.25 E., De Baca County, at abandoned bridge 1 mile below State Highway 20, and 14.5 miles south of Fort Sumner.	242	1937 1952-69	9- 8-69	6.18	(+)
08385670	Aragon Creek tributary near Encinoso, N. Mex.	NE¼NE¼ sec.22, T.7 S., R.14 E., Lincoln County, 0.3 mile upstream from wooden bridge on dirt road, 1.2 miles north of State Highway 48, 4.3 miles west of Encinoso.	6.07	1961-69	2-13-69	1.96	d <10
08385690	Bonita Canyon tributary near Corona, N. Mex.	SE¼SW¼ sec.7, T.1 S., R.13 E., Lincoln County, above culvert on U. S. Highway 54, and 1.8 miles southwest of Corona.	a.6	1959-69	1969	-	0
08385700	Cloud Canyon near Gallinas, N. Mex.	SW¼ sec.15, T.2 S., R.12 E., Lincoln County, above culvert on U. S. Highway 54, and 2.0 miles southwest of Gallinas.	a10	1957-69	1969	-	0
08385900	Salt Creek tributary near Roswell, N. Mex.	NE¼NE¼ sec.17, T.9 S., R.24 E., Chavez County, at culvert on U. S. Highway 285, 4.7 miles north of junction of U. S. Highway 70 and 285, and 10 miles north of Roswell.	.04	1952-69	9- 8-69	1.58	(+)
08388000	Rio Ruidodo at Hondo, N. Mex.	NE¼SW¼ sec.4, T.11 S., R.17 E., Lincoln County, 0.25 mile above confluence with Rio Bonito, and 0.5 mile southwest of Hondo.	290	1931-55‡ 1956-69	8- 1-69	7.19	1,630
08389000	Rio Bonito near Fort Stanton, N. Mex.	SW¼ sec.16, T.9 S., R.15 E., Lincoln County, at bridge on U. S. Highway 380, 2.5 miles northeast of Fort Stanton.	a85	1955-69	1969	(c)	<600
08389060	Rio Bontio tributary near Fort Stanton, N. Mex.	SW¼SW¼ sec.15, T.9 S., R.15 E., Lincoln County, at culvert on U. S. Highway 380, 150 ft above mouth, and 3.5 miles northeast of Fort Stanton.	.72	1955-69	1969	(c)	d <10

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Rio Grande basin--Continued					
08390100	Rio Hondo at Picacho, N. Mex.	NW¼NW¼ sec.15, T.11 S., R.18 E., Lincoln County, at bridge just off U. S. Highway 70, 1.3 miles northwest of Picacho.	715	1956-62# 1963-69	8-31-69	12.71	2,800
08390150	Gallo Canyon near Picacho, N. Mex.	NE¼NE¼ sec.8, T.12 S., R.18 E., Lincoln County, 500 ft east of road, 5 miles south of Picacho.	1.32	1962-69	8-31-69	4.45	(+)
08393700	Pancho Canyon near Arabela, N. Mex.	SE¼SE¼ sec.19, T.9 S., R.18 E., Lincoln County, 200 ft downstream from dip on State Highway 368, 5.6 miles south of Arabela.	a16	1962-69	8-31-69	3.55	(+)
08393900	Eight Mile Draw near Roswell, N. Mex.	SE¼NE¼ sec.32, T.10 S., R.23 E., Chavez County, 6.5 miles west of Roswell.	397	1941 1952-69	9- 8-69	12.85	<10
08394300 S	Twin Butte Canyon tributary near Roswell, N. Mex.	Lat 33°10'34", long 104°51'30", Chavez County, about 0.1 mile upstream from mouth and about 22 miles southwest of Roswell.	5.01	1968-69	7- 6-68 7-10-68	f8.8 1.56	3,630 (+)
08397390	Curtis Canyon near Mayhill, N. Mex.	SE¼NE¼ sec.4, T.17 S., R.14 E., Otero County, 0.25 mile above SCS dam, 0.4 mile west of State Highway 130, and 2.5 miles southwest of Mayhill.	10.3	1959-69	8-31-69	2.18	(+)
08397400 S	Hyatt Canyon near Cloudcroft, N. Mex.	NW¼NW¼ sec.9, T.16 S., R.13 E., Otero County, 0.5 mile south of State Highway 83, and 7 miles east of Cloudcroft.	3.08	1953-69	8-19-69	1.48	(+)
08397600	Rio Penasco near Dunken, N. Mex.	NW¼NE¼ sec.35, T.16 S., R.17 E., Chavez County, on bridge on State Highway 24, 5 miles north of Dunken.	583	1952-56 1956-62# 1963-69	1969	(h)	-
08405050	Last Chance Canyon tributary near Carlsbad Caverns, N. Mex.	SE¼NW¼ sec.21, T.23 S., R.23 E., Eddy County, above culvert on State Highway 137, 0.1 mile north of road to Sitting Bull Falls, and 12.5 miles northwest of Carlsbad Caverns.	.2	1959-69	9- 8-69	1.84	44
08405100	Mosley Canyon near White City, N. Mex.	SE¼ sec.34, T.23 S., R.25 E., Eddy County, 600 ft below dip on Dark Canyon road, and 5.5 miles north of White City.	14.6	1959-69	9- 8-69	6.46	2,980
08436000	San Simon Swale tributary near Jal, N. Mex.	NE¼NE¼ sec.4, T.25 S., R.35 E., Lea County, 0.4 mile south of State Highway 128, and 10.7 miles west of Jal.	a20	1963-69	1969	(c)	(+)
08437620 S	Monument Draw tributary near Monument, N. Mex.	SE¼NE¼ sec.16, T.19 S., R.35 E., Lea County, upstream from culvert on U. S. Highway 62-180, about 12 miles northwest of Monument and 19.5 miles west of Hobbs.	6.23	1968-69	6- 3-69	5.05	(+)
		Mimbres River basin					
08477200 S	Iron Creek near Kingston, N. Mex.	Lat 32°54'50", long 107°46'35", Grant County, 50 ft east of State Highway 180, 1.6 road miles west of Emory Pass, and 4.5 miles west of Kingston.	.74	1955-69	9- 8-69	4.02	(+)
08477560	Little Walnut Creek near Silver City, N. Mex.	NW¼NE¼ sec.28, T.17 S., R.14 W., Grant County, 85 ft above dip on Bear Mountain Road, and 2 miles north of Silver City.	5.10	1959-69	8-31-69	2.10	538
08477570	Silva Creek tributary at Silver City, N. Mex.	SE¼SW¼ sec.27, T.17 S., R.14 W., Grant County, 350 ft above dip on Little Walnut Road, and 0.7 mile north of boundary of Silver City.	2.12	1958-69	7- 9-69	1.43	60
08477580	Silva Creek at Silver City, N. Mex.	Lat 32°46'41", long 108°16'41", Grant County, 190 ft above Twelfth Street bridge at Silver City.	10.0	1958-69	7- 9-69	1.94	d <200

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Mimbres River basin--Continued					
08477590	Pinos Altos Creek at Silver City, N. Mex.	Lat 32°46'52", long 108°16'04", Grant County, 2 blocks below U. S. Highway 260 at Silver City.	4.63	1958-69	1969	(c)	(+)
08478000	Cameron Creek at Central, N. Mex.	SW¼NE¼ sec.36, T.17 S., R.13 W., Grant County, 0.5 mile above culvert on U. S. Highway 260, at north edge of Central.	18.8	1954-69	8-31-69	f5.37	1,520
08478500	Mimbres River at Deming, N. Mex.	On section line 22 and 27, T.23 S., R.9 W., Luna County, at bridge on U. S. Highway 260, at north end of Deming.	1,370	1954-69	1969	-	0
08478600	Mimbres basin tributary near Florida, N. Mex.	Near boundary of sec.25 and 36, T.22 S., R.8 W., Luna County, above culvert on State Highway 26, and 5 miles southwest of Florida.	.55	1959-69	1969	-	0
08478800	Seventysix Draw tributary near Waterloo, N. Mex.	Lat 31°56'34", long 107°44'38", Luna County, upstream from culvert on State Road 11, 3.9 miles southeast of Waterloo, and 7.9 miles north of Columbus.	.2	1967-69	1969	-	0
08479300	Deer Creek tributary near Antelope Wells, N. Mex.	Sec.6, T.34 S., R.18 W., Hidalgo County, 0.1 mile below dip on State Highway 79, 2.5 miles east of San Luis Pass, and 12 miles west of Antelope Wells.	4.3	1959-69	7-19-69	4.56	1,660
		Tularosa Valley					
08480100	White Oaks Canyon at White Oaks, N. Mex.	NW¼SW¼ sec.20, T.6 S., R.13 E., Lincoln County, 40 ft upstream on State Highway 349, 1 mile northeast of White Oaks.	1.14	1961-69	1969	-	0
08480150	White Oaks Canyon near Carrizozo, N. Mex.	NW¼SE¼ sec.6, T.7 S., R.11 E., Lincoln County, 100 ft upstream from culvert on U. S. Highway 54, 6 miles north of Carrizozo.	31	1959 1961-69	10- 5-68	2.32	d880
08480170 S	Nogal Creek tributary near Nogal, N. Mex.	NE¼SW¼ sec.28, T.8 S., R.13 E., Lincoln County, upstream from culvert on U. S. Highway 380, about 2.0 road miles west of Indian Divide, 7 miles northwest of Capitan and 2 miles north of Nogal.	1.94	1968-69	8-29-69	1.81	(+)
08480200	Taylor Canyon tributary near Bingham, N. Mex.	SE¼NE¼ sec.15, T.6 S., R.7 E., Socorro County, 200 ft north of U. S. Highway 380, 12 miles southeast of Bingham.	2.66	1961-69	9-21-69	j1.20	(+)
08480590	Tularosa Valley tributary near Oscura, N. Mex.	SW¼NW¼ sec.25, T.10 S., R.8 E., Lincoln County, 50 ft below culvert on U. S. Highway 54, and 5.2 miles south of Oscura.	3.22	1958-69	7-22-69	1.70	(+)
08480650	Minnie Hall Draw near Three Rivers, N. Mex.	NE¼SE¼ sec.35, T.10 S., R.9 E., Lincoln County, 8 miles northeast of Three Rivers.	9.70	1956-69	9- 8-69	11.72	(+)
08480700 S	Indian Creek near Three Rivers, N. Mex.	SW¼NE¼ sec.10, T.11 S., R.10 E., Otero County, 150 ft above diversion dam, and 12 miles east of Three Rivers.	6.8	1956-58‡ 1959-69	9- 8-69	5.70	634
08480900	Indian Creek at mouth near Three Rivers, N. Mex.	Lat 33°22'45", long 105°57'25", Otero County, 75 ft above diversion dam, 0.35 mile above mouth, and 5.5 miles east of Three Rivers.	10.9	1956-58‡ 1959-69	1969	(c)	(+)
08481000	Three Rivers at Three Rivers, N. Mex.	NE¼SW¼ sec.3, T.12 S., R.9 E., Otero County, 150 ft below Southern Pacific Railroad bridge, 400 ft above bridge on U. S. Highway 54, and 1.3 miles south of Three Rivers.	96.0	1956-69	8-30-69	1.71	460

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Tularosa Valley--Continued					
08481100	Tularosa Valley tributary near Three Rivers, N. Mex.	SW¼SE¼ sec.3, T.12 S., R.9 E., Otero County, at culvert on U. S. Highway 54, 1.6 miles south of Three Rivers.	13.8	1952-69	8-30-69	0.32	280
08486200	Black Prince Canyon tributary near Organ, N. Mex.	NE¼SE¼ sec.33, T.21 S., R.4 E., Dona Ana County, above culvert on U. S. Highway 70, 2.3 miles east of San Augustin Pass, and 4.0 miles east of Organ.	.73	1959-69	8-31-69	1.04	(+)
08486400	Tularosa Valley tributary near Orogrande, N. Mex.	SE¼SE¼ sec.1, T.22 S., R.8 E., Otero County, at bridge on U. S. Highway 54, and 2.7 miles northeast of Orogrande.	2.53	1959-69	7- 9-69	1.74	(+)
		Estancia Valley					
08488000	Estancia Valley tributary at Cedar Grove, N. Mex.	NE¼NE¼ sec.21, T.11 N., R.7 E., Santa Fe County, 50 ft upstream from culvert on State Highway 344, 0.1 mile south of Cedar Grove.	1.21	1955 1961-69	1969	(c)	(+)
08488100	Juan Tomas Canyon near Edgewood, N. Mex.	SE¼NE¼ sec.19, T.10 N., R.7 E., Santa Fe County, 140 ft upstream from culvert on U. S. Highway 66, 2.5 miles northwest of Edgewood.	a20	1962-69	1969	(c)	(+)
08488170 S	Chavez Draw tributary near Clines Corners, N. Mex.	NW¼SW¼ sec.7, T.9 N., R.11 E., Torrance County, one mile north of Interstate 40, 13 miles east of Moriarty and 9 miles west of Clines Corners.	2.73	1968-69	8-31-69	7.29	255
08488200	Osita Draw near Clines Corners, N. Mex.	SW¼NW¼ sec.17, T.9 N., R.11 E., Torrance County, 100 ft upstream from culvert on U. S. Highway 66, 7.5 miles west of Clines Corners.	a10	1961-69	6- 9-69	jf7.41	1,840
08488500	Canon de Torreon at Torreon, N. Mex.	Lat 34°43'20", long 106°17'50", Torrance County, at culvert on State Highway 10, in Torreon.	18.2	1954-69	1969	(c)	<25
08488600 S	Arroyo del Cuervo near Torreon, N. Mex.	Lat 34°41'35", long 106°18'27", Torrance County, in Town of Torreon Grant, about 0.3 mile above culvert on State Road 10 and 2 miles south of Torreon.	11.8	1969	8-31-69	2.46	158
08489000	Canada del Leon near Mountainair, N. Mex.	SE¼ sec.10, T.2 N., R.7 E., 0.25 mile above culvert on State Highway 10, and 8.4 miles southeast of Mountainair.	3.9	1953-69	7-27-69	4.50	135
		Salt basin					
08492500	Fleming Draw (formerly Cornucopia Canyon) near Pinon, N. N. Mex.	NE¼ sec.6, T.21 S., R.16 E., Otero County, 0.2 mile above dip in ranch road, and 7.5 miles south of Pinon.	b16.6	1959-69	1969	8.75	(+)
		San Juan River basin					
09346200	Rio Amargo at Dulce, N. Mex.	NW¼ sec.1, T.31 N., R.2 W., Rio Arriba County, under bridge on State Highway 17, at Dulce.	168	1956-69	8-28-69	8.01	1,700
09350800	Vaqueros Canyon near Gobernador, N. Mex.	SW¼ sec.17, T.29 N., R.4 W., Rio Arriba County, 100 ft east of State Highway 17 and 4.2 miles east of Gobernador.	60.5	1956-69	9-20-69	5.39	555

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		San Juan River basin--Continued					
09355700	Gobernador Canyon near Gobernador, N. Mex.	NE¼ sec.36, T.29 N., R.6 W., San Juan County, 0.2 mile south of State Highway 17, and 4 miles southwest of Gobernador.	19.8	1956-69	9-20-69	7.08	990
09356400	Manzanares Canyon near Turley, N. Mex.	NW¼SW¼ sec.8, T.29 N., R.8 W., San Juan County, 600 ft above culvert on State Highway 17, and 4.2 miles east of Turley.	a3.1	1956-69	8- 3-69	f6.75	2,210
09357200	Gallegos Canyon tributary near Nageezi, N. Mex.	SW¼NE¼ sec.11, T.25 N., R.10 W., San Juan County, at culvert on State Highway 44, 1.1 miles northwest of Huerfano Trading Post, and 12.5 miles northwest of Nageezi.	.20	1952-69	6-25-69	3.23	206
09367530	Locke Arroyo near Kirtland, N. Mex.	NW¼NE¼ sec.15, T.29 N., R.14 W., San Juan County, on upstream side of abandoned culvert, 200 ft above U. S. Highway 550, 0.4 mile above mouth, and 3.3 miles east of Kirtland.	2.96	1951-69	9-20-69	3.66	238
09367840	Yazzie Wash near Mexican Springs, N. Mex.	Lat 35°50'40", long 108°53'00", McKinley County, 5.0 miles northwest of Mexican Springs, and 23 miles north of Gallup.	a2.1	1953-54 1956-69	9- 4-69	5.48	890
09367860	Chusca Wash near Mexican Springs, N. Mex.	Lat 35°48'40", long 108°50'50", McKinley County, 1.8 miles northwest of Mexican Springs, and 20 miles north of Gallup.	a8.7	1953-69	9- 4-69	2.36	530
09367900 S	Black Springs Wash near Mexican Springs, N. Mex.	Lat 35°45'40", long 108°49'00", McKinley County, 2.5 miles south of Mexican Springs and 17 miles north of Gallup.	7.05	1954-69	1969	(c)	<100
09367920	Chaco River tributary near Naschitti, N. Mex.	Lat 36°05'55", long 108°41'48", San Juan County, on bridge on U. S. Highway 666, 2.4 miles north of Naschitti, and 39 miles north of Gallup.	12.0	1967-69	9-20-69	7.81	(+)
09367940	Theodore Wash near Newcomb, N. Mex.	Lat 36°21'39", long 108°43'09", San Juan County, on bridge on U. S. Highway 666, 5.2 miles north of Newcomb.	37.4	1967-69	9-20-69	2.00	(+)
09367950	Chaco River near Waterflow, N. Mex.	NE¼ sec.19, T.29 N., R.16 W., San Juan County, 7 miles southwest of Waterflow, and 8 miles southeast of Shiprock.	4,350	1959-69	9-20-69	7.88	7,300
		Little Colorado River basin					
09386100	Largo Creek near Quemado, N. Mex.	NE¼SE¼ sec.8, T.1 N., R.16 W., Catron County, on downstream side of bridge on ranch road 2.5 miles southwest of Quemado.	151	1954-69	7-24-69	4.10	1,050
09386150	Mangas Creek tributary near Pietown, N. Mex.	About at corner common secs. 13, 14, 23 and 24, T.1 N., R.13 W., Catron County, above culvert on U. S. Highway 60, 1.3 miles west of Pietown Post Office.	a.08	1952-69	1969	-	0
09386200	Carrizo Creek near Salt Lake, N. Mex.	SE¼ sec.3, T.3 N., R.21 W., Catron County, on left downstream wingwall of bridge, 1.3 miles east of New Mexico-Arizona State line and 15 miles west of Salt Lake.	k560	1957-69	7-24-69	1.25	(+)
09387050	Galestena Canyon tributary near Black Rock, N. Mex.	SE¼ sec.30, T.9 N., R.17 W., McKinley County, 100 ft below bridge on State Highway 32 and 10.5 miles southeast of Black Rock.	a19	1957-69	9- 7-69	2.9	147

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Little Colorado River basin--Continued					
09395400	Milk Ranch Canyon near Fort Wingate, N. Mex.	Lat 35°25'55", long 108°33'30", McKinley County, 0.5 mile below culvert on secondary road between Fort Wingate and McGaffey and 3 miles south of Fort Wingate.	14.0	1949 1953-69	1-26-69	0.33	(+)
09395500	Puerco River at Gallup, N. Mex.	SW¼NW¼ sec.15, T.15 N., R.18 W., McKinley County, on right bank north of the Santa Fe RR freight depot, 1,500 ft above Second Street Bridge at Gallup.	558	1940-46# 1956-69	3-14-69	7.01	3,800
09395600	Wagon Trail Wash near Gamerco, N. Mex.	SE¼NE¼ sec.7, T.16 N., R.18 W., McKinley County, above abandoned culvert on former U. S. Highway 666, 0.5 mile north of junction of U. S. Highway 666 and State Highway 68, 4.5 miles north of Gamerco.	.38	1951-69	9- 4-69	1.01	67
		Gila River basin					
09429800	Diamond Creek near Beaverhead, N. Mex.	NE¼NW¼ sec.7, T.12 S., R.12 W., Catron County, 3.5 miles west of State Highway 61, 4 miles above Gila River and 13 miles south of Beaverhead.	106	1957-69	1969	(c)	(+)
09430300	Copperas Canyon near Pinos Altos, N. Mex.	NE¼SW¼ sec.17, T.14 S., R.13 W., Grant County, on east side of Copperas Canyon road and 15 miles north of Pinos Altos.	a4	1963-69	6- 3-69	1.32	(+)
09430900	Duck Creek at Cliff, N. Mex.	SW¼SW¼ sec.28, T.15 S., R.17 W., Grant County, at Cliff below bridge on State Highway 211, and 0.6 mile above mouth.	228	1957-69	9- 2-69	3.75	1,600
09431000	Gila River near Cliff, N. Mex.	SE¼SW¼ sec.4, T.16 S., R.17 W., Grant County, on downstream end of pier of bridge on U. S. Highway 260, 1.5 miles downstream from Bear Creek, 1.5 miles south of Cliff, and 2.5 miles southwest of Gila.	2,438	1942-51# 1952-69	9- 2-69	8.62	5,370
09437200 S	Mexican Canyon at Virden, N. Mex.	SE¼NW¼ sec.2, T.19 S., R.21 W., Hidalgo County, upstream from dip in State Road 82, and about 0.8 mile east of Virden.	3.40	1968-69	7-17-69	11.12	(+)
09438200	Animas Creek near Cloverdale, N. Mex.	NE¼ sec.33, T.31 S., R.20 W., Hidalgo County, near head of small box canyon, 0.1 mile west of State Highway 338, and 11 miles north of Cloverdale.	157	1959-69	7-17-69	5.09	840
09442650	Romero Creek near New Mexico-Arizona State line near Luna, N. Mex.	NE¼SW¼ sec.34, T.4 S., R.21 W., Catron County, at culvert on Luna-Underwood Lake road, about 1 mile east of New Mexico-Arizona State line, and 8 miles northwest of Luna.	10.9	1958-69	8-13-69	8.90	113
09442660	Trout Creek at Luna, N. Mex.	NW¼ sec.29, T.5 S., R.20 W., Catron County, 500 ft downstream from bridge on Luna-Red Hill road and 2.6 miles north of Luna.	31.9	1954-69	8-13-69	2.61	430
09442695	Negro Canyon (formerly Rito Negrito) at Aragon, N. Mex.	NW¼NW¼ sec.18, T.5 S., R.16 W., Catron County, above culvert on State Highway 12, at west edge of Aragon.	b9.62	1958-69	1969	-	0
09442700	Apache Creek near Apache Creek, N. Mex.	NE¼SE¼ sec.25, T.4 S., R.18 W., Catron County, 7 miles north of Apache Creek.	94.6	1957-69	1969	(c)	<100

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Gila River basin--Continued					
09442740	Tularosa River near Reserve, N. Mex.	SE¼ sec.33, T.6 S., R.18 W., Catron County, 150 ft west of Eagle Peak Lookout road and 3.3 miles northeast of Reserve.	426	1956-69	8-31-69	2.93	217
09443950	Colt Canyon at Pleasanton, N. Mex.	SE¼NE¼ sec.14, T.12 S., R.20 W., Catron County, above culvert on U. S. Highway 260, and 1 mile south of Pleasanton.	3.1	1959-69	7-28-69	9.34	(+)
09455800	Steins Creek at Steins, N. Mex.	SW¼SE¼ sec.9, T.24 S., R.21 W., Hidalgo County, at culvert on State Highway 14, 0.9 mile west of Steins.	1.3	1959-69	1969	-	0

< Less than.
S Flood-hydrograph site.
+ Discharge not yet determined.
‡ Operated as continuous-record gaging station.
a Approximately.
b Revised.
c Peak did not reach bottom of gage.
d Estimated.
e New site and datum.
f From floodmark.
g Operated as a continuous-record gaging station by SCS.
h Gage height not determined.
i Discontinued at end of water year.
j Affected by backwater.
k Contributing area.

Measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations are given in the following table. Those that are measurements of base flow are designated by an asterisk (*); measurements of peak flow by a dagger (†).

Discharge measurements made at miscellaneous sites during water year 1969

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
		Arkansas River basin				
Chicorica Creek	Canadian River	Lat 36°46'13", long 104°23'45", in S½ sec.4, T.29 N., R.24 E., Colfax County, at highway bridge near east boundary of Maxwell Grant, 300 ft downstream from Una de Gato Creek, 4.4 miles northeast of Hebron, and 9 miles south of Raton, N. Mex.	381	1945-52‡ 1966-68	10- 4-68	0.55
					10-23-68	.94
					11-15-68	2.6
					12- 5-68	.94
					12-31-68	a1.0
					1-22-69	3.2
					2-26-69	.96
					3-18-69	3.2
					4-10-69	16
					5- 1-69	18
					5-15-69	28
					6- 4-69	5.6
					6-19-69	21
					7- 9-69	5.6
					7-31-69	7.3
					8-20-69	5.1
					9- 5-69	4.2
Canadian River	Arkansas River	Lat 36°02'45", long 104°22'05", in SE¼SE¼ sec.15, T.21 N., R.24 E., Harding County, 500 feet downstream from Mills Canyon road crossing, 7.3 miles west of Mills, and 12 miles northwest of Roy, N. Mex.	b3,946	- -	10-16-68	4.4
					10-23-68	7.2
					10-29-68	11
					11-13-68	18
					11-19-68	19
					11-20-68	20
					11-26-68	18
					12- 4-68	12
Do.....	....do.....	Lat 35°55'10", long 104°21'10", in E½ sec.35, T.20 N., R.24 E., in Harding County, at former gaging station (07214000) 1,080 feet upstream from bridge on State Highway 120, and 9 miles west of Roy, N. Mex.	4,066	1936-65‡	5- 2-68	20
					5-15-68	22
					5-24-68	14
					5-28-68	6.8
					10- 3-68	3.6
					10-10-68	3.2
					10-17-68	4.0
					10-23-68	6.3
					11-12-68	22
					11-19-68	19
					11-26-68	19
					12- 4-68	8.4
					1-28-69	18
Mora River	....do.....	Lat 35°49'12", long 104°44'00", in SE¼NW¼ sec.5, T.18 N., R.21 E., Mora County, 4.4 miles upstream from Garza Canyon, 6.3 miles downstream from Mora River near Shoemaker gage (see sta 07221000) and 8.0 miles east of Shoemaker, N. Mex.	-	-	11-22-68	*6.5
Do.....	....do.....	Lat 35°44'13", long 104°23'25", in NW¼NE¼ sec.4, T.17 N., R.24 E., San Miguel County, 0.5 mile upstream from mouth, 2.5 miles north of Sabinoso, N. Mex., and 38 miles downstream from Mora River near Shoemaker gage (see sta 07221000).	-	-	11-22-68	*7.7
Cuervo Creek	Canadian River	Lat 35°18'20", long 104°18'40", San Miguel County, about 0.25 mile downstream from bridge on State Highway 104, 9.1 miles southwest of Conchas Dam, and 10.2 miles southeast of Variadero, N. Mex.	135	-	6-18-69	† 12,800
Ute Creek	Canadian River	Lat 36°13'10", long 103°49'26", in SW¼SE¼ sec.16, T.23 N., R.29 E., Union County at culvert on State Highway 120, 6.5 miles north of Yates and 8.6 miles southeast of Gladstone, N. Mex.	b435	1968	10- 9-68	*1.7
					10-17-68	*2.1
					10-22-68	*2.0
					11-21-68	*2.4
					12-19-68	*2.8
					1-14-69	*2.2
					1-29-69	*2.3

See footnotes at end of table, p. 233 .

Measurements at miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 1969

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
		Arkansas River basin--Continued				
Ute Creek	Canadian River	Lat 36°01'29", long 103°44'57", in NE¼SE¼ sec.28, T.21 N., R.30 E., Harding County, 2.1 miles upstream from former gaging station (07226000) 4.7 miles northwest of Bueyeros, and 11.0 miles southeast of Yates, N. Mex.	b520	1968	10- 2-68 10- 9-68 10-16-68 10-22-68 11-21-68 12-19-68 1-14-68 1-29-68	* .39 * .74 *1.1 *1.1 *2.8 *3.0 *3.3 *2.7
Alamocito Creek	Ute Creek	Lat 36°03'45", long 103°49'45", in NE¼SE¼ sec.10, T.21 N., R.29 E., Harding County, above culvert on country road, 6.1 miles southeast of Yates, 7.7 miles above mouth and 9.7 miles northwest of Bueyeros, N. Mex.	b77	1968	10- 9-68 10-17-68 10-22-68 11-21-68 12-19-68 1-14-69 1-28-69	* .24 * .39 * .34 * .34 * .34 * .40 * .37
Carrizo Creek	Tequesquite Creek	Lat 35°57'50", long 103°52'02", in SE¼NW¼ sec.16, T.20 N., R.29 E., Harding County, 2.1 miles north of Albert, 3.5 miles above mouth, 10.1 miles west of Bueyeros, and 18 miles east of Roy, N. Mex.	b183	1968	10- 2-68 10- 9-68 10-16-68 10-22-68 11-21-68 12-19-68 1-15-69 1-29-69	* .10 * .22 *1.3 * .48 * .97 *1.2 *1.5 *1.4
Canadian River	Arkansas River	Lat 35°23'35", long 103°02'30", in SW¼ sec.32, T.14 N., R.37 E., Quay County, at N. Mex.-Texas state line, 14.7 miles north of Glenrio, N. Mex.	-	-	9-25-69	310
		Rio Grande basin				
Red River	Rio Grande	Lat 36°40'53", long 105°39'24", in NW¼NW¼ sec.10, T.28 N., R.12 E., Taos County, 0.3 mile downstream from State Fish Hatchery, near Questa, N. Mex.		1963 1965-66	8-29-69 9-11-69	63 58
Rio de los Trampas	Embudo Creek	Lat 36°07'52", long 105°45'35", Taos County, 100 feet downstream from bridge on State Highway 76 at Los Trampas, N. Mex.	24.1	-	8-15-69	a†2,400
Rio Chama	Rio Grande	Lat 36°39'44", long 106°41'58", Rio Arriba County, at river mile 86.1, 0.3 mile above Willow Creek, and 8.5 miles southwest of Tierra Amarilla,	-	1965-68	10-31-68 11-14-68 9- 4-69	51 81 82
Willow Creek	Rio Chama	Lat 36°39'45", long 106°42'15", Rio Arriba County, at Rio Chama river mile 85.8, above mouth and 8.8 miles southwest of Tierra Amarilla, N. Mex.	194	1965-68	10-31-68 11-14-68 9- 4-69	.15 .64 9.1
Rio Chama	Rio Grande	Lat 36°39'40", long 106°43'08", Rio Arriba County, at river mile 84.8, 1.0 mile downstream from Willow Creek and 9.6 miles southwest of Tierra Amarilla, N. Mex.	-	1965-68	10-31-68 11-14-68 9- 4-69	48 76 98

Measurements at miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 1969

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
		Rio Grande basin--Continued				
Rio Chama	Rio Grande	Lat 36°13'00", long 106°15'00", Rio Arriba County, at bridge on State Highway 96, 5 miles downstream from Abiquiu, N. Mex.	2,284	1942-67#	10-18-67	38
					11- 2-67	48
					11-14-67	84
					11-22-67	910
					12- 1-67	98
					12- 4-67	81
					12-12-67	88
					12-29-67	28
					1-15-68	78
					1-29-68	80
					2-13-68	84
					2-27-68	86
					3-19-68	87
					3-27-68	137
					7- 8-68	97
					8-19-68	1,280
					9-12-68	43
					11-19-68	947
					4-24-69	1,240
					6- 5-69	2,020
					8-12-69	104
					9- 9-69	65
Arroyo Seco	Rio Grande	Lat 35°57'45", long 106°01'50", Santa Fe County, 700 feet downstream from bridge on U. S. Highway 64, 84, 1.3 miles southeast of Espanola, N. Mex.	19.2	-	8- 5-69	+ 4,500
Pecos River	Rio Grande	Lat 34°28'24", long 104°15'32", in NE¼SW¼NW¼ sec.19, T.3 N., R.26 E., DeBaca County, at U. S. Highway 60 bridge, 1.2 miles west of Fort Sumner, N. Mex.	-	-	11-15-68	*3.8
					12- 3-68	*3.6
					12-17-68	*3.4
					1- 2-69	6.1
					1-21-69	*3.0
					2- 4-69	17
					2-18-69	9.2
					3- 4-69	6.9
					4- 8-69	36
					4- 9-69	12
Silver Springs Canyon	Elk Canyon	Lat 33°00'32", long 105°38'48", in NE¼SW¼ (revised), sec.14, T.15 S., R.13 E., at Parshall flume 1 mile downstream from Mescalero Apache Indian Reservation boundary, 6.7 miles northeast of Cloudcroft, N. Mex.	-	1961-68	1-23-69	*1.0
					3-20-69	.92
					6-16-69	* .71
Rio Hondo	Pecos River	Lat 33°23'08", long 104°31'42", Chaves County, at Lea Street bridge in Roswell, N. Mex.	-	-	9-17-69	63
Black River	Pecos River	Lat 32°04'05", long 104°28'41", in NE¼SE¼ sec.3, T.26 S., R.24 E., Eddy County, below Mayes Ranch, 9.6 miles southwest of White City, N. Mex.	-	1953-68	12-23-68	c.88
					3- 7-69	c.79
					6- 6-69	c.63
					9-17-69	c.59
Rattlesnake Springs	Black River	Lat 32°06'34", long 104°28'17", in SE¼SW¼ sec.23, T.25 S., R.24 E., Eddy County, 5.0 miles southwest of Carlsbad Caverns, 7.0 miles southwest of White City, and 25 miles southwest of Carlsbad, N. Mex.	-	1952-68	12-23-68	c2.3
					3- 7-69	c2.0
					6- 6-69	d1.2
					9-17-69	c1.7
Blue Springs	Black River	Lat 32°11'05", long 104°17'00", in SW¼NE¼SW¼ sec.27, T.24 S., R.26 E., Eddy County, above all diversions, 5.6 miles east of White City, N. Mex.	-	1907, 1919-20, 1923, 1935, 1952-68	12-27-68	c9.8
					3- 7-69	c11
					6- 6-69	c11
					9-17-69	c9.1

Measurements at miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 1969

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
		Rio Grande basin--Continued				
Pecos River	Rio Grande	Lat 32°13'05", long 104°00'08", in SE¼SW¼NE¼ sec.17, T.24 S., R.29 E., Eddy County, at Fishing Rock Crossing, 4.1 miles southeast of Malaga, N. Mex.	-	1953-54	10- 4-68	20
					11- 7-68	38
					12- 2-68	44
					1- 2-69	45
					2- 3-69	42
					3- 3-69	16
					4- 1-69	17
					4-30-69	17
					5-29-69	*11
					6-30-69	*13
					7-30-69	*16
					8-28-69	*13
Do.....	....do.....	Lat 32°12'06", long 104°00'03", in NW¼NE¼SE¼ sec.20, T.24 S., R.29 E., Eddy County, 0.5 mile downstream from well USGS 11 and 4.5 miles southeast of Malaga, N. Mex.	-	1967-68	10- 4-68	23
Do.....	....do.....	Lat 32°10'42", long 103°59'50", in NW¼NW¼ sec.33, T.24 S., R.29 E., at first ford, 2.6 miles below Pierce Canyon Crossing, and 5.6 miles southeast of Malaga, N. Mex.	-	1959, 1961-64, 1966-68	10- 4-68	20
					11- 7-68	36
					12- 2-68	40
					1- 2-69	44
					2- 3-69	40
					3- 3-69	16
					4- 1-69	19
					4-30-69	15
					5-29-69	*14
					6-30-69	*16
					7-30-69	*14
					8-28-69	*13

* Base flow.
† Peak flow.
‡ Operated as a continuous-record gaging station.
a Field estimate.
b Approximately.
c Spring flow.
d Discharge affected by pumping for Carlsbad Caverns water supply.

Pecos River seepage investigation-Acme to Kaiser Channel

REACH.--From station on Pecos River near Acme (8-3860), to station on Pecos River (Kaiser Channel) near Lakewood (8-3995), a distance of about 95 river miles. The streambed is mostly sand with an occasional rock outcrop. Banks are relatively low and sandy. The Bureau of Reclamation, in accordance with the Pecos River Water Salvage Program, started clearing salt cedars at the highway bridge near Acme, river mile 97.0, in April 1966. At the time of this investigation, clearing had been completed on west bank down to station near Lake Arthur (8-3955) and on east bank to station near Artesia (8-3965).

U. S. G. S. Plan and Profile of the Pecos River, Lake McMillan to Pecos, N. Mex. maps used for river mile and U. S. G. S. topographic maps used for land locations.

PREVIOUS INVESTIGATIONS.--At least once a year 1953-60, 1962-66, 1968.

DATE.--Feb. 11, 1969. (Mountain Standard time, 0000 - 2400 hours, time increments.)

WEATHER.--Strong winds and cool temperatures affected streamflow conditions Feb. 7-9. On Feb. 10, 11, the weather was calm, clear and warm. Some of the minor fluctuations shown in the accompanying discharge graphs may have been a result of weather conditions on Feb. 7-9. Little precipitation was recorded anywhere in the area during the two weeks prior to this investigation.

REMARKS.--The number of measurements made on the main stream was less than for previous investigations, however, all known surface inflow and diversions were measured. The two measured diversions (Gilbert Gomez, Menoud) were not used in computing gains and losses inasmuch as the pumps had not been in operation long enough to affect the flow in the river. Indicated gains or losses may be substantially in error as affected by small inaccuracies in open channel measurements. Records of chemical analysis obtained at the time of this investigation are published in Part 2 of this report. Hydrographs for the period Feb. 7-14 for seven sites in the reach are shown on figure 4.

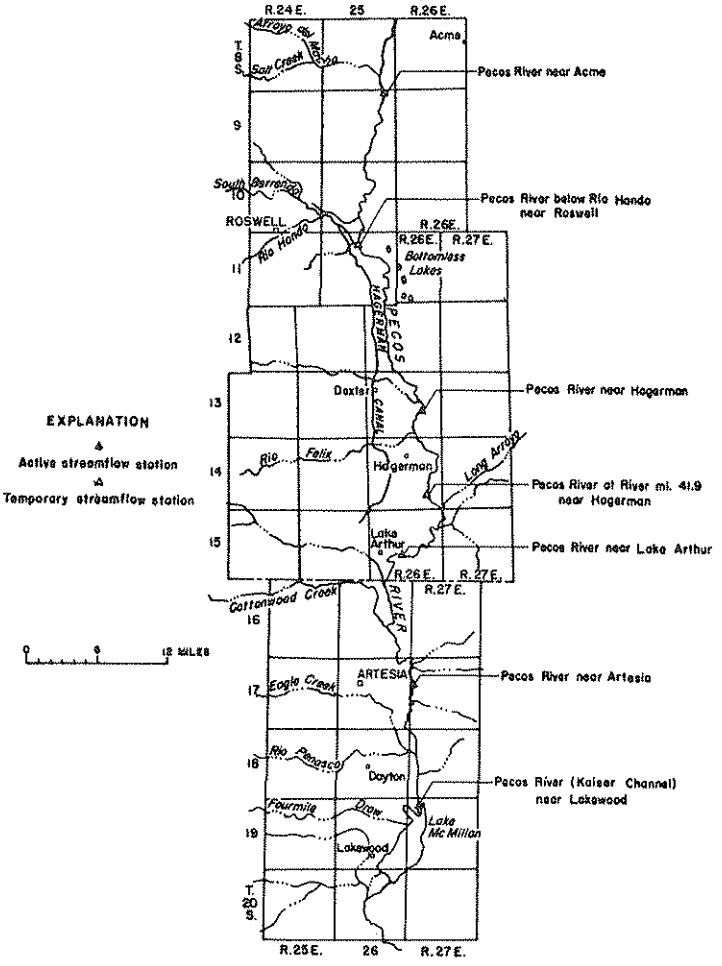


Figure 3.--Map of Pecos River showing reach of seepage intestivation.

Pecos River - Acme to (Kaiser Channel), near Lakewood, N. Mex.

Pecos River mile	Stream	Location	Time	Water temp. °C	Discharge, in cfs		
					Main stream	Tributary or Diversion	Indicated gain or loss
		Feb. 11, 1969					
94.0	Pecos River	NE¼SW¼NW¼ sec.14, T.9 S., R.25 E., near Acme (station 8-3860)	0750	2	11.9	-	-
78.4	Bitter Creek*	NE¼NE¼NE¼ sec.33, T.10 S., R.25 E., at mouth	0920	5	-	4.90	-
-	Hagerman Canal*	NW¼SW¼NE¼ sec.31, T.10 S., R.25 E., at head	0810	10	-	(11.6)	-
-	Roswell Drainage District X-line	NW¼SE¼NW¼ sec.5, T.11 S., R.25 E., at entrance to Hagerman Canal	0850	7	-	(.004)	-
-	South Spring Creek*	SE¼SE¼SE¼ sec.8, T.11 S., R.25 E., at entrance to Hagerman Canal	0920	7	-	(.97)	-
-	Pamona Drain*	NW¼NW¼SE¼ sec.22, T.11 S., R.25 E., at entrance to Hagerman Canal	1330	12	-	(.56)	-
-	South Spring Drain*	SE¼NW¼SE¼ sec.9, T.11 S., R.25 E., at road crossing (tributary to Rio Hondo)	1000	10	-	(.56)	-
74.6	Rio Hondo*	NE¼NE¼SE¼ sec.9, T.11 S., R.25 E., at mouth	1040	8	-	6.23	-
74.5	Pecos River	SE¼NE¼SE¼ sec.9, T.11 S., R.25 E., below Rio Hondo (temporary recorder)	1120	7	23.5	-	+.47
74.1	East Grand Plains Drainage District "D" line*	SE¼SW¼SW¼ sec.10, T.11 S., R.25 E., at mouth	1030	14	-	.58	-
73.6	East Grand Plains Drainage District "A-B-C" line*	NW¼SW¼NE¼ sec.15, T.11 S., R.25 E., at mouth	1120	9	-	.38	-
72.7	Gravel Pit Drain*	SE¼SE¼NW¼ sec.14, T.11 S., R.25 E., at mouth	1245	7	-	.50	-
64.5	Pecos River	S½NE¼NE¼ sec.17, T.12 S., R.26 E., at Transwestern pipeline crossing	1320	10	32.3	-	+7.34
61.4	Nine Mile Draw*	SW¼SE¼SE¼ sec.29, T.12 S., R.26 E., at mouth	0800	3	-	.05	-
53.2	Pecos River	SW¼SW¼SE¼ sec.23, T.13 S., R.26 E., near Hagerman (station 8-3941)	1445 0810	12 5	32.8 33.1	- -	+.45 -
-	Rio Felix*	SW¼SE¼SE¼ sec.34, T.13 S., R.26 E., ¾ mi. above mouth	0905	7	-	.28	-
48.4	Gilbert Gomez pump†	SW¼SW¼NW¼ sec.1, T.14 S., R.26 E.	0700 (a)	-	-	(-5.11)	-
47.7	Menoud diversion*	NE¼NE¼ sec.11, T.14 S., R.26 E.	1000 (a)	-	-	(-3.05)	-
46.7	Pecos River	SE¼NE¼NE¼ sec.12, T.14 S., R.26 E., at Hagerman bridge	0930	7	33.0	-	-.4
41.9	do.	NE¼SW¼SW¼ sec.25, T.14 S., R.26 E. (temporary recorder)	1045	7	33.8	-	+.8
30.6	do.	NE¼SW¼NE¼ sec.27, T.15 S., R.26 E., near Lake Arthur (station 8-3955)	1215 0820	9 6	31.6 33.9	- -	-2.2 -
20.6	Cottonwood Creek*	NE¼SE¼NW¼ sec.26, T.16 S., R.26 E., at mouth	0940	3	-	.19	-
12.4	Pecos River	SE¼NW¼NW¼ sec.18, T.17 S., R.27 E., near Artesia (station 8-3965)	1105	8	43.6	-	+9.5
3.4	do.	NW¼NW¼SE¼ sec.7, T.18 S., R.27 E.	1325	11	42.9	-	-.7
-	do.	NE¼NW¼SE¼ sec.5, T.19 S., R.27 E., (Kaiser Channel near Lakewood (station 8-3995)	1455	13	41.5	-	-1.4

Note.--Measurements not involved in the computation of gains or losses of the Pecos River are enclosed in parentheses.
* Right bank.
† Left bank.
a Pump started.

Pecos River - Acme to (Kaiser Channel), near Lakewood, N. Mex.

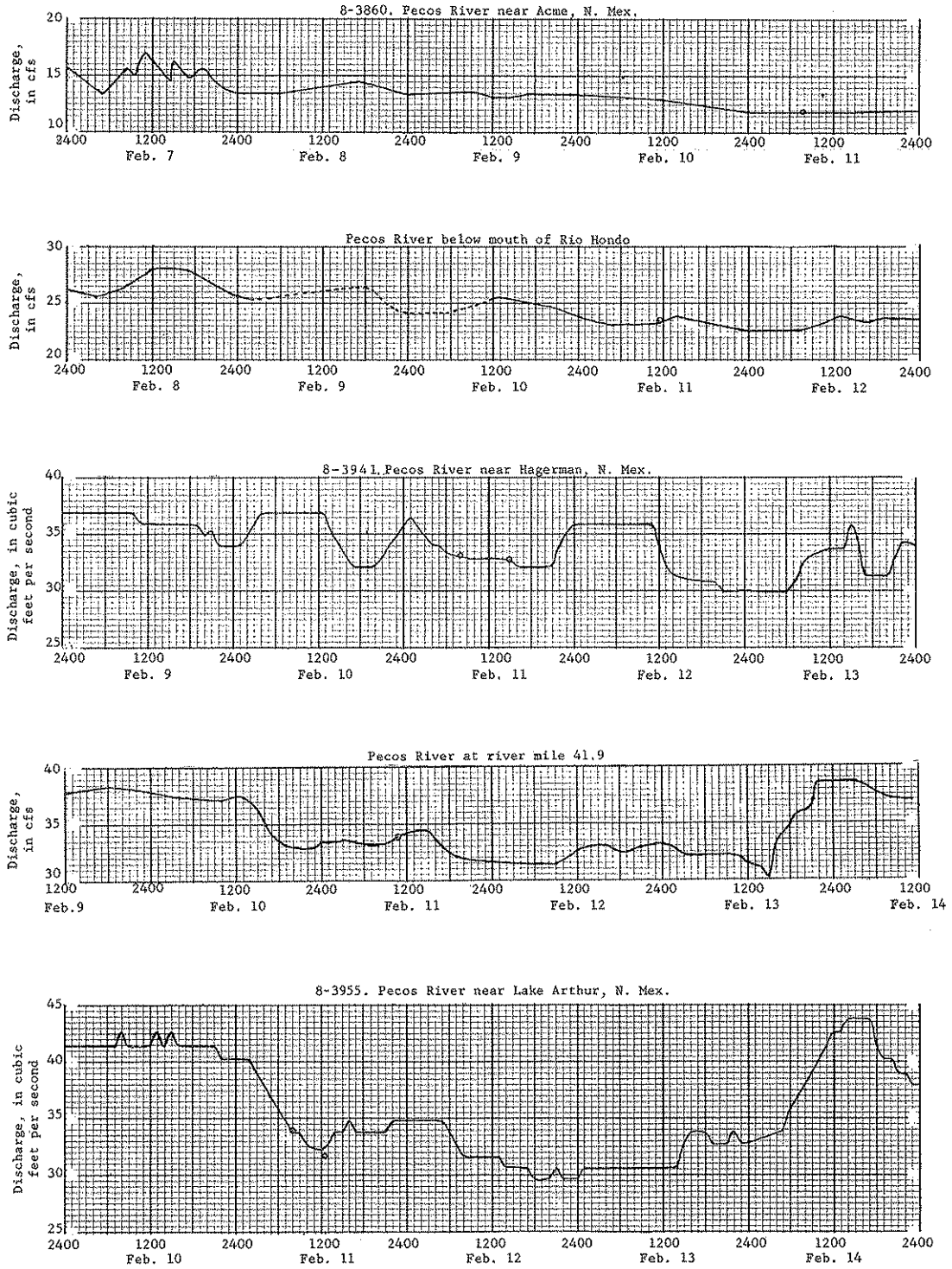
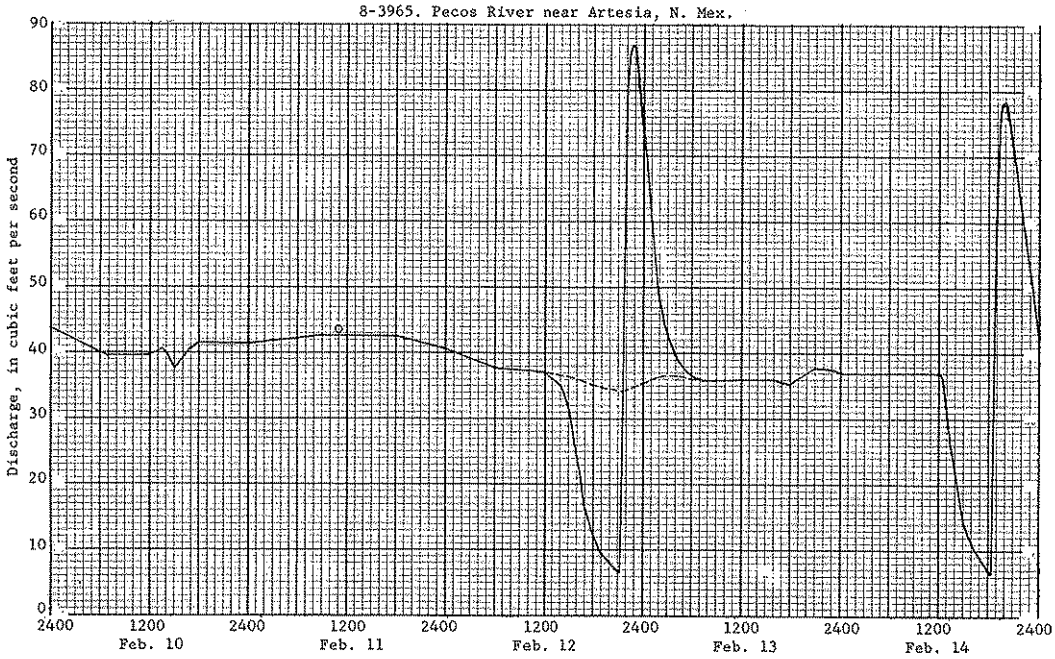


Figure 4.--Hydrographs showing hourly discharge at gaging stations in the reach of the Pecos River from near Acme (station 8-3860) to (Kaiser Channel), near Lakewood (station 8-3995).

Pecos River - Acme to (Kaiser Channel), near Lakewood, N. Mex.



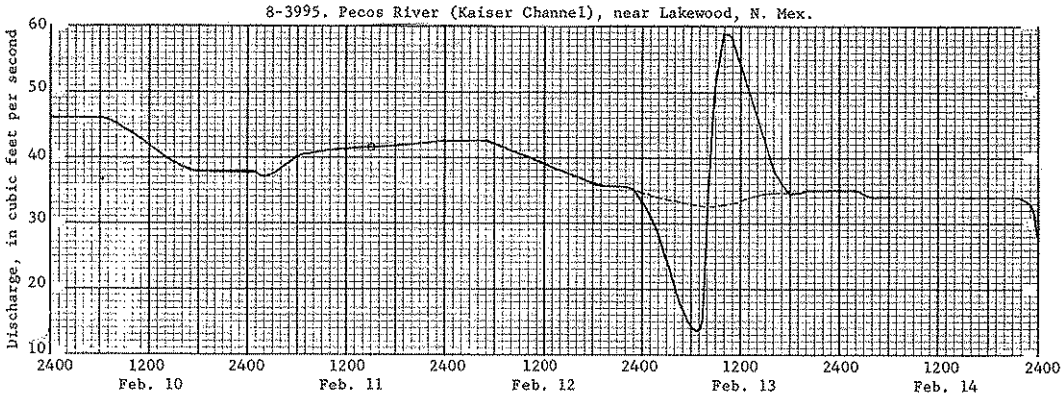


Figure 4 (continued).--Hydrographs showing hourly discharge at gaging stations in the reach of the Pecos River from near Acme (station 8-3860) to (Kaiser Channel), near Lakewood (station 8-3995).

o Discharge measurement.
---Estimated from recorded range-in-stage or by comparison with upstream stations.

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